NORTH COUNTY CORRIDOR
TRANSPORTATION EXPRESSWAY AUTHORITY

ITEM: 3a

SUBJECT:

Select and Recommend a Locally Preferred Alignment Alternative for the North County Corridor Project (Tully Road to State Route 120) for Caltrans Consideration

STAFF RECOMMENDATIONS:

Select and Recommend a Locally Preferred Alignment Alternative for the North County Corridor Project (Tully Road to State Route 120) for Caltrans Consideration

FISCAL IMPACT:

There is no fiscal impact with making a recommendation to Caltrans for a preferred North County Corridor alignment

DISCUSSION:

The North County Corridor Project (Tully Road to SR-120) (Project) is a high-priority project for Stanislaus County, its communities and the growing urbanized cities of Modesto, Oakdale, and Riverbank. The purpose of the Project is to ultimately build a west-east freeway/expressway that would improve regional network circulation, relieve existing traffic congestion, reduce traffic delay, accommodate future traffic, benefit commerce and enhance safety.

To plan for the freeway/expressway, the North County Corridor Transportation Expressway Authority was formed in 2008. The Authority consists of the cities of Modesto, Oakdale, and Riverbank; the County of Stanislaus; and ex-officio members Stanislaus Council of Governments (StanCOG) and the California Department of Transportation.

The North County Corridor (NCC) SR-108 East Route Adoption was approved by the California Transportation Commission in May 2010. The adopted corridor provides for approximately 18 miles of freeway/expressway on new alignment from near SR-219 north of the City of Modesto and west of the City of Riverbank to SR-120 approximately six miles east of the City of Oakdale.

The Notice of Intent and Notice of Preparation for the current Project Approval and Environmental Documentation phase were initiated in August 2010. The Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) was released for public review on August 9, 2017 and a public hearing was held on September 7,

2017 at the Gene Bianchi Community Center in Oakdale that was attended by over 500 members of the public.

The comment period for the Project's Draft EIR/EIS officially closed on October 16, 2017.

The North County Corridor project is a joint project by Caltrans and the Federal Highway Administration and is subject to state and federal environmental review requirements. As a result, project documentation has been prepared in compliance with both CEQA and NEPA. Caltrans is the lead agency under NEPA and the lead agency under CEQA.

After receiving comments from the public and reviewing agencies, a Final EIR/EIS will be prepared. Caltrans may prepare additional environmental and/or engineering studies to address comments. The Final EIR/EIS will include responses to comments received on the Draft EIR/EIS and will identify the preferred alternative. After the Final EIR/EIS is circulated, if Caltrans decides to approve the project, a Notice of Determination will be published for compliance with CEQA, and a Record of Decision will be published for compliance with NEPA

The purpose of the project is to reduce existing and future traffic congestion in northern Stanislaus County, support the efficient movement of goods and services and improve interregional Travel as follows:

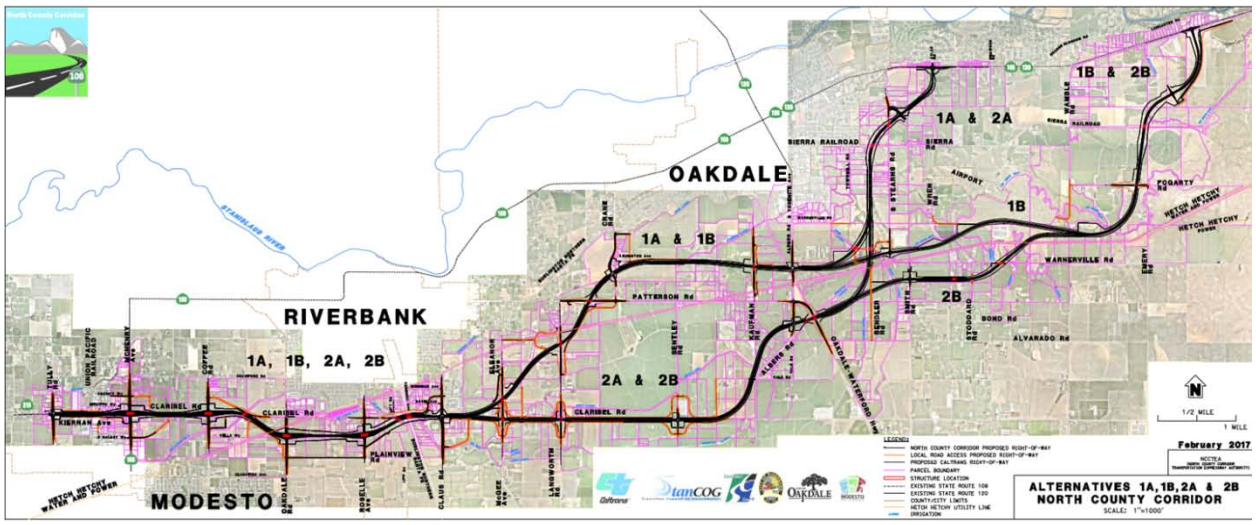
- Reduce average daily traffic volumes and current traffic congestion and accommodate anticipated future traffic on the existing SR-108 and the surrounding regional transportation network in Stanislaus County and the cities of Modesto, Riverbank, and Oakdale.
- Support the efficient movement of goods and services throughout the region for the benefit of the regional economy by providing a more direct and dependable truck route, increasing the average operating speeds of all vehicles, and reducing the number of areas of conflict between motorized traffic and non-motorized means of travel.
- Improve the efficiency of interregional travel by reducing travel times for long distance commuters, recreational traffic, and interregional goods movement.

The project has been identified as a necessary improvement to accommodate regional east-west traffic and to improve north-south connectivity in Stanislaus County and southern San Joaquin County. The current action is needed because:

- Travel conditions in the region, including traffic congestion on existing SR-108, will continue to worsen due to regional population growth and projected traffic volume increases.

- Traffic congestion on existing truck routes (SR-108/SR-120) will continue to hinder the efficient movement of goods and services.
- Existing SR-108 is part of the interregional system, and interregional circulation will become increasingly constrained as travel times on existing SR-108 increase substantially with planned residential and employment growth.

