

Tulare Six-Lane and Paige Avenue Interchange Improvement

On State Route 99 from Avenue 200 to Prosperity Avenue

06-TUL-99-PM 25.2-30.6

EA 06-48950/Project ID 0614000040

State Clearinghouse Number 2021040498

Recirculated Draft Environmental Impact Report/ Environmental Assessment



Prepared by the
State of California Department of Transportation

The environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 U.S. Code 327 and the Memorandum of Understanding dated May 27, 2022, and executed by the Federal Highway Administration and Caltrans.

August 2023



General Information About This Document

What's in this document:

The California Department of Transportation (Caltrans), as assigned by the Federal Highway Administration, has prepared this Environmental Impact Report/Environmental Assessment, which examines the potential environmental impacts of the alternatives being considered for the proposed project in Tulare County in California. Caltrans is the lead agency under the National Environmental Policy Act (NEPA), and Caltrans is the lead agency under the California Environmental Quality Act (CEQA). The document explains why the project is being proposed, the alternatives being considered for the project, the existing environment that could be affected by the project, the potential impacts of each of the alternatives, and the proposed avoidance, minimization, and/or mitigation measures.

What you should do:

- Please read the document. Additional copies of the document and the related technical studies are available for review at the Caltrans District 6 Office at 1352 West Olive Avenue, Fresno, California 93728, and at the Tulare Public Library, 475 North M Street, Tulare, California 93274.
- Attend the public hearing on August 15, 2023. Please visit the project website on the Caltrans page for more information.
- We'd like to hear what you think. If you have any comments regarding the proposed project, please attend the public hearing, and/or send your written comments to Caltrans by the deadline.
- Submit comments via U.S. mail to: Javier Almaguer, Senior Environmental Scientist, District 6 Environmental Division, California Department of Transportation, 2015 East Shields Avenue, Suite 100, Fresno, California 93726.
- Submit comments via email to: javier.almaguer@dot.ca.gov.
- Submit comments by the deadline: September 22, 2023.

What happens next:

After comments are received from the public and reviewing agencies, Caltrans, as assigned by the Federal Highway Administration, may 1) give environmental approval to the proposed project, 2) do additional environmental studies, or 3) abandon the project. If the project is given environmental approval and funding is appropriated, Caltrans could design and construct all or part of the project.

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For individuals with sensory disabilities, this document can be made available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please write to or call Caltrans, Attention: Javier Almaguer, District 6 Environmental Division, California Department of Transportation, 2015 East Shields Avenue, Suite 100, Fresno, California 93726, 559-287-9320 (Voice), or use the California Relay Service 1-800-735-2929 (Teletype to Voice), 1-800-735-2922 (Voice to Teletype), 1-800-855-3000 (Spanish Teletype to Voice and Voice to Teletype), 1-800-854-7784 (Spanish and English Speech-to-Speech), or 711.

Federal Highway Administration Highway ID Number
State Clearinghouse Number 2021040498
06-TUL-99-PM 25.2-30.6
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Widen State Route 99 from four to six lanes from post miles 25.2 to 30.6 and
rebuild the Paige Avenue Interchange in the City of Tulare in Tulare County

**DRAFT ENVIRONMENTAL IMPACT REPORT
/ENVIRONMENTAL ASSESSMENT
and Section 4(f) Evaluation**

Submitted Pursuant to: (State) Division 13, California Public Resources Code
(Federal) 42 U.S. Code 4332(2)(C)
and 49 U.S. Code 303

THE STATE OF CALIFORNIA
Department of Transportation
and
Responsible Agencies: California Transportation Commission



Diana Gomez
District 6 Director
California Department of Transportation
or Local Agency
NEPA and CEQA Lead Agency

8/4/2023

Date

The following may be contacted for more information about this document:

Javier Almaguer, District 6 Environmental Division, California Department of
Transportation, 2015 East Shields Avenue, Suite 100, Fresno, California
93726; 559-287-9320; javier.almaguer@dot.ca.gov.

Summary

California participated in the “Surface Transportation Project Delivery Pilot Program” (Pilot Program) pursuant to 23 U.S. Code 327, for more than five years, beginning July 1, 2007, and ending September 30, 2012. MAP-21 (Public Law 112-141), signed by President Barack Obama on July 6, 2012, amended 23 U.S. Code 327 to establish a permanent Surface Transportation Project Delivery Program. As a result, Caltrans entered into a Memorandum of Understanding pursuant to 23 U.S. Code 327 (NEPA Assignment Memorandum of Understanding) with the Federal Highway Administration. The NEPA Assignment Memorandum of Understanding became effective October 1, 2012, and was renewed on May 27, 2022, for a term of 10 years. In summary, Caltrans continues to assume Federal Highway Administration responsibilities under NEPA and other federal environmental laws in the same manner as was assigned under the Pilot Program, with minor changes. With NEPA Assignment, the Federal Highway Administration assigned, and Caltrans assumed all of the U.S. Department of Transportation (USDOT) Secretary’s responsibilities under NEPA. This assignment includes projects on the State Highway System and Local Assistance projects off of the State Highway System within the State of California, except for certain categorical exclusions that the Federal Highway Administration assigned to Caltrans under the 23 U.S. Code 326 Categorical Exclusion Assignment Memorandum of Understanding, projects excluded by definition, and specific project exclusions.

