

Appendix I-D

STANISLAUS COUNTY DISADVANTAGED UNINCORPORATED COMMUNITIES REPORT

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STANISLAUS COUNTY DISADVANTAGED UNINCORPORATED COMMUNITIES REPORT

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Acronyms and Abbreviations

AB	Assembly Bill
ACE	Altamont Commuter Express
AGS	Applied Geographic Solutions
BART	Bay Area Rapid Transit
CAT	Ceres Area Transit
CDP	Census-Designated Place
CHA	Community Health Assessment of Stanislaus County
CSA	County Service Area
CSD	County Service Area
DUC	disadvantaged unincorporated community
FBI	Federal Bureau of Investigation
FPD	Fire Protection District
General Plan	<i>Stanislaus County General Plan</i>
GHG	greenhouse gas
GIS	geographic information system
I-5	Interstate 5
LAFCO	Local Agency Formation Commissions
LEB	life expectancy at birth
LOS	level of service
MAX	Modesto Area Express
MCL	maximum contaminant level
P-D	Planned Development District
PM	particulate matter
PM10	particulate matter of 10 microns or less
PM2.5	particulate matter of 2.5 microns or less
SB	Senate Bill
SJVAB	San Joaquin Valley air basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SOI	sphere of influence
SR	State Route
StaRT	Stanislaus Regional Transit
WSID	Westside Irrigation District

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Background and Overview of Statutory Requirements

Senate Bill (SB) 244 of 2011 mandates that city and county general plans consider disadvantaged unincorporated communities (DUCs) and the availability of services to such communities. SB 244 states, in part: “It is the intent of the Legislature to encourage investment in these communities and address the complex legal, financial, and political barriers that contribute to regional inequity and infrastructure deficits within disadvantaged unincorporated communities.” SB 244 also establishes requirements for Local Agency Formation Commissions (LAFCO) to consider DUCs relating to agency formation and annexation proposals, and as part of their municipal service reviews.

Accordingly, the general plan must include analyses of the water, wastewater, stormwater drainage, and structural fire protection needs or deficiencies of those communities, and a discussion of benefit assessment districts or other financing alternatives that could make the extension of services to such communities financially feasible (Government Code Section 65302.10).

Responsibility for addressing the concerns of DUCs is split between cities and counties, depending on the location and age of such communities. Government Code Section 65302.10(b)(1) provides that a county must include “an identification of each legacy community within the boundaries of the county that is a disadvantaged unincorporated community, but not including any area within the sphere of influence of any city. This identification shall include a description of the community and a map designating its location.” *Community* is defined as “an inhabited area within a city or county that is comprised of no less than 10 dwellings adjacent or in close proximity to one another.” *Legacy community* is defined as “a geographically isolated community that is inhabited and has existed for at least 50 years.”

The selection criteria for DUCs subject to Stanislaus County jurisdiction are as follows:

- Identified community (Census-Designated Place, or CDP), with distinguishable boundaries, located within the unincorporated area of the county.
- Developed, with 10 dwellings, or 12 or more registered voters.
- Annual median income of households is less than 80% of the statewide median household income.
- Outside of the sphere of influence of any city.

As defined under Government Code Section 65302.10, the DUCs within Stanislaus County that fall within the responsibility of the *Stanislaus County General Plan* (General Plan) are listed below and shown in Figure 1-1, *Disadvantaged Unincorporated Communities in Stanislaus County*.

- Cowan Tract.
- Crows Landing.
- Grayson.
- Keyes.
- Monterey Park Tract.

- Riverdale Park Tract.
- Westley.

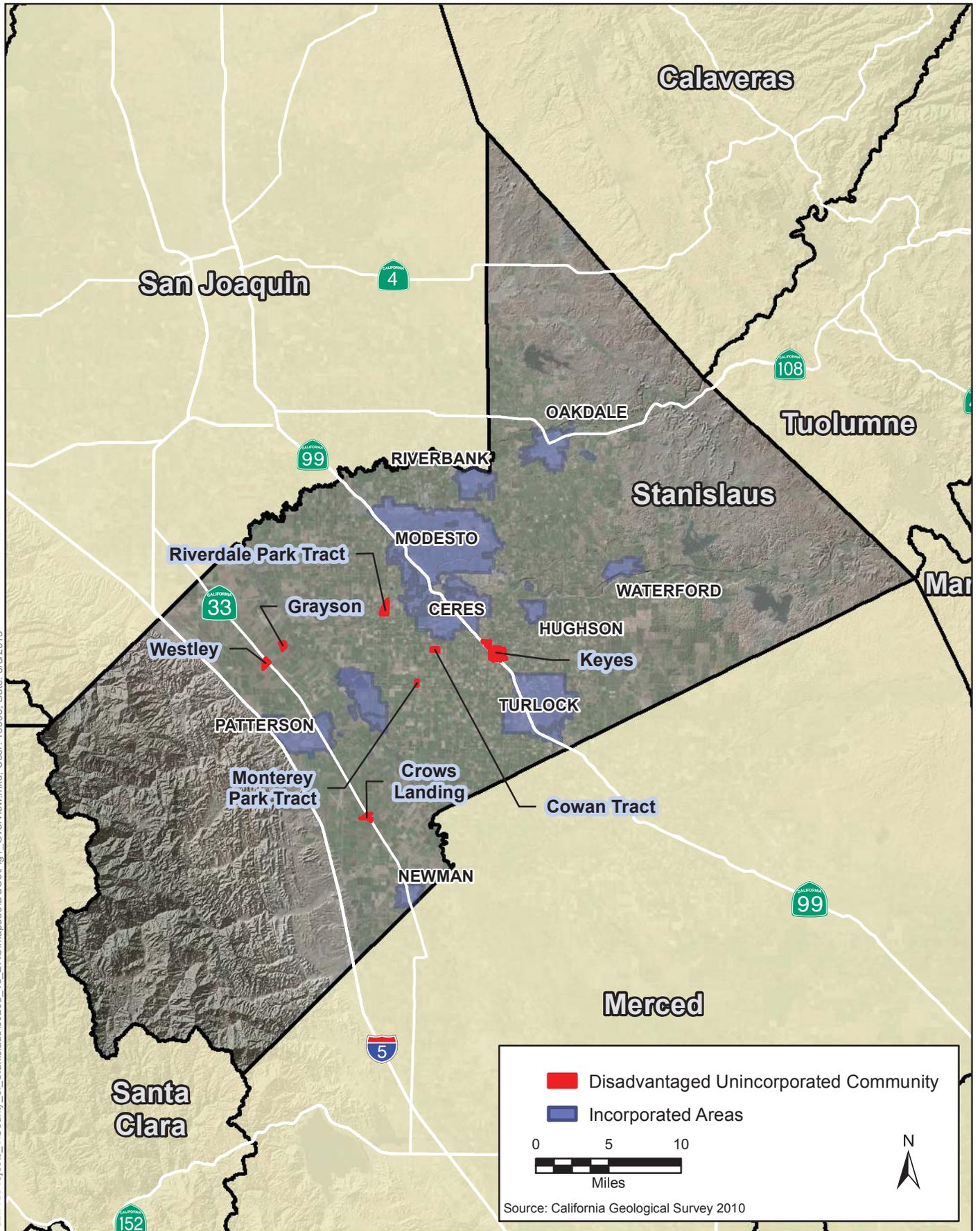
These DUCs are the subject of this report, which compiles information from various sources to characterize the conditions in each DUC. This includes geographic information system (GIS) files for infrastructure, the most recent Municipal Service Reviews prepared by the Stanislaus County LAFCO, and available health information. There is no community-specific health information available; consequently, the DUCs are discussed in the context of the nine geographic areas by which the information is presented in the 2013 *Community Health Assessment of Stanislaus County* prepared by the Stanislaus County Health Services Agency. The references used in Chapter 2, *Existing Conditions*, are identified after the discussion of each DUC.

This report was prepared with partial funding from a grant from the California Strategic Growth Council and goes beyond the basic provisions of SB 244, which specifically requires consideration of water, wastewater, stormwater drainage, and structural fire protection needs or deficiencies. In addition to those services and in order to meet the requirements of the California Strategic Growth Council grant, this report includes information on air quality, public health issues, and the presence or absence of additional factors, such as community services, that result from or contribute to a community's general health.

The report is organized in the following chapters:

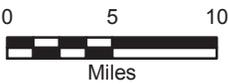
- Chapter 1, *Background and Overview of Statutory Requirements*
- Chapter 2, *Existing Conditions*, documents the existing infrastructure, services, and chronic health issues for each of the identified DUCs
- Chapter 3, *Community Assets and Deficits*, describes the condition of infrastructure and services for each DUC
- Chapter 4, *Healthy Communities Strategies*, recommends a number of policies that will further the development of healthy communities.

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Disadvantaged Unincorporated Community

Incorporated Areas



Source: California Geological Survey 2010



Figure 1-1
Disadvantaged Unincorporated Communities
in Stanislaus County

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2.1 Cowan Tract

2.1.1 General Characteristics and Demographics

Located approximately 1 mile southwest of the city of Ceres, Cowan Tract is a rural neighborhood primarily comprised of mobile homes. Cowan Tract is a CDP with a 2010 census population of 318 people in 94 households and an average household size of 3.38 persons (United States Census Bureau 2013a). The median annual household income in California was \$60,190 in 2013; it was \$39,563 in Cowan Tract (United States Census Bureau 2013b). In 2010, Cowan Tract had 102 housing units, 94 of which were occupied (United States Census Bureau 2013a).

At 102 acres, the Cowan CDP occupies a larger area than the 78-acre area identified as the Cowan Tract DUC described below and encompasses approximately 24 acres of agricultural land immediately south of the DUC. All of the land immediately surrounding the Cowan Tract DUC is zoned General Agriculture, with a 40-acre minimum parcel size (A-2-40) (Stanislaus County 2014d). The western part of the agricultural land is classified by the California Department of Conservation's Important Farmlands Inventory as "semi-agricultural and rural commercial land," defined as "farmsteads, agricultural storage and packing sheds, unpaved parking areas, composting facilities, equine facilities, firewood lots, and campgrounds" (California Department of Conservation 2014); most of this area is also under Williamson Act contract (California Department of Conservation 2012). The eastern portion of the agricultural acreage is non-Williamson Act contracted prime farmland (California Department of Conservation 2012 and 2014). These agricultural lands do not support the requisite intensity of existing development for SB 244 consideration and are unlikely to develop; therefore, they are not included as part of the Cowan Tract DUC residential community evaluated for SB 244 purposes.

Cowan Tract DUC is defined by San Joaquin Street on the north, the Union Pacific Railroad tracks on the east, Lathrop Street on the south, and Crows Landing Road on the west. Turlock Irrigation District's Lower Lateral No. 2½ parallels the south side of Lathrop Street, separating Cowan Tract from neighboring farmland to the south. The area is surrounded by agricultural land and accompanying agriculture-related residences, with the exception of the driving range/9-hole golf course located immediately north of Cowan Tract's northwest corner.

The General Plan's Housing Element identifies Cowan Tract as a Residential Development Potential Study Area, noting that Cowan Tract does not have the potential to accommodate additional housing units (Stanislaus County 2012). Existing infrastructure and services for Cowan Tract—like many rural areas—are limited; these are described below.

2.1.2 Infrastructure, Utilities, and Services

Infrastructure, utilities, and services considered for the Cowan Tract DUC are presented in Figure 2-1, *Cowan Tract Disadvantaged Unincorporated Community*, and include transportation facilities and services including roads, sidewalks, street lighting, and bus stops/service; water,

wastewater, and storm drainage systems; solid waste disposal; public safety services such as law enforcement and fire protection; and access to community amenities and services such as schools, parks, and grocery stores. Data associated with chronic health conditions and air quality are described at a regional level because they are not available for Cowan Tract DUC specifically.

2.1.3 Transportation Facilities and Services

Cowan Tract lies approximately 4 miles west of State Route (SR) 99, a major north-south travel corridor and a six-lane freeway in Stanislaus County. Transportation infrastructure in the immediate Cowan Tract area consists of a mixture of public, County-maintained roads and privately maintained roadways, and railroad tracks. County-maintained roads include San Joaquin Street, Crows Landing Road, the western half of Cowan Road, and the northern halves of Avenues A, B, and C. San Joaquin Street forms the DUC's northern edge and, like the roads within Cowan Tract, consists of a narrow, two-lane local road with no sidewalks, curbs, or bicycle lanes.

Crows Landing Road, adjacent to the west side of Cowan Tract, is a two-lane major roadway; in the vicinity of Cowan Tract the road currently has two lanes plus a center bidirectional turn lane (Stanislaus Council of Governments 2014). The County General Plan Circulation Element designates Crows Landing Road as a four-lane expressway, a category of road intended to move high volumes of people and goods between urban areas within the county at higher speeds (Stanislaus County 2006). The level of service (LOS) on that segment of Crows Landing Road has not been recorded; however, the segment between Grayson Road (0.25 mile north of Cowan Tract) and Service Road (1.25 miles north of Cowan Tract) operates at LOS D, below Stanislaus County's LOS C goal and at the minimum adopted level of service allowed by the General Plan (Stanislaus County 2006; Stanislaus Council of Governments 2014). Crows Landing Road, including the segment adjacent to Cowan Tract, is proposed for widening and designated in the draft Circulation Element as a future six-lane expressway (County of Stanislaus (no date) Stanislaus Council of Governments 2014).

The 2013 *Stanislaus County Non-Motorized Facilities Master Plan* identifies Crows Landing Road north of Cowan Tract as 1 of 10 countywide first-tier—or high-priority—bikeways scheduled for improvement (Stanislaus Council of Governments 2013). Adjacent to and south of Cowan Tract, Crows Landing Road is designated as a planned Class 3 bikeway (Stanislaus Council of Governments 2013).

Within the Cowan Tract DUC, private roads that are not maintained by the County include Avenues A, B, and C south of Cowan Street; Cowan Street east of Avenue C; and the entirety of Avenue D and Lathrop Street—all of these are two-lane local roads. No sidewalks are present on any of the Cowan Tract roads, and there are no designated bicycle lanes beyond those on Crows Landing Road.

No curbs, gutters, or street lights are present on the roadways in and around Cowan Tract (Stanislaus County 2012). The Union Pacific railroad tracks extend north-south immediately east of Cowan Tract.

Bus service within Cowan Tract is limited to the Turlock–Modesto Shuttle, which provides four roundtrips between Turlock and Modesto, with curbside service, to the general public Monday–Saturday between 7:00 a.m. and 6:30 p.m. (Stanislaus Regional Transit 2014a).

The nearest fixed bus routes to Cowan Tract are Ceres Area Transit (CAT) Route B, Modesto Area Express (MAX) Route 42, and Stanislaus Regional Transit (StaRT) Route 40 (City of Ceres 2014; City of Modesto 2014; Stanislaus Regional Transit 2014a). CAT Route B runs buses nine times per day,

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Figure 2-1
Cowan Tract Disadvantaged Unincorporated Community

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Monday–Friday, connecting Ceres and Modesto between the hours of 8:15 a.m. and 6:10 p.m.; no weekend service is provided on CAT Route B (City of Ceres 2013). The nearest CAT Route B bus stop is approximately 1.25 miles north of Cowan Tract at the northeast corner of Crows Landing and Service Roads. MAX Route 42 provides bus service every 30 minutes between the hours of 5:51 a.m. and 7:59 p.m. Monday–Saturday and 8:45 a.m.–6:40 p.m. on Sundays; the nearest MAX bus stop to Cowan Tract is 1.75 miles north at the Stanislaus County Community Services Agency/Community Safety Center facility on Hackett Road (City of Modesto 2009c). All CAT and MAX buses are equipped with bicycle racks (City of Modesto 2009a; City of Ceres 2014). StaRT Route 40 connects Modesto, Grayson, Westley, and Patterson, and passes 0.25 mile north of Cowan Tract on Crows Landing and Grayson Roads. StaRT Route 40 provides round trips between Modesto and Patterson; Monday–Friday, there are eight round trips, running approximately every 2 hours from 5:20 a.m. to 9:08 p.m.; on Saturdays, there are five round trips, running every 2 hours and 45 minutes from 8:15 a.m. to 8:12 p.m.; no StaRT buses run on Route 40 on Sundays (Stanislaus Regional Transit 2014b). The nearest StaRT Route 40 bus stop to Cowan Tract is 1.75 miles north at the Stanislaus County Community Services Agency/Community Safety Center facility on Hackett Road (Stanislaus Regional Transit 2014b). All three routes, CAT Route B, MAX Route 42, and StaRT Route 40, connect to Modesto’s Downtown Transportation Center, from which riders can transfer and connect to the Modesto Amtrak station, the Altamont Commuter Express (ACE) train station in Lathrop, and the Dublin Bay Area Rapid Transit (BART) station (Stanislaus Regional Transit 2014c; City of Modesto 2009b).

2.1.4 Water, Wastewater, and Stormwater Drainage Systems

No community services district serves Cowan Tract. Water is obtained through individual private wells, and wastewater is disposed through private septic systems (Stanislaus County 2012). Like many rural areas, storm drainage in the vicinity of Cowan Tract consists of either field percolation or roadside ditches that drain to nearby creeks. No storm drainage system serves Cowan Tract.

2.1.5 Solid Waste Disposal

Stanislaus County contracts with four franchised solid waste collection companies, Bertolotti Disposal, Gilton Solid Waste, Modesto Disposal/Waste Management, and Turlock Scavenger, for residential and commercial garbage collection service in unincorporated Stanislaus County (Stanislaus County 2014a). Cowan Tract falls within County-designated Franchise Area 1, served by Bertolotti Disposal (Stanislaus County 2014b). Besides providing solid waste and recyclables collection services to Franchise Area 1, Bertolotti Disposal operates a transfer station, open to the public Monday–Saturday, on Flamingo Road in Ceres. Additionally, Stanislaus County’s Fink Road Sanitary Landfill, a Class III landfill for nonhazardous municipal solid waste, is operated by the County’s Department of Environmental Resources and is open Monday–Saturday to private citizens, school districts, businesses, and local agencies for individual disposal of solid waste (Stanislaus County 2014c).

2.1.6 Law Enforcement and Fire Protection

Law enforcement services for Cowan Tract, as for the rest of unincorporated Stanislaus County and four contract cities, are provided by the Stanislaus County Sheriff’s Department. The nearest sheriff’s station to Cowan Tract is the main station, approximately 2.3 miles north at 250 East Hackett Road in Ceres.

The operations division of the Sheriff's Department provides law enforcement services to over 200,000 people in a 1,521-square-mile area (Stanislaus County Sheriff's Department 2014). Two units—patrol and investigations—comprise the Sheriff's Department operations division. The patrol unit responds to calls for assistance, investigates crime, makes arrests, and performs preventive patrol services (Stanislaus County Sheriff's Department 2014). The investigations unit follows up reports of major crimes, collects and prepares evidence for trials, apprehends offenders, and recovers stolen property (Stanislaus County Sheriff's Department 2014).

The crime rates presented below were compiled by Applied Geographic Solutions (AGS) using the primary reporting categories from the Federal Bureau of Investigation (FBI) 2005 – 2010 Uniform Crime Report databases, along with preliminary 2011 release data and census data related to socioeconomic characteristics. The crimes are divided into two main categories: personal crimes (murder, rape, robbery, and assault) and property crimes (burglary, larceny, and motor vehicle theft). These crime rates are based on a comparison of the average local crime rate to the national average for the same crime, with a crime index of 100 considered average; scores above 100 are therefore considered greater, or worse, than average. For example, a score of 130 would represent a crime rate 30% greater than the national average for that type of crime. These crime rates are unweighted (i.e., a murder and a theft carry the same weight for calculation purposes) and are tracked at the census block group level and above, which may not correspond precisely to the DUC boundaries. Census blocks are the smallest geographic area for which the United States Census Bureau collects and tabulates data; a set of these constitutes a census block group. Census blocks vary widely in geographic size and are generally smaller in urban areas and progressively larger in suburban, rural, or remote areas; a given block group is larger in area and population than the individual census blocks of which it is made, and generally contains between 600 and 3,000 people (United States Census Bureau 1994). Cowan Tract DUC falls within census block group 060990030.021.

The overall personal crime and property crime indices for Cowan Tract are 141 and 85, respectively, which means that personal crimes in Cowan Tract occur at a rate 41% higher than the nationwide average, and property crimes occur at a rate of 85% of the national average. The general and individual crime indices for these categories are shown in Table 2-1 below.

Table 2-1. Cowan Tract Crime Indices

Personal Crime		Property Crime	
Personal Crime Index	141	Property Crime Index	85
Murder	166	Burglary	166
Rape	114	Larceny	97
Robbery	67	Motor Vehicle Theft	12
Assault	187		

Source: Applied Geographic Solutions and Atlas Publishing 2012.

The Westport Fire Protection District (FPD) provides fire protection and emergency response services to the Cowan Tract area from its one fire station, located approximately 2.5 miles west at 5160 South Carpenter Road. The Westport fire station serves a 45-square-mile area with a staff of 17 volunteer firefighters and houses two engines, one water tender, and one rescue vehicle (Emergency Services Consulting 2007). The station's workload, defined by the number of incidents

per year, increased from just over 100 in 1987 to about 300 in 2005 (Emergency Services Consulting 2007).

A fire department's ability to meet the fire protection needs of its service area is typically evaluated by the Insurance Services Office (ISO), a private organization that assesses risks, including fire protection, for insurance purposes. The ISO considers a variety of factors, including a district's fire-fighting apparatus, staffing, training, location, and water supply, to rate fire departments on a scale from 1 (best fire protection possible) to 10 (no fire protection). The ISO rating therefore reflects a fire department's ability to protect the residents and businesses within its service area from fire. Westport FPD has an ISO rating of 8 within a 5-mile radius of the station (Emergency Services Consulting 2007).

2.1.7 Schools and Community Amenities

Cowan Tract lies within the boundaries of the Ceres Unified School District, which includes a total of 22 schools serving a total of 12,742 students in grades K–12 (Ceres Unified School District 2014a). The nearest elementary school to Cowan Tract is Westport Elementary, which is 2.9 miles west at 5218 South Carpenter Road. This school serves 454 students in grades K–6 (California Department of Education 2014c; Ceres Unified School District 2013). The nearest junior high school is Blaker Kinser Junior High School, serving 612 students in grades 7 and 8, approximately 4 miles northeast of Cowan Tract at 1601 Kinser Road in Ceres. The nearest high school is Central Valley High School, 3.5 miles northeast at 4033 South Central Avenue in Ceres (California Department of Education 2014a). Central Valley High School serves 1,686 students in grades 9–12 (California Department of Education 2014b). The school district provides bus transportation to and from school for students living beyond walking distance to their schools (Ceres Unified School District 2014b).

Several city parks lie approximately 1.5–2 miles northeast of Cowan Tract in southwest Ceres. Of these, Sam Ryno Park, at about 1.5 miles, is the closest but has no developed amenities; nearby developed park and recreational facilities include Strawberry Fields Park, Don Pedro Park, and Central Valley High School. Strawberry Fields Park is a neighborhood park featuring picnic facilities and play equipment, and Don Pedro Park features picnic facilities, play equipment, and an adult fitness area (City of Ceres 2010). The City of Ceres considers school facilities to be joint-use recreational facilities (City of Ceres 1997). Developed recreational amenities at Central Valley High School include baseball/softball fields, soccer fields, tennis courts, and a track.

The nearest grocery store to Cowan Tract is Joe's Food Mart, a small convenience market, approximately 0.25 mile north of Cowan Tract at the corner of Crows Landing Road and West Grayson Road. The nearest full-service supermarkets are Magic Market, 2.7 miles northeast of Cowan Tract at 3900 Morgan Road in Ceres, and La Perla Tapatia, 2.9 miles north of Cowan Tract at 2031 Crows Landing Road in Modesto.

2.1.8 Air Quality and Chronic Health Conditions

Stanislaus County is within the northern part of the eight-county San Joaquin Valley Air Pollution Control District (SJVAPCD), a regional public health agency responsible for air quality management in those eight counties. SJVAPCD cites several factors that contribute to the valley's air quality challenges, including high rates of chronic poverty and unemployment coupled with a high population growth rate, the presence of major transportation corridors, and topographic features such as the surrounding mountains combined with the area's meteorological conditions (San

Joaquin Valley Air Pollution Control District 2014a). SJVAPCD notes that two pollutants—ozone and particulate matter (PM) of both 10 microns or less (PM10) and 2.5 microns or less (PM2.5)— are of special concern, causing or exacerbating a variety of health conditions (San Joaquin Valley Air Pollution Control District 2014a). The presence of PM2.5, primarily a winter condition, triggers heart attacks, asthma, bronchitis, and respiratory infections, and has a strong correlation with hospital admissions and deaths (San Joaquin Valley Air Pollution Control District 2014a).

GHGs are not a criteria air pollutant and do not directly affect human health. GHG emissions are largely the result of combustion, decay and digestive processes, and emissions of industrial gases with high climate change potential. Unlike criteria pollutants such as carbon monoxide, PM10, PM2.5, and ozone, GHGs do not collect within a specific area or air basin. Their harm is done at a global level through the effect of increased concentrations of GHGs in Earth's atmosphere.

Worldwide concern over GHG emissions is based on the climate change that they are causing by altering the way in which Earth's atmosphere traps solar radiation as heat. The adverse effects of global climate change include rising sea levels, changes in habitat conditions for plants and animals, increased potential for wildfires, more severe weather extremes, and a reduction in California's winter snow pack, among others. Through the impetus of Assembly Bill (AB) 32 (California Global Warming Solutions Act of 2006) and SB 375 (Sustainable Communities and Climate Protection Act of 2008), California has undertaken a statewide program of reducing GHG emissions to 1990 levels by 2020 in order to slow the rate of global climate change.

Climate change can have an indirect effect on human health in Stanislaus County to the extent that it results in warmer summer temperatures that facilitate ozone formation and exacerbate heat-related stress among outdoor workers, the elderly, small children, and the infirm. The amount of GHGs emitted within the Cowan Tract DUC is not atypical for a small, rural community.

SJVAPCD operates 36 air monitoring sites within its eight-county air basin. Of these, two air quality stations, one in Modesto and another in Turlock, monitor air quality within Stanislaus County. The Modesto monitoring site is the closest to Cowan Tract, approximately 5.5 miles north of the community. Table 2-2 shows the San Joaquin Valley air basin's (SJVAB's) current air quality attainment status for state and federal criteria pollutants (San Joaquin Valley Air Pollution Control District 2012).