The proposed project will connect SR-219 near Modesto to SR-120 near Oakdale (see Attachment 1). The NCC EIR/EIS document analyzes the four Build Alternatives (1A, 1B, 2A, and 2B) and the No-Build Alternative. The western end of all alternatives is at the SR-219 (Kiernan Avenue)/Tully Road intersection. The project is analyzed as three distinct segments for environmental evaluation purposes and explaining the proposed improvements. Segment 1 represents the more urbanized area; Segment 2 represents a transition from urbanized to rural area; and Segment 3 represents the rural foothill area.



Segment 1, which has the same western end for all Build Alternatives, begins at the SR-219 Kiernan Avenue/Tully Road intersection. All of the Build Alternatives proceed along the same alignment and have similar improvements to the vicinity of the existing Claus Road/Claribel Road intersection near the southeast portion of the City of Riverbank and northeast portion of the City of Modesto's future sphere of influence.

Segment 2 is where the four similar alternatives separate into two different alignments (1A/1B and 2A/2B). In Segment 2, Alternatives 1A and 1B veer northeast from near the existing Claus Road/Claribel Road intersection and pass through the southern boundary of the City of Oakdale to just east of Albers Road, and Alternatives 2A and 2B continue to extend easterly along Claribel Road and veer northeastward past the intersection of Claribel Road/Bentley Road to just east of Albers Road. Each of the alternatives then continues to the respective proposed eastern end (A and B).

In Segment 3, Alternatives 1A and 2A merge as similar alternatives at the southern end of the City of Oakdale and continue on the same alignment to the proposed eastern end (A) at the new SR-108/SR-120 intersection just east of the City of Oakdale boundary. In Segment 3, Alternatives 1B and 2B merge as similar alternatives north of the existing Warnerville Road/Emery Road intersection and continue on a northeasterly direction to the proposed other eastern end (B) at the new SR-108/SR-120 intersection west of the existing SR-120/Lancaster Road intersection.

The next step in the Project Approval and Environmental Documentation (PA&ED) phase is for the Project Development Team (PDT) to make a recommendation for a preferred alignment for the final environmental document and the Caltrans District Director's consideration. The PDT is comprised of staff from Caltrans, StanCOG, Stanislaus County, the Cities of Modesto, Oakdale and Riverbank and key members of the environmental and engineering consultant team.

The PDT will form a recommendation for an alignment alternative based on a number of factors including the:

- Findings of the environmental and engineering studies;
- Comments received during the public comment period;
- Recommendations by the local agencies (Stanislaus County Board of Supervisors, City Councils of Modesto, Oakdale and Riverbank); and
- Project cost.

The environmental study was conducted in compliance with both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) and a summary of the studies conducted and findings is attached to this report (see Attachment 2).

In general, all four alignment alternatives are viable alternatives and have similar environmental impacts. The key areas of difference were with the impacts to farmland, wildlife habitat and right-of-way impacts.

Alternatives 1A and 2A are shorter in length than 1B and 2B and as such, they have smaller footprints and less impacts to farmland and wildlife habitat. However, it is important to note that although Alternatives 1A and 2A have the smallest footprint, they have the greatest impact to homes and businesses. Alternatives 1B and 2B require acquisition of the least number of homes and businesses with Alternative 1B having the lowest number of home and business acquisitions.

Overall, from an engineering and environmental standpoint, each alternative had advantages and disadvantages with the 1A and 2A alternatives having less impact to the natural environment while the 1B and 2B alternatives had the least amount of impact to homes and businesses.

The comments received during the public comment period are currently being compiled for the team to review and prepare official responses to in the final environmental document. In general, there were a large number of comments that voiced opposition to the 1A and 2A alternatives. Of the commenters that stated a preference, a majority preferred Alternative 1B and many also stated a preference for either Alternative 1B or Alternative 2B.

Other comments received had questions regarding the right-of-way process, drainage and other property specific questions.

On October 3, 2016, the Oakdale City Council passed a resolution of preliminary support for NCC Alternatives 1B and 2B. With the official release of the Draft EIR/EIS on August 9, 2017, City staff has had the opportunity to review the Draft EIR/EIS and believes that Alternative 1B should be the preferred alternative for the following reasons:

1) Provides the least negative impact on the goals and policies of the City's 2030 General Plan
2) Displaces the least number of homes and businesses
3) Provides a direct connection to the City's future Specific Plan Area 5 and the City's South Oakdale Industrial Specific Plan Area
4) Accommodates connections to existing and planned industrial and commercial uses
5) Estimated costs of Alternative 1B is lower than Alternative 2B by $11 million

At their September 18, 2017 meeting, the Oakdale City Council unanimously passed a resolution to send Caltrans an official comment letter stating the City's preference for Alternative 1B.

On October 24, 2017 City of Riverbank City Council took the same action for similar reasons. The Riverbank City Council unanimously passed a resolution adopting Alternative 1B as the City's preferred North County Corridor route Alignment.

The Project PDT is requesting that all local agency members of the NCCTEA discuss the alignment alternatives and pass resolutions in support of their preferred alternative. The Project PDT will use this official feedback to help in making their recommendation to the Caltrans District Director. Caltrans will ultimately decide on which alignment alternative best meets the Project's purpose and need and will give consideration to the local jurisdictions' preference.