The project proposes to widen State Route 99 in the City of Tulare from just south of the Avenue 200 Overcrossing to the Prosperity Avenue Overcrossing (post miles 25.2-30.6). One lane would be built in each direction in the freeway median to create a six-lane freeway. The existing interchange at Paige Avenue would be reconfigured.

The purpose of the project is to relieve traffic congestion along State Route 99 from Avenue 200 to Prosperity Avenue and improve traffic operational deficiencies at the Paige Avenue Interchange.

The environmental studies conducted for the project area include an analysis of a wide range of environmental topics. See Chapter 2, Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures, for a list of the topics studied with broader discussion for topics where potential impacts have been identified. Chapter 3, California Environmental Quality Act Evaluation, contains the California Environmental Quality Act-specific significance determinations and a climate change section.

The environmental process includes coordination with many public agencies having planning or resource-specific jurisdiction within the project area. See Chapter 4, Comments and Coordination, for more information about Caltrans’ outreach efforts. See Chapter 6, Distribution List, for a list of agencies that were sent a copy of the Notice of Preparation for the environmental impact report.

Note: Two changes were made to this project since the Notice of Preparation was circulated to the public on April 19, 2021, for a 30-day comment period.

- The original name of the project, “Tulare City Widening,” was changed to “Tulare Six-Lane and Paige Avenue Interchange Improvement” on August 26, 2022.
- The original project description included the rehabilitation of the existing northbound and southbound lanes. The work will be executed under a separate project called the Tulare City Rehabilitation project which is schedule to be completed in the summer of 2026.

The following table summarizes the potential impacts identified for the proposed a build and No-Build Alternatives.

Summary of Potential Impacts From the Build Alternative and No-Build Alternative

Potential Impact	Build Alternative	No-Build Alternative
Land Use—Consistency with the City of Tulare General Plan	The project would convert three developed parcels from commercial use to transportation use. Two undeveloped parcels that are commercially zoned would be converted to local government.	No land use change
Community Character and Cohesive	The relocation of three businesses would potentially divide the nearby community from these facilities.	No Impact
Parks and Recreational Facilities	During construction, one side of the trail crossing State Route 99 would remain open to the public. The other side would be sectioned off to build the security wall. This project is not expected to “use” those facilities as defined by Section 4(f).	No Impact
Growth	The project would accommodate growth and not influence growth.	No Impact
Relocations and Real Property Acquisition—Business Displacements	Three commercial businesses would be relocated.	No business relocation
Environmental Justice	Would cause disproportionately high and adverse effects on minority or low-income populations for cumulative air quality impact.	No Impact

Potential Impact	Build Alternative	No-Build Alternative
Utilities and Emergency Services	Relocate utilities. Temporary intermittent service during construction.	No Impact
Traffic and Transportation/ Pedestrian and Bicycle Facilities and	Temporary construction impacts to traffic may inconvenience commuters.	No Impact
Vehicle Miles Traveled (VMT)	The project would generate an annual 19,759,200 vehicle miles traveled.	No Impact
Visual/Aesthetics	The project would remove approximately 23,880 linear feet of Oleander, 543 trees, and 7 acres of landscaping.	No improvement plantings
Water Quality and Stormwater Runoff	The project will generate additional stormwater runoff due to the additional pavement being added with additional lanes and interchange improvements.	No Impact
Paleontology	Potential to uncover fossils. A Paleontological Mitigation Plan would be prepared before construction.	No impact to paleontology resources
Hazardous Waste and Materials	Six parcels identified on the Cortese List would require partial or complete acquisitions or would have temporary construction easements.	No remediation of hazardous materials
Air Quality	Not a project of air quality concern. Meets federal and state conformity standards for ambient air emissions in the 2022 Regional Transportation Plan/Sustainable Communities Strategies.	No transportation improvement
Noise and Vibration	Increase in noise due to traffic being closer to sensitive receptors.	No Impact
Energy	Using construction equipment and on-road vehicles would temporarily consume energy during construction.	There would be no energy impacts. Congestion and other transportation inefficiencies are likely to continue and result in an increase in energy consumption.

Potential Impact	Build Alternative	No-Build Alternative
Wetlands and Other Waters	Realigning the Tulare Canal would temporarily impact about 2 acres of the existing canal.	No Impact
Threatened and Endangered Species	The project has the potential to impact the following species: San Joaquin kit fox, Swainson's hawk, and vernal pool fairy shrimp.	No Impact
Cumulative Impact	The project would have a cumulatively considerable impact on the following resources: Air Quality, Environmental Justice and Greenhouse Gas.	No Impact
Climate Change	The project will result in an increase to greenhouse gas emissions.	No Impact

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Chapter 1 Proposed Project

1.1 Introduction

On April 10, 2023, the California Department of Transportation circulated the Draft Environmental Impact Report with three design options for the Paige Avenue Interchange. The design options included a three-roundabout configuration with Paige Avenue Overcrossing Bridge, a four-roundabout configuration with Paige Avenue Overcrossing Bridge, and a four-roundabout configuration with Paige Avenue Undercrossing Bridge. Caltrans decided to drop the three-roundabout configuration from consideration. Refer to the Alternatives Considered but Eliminated From Further Discussion section for the reasoning.