Table 2-2. San Joaquin Valley Air Basin Air Quality Attainment Status

Pollutant	Designation/Classification	
	Federal Standards	State Standards
Ozone—1-hour	No Federal Standard ^a	Nonattainment/Severe
Ozone—8-hour	Nonattainment/Extreme ^b	Nonattainment
PM 10	Attainment ^c	Nonattainment
PM 2.5	Nonattainment ^d	Nonattainment
Carbon monoxide	Attainment/Unclassified	Attainment/Unclassified
Nitrogen dioxide	Attainment/Unclassified	Attainment
Sulfur dioxide	Attainment/Unclassified	Attainment
Lead (particulate)	No Designation/Classification	Attainment
Hydrogen sulfide	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment
Visibility reducing particles	No Federal Standard	Unclassified
Vinyl chloride	No Federal Standard	Attainment

Source: San Joaquin Valley Air Pollution Control District 2012.

- ^a Effective June 15, 2005, the U.S. Environmental Protection Agency (EPA) revoked the federal 1-hour ozone standard, including associated designations and classifications. EPA had previously classified the San Joaquin Valley air basin (SJVAB) as extreme nonattainment for this standard. EPA approved the 2004 Extreme Ozone Attainment Demonstration Plan on March 8, 2010 (effective April 7, 2010). Many applicable requirements for extreme 1-hour ozone nonattainment areas continue to apply to the SJVAB.
- ^b Though the SJVAB was initially classified as serious nonattainment for the 1997 8-hour ozone standard, EPA approved Valley reclassification to extreme nonattainment in the Federal Register on May 5, 2010 (effective June 4, 2010).
- ^c On September 25, 2008, EPA redesignated the SJVAB to attainment for the PM10 National Ambient Air Quality Standard (NAAQS) and approved the PM10 Maintenance Plan.
- ^d The SJVAB is designated nonattainment for the 1997 PM2.5 NAAQS. EPA designated the SJVAB as nonattainment for the 2006 PM2.5 NAAQS on November 13, 2009 (effective December 14, 2009).

Over the past decade, ozone levels have been trending downward within the SJVAB and, in 2013, for the first time on record, the air basin overall had zero violations of the federal hourly ozone standard, compared to 281 violations in 1996 (San Joaquin Valley Air Pollution Control District 2014b). At the same time, PM2.5 and PM10 levels have fluctuated with no clear upward or downward trend (California Air Resources Board 2015). Table 2-3 presents the number of days in which Stanislaus County ozone, PM2.5, and PM10 levels exceeded state and federal air quality standards in 2013 (California Air Resources Board 2015).

Table 2-3. Stanislaus County Days in Exceedance of State and Federal Air Quality Standards, 2013

Monitoring Site	Ozone			PM 2.5	PM 10
	# Days > State 1-Hr Standard	# Days > National '08 8-Hr Standard	# Days > State 8-Hr Standard	Est Days > National 24-Hr Standard	Est Days > State 24-Hr Standard
Modesto 14th St.	0	2	13	37.6	57.7
Turlock S. Minaret St.	1	14	24	40.3	73.7

Source: California Air Resources Board 2015.

The 2013 *Community Health Assessment of Stanislaus County* (CHA), prepared by the Stanislaus County Health Services Agency, presents data about the health and well-being of Stanislaus County residents, including information on the burden of five major chronic diseases—hypertension, heart disease, stroke, diabetes, and asthma—and the environmental and behavioral factors that influence their prevalence. Primary environmental factors identified in the CHA as contributing to these chronic health conditions are air quality and retail food environment; behavioral factors include diet, fast food consumption, fruit and vegetable consumption, quality of clinical care, physical activity, obesity, and tobacco use (Stanislaus County Health Services Agency 2013). As measured in 2007, Stanislaus County has the second worst retail food environment in California, with 5.48 fast-food purveyors and convenience stores for every grocery store or produce vendor near residences, compared to 4.48 statewide, and a high rate of fast food consumption in the low income population (Stanislaus County Health Services Agency 2013). The county also has the highest prevalence of obesity in the state (31.5% compared to 21.2% statewide), particularly among males, and a higher percentage of smokers than the California average (Stanislaus County Health Services Agency 2013).

The CHA presents countywide data and also divides Stanislaus County into nine geographic regions, shown in Table 2-4 below. Cowan Tract falls within the central region identified in Table 2-4.

Table 2-4. Community Health Assessment of Stanislaus County Geographic Regions

Region	Communities
Central	Modesto (parts) and outlying areas, including Cowan Tract, with ZIP codes 95350, 95355, 95357, and 95358
East Central	Airport Neighborhood and East Modesto (parts) with ZIP code 95354
Southeast Side	Denair, Empire, Hughson, Hickman, La Grange, Waterford with ZIP codes 95316, 95319, 95326, 95323, 95329, and 95386
Northeast Side	Knights Ferry, Valley Home, Oakdale, Riverbank with ZIP codes 95230, 95361, and 95367
North Side	Del Rio, Salida and Modesto (parts) with ZIP codes 95356 and 95368
Southwest Central	West Modesto and South Modesto with ZIP code 95351
West Side	Crows Landing, Grayson, Newman, Patterson with ZIP codes 95313, 95360, 95363, 95385, and 95387
South Central	Ceres, Keyes with ZIP codes 95307 and 95328
South Side	Turlock with ZIP codes 95380 and 95382

Source: Stanislaus County Health Services Agency 2013:Table 2.

Chronic health conditions of concern within Stanislaus County include hypertension, heart disease, stroke, diabetes and asthma. According to the CHA, the percentage of Stanislaus adults diagnosed with high blood pressure increased 31.2% between 2001 and 2009, and surpassed the percentage of California adults diagnosed with high blood pressure use. As of 2009, approximately 30.7% of Stanislaus County adults were diagnosed with hypertension, compared to 26.2% statewide. Among Stanislaus County's nine regions, the central region, including Cowan Tract, ranks fifth for hypertension-related emergency room visits, fourth highest for hypertension-related hospitalizations, and fifth for hypertension-related mortality (Stanislaus County Health Services Agency 2013).

The CHA notes that in 2009, 5% of Stanislaus County adults had been diagnosed with heart disease, compared to 5.9% statewide and 12% of adults nationwide. The central region of Stanislaus County, including Cowan Tract, ranks third-lowest for heart disease-related emergency room visits among the county's nine regions, has the fourth-lowest rate of heart disease-related hospitalizations, and has the third-highest rate of heart disease-related mortality (Stanislaus County Health Services Agency 2013).

The CHA indicates that the California Health Interview Survey, on which it relies for some data, has not consistently tracked either the overall prevalence of cancer or the rates of individual types of cancer; data for cancer rates is therefore less current than for other more closely tracked conditions. Although the percentage of Stanislaus County adults diagnosed with cancer has increased from 7.4% in 2001 to 8.5% in 2005, it remains lower than the statewide rate. However, at a rate of approximately 21.4% of all deaths annually, cancer is the second most common cause of death in Stanislaus County. The central region of Stanislaus County, including Cowan Tract, ranks fourth-lowest among the nine regions for cancer-related emergency room visits, fifth for cancer-related hospitalizations, and has the fourth-highest rate of cancer-related mortality (Stanislaus County Health Services Agency 2013).

Diabetes, according to the CHA, affects 8.3% of the United States population and is the seventh leading cause of death nationwide. Within California, from 2001 to 2007, the percentage of people diagnosed with diabetes increased from 6.2% to 8.5%, a 37% increase. Trends in Stanislaus County are consistent with the statewide increase; in 2009, 7.6% of adults in Stanislaus County had been diagnosed with diabetes. While the prevalence of diabetes was lower in Stanislaus County than California, in 2011, Stanislaus County had higher hospitalization rates than California for four primary indicators of diabetes management, including hospitalization for short-term complications, long-term complications, lower-extremity amputation, and uncontrolled diabetes (Stanislaus County Health Services Agency 2013). Among Stanislaus County's nine regions, the central region, including Cowan Tract, ranks fifth for diabetes-related emergency room visits and hospitalizations, and fourth-highest for diabetes-related mortality (Stanislaus County Health Services Agency 2013).

According to the CHA, in 2009 the percentage of Stanislaus County adults diagnosed with asthma was 21.8%, compared to 13.5% of the adult population statewide. Among Stanislaus County's nine regions, the central region, including Cowan Tract, has the third-highest rate of asthma-related emergency room visits and ranks fifth for asthma-related hospitalizations (Stanislaus County Health Services Agency 2013). Due to the low asthma-related death rate, the CHA does not track or rank asthma-related mortality.

The CHA also uses life expectancy at birth (LEB) as a measure of quality of life within Stanislaus County and each of its nine regions. LEB is defined as the number of years a newborn infant is

projected to live if mortality patterns at the time of its birth were to remain the same throughout its life. The LEB for Stanislaus County is calculated to be 77.2 years, 1.7 year less than the nationwide LEB of 78.9. The LEBs within the nine Stanislaus County regions range from a high of 80.27 years to a low of 75.01 years; the central region, which includes Cowan Tract, ranks second-shortest among these, with a LEB of 77.73 years (Stanislaus County Health Services Agency 2013).

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2.2 Crows Landing

2.2.1 General Characteristics and Demographics

Crows Landing is an unincorporated community located in southwest Stanislaus County 6 miles southeast of the city of Patterson and 13 miles southwest of the city of Turlock. The community of Crows Landing is within the approximately 2,030-acre Crows Landing CDP and had a 2010 census population of 355 people in 121 households. The median annual household income in California was \$60,190 in 2013; it was \$29,141 in Crows Landing (United States Census Bureau 2013a, 2013b). With 41% of its housing units in need of rehabilitation, Crows Landing ranks sixth among unincorporated communities in the county for percentage of housing units in need of rehabilitation (Stanislaus County 2012). At approximately 2,030 acres, the Crows Landing CDP occupies a much larger area than the 86-acre area identified as the Crows Landing DUC and encompasses approximately 1,944 acres of agricultural lands surrounding the DUC, particularly to the north, west, and south.

The Crows Landing DUC is roughly bound by 4th Street on the northwest, E Street and Armstrong Road on the northeast, Fink Road on the south, and agricultural lands and Bonita Avenue on the west. SR 33 and the Union Pacific Railroad tracks bisect the community in a northwest-southeast direction. In addition to the residential uses, a range of commercial and public uses are present in Crows Landing. The community includes agricultural packing and shipping operations and a variety of commercial uses clustered along and near SR 33 and the Union Pacific Railroad tracks, as well as a fire station, an elementary school, and a United States Post Office. Crows Landing is surrounded by agricultural land and accompanying agriculture-related residences. Residential uses in Crows Landing consist of single-family residential units (Stanislaus County 2012). All of the land immediately surrounding the Crows Landing DUC is zoned General Agriculture, with a 40-acre minimum parcel size (A-2-40) (Stanislaus County 2014d). These agricultural lands are identified by the California Department of Conservation's Important Farmlands Inventory as prime farmland (California Department of Conservation 2014); much of this area, including land adjacent to the DUC, is also under Williamson Act contract (California Department of Conservation 2012). These agricultural lands neither support the requisite level of existing development for consideration under SB 244 nor are likely to develop; therefore, they are not included as part of the Crows Landing community studied for SB 244 purposes. The former Crows Landing airfield, proposed for development as the Crows Landing Business Industrial Park with a general aviation airport, is located approximately 1.5 miles to the west.

The General Plan's Housing Element identifies Crows Landing as a Residential Development Potential Study Area, noting that Crows Landing has the potential to accommodate three more single-family dwelling units (Stanislaus County 2012). Existing infrastructure and services for the Crows Landing DUC are described below.

2.2.2 Infrastructure, Utilities, and Services

Infrastructure, utilities, and services considered for the Crows Landing DUC are presented in Figure 2-2, *Crows Landing Disadvantaged Unincorporated Community*, and include transportation facilities and services including roads, sidewalks, street lighting, and bus stops/service; water, wastewater, and storm drainage systems; solid waste disposal; public safety services such as law enforcement and fire protection; and access to community amenities and services such as schools,

parks, and grocery stores. Data associated with chronic health conditions and air quality are described at a regional level because they are not available for the Crows Landing DUC specifically.

2.2.3 Transportation Facilities and Services

Transportation infrastructure in Crows Landing consists of public highways and roads, railroad tracks, and StaRT bus service. Major north-south highways serving western Stanislaus County include Interstate 5 (I-5) and SR 33. Crows Landing lies approximately 3 miles east of I-5 and is bisected by SR 33 and the Union Pacific Railroad tracks. SR 33 is a two-lane undivided highway through Crows Landing, with a four-way stop at its intersection with Fink Road; the County General Plan classifies SR 33 as a four-lane expressway, a category of road intended to move high volumes of people and goods between urban areas within the county at higher speeds (Stanislaus County 2006). (Stanislaus Council of Governments 2014). Fink Road is also currently characterized as a two-lane major road and classified by the County General Plan as a four-lane expressway (Stanislaus Council of Governments 2014; Stanislaus County 2006). With the exception of SR 33 and Fink Road, all remaining roads within Crows Landing are presently two-lane local roads and are expected to remain as such (Stanislaus Council of Governments 2014; Stanislaus County 2006). Other than a short segment of sidewalk on the west side of SR 33 between 4th and 6th Streets, no sidewalks, curbs, or gutters are present on the roadways in and around Crows Landing (Stanislaus County 2012). Street lights are present along SR 33 and parts of 5th Street and Fink Road. The Union Pacific railroad tracks extend north-south immediately east of Crows Landing.

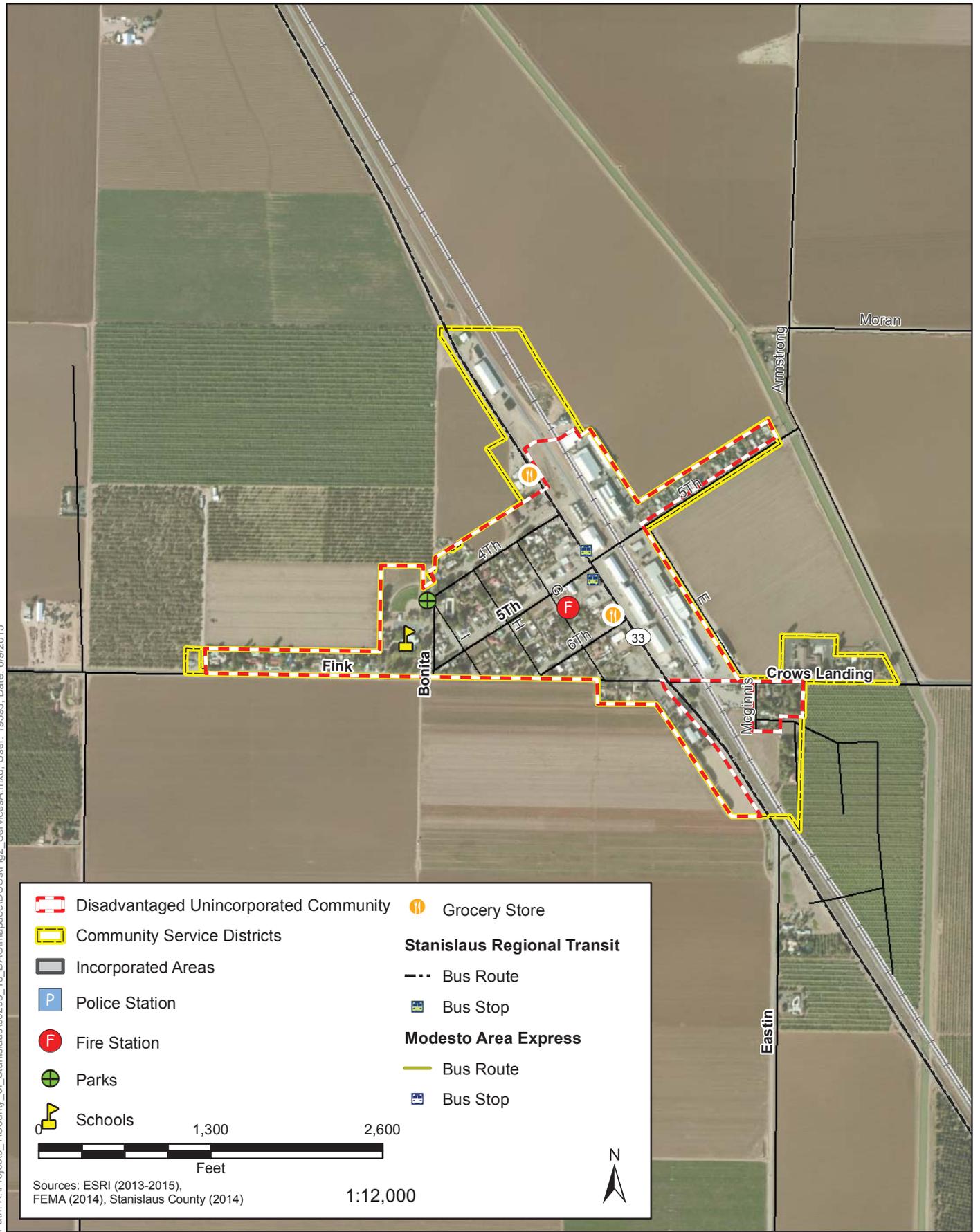
Fixed-route bus service on StaRT Route 45 West connects Crows Landing to Gustine, Newman, and Patterson (Stanislaus Regional Transit 2014a). Buses run on Route 45 West Monday–Friday from 5:30 a.m. to 9:26 p.m., providing eight round trips, and on Saturdays from 5:45 a.m. to 8:39 p.m., providing six round trips (Stanislaus Regional Transit 2014a). From the Patterson Transfer Location at Veteran’s Memorial Park, passengers can transfer to buses on Route 45 East, which travels between Patterson and Turlock, or to Route 40, which connects to Westley, Grayson, and Modesto (Stanislaus Regional Transit 2014b). From Modesto’s Downtown Transportation Center, riders can transfer and connect to the Modesto Amtrak station, the ACE train station in Lathrop, and the Dublin BART station (Stanislaus Regional Transit 2014b; City of Modesto 2009).

Crows Landing has two StaRT bus stops, one northbound and one southbound, on SR 33 near 5th Street (Stanislaus Regional Transit 2014a). In addition, Crows Landing falls within the Newman Dial-a-Ride service area, which comprises the cities of Newman and Patterson in addition to the communities of Crows Landing and Gustine (Stanislaus Regional Transit 2014b). Newman Dial-a-Ride provides bus service three times per day, Monday–Saturday (Stanislaus Regional Transit 2014b).

2.2.4 Water, Wastewater, and Stormwater Drainage Systems

Crows Landing receives all of its domestic water for residential and commercial use from ground water supplied by the Crows Landing CSD. The Crows Landing CSD obtains water through its two groundwater wells (Stanislaus Local Agency Formation Commission 2014). The Crows Landing CSD water supply system is operating at capacity and has a history of water supply problems, caused in large part by the age of its infrastructure (Stanislaus Local Agency Formation Commission 2014). Most of the Crows Landing CSD’s water supply flows through an aging system of small pipelines that lose pressure under heavy consumptive demands (Stanislaus Local Agency Formation Commission

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	Disadvantaged Unincorporated Community		Grocery Store
	Community Service Districts	Stanislaus Regional Transit	
	Incorporated Areas		Bus Route
	Police Station		Bus Stop
	Fire Station	Modesto Area Express	
	Parks		Bus Route
	Schools		Bus Stop

1,300 2,600
 Feet
 Sources: ESRI (2013-2015), FEMA (2014), Stanislaus County (2014) 1:12,000



Figure 2-2
Crows Landing Disadvantaged Unincorporated Community

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2014). The Crows Landing CSD recently received a \$20,000 grant from the Stanislaus County Community Development Fund toward the repair of one of its wells that was found to have several large holes (Stanislaus County Local Agency Formation Commission 2014).

Wastewater in Crows Landing is processed through individual private septic systems, and no storm drainage system is present in the community (Stanislaus Local Agency Formation Commission 2014). Drainage consists primarily of roadside percolation, with no pipelines or detention ponds (Stanislaus County 2004).

2.2.5 Solid Waste Disposal

Stanislaus County contracts with four franchised solid waste collection companies, Bertolotti Disposal, Gilton Solid Waste, Modesto Disposal/Waste Management, and Turlock Scavenger, for residential and commercial garbage collection service in the unincorporated area (Stanislaus County 2014a). Crows Landing falls within County-designated Franchise Area 1, served by Bertolotti Disposal (Stanislaus County 2014b). Besides providing solid waste and recyclables collection services to Franchise Area 1, Bertolotti Disposal operates a transfer station, open to the public Mondays through Saturdays, on Flamingo Road in Ceres. Additionally, Stanislaus County's Fink Road Sanitary Landfill, a Class III landfill for nonhazardous municipal solid waste, is operated by the County's Department of Environmental Resources and is open Monday–Saturday to private citizens, school districts, businesses, and local agencies for individual disposal of solid waste (Stanislaus County 2014c).

2.2.6 Law Enforcement and Fire Protection

Law enforcement services for Crows Landing, as for the rest of unincorporated Stanislaus County and four contract cities, are provided by the Stanislaus County Sheriff's Department. The nearest sheriff's station to Crows Landing is the main station, approximately 16 miles northeast at 250 East Hackett Road in Ceres. In addition, the Patterson police station, located approximately 6.5 miles northwest of Crows Landing in the city of Patterson, is staffed by the Stanislaus County Sheriff's Department, which provides contract police services to Patterson under the title of Patterson Police Services (Stanislaus County Sheriff's Department 2014). The Newman police station is 6 miles southeast of Crows Landing. Although the Sheriff's Department remains the designated law enforcement agency for unincorporated areas of the county, in practice, the County Sheriff's Department and Newman Police Department provide each another with frequent mutual aid and back-up services (Stanislaus County Sheriff's Department 2014).

The operations division of the Sheriff's Department provides law enforcement services to over 200,000 people in a 1,521-square-mile area (Stanislaus County Sheriff's Department 2014). Two units—patrol and investigations—comprise the Sheriff's Department operations division. The patrol unit responds to calls for assistance, investigates crime, makes arrests, and performs preventive patrol services (Stanislaus County Sheriff's Department 2014). The investigations unit follows up reports of major crimes, collects and prepares evidence for trials, apprehends offenders, and recovers stolen property (Stanislaus County Sheriff's Department 2014).

The crime rates presented below were compiled by AGS using the primary reporting categories from the FBI 2005 – 2010 Uniform Crime Report databases along with preliminary 2011 release data and census data related to socioeconomic characteristics. The crimes are divided into two main categories, personal crimes (murder, rape, robbery, and assault) and property crimes (burglary,

larceny, and motor vehicle theft). These crime rates are based on a comparison of the average local crime rate to the national average for the same crime, with a crime index of 100 considered average; scores above 100 are therefore considered greater, or worse, than average. For example, a score of 130 would represent a crime rate 30% greater than the national average for that type of crime. These crime rates are unweighted (i.e., a murder and a theft carry the same weight for calculation purposes), and are tracked at the census block group level and above, which may not correspond precisely to the DUC boundaries. Census blocks are the smallest geographic area for which the United States Census Bureau collects and tabulates data; a set of these constitutes a census block group. Census blocks vary widely in geographic size, and are generally smaller in urban areas and progressively larger in suburban, rural, or remote areas; a given block group is larger in area and population than the individual census blocks of which it is made, and generally contains between 600 and 3,000 people (United States Census Bureau 1994). Crows Landing DUC falls within two census block groups; the primarily residential area north of Fink Road and west of SR 33 falls within block group 060990034.001 and the area southeast of Fink Road/SR 33 falls within block group 060990034.002.

The overall personal crime indices for the two census block groups comprising Crows Landing are 118 and 83, and the property crime indices are 55 and 82. These rates mean that personal crimes occur at rates 18% higher than the national average in the main area of Crows Landing, north of Fink Road, and 83% of the national average for the small area of Crows Landing southeast of Fink Road and SR 33. Property crimes occur at a rate of 55% and 82% of the national average for these two block groups. The general and individual crime indices for these categories are shown in Table 2-5 below.

Table 2-5. Crows Landing Crime Indices

Block Group	Personal Crime		Block Group	Property Crime	
	060990034.001	060990034.002		060990034.001	060990034.002
Personal Crime Index	118	83	Property Crime Index	55	82
Murder	160	208	Burglary	86	163
Rape	136	49	Larceny	63	88
Robbery	80	44	Motor Vehicle Theft	41	12
Assault	85	32			

Source: Applied Geographic Solutions and Atlas Publishing 2012.

The West Stanislaus County FPD provides fire protection, emergency, and rescue services to the Crows Landing area, as well as to Grayson, Diablo Grande, and Westley (Emergency Services Consulting 2007). District-wide, 5 full-time firefighters per shift and 100 volunteers staff the West Stanislaus County FPD (Emergency Services Consulting 2007). The West Stanislaus County FPD's Fire Station No. 6 is located within Crows Landing at 22012 G Street and houses two engines (West Stanislaus County Fire Protection District 2014).

A fire department's ability to meet the fire protection needs of its service area is typically evaluated by the Insurance Services Office (ISO), a private organization that assesses risks, including fire protection, for insurance purposes. The ISO considers a variety of factors, including a district's fire-fighting apparatus, staffing, training, location, and water supply, to rate fire departments on a scale

from 1 (best fire protection possible) to 10 (no fire protection). The ISO rating therefore reflects a fire department's ability to protect the residents and businesses within its service area from fire. The West Stanislaus County FPD carries an ISO rating of 4 (West Stanislaus Fire Protection District 2015).

2.2.7 Schools and Community Amenities

Crows Landing is within the Newman-Crows Landing Unified School District, which in 9 schools serves 2,887 students in grades K–12 (California Department of Education 2014b; Stanislaus County Office of Education 2009). One school, Bonita Elementary School, is located in Crows Landing. Bonita Elementary School serves 156 students in grades K–5 (California Department of Education 2014a). The nearest middle school to Crows Landing is Yolo Middle School, 7 miles south in the city of Newman. Yolo Middle School serves 646 students in grades 6–8 (California Department of Education 2014d). The closest high school is also in Newman, Orestimba High School, serving 768 students in grades 9–12, is 6 miles south of Crows Landing (California Department of Education 2014c).