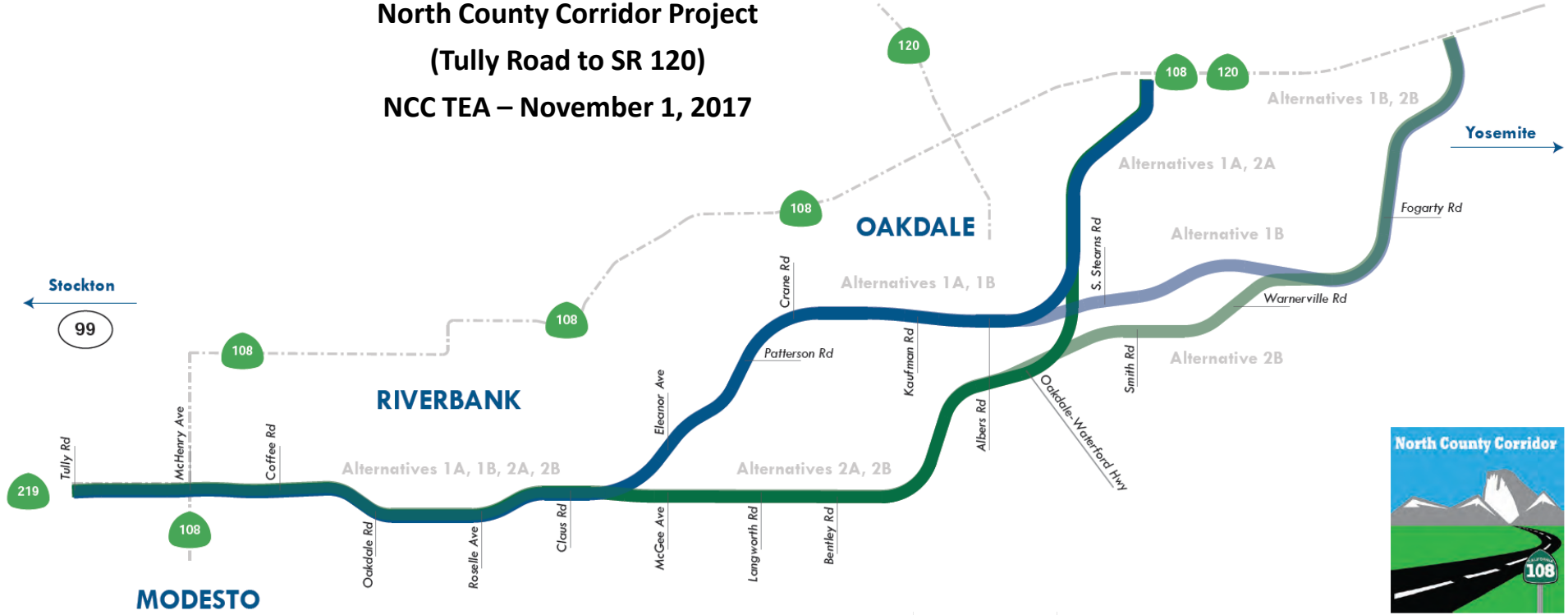
A presentation will be provided. Please see attached.

Project Update & Route Alternatives

North County Corridor Project

(Tully Road to SR 120)

NCC TEA – November 1, 2017



Project Overview

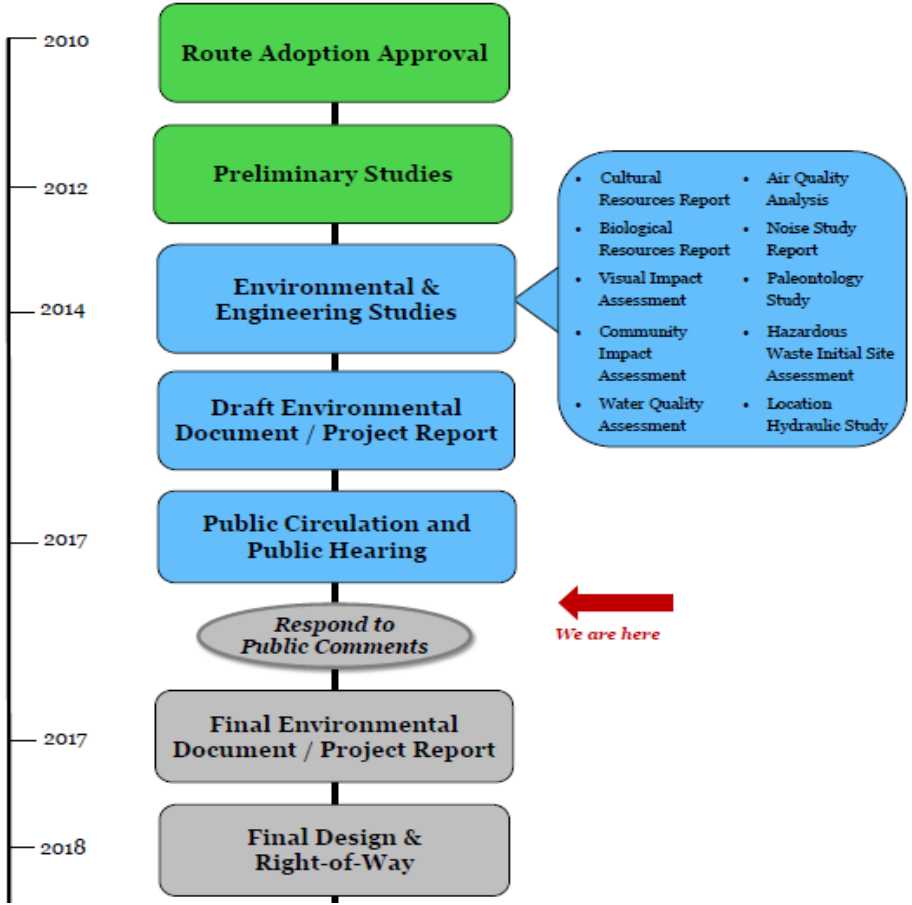
The North County Corridor Project is a high-priority project for Stanislaus County, its communities and the growing urbanized cities of Modesto, Oakdale, and Riverbank.

The Project will ultimately build a west-east freeway/expressway that would improve regional network circulation, relieve existing traffic congestion, reduce traffic delay, accommodate future traffic, benefit commerce and enhance safety.