A cumulative impact section was added to the Draft Environmental Impact Report/Environmental Assessment in Chapter 2, and the Existing and Future Land Use, Growth, Air Quality, and Environmental Justice sections were revised to provide to the public and agencies supplemental and clarifying information regarding the project and its potential environmental effects. The Noise and Vibration section was updated to include the consideration of a third soundwall.

The additional information and removal of the design option requires that the Draft Environmental Impact Report/Environmental Assessment be recirculated to the public for comments so that Caltrans can make an informed decision.

The California Department of Transportation, as assigned by the Federal Highway Administration, is the lead agency under the National Environmental Policy Act (NEPA). Caltrans is the lead agency under the California Environmental Quality Act (CEQA).

Caltrans, in cooperation with the Tulare County Association of Governments, proposes to widen State Route 99 in the City of Tulare from just south of the Avenue 200 Overcrossing to just north of the Prosperity Avenue Overcrossing, between post miles 25.2 and 30.6. See Figures 1-1 and 1-2 for the project vicinity and location maps, respectively.

The project is entirely within the City of Tulare in Tulare County. This segment of State Route 99 is classified as a suburban/urban four-lane freeway within the project limits. One lane would be built in each direction in the existing freeway median to create a six-lane freeway, divided by a concrete median barrier for about 5.4 miles. In addition, the existing Paige Avenue Interchange would be rebuilt.

Demand for the facility is increasing due to regional population growth and recent development throughout the city's urban core. The proposed new development in the area would add to the operational deficiencies that currently exist. The project proposes to provide congestion relief along the State Route 99 mainline and improve traffic operations at the Paige Avenue Interchange.

One build alternative and a No-Build Alternative are under consideration. The build alternative has the design options for the Paige Avenue Interchange—a four-roundabout configuration with Paige Avenue Overcrossing Bridge, and a four-roundabout configuration with Paige Avenue Undercrossing Bridge. Each option has a variation of realigning the Tulare Canal or installing box culverts at locations where the highway crosses the canal.

This project is included in the 2022 and 2023 Federal Transportation Improvement Program and is proposed for funding from the 2022 Tulare County Association of Governments' Regional Transportation Plan. The total construction cost of the project is estimated to be \$200 million. Construction is expected to start by the year 2027.