Crows Landing has one public park, the 1-acre Bonita Park and Pool facility, located near the northwestern edge of the community across the street from Bonita Elementary School. Bonita Park features picnic tables, a swimming pool, and an informal play area; however, the Bonita Park swimming pool is closed and unavailable for public use pending future repairs (Stanislaus County n.d.). In addition, Bonita Elementary School includes a playground, outdoor basketball courts, and a baseball/softball field.

Two small convenience markets are located in Crows Landing. Las Palmas Market & Deli is located at the north end of Crows Landing on SR 33 and the Qwik-Serve Market #2 is also on SR 33 at 6th Street. The nearest full-service supermarkets are Save Mart, approximately 6 miles northwest in Patterson, and Nob Hill Foods, about 6.5 miles south in Newman.

2.2.8 Air Quality and Chronic Health Conditions

Stanislaus County is within the northern part of the eight-county SJVAPCD, the regional public health agency responsible for air quality management in those eight counties. SJVAPCD cites several factors that contribute to the valley's air quality challenges, including high rates of chronic poverty and unemployment coupled with a high population growth rate, the presence of major transportation corridors, and topographic features such as the surrounding mountains combined with the area's meteorological conditions (San Joaquin Valley Air Pollution Control District 2014a). SJVAPCD notes that ozone, PM10, and PM2.5, are of special concern, causing or exacerbating a variety of health conditions (San Joaquin Valley Air Pollution Control District 2014a). The presence of PM2.5, primarily a winter condition, triggers heart attacks, asthma, bronchitis, and respiratory infections, and has a strong correlation with hospital admissions and deaths (San Joaquin Valley Air Pollution Control District 2014a).

GHGs are not a criteria air pollutant and do not directly affect human health. GHG emissions are largely the result of combustion, decay and digestive processes, and emissions of industrial gases with high climate change potential. Unlike criteria pollutants such as carbon monoxide, PM10, PM2.5, and ozone, GHGs do not collect within a specific area or air basin. Their harm is done at a global level through the effect of increased concentrations of GHGs in Earth's atmosphere.

Worldwide concern over GHG emissions is based on the climate change that they are causing by altering the way in which Earth's atmosphere traps solar radiation as heat. The adverse effects of global climate change include rising sea levels, changes in habitat conditions for plants and animals, increased potential for wildfires, more severe weather extremes, and a reduction in California's winter snow pack, among others. Through the impetus of AB 32 (California Global Warming Solutions Act of 2006) and other legislation, California has undertaken a statewide program of reducing GHG emissions to 1990 levels by 2020 in order to slow the rate of global climate change.

Climate change can have an indirect effect on human health in Stanislaus County to the extent that it results in warmer summer temperatures that facilitate ozone formation and exacerbate heat-related stress among outdoor workers, the elderly, small children, and the infirm. The amount of GHGs emitted within the Crows Landing DUC is not atypical for a small, rural community.

SJVAPCD operates 36 air monitoring sites within its eight-county air basin. Of these, two air quality stations, one in Modesto and another in Turlock, monitor air quality within Stanislaus County. The Turlock monitoring site is the closest to Crows Landing, approximately 14.3 miles northeast of the community. Table 2-6 shows the SJVAB's current air quality attainment status for state and federal criteria pollutants (San Joaquin Valley Air Pollution Control District 2012).

Table 2-6. San Joaquin Valley Air Basin Air Quality Attainment Status

Pollutant	Designation/Classification	
	Federal Standards	State Standards
Ozone—1-hour	No Federal Standard ^a	Nonattainment/Severe
Ozone—8-hour	Nonattainment/Extreme ^b	Nonattainment
PM 10	Attainment ^c	Nonattainment
PM 2.5	Nonattainment ^d	Nonattainment
Carbon monoxide	Attainment/Unclassified	Attainment/Unclassified
Nitrogen dioxide	Attainment/Unclassified	Attainment
Sulfur dioxide	Attainment/Unclassified	Attainment
Lead (particulate)	No Designation/Classification	Attainment
Hydrogen sulfide	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment
Visibility reducing particles	No Federal Standard	Unclassified
Vinyl chloride	No Federal Standard	Attainment

Source: San Joaquin Valley Air Pollution Control District 2012.

- ^a Effective June 15, 2005, the U.S. Environmental Protection Agency (EPA) revoked the federal 1-hour ozone standard, including associated designations and classifications. EPA had previously classified the San Joaquin Valley air basin (SJVAB) as extreme nonattainment for this standard. EPA approved the 2004 Extreme Ozone Attainment Demonstration Plan on March 8, 2010 (effective April 7, 2010). Many applicable requirements for extreme 1-hour ozone nonattainment areas continue to apply to the SJVAB.
- ^b Though the SJVAB was initially classified as serious nonattainment for the 1997 8-hour ozone standard, EPA approved SJVAB reclassification to extreme nonattainment in the Federal Register on May 5, 2010 (effective June 4, 2010).
- ^c On September 25, 2008, EPA redesignated the SJVAB to attainment for the PM10 National Ambient Air Quality Standard (NAAQS) and approved the PM10 Maintenance Plan.
- ^d The SJVAB is designated nonattainment for the 1997 PM2.5 NAAQS. EPA designated the SJVAB as nonattainment for the 2006 PM2.5 NAAQS on November 13, 2009 (effective December 14, 2009).

Over the past decade, ozone levels have been trending downward within the SJVAB and, in 2013, for the first time on record, the air basin overall had zero violations of the federal hourly ozone standard, compared to 281 violations in 1996 (San Joaquin Valley Air Pollution Control District 2014b). At the same time, PM2.5 and PM10 levels have fluctuated with no clear upward or downward trend (California Air Resources Board 2015). Table 2-7 presents the number of days in which Stanislaus County ozone, PM2.5, and PM10 levels exceeded state and federal air quality standards in 2013 (California Air Resources Board 2015).

Table 2-7. Stanislaus County Days in Exceedance of State and Federal Air Quality Standards, 2013

Monitoring Site	Ozone			PM 2.5	PM 10
	# Days > State 1-Hr Standard	# Days > National '08 8-Hr Standard	# Days > State 8-Hr Standard	Est Days > National 24-Hr Standard	Est Days > State 24-Hr Standard
Modesto 14th St.	0	2	13	37.6	57.7
Turlock S. Minaret St.	1	14	24	40.3	73.7

Source: California Air Resources Board 2015.

The 2013 CHA, prepared by the Stanislaus County Health Services Agency, presents data about the health and well-being of Stanislaus County residents, including information on the burden of five major chronic diseases—hypertension, heart disease, stroke, diabetes and asthma—and the environmental and behavioral factors that influence their prevalence. Primary environmental factors identified in the CHA as contributing to these chronic health conditions are air quality and retail food environment; behavioral factors include diet, fast food consumption, fruit and vegetable consumption, quality of clinical care, physical activity, obesity, and tobacco use (Stanislaus County Health Services Agency 2013). As measured in 2007, Stanislaus County has the second worst retail food environment in California, with 5.48 fast-food purveyors and convenience stores for every grocery store or produce vendor near residences, compared to 4.48 statewide, and a high rate of fast food consumption in the low income population (Stanislaus County Health Services Agency 2013). The county also has the highest prevalence of obesity in the state (31.5% compared to 21.2% statewide), particularly among males, and a higher percentage of smokers than the California average (Stanislaus County Health Services Agency 2013).

The CHA presents countywide data and also divides Stanislaus County into nine geographic regions, shown in Table 2-8 below. Crows Landing falls within the west side region identified in Table 2-8.

Table 2-8. Community Health Assessment of Stanislaus County Geographic Regions

Region	Communities
Central	Modesto (parts) and outlying areas with ZIP codes 95350, 95355, 95357, and 95358
East Central	Airport Neighborhood and East Modesto (parts) with ZIP code 95354
Southeast Side	Denair, Empire, Hughson, Hickman, La Grange, Waterford with ZIP codes 95316, 95319, 95326, 95323, 95329, and 95386
Northeast Side	Knights Ferry, Valley Home, Oakdale, Riverbank with ZIP codes 95230, 95361, and 95367
North Side	Del Rio, Salida and Modesto (parts) with ZIP codes 95356 and 95368
Southwest Central	West Modesto and South Modesto with ZIP code 95351
West Side	Crows Landing, Grayson, Newman, Patterson with ZIP codes 95313, 95360, 95363, 95385, and 95387
South Central	Ceres, Keyes with ZIP codes 95307 and 95328
South Side	Turlock with ZIP codes 95380 and 95382

Source: Stanislaus County Health Services Agency 2013:Table 2.

Chronic health conditions of concern within Stanislaus County include hypertension, heart disease, stroke, diabetes and asthma. According to the CHA, the percentage of Stanislaus adults diagnosed with high blood pressure increased 31.2% between 2001 and 2009, and surpassed the percentage of California adults diagnosed with high blood pressure use. As of 2009, approximately 30.7% of Stanislaus County adults were diagnosed with hypertension, compared to 26.2% statewide. Among Stanislaus County's nine regions, the west side, including Crows Landing, has the lowest rate of hypertension-related emergency room visits, ranks fifth for hypertension-related hospitalizations, and has the second-lowest hypertension-related mortality rate (Stanislaus County Health Services Agency 2013).

The CHA notes that in 2009, 5% of Stanislaus County adults had been diagnosed with heart disease, compared to 5.9% statewide and 12% of adults nationwide. Stanislaus County's west side has the second-lowest rate of heart disease-related emergency room visits among the county's nine regions, the lowest rate of heart disease-related hospitalizations, and the fourth-highest mortality rate (Stanislaus County Health Services Agency 2013).

The CHA indicates that the California Health Interview Survey, on which it relies for some data, has not consistently tracked either the overall prevalence of cancer or the rates of individual types of cancer; data for cancer rates is therefore less current than for other, more closely tracked, conditions. Although the percentage of Stanislaus County adults diagnosed with cancer has increased from 7.4% in 2001 to 8.5% in 2005, it remains lower than the statewide rate. However, at a rate of approximately 21.4% of all deaths annually, cancer is the second most common cause of death in Stanislaus County. The west side of Stanislaus County ranks seventh (third-lowest) among the nine regions for cancer-related emergency room visits, has the lowest rate of cancer-related hospitalizations, and the highest rate of cancer-related mortality (Stanislaus County Health Services Agency 2013).

Diabetes, according to the CHA, affects 8.3% of the United States population and is the seventh leading cause of death nationwide. Within California, from 2001 to 2007, the percentage of people diagnosed with diabetes increased from 6.2% to 8.5%, a 37% increase. Trends in Stanislaus County are consistent with the statewide increase; in 2009, 7.6% of adults in Stanislaus County had been diagnosed with diabetes. While the prevalence of diabetes was lower in Stanislaus County than California, in 2011, Stanislaus County had higher hospitalization rates than California for four primary indicators of diabetes management, including hospitalization for short-term complications, long-term complications, lower-extremity amputation, and uncontrolled diabetes (Stanislaus County Health Services Agency 2013). Among Stanislaus County's nine regions, the west side has the lowest rate of diabetes-related emergency room visits, the third-lowest rate of hospitalizations, and the highest rate of diabetes-related mortality (Stanislaus County Health Services Agency 2013).

According to the CHA, in 2009 the percentage of Stanislaus County adults diagnosed with asthma was 21.8%, compared to 13.5% of the adult population statewide. The west side region has Stanislaus County's second-lowest rate of asthma-related emergency room visits and hospitalizations among the county's nine regions (Stanislaus County Health Services Agency 2013). Due to the low asthma-related death rate, the CHA does not track or rank asthma-related mortality.

The CHA also uses LEB as a measure of quality of life within Stanislaus County and each of its nine regions. LEB is defined as the number of years a newborn infant is projected to live if mortality patterns at the time of its birth were to remain the same throughout its life. The LEB for Stanislaus County is calculated to be 77.2 years, 1.7 years less than the nationwide LEB of 78.9. The LEBs

within the nine Stanislaus County regions range from a high of 80.27 years to a low of 75.01 years; the west side region ranks third-highest among these, with a LEB of 79.58 years (Stanislaus County Health Services Agency 2013).

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2.3 Grayson

2.3.1 General Characteristics and Demographics

Grayson is an unincorporated residential community comprised primarily of single-family residential units located approximately 11 miles southwest of the city of Modesto and 6.5 miles northwest of the city of Patterson. In 2010, Grayson had 280 housing units, 250 of which were occupied (United States Census Bureau 2013a). The community of Grayson is a CDP with a population of approximately 952 people in 250 households. California's median annual income was \$60,190 in 2013; Grayson's median annual household income was \$37,899 (United States Census Bureau 2013a, 2013b). At 1,632 acres, the Grayson CDP occupies a much larger area than the roughly 100-acre area identified as the Grayson DUC, and encompasses approximately 1,532 acres of agricultural lands north of the DUC. The majority of land within the Grayson CDP is categorized by the California Department of Conservation's Important Farmlands Inventory as either prime farmland or nonagricultural and natural vegetation; the remaining small areas consist of grazing land and farmland of local importance (California Department of Conservation 2014); most of this area is not enrolled in the Williamson Act program (California Department of Conservation 2012). Part of the Grayson CDP north of the DUC is zoned Planned Development (PD), however, the PD is expired and use of the area is limited to agricultural use that does not support the requisite level of existing development for consideration under SB 244; therefore, it is not included as part of the Grayson DUC.

The Grayson DUC is roughly bordered by Hito Drive on the north, the San Joaquin River on the east, Grayson Road on the south, and River Road on the west. The community is surrounded on the north, west, and south by agricultural land and scattered agriculture-related structures and residences, and bordered on the eastern side by the San Joaquin River. Adjacent land to the west, south, and east of the Grayson DUC is zoned General Agriculture, with a 40-acre minimum parcel size (A-2-40) (Stanislaus County 2014).

The General Plan's Housing Element identifies Grayson as a Residential Development Potential Study Area and that it has the potential to accommodate 10 more dwelling units (Stanislaus County 2012). Existing infrastructure and services for Grayson are described below.

2.3.2 Infrastructure, Utilities, and Services

Infrastructure, utilities, and services considered for the Grayson DUC are presented in Figure 2-3, *Grayson Disadvantaged Unincorporated Community*, and include transportation facilities and services including roads, sidewalks, street lighting, and bus stops/service; water, wastewater, and storm drainage systems; solid waste disposal; public safety services such as law enforcement and fire protection; and access to community amenities and services such as schools, parks, and grocery stores. Data associated with chronic health conditions and air quality are described at a regional level because they are not available specifically for the Grayson DUC.

2.3.3 Transportation Facilities and Services

Transportation infrastructure in the Grayson area consists of public highways and roads, and StaRT bus service. Major north-south highways serving western Stanislaus County include I-5 and SR 33. Grayson lies approximately 4.7 miles east of I-5 and 1.3 miles east of SR 33, the Union Pacific

Railroad tracks, and the community of Westley on West Grayson Road. West Grayson Road, which forms the DUC's southern border, is a two-lane major road; all of the roads within Grayson are two-lane local roads (Stanislaus County 2006; Stanislaus Council of Governments 2014). The County General Plan classifies West Grayson Road as a four-lane expressway, intended to move high volumes of people and goods between urban areas within the county (Stanislaus County 2006). Although all streets are paved and most have sidewalks, curbs, and gutters, approximately 40% of the housing units in Grayson lack sidewalks (Stanislaus County 2012).

Fixed-route bus service on StaRT Route 40 connects Grayson to Modesto, Westley, and Patterson (Stanislaus Regional Transit 2014a). StaRT Route 40 provides round trips between Modesto and Patterson; Monday–Friday, there are eight round trips, running approximately every 2 hours from 5:20 a.m. to 9:08 p.m.; on Saturdays, there are five round trips, running every 2 hours and 45 minutes from 8:15 a.m. to 8:12 p.m.; no StaRT buses run on Route 40 on Sundays (Stanislaus Regional Transit 2014b). From the Modesto Downtown Transit Center, passengers can transfer to buses on Route 10 Express to Turlock; Route 15 to Ceres, Keyes, and Turlock; and Route 60 to Riverbank and Oakdale, as well as to the Modesto Amtrak station, the ACE train station in Lathrop, and the Dublin BART station (City of Modesto 2009; Stanislaus Regional Transit 2014c). From the Patterson Transfer Location at Veteran's Memorial Park, passengers can transfer to buses on Route 45 East, which travels between Patterson and Turlock, and Route 45 West, which connects Patterson to Crows Landing, Newman, and Gustine (Stanislaus Regional Transit 2014c). Grayson has two StaRT bus stops, one at Amelia Street and Stakes Road, and another at Laird and Mary Streets (Stanislaus Regional Transit 2014c).

2.3.4 Water, Wastewater, and Stormwater Drainage Systems

The City of Modesto provides municipal water service to Grayson through the former Del Este water system; the water is pumped from two groundwater wells in the Grayson area, treated through an ion exchange nitrate treatment system, then stored in a 0.22 million gallon tank prior to distribution (Stanislaus County Local Agency Formation Commission 2014). This approach has reduced nitrate contamination levels such that Grayson's water supply had no recorded water quality violations in 2014 (City of Modesto 2010, 2014). However, the City of Modesto's *2010 Water System Engineer's Report* identifies deficiencies in Grayson's water supply and distribution system. Specific deficiencies include the pumping capacity of the two wells and areas of the distribution system in which minimum water pressure could not be maintained. To remedy the deficiencies, the *Engineer's Report* recommends capital improvement projects, including construction of a new (third) well with a 400 gallon per minute (gpm) pumping capacity; a new backup generator at one of the existing wells; 900 gpm of additional pump capacity at the existing storage tank; repair and replacement of aging infrastructure; and 4,600 feet of upsized distribution pipelines to ensure adequate fire flow (City of Modesto 2010). In 2014, the City of Modesto applied, unsuccessfully, to the California Department of Water Resources for an Expedited Drought Grant to implement these improvements (California Department of Water Resources 2014a, 2014b).

The Grayson CSD provides wastewater and street lighting service to the Grayson DUC. The Grayson CSD's wastewater collection and treatment system has a designed flow capacity of 100,000 gallons per day and is presently operating at capacity (Stanislaus Local Agency Formation Commission 2014).

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Figure 2-3

Grayson Disadvantaged Unincorporated Community



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Gutters that run along the streets in Grayson drain into storm drain pipes and a detention basin that pumps to the San Joaquin River bottom, where the water flows overland to the river (Stanislaus County 2004). Grayson's storm drainage facilities are in good condition (Stanislaus County 2004).

2.3.5 Solid Waste Disposal

Stanislaus County contracts with four franchised solid waste collection companies, Bertolotti Disposal, Gilton Solid Waste, Modesto Disposal/Waste Management, and Turlock Scavenger, for residential and commercial garbage collection service in the unincorporated area (Stanislaus County 2014a). Grayson falls within County-designated Franchise Area 1, served by Bertolotti Disposal (Stanislaus County 2014b). Besides providing solid waste and recyclables collection services to Franchise Area 1, Bertolotti Disposal operates a transfer station, open to the public Mondays through Saturdays, on Flamingo Road in Ceres. Additionally, Stanislaus County's Fink Road Sanitary Landfill, a Class III landfill for nonhazardous municipal solid waste, is operated by the County's Department of Environmental Resources and is open Monday-Saturday to private citizens, school districts, businesses, and local agencies for individual disposal of solid waste (Stanislaus County 2014c).

2.3.6 Law Enforcement and Fire Protection

Law enforcement services for Grayson, as for the rest of unincorporated Stanislaus County and four contract cities, are provided by the Stanislaus County Sheriff's Department. The operations division of the Sheriff's Department provides law enforcement services to over 200,000 people in a 1,521-square-mile area (Stanislaus County Sheriff's Department 2014). Two units—patrol and investigations—comprise the Sheriff's Department operations division. The patrol unit responds to calls for assistance, investigates crime, makes arrests, and performs preventive patrol services (Stanislaus County Sheriff's Department 2014). The investigations unit follows up reports of major crimes, collects and prepares evidence for trials, apprehends offenders, and recovers stolen property (Stanislaus County Sheriff's Department 2014).

The nearest sheriff's station to Grayson is the main station, approximately 10.5 miles east at 250 East Hackett Road in Ceres. In addition, the Patterson police station, located approximately 8 miles southeast of Grayson in the city of Patterson, is staffed by the Stanislaus County Sheriff's Department, which provides contract police services to Patterson under the title of Patterson Police Services (Stanislaus Local Agency Formation Commission 2013).

The crime rates presented below were compiled by AGS using the primary reporting categories from the FBI 2005 - 2010 Uniform Crime Report databases along with preliminary 2011 release data and census data related to socioeconomic characteristics. The crimes are divided into two main categories, personal crimes (murder, rape, robbery, and assault) and property crimes (burglary, larceny, and motor vehicle theft). These crime rates are based on a comparison of the average local crime rate to the national average for the same crime, with a crime index of 100 considered average; scores above 100 are therefore considered greater, or worse, than average. For example, a score of 130 would represent a crime rate 30% greater than the national average for that type of crime. These crime rates are unweighted (i.e., a murder and a theft carry the same weight for calculation purposes), and are tracked at the census block group level and above, which may not correspond precisely to the DUC boundaries. Census blocks are the smallest geographic area for which the United States Census Bureau collects and tabulates data; a set of these constitutes a census block

group. Census blocks vary widely in geographic size, and are generally smaller in urban areas and progressively larger in suburban, rural, or remote areas; a given block group is larger in area and population than the individual census blocks of which it is made, and generally contains between 600 and 3,000 people (United States Census Bureau 1994). Grayson falls within census block group 060990033.001.

The overall personal crime and property crime indices for Grayson are 181 and 190, respectively, which means that personal crimes in Grayson occur at a rate 81% greater than the average nationwide, and property crimes occur at a rate 90% greater than the national average. The general and individual crime indices for these categories are shown in Table 2-9 below.

Table 2-9. Grayson Crime Indices

Personal Crime		Property Crime	
Personal Crime Index	181	Property Crime Index	190
Murder	88	Burglary	383
Rape	114	Larceny	201
Robbery	21	Motor Vehicle Theft	31
Assault	429		

Source: Applied Geographic Solutions and Atlas Publishing 2012.

The West Stanislaus FPD provides fire protection, emergency, and rescue services to Grayson, as well as to Crows Landing, Diablo Grande, and Westley (Emergency Services Consulting 2007). District-wide, 5 full-time firefighters per shift and 100 volunteers staff the West Stanislaus County Fire Protection District (Stanislaus Local Agency Formation Commission 2007). The West Stanislaus FPD's Fire Station No. 3 is located approximately 1 mile away from Grayson at 8598 Kern Street in Westley and houses WSF-Engine 3, WSF-Water Tender 3, and WSF-Rescue 3 (West Stanislaus Fire Protection District 2014). Volunteer firefighters staff the Westley Station (West Stanislaus Fire Protection District 2014).

A fire department's ability to meet the fire protection needs of its service area is typically evaluated by the Insurance Services Office (ISO), a private organization that assesses risks, including fire protection, for insurance purposes. The ISO considers a variety of factors, including a district's fire-fighting apparatus, staffing, training, location, and water supply, to rate fire departments on a scale from 1 (best fire protection possible) to 10 (no fire protection). The ISO rating therefore reflects a fire department's ability to protect the residents and businesses within its service area from fire. The West Stanislaus County FPD carries an ISO rating of 4 (West Stanislaus Fire Protection District 2015).

2.3.7 Schools and Community Amenities

Grayson lies within the boundaries of the Patterson Unified School District, which includes a total of 8 schools serving 6,023 students in grades K–12 (Stanislaus County Office of Education 2009; California Department of Education 2014e). The nearest elementary school to the community is Grayson Charter, approximately 2 miles southwest in Westley. Grayson Charter provides a dual-language immersion program in English and Spanish to 262 children in grades K–5 (California Department of Education 2014b). The nearest non-charter elementary school is Northmead

Elementary, located approximately 7 miles southwest in Patterson. Northmead Elementary serves 572 students in grades K–5 (California Department of Education 2014c). The nearest middle school to Grayson is Creekside Middle School in Patterson, serving 1,201 students in grades 6–8 (California Department of Education 2014a). The nearest high school to Grayson is Patterson High School, located approximately 8 miles southwest in Patterson and serving 1,690 students in grades 9–12 (California Department of Education 2014d).

Three public park facilities operated and maintained by the Stanislaus County Department of Parks and Recreation are present in the community of Grayson: Leroy F. Fitzsimmons Memorial Park, United Community Center and Park, and Laird Regional Park. Leroy F. Fitzsimmons Memorial Park is located on the eastern edge of Grayson at the corner of Amelia and Stakes Streets. The 0.5-acre park has a basketball court, picnic shelter, tables, and playground equipment (Stanislaus County n.d.). The 5-acre United Community Center and Park is at the intersection of Laird and Mary Streets, and includes a 3,165 square-foot community center building that serves as a meeting space for local events, recreational programs, after-school activities, and community programs (Stanislaus County n.d.). The park features play equipment, an amphitheater lawn area, barbecues, picnic tables, basketball courts, and informal play areas (Stanislaus County n.d.). Laird Park is a 97-acre regional park approximately 2 miles east of the community on the San Joaquin River. Laird Park features a baseball/softball field, a soccer field, informal play areas, picnic shelters with picnic tables and barbecues, river access, and an unpaved parking area (Stanislaus County n.d.). No restrooms are available at either Leroy F. Fitzsimmons Memorial Park or Laird Park (Stanislaus County n.d.).

One small convenience market with gas pumps and a laundromat, the One-Stop Market, is located in Grayson. The nearest full-service grocery stores are El Mercadito and the Westley Market/El Paisano Supermarket, both on Highway 33 in Westley, about 2 miles southwest of Grayson.

2.3.8 Air Quality and Chronic Health Conditions

Stanislaus County is within the northern part of the eight-county SJVAPCD, the regional public health agency responsible for air quality management in those eight counties. SJVAPCD cites several factors that contribute to the valley's air quality challenges, including high rates of chronic poverty and unemployment coupled with a high population growth rate, the presence of major transportation corridors, and topographic features such as the surrounding mountains combined with the area's meteorological conditions (San Joaquin Valley Air Pollution Control District 2014a). SJVAPCD notes that ozone, PM10, and PM2.5 are of special concern, causing or exacerbating a variety of health conditions (San Joaquin Valley Air Pollution Control District 2014a). The presence of PM2.5, primarily a winter condition, triggers heart attacks, asthma, bronchitis, and respiratory infections, and has a strong correlation with hospital admissions and deaths (San Joaquin Valley Air Pollution Control District 2014a).