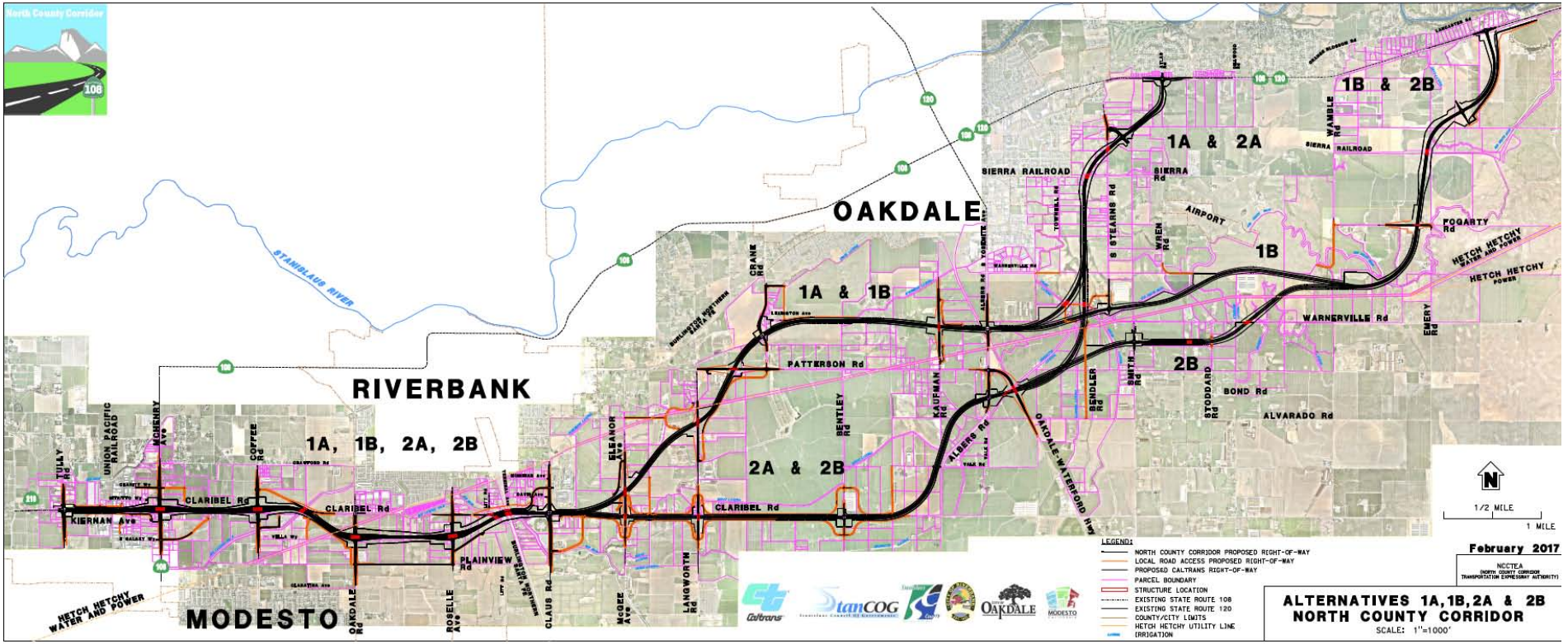
Previously Completed Work

✓	NCCTEA JPA Formed	Spring 2008
✓	Route Adoption Complete	May 2010
✓	Notice of Preparation Issued	August 2010
✓	Release of Draft EIR/EIS for Public Review	August 9, 2017
✓	Public Hearing/Open House	September 7, 2017
✓	Draft EIR/EIS Comment Period Closed	October 16, 2017

Project Delivery Process



Alignment Alternatives



Alignment Alternatives Selection Process

PDT Recommends Alternative → Caltrans District Director Selects Preferred Alternative → Final Environmental Drafted → Caltrans Reviews & Certifies Final Environmental Document

PDT Members:

- Caltrans
- StanCOG
- Stanislaus County
- Modesto
- Oakdale
- Riverbank
- Consultant Team

Key Factors for Selecting Alternative

- Findings of the environmental and engineering studies;
- Comments received during the public comment period;
- Recommendations by the local agencies (Stanislaus County Board of Supervisors, City Councils of Modesto, Oakdale and Riverbank); and
- Project cost.

Findings of Environmental & Engineering Studies

- Environmental study was conducted in compliance with both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA)
- In general, all four alignment alternatives are viable alternatives and have similar environmental impacts.
- The key areas of difference are with the impacts to farmland, wildlife habitat and right-of-way impacts.

Findings of Environmental & Engineering Studies

- Alternatives 1A and 2A are shorter in length than 1B and 2B and as such, they have smaller footprints and less impacts to farmland and wildlife habitat.

Potential Impact	Alternative 1A	Alternative 1B	Alternative 2A	Alternative 2B
Farmlands	Acquisition of 470 acres of farmland. Permanent impacts to Williamson Act land are 351 acres.	Acquisition of 576 acres of farmland. Permanent impacts to Williamson Act land are 540 acres.	Acquisition of 397 acres of farmland. Permanent impacts to Williamson Act land are 305 acres.	Acquisition of 540 acres of farmland. Permanent impacts to Williamson Act land are 495 acres.

Findings of Environmental & Engineering Studies

Potential Impact	Alternative 1A	Alternative 1B	Alternative 2A	Alternative 2B
Natural Communities	Impacts to 1.32 acres (1.0 acre of direct impacts, 0.32 acre indirect impacts) of Interior Live Oak Woodland in the project area.	Impacts to 3.44 acres (3.07 acres of direct impacts, 0.37 acre of indirect impacts) of Interior Live Oak Woodland in the project area and 1.0 acres (0.23 acre of direct impacts, 0.77 acre of indirect impacts) of Blue Oak Savannah.	Impacts to 1.32 acres (1.0 acre of direct impacts, 0.32 acre of indirect impacts) Interior Live Oak Woodland in the project area	Impacts to 3.44 acres (3.07 acres of direct impacts, 0.37 acres of indirect impacts) of Interior Live Oak Woodland in the project area and 1.0 acre (0.23 acre of direct impacts, 0.77 acre of indirect impacts) of Blue Oak Savannah.
Threatened and Endangered Species	Moderately high. Impacts to the following animal species habitat: Swainson's Hawk (foraging habitat 335.96 acres) and two nest trees, Tricolored blackbird (impacts: Foraging habitat = 335.96 acres), California Tiger Salamander (Impacts: Aquatic Habitat = 0.04 acres; Upland Habitat= 127.72 acres),	Moderately high. Impacts to the following animal species habitat: Swainson's Hawk (foraging habitat 409.29) and two nest trees, Tricolored blackbird (impacts: Foraging habitat = 409.29 acres), California Tiger Salamander (Impacts: Aquatic Habitat = 0.68 acres, Upland Habitat = 196.21 acres),	Moderately high. Impacts to the following animal species habitat: Swainson's Hawk (foraging habitat 330.09 acres) and two nest trees, Tricolored blackbird (impacts: Foraging habitat = 330.04 acres), California Tiger Salamander (Impacts: Aquatic Habitat = 0.50 acres, Upland Habitat = 109.58acres),	Moderately high. Impacts to the following animal species habitat: Swainson's Hawk (foraging habitat 405.43 acres) and two nest trees, Tricolored blackbird (impacts: Foraging habitat = 405.43 acres), California Tiger Salamander (Impacts: Aquatic Habitat = 1.81 acres, Upland Habitat = 185.00 acres),