Figure 1-1 Project Vicinity Map

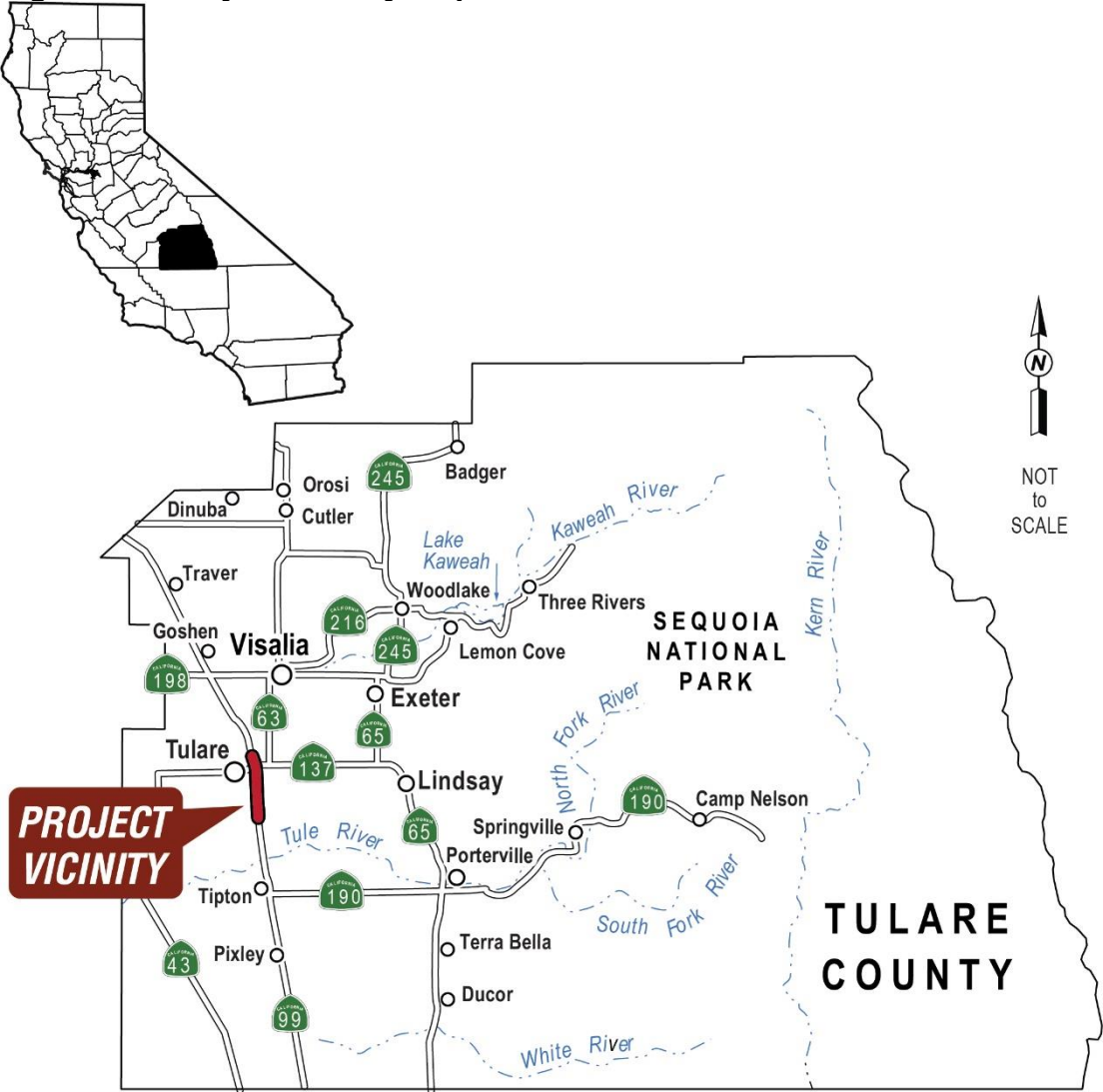
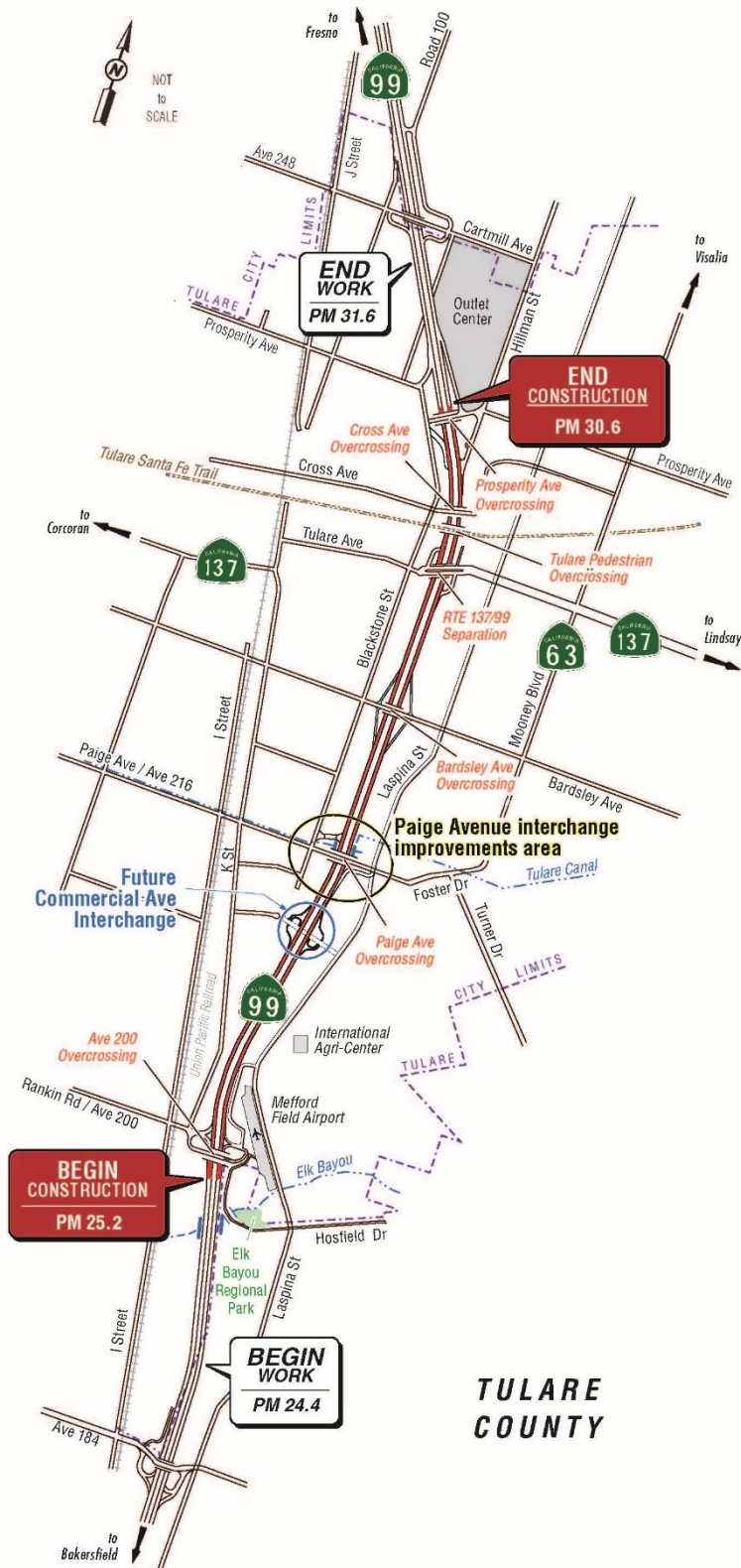


Figure 1-2 Project Location Map



1.2 Purpose and Need

The discussion of the purpose and need for this project provides the reasoning why the project is being considered. The purpose of a project identifies the objectives of the project, and the need describes the key deficiencies of the roadway and the need for the project. The purpose and need form the basis for comparing the proposed alternatives, along with potential environmental impacts, to eventually selecting a preferred alternative to build.

1.2.1 Purpose

- Relieve traffic congestion along State Route 99 from Avenue 200 to Prosperity Avenue; and
- Improve traffic operational deficiencies at the Paige Avenue Interchange; and
- Improve access to local trucking-related facilities and the neighboring industrial area.