GHGs are not a criteria air pollutant and do not directly affect human health. GHG emissions are largely the result of combustion, decay and digestive processes, and emissions of industrial gases with high climate change potential. Unlike criteria pollutants such as carbon monoxide, PM10, PM2.5, and ozone, GHGs do not collect within a specific area or air basin. Their harm is done at a global level through the effect of increased concentrations of GHGs in Earth's atmosphere.

Worldwide concern over GHG emissions is based on the climate change that they are causing by altering the way in which Earth's atmosphere traps solar radiation as heat. The adverse effects of global climate change include rising sea levels, changes in habitat conditions for plants and animals,

increased potential for wildfires, more severe weather extremes, and a reduction in California's winter snow pack, among others. Through the impetus of AB 32 (California Global Warming Solutions Act of 2006) and other legislation, California has undertaken a statewide program of reducing GHG emissions to 1990 levels by 2020 in order to slow the rate of global climate change.

Climate change can have an indirect effect on human health in Stanislaus County to the extent that it results in warmer summer temperatures that facilitate ozone formation and exacerbate heat-related stress among outdoor workers, the elderly, small children, and the infirm. The amount of GHGs emitted within the Grayson DUC is not atypical for a small, rural community.

SJVAPCD operates 36 air monitoring sites within its eight-county air basin. Of these, two air quality stations, one in Modesto and another in Turlock, monitor air quality within Stanislaus County. The Modesto monitoring site is the closest to Grayson, approximately 11 miles northeast of the community. Table 2-10 shows the SJVAB's current air quality attainment status for state and federal criteria pollutants (San Joaquin Valley Air Pollution Control District 2012).

Table 2.10. San Joaquin Valley Air Basin Air Quality Attainment Status

Pollutant	Designation/Classification	
	Federal Standards	State Standards
Ozone—1-hour	No Federal Standard ^a	Nonattainment/Severe
Ozone—8-hour	Nonattainment/Extreme ^b	Nonattainment
PM 10	Attainment ^c	Nonattainment
PM 2.5	Nonattainment ^d	Nonattainment
Carbon monoxide	Attainment/Unclassified	Attainment/Unclassified
Nitrogen dioxide	Attainment/Unclassified	Attainment
Sulfur dioxide	Attainment/Unclassified	Attainment
Lead (particulate)	No Designation/Classification	Attainment
Hydrogen sulfide	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment
Visibility reducing particles	No Federal Standard	Unclassified
Vinyl chloride	No Federal Standard	Attainment

Source: San Joaquin Valley Air Pollution Control District 2012.

^a Effective June 15, 2005, the U.S. Environmental Protection Agency (EPA) revoked the federal 1-hour ozone standard, including associated designations and classifications. EPA had previously classified the San Joaquin Valley air basin (SJVAB) as extreme nonattainment for this standard. EPA approved the 2004 Extreme Ozone Attainment Demonstration Plan on March 8, 2010 (effective April 7, 2010). Many applicable requirements for extreme 1-hour ozone nonattainment areas continue to apply to the SJVAB.

^b Though the SJVAB was initially classified as serious nonattainment for the 1997 8-hour ozone standard, EPA approved SJVAB reclassification to extreme nonattainment in the Federal Register on May 5, 2010 (effective June 4, 2010).

^c On September 25, 2008, EPA redesignated the SJVAB to attainment for the PM10 National Ambient Air Quality Standard (NAAQS) and approved the PM10 Maintenance Plan.

^d The SJVAB is designated nonattainment for the 1997 PM2.5 NAAQS. EPA designated the SJVAB as nonattainment for the 2006 PM2.5 NAAQS on November 13, 2009 (effective December 14, 2009).

Over the past decade, ozone levels have been trending downward within the SJVAB and, in 2013, for the first time on record, the air basin overall had zero violations of the federal hourly ozone standard, compared to 281 violations in 1996 (San Joaquin Valley Air Pollution Control District 2014b). At the same time, PM2.5 and PM10 levels have fluctuated with no clear upward or downward trend (California Air Resources Board 2015). Table 2-11 presents the number of days in which Stanislaus County ozone, PM2.5, and PM10 levels exceeded state and federal air quality standards in 2013 (California Air Resources Board 2015).

Table 2-11. Stanislaus County Days in Exceedance of State and Federal Air Quality Standards, 2013

Monitoring Site	Ozone			PM 2.5	PM 10
	# Days > State 1-Hr Standard	# Days > National '08 8-Hr Standard	# Days > State 8-Hr Standard	Est Days > National 24-Hr Standard	Est Days > State 24-Hr Standard
Modesto 14th St.	0	2	13	37.6	57.7
Turlock S. Minaret St.	1	14	24	40.3	73.7

Source: California Air Resources Board 2015.

The 2013 CHA, prepared by the Stanislaus County Health Services Agency, presents data about the health and well-being of Stanislaus County residents, including information on the burden of five major chronic diseases—hypertension, heart disease, stroke, diabetes and asthma—and the environmental and behavioral factors that influence their prevalence. Primary environmental factors identified in the CHA as contributing to these chronic health conditions are air quality and retail food environment; behavioral factors include diet, fast food consumption, fruit and vegetable consumption, quality of clinical care, physical activity, obesity, and tobacco use (Stanislaus County Health Services Agency 2013). As measured in 2007, Stanislaus County has the second worst retail food environment in California, with 5.48 fast-food purveyors and convenience stores for every grocery store or produce vendor near residences, compared to 4.48 statewide, and a high rate of fast food consumption in the low income population (Stanislaus County Health Services Agency 2013). The county also has the highest prevalence of obesity in the state (31.5% compared to 21.2% statewide), particularly among males, and a higher percentage of smokers than the California average (Stanislaus County Health Services Agency 2013).

The CHA presents countywide data and also divides Stanislaus County into nine geographic regions, shown in Table 2-12 below. Grayson falls within the west side region identified in Table 2-12.

Table 2-12. Community Health Assessment of Stanislaus County Geographic Regions

Region	Communities
Central	Modesto (parts) and outlying areas with ZIP codes 95350, 95355, 95357, and 95358
East Central	Airport Neighborhood and East Modesto (parts) with ZIP code 95354
Southeast Side	Denair, Empire, Hughson, Hickman, La Grange, Waterford with ZIP codes 95316, 95319, 95326, 95323, 95329, and 95386
Northeast Side	Knights Ferry, Valley Home, Oakdale, Riverbank with ZIP codes 95230, 95361, and 95367
North Side	Del Rio, Salida and Modesto (parts) with ZIP codes 95356 and 95368
Southwest Central	West Modesto and South Modesto with ZIP code 95351
West Side	Crows Landing, Grayson, Newman, Patterson with ZIP codes 95313, 95360, 95363, 95385, and 95387
South Central	Ceres, Keyes with ZIP codes 95307 and 95328
South Side	Turlock with ZIP codes 95380 and 95382

Source: Stanislaus County Health Services Agency 2013:Table 1.

Chronic health conditions of concern within Stanislaus County include hypertension, heart disease, stroke, diabetes and asthma. According to the CHA, the percentage of Stanislaus adults diagnosed with high blood pressure increased 31.2% between 2001 and 2009, and surpassed the percentage of California adults diagnosed with high blood pressure use. As of 2009, approximately 30.7% of Stanislaus County adults were diagnosed with hypertension, compared to 26.2% statewide. Among Stanislaus County's nine regions, the west side, including Grayson, has the lowest rate of hypertension-related emergency room visits, ranks fifth for hypertension-related hospitalizations, and has the second-lowest hypertension-related mortality rate (Stanislaus County Health Services Agency 2013).

The CHA notes that in 2009, 5% of Stanislaus County adults had been diagnosed with heart disease, compared to 5.9% statewide and 12% of adults nationwide. Stanislaus County's west side has the second-lowest rate among the county's nine regions for heart disease-related emergency room visits, the lowest rate of heart disease-related hospitalizations, and the fourth-highest mortality rate (Stanislaus County Health Services Agency 2013).

The CHA indicates that the California Health Interview Survey, on which it relies for some data, has not consistently tracked either the overall prevalence of cancer or the rates of individual types of cancer; data for cancer rates is therefore less current than for other, more closely tracked, conditions. Although the percentage of Stanislaus County adults diagnosed with cancer has increased from 7.4% in 2001 to 8.5% in 2005, it remains lower than the statewide rate. However, at a rate of approximately 21.4% of all deaths annually, cancer is the second most common cause of death in Stanislaus County. The west side of Stanislaus County ranks seventh (third-fewest) among the nine regions for cancer-related emergency room visits, has the lowest rate of cancer-related hospitalizations, and has the highest rate of cancer-related mortality (Stanislaus County Health Services Agency 2013).

Diabetes, according to the CHA, affects 8.3% of the United States population and is the seventh leading cause of death nationwide. Within California, from 2001 to 2007, the percentage of people diagnosed with diabetes increased from 6.2% to 8.5%, a 37% increase. Trends in Stanislaus County

are consistent with the statewide increase; in 2009, 7.6% of adults in Stanislaus County had been diagnosed with diabetes. While the prevalence of diabetes was lower in Stanislaus County than California, in 2011, Stanislaus County had higher hospitalization rates than California for four primary indicators of diabetes management, including hospitalization for short-term complications, long-term complications, lower-extremity amputation, and uncontrolled diabetes (Stanislaus County Health Services Agency 2013). Among Stanislaus County's nine regions, the west side has the lowest rate of diabetes-related emergency room visits, the third-lowest rate of hospitalizations, and the highest rate of diabetes-related mortality (Stanislaus County Health Services Agency 2013).

According to the CHA, in 2009 the percentage of Stanislaus County adults diagnosed with asthma was 21.8%, compared to 13.5% of the adult population statewide. The west side region has the second-lowest rate of asthma-related emergency room visits and hospitalizations among the county's nine regions (Stanislaus County Health Services Agency 2013). Due to the low asthma-related death rate, the CHA does not track or rank asthma-related mortality.

The CHA also uses LEB as a measure of quality of life within Stanislaus County and each of its nine regions. LEB is defined as the number of years a newborn infant is projected to live if mortality patterns at the time of its birth were to remain the same throughout its life. The LEB for Stanislaus County is calculated to be 77.2 years, 1.7 years less than the nationwide LEB of 78.9. The LEBs within the nine Stanislaus County regions range from a high of 80.27 years to a low of 75.01 years; the west side region ranks third-highest, with a LEB of 79.58 years (Stanislaus County Health Services Agency 2013).

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2.4 Keyes

2.4.1 General Characteristics and Demographics

Keyes is a 1,810-acre unincorporated community spanning SR 99 in central Stanislaus County, roughly halfway between the cities of Ceres and Turlock. The northern edge of Keyes is about 1 mile southeast of Ceres and the southern edge of Keyes is about 1 mile northwest of Turlock. Keyes is bordered by Redwood Road on the north, Washington Road on the east, Keyes Road on the south, Faith Home Road on the southwest and SR 99 on the northwest. Turlock Irrigation District's Laterals No. 2 ½ and No. 3 cross Keyes in an east-west direction, SR 99 bisects the southern part of the community from northwest to southeast, and the Union Pacific Railroad tracks parallel the western side of SR 99. Keyes is surrounded by agricultural land, including both field crops and orchards, as well as accompanying agriculture-related structures and residences.

Keyes is a predominantly residential community with some commercial and public uses. Residences in Keyes are primarily single-family dwelling units, with a small quantity of duplexes and multifamily units, and several mobile home parks (United States Census Bureau 2013a). In 2010, Keyes had 1,714 housing units, 1,588 of which were occupied (United States Census Bureau 2013a). Commercial uses in Keyes include large-scale agricultural-industrial facilities and agricultural packing and shipping operations, primarily located west of SR 99. Numerous smaller service and retail businesses, as well as an elementary school, a public library, a fire station, and a United States post office, lie immediately east of SR 99.

Keyes is a CDP with a 2010 census population of 5,601 people in 1,588 households and an average household size of 3.29 (United States Census Bureau 2013a, 2013b). In 2013, the median annual household income in California was \$60,190; in the Keyes CDP it was \$34,967 (United States Census Bureau 2013b).

At 1,810 acres, the Keyes CDP occupies a larger area than the 626-acre Keyes DUC and encompasses surrounding agricultural lands. The majority of these surrounding agricultural lands are identified by the California Department of Conservation's Important Farmlands Inventory as prime farmland (California Department of Conservation 2014). The agricultural lands outside the DUC do not support the requisite level of existing development for consideration under SB 244 and are unlikely to develop in the near future. Therefore, they are not included as part of the Keyes DUC studied for SB 244 purposes.

The General Plan's Housing Element identifies Keyes as a Residential Development Potential Study Area and indicates that available land, infrastructure, and services give Keyes the potential to accommodate 207 additional dwelling units (Stanislaus County 2012). The General Plan's Housing Element notes that a portion of Keyes falls within the Stanislaus County Redevelopment Project Area (Stanislaus County 2012). However, this is of little practical importance with the dissolution of the redevelopment agencies in California. Existing infrastructure and services for Keyes are described below.

2.4.2 Infrastructure, Utilities, and Services

Infrastructure, utilities, and services considered for the Keyes DUC are presented in Figure 2-4, *Keyes Disadvantaged Unincorporated Community*, and include transportation facilities and services

including roads, sidewalks, street lighting, and bus stops/service; water, wastewater, and storm drainage systems; solid waste disposal; public safety services such as law enforcement and fire protection; and access to community amenities and services such as schools, parks, and grocery stores. Data associated with chronic health conditions and air quality are described at a regional level because they are not available specifically for the Keyes DUC.

2.4.3 Transportation Facilities and Services

Transportation infrastructure in the Keyes area consists of public highways and roads, railroad tracks, and fixed-route and curb-to-curb bus service. SR 99, a major north-south route through California, passes through the community of Keyes; SR 99 consists of a six-lane divided freeway with limited access points; one on/off ramp, Keyes Road, provides access to and from SR 99 at the south end of Keyes. The nearest on/off ramp to the north of Keyes is Mitchell Road, approximately 0.7 mile north near Ceres. The Union Pacific railroad tracks bisect Keyes immediately west of and parallel to SR 99.

With the exception of SR 99, Faith Home Road, and Keyes Road, roadways within Keyes presently consist of two-lane local roads. Both Faith Home Road and Keyes Road two-lane major roads classified by the California Department of Transportation as major collectors (California Department of Transportation 2014; Stanislaus Council of Governments 2014). The County General Plan classifies Faith Home Road as a collector south of Keyes Road, and as a four-lane expressway north of Keyes Road; Keyes Road is classified as a major four-lane road west of Keyes Road, a six-lane expressway south of Keyes, and a four-lane expressway east of Washington Road (Stanislaus County 2006). Rohde Road/7th Street, paralleling the northeastern side of SR 99 through Keyes, is classified as a collector (Stanislaus County 2006). Collectors are intended to provide direct access to abutting property as well as movement of moderate volumes of people and goods for medium length trips, and serve as transition facilities, carrying traffic from lower to higher level roads, while expressways are intended to move high volumes of people and goods between urban areas within the county (Stanislaus County 2006).

Curbs, gutters, and street lights are present on the majority of roadways in and around Keyes, particularly in the central and outlying residential areas. One commercial area around Starlite Drive lies outside the boundaries of CSAs No. 5 and No. 26, but within the boundary of the Keyes CSD, and lacks curbs, gutters, and sidewalks. With the exception of one small segment of Jessup Road that has a curb and gutter, the area southwest of SR 99, comprised predominantly of agricultural-industrial and commercial uses with several single-family residences, lacks curbs, gutters, sidewalks, and street lights.

In 2009 Stanislaus County installed curbs, gutters, handicap curb returns, new street sections, and a storm drain collection system in an area generally bounded by SR 99 on the west, Anna Street on the north, the Bonita Ranch Subdivision on the east, and Nunes Road on the south (Stanislaus County 2009). When the County constructed curbs and gutters in 2009, individual property owners were given the opportunity to install sidewalks fronting their property at their own expense. Sidewalks are primarily limited to newer residential neighborhoods on the north, east, and south sides of town and, in the central area to those properties whose owners opted to install them during curb and gutter construction in 2009. The Keyes CSD provides street lighting service to areas within its approximately 444-acre boundary (Stanislaus Local Agency Formation Commission 2014).

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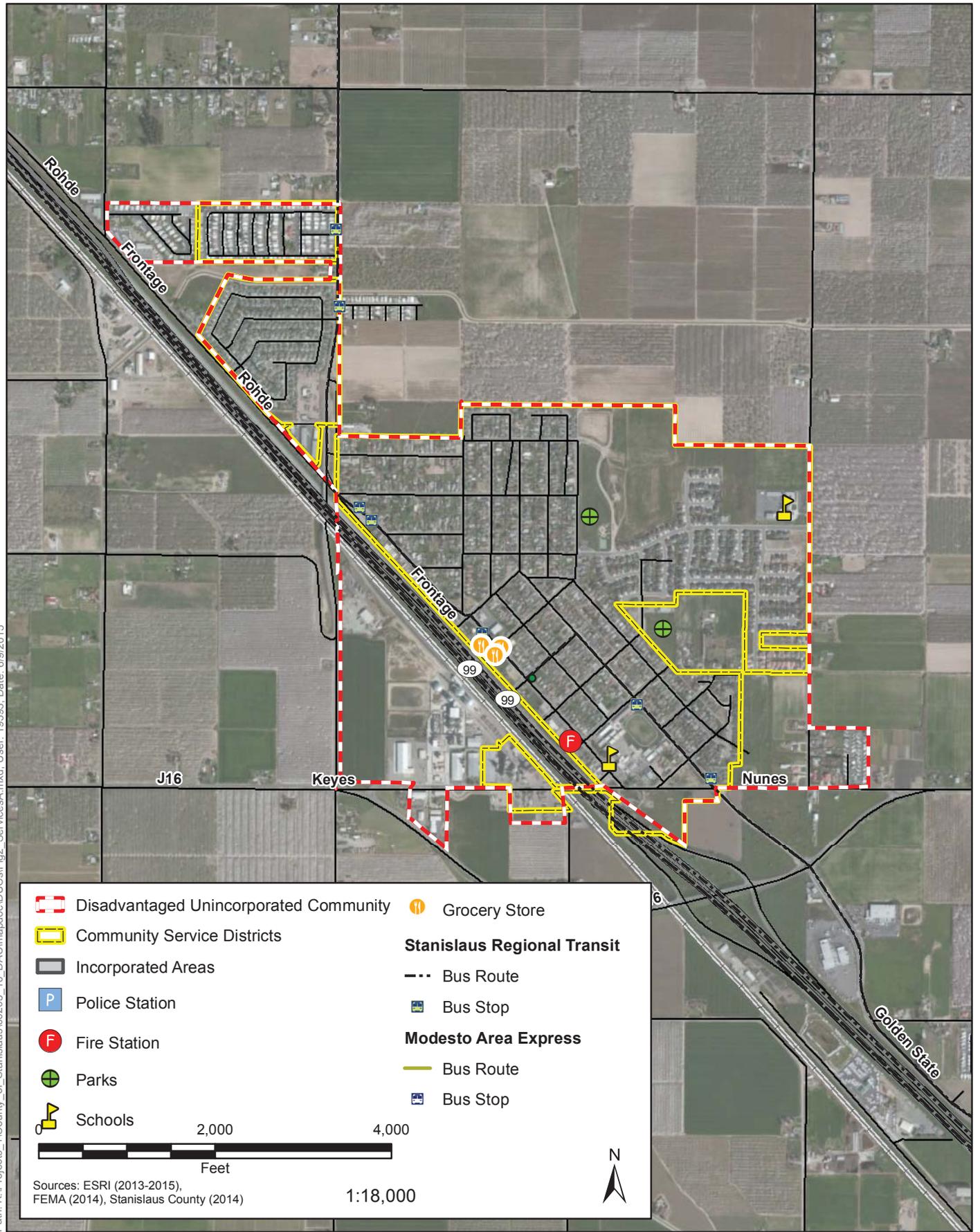


Figure 2-4
Keyes Disadvantaged Unincorporated Community

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Fixed-route bus service on StaRT Route 15 connects Keyes to surrounding cities; Route 10 Express and Route 70 buses run through Keyes Monday–Friday without stopping on their trips between Modesto and Turlock (Stanislaus Regional Transit 2014a). Route 15 provides 12 round trips between Modesto and Turlock, with stops in Ceres and Keyes, Monday–Friday from 4:50 a.m. to 9:46 p.m., and 8 round trips on Saturdays between 6:30 a.m. and 8:32 p.m. (Stanislaus Regional Transit 2014a). From the Modesto Downtown Transit Center, passengers can transfer to buses traveling to other Stanislaus County communities, as well as to the Modesto Amtrak station, the ACE train station in Lathrop, and the Dublin BART station (City of Modesto 2009; Stanislaus Regional Transit 2014a). In addition, Keyes falls within the Turlock-Modesto Shuttle service area. The Turlock-Modesto Shuttle provides curb-to-curb service between the cities of Modesto, Ceres, and Turlock, the communities of Denair and Keyes, and surrounding rural areas (Stanislaus Regional Transit 2014a). Turlock-Modesto Shuttle runs Monday–Saturday, with four southbound trips between 7:00 a.m. and 4:00 p.m. and four northbound trips between 8:30 a.m. and 5:30 p.m. (Stanislaus Regional Transit 2014b).

2.4.4 Water, Wastewater, and Stormwater Drainage Systems

The Keyes CSD provides sewer and water services to the community of Keyes, and has a contractual agreement with the City of Turlock for sewer disposal services (Stanislaus Local Agency Formation Commission 2014). Together, CSA No. 5 and CSA No. 26 provide storm drainage service to approximately 372 acres of the community (Stanislaus Local Agency Formation Commission 2010). The boundaries of these CSAs roughly correspond to those of the Keyes CSD, which encompasses approximately 444 acres (Stanislaus Local Agency Formation Commission 2014).

The Keyes CSD provides its 444-acre district with domestic water from four groundwater wells (Stanislaus Local Agency Formation Commission 2014). Poor water quality is an issue in Keyes, as the level of arsenic in the groundwater exceeds the state’s maximum contaminant levels; the Keyes CSD is in the process of establishing treatment facilities to remediate this contaminant (Stanislaus Local Agency Formation Commission 2014). Most of the developed area of Keyes falls within the Keyes CSD boundaries. Some urban uses, including two mobile home parks, are outside the Keyes CSD’s boundaries but within its approximately 793-acre sphere of influence. Those uses are not presently served by the CSD. These areas currently rely on onsite wells for their water supply (Stanislaus Local Agency Formation Commission 2014). Once the water treatment facilities are completed, and pending Local Agency Formation Commission (LAFCO) approval of either an out-of-boundary service extension or annexation, the Keyes CSD plans to serve the mobile home parks outside its present boundaries with arsenic-free drinking water (Stanislaus Local Agency Formation Commission 2014).

Wastewater from the Keyes CSD is sent to the Turlock Regional Water Quality Control Facility for treatment (East Stanislaus Regional Water Management Partnership 2013). Scattered urban uses within the Keyes CSD sphere of influence, including the abovementioned mobile home parks, are presently served by onsite septic systems (Stanislaus Local Agency Formation Commission 2014). Although the Keyes CSD is meeting the needs of customers within its existing boundaries, the district recently purchased an additional 25,000 gallons per day of sewage treatment capacity from the City of Turlock, and developers have purchased capacity for future developments in Keyes (Stanislaus Local Agency Formation Commission 2014).

Stormwater drainage poses a challenge in Keyes due to the high water table, only 2.5 feet below the surface in some areas (Stanislaus County 2004). In 2009 Stanislaus County installed curbs, gutters, a

storm drain collection system, and related facilities in an area of Keyes generally bounded by SR 99 on the west, Anna Street on the north, the Bonita Ranch Subdivision on the east, and Nunes Road on the south (Stanislaus County 2009). The County also expanded Keyes' existing drainage basin and excavated an extension to the north of the basin (Stanislaus County 2009). Drainage in the remaining area of Keyes is provided by CSAs No. 5 and No. 26 via roadside ditches and detention basins (Stanislaus Local Agency Formation Commission 2010). Some of the basins allow only for percolation; the Starlite Place storm drain discharges to Turlock Irrigation District Lateral 2 ½ at Faith Home Road and CSA #26 discharges stormwater to Turlock Irrigation District Lateral 2 ½ just east of 10th Street (Stanislaus County 2004).

2.4.5 Solid Waste Disposal

Stanislaus County contracts with four franchised solid waste collection companies, Bertolotti Disposal, Gilton Solid Waste, Modesto Disposal/Waste Management, and Turlock Scavenger, for residential and commercial garbage collection service in unincorporated Stanislaus County (Stanislaus County 2014c). Keyes falls within County-designated Franchise Area 1, served by Bertolotti Disposal (Stanislaus County 2014b). Besides providing solid waste and recyclables collection services to Franchise Area 1, Bertolotti Disposal operates a transfer station, open to the public Mondays through Saturdays, on Flamingo Road in Ceres. Additionally, Stanislaus County's Fink Road Sanitary Landfill, a Class III landfill for nonhazardous municipal solid waste, is operated by the County's Department of Environmental Resources and is open Monday–Saturday to private citizens, school districts, businesses, and local agencies for individual disposal of solid waste (Stanislaus County 2014a).

2.4.6 Law Enforcement and Fire Protection

Law enforcement services for Keyes, as for the rest of unincorporated Stanislaus County and four contract cities, are provided by the Stanislaus County Sheriff's Department. The nearest sheriff's station to Keyes is the main station, about 4.5 miles northwest at 250 East Hackett Road in Ceres. The County Sheriff's Department also operates and staffs the Hughson police station, located approximately 3.5 miles northeast of Keyes in the city of Hughson (Stanislaus Local Agency Formation Commission 2005).

The Ceres police station is approximately 2.5 miles northwest of Keyes; however, the City of Ceres does not typically provide law enforcement services beyond its boundaries except under joint actions (Stanislaus Local Agency Formation Commission and City of Ceres 2012).

The operations division of the Sheriff's Department provides law enforcement services to over 200,000 people in a 1,521-square-mile area (Stanislaus County Sheriff's Department 2014). Two units—patrol and investigations—comprise the Sheriff's Department operations division. The patrol unit responds to calls for assistance, investigates crime, makes arrests, and performs preventive patrol services (Stanislaus County Sheriff's Department 2014). The investigations unit follows up reports of major crimes, collects and prepares evidence for trials, apprehends offenders, and recovers stolen property (Stanislaus County Sheriff's Department 2014).