Findings of Environmental & Engineering Studies

- Alternatives 1B and 2B require acquisition of the least number of homes and businesses with Alternative 1B having the lowest number of home and business acquisitions.

Potential Impact		Alternative 1A	Alternative 1B	Alternative 2A	Alternative 2B
Relocation	Business Relocations	Displace 36 businesses.	Displace 33 businesses.	Displace 42 businesses.	Displace 38 businesses.
	Housing Relocations	Displace 124 homes.	Displace 114 homes.	Displace 136 homes.	Displace 114 homes.

Comments Received During the Public Comment Period

Comments are currently being compiled for the team to review and prepare official responses but in general:

- Large majority of commenters opposed 1A and 2A alternatives
- Majority of commenters preferred Alternative 1B
- Many stated a preference for either Alternative 1B or Alternative 2B
- Other comments received had questions regarding the right-of-way process, drainage and other property specific questions.

Recommendations by the Local Agencies

Resolutions are being requested from the local agencies on their preferred alternative

- Oakdale City Council – Passed Resolution on September 18, 2017 (Selected Alt. 1B)
- Riverbank City Council – Passed Resolution on October 24, 2017 (Selected Alt. 1B)
- Stanislaus BOS – October 31, 2017
- NCCTEA Board – November 1, 2017
- City of Modesto Economic Development Committee – November 8, 2017
- Modesto City Council - TBD

Recommendations by the Local Agencies

At their September 18, 2017 meeting, the Oakdale City Council unanimously passed a resolution to send Caltrans an official comment letter stating the City's preference for Alternative 1B for the following reasons:

1) Provides the least negative impact on the goals and policies of the City's 2030 General Plan
2) Displaces the least number of homes and businesses
3) Provides a direct connection to the City's future Specific Plan Area 5 and the City's South Oakdale Industrial Specific Plan Area
4) Accommodates connections to existing and planned industrial and commercial uses
5) Estimated costs of Alternative 1B is lower than Alternative 2B by $11 million

Recommendations by the Local Agencies

At their October 24, 2017 meeting, the Riverbank City Council unanimously passed a resolution to adopt Alternative 1B as their preferred North County Corridor route alignment

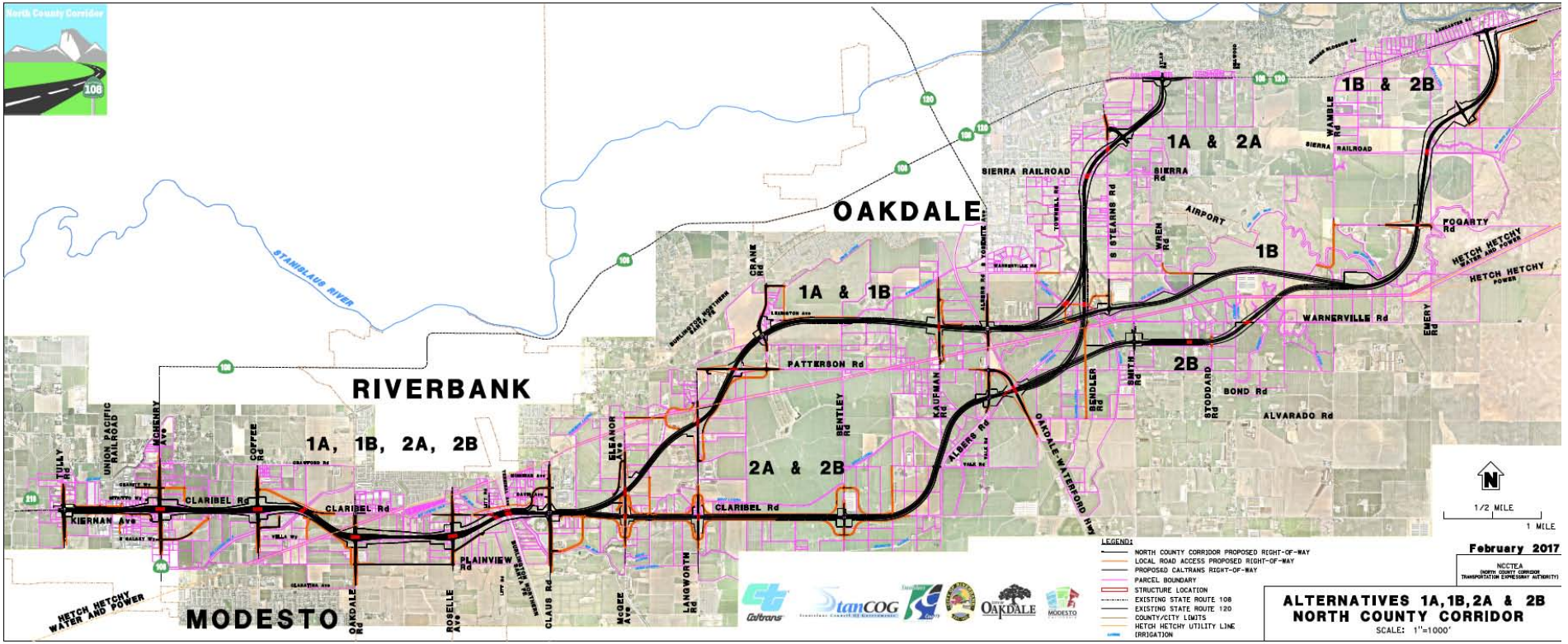
Their comment of support included the following statement: “the NCC is a key component to development in and around Riverbank. This project has the potential to greatly affect the LRA, Crossroads West and other key projects, components of which are listed throughout the current city strategic plan. Ensuring adequate vehicle circulation and truck access to the NCC on the east side of Riverbank only helps to guarantee success of future job creating land uses surrounding the Riverbank Industrial Complex.