1.2.2 Need

Relieve Traffic Congestion

The State Route 99 freeway within the project limits currently operates at acceptable levels of service during peak traffic hours and will continue to do so through the year 2029 without any improvements. However, by 2049, the freeway mainline would have insufficient capacity to accommodate the forecast traffic demand under the No-Build Alternative, and delays would significantly increase.

The existing (2018) level of service for the northbound lanes between post miles 25.4 to 30.6 is Level of Service D; the level of service is C for the southbound lanes. In the year 2029, the level of service would be E for the northbound lanes and D for the southbound lanes. Twenty years later, in the year 2049, the level of service would deteriorate to a level of service F for both the northbound and southbound lanes if the freeway is still only two lanes in each direction (see Table 1.1).

Table 1.1 Level of Service for State Route 99 Within the Project Limits (Post Miles 25.4 to 30.0) No-Build Alternative

Northbound	Existing (2018)	2029	2049
Level of Service	D	E	F
Southbound	Existing (2018)	2029	2049
Level of Service	C	D	F

Caltrans Traffic Operations, 2019.

The existing (2018) average daily traffic within the project limits is about 62,000. In the year 2029, the annual average daily traffic is forecast to be 85,000. Twenty years later, in the year 2049, the average daily traffic is forecast to be 126,000.

Improve Freight Movement

State Route 99 is designated as a Primary Highway Freight System, part of the National Highway Freight Network, from its junction with Interstate 5 in Kern County to Sacramento County. The largest trucks allowed on the interstate system are allowed on this segment of State Route 99.

The 2018 average daily truck traffic is about 15,410 trucks (27.6 percent of all vehicles); more than half of these trucks are large, long-haul trucks (with five or more axles).

When the average number of trucks-per-lane-per-day exceeds 2,000 on a route (the existing condition), congestion is characterized by large, long-haul trucks using all lanes for travel and passing, which creates potential safety and capacity problems for all users of the freeway. This is particularly noticeable within the four-lane segments of State Route 99 in Tulare County and the City of Tulare.

As stated in Caltrans' California Freight Mobility Plan 2020, trucking is the most used mode for California's freight transportation. Trucks transport almost all freight and services during some point within the supply chain. For this reason, the trucking industry is one of California's most valuable freight assets. California must continue to develop, maintain, and operate a safe, efficient, and reliable freight transportation network to accommodate the truck volumes necessary to move freight within the state.

Caltrans' Interregional Transportation Strategic Plan 2015 identified State Route 99 as a priority interregional highway. It is a critical north-south interregional freight corridor and an important highway for California's economy. This corridor serves as a major farm-to-market route for most agricultural products from the Central Valley. Most commercial and personal travel between cities within the San Joaquin Valley use State Route 99. This route also serves as the main access route from towns to urban services available in the larger urbanized areas.

The San Joaquin Valley Interstate 5/State Route 99 Goods Movement Corridor Study, prepared for the San Joaquin Valley Council of Governments in 2016, identified improvements to State Route 99 and Paige Avenue Interchange to achieve strategic goals for mobility and reliability. Among the goods movement projects listed for Tulare County, widening State Route 99 through Tulare is in the California 2014 Freight Mobility Plan. In addition, improving the State Route 99/Paige Avenue Interchange is in the 2014 and 2018 Tulare County Regional Transportation Plan.

Describing regional needs for goods movement system improvements, the Tulare County Association of Governments' Regional Transportation Plan (2018) noted that agriculture accounts for a large percentage of commodity movement and truck traffic within and through Tulare County. Milk and produce are time-sensitive items that need to ship reliably to ensure profitability. Other major types of commercial truck travel in the region include retail distribution, construction, gravel mining, delivery to and from industrial facilities, household goods movement, and gasoline and fuel distribution.

The main goal of the State Route 99 Business Plan (issued in 2005 and updated in 2013) was to improve the goods movement throughout California. Other goals were to expand State Route 99 to a minimum six-lane facility to facilitate economic growth. The plan determined that correcting gaps in flow, or choke points, along this route is needed to improve safety, reduce vehicle hours traveled, increase travel-time reliability for the goods movement and general traffic on the freight mobility system, and preserve acceptable facility operation.

A goal of the Regional Transportation Plan (2018) is to protect and enhance the State Route 99 transportation corridor in Tulare County, including through the City of Tulare, to improve interregional connectivity.

The guiding principles stated in the Transportation Element of the City of Tulare General Plan 2035 (2014) include improving goods movement infrastructure and trade and linking transportation improvements to economic development.

Improve Access to Trucking-Related Facilities and the Industrial Area

Near the Paige Avenue Interchange are several trucking-related businesses, including truck stops and truck washing facilities. A truck stop is typically a large facility that provides fuel, food, supplies, services, and overnight parking for heavy-duty trucks.

The industrial area of the City of Tulare extends west from the freeway, south from Bardsley Avenue, and southwards along State Route 99. The City of Tulare General Plan 2035 indicates a planned shift to more heavy industry in the future.

The City of Tulare and the Tulare County Association of Governments requested that improved access for trucks at the Paige Avenue Interchange be included in this State Transportation Improvement Program-funded project. The City of Tulare General Plan 2035 implementation measures state that the city will coordinate with Caltrans for the design, funding, and construction to improve freeway interchanges.