The crime rates presented below were compiled by AGS using the primary reporting categories from the FBI 2005 – 2010 Uniform Crime Report databases along with preliminary 2011 release data and census data related to socioeconomic characteristics. The crimes are divided into two main categories, personal crimes (murder, rape, robbery, and assault) and property crimes (burglary,

larceny, and motor vehicle theft). These crime rates are based on a comparison of the average local crime rate to the national average for the same crime, with a crime index of 100 considered average; scores above 100 are therefore considered greater, or worse, than average. For example, a score of 130 would represent a crime rate 30% greater than the national average for that type of crime. These crime rates are unweighted (i.e., a murder and a theft carry the same weight for calculation purposes), and are tracked at the census block group level and above, which may not correspond precisely to the DUC boundaries. Census blocks are the smallest geographic area for which the United States Census Bureau collects and tabulates data; a set of these constitutes a census block group. Census blocks vary widely in geographic size, and are generally smaller in urban areas and progressively larger in suburban, rural, or remote areas; a given block group is larger in area and population than the individual census blocks of which it is made, and generally contains between 600 and 3,000 people (United States Census Bureau 1994). Keyes DUC falls within two census block groups. Most of Keyes east of SR 99 falls within census block group 060990030.023; the area west of SR 99, including the southwest portion of the DUC west of SR 99 and the northernmost portion of the DUC between SR 99 and Faith Home Road, falls within census block group 060990030.022.

The overall personal crime and property crime indices for most of Keyes (census block group 060990030.023) are 121 and 34, respectively, which means that personal crimes in that area occur at a rate 21% higher than the nationwide average, and property crimes occur at a rate 34% of the national average. For the outlying areas, northern and western Keyes (census block group 060990030.022), the overall personal crime and property crime indices are both 148. The general and individual crime indices for these categories are shown in Table 2-13 below.

Table 2-13. Keyes Crime Indices

Block Group	Personal Crime		Block Group	Property Crime	
	060990030.022	060990030.023		060990030.022	060990030.023
Personal Crime Index	148	121	Property Crime Index	148	34
Murder	151	57	Burglary	181	66
Rape	119	205	Larceny	104	38
Robbery	76	136	Motor Vehicle Theft	12	5
Assault	209	75			

Source: Applied Geographic Solutions and Atlas Publishing 2012.

The Keyes FPD provides fire protection, emergency response, and rescue services to a 20-square-mile area encompassing the community of Keyes (Emergency Services Consulting 2007). The Keyes FPD boundary abuts those of the Ceres, Hughson, Denair, Turlock Rural, and Mountain View FPDs (Emergency Services Consulting 2007). Small parts of the district fall within the spheres of influence of the cities of Ceres and Turlock (Emergency Services Consulting 2007). The Keyes FPD staffs one fire station, located at 5625 7th Street in Keyes, with 28 volunteers (Emergency Services Consulting 2007). These volunteers operate the district's three engines, one water tender, and rescue vehicle (Emergency Services Consulting 2007).

A fire department's ability to meet the fire protection needs of its service area is typically evaluated by the Insurance Services Office (ISO), a private organization that assesses risks, including fire

protection, for insurance purposes. The ISO considers a variety of factors, including a district's fire-fighting apparatus, staffing, training, location, and water supply, to rate fire departments on a scale from 1 (best fire protection possible) to 10 (no fire protection). The ISO rating therefore reflects a fire department's ability to protect the residents and businesses within its service area from fire. The Keyes FPD carries an ISO rating of 5 within its urbanized area and 9 for rural portions of its service area (Emergency Services Consulting 2007).

2.4.7 Public Services and Community Amenities

Keyes is served by the Keyes Union School District, comprised of 3 schools with 1,071 students in grades K–12 plus two preschool programs, Keyes Head Start and Keyes Preschool (Keyes Union School District 2012; Stanislaus County Office of Education 2009). One elementary school, Keyes Elementary, is located in Keyes and serves 518 children in grades K–5 (California Department of Education 2014b). The district's middle school, Barbara Spratling Middle School, serves 202 students in grades 6–8 (California Department of Education 2014a). The district's third school, Keyes to Learning Charter School, provides both classroom-based and home-study educational programs for 351 students in grades K–12; of these, 91 children are in grades 9–12 (California Department of Education 2014c; Keyes to Learning Charter School 2013).

Two parks, Bonita Ranch Park and Hatch Park, are located within Keyes and maintained by CSA No. 26 (Stanislaus Local Agency Formation Commission 2010). Both the 7-acre Bonita Ranch Park and the 4-acre Hatch Park are on the eastern side of Keyes. Bonita Ranch Park features picnic tables, a basketball court, soccer field, play structures, drinking fountains, paved pathways, and lighting (Stanislaus County n.d.). There are no restrooms at this facility (Stanislaus County n.d.). Hatch Park includes a baseball/softball field, community center, parking area and informal play area.

Keyes has three grocery stores, Tower Super Market, Food Cost U Less, and Keyes Market; all three are located at the intersection of 7th Street and Christine Street in central Keyes. Tower Super Market is a small, full-service market; Food Cost U Less and Keyes Market are small convenience markets. An additional convenience store, Dollar General, is under construction at 5521 7th Street and scheduled to open in late 2015. The nearest large-scale, full-service supermarket is Safeway, approximately 3.25 miles south of Keyes in Turlock.

2.4.8 Air Quality and Chronic Health Conditions

Stanislaus County is within the northern part of the eight-county SJVAPCD, the regional public health agency responsible for air quality management in those eight counties. SJVAPCD cites several factors that contribute to the valley's air quality challenges, including high rates of chronic poverty and unemployment coupled with a high population growth rate, the presence of major transportation corridors, and topographic features such as the surrounding mountains combined with the area's meteorological conditions (San Joaquin Valley Air Pollution Control District 2014a). SJVAPCD notes that ozone, PM₁₀, and PM_{2.5} are of special concern, causing or exacerbating a variety of health conditions (San Joaquin Valley Air Pollution Control District 2014a). The presence of PM_{2.5}, primarily a winter condition, triggers heart attacks, asthma, bronchitis, and respiratory infections, and has a strong correlation with hospital admissions and deaths (San Joaquin Valley Air Pollution Control District 2014a).

GHGs are not a criteria air pollutant and do not directly affect human health. GHG emissions are largely the result of combustion, decay and digestive processes, and emissions of industrial gases

with high climate change potential. Unlike criteria pollutants such as carbon monoxide, PM10, PM2.5, and ozone, GHGs do not collect within a specific area or air basin. Their harm is done at a global level through the effect of increased concentrations of GHGs in Earth's atmosphere.

Worldwide concern over GHG emissions is based on the climate change that they are causing by altering the way in which Earth's atmosphere traps solar radiation as heat. The adverse effects of global climate change include rising sea levels, changes in habitat conditions for plants and animals, increased potential for wildfires, more severe weather extremes, and a reduction in California's winter snow pack, among others. Through the impetus of AB 32 (California Global Warming Solutions Act of 2006) and other legislation, California has undertaken a statewide program of reducing GHG emissions to 1990 levels by 2020 in order to slow the rate of global climate change.

Climate change can have an indirect effect on human health in Stanislaus County to the extent that it results in warmer summer temperatures that facilitate ozone formation and exacerbate heat-related stress among outdoor workers, the elderly, small children, and the infirm. The amount of GHGs emitted within the Keyes DUC is not atypical for a small, mixed use community. Although industrial uses are larger emitters than residences and Keyes is larger than the other DUCs in Stanislaus County, the fact that GHGs are not localized pollutants means that its residents are not exposed to any greater effect than the rest of Stanislaus County.

SJVAPCD operates 36 air monitoring sites within its eight-county air basin. Of these, two air quality stations, one in Modesto and another in Turlock, monitor air quality within Stanislaus County. Keyes is almost equidistant from the Modesto and Turlock monitoring sites, approximately 7 miles southeast of the Modesto station and 6.5 miles northwest of the Turlock site. Table 2-14 shows the SJVAB's current air quality attainment status for state and federal criteria pollutants (San Joaquin Valley Air Pollution Control District 2012).

Table 2-14. San Joaquin Valley Air Basin Air Quality Attainment Status

Pollutant	Designation/Classification	
	Federal Standards	State Standards
Ozone—1-hour	No Federal Standard ^a	Nonattainment/Severe
Ozone—8-hour	Nonattainment/Extreme ^b	Nonattainment
PM 10	Attainment ^c	Nonattainment
PM 2.5	Nonattainment ^d	Nonattainment
Carbon monoxide	Attainment/Unclassified	Attainment/Unclassified
Nitrogen dioxide	Attainment/Unclassified	Attainment
Sulfur dioxide	Attainment/Unclassified	Attainment
Lead (particulate)	No Designation/Classification	Attainment
Hydrogen sulfide	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment
Visibility reducing particles	No Federal Standard	Unclassified
Vinyl chloride	No Federal Standard	Attainment

Source: San Joaquin Valley Air Pollution Control District 2012.

- ^a Effective June 15, 2005, the U.S. Environmental Protection Agency (EPA) revoked the federal 1-hour ozone standard, including associated designations and classifications. EPA had previously classified the San Joaquin Valley air basin (SJVAB) as extreme nonattainment for this standard. EPA approved the 2004 Extreme Ozone Attainment Demonstration Plan on March 8, 2010 (effective April 7, 2010). Many applicable requirements for extreme 1-hour ozone nonattainment areas continue to apply to the SJVAB.
- ^b Though the SJVAB was initially classified as serious nonattainment for the 1997 8-hour ozone standard, EPA approved Valley reclassification to extreme nonattainment in the Federal Register on May 5, 2010 (effective June 4, 2010).
- ^c On September 25, 2008, EPA redesignated the SJVAB to attainment for the PM10 National Ambient Air Quality Standard (NAAQS) and approved the PM10 Maintenance Plan.
- ^d The SJVAB is designated nonattainment for the 1997 PM2.5 NAAQS. EPA designated the SJVAB as nonattainment for the 2006 PM2.5 NAAQS on November 13, 2009 (effective December 14, 2009).

Over the past decade, ozone levels have been trending downward within the SJVAB and, in 2013, for the first time on record, the air basin overall had zero violations of the federal hourly ozone standard, compared to 281 violations in 1996 (San Joaquin Valley Air Pollution Control District 2014b). At the same time, PM2.5 and PM10 levels have fluctuated with no clear upward or downward trend (California Air Resources Board 2015). Table 2-15 presents the number of days in which Stanislaus County ozone, PM2.5, and PM10 levels exceeded state and federal air quality standards in 2013 (California Air Resources Board 2015).

Table 2-15. Stanislaus County Days in Exceedance of State and Federal Air Quality Standards, 2013

Monitoring Site	Ozone			PM 2.5	PM 10
	# Days > State 1-Hr Standard	# Days > National '08 8-Hr Standard	# Days > State 8-Hr Standard	Est Days > National 24-Hr Standard	Est Days > State 24-Hr Standard
Modesto 14th St.	0	2	13	37.6	57.7
Turlock S. Minaret St.	1	14	24	40.3	73.7

Source: California Air Resources Board 2015.

The 2013 CHA, prepared by the Stanislaus County Health Services Agency, presents data about the health and well-being of Stanislaus County residents, including information on the burden of five major chronic diseases—hypertension, heart disease, stroke, diabetes and asthma—and the environmental and behavioral factors that influence their prevalence. Primary environmental factors identified in the CHA as contributing to these chronic health conditions are air quality and retail food environment; behavioral factors include diet, fast food consumption, fruit and vegetable consumption, quality of clinical care, physical activity, obesity, and tobacco use (Stanislaus County Health Services Agency 2013). As measured in 2007, Stanislaus County has the second worst retail food environment in California, with 5.48 fast-food purveyors and convenience stores for every grocery store or produce vendor near residences, compared to 4.48 statewide, and a high rate of fast food consumption in the low income population (Stanislaus County Health Services Agency 2013). The county also has the highest prevalence of obesity in the state (31.5% compared to 21.2% statewide), particularly among males, and a higher percentage of smokers than the California average (Stanislaus County Health Services Agency 2013).

The CHA presents countywide data and also divides Stanislaus County into nine geographic regions, shown in Table 2-16 below. Keyes falls within the south central region identified in Table 2-16.

Table 2-16. Community Health Assessment of Stanislaus County Geographic Regions

Region	Communities
Central	Modesto (parts) and outlying areas with ZIP codes 95350, 95355, 95357, and 95358
East Central	Airport Neighborhood and East Modesto (parts) with ZIP code 95354
Southeast Side	Denair, Empire, Hughson, Hickman, La Grange, Waterford with ZIP codes 95316, 95319, 95326, 95323, 95329, and 95386
Northeast Side	Knights Ferry, Valley Home, Oakdale, Riverbank with ZIP codes 95230, 95361, and 95367
North Side	Del Rio, Salida and Modesto (parts) with ZIP codes 95356 and 95368
Southwest Central	West Modesto and South Modesto with ZIP code 95351
West Side	Crows Landing, Grayson, Newman, Patterson with ZIP codes 95313, 95360, 95363, 95385, and 95387
South Central	Ceres, Keyes with ZIP codes 95307 and 95328
South Side	Turlock with ZIP codes 95380 and 95382

Source: Stanislaus County Health Services Agency 2013:Table 1.

Chronic health conditions of concern within Stanislaus County include hypertension, heart disease, stroke, diabetes and asthma. According to the CHA, the percentage of Stanislaus adults diagnosed with high blood pressure increased 31.2% between 2001 and 2009, and surpassed the percentage of California adults diagnosed with high blood pressure use. As of 2009, approximately 30.7% of Stanislaus County adults were diagnosed with hypertension, compared to 26.2% statewide. Among Stanislaus County's nine regions, the south central region has the fourth-lowest rate of hypertension-related hospitalizations, the second-highest rate of hypertension-related emergency room visits, and the fourth-highest rate of hypertension-related mortality (Stanislaus County Health Services Agency 2013).

The CHA notes that in 2009, 5% of Stanislaus County adults had been diagnosed with heart disease, compared to 5.9% statewide and 12% of adults nationwide. Stanislaus County's south central region has the fourth-lowest rate among the nine regions for heart disease-related emergency room visits, fourth-highest rate of hospitalizations, and third-lowest rate of heart disease-related mortality (Stanislaus County Health Services Agency 2013).

The CHA indicates that the California Health Interview Survey, on which it relies for some data, has not consistently tracked either the overall prevalence of cancer or the rates of individual types of cancer; data for cancer rates is therefore less current than for other, more closely tracked, conditions. Although the percentage of Stanislaus County adults diagnosed with cancer has increased from 7.4% in 2001 to 8.5% in 2005, it remains lower than the statewide rate. However, at a rate of approximately 21.4% of all deaths annually, cancer is the second most common cause of death in Stanislaus County. Stanislaus County's south central region has the fourth-highest rate of cancer-related emergency room visits and hospitalizations among the nine regions, and third-highest rate of cancer-related mortality (Stanislaus County Health Services Agency 2013).

Diabetes, according to the CHA, affects 8.3% of the United States population and is the seventh leading cause of death nationwide. Within California, from 2001 to 2007, the percentage of people diagnosed with diabetes increased from 6.2% to 8.5%, a 37% increase. Trends in Stanislaus County are consistent with the statewide increase; in 2009, 7.6% of adults in Stanislaus County had been diagnosed with diabetes. While the prevalence of diabetes was lower in Stanislaus County than California, in 2011, Stanislaus County had higher hospitalization rates than California for four primary indicators of diabetes management, including hospitalization for short-term complications, long-term complications, lower-extremity amputation, and uncontrolled diabetes (Stanislaus County Health Services Agency 2013). Among Stanislaus County's nine regions, the south central region has the fourth-highest rate of diabetes-related emergency room visits, the fourth-lowest rate of hospitalizations, and the third-lowest rate of diabetes-related mortality (Stanislaus County Health Services Agency 2013).

According to the CHA, in 2009 the percentage of Stanislaus County adults diagnosed with asthma was 21.8%, compared to 13.5% of the adult population statewide. Among Stanislaus County's nine regions, the south central region ranks fifth for asthma-related emergency room visits and third highest for asthma-related hospitalizations (Stanislaus County Health Services Agency 2013). Due to the low asthma-related death rate, the CHA does not track or rank asthma-related mortality.

The CHA also uses LEB as a measure of quality of life within Stanislaus County and each of its 9 regions. LEB is defined as the number of years a newborn infant is projected to live if mortality patterns at the time of its birth were to remain the same throughout its life. The LEB for Stanislaus County is calculated to be 77.2 years, 1.7 years less than the nationwide LEB of 78.9. The LEBs

within the nine Stanislaus County regions range from a high of 80.27 years to a low of 75.01 years; the south central region has the fourth-shortest life expectancy, with a LEB of 78.71 years (Stanislaus County Health Services Agency 2013).

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2.5 Monterey Park Tract

2.5.1 General Characteristics and Demographics

Monterey Park Tract is an approximately 30-acre rural neighborhood in central Stanislaus County consisting of single-family residential units approximately 4.5 miles southwest of the city of Ceres and 7 miles west of the city of Turlock. In 2010, Monterey Park Tract had 42 housing units, 35 of which were occupied (United States Census Bureau 2013a). Monterey Park Tract is roughly defined by Durango Avenue on the north, Foy Avenue on the east, La Siesta Avenue on the south, and Monterey Avenue on the west. Monterey Park Tract is surrounded by agricultural land and accompanying agriculture-related facilities and residences. The City of Modesto's Jennings Wastewater Treatment Plant and Modesto Compost Facility are located approximately 2.2 miles west of Monterey Park Tract. A variety of agricultural lands surround Monterey Park Tract; the majority of these lands are identified by the California Department of Conservation's Important Farmlands Inventory as prime farmland, with smaller areas of farmland of statewide importance, unique farmland and, immediately southwest and slightly southeast of Monterey Park Tract, confined animal facilities (California Department of Conservation 2014). Much of this area, particularly the adjacent land west, north, and east of the DUC, is also under Williamson Act contract (California Department of Conservation 2012).

Monterey Park Tract is a 30.2-acre CDP with a 2010 census population of approximately 133 people in 35 households (United States Census Bureau 2013a). In 2013, median annual household income in California was \$60,190; in Monterey Park Tract it was \$43,750 (United States Census Bureau 2013b). In addition to the residential uses, a church and a community center are present in Monterey Park Tract.

The General Plan's Housing Element identifies Monterey Park Tract as a Residential Development Potential Study Area that has the potential to accommodate 17 more dwelling units on existing vacant parcels (Stanislaus County 2012). Monterey Park Tract falls within the Stanislaus County Redevelopment Project Area (Stanislaus County 2012). However, this is of little practical importance with the dissolution of the redevelopment agencies in California. Existing infrastructure and services for Monterey Park Tract are described below.

2.5.2 Infrastructure, Utilities, and Services

Infrastructure, utilities, and services considered for the Monterey Park Tract DUC are presented in Figure 2-5, *Monterey Park Tract Disadvantaged Unincorporated Community*, and include transportation facilities and services including roads, sidewalks, street lighting, and bus stops/service; water, wastewater, and storm drainage systems; solid waste disposal; public safety services such as law enforcement and fire protection; and access to community amenities and services such as schools, parks, and grocery stores. Data associated with chronic health conditions and air quality are described at a regional level because they are not available specifically for the Monterey Park Tract DUC.

2.5.3 Transportation Facilities and Services

Monterey Park Tract lies approximately 6.7 miles west of SR 99, a major north-south travel corridor and a six-lane freeway in Stanislaus County. Transportation infrastructure in the immediate

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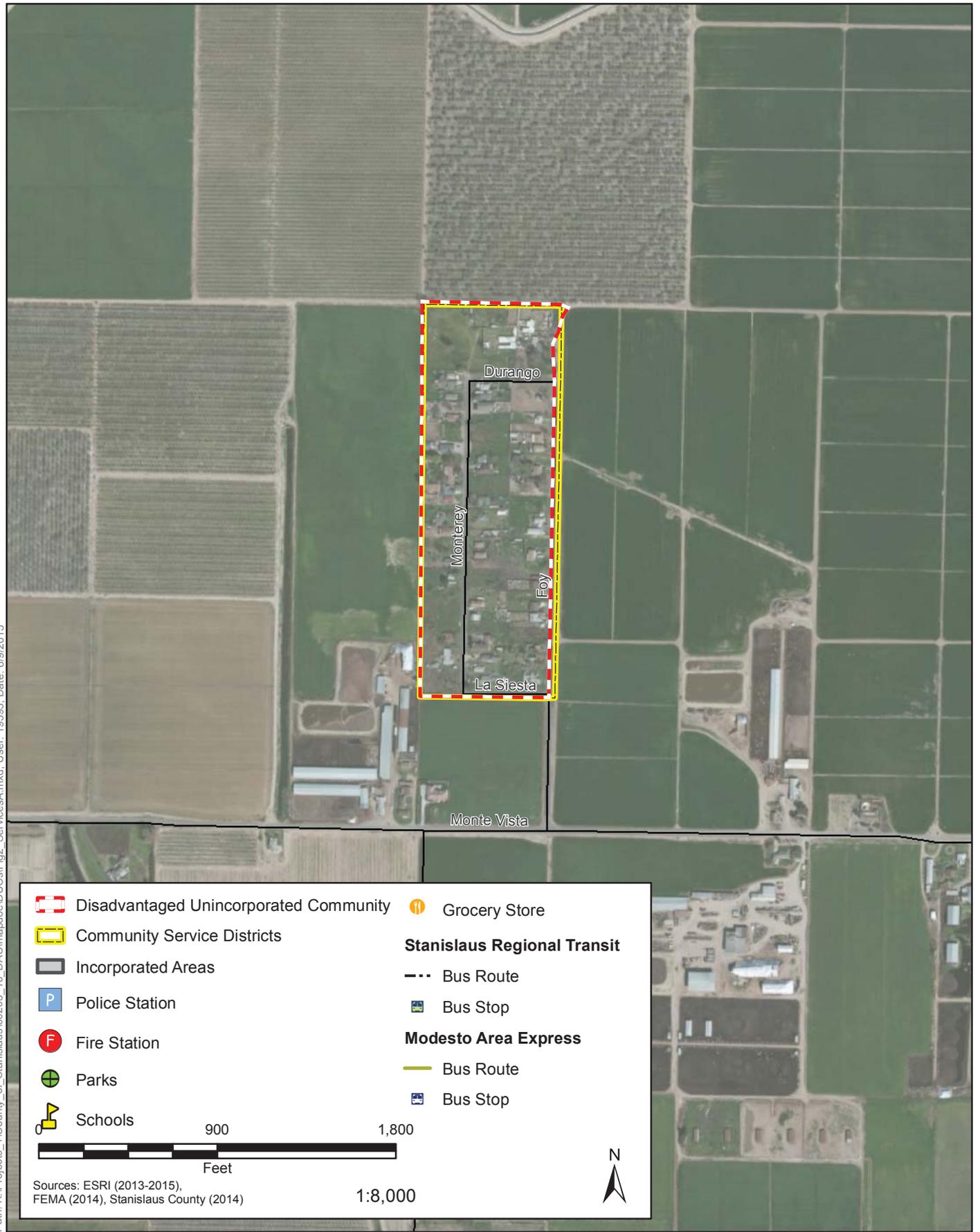


Figure 2-5
Monterey Park Tract Disadvantaged Unincorporated Community

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Monterey Park Tract area consists of public two-lane roads. The Union Pacific Railroad tracks run northwest-southeast approximately 1.6 miles east of Monterey Park Tract.

The nearest roads outside the neighborhood are Crows Landing Road 0.9 mile to the east, Taylor Road 0.6 mile to the north, Carpenter Road 1 mile to the west, and Monte Vista Avenue 0.1 mile to the south. Crows Landing Road and Carpenter Road are currently two-lane major roads (Stanislaus Council of Governments 2014). Monte Vista Avenue is a two-lane rural collector, and Taylor Road is a two-lane local roadway (Stanislaus Council of Governments 2014). In the vicinity of the Monterey Park Tract DUC, the County General Plan classifies Crows Landing Road as a four-lane expressway, Carpenter Road as a major four-lane road, and both Monte Vista Avenue and Taylor Road as local roadways (Stanislaus County 2006). Expressways are intended to move high volumes of people and goods between urban areas within the county, while local roadways provide direct access to abutting property and movement of small volumes of people and goods for medium length trips in the agricultural areas of the County (Stanislaus County 2006).

Roads within Monterey Park Tract consist of two-lane local roadways and include Durango Avenue on the north, Foy Avenue on the east, La Siesta Avenue on the south, and Monterey Avenue on the west. A small number of street lights are present along each of these roadways. No sidewalks, curbs, or gutters exist within Monterey Park Tract (Stanislaus County 2012).

No bus service is available within Monterey Park Tract. The nearest bus routes are StaRT Routes 40 and 45 East. Route 40 travels east-west on Grayson Road, approximately 3 miles north of Monterey Park Tract; Route 45 East travels east-west on West Main Avenue, 2 miles south of the neighborhood (Stanislaus Regional Transit 2014). Monterey Park Tract lies approximately 2 miles outside the boundary of the Turlock-Modesto Shuttle service area (Stanislaus Regional Transit 2014).

2.5.4 Water, Wastewater, and Stormwater Drainage Systems

The Monterey Park Tract CSD provides the Monterey Park Tract community with domestic water from two groundwater wells (Stanislaus Local Agency Formation Commission 2010). Monterey Park Tract has a history of poor water quality, and its water supply has repeatedly exceeded California's Title 22 primary drinking water quality maximum contaminant level (MCL) for nitrate and the secondary MCL for manganese, and also recorded high levels of arsenic (Stanislaus County Board of Supervisors 2015). The Monterey Park Tract CSD commissioned a study, completed in September 2011, to evaluate these water quality problems, analyze water supply alternatives to resolve the problems, and identify the best solution (Fremming, Parson & Pecchenino 2011).

On January 26, 2015, a Water Service Agreement was executed among the Monterey Park Tract CSD, the City of Ceres, and Stanislaus County (Stanislaus County Board of Supervisors 2015). Under the Water Service Agreement, the City of Ceres will provide water to the Monterey Park Tract CSD, which will construct, own, and be responsible for the operation and maintenance of improvements necessary for the delivery of water from the City of Ceres water system. The planned water delivery system will connect to a City of Ceres water main on Crows Landing Road, approximately 0.5 mile south of Service Road, and extend roughly 4.5 miles to the Monterey Park Tract CSD delivery system (Stanislaus County Board of Supervisors 2015).