Project Cost

All project alternatives are relatively close in cost with the shorter alternatives (1A & 2A) being less expensive than the longer alternatives (1B & 2B)

Potential Impact	Alternative 1A	Alternative 1B	Alternative 2A	Alternative 2B
Cost	$660 million	$688 million	$676 million	$699 million

Questions?


North County Corridor
108
OAKDALE
RIVERBANK
MODESTO
STANISLAUS RIVER
1A & 2A
1B & 2B
1B
2B
1A & 1B
2A & 2B
1A, 1B, 2A, 2B
SIERRA RAILROAD
AIRPORT
WARNERVILLE Rd
PATTERSON Rd
BOND Rd
ALVARADO Rd
CLARIBEL Rd
KIERNAN Ave
PLAINVIEW Rd
HETCH HETCHY WATER AND POWER
HETCH HETCHY POWER
FOGARTY Rd
WAMBLE Rd
SIERRA Rd
S STEARNS Rd
WREN Rd
CRANE Rd
BENTLEY Rd
KAUFMAN Rd
ALBERS Rd
BENDLER Rd
SMITH Rd
STODDARD Rd
EMERY Rd
TULLY Rd
McHENRY Ave
COFFEE Rd
ELEANOR Ave
OAKDALE Rd
ROSELLE Ave
CLAUS Rd
McGEE Ave
LANGWORTH Rd
OAKDALE-WATERFORD Hwy
UNION PACIFIC RAILROAD
1/2 MILE
1 MILE
LEGEND:
NORTH COUNTY CORRIDOR PROPOSED RIGHT-OF-WAY
LOCAL ROAD ACCESS PROPOSED RIGHT-OF-WAY
PROPOSED CALTRANS RIGHT-OF-WAY
PARCEL BOUNDARY
STRUCTURE LOCATION
EXISTING STATE ROUTE 108
EXISTING STATE ROUTE 120
COUNTY/CITY LIMITS
HETCH HETCHY UTILITY LINE (IRRIGATION
February 2017
NCCTEA
NORTH COUNTY CORRIDOR TRANSPORTATION EXPRESSWAY AUTHORITY
ALTERNATIVES 1A,1B,2A & 2B
NORTH COUNTY CORRIDOR
SCALE: 1"=1000'

Summary of Major Potential Impacts from Alternatives

Potential Impact		Alternative 1A	Alternative 1B	Alternative 2A	Alternative 2B	No-Build Alternative
	Consistency with the Stanislaus County General Plan	YES	YES	YES	YES	NO
	Consistency with the City of Modesto General Plan	YES	YES	YES	YES	NO
	Consistency with the City of Riverbank General Plan	YES	YES	YES	YES	NO
	Consistency with the City of Oakdale General Plan	YES	YES	YES	YES	NO
Growth		Moderate influence on growth.	Moderate influence on growth.	Moderate influence on growth.	Moderate influence on growth.	No impact.
Farmlands		Acquisition of 470 acres of farmland. Permanent impacts to Williamson Act land are 351 acres.	Acquisition of 576 acres of farmland. Permanent impacts to Williamson Act land are 540 acres.	Acquisition of 397 acres of farmland. Permanent impacts to Williamson Act land are 305 acres.	Acquisition of 540 acres of farmland. Permanent impacts to Williamson Act land are 495 acres.	No impact.
Community Character and Cohesion		Traffic and pedestrian facilities would be greatly improved. Minor	Traffic and pedestrian facilities would be greatly improved. Minor	Traffic and pedestrian facilities would be greatly improved. Minor	Traffic and pedestrian facilities would be greatly improved. Minor	No impact.
Relocation	**Business Relocations**	Displace 36 businesses.	Displace 33 businesses.	Displace 42 businesses.	Displace 38 businesses.	No Impact
	Housing Relocations	Displace 124 homes.	Displace 114 homes.	Displace 136 homes.	Displace 114 homes.	No Impact
Utilities		Relocation of PG&E, AT&T, San Francisco Public Utilities Commission, City of Modesto (water and sanitary sewer), City of Riverbank (water and sanitary sewer), Modesto Irrigation District, and Oakdale Irrigation District.	Relocation of PG&E, AT&T, San Francisco Public Utilities Commission, City of Modesto (water and sanitary sewer), City of Riverbank (water and sanitary sewer), Modesto Irrigation District, and Oakdale Irrigation District.	Relocation of PG&E, AT&T, San Francisco Public Utilities Commission, City of Modesto (water and sanitary sewer), City of Riverbank (water and sanitary sewer), Modesto Irrigation District, and Oakdale Irrigation District.	Relocation of PG&E, AT&T, San Francisco Public Utilities Commission, City of Modesto (water and sanitary sewer), City of Riverbank (water and sanitary sewer), Modesto Irrigation District, and Oakdale Irrigation District.	No impact.