The existing Paige Avenue Interchange resembles a Type L-6 configuration. The existing southbound hook ramps connect to Blackstone Street in the

northwest corner of the interchange at an intersection about 150 feet north of the Paige Avenue/Blackstone Street Intersection. Each of those intersections has traffic signals. The existing northbound hook ramps connect directly to Paige Avenue in the southeast corner of the interchange. The northbound off-ramp ends with a recently installed stop light at Paige Avenue. Currently, Paige Avenue is two lanes, with turn lanes at the intersections within the project footprint. The queue length of the eastbound approach of Paige Avenue at Laspina Street is longer than the spacing between the intersection and the northbound off-ramp intersection. The shorter spacing can lead to excessive queuing of traffic at the northbound off-ramp, which could extend to the freeway mainline.

Caltrans design guidance states that the Type L-6 configuration should be considered only when all other interchange types are not acceptable. Furthermore, the Type L-6 configuration is typically used when the parallel road system does not allow for another type of interchange and the ramps connect to the parallel roads. The distance between the parallel roads at this location allows for a more preferred interchange configuration that would better accommodate the heavy truck volumes in the area.

Existing Conditions

State Route 99 is functionally classified as a principal arterial in the state of California. It runs in the north and south directions with a high percentage of truck traffic as it accounts for 27.6 percent of all vehicles. Truck traffic routes are those that carry 25 percent of the total traffic, according to the U.S. Department of Transportation's Bureau of Transportation Statistics' website. It is part of the National Highway System as a Strategic Highway Network route under the Federal-aid Surface Transportation Program. State Route 99 is also on the National Truck Network for the Surface Transportation Assistance Act. It is a Primary Highway Freight System, part of the National Highway Freight Network, from its junction with Interstate 5 in Kern County to Sacramento County. The largest trucks allowed on interstate freeways are allowed on this segment of State Route 99.

This segment of State Route 99 is classified as a suburban/urban four-lane freeway and runs north to south within the city of Tulare. The posted speed limit is 70 miles per hour, situated in generally level terrain. The freeway is depressed (below grade), from post mile 28.4 to post mile 28.86, post mile 29.34 to post mile 30.1, and from post mile 30.33 to post mile 30.78. The mainline roadway consists of four 12-foot lanes, 2-to-5-foot inside shoulders, and 8-to-10-foot outside shoulders. A Thrie beam barrier is inside the unpaved median, with the median width varying from 32 feet to 220 feet. There are 19 freeway on- and off-ramps and seven bridges that convey arterial streets over the freeway within the project limits.

Traffic Volumes

Mainline State Route 99

Traffic operations are described by Caltrans in terms of “level of service.” Six levels are defined, ranging from level of service A (the best operating conditions) to level of service F (the worst operating conditions). Caltrans’ goal is to maintain the level of service on its facilities at the transition between level of service C and level of service D. When the actual level of service of a roadway falls below this point, a need for improvement is identified.

For a two-lane highway, the ideal speed, denoted as level of service A, is greater than 55 miles per hour. Level of service B is 50 miles per hour, level of service C is 45 miles per hour, level of service D is 40 miles per hour, level of service E is 35 miles per hour, and level of service F is less than 30 miles per hour.

State Route 99 within the project limits is currently operating at acceptable levels of service during peak traffic hours and will continue to do so through 2029 without any improvements. However, by 2049, the freeway mainline would have insufficient capacity to accommodate the forecast traffic demand under the No-Build Alternative, and delays would significantly increase.

The existing (2018) level of service for the two northbound lanes between post miles 25.2 to 30.6 is D. For the two southbound lanes, the level of service is C. By 2029, the level of service would be E for the northbound lanes, and D for the southbound lanes. By 2049, the level of service would deteriorate to F for both northbound and southbound lanes if the freeway is still only two lanes in each direction (see Table 1.2).

Table 1.2 Level of Service for State Route 99 Within Project Limits No-Build Alternative

Northbound Level of Service Existing (2018)	Northbound Level of Service 2029	Northbound Level of Service 2049	Southbound Level of Service Existing (2018)	Southbound Level of Service 2029	Southbound Level of Service 2049
D	E	F	C	D	F

Caltrans Traffic Operations, 2019.

The existing average daily traffic within the project limits is about 62,000. In the year 2029, the annual average daily traffic is forecast to be 85,000. Twenty years later, in the year 2049, the average daily traffic is forecast to be 126,000.

The 2018 average daily truck traffic is about 15,410 trucks (27.6 percent of all vehicles); more than half of these trucks are large, long-haul trucks (with five or more axles). When the average number of trucks-per-lane-per-day exceeds 2,000 on a route (the existing condition), congestion is characterized

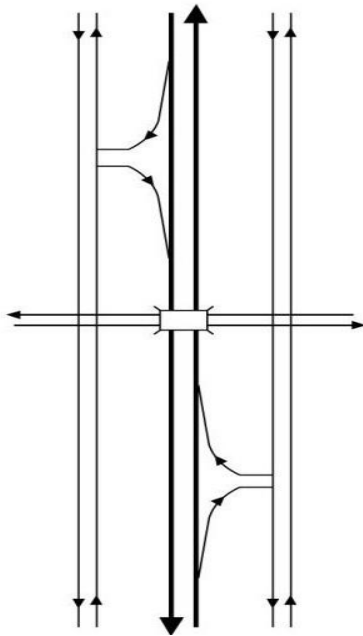
by large, long-haul trucks using all lanes for travel and passing, which creates potential safety and capacity problems for all users of the freeway. This occurrence is common within the four-lane segments of State Route 99 in Tulare County and the City of Tulare.