Wastewater is disposed through private septic systems (Fremming, Parson & Pecchenino 2011). No storm drainage system serves Monterey Park Tract.

2.5.5 Solid Waste Disposal

Stanislaus County contracts with four franchised solid waste collection companies, Bertolotti Disposal, Gilton Solid Waste, Modesto Disposal/Waste Management, and Turlock Scavenger, for residential and commercial garbage collection service in unincorporated Stanislaus County (Stanislaus County 2014a). Monterey Park Tract falls within County-designated Franchise Area 1, served by Bertolotti Disposal (Stanislaus County 2014b). Besides providing solid waste and recyclables collection services to Franchise Area 1, Bertolotti Disposal operates a transfer station, open to the public Mondays through Saturdays, on Flamingo Road in Ceres. Additionally, Stanislaus County's Fink Road Sanitary Landfill, a Class III landfill for nonhazardous municipal solid waste, is operated by the County's Department of Environmental Resources and is open Monday–Saturday to private citizens, school districts, businesses, and local agencies for individual disposal of solid waste (Stanislaus County 2014c).

2.5.6 Law Enforcement and Fire Protection

Law enforcement services for Monterey Park Tract, as for the rest of unincorporated Stanislaus County and four contract cities, are provided by the Stanislaus County Sheriff's Department. The nearest sheriff's station to Monterey Park Tract is the main station, approximately 5 miles northeast at 250 East Hackett Road in Ceres.

The operations division of the Sheriff's Department provides law enforcement services to over 200,000 people in a 1,521-square-mile area (Stanislaus County Sheriff's Department 2014). Two units—patrol and investigations—comprise the Sheriff's Department operations division. The patrol unit responds to calls for assistance, investigates crime, makes arrests, and performs preventive patrol services (Stanislaus County Sheriff's Department 2014). The investigations unit follows up reports of major crimes, collects and prepares evidence for trials, apprehends offenders, and recovers stolen property (Stanislaus County Sheriff's Department 2014).

The crime rates presented below were compiled by AGS using the primary reporting categories from the FBI 2005 – 2010 Uniform Crime Report databases along with preliminary 2011 release data and census data related to socioeconomic characteristics. The crimes are divided into two main categories, personal crimes (murder, rape, robbery, and assault) and property crimes (burglary, larceny, and motor vehicle theft). These crime rates are based on a comparison of the average local crime rate to the national average for the same crime, with a crime index of 100 considered average; scores above 100 are therefore considered greater, or worse, than average. For example, a score of 130 would represent a crime rate 30% greater than the national average for that type of crime. These crime rates are unweighted (i.e., a murder and a theft carry the same weight for calculation purposes), and are tracked at the census block group level and above, which may not correspond precisely to the DUC boundaries. Census blocks are the smallest geographic area for which the United States Census Bureau collects and tabulates data; a set of these constitutes a census block group. Census blocks vary widely in geographic size, and are generally smaller in urban areas and progressively larger in suburban, rural, or remote areas; a given block group is larger in area and population than the individual census blocks of which it is made, and generally contains between 600 and 3,000 people (United States Census Bureau 1994). The Monterey Park Tract DUC falls within census block group 060990031.001.

The overall personal crime and property crime indices for Monterey Park Tract are 173 and 121, respectively, which means that personal crimes in Monterey Park Tract occur at a rate 73% higher

than the nationwide average, and property crimes occur at a rate 21% higher than the national average. The general and individual crime indices for these categories are shown in Table 2-17 below.

Table 2-17. Monterey Park Tract Crime Indices

Personal Crime		Property Crime	
Personal Crime Index	173	Property Crime Index	121
Murder	235	Burglary	241
Rape	95	Larceny	134
Robbery	45	Motor Vehicle Theft	12
Assault	276		

Source: Applied Geographic Solutions and Atlas Publishing 2012.

The Westport FPD provides fire protection and emergency response services to the Monterey Park Tract and surrounding area from its one fire station, located approximately 3 miles northwest at 5160 South Carpenter Road. The Westport fire station serves a 45-square-mile area with a staff of 17 volunteer firefighters and houses two engines, one water tender, and one rescue vehicle (Emergency Services Consulting 2007). The station's workload, defined by the number of incidents per year, increased from just over 100 in 1987 to about 300 in 2005 (Emergency Services Consulting 2007).

A fire department's ability to meet the fire protection needs of its service area is typically evaluated by the Insurance Services Office (ISO), a private organization that assesses risks, including fire protection, for insurance purposes. The ISO considers a variety of factors, including a district's fire-fighting apparatus, staffing, training, location, and water supply, to rate fire departments on a scale from 1 (best fire protection possible) to 10 (no fire protection). The ISO rating therefore reflects a fire department's ability to protect the residents and businesses within its service area from fire. Westport FPD has an ISO rating of 8 within a 5-mile radius of the station (Emergency Services Consulting 2007).

2.5.7 Schools and Community Amenities

Monterey Park Tract lies within the boundaries of the Ceres Unified School District, which includes a total of 22 schools enrolling a total of 12,742 students in grades K–12 (Ceres Unified School District 2014a; Stanislaus County Office of Education 2009). The nearest elementary school to Monterey Park Tract is Westport Elementary, 2.8 miles north at 5218 South Carpenter Road; Westport Elementary serves 454 students in grades K–6 (California Department of Education 2014c; Ceres Unified School District 2013). The nearest junior high school is Blaker Kinser Junior High School, serving 612 students in grades 7 and 8, approximately 5.5 miles northeast of Monterey Park Tract at 1601 Kinser Road in Ceres. The nearest high school is Central Valley High School, approximately 4.8 miles northeast at 4033 South Central Avenue in Ceres (California Department of Education 2014a). Central Valley High School serves 1,686 students grades 9–12 (California Department of Education 2014b). The school district provides bus transportation to and from school for students living beyond walking distance to their schools (Ceres Unified School District 2014b).

No parks are present within the Monterey Park Tract. The nearest public park, Las Palmas boat launch facility, is approximately 4.5 miles southwest on the San Joaquin River at Las Palmas/West Main Street. The 3-acre Las Palmas facility occupies 1 mile of riverbank along the western bank of the river and features a concrete boat ramp, parking lot, day use area with picnic tables and barbecues, and restrooms (Stanislaus County n.d.[b]).

Several city parks lie approximately 4.5–4.7 miles northeast of Monterey Park Tract in southwest Ceres. Of these, Sam Ryno Neighborhood Park, at about 4.5 miles, is the closest but has no developed amenities; nearby developed park and recreational facilities include Strawberry Fields Park, Don Pedro Park, and Central Valley High School. Strawberry Fields Park is a neighborhood park featuring picnic facilities and play equipment, and Don Pedro Park features picnic facilities, play equipment, and an adult fitness area (City of Ceres 2010). The City of Ceres considers school facilities to be joint-use recreational facilities (City of Ceres 1997). Developed recreational amenities at Central Valley High School include baseball/softball fields, soccer fields, tennis courts, and a track.

There are no grocery stores in Monterey Park Tract. The nearest grocery store is Charlie's Market, a small convenience market, about 1.5 miles northeast at the corner of Crows Landing Road and Taylor Road. The nearest full-service supermarkets are Magic Market, approximately 4.5 miles northeast of Monterey Park Tract in Ceres, and La Perla Tapatia, about 5 miles north of Monterey Park Tract in Modesto.

2.5.8 Air Quality and Chronic Health Conditions

Stanislaus County is within the northern part of the eight-county SJVAPCD, the regional public health agency responsible for air quality management in those 8 counties. SJVAPCD cites several factors that contribute to the valley's air quality challenges, including high rates of chronic poverty and unemployment coupled with a high population growth rate, the presence of major transportation corridors, and topographic features such as the surrounding mountains combined with the area's meteorological conditions (San Joaquin Valley Air Pollution Control District 2014a). The SVAPCD notes that ozone, PM10, and PM2.5 are of special concern, causing or exacerbating a variety of health conditions (San Joaquin Valley Air Pollution Control District 2014a). The presence of PM2.5, primarily a winter condition, triggers heart attacks, asthma, bronchitis, and respiratory infections, and has a strong correlation with hospital admissions and deaths (San Joaquin Valley Air Pollution Control District 2014a).

GHGs are not a criteria air pollutant and do not directly affect human health. GHG emissions are largely the result of combustion, decay and digestive processes, and emissions of industrial gases with high climate change potential. Unlike criteria pollutants such as carbon monoxide, PM10, PM2.5, and ozone, GHGs do not collect within a specific area or air basin. Their harm is done at a global level through the effect of increased concentrations of GHGs in Earth's atmosphere.

Worldwide concern over GHG emissions is based on the climate change that they are causing by altering the way in which Earth's atmosphere traps solar radiation as heat. The adverse effects of global climate change include rising sea levels, changes in habitat conditions for plants and animals, increased potential for wildfires, more severe weather extremes, and a reduction in California's winter snow pack, among others. Through the impetus of AB 32 (California Global Warming Solutions Act of 2006) and other legislation, California has undertaken a statewide program of reducing GHG emissions to 1990 levels by 2020 in order to slow the rate of global climate change.

Climate change can have an indirect effect on human health in Stanislaus County to the extent that it results in warmer summer temperatures that facilitate ozone formation and exacerbate heat-related stress among outdoor workers, the elderly, small children, and the infirm. The amount of GHGs emitted within the Monterey Park Tract DUC is not atypical for a small, largely residential community.

SJVAPCD operates 36 air monitoring sites within its eight-county air basin. Of these, two air quality stations, one in Modesto and another in Turlock, monitor air quality within Stanislaus County. At approximately 8 miles to the northeast, the Modesto monitoring site is the closest to Monterey Park Tract. Table 2-18 shows the SJVAB's current air quality attainment status for state and federal criteria pollutants (San Joaquin Valley Air Pollution Control District 2012).

Table 2-18. San Joaquin Valley Air Basin Air Quality Attainment Status

Pollutant	Designation/Classification	
	Federal Standards	State Standards
Ozone—1-hour	No Federal Standard ^a	Nonattainment/Severe
Ozone—8-hour	Nonattainment/Extreme ^b	Nonattainment
PM 10	Attainment ^c	Nonattainment
PM 2.5	Nonattainment ^d	Nonattainment
Carbon monoxide	Attainment/Unclassified	Attainment/Unclassified
Nitrogen dioxide	Attainment/Unclassified	Attainment
Sulfur dioxide	Attainment/Unclassified	Attainment
Lead (particulate)	No Designation/Classification	Attainment
Hydrogen sulfide	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment
Visibility reducing particles	No Federal Standard	Unclassified
Vinyl chloride	No Federal Standard	Attainment

Source: San Joaquin Valley Air Pollution Control District 2012.

- ^a Effective June 15, 2005, the U.S. Environmental Protection Agency (EPA) revoked the federal 1-hour ozone standard, including associated designations and classifications. EPA had previously classified the San Joaquin Valley air basin (SJVAB) as extreme nonattainment for this standard. EPA approved the 2004 Extreme Ozone Attainment Demonstration Plan on March 8, 2010 (effective April 7, 2010). Many applicable requirements for extreme 1-hour ozone nonattainment areas continue to apply to the SJVAB.
- ^b Though the SJVAB was initially classified as serious nonattainment for the 1997 8-hour ozone standard, EPA approved Valley reclassification to extreme nonattainment in the Federal Register on May 5, 2010 (effective June 4, 2010).
- ^c On September 25, 2008, EPA redesignated the SJVAB to attainment for the PM10 National Ambient Air Quality Standard (NAAQS) and approved the PM10 Maintenance Plan.
- ^d The SJVAB is designated nonattainment for the 1997 PM2.5 NAAQS. EPA designated the SJVAB as nonattainment for the 2006 PM2.5 NAAQS on November 13, 2009 (effective December 14, 2009).

Over the past decade, ozone levels have been trending downward within the SJVAB and, in 2013, for the first time on record, the air basin overall had zero violations of the federal hourly ozone standard, compared to 281 violations in 1996 (San Joaquin Valley Air Pollution Control District 2014b). At the same time, PM2.5 and PM10 levels have fluctuated with no clear upward or downward trend (California Air Resources Board 2015). Table 2-19 presents the number of days in

which Stanislaus County ozone, PM2.5, and PM10 levels exceeded state and federal air quality standards in 2013 (California Air Resources Board 2015).

Table 2-19. Stanislaus County Days in Exceedance of State and Federal Air Quality Standards, 2013

Monitoring Site	Ozone			PM 2.5	PM 10
	# Days > State 1-Hr Standard	# Days > National '08 8-Hr Standard	# Days > State 8-Hr Standard	Est Days > National 24-Hr Standard	Est Days > State 24-Hr Standard
Modesto 14th St.	0	2	13	37.6	57.7
Turlock S. Minaret St.	1	14	24	40.3	73.7

Source: California Air Resources Board 2015.

The 2013 CHA, prepared by the Stanislaus County Health Services Agency, presents data about the health and well-being of Stanislaus County residents, including information on the burden of five major chronic diseases—hypertension, heart disease, stroke, diabetes and asthma—and the environmental and behavioral factors that influence their prevalence. Primary environmental factors identified in the CHA as contributing to these chronic health conditions are air quality and retail food environment; behavioral factors include diet, fast food consumption, fruit and vegetable consumption, quality of clinical care, physical activity, obesity, and tobacco use (Stanislaus County Health Services Agency 2013). As measured in 2007, Stanislaus County has the second worst retail food environment in California, with 5.48 fast-food purveyors and convenience stores for every grocery store or produce vendor near residences, compared to 4.48 statewide, and a high rate of fast food consumption in the low income population (Stanislaus County Health Services Agency 2013). The county also has the highest prevalence of obesity in the state (31.5% compared to 21.2% statewide), particularly among males, and a higher percentage of smokers than the California average (Stanislaus County Health Services Agency 2013).

The CHA presents countywide data and also divides Stanislaus County into nine geographic regions, shown in Table 2-20 below. Monterey Park Tract falls within the south central region identified in Table 2-20.

Table 2-20. Community Health Assessment of Stanislaus County Geographic Regions

Region	Communities
Central	Modesto (parts) and outlying areas with ZIP codes 95350, 95355, 95357, and 95358
East Central	Airport Neighborhood and East Modesto (parts) with ZIP code 95354
Southeast Side	Denair, Empire, Hughson, Hickman, La Grange, Waterford with ZIP codes 95316, 95319, 95326, 95323, 95329, and 95386
Northeast Side	Knights Ferry, Valley Home, Oakdale, Riverbank with ZIP codes 95230, 95361, and 95367
North Side	Del Rio, Salida and Modesto (parts) with ZIP codes 95356 and 95368
Southwest Central	West Modesto and South Modesto with ZIP code 95351
West Side	Crows Landing, Grayson, Newman, Patterson with ZIP codes 95313, 95360, 95363, 95385, and 95387
South Central	Ceres, Keyes, Monterey Park Tract with ZIP codes 95307 and 95328
South Side	Turlock with ZIP codes 95380 and 95382

Source: Stanislaus County Health Services Agency 2013:Table 2.

Chronic health conditions of concern within Stanislaus County include hypertension, heart disease, stroke, diabetes and asthma. According to the CHA, the percentage of Stanislaus adults diagnosed with high blood pressure increased 31.2% between 2001 and 2009, and surpassed the percentage of California adults diagnosed with high blood pressure use. As of 2009, approximately 30.7% of Stanislaus County adults were diagnosed with hypertension, compared to 26.2% statewide. Among Stanislaus County's nine regions, the south central region, including Monterey Park Tract, has the fourth-lowest rate of hypertension-related hospitalizations, the second-highest rate of hypertension-related emergency room visits, and the fourth-highest rate of hypertension-related mortality (Stanislaus County Health Services Agency 2013).

The CHA notes that in 2009, 5% of Stanislaus County adults had been diagnosed with heart disease, compared to 5.9% statewide and 12% of adults nationwide. Stanislaus County's south central region has the fourth-lowest rate among the nine regions for heart disease-related emergency room visits, fourth-highest rate of hospitalizations, and third-lowest rate of heart disease-related mortality (Stanislaus County Health Services Agency 2013).

The CHA indicates that the California Health Interview Survey, on which it relies for some data, has not consistently tracked either the overall prevalence of cancer or the rates of individual types of cancer; data for cancer rates is therefore less current than for other, more closely tracked, conditions. Although the percentage of Stanislaus County adults diagnosed with cancer has increased from 7.4% in 2001 to 8.5% in 2005, it remains lower than the statewide rate. However, at a rate of approximately 21.4% of all deaths annually, cancer is the second most common cause of death in Stanislaus County. Stanislaus County's south central region has the fourth-highest rate of cancer-related emergency room visits and hospitalizations among the nine regions, and third-highest rate of cancer-related mortality (Stanislaus County Health Services Agency 2013).

Diabetes, according to the CHA, affects 8.3% of the United States population and is the seventh leading cause of death nationwide. Within California, from 2001 to 2007, the percentage of people diagnosed with diabetes increased from 6.2% to 8.5%, a 37% increase. Trends in Stanislaus County are consistent with the statewide increase; in 2009, 7.6% of adults in Stanislaus County had been

diagnosed with diabetes. While the prevalence of diabetes was lower in Stanislaus County than California, in 2011, Stanislaus County had higher hospitalization rates than California for four primary indicators of diabetes management, including hospitalization for short-term complications, long-term complications, lower-extremity amputation, and uncontrolled diabetes (Stanislaus County Health Services Agency 2013). Among Stanislaus County's nine regions, the south central region has the fourth-highest rate of diabetes-related emergency room visits, the fourth-lowest rate of hospitalizations, and the third-lowest rate of diabetes-related mortality (Stanislaus County Health Services Agency 2013).

According to the CHA, in 2009 the percentage of Stanislaus County adults diagnosed with asthma was 21.8%, compared to 13.5% of the adult population statewide. Among Stanislaus County's nine regions, the south central region ranks fifth for asthma-related emergency room visits and third highest for asthma-related hospitalizations (Stanislaus County Health Services Agency 2013). Due to the low asthma-related death rate, the CHA does not track or rank asthma-related mortality.

The CHA also uses LEB as a measure of quality of life within Stanislaus County and each of its nine regions. LEB is defined as the number of years a newborn infant is projected to live if mortality patterns at the time of its birth were to remain the same throughout its life. The LEB for Stanislaus County is calculated to be 77.2 years, 1.7 years less than the nationwide LEB of 78.9. The LEBs within the nine Stanislaus County regions range from a high of 80.27 years to a low of 75.01 years; the south central region has the fourth-shortest life expectancy, with a LEB of 78.71 (Stanislaus County Health Services Agency 2013).

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2.6 Riverdale Park Tract

2.6.1 General Characteristics and Demographics

The Riverdale Park Tract DUC is an approximately 200-acre rural residential neighborhood with 175 dwelling units, composed primarily of single-family residential units, within the larger Riverdale Park CDP. The Riverdale Park Tract DUC is roughly defined by the Tuolumne River on the north and west, Vivian Road on the east, and West Whitmore Avenue on the south. The Riverdale Park Tract DUC is immediately west of the City of Modesto's sphere of influence, which aligns with Vivian Road, and approximately 1 mile west of Modesto's city limit.

The Riverdale Park Tract CDP also includes a portion of the Riverdale Park Tract that is located within the City of Modesto's sphere of influence and within the boundaries of the Riverdale Park Tract CSD. Because Government Code Section 65302.10 does not consider the area within a city's sphere of influence to be a DUC for county purposes, that portion of the Riverdale Park Tract is not the subject of this analysis.

The Riverdale Park Tract DUC consists of five census blocks within the Riverdale Park CDP. The CDP had a 2010 census population of approximately 1,128 people in 354 households. In 2013, California's median annual household income was \$60,190; in the Riverdale Park Tract it was \$37,656 (United States Census Bureau 2011, 2013a, 2013b). The DUC had a 2010 census population of 607 people in 164 households, for an average household size of 3.7 people (United States Census Bureau n.d.).

The General Plan's Housing Element identifies Riverdale Park Tract as a Residential Development Potential Study Area; however, the geographic area identified in the Housing Element is northeast and independent of the DUC area considered in this document (Stanislaus County 2012). Existing infrastructure and services for the Riverdale Park Tract DUC are limited and are described below.

2.6.2 Infrastructure, Utilities, and Services

Infrastructure, utilities, and services considered for the Riverdale Park Tract DUC are presented in Figure 2-6, *Riverdale Park Tract Disadvantaged Unincorporated Community*, and include transportation facilities and services including roads, sidewalks, street lighting, and bus stops/service; water, wastewater, and storm drainage systems; solid waste disposal; public safety services such as law enforcement and fire protection; and access to community amenities and services such as schools, parks, and grocery stores. Data associated with chronic health conditions and air quality are described at a regional level because they are not available specifically for the Riverdale Park Tract DUC.

2.6.3 Transportation Facilities and Services

The Riverdale Park Tract DUC lies approximately 4 miles west of SR 99, a major north-south travel corridor and a six-lane freeway in Stanislaus County. Transportation infrastructure in the immediate Riverdale Park Tract vicinity consists entirely of two-lane local roadways with no curbs, gutters, sidewalks, or streetlights. The nearest two-lane major roadway is Carpenter Road, 1 mile east of the DUC (Stanislaus Council of Governments 2014). The County General Plan designates this segment of

Carpenter Road as a six-lane expressway, intended to move high volumes of people and goods between urban areas within the county (Stanislaus County 2006).

Most of the Riverdale Park Tract DUC falls immediately outside the service areas of three public StaRT shuttle services, the Eastside Shuttle, the Turlock/Modesto Shuttle, and the Waterford/Modesto Runabout (Stanislaus Regional Transit 2014). All of these StaRT shuttles provide curb-to-curb service within designated areas by advance reservation of at least 4 hours, and the Waterford/Modesto Runabout combines curb-to-curb service with several designated fixed stops (Stanislaus Regional Transit 2014). Vivian Road, the easternmost road of the DUC, serves as the western boundary of the Eastside and Turlock/Modesto shuttles, and Hatch Road, which terminates at the northern end of the DUC, forms the southern boundary of the Waterford/Modesto Runabout (Stanislaus Regional Transit 2014).

2.6.4 Water, Wastewater, and Stormwater Drainage Systems

No CSD or CSA serves the Riverdale Park Tract DUC. Domestic water within the DUC is provided by individual private wells, and wastewater is disposed through private septic systems. No storm drainage system serves the Riverdale Park Tract DUC.

The Riverdale Park Tract CSD operates a well and storage tanks that provide domestic water services to the residents of the unincorporated community northeast of the DUC between the Tuolumne River and West Hatch Road and contracts with the City of Modesto for its emergency water supply (Stanislaus Local Agency Formation Commission 2011). The Riverdale Park Tract CSD does not serve the Riverdale Park Tract DUC. Its boundary and sphere of influence are coterminous and encompass 58 acres located northeast of the DUC. The CSD's western boundary is 0.3 mile east of the northeastern edge of the DUC (Stanislaus Local Agency Formation Commission 2011).

2.6.5 Solid Waste Disposal

Stanislaus County contracts with four franchised solid waste collection companies, Bertolotti Disposal, Gilton Solid Waste, Modesto Disposal/Waste Management, and Turlock Scavenger, for residential and commercial garbage collection service in the unincorporated area (Stanislaus County 2014a). Riverdale Park Tract falls within County-designated Franchise Area 1, served by Bertolotti Disposal (Stanislaus County 2014b). Besides providing solid waste and recyclables collection services to Franchise Area 1, Bertolotti Disposal operates a transfer station, open to the public Mondays through Saturdays, on Flamingo Road in Ceres. Additionally, Stanislaus County's Fink Road Sanitary Landfill, a Class III landfill for nonhazardous municipal solid waste, is operated by the County's Department of Environmental Resources and is open Monday–Saturday to private citizens, school districts, businesses, and local agencies for individual disposal of solid waste (Stanislaus County 2014c).

2.6.6 Law Enforcement and Fire Protection

Law enforcement services for Riverdale Park Tract, as for the rest of unincorporated Stanislaus County and four contract cities, are provided by the Stanislaus County Sheriff's Department. The operations division of the Sheriff's Department provides law enforcement services to over 200,000 people in a 1,521-square-mile area (Stanislaus County Sheriff's Department 2014). Two units—patrol and investigations—comprise the Sheriff's Department operations division. The patrol unit

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Figure 2-6
Riverdale Park Tract Disadvantaged Unincorporated Community



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responds to calls for assistance, investigates crime, makes arrests, and performs preventive patrol services (Stanislaus County Sheriff's Department 2014). The investigations unit follows up reports of major crimes, collects and prepares evidence for trials, apprehends offenders, and recovers stolen property (Stanislaus County Sheriff's Department 2014). The nearest sheriff's station to Riverdale Park Tract is the main station, approximately 3.5 miles southeast at 250 East Hackett Road in Ceres.

The crime rates presented below were compiled by AGS using the primary reporting categories from the FBI 2005 – 2010 Uniform Crime Report databases along with preliminary 2011 release data and census data related to socioeconomic characteristics. The crimes are divided into two main categories, personal crimes (murder, rape, robbery, and assault) and property crimes (burglary, larceny, and motor vehicle theft). These crime rates are based on a comparison of the average local crime rate to the national average for the same crime, with a crime index of 100 considered average; scores above 100 are therefore considered greater, or worse, than average. For example, a score of 130 would represent a crime rate 30% greater than the national average for that type of crime. These crime rates are unweighted (i.e., a murder and a theft carry the same weight for calculation purposes), and are tracked at the census block group level and above, which may not correspond precisely to the DUC boundaries. Census blocks are the smallest geographic area for which the United States Census Bureau collects and tabulates data; a set of these constitutes a census block group. Census blocks vary widely in geographic size, and are generally smaller in urban areas and progressively larger in suburban, rural, or remote areas; a given block group is larger in area and population than the individual census blocks of which it is made, and generally contains between 600 and 3,000 people (United States Census Bureau 1994). The Riverdale Park Tract DUC falls within two large census block groups. Most of the DUC parcels and population, east of Poland Road, fall within census block group 060990031.002; the area west of Poland Road falls within census block group 060990031.003.