Potential Impact	Alternative 1A	Alternative 1B	Alternative 2A	Alternative 2B	No-Build Alternative
Emergency Services	Operational efficiency for emergency service will ultimately be improved. Minor	Operational efficiency for emergency service will ultimately be improved. Minor	Operational efficiency for emergency service will ultimately be improved. Minor	Operational efficiency for emergency service will ultimately be improved. Minor	No impact.
Traffic and Transportation/ Pedestrian and Bicycle Facilities	Build Alternative 1A would result in a substantial improvement in present and future traffic operations, including interregional movement of goods. However, construction could impact traffic temporarily. Pedestrian and bicycle facilities would be improved. Reduction in Daily Traffic Volume 27 percent	Build Alternative 1B would result in a substantial improvement in present and future traffic operations, including interregional movement of goods. However, construction could impact traffic temporarily. Pedestrian and bicycle facilities would be improved. Reduction in Daily Traffic Volume 21 percent	Build Alternative 2A would result in a substantial improvement in present and future traffic operations, including interregional movement of goods. However, construction could impact traffic temporarily. Pedestrian and bicycle facilities would be improved. Reduction in Daily Traffic Volume 17 percent	Build Alternative 2B would result in a substantial improvement in present and future traffic operations, including interregional movement of goods. However, construction could impact traffic temporarily. Pedestrian and bicycle facilities would be improved. Reduction in Daily Traffic Volume 11 percent	The No-Build would not improve existing or future traffic operations, nor would it improve safety, pedestrian facilities, or bicycle facilities.
Visual/Aesthetics	Moderate	Moderate	Moderate	Moderate	No impact.
Cultural Resources	No adverse effect to 6 known historic properties (historic era structures). Additional cultural resource identification, evaluation, effect determination, and mitigation (if applicable) efforts needed upon right-of-way acquisition.	No adverse effect to 6 known historic properties (historic era structures). Additional cultural resource identification, evaluation, effect determination, and mitigation (if applicable) efforts needed upon right-of-way acquisition.	No adverse effect to 6 known historic properties (historic era structures). Additional cultural resource identification, evaluation, effect determination, and mitigation (if applicable) efforts needed upon right-of-way acquisition.	No adverse effect to 6 known historic properties (historic era structures). Additional cultural resource identification, evaluation, effect determination, and mitigation (if applicable) efforts needed upon right-of-way acquisition.	No impact.
Water Quality and Storm Water Runoff	Net impervious surface of 179 acres and would have the potential to introduce pollutants during construction.	Net impervious surface of 211 acres and would have the potential to introduce pollutants during construction.	Net impervious surface of 189 acres and would have the potential to introduce pollutants during construction.	Net impervious surface of 222 acres and would have the potential to introduce pollutants during construction.	No impact.
Paleontology	Geologic formations present with high Paleontological Sensitivity within the project limits. Paleontological Mitigation Plan required.	Geologic formations present with high Paleontological Sensitivity within the project limits. Paleontological Mitigation Plan required.	Geologic formations present with high Paleontological Sensitivity within the project limits. Paleontological Mitigation Plan required.	Geologic formations present with high Paleontological Sensitivity within the project limits. Paleontological Mitigation Plan required.	No impact.
Hazardous Waste/Materials	2 High-Risk Properties, 62 Medium-Risk Properties.	2 High-Risk Properties, 64 Medium-Risk Properties.	1 High-Risk Properties, 62 Medium-Risk Properties.	1 High-Risk Properties, 66 Medium-Risk Properties.	No impact.

Potential Impact	Alternative 1A	Alternative 1B	Alternative 2A	Alternative 2B	No-Build Alternative
Air Quality	Not a Project of Air Quality Concern. Meets Regional Conformity requirements by federal Clean Air Act. Moderately high construction (short-term) impacts related to NOx, ROG, PM_{10}, $PM_{2.5}$, and CO.	Not a Project of Air Quality Concern. Meets Regional Conformity requirements by federal Clean Air Act. Moderately high construction (short-term) impacts related to NOx, ROG, PM_{10}, $PM_{2.5}$, and CO.	Not a Project of Air Quality Concern. Meets Regional Conformity requirements by federal Clean Air Act. Moderately high construction (short-term) impacts related to NOx, ROG, PM_{10}, $PM_{2.5}$, and CO.	Not a Project of Air Quality Concern. Meets Regional Conformity requirements by federal Clean Air Act. Moderately high construction (short-term) impacts related to NOx, ROG, PM_{10}, $PM_{2.5}$, and CO.	No impact.
Climate Change	increase vs No-Build 2.8 percent increase modeled for 2042. (Pavley Regulations)	increase vs No-Build 2.6 percent increase modeled for 2042. (Pavley Regulations)	increase vs No-Build 2.5 percent increase modeled for 2042. (Pavley Regulations)	increase vs No-Build 2.2 percent increase modeled for 2042. (Pavley Regulations)	CO_2 Emissions in 2042 (tons/year) 543,120.
Noise and Vibration	Moderately high impacts to adjacent receptors. Two soundwalls have been found feasible and reasonable.	Moderately high impacts to adjacent receptors. Two soundwalls have been found feasible and reasonable.	Moderately high impacts to adjacent receptors. Two soundwalls have been found feasible and reasonable.	Moderately high impacts to adjacent receptors. Two soundwalls have been found feasible and reasonable.	No impact.
Natural Communities	Impacts to 1.32 acres (1.0 acre of direct impacts, 0.32 acre indirect impacts) of Interior Live Oak Woodland in the project area.	Impacts to 3.44 acres (3.07 acres of direct impacts, 0.37 acre of indirect impacts) of Interior Live Oak Woodland in the project area and 1.0 acres (0.23 acre of direct impacts, 0.77 acre of indirect impacts) of Blue Oak Savannah.	Impacts to 1.32 acres (1.0 acre of direct impacts, 0.32 acre of indirect impacts) Interior Live Oak Woodland in the project area	Impacts to 3.44 acres (3.07 acres of direct impacts, 0.37 acres of indirect impacts) of Interior Live Oak Woodland in the project area and 1.0 acre (0.23 acre of direct impacts, 0.77 acre of indirect impacts) of Blue Oak Savannah.	No impact.
Wetlands and other Waters	Impacts to 3.02 acres of wetlands and 0.78 acre of non-wetland waters of the U.S. in the project area.	Impacts to 3.22 acres of wetlands and 1.44 acres of non-wetland waters of the U.S. in the project area.	Impacts to 3.00 acres of wetlands and 0.61 acre of non-wetland waters of the U.S. in the project area	Impacts to 3.37 acres of wetlands and 1.06 acres of non-wetland waters of the U.S. in the project area.	No impact.
Animal Species	Build Alternative 1A would result in impacts to animal species. Bats (impacts: Tree = 25.58 acres; Building = 24.78 acres); Western Burrowing Owl Bats (impacts: Habitat = 12.34 acres); Northern Harrier, and California horned lark, White-tailed kite and Merlin (wintering)	Build Alternative 1B would result in impacts to animal species. Bats (impacts: Tree = 19.73 acres; Building = 19.95 acres); Western Burrowing Owl Bats (impacts: Habitat = 31.45 acres); Northern Harrier and California horned lark, White-tailed kite and Merlin (wintering)	Build Alternative 2A would result in impacts to animal species. Bats (impacts: Tree = 15.95 acres; Building = 32.97 acres); Western Burrowing Owl Bats (impacts: Habitat = 13.44 acres); Northern Harrier and California horned lark, White-tailed kite and Merlin (wintering)	Build Alternative 2B would result in impacts to animal species. Bats (impacts: Tree = 10.36 acres; Building = 27.06 acres); Western Burrowing Owl Bats (impacts: Habitat = 41.66 acres); Northern Harrier and California horned lark, White-tailed kite and Merlin (wintering)	No impact.