Paige Avenue Interchange

Improvements to the Paige Avenue Interchange were not included in the proposed alternatives for the Tulare Interchange Project in 2019. The Tulare County Association of Governments requested those improvements be added to this project, explaining the reconstruction of the Paige Avenue Interchange would improve traffic circulation near Commercial Avenue. The Commercial Avenue project, which is officially called the “International Agri-Center Way Interchange,” would be completed in the summer of 2024. In June 2020, the reconstruction of the Paige Avenue Interchange was added to the project scope. The Notice of Preparation was prepared in April 2021, and it included the improvements to Paige Avenue Interchange.

The existing Paige Avenue Interchange is a modification of a Type L-6 configuration, as shown in Figure 1-3. The existing southbound hook ramps connect to Blackstone Street in the northwest corner of the interchange at an intersection about 150 feet north of the Paige Avenue and Blackstone Street intersection. Each of those intersections has traffic signals. This configuration limits southbound freeway access to the west side of State Route 99.

The modification occurs when the existing northbound hook ramps connect directly to Paige Avenue in the southeast corner of the interchange instead of to Laspina Street. The northbound off-ramp ends with a recently installed stop light at Paige Avenue. This configuration limits the northbound freeway access to the east side of State Route 99.

Figure 1-3 Type L-6 Interchange Configuration

Currently, Paige Avenue is two lanes, with turn lanes at the intersections within the project footprint. The spacing between the northbound off-ramp intersection and the Paige Avenue and Laspina Street intersection is too short to have enough storage for eastbound traffic going through the Paige Avenue and Laspina Street intersection. Through traffic lines up on the eastbound lanes at this intersection, causing excessive queuing of traffic beyond the northbound ramp intersection due to the short spacing. Vehicles are unable to turn into the northbound on-ramp and/or are restricted from making turn movements off the northbound off-ramp, which would cause traffic to back up on the mainline. Additionally, this type of configuration causes indirect travel because traffic would use a local road, such as Blackstone, to go southbound onto or off the freeway. This causes wear and tear and puts excessive demand on the local road system, which can't handle the current traffic volume.

A 2018 traffic study concluded that all intersections at the Paige Avenue Interchange operate at an acceptable level of service D or better for the existing condition, except at the intersection of Laspina Street and Paige Avenue, which operates at level of service F during the evening peak hour. The existing signalized intersections would maintain an acceptable level of service in 2027 and 2037 but will fall to level of service E/F in 2047 without improvements to the interchange.

The Type L-6 Interchange configuration is no longer being considered for modern freeway design due to the limitations mentioned, and, according to Caltrans design guidance, this configuration should be considered only when all other interchange types are not acceptable.

Near the Paige Avenue Interchange are numerous trucking-related businesses, including truck stops and truck washing facilities. A truck stop is typically a large facility that provides fuel, food, supplies, services, and overnight parking for heavy-duty trucks. Paige Avenue, Blackstone Street, and Laspina Street from Paige Avenue southwards to the city limits are designated truck routes. There are single- and multi-residential homes on the east side of the interchange, such as the Tulare Inn Mobile Home Park situated on the southeast corner of Laspina Street and Paige Avenue and a residential subdivision just north of Paige Avenue between the highway and Laspina Street.

The City of Tulare is the venue for the World Agricultural Expo that generates a significant number of trips within a short period within the project limits. It is known to be the largest annual outdoor agricultural exposition in the U.S., with over 1,450 exhibitors and 100,000 attendees from about 67 countries every year. Event participants will exit from State Route 99 at the Paige Avenue Interchange to drive south on Laspina Street, where the expo complex is located. This puts an additional burden on a traffic network that experiences high traffic volume daily, causing unusual queuing and congestion.

Because the City of Tulare General Plan 2035 indicates a planned shift to more heavy industry in the future, the City of Tulare and the Tulare County Association of Governments requested improved access for trucks at the Paige Avenue Interchange and a new interchange at the Commercial Avenue alignment at State Route 99. The City of Tulare General Plan 2035 implementation measures state that the city will coordinate with Caltrans for the design, funding, and construction to improve freeway interchanges.

Bicycle and Pedestrian Traffic

Bicycle access is prohibited on mainline State Route 99 within the project limits because the freeway is a controlled-access facility. A controlled-access highway is designed for high-speed traffic with an unhindered flow of traffic, no traffic signals, intersections, or property access. They are free of any at-grade crossings with other roads, railways, or pedestrian paths, which are instead carried by overpasses and underpasses across the highway. On Paige Avenue, there are no sidewalks or bicycle lanes.

The Santa Fe Trail is the only shared-use trail within the project area that allows pedestrian and bicycle traffic. This 5-mile, lighted trail begins on the east approach at West Inyo Avenue, crosses State Route 99 just south of East Cross Avenue, and ends at Prosperity Avenue. Amenities include benches, water fountains, a pedestrian/bicycle trail, a horse trail, and nearby parks that the trail runs alongside.

Logical Termini and Independent Utility

Federal Highway Administration regulations (23 Code of Federal Regulations 771.111 [f]) require that the action evaluated:

- Connect logical termini and be of sufficient length to address environmental matters on a broad scope.
- Have independent utility or independent significance (be usable and be a reasonable expenditure, even if no additional transportation improvements in the area are made).
- Not restrict consideration of alternatives for other reasonably foreseeable transportation improvements.

The project has logical termini and is of sufficient length to address the deficiencies identified along the mainline freeway segment and at the interchanges. The environmental scope of the environmental review is sufficient to address all potential impacts of this project on the environment. Traffic data show the demand for increased capacity and operational deficiencies to occur within the post mile limits of the project. The northern limits of this project at post mile 30.6 are reasonable because they will tie into the Tagus 6-Lane Widening Project. The project is a four-lane to six-lane widening of State Route 99 between post miles 30.6 and 35.2 that began construction in 2021 and is expected to open to traffic in 2023.

The southern limit is beyond the southernmost interchange (Avenue 200 Interchange) of the Tulare City urban area. The southern limit occurs near the city limits boundary at the urban fringe, where the land use transitions to a rural setting. Beginning the project limits just south of Avenue 200 is a logical point because it is the last urban interchange as traffic moves southbound and is the first urban interchange as traffic enters the city in the northbound direction.

Approximately 25 miles of State Route 99 between Tulare and Pixley are four lanes. The Delano to Pixley 6-Lane widening project proposes to add two lanes in the 13-mile segment. The Delano to Pixley 6-Lane widening project is currently in the environmental review and project approval process. This will leave a 12-mile gap of four lanes between the two projects. Currently, there are no active project within this 12-mile gap, however, Caltrans is working on a comprehensive multimodal corridor plan for State Route 99 through the entire San Joaquin Valley. The corridor plan will be consistent with the Caltrans corridor planning guidebook and current Caltrans policies and priorities.

The project has independent utility and is a reasonable expenditure as the improvements address the identified deficiencies, even if no other transportation improvements are made. There are no additional projects needed to address the identified deficiencies at the interchanges.

The project would not restrict the consideration of alternatives for reasonably foreseeable transportation improvements. The Tulare County Association of Governments is working in partnership with Caltrans, local jurisdictions, and the private sector to identify transportation corridors and projects that will provide a multimodal system for Tulare County.

The project design has been developed to consider other reasonably foreseeable projects and does not conflict with or constrain the design of these other projects. Through regular coordination with Tulare County and the City of Tulare, this project includes design features that demonstrate consideration of these other plans.

1.3 Project Description

This section describes the proposed action and the project alternatives developed to meet the purpose and need of the project while avoiding or minimizing potential environmental impacts. The project proposes one build alternative, with two design options at the Paige Avenue Interchange, and a No-Build Alternative.

The California Department of Transportation (Caltrans) proposes to widen State Route 99 in the City of Tulare from just south of the Avenue 200 Overcrossing to just north of the Prosperity Avenue Overcrossing between post miles 25.2 and 30.6. One lane would be built in each direction in the existing freeway median to create a six-lane freeway divided by a concrete median barrier.

The Paige Avenue Interchange would be rebuilt into a tight diamond interchange. The existing on- and off-ramps would be removed and replaced with new ramps that would lead to and from two multilane roundabouts. An additional roundabout would be added on Paige Avenue at Blackstone Street and another at Laspina Street. The Paige Avenue Overcrossing would be replaced with a wider structure to add two additional lanes (one lane in each direction) and a pedestrian/bicycle shared path.

The purpose of the project is to relieve traffic congestion along State Route 99 from Avenue 200 to Prosperity Avenue and improve traffic operational deficiencies at the Paige Avenue Interchange. These improvements will accommodate truck freight movement in the industrial area of the City of Tulare.

1.4 Project Alternatives

The project proposes one build alternative, with two design options at the Paige Avenue Interchange and a No-Build Alternative.

This project contains a number of standardized project measures that are used on most, if not all, Caltrans projects and were not developed in response to any specific environmental impact resulting from the proposed project. These measures are addressed in more detail in the Environmental Consequences sections found in Chapter 2.

1.4.1 Build Alternatives

The project proposes to widen the existing four-lane freeway to a six-lane freeway by building one lane in each direction in the existing median of State Route 99. It would also reconfigure the Paige Avenue Interchange, replace the existing overcrossing, and add roundabouts on Paige Avenue. Preliminary design layouts are shown in Figures 1-4 through 1-10.

The project is currently scheduled to begin construction in 2027 and would open to the public in 2030. The project would be split into two phases, the mainline widening and the interchange improvements at Paige Avenue. The mainline construction is expected to be completed in three stages. The first stage would shift the northbound and southbound traffic toward outside shoulders and build inside lanes and a median barrier. The second stage would shift traffic on the newly constructed inside lanes and construct southbound lanes. The third stage would shift southbound traffic back to the newly constructed southbound lanes. The same process would be repeated for the northbound lanes.

The project would take 400 working days to complete, including approximately 150 nights of construction work. Activities would include resurfacing outside shoulders under temporary lane closures, constructing a cross-median detour, and setting up K-rail (temporary concrete barriers).

Two lanes for the northbound and southbound directions would remain open during the mainline construction work. One lane would be closed periodically during nighttime hours between different stages of construction work. Temporary freeway