The overall personal crime and property crime indices for most of the Riverdale Park Tract DUC (census block group 060990031.002) are 173 and 124, respectively, which means that personal crimes in that area occur at a rate 73% higher than the nationwide average, and property crimes occur at a rate 24% above national average. For the western portion of the DUC (census block group 060990031.003), the overall personal crime and property crime indices are 184 and 166. The general and individual crime indices for these categories are shown in Table 2-21 below.

Table 2-21. Riverdale Park Tract DUC Crime Indices

Block Group	Personal Crime		Block Group	Property Crime	
	060990031.002	060990031.003		060990031.002	060990031.003
Personal Crime Index	173	184	Property Crime Index	124	166
Murder	230	112	Burglary	245	329
Rape	95	117	Larceny	136	182
Robbery	50	65	Motor Vehicle Theft	19	26
Assault	273	375			

Source: Applied Geographic Solutions and Atlas Publishing 2012.

The Burbank-Paradise FPD provides fire protection and emergency response services to the Riverdale Park Tract DUC and surrounding area from its one fire station, located approximately 2.5 miles northeast on Beverly Drive in Modesto. The Burbank-Paradise FPD fire station serves a 5.5-square-mile area with a staff of 6 paid and 30 volunteer firefighters, and it houses three structure fire engines and one wildland fire engine (Emergency Services Consulting 2007). The station's workload, defined by the number of incidents per year, increased from just under 300 in 1987 to over 800 in 2005 (Emergency Services Consulting 2007).

A fire department's ability to meet the fire protection needs of its service area is typically evaluated by the Insurance Services Office (ISO), a private organization that assesses risks, including fire protection, for insurance purposes. The ISO considers a variety of factors, including a district's fire-fighting apparatus, staffing, training, location, and water supply, to rate fire departments on a scale from 1 (best fire protection possible) to 10 (no fire protection). The ISO rating therefore reflects a fire department's ability to protect the residents and businesses within its service area from fire. The Burbank-Paradise FPD has an ISO rating of 5 in hydrant-served areas and 8 in non-hydrant areas within its district boundaries (Emergency Services Consulting 2007).

2.6.7 Schools and Community Amenities

Riverdale Park Tract lies within the boundaries of the Modesto City School District, which is a common administration district comprised of the Modesto City Elementary and Modesto City High School districts (Modesto City Schools 2015). Modesto City Elementary District includes a total of 26 schools serving students in grades K–8. Modesto City High School District serves students in grades 9–12. The nearest elementary school to which K–6 students from Riverdale Park Tract are assigned is Fairview Elementary, which is about 1.5 miles east of the Riverdale Park Tract DUC. Fairview Elementary serves 878 students (California Department of Education 2014b). Fairview Preschool and Head Start are also located on the Fairview Elementary campus. The nearest middle school to Riverdale Park Tract is Evelyn Hanshaw Middle School, approximately 2.5 miles east in Modesto, serving 789 students in grades 7 and 8 (California Department of Education 2014a). The Riverdale Park Tract DUC falls within the attendance zone for Thomas Downey High School, located approximately 6 miles northwest in Modesto. Thomas Downey High School serves 1,974 students in grades 9–12 (California Department of Education 2014c). Modesto City Schools buses elementary students living more than 1 mile from their school, middle school students living more than 2 miles from their school, and high school students living more than 3 miles from their school (Modesto City Schools 2015).

There are no public parks within the Riverdale Park Tract DUC. Nearby parks and recreation facilities include the Riverdale Park and Fishing Access and Fairview Park. The Riverdale Park and Fishing Access is located approximately 0.5 mile northeast of the DUC on the south side of the Tuolumne River at Parkdale Drive. The 3-acre Riverdale Park and Fishing Access features play structures, informal play areas, a picnic shelter and picnic tables, benches, a drinking fountain, a walking trail, parking, and a carry-in boat path to the river, but there are no restroom facilities (Stanislaus County n.d.). Fairview Park, located approximately 1.8 miles east of the Riverdale Park Tract DUC in southwest Modesto near West Whitmore and Tucson Avenues, occupies 4 acres and includes a baseball/softball field, a basketball court, a picnic shelter, picnic tables with barbecues, and informal play areas (Stanislaus County n.d.).

There are no grocery stores in Riverdale Park Tract. The nearest grocery store to Riverdale Park Tract is the Country Market, a small convenience market, approximately 0.75 mile east of the DUC

on West Hatch Road near Woodlane Avenue. The Fairview Market, another small convenience market, is about 2 miles east of the Riverdale Park Tract DUC on Inyo Avenue. The nearest full-service supermarkets are La Perla Tapatia and Mi Pueblo Food Center, both approximately 3.2 miles east of Riverdale Park Tract in Modesto.

2.6.8 Air Quality and Chronic Health Conditions

Stanislaus County is within the northern part of the eight-county SJVAPCD, the regional public health agency responsible for air quality management in those 8 counties. SJVAPCD cites several factors that contribute to the valley's air quality challenges, including high rates of chronic poverty and unemployment coupled with a high population growth rate, the presence of major transportation corridors, and topographic features such as the surrounding mountains combined with the area's meteorological conditions (San Joaquin Valley Air Pollution Control District 2014a). SJVAPCD notes that ozone, PM10, and PM2.5 are of special concern, causing or exacerbating a variety of health conditions (San Joaquin Valley Air Pollution Control District 2014a). The presence of PM2.5, primarily a winter condition, triggers heart attacks, asthma, bronchitis, and respiratory infections, and has a strong correlation with hospital admissions and deaths (San Joaquin Valley Air Pollution Control District 2014a).

GHGs are not a criteria air pollutant and do not directly affect human health. GHG emissions are largely the result of combustion, decay and digestive processes, and emissions of industrial gases with high climate change potential. Unlike criteria pollutants such as carbon monoxide, PM10, PM2.5, and ozone, GHGs do not collect within a specific area or air basin. Their harm is done at a global level through the effect of increased concentrations of GHGs in Earth's atmosphere.

Worldwide concern over GHG emissions is based on the climate change that they are causing by altering the way in which Earth's atmosphere traps solar radiation as heat. The adverse effects of global climate change include rising sea levels, changes in habitat conditions for plants and animals, increased potential for wildfires, more severe weather extremes, and a reduction in California's winter snow pack, among others. Through the impetus of AB 32 (California Global Warming Solutions Act of 2006) and other legislation, California has undertaken a statewide program of reducing GHG emissions to 1990 levels by 2020 in order to slow the rate of global climate change.

Climate change can have an indirect effect on human health in Stanislaus County to the extent that it results in warmer summer temperatures that facilitate ozone formation and exacerbate heat-related stress among outdoor workers, the elderly, small children, and the infirm. The amount of GHGs emitted within the Riverdale Park Tract DUC is not atypical for a small, largely residential community.

SJVAPCD operates 36 air monitoring sites within its eight-county air basin. Of these, two air quality stations, one in Modesto and another in Turlock, monitor air quality within Stanislaus County. The Modesto monitoring site, approximately 3.6 miles to the northeast, is the closest monitoring station to Riverdale Park Tract. Table 2-22 shows the SJVAB's current air quality attainment status for state and federal criteria pollutants (San Joaquin Valley Air Pollution Control District 2012).

Table 2-22. San Joaquin Valley Air Basin Air Quality Attainment Status

Pollutant	Designation/Classification	
	Federal Standards	State Standards
Ozone—1-hour	No Federal Standard ^a	Nonattainment/Severe
Ozone—8-hour	Nonattainment/Extreme ^b	Nonattainment
PM 10	Attainment ^c	Nonattainment
PM 2.5	Nonattainment ^d	Nonattainment
Carbon monoxide	Attainment/Unclassified	Attainment/Unclassified
Nitrogen dioxide	Attainment/Unclassified	Attainment
Sulfur dioxide	Attainment/Unclassified	Attainment
Lead (particulate)	No Designation/Classification	Attainment
Hydrogen sulfide	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment
Visibility reducing particles	No Federal Standard	Unclassified
Vinyl chloride	No Federal Standard	Attainment

Source: San Joaquin Valley Air Pollution Control District 2012.

- ^a Effective June 15, 2005, the U.S. Environmental Protection Agency (EPA) revoked the federal 1-hour ozone standard, including associated designations and classifications. EPA had previously classified the San Joaquin Valley air basin (SJVAB) as extreme nonattainment for this standard. EPA approved the 2004 Extreme Ozone Attainment Demonstration Plan on March 8, 2010 (effective April 7, 2010). Many applicable requirements for extreme 1-hour ozone nonattainment areas continue to apply to the SJVAB.
- ^b Though the Valley was initially classified as serious nonattainment for the 1997 8-hour ozone standard, EPA approved Valley reclassification to extreme nonattainment in the Federal Register on May 5, 2010 (effective June 4, 2010).
- ^c On September 25, 2008, EPA redesignated the SJVAB to attainment for the PM10 National Ambient Air Quality Standard (NAAQS) and approved the PM10 Maintenance Plan.
- ^d The SJVAB is designated nonattainment for the 1997 PM2.5 NAAQS. EPA designated the SJVAB as nonattainment for the 2006 PM2.5 NAAQS on November 13, 2009 (effective December 14, 2009).

Over the past decade, ozone levels have been trending downward within the SJVAB and, in 2013, for the first time on record, the air basin overall had zero violations of the federal hourly ozone standard, compared to 281 violations in 1996 (San Joaquin Valley Air Pollution Control District 2014b). At the same time, PM2.5 and PM10 levels have fluctuated with no clear upward or downward trend (California Air Resources Board 2015). Table 2-23 presents the number of days in which Stanislaus County ozone, PM2.5, and PM10 levels exceeded state and federal air quality standards in 2013 (California Air Resources Board 2015).

Table 2-23. Stanislaus County Days in Exceedance of State and Federal Air Quality Standards, 2013

Monitoring Site	Ozone			PM 2.5	PM 10
	# Days > State 1-Hr Standard	# Days > National '08 8-Hr Standard	# Days > State 8-Hr Standard	Est Days > National 24-Hr Standard	Est Days > State 24-Hr Standard
Modesto 14th St.	0	2	13	37.6	57.7
Turlock S. Minaret St.	1	14	24	40.3	73.7

Source: California Air Resources Board 2015.

The 2013 CHA, prepared by the Stanislaus County Health Services Agency, presents data about the health and well-being of Stanislaus County residents, including information on the burden of five major chronic diseases—hypertension, heart disease, stroke, diabetes and asthma—and the environmental and behavioral factors that influence their prevalence. Primary environmental factors identified in the CHA as contributing to these chronic health conditions are air quality and retail food environment; behavioral factors include diet, fast food consumption, fruit and vegetable consumption, quality of clinical care, physical activity, obesity, and tobacco use (Stanislaus County Health Services Agency 2013). As measured in 2007, Stanislaus County has the second worst retail food environment in California, with 5.48 fast-food purveyors and convenience stores for every grocery store or produce vendor near residences, compared to 4.48 statewide, and a high rate of fast food consumption in the low income population (Stanislaus County Health Services Agency 2013). The county also has the highest prevalence of obesity in the state (31.5% compared to 21.2% statewide), particularly among males, and a higher percentage of smokers than the California average (Stanislaus County Health Services Agency 2013).

The CHA presents countywide data and also divides Stanislaus County into nine geographic regions, shown in Table 2-24 below. The Riverdale Park Tract DUC falls within the central region identified in Table 2-24.

Table 2-24. Community Health Assessment of Stanislaus County Geographic Regions

Region	Communities
Central	Modesto (parts) and outlying areas, including Riverdale Park, with ZIP codes 95350, 95355, 95357, and 95358
East Central	Airport Neighborhood and East Modesto (parts) with ZIP code 95354
Southeast Side	Denair, Empire, Hughson, Hickman, La Grange, Waterford with ZIP codes 95316, 95319, 95326, 95323, 95329, and 95386
Northeast Side	Knights Ferry, Valley Home, Oakdale, Riverbank with ZIP codes 95230, 95361, and 95367
North Side	Del Rio, Salida and Modesto (parts) with ZIP codes 95356 and 95368
Southwest Central	West Modesto and South Modesto with ZIP code 95351
West Side	Crows Landing, Grayson, Newman, Patterson with ZIP codes 95313, 95360, 95363, 95385, and 95387
South Central	Ceres, Keyes with ZIP codes 95307 and 95328
South Side	Turlock with ZIP codes 95380 and 95382

Source: Stanislaus County Health Services Agency 2013:Table 2.

Chronic health conditions of concern within Stanislaus County include hypertension, heart disease, stroke, diabetes and asthma. According to the CHA, the percentage of Stanislaus adults diagnosed with high blood pressure increased 31.2% between 2001 and 2009, and surpassed the percentage of California adults diagnosed with high blood pressure use. As of 2009, approximately 30.7% of Stanislaus County adults were diagnosed with hypertension, compared to 26.2% statewide. Among Stanislaus County's nine regions, the central region ranks fifth for hypertension-related emergency room visits, has the fourth-highest rate of hypertension-related hospitalizations, and ranks fifth for hypertension-related mortality (Stanislaus County Health Services Agency 2013).

The CHA notes that in 2009, 5% of Stanislaus County adults had been diagnosed with heart disease, compared to 5.9% statewide and 12% of adults nationwide. The central region of Stanislaus County, including Riverdale Park Tract, ranks third lowest among the nine regions for heart disease-related emergency room visits, has the fourth-lowest rate of heart disease-related hospitalizations, and has the third-highest rate of heart disease-related mortality (Stanislaus County Health Services Agency 2013).

The CHA indicates that the California Health Interview Survey, on which it relies for some data, has not consistently tracked either the overall prevalence of cancer or the rates of individual types of cancer; data for cancer rates is therefore less current than for other, more closely tracked, conditions. Although the percentage of Stanislaus County adults diagnosed with cancer has increased from 7.4% in 2001 to 8.5% in 2005, it remains lower than the statewide rate. However, at a rate of approximately 21.4% of all deaths annually, cancer is the second most common cause of death in Stanislaus County. The central region of Stanislaus County has the fourth-lowest rate of cancer-related emergency room visits among the county's nine regions ranks fifth for cancer-related hospitalizations, and has the fourth-highest rate of cancer-related mortality (Stanislaus County Health Services Agency 2013).

Diabetes, according to the CHA, affects 8.3% of the United States population and is the seventh leading cause of death nationwide. Within California, from 2001-2007, the percentage of people diagnosed with diabetes increased from 6.2% to 8.5%, a 37% increase. Trends in Stanislaus County are consistent with the statewide increase; in 2009, 7.6% of adults in Stanislaus County had been diagnosed with diabetes. While the prevalence of diabetes was lower in Stanislaus County than California, in 2011, Stanislaus County had higher hospitalization rates than California for four primary indicators of diabetes management, including hospitalization for short-term complications, long-term complications, lower-extremity amputation, and uncontrolled diabetes (Stanislaus County Health Services Agency 2013). Among Stanislaus County's nine regions, the central region ranks fifth for diabetes-related emergency room visits and hospitalizations, and has the fourth-highest rate of diabetes-related mortality (Stanislaus County Health Services Agency 2013).

According to the CHA, in 2009 the percentage of Stanislaus County adults diagnosed with asthma was 21.8%, compared to 13.5% of the adult population statewide. Among the county's nine geographic regions, the central region has the third-highest rate of asthma-related emergency room visits and ranks fifth for asthma-related hospitalizations (Stanislaus County Health Services Agency 2013). Due to the low asthma-related death rate, the CHA does not track or rank asthma-related mortality.

The CHA also uses LEB as a measure of quality of life within Stanislaus County and each of its nine regions. LEB is defined as the number of years a newborn infant is projected to live if mortality patterns at the time of its birth were to remain the same throughout its life. The LEB for Stanislaus

County is calculated to be 77.2 years, 1.7 years less than the nationwide LEB of 78.9. The LEBs within the nine regions range from a high of 80.27 years to a low of 75.01 years; the area encompassing the Riverdale Park Tract DUC has the second-shortest LEB, 77.73 years (Stanislaus County Health Services Agency 2013).

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2.7 Westley

2.7.1 General Characteristics and Demographics

Westley is an unincorporated community located roughly 5.5 miles north of the city of Patterson in western Stanislaus County. At 1,116 acres, the Westley CDP occupies a much larger area than the 107-acre area identified as the Westley DUC, and encompasses approximately 1,000 acres of agricultural lands immediately west and northwest of the DUC. These agricultural lands are identified by the California Department of Conservation's Important Farmlands Inventory as prime farmland (California Department of Conservation 2014). Most of the area immediately north of the DUC is under Williamson Act contract (California Department of Conservation 2012). These agricultural lands do not support the requisite level of existing development for consideration under SB 244 and are unlikely to develop; therefore, they are not included as part of the Westley DUC studied for SB 244 purposes.

The Westley DUC has a population of approximately 603 people in 149 households. In 2013, the median annual household income in California was \$60,190; it was \$24,762 in the Westley DUC (United States Census Bureau 2013a, 2013b). Westley DUC is defined by E Street on the north, State Highway 33 on the east, Howard Road on the south, and roughly encompassing the Westley Migrant Center on the west. In addition to residential uses, Westley features a variety of commercial and public uses, including agricultural packing and shipping operations, commercial uses clustered along and near Highway 33 and the Union Pacific Railroad tracks, as well as a fire station, an elementary school, and a United States Post Office. Westley is surrounded by orchards and agriculture-related structures and is roughly bordered on the east by the Union Pacific Railroad tracks and the Westside Irrigation District (WSID) South Lateral canal. Residential uses in Westley consist of single-family residential units and the Stanislaus County Housing Authority's 88-unit Westley Migrant Center housing complex (Stanislaus County 2012; Stanislaus Local Agency Formation Commission 2014).

The General Plan's Housing Element identifies Westley as a Residential Development Potential Study Area and indicates that it has the capacity to accommodate only one more dwelling unit (Stanislaus County 2012). Existing infrastructure and services for Westley are described below.

2.7.2 Infrastructure, Utilities, and Services

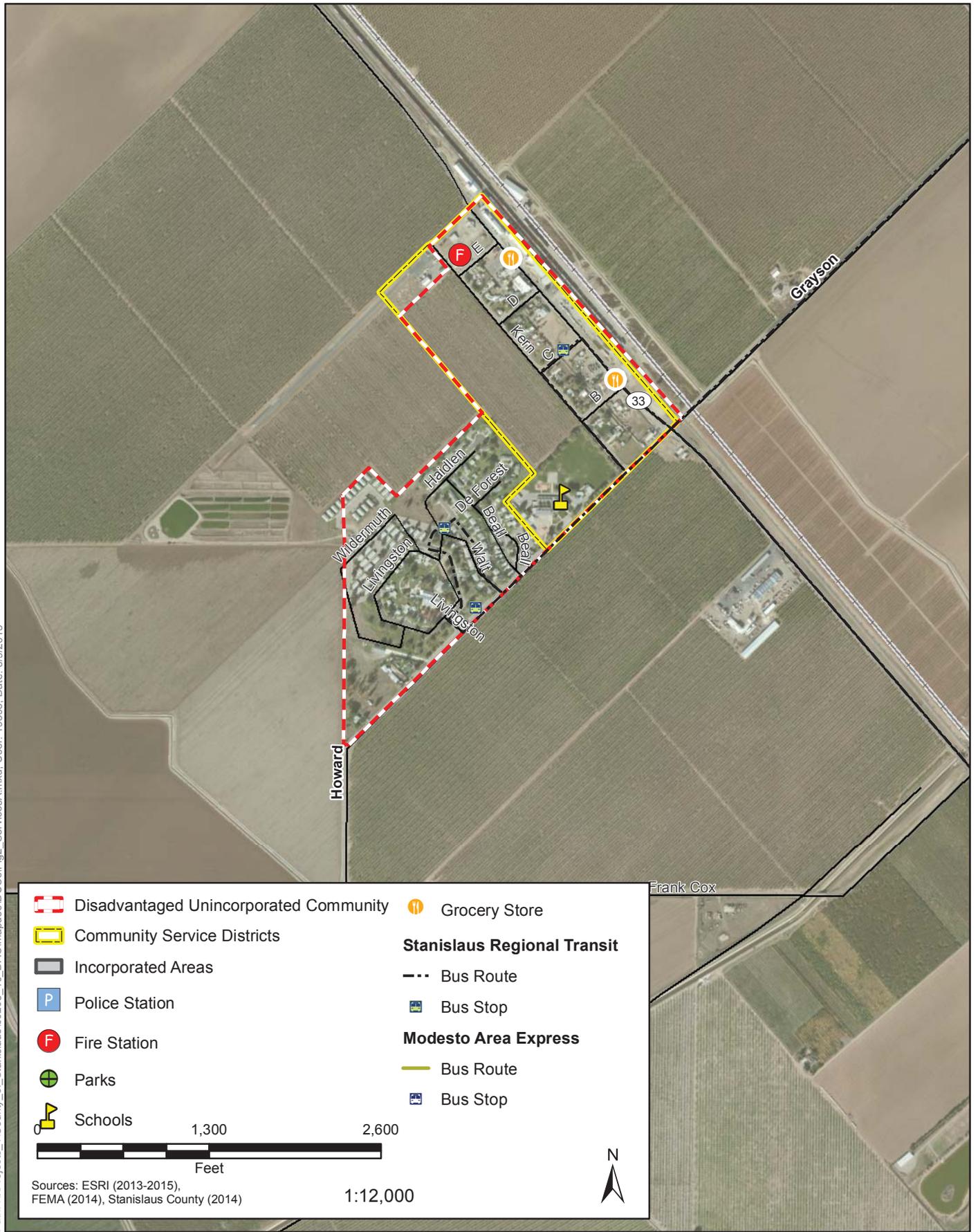
Infrastructure, utilities, and services considered for the Westley DUC are presented in Figure 2-7, *Westley Disadvantaged Unincorporated Community*, and include transportation facilities and services including roads, sidewalks, street lighting, and bus stops/service; water, wastewater, and storm drainage systems; solid waste disposal; public safety services such as law enforcement and fire protection; and access to community amenities and services such as schools, parks, and grocery stores. Data associated with chronic health conditions and air quality are described at a regional level because they are not available specifically for the Westley DUC.

2.7.3 Transportation Facilities and Services

Transportation infrastructure in Westley consists of public highways and roads, railroad tracks, a small private airport, and StaRT bus service. Major north-south highways serving western Stanislaus County include I-5 and Highway 33. Westley lies approximately 3 miles east of I-5. SR 33 and the Union Pacific Railroad tracks run northwest-southeast along the eastern side of Westley. SR 33 is a

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- Disadvantaged Unincorporated Community
- Community Service Districts
- Incorporated Areas
- Police Station
- Fire Station
- Parks
- Schools
- Grocery Store
- Stanislaus Regional Transit**
- Bus Route
- Bus Stop
- Modesto Area Express**
- Bus Route
- Bus Stop

1,300 2,600
 Feet
 Sources: ESRI (2013-2015), FEMA (2014), Stanislaus County (2014) 1:12,000



Figure 2-7
Westley Disadvantaged Unincorporated Community

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two-lane undivided highway through Westley, with a four-way stop at its intersection with Howard Road. SR 33 is designated as a four-lane expressway by the County General Plan (Stanislaus County 2006). Expressways are intended to move high volumes of people and goods between urban areas within the county (Stanislaus County 2006). Howard Road is currently a two-lane major road designated as a four-lane expressway in the County General Plan (Stanislaus Council of Governments 2014; Stanislaus County 2006). All other roads within Westley are two-lane local roadways. No curbs, gutters, or sidewalks are present in the eastern portion of Westley; however, the streets around Grayson Charter School and the Westley Migrant Center feature sidewalks, curbs, gutters, and above-ground drainage ditches. Street lights, provided by the Westley CSD are present at several intersections, primarily along SR 33 and along Howard Road, as well as along the streets of the Westley Migrant Center. The Westley Airport, located along the northern edge of Westley, is a private airport owned by Valley Crop Dusters and used primarily by crop dusting aircraft (Great Circle Mapper 2015).

Fixed-route bus service on StaRT Route 40 connects Westley to Modesto, Grayson, and Patterson (Stanislaus Regional Transit 2014a). StaRT Route 40 provides round trips between Modesto and Patterson; Monday–Friday, there are eight round trips, running approximately every 2 hours from 5:20 a.m. to 9:08 p.m.; on Saturdays, there are five round trips, running every 2 hours and 45 minutes from 8:15 a.m. to 8:12 p.m.; no StaRT buses run on Route 40 on Sundays (Stanislaus Regional Transit 2014b). From the Modesto Downtown Transit Center, passengers can transfer to buses on Route 10 Express to Turlock; Route 15 to Ceres, Keyes, and Turlock; and Route 60 to Riverbank and Oakdale, as well as to the Modesto Amtrak station, the ACE train station in Lathrop, and the Dublin BART station (City of Modesto 2009; Stanislaus Regional Transit 2014c). From the Patterson Transfer Location at Veteran’s Memorial Park, passengers can transfer to buses on Route 45 East, which travels between Patterson and Turlock, and Route 45 West, which connects Patterson to Crows Landing, Newman, and Gustine (Stanislaus Regional Transit 2014c). Westley has three StaRT bus stops, one at C Street and SR 33, one at Howard Road and Livingston Circle, and a third at Griscott Way and Walt Avenue (Stanislaus Regional Transit 2014b).

2.7.4 Water, Wastewater, and Stormwater Drainage Systems

Water and wastewater services in Westley are provided by the Westley CSD and the Stanislaus County Housing Authority. The Stanislaus County Housing Authority operates a wastewater treatment facility that serves the Housing Authority’s Westley Migrant Center complex and provides sewer service to the Westley CSD on a contractual basis (Stanislaus Local Agency Formation Commission 2014). Although the CSD currently meets the needs of its customers, major repairs to the existing sewer lift station and two pumps will be necessary in the near future (Stanislaus Local Agency Formation Commission 2014). Furthermore, the two groundwater wells serving the DUC have both recently required improvements and the wastewater treatment plant is operating at capacity. The Housing Authority also provides municipal water service within the Westley CSD boundaries via two groundwater wells (Stanislaus Local Agency Formation Commission 2014). The CSD’s infrastructure is aging and in need of system-wide improvements (Stanislaus Local Agency Formation Commission 2014). Although streets within the Migrant Center complex have gutters, no gutters are present within the rest of Westley. Drainage in Westley is provided by rock wells in fair condition; no pipelines or detention ponds are present (Stanislaus County 2004).

2.7.5 Solid Waste Disposal

Stanislaus County contracts with four franchised solid waste collection companies, Bertolotti Disposal, Gilton Solid Waste, Modesto Disposal/Waste Management, and Turlock Scavenger, for residential and commercial garbage collection service in the unincorporated area (Stanislaus County 2014a). Westley falls within County-designated Franchise Area 1, served by Bertolotti Disposal (Stanislaus County 2014b). Besides providing solid waste and recyclables collection services to Franchise Area 1, Bertolotti Disposal operates a transfer station, open to the public Mondays through Saturdays, on Flamingo Road in Ceres. Additionally, Stanislaus County's Fink Road Sanitary Landfill, a Class III landfill for nonhazardous municipal solid waste, is operated by the County's Department of Environmental Resources and is open Monday through Saturday to private citizens, school districts, businesses, and local agencies for individual disposal of solid waste (Stanislaus County 2014c).

2.7.6 Law Enforcement and Fire Protection

Law enforcement services for Westley, as for the rest of unincorporated Stanislaus County and four contract cities, are provided by the Stanislaus County Sheriff's Department. The operations division of the Sheriff's Department provides law enforcement services to over 200,000 people in a 1,521-square-mile area (Stanislaus County Sheriff's Department 2014). Two units—patrol and investigations—comprise the Sheriff's Department operations division. The patrol unit responds to calls for assistance, investigates crime, makes arrests, and performs preventive patrol services (Stanislaus County Sheriff's Department 2014). The investigations unit follows up reports of major crimes, collects and prepares evidence for trials, apprehends offenders, and recovers stolen property (Stanislaus County Sheriff's Department 2014).

The nearest sheriff's station to Westley is the main station, approximately 12.5 miles east at 250 East Hackett Road in Ceres. In addition, the Patterson police station, located approximately 6 miles south of Westley in the city of Patterson, is staffed by the Stanislaus County Sheriff's Department, which provides contract police services to Patterson under the title of Patterson Police Services (Stanislaus Local Agency Formation Commission 2013).

The crime rates presented below were compiled by AGS using the primary reporting categories from the FBI 2005 – 2010 Uniform Crime Report databases along with preliminary 2011 release data and census data related to socioeconomic characteristics. The crimes are divided into two main categories, personal crimes (murder, rape, robbery, and assault) and property crimes (burglary, larceny, and motor vehicle theft). These crime rates are based on a comparison of the average local crime rate to the national average for the same crime, with a crime index of 100 considered average; scores above 100 are therefore considered greater, or worse, than average. For example, a score of 130 would represent a crime rate 30% greater than the national average for that type of crime. These crime rates are unweighted (i.e., a murder and a theft carry the same weight for calculation purposes), and are tracked at the census block group level and above, which may not correspond precisely to the DUC boundaries. Census blocks are the smallest geographic area for which the United States Census Bureau collects and tabulates data; a set of these constitutes a census block group. Census blocks vary widely in geographic size, and are generally smaller in urban areas and progressively larger in suburban, rural, or remote areas; a given block group is larger in area and population than the individual census blocks of which it is made, and generally contains between

600 and 3,000 people (United States Census Bureau 1994). The Westley DUC falls within census block group 060990033.001.

Both the overall personal crime and property crime indices for Westley are 168, which means that personal and property crimes occur at a rate 68% higher than the national average. The general and individual crime indices for these categories are shown in Table 2-25 below.

Table 2-25. Westley Crime Indices

Personal Crime		Property Crime	
Personal Crime Index	168	Property Crime Index	168
Murder	86	Burglary	347
Rape	112	Larceny	157
Robbery	60	Motor Vehicle Theft	35
Assault	348		

Source: Applied Geographic Solutions and Atlas Publishing 2012.

The West Stanislaus County FPD provides fire protection, emergency, and rescue services to the community of Westley, as well as to Grayson, Crows Landing, and Diablo Grande (Emergency Services Consulting 2007). The West Stanislaus County FPD's Fire Station No. 3 is located in Westley, at 8598 Kern Street, and houses WSF-Engine 3, WSF-Water Tender 3, and WSF-Rescue 3 (West Stanislaus County Fire Protection District 2014). District-wide, 5 full-time firefighters per shift and 100 volunteers staff the West Stanislaus County FPD; the Westley Station is staffed entirely by volunteer firefighters (Stanislaus Local Agency Formation Commission 2007; West Stanislaus County Fire Protection District 2014).

A fire department's ability to meet the fire protection needs of its service area is typically evaluated by the Insurance Services Office (ISO), a private organization that assesses risks, including fire protection, for insurance purposes. The ISO considers a variety of factors, including a district's fire-fighting apparatus, staffing, training, location, and water supply, to rate fire departments on a scale from 1 (best fire protection possible) to 10 (no fire protection). The ISO rating therefore reflects a fire department's ability to protect the residents and businesses within its service area from fire. The West Stanislaus County FPD carries an ISO rating of 4 (West Stanislaus Fire Protection District 2015).

2.7.7 Schools and Community Amenities

Westley lies within the boundaries of the Patterson Unified School District, which includes a total of 8 schools serving 6,023 students in grades K–12 (Stanislaus County Office of Education 2009; California Department of Education 2014e). One elementary school, Grayson Charter, is located in Westley. Grayson Charter provides a dual-language immersion program in English and Spanish to 262 children in grades K–5 (California Department of Education 2014b). The nearest non-charter elementary school is Northmead Elementary, located approximately 5 miles south in Patterson. Northmead Elementary serves 572 students in grades K–5 (California Department of Education 2014c). The nearest middle school to Westley is Creekside Middle School in Patterson, serving 1,201 students in grades 6–8 (California Department of Education 2014a). The nearest high school to

Westley is Patterson High School, located approximately 6 miles southwest in Patterson and serving 1,690 students in grades 9–12 (California Department of Education 2014d).

No public parks are present in Westley; however, three are located approximately 2 miles east of Westley in the nearby community of Grayson. The three facilities in Grayson include Leroy F. Fitzsimmons Memorial Park, United Community Center and Park, and Laird Regional Park. The 0.5-acre Leroy F. Fitzsimmons Memorial Park has a basketball court, picnic shelter, tables and playground equipment (Stanislaus County n.d.). The 5-acre United Community Center and Park features a 3,165 square-foot community center building, play equipment, an amphitheater lawn area, barbecues and picnic tables, basketball courts, and informal play areas (Stanislaus County n.d.). Laird Park is a 97-acre regional park approximately 2 miles east of Grayson on the San Joaquin River. Laird Park features a baseball/softball field, a soccer field, informal play areas, picnic shelters with picnic tables and barbecues, river access, and an unpaved parking area (Stanislaus County n.d.). No restrooms are available at either Fitzsimmons or Laird Park (Stanislaus County n.d.). The Stanislaus County Department of Parks and Recreation's Community Parks Division operates and maintains these parks. In addition, Grayson Charter School has ball fields and basketball courts. The Westley Migrant Center immediately southwest of the Westley DUC has a community center and age-separated playground equipment.

Westley has two grocery stores, El Mercadito and the Westley Market/El Paisano Supermarket, both on Highway 33. In addition, the One-Stop Market, a small convenience market with gas pumps and a laundromat, is located approximately 2 miles northeast of Westley in the community of Grayson.

2.7.8 Air Quality and Chronic Health Conditions

Stanislaus County is within the northern part of the eight-county SJVAPCD, a regional public health agency responsible for air quality management in those eight counties. SJVAPCD cites several factors that contribute to the valley's air quality challenges, including high rates of chronic poverty and unemployment coupled with a high population growth rate, the presence of major transportation corridors, and topographic features such as the surrounding mountains combined with the area's meteorological conditions (San Joaquin Valley Air Pollution Control District 2014a). SJVAPCD notes that ozone, PM10, and PM2.5 are of special concern, causing or exacerbating a variety of health conditions (San Joaquin Valley Air Pollution Control District 2014a). The presence of PM2.5, primarily a winter condition, triggers heart attacks, asthma, bronchitis, and respiratory infections, and has a strong correlation with hospital admissions and deaths (San Joaquin Valley Air Pollution Control District 2014a).

GHGs are not a criteria air pollutant and do not directly affect human health. GHG emissions are largely the result of combustion, decay and digestive processes, and emissions of industrial gases with high climate change potential. Unlike criteria pollutants such as carbon monoxide, PM10, PM2.5, and ozone, GHGs do not collect within a specific area or air basin. Their harm is done at a global level through the effect of increased concentrations of GHGs in Earth's atmosphere.

Worldwide concern over GHG emissions is based on the climate change that they are causing by altering the way in which Earth's atmosphere traps solar radiation as heat. The adverse effects of global climate change include rising sea levels, changes in habitat conditions for plants and animals, increased potential for wildfires, more severe weather extremes, and a reduction in California's winter snow pack, among others. Through the impetus of AB 32 (California Global Warming

Solutions Act of 2006) and other legislation, California has undertaken a statewide program of reducing GHG emissions to 1990 levels by 2020 in order to slow the rate of global climate change.

Climate change can have an indirect effect on human health in Stanislaus County to the extent that it results in warmer summer temperatures that facilitate ozone formation and exacerbate heat-related stress among outdoor workers, the elderly, small children, and the infirm. The amount of GHGs emitted within the Westley DUC is not atypical for a small community.

SJVAPCD operates 36 air monitoring sites within its eight-county air basin. Of these, two air quality stations, one in Modesto and another in Turlock, monitor air quality within Stanislaus County. At a distance of 13 miles to the northeast, the Modesto monitoring site is the closest to Westley. Table 2-26 shows the SJVAB's current air quality attainment status for state and federal criteria pollutants (San Joaquin Valley Air Pollution Control District 2012).

Table 2-26. San Joaquin Valley Air Basin Air Quality Attainment Status

Pollutant	Designation/Classification	
	Federal Standards	State Standards
Ozone—1-hour	No Federal Standard ^a	Nonattainment/Severe
Ozone—8-hour	Nonattainment/Extreme ^b	Nonattainment
PM 10	Attainment ^c	Nonattainment
PM 2.5	Nonattainment ^d	Nonattainment
Carbon monoxide	Attainment/Unclassified	Attainment/Unclassified
Nitrogen dioxide	Attainment/Unclassified	Attainment
Sulfur dioxide	Attainment/Unclassified	Attainment
Lead (particulate)	No Designation/Classification	Attainment
Hydrogen sulfide	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment
Visibility reducing particles	No Federal Standard	Unclassified
Vinyl chloride	No Federal Standard	Attainment

Source: San Joaquin Valley Air Pollution Control District 2012.

^a Effective June 15, 2005, the U.S. Environmental Protection Agency (EPA) revoked the federal 1-hour ozone standard, including associated designations and classifications. EPA had previously classified the San Joaquin Valley air basin (SJVAB) as extreme nonattainment for this standard. EPA approved the 2004 Extreme Ozone Attainment Demonstration Plan on March 8, 2010 (effective April 7, 2010). Many applicable requirements for extreme 1-hour ozone nonattainment areas continue to apply to the SJVAB.

^b Though the SJVAB was initially classified as serious nonattainment for the 1997 8-hour ozone standard, EPA approved SJVAB reclassification to extreme nonattainment in the Federal Register on May 5, 2010 (effective June 4, 2010).

^c On September 25, 2008, EPA redesignated the SJVAB to attainment for the PM10 National Ambient Air Quality Standard (NAAQS) and approved the PM10 Maintenance Plan.

^d The SJVAB is designated nonattainment for the 1997 PM2.5 NAAQS. EPA designated the SJVAB as nonattainment for the 2006 PM2.5 NAAQS on November 13, 2009 (effective December 14, 2009).

Over the past decade, ozone levels have been trending downward within the SJVAB and, in 2013, for the first time on record, the air basin overall had zero violations of the federal hourly ozone

standard, compared to 281 violations in 1996 (San Joaquin Valley Air Pollution Control District 2014b). At the same time, PM_{2.5} and PM₁₀ levels have fluctuated with no clear upward or downward trend (California Air Resources Board 2015). Table 2-27 presents the number of days in which Stanislaus County ozone, PM_{2.5}, and PM₁₀ levels exceeded state and federal air quality standards in 2013 (California Air Resources Board 2015).

Table 2-27. Stanislaus County Days in Exceedance of State and Federal Air Quality Standards, 2013

Monitoring Site	Ozone			PM 2.5	PM 10
	# Days > State 1-Hr Standard	# Days > National '08 8-Hr Standard	# Days > State 8-Hr Standard	Est Days > National 24-Hr Standard	Est Days > State 24-Hr Standard
Modesto 14th St.	0	2	13	37.6	57.7
Turlock S. Minaret St.	1	14	24	40.3	73.7

Source: California Air Resources Board 2015.

The 2013 CHA, prepared by the Stanislaus County Health Services Agency, presents data about the health and well-being of Stanislaus County residents, including information on the burden of five major chronic diseases—hypertension, heart disease, stroke, diabetes and asthma—and the environmental and behavioral factors that influence their prevalence. Primary environmental factors identified in the CHA as contributing to these chronic health conditions are air quality and retail food environment; behavioral factors include diet, fast food consumption, fruit and vegetable consumption, quality of clinical care, physical activity, obesity, and tobacco use (Stanislaus County Health Services Agency 2013). As measured in 2007, Stanislaus County has the second worst retail food environment in California, with 5.48 fast-food purveyors and convenience stores for every grocery store or produce vendor near residences, compared to 4.48 statewide, and a high rate of fast food consumption in the low income population (Stanislaus County Health Services Agency 2013). The county also has the highest prevalence of obesity in the state (31.5% compared to 21.2% statewide), particularly among males, and a higher percentage of smokers than the California average (Stanislaus County Health Services Agency 2013).

The CHA presents countywide data and also divides Stanislaus County into nine geographic regions, shown in Table 2-28 below. Westley falls within the west side region identified in Table 2-28.

Table 2-28. Community Health Assessment of Stanislaus County Geographic Regions

Region	Communities
Central	Modesto (parts) and outlying areas with ZIP codes 95350, 95355, 95357, and 95358
East Central	Airport Neighborhood and East Modesto (parts) with ZIP code 95354
Southeast Side	Denair, Empire, Hughson, Hickman, La Grange, Waterford with ZIP codes 95316, 95319, 95326, 95323, 95329, and 95386
Northeast Side	Knights Ferry, Valley Home, Oakdale, Riverbank with ZIP codes 95230, 95361, and 95367
North Side	Del Rio, Salida and Modesto (parts) with ZIP codes 95356 and 95368
Southwest Central	West Modesto and South Modesto with ZIP code 95351
West Side	Crows Landing, Grayson, Newman, Patterson, Westley with ZIP codes 95313, 95360, 95363, 95385, and 95387
South Central	Ceres, Keyes with ZIP codes 95307 and 95328
South Side	Turlock with ZIP codes 95380 and 95382

Source: Stanislaus County Health Services Agency 2013:Table 2.

Chronic health conditions of concern within Stanislaus County include hypertension, heart disease, stroke, diabetes and asthma. According to the CHA, the percentage of Stanislaus adults diagnosed with high blood pressure increased 31.2% between 2001 and 2009, and surpassed the percentage of California adults diagnosed with high blood pressure use. As of 2009, approximately 30.7% of Stanislaus County adults were diagnosed with hypertension, compared to 26.2% statewide. Among Stanislaus County's nine regions, the west side, including Westley, has the lowest rate of hypertension-related emergency room visits, ranks fifth for hypertension-related hospitalizations, and has the second-lowest hypertension-related mortality rate (Stanislaus County Health Services Agency 2013).

The CHA notes that in 2009, 5% of Stanislaus County adults had been diagnosed with heart disease, compared to 5.9% statewide and 12% of adults nationwide. Stanislaus County's west side has the second-lowest rate among the nine regions for heart disease-related emergency room visits, the lowest rate of heart disease-related hospitalizations, and the fourth-highest mortality rate among the county's nine regions (Stanislaus County Health Services Agency 2013).

The CHA indicates that the California Health Interview Survey, on which it relies for some data, has not consistently tracked either the overall prevalence of cancer or the rates of individual types of cancer; data for cancer rates is therefore less current than for other, more closely tracked, conditions. Although the percentage of Stanislaus County adults diagnosed with cancer has increased from 7.4% in 2001 to 8.5% in 2005, it remains lower than the statewide rate. However, at a rate of approximately 21.4% of all deaths annually, cancer is the second most common cause of death in Stanislaus County. The west side of Stanislaus County ranks seventh (third-lowest) among the nine regions for cancer-related emergency room visits, has the lowest rate of cancer-related hospitalizations, and has the highest rate of cancer-related mortality (Stanislaus County Health Services Agency 2013).

Diabetes, according to the CHA, affects 8.3% of the United States population and is the seventh leading cause of death nationwide. Within California, from 2001-2007, the percentage of people diagnosed with diabetes increased from 6.2% to 8.5%, a 37% increase. Trends in Stanislaus County

are consistent with the statewide increase; in 2009, 7.6% of adults in Stanislaus County had been diagnosed with diabetes. While the prevalence of diabetes was lower in Stanislaus County than California, in 2011, Stanislaus County had higher hospitalization rates than California for four primary indicators of diabetes management, including hospitalization for short-term complications, long-term complications, lower-extremity amputation, and uncontrolled diabetes (Stanislaus County Health Services Agency 2013). Among Stanislaus County's nine regions, the west side has the lowest rate of diabetes-related emergency room visits, the third-lowest rate of hospitalizations, and the highest rate of diabetes-related mortality (Stanislaus County Health Services Agency 2013).

According to the CHA, in 2009 the percentage of Stanislaus County adults diagnosed with asthma was 21.8%, compared to 13.5% of the adult population statewide. The west side region has Stanislaus County's second-lowest rate of asthma-related emergency room visits and hospitalizations among the nine regions (Stanislaus County Health Services Agency 2013). Due to the low asthma-related death rate, the CHA does not track or rank asthma-related mortality.

The CHA also uses LEB as a measure of quality of life within Stanislaus County and each of its nine regions. LEB is defined as the number of years a newborn infant is projected to live if mortality patterns at the time of its birth were to remain the same throughout its life. The LEB for Stanislaus County is calculated to be 77.2 years, 1.7 years less than the nationwide LEB of 78.9. The LEBs within the nine Stanislaus County regions range from a high of 80.27 years to a low of 75.01 years; the west side region ranks third-highest among these, with a LEB of 79.58 years (Stanislaus County Health Services Agency 2013).

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The following discusses the needs of Stanislaus County's seven DUCs.

3.1 Cowan Tract DUC

The Cowan Tract DUC lacks curbs, gutters, sidewalks, streetlights, and a storm drainage system. Water is supplied through individual private wells and wastewater is disposed through private septic systems. These could be provided by a CSD; however, no such district exists in this DUC. Funding of improvements from benefit assessments or other property-based revenue sources would be problematic in Cowan Tract given its low median income.

3.2 Crows Landing DUC

Most of the Crows Landing DUC lacks curbs, gutters, sidewalks, and streetlights. There is no storm drainage system. Wastewater in Crows Landing is processed through individual private septic systems. The existing water supply system, although in the process of being upgraded, relies on an aging system of pipelines that does not provide adequate water pressure during periods of peak demand. Although the Crows Landing CSD was recently granted up to \$20,000 from the Stanislaus County Community Development Fund to assist in the repair of a corroded well, the CSD has limited financial resources to address existing water supply system deficiencies. Funding of improvements from benefit assessments or other property-based revenue sources would be problematic in Cowan Tract given its low median income.

3.3 Grayson DUC

This DUC has adequate infrastructure and services, with the exception of the water supply system. Specific water supply system deficiencies include the pumping capacity of the two wells and areas of the distribution system in which minimum water pressure could not be maintained. Funding of improvements from benefit assessments or other property-based revenue sources would be problematic in Grayson DUC given its low median income. Further, the City of Modesto applied unsuccessfully, in 2014, to the California Department of Water Resources for an Expedited Drought Grant to implement the needed improvements.

3.4 Keyes DUC

Curbs, gutters, sidewalks, and streetlights are absent in small portions of the Keyes DUC. Areas outside the Keyes CSD, including two mobile home parks, are not served by public water, sewer, or storm drainage systems. Funding of improvements from benefit assessments or other property-based revenue sources would be problematic in the Keyes DUC given its low median income.

3.5 Monterey Park Tract DUC

No sidewalks, curbs, or gutters exist within Monterey Park Tract DUC, and there is no storm drainage system. The Monterey Park Tract CSD provides the DUC with domestic water from two groundwater wells and, due to a history of poor water quality and continuing contamination, is in the process of constructing a new water delivery system that will utilize water from the City of Ceres. Wastewater is disposed through private septic systems. In addition, portions of the DUC are without street lights. Monterey Park Tract lacks public bus service. Funding of improvements from benefit assessments or other property-based revenue sources would be problematic in Monterey Park Tract given its low median income and lack of a CSD.

3.6 Riverdale Park Tract DUC

There are no curbs, gutters, sidewalks, or streetlights in this DUC. The Riverdale Park Tract CSD serves only the northern portion of the Riverdale Park Tract CDP that is within the sphere of influence of the City of Modesto. As a result, the DUC has no CSD and relies on private wells and private septic systems. Further, there is no storm drainage system. Most of the Riverdale Park Tract DUC also lacks public bus service.

At the present time, the nearby Riverdale Park Tract CSD appears to have limited financial resources to operate the domestic water system within its territory. The potential to expand the CSD to cover the DUC is limited in that future funding of improvements from benefit assessments or other property-based revenue sources would be problematic in the Riverdale Park Tract DUC given its low median income.

3.7 Westley DUC

Curbs, gutters, sidewalks, and streetlights are absent in portions of the Westley DUC. There is no storm drainage system. The Westley CSD contracts with the Stanislaus County Housing Authority for water and wastewater services; the Stanislaus County Housing Authority also serves the area outside the Westley CSD. Although the CSD currently meets the needs of its customers, major repairs to the existing sewer lift station and two pumps will be necessary in the near future. Furthermore, the two groundwater wells serving the DUC have both recently required improvements and the wastewater treatment plant is operating at capacity. The CSD's infrastructure is aging and in need of system-wide improvements (Stanislaus Local Agency Formation Commission 2014). Funding of improvements from benefit assessments or other property-based revenue sources would be problematic in the Westley DUC given its low median income.

In general, the Stanislaus County DUCs lack certain community infrastructure, water and sewer service, and access to transit and full-service grocery stores. As described in Chapter 2, Existing Conditions, the Stanislaus County Health Services Agency’s 2013 *Community Health Assessment of Stanislaus County* (CHA) indicates a correlation between poor infrastructure, particularly accessibility, and an unhealthy population. The CHA notes that Stanislaus County has the second worst retail food environment in California, a high rate of fast food consumption in the low income population, the highest prevalence of obesity in the state, and a higher percentage of smokers (Stanislaus County Health Services Agency 2013). The CHA identifies air quality and retail food environment (access to healthy food) as primary environmental factors contributing to several chronic health conditions prevalent in Stanislaus County, including hypertension, heart disease, stroke, diabetes, and asthma (Stanislaus County Health Services Agency 2013).

Infrastructure improvements and other strategies to address these issues will improve conditions within the DUCs over the long term.

The proposed General Plan update includes the following policies and implementation measures as strategies to address DUC deficits.

4.1 Land Use Element

POLICY SIX: Preserve and encourage upgrading of existing unincorporated urban communities. [existing policy]

IMPLEMENTATION MEASURE 1: The County shall support State efforts to reestablish redevelopment tools utilizing tax increment for the purpose of upgrading existing unincorporated communities. [amended measure]

IMPLEMENTATION MEASURE 2: The County will apply for federal and state funds to aid in upgrading existing urban areas. [existing measure]

IMPLEMENTATION MEASURE 4: When feasible, new development shall be designed and built to allow for the upgrading or expansion of services necessary to upgrade existing unincorporated urban communities; however, new development will not be expected to be financially responsible for providing upgrades. [new measure]

IMPLEMENTATION MEASURE 5: The County shall support and assist unincorporated urban communities in their efforts to establish “self-help” programs (such as assessment financing districts) necessary to upgrade their communities. [new measure]

IMPLEMENTATION MEASURE 6: As part of the environmental work the County will review, and if necessary, amend the General Plan to address the infrastructure, housing and public health needs to assist in transforming identified disadvantaged communities into healthy communities. [new measure]

POLICY TWENTY-THREE: Future growth shall not exceed the capabilities/capacity of the provider of services such as sewer, water, public safety, solid waste management, road systems, schools, health care facilities, etc. [existing policy]

IMPLEMENTATION MEASURE 6: Rezoning of property prior to: 1) annexation to a special district; 2) inclusion of such property into a newly formed special district, or community service district shall be approved only if the development is adequately conditioned to restrict development from occurring until annexation to or formation of the required district is complete. [amended policy]

POLICY THIRTY: The County shall support efforts to improve local health care options through the siting of new facilities in locations with the infrastructure (including, but not limited to, transportation and utility) to support both facility and client needs. [new policy]

4.2 Circulation Element

POLICY EIGHT: Promote public transit as a viable transportation source. [Existing policy]

IMPLEMENTATION MEASURE 1: Continue to operate existing transit systems and coordinate with other County transit operators to provide public transit serving Stanislaus County. [amended policy]

IMPLEMENTATION MEASURE 6: Where possible, coordinate public transportation with land use planning, transportation planning, and air quality policies such that transit investments are complementary to land use planning and air quality policies. [new policy]

IMPLEMENTATION MEASURE 9: The County shall encourage infill development of vacant parcels and redevelopment projects that will align with and improve the overall effectiveness of the public transit system. [new policy]

4.3 Additional Policies

Although deficits are identified in Chapter 3, improvements to existing infrastructure are either in process, under the jurisdiction of the appropriate CSDs, or are not viable due to location, funding, and other constraints. In some cases, the locations of DUCs preclude connections to existing municipal water and wastewater services; in nearly all cases, the cost of providing such services to these locations is prohibitive. As identified in the Municipal Service Reviews for the relevant CSAs and CSDs, funding opportunities for infrastructure improvements in the DUCs are limited because of the low assessed values of the properties within the DUCs. The low values would not support sufficient benefit assessments or special taxes to finance the needed improvements and continued maintenance and operation of infrastructure. The existing and proposed amended General Plan policies and implementation measures outlined above adequately address the needs of the identified DUCs to the extent that improvements are viable, and no additional policies or implementation measures are necessary.