Potential Impact	Alternative 1A	Alternative 1B	Alternative 2A	Alternative 2B	No-Build Alternative
	(Nesting Habitat = 12.34 acres; Foraging Habitat = 335.96 acres); Loggerhead shrike (Nesting Habitat = 1.00 acre; Foraging Habitat = 335.96 acres); Pacific Pond Turtle (Aquatic Habitat = 8.42 acres); Western spadefoot toad (Impacts Direct = 0.36 acre; Indirect = 0.07 acre)	(Nesting Habitat = 31.45 acres; Foraging Habitat = 409.29 acres); Loggerhead shrike (Nesting Habitat = 1.00 acre; Foraging Habitat = 335.96 acres); Pacific Pond Turtle (Aquatic Habitat = 0.86 acre); Western spadefoot toad (Impacts Direct = 0.27 acre; Indirect = 0.15 acre)	(Nesting Habitat = 13.44 acres; Foraging Habitat = 330.04 acres); Loggerhead shrike (Nesting Habitat = 1.00 acre; Foraging Habitat = 330.04 acres); Pacific Pond Turtle (Aquatic Habitat = 0.29 acre); Western spadefoot toad (Impacts Direct = 0.74 acre; Indirect = 0.49 acre)	(Nesting Habitat = 41.66 acres; Foraging Habitat = 405.0 acres); Loggerhead shrike (Nesting Habitat = 3.30 acre; Foraging Habitat = 405.43 acres); Pacific Pond Turtle (Aquatic Habitat = 5.82 acres); Western spadefoot toad (Impacts Direct = 0.66 acre; Indirect = 0.90 acre)	
Threatened and Endangered Species	Impacts to the following animal species habitat: Swainson's Hawk (foraging habitat 335.96 acres) and two known nest trees, Tricolored blackbird (impacts: Foraging habitat = 335.96 acres), and Valley Elderberry Longhorn Beetle: no known shrubs will be impacted, however, due to Right of Entry restrictions not all of the project study area has been surveyed for potential shrub locations.	Impacts to the following animal species habitat: Swainson's Hawk (foraging habitat 409.29) and two known nest trees, Tricolored blackbird (impacts: Foraging habitat = 409.29 acres), and Vernal Pool Invertebrates (Impacts: Direct = 0.07 acres, Indirect = 1.21 acres), and Valley Elderberry Longhorn Beetle: no known shrubs will be impacted, however, due to Right of Entry restrictions not all of the project study area has been surveyed for potential shrub locations.	Impacts to the following animal species habitat: Swainson's Hawk (foraging habitat 330.09 acres) and two known nest trees, Tricolored blackbird (impacts: Foraging habitat = 330.04 acres), and Valley Elderberry Longhorn Beetle: no known shrubs will be impacted, however, due to Right of Entry restrictions not all of the project study area has been surveyed for potential shrub locations.	Impacts to the following animal species habitat: Swainson's Hawk (foraging habitat 405.43 acres) and two known nest trees, Tricolored blackbird (impacts: Foraging habitat = 405.43 acres), and Vernal Pool Invertebrates (Impacts: Direct = 0.04 acres, Indirect = 2.11 acres), Valley Elderberry Longhorn Beetle: no known shrubs will be impacted, however, due to Right of Entry restrictions not all of the project study area has been surveyed for potential shrub locations.	No impact.
Invasive Species	The project area is already moderately impacted by non-native species. No new invasive species would be introduced. Permanent impacts include the low probability to spread invasive species within the project area during construction activities.	The project area is already moderately impacted by non-native species. No new invasive species would be introduced. Permanent impacts include the low probability to spread invasive species within the project area during construction activities.	The project area is already moderately impacted by non-native species. No new invasive species would be introduced. Permanent impacts include the low probability to spread invasive species within the project area during construction activities.	The project area is already moderately impacted by non-native species. No new invasive species would be introduced. Permanent impacts include the low probability to spread invasive species within the project area during construction activities.	No impact.

Potential Impact	Alternative 1A	Alternative 1B	Alternative 2A	Alternative 2B	No-Build Alternative
Cumulative Impacts	Build Alternative 1A could potentially have cumulative impacts for community impacts, relocations, land use, noise visual, waters, and wetlands.	Build Alternative 1B could potentially have cumulative impacts for community impacts relocations, land use, noise visual, waters, and wetlands.	Build Alternative 2A could potentially have cumulative impacts for community impacts relocations, land use, noise visual, waters, and wetlands.	Build Alternative 2B could potentially have cumulative impacts for community impacts relocations, land use, noise visual, waters, and wetlands.	No impact.
Number of Interchanges	4	4	4	4	None
Number of Roundabout	2	3	2	3	None
Number of Intersections	6	7	6	7	None
Railroad Crossings	2	2	2	2	None
Canal Crossings	17	22	24	34	None
Number of Hetch-Hetchy Crossings	12	12	6	5	None
Cost	$660 million	$688 million	$676 million	$699 million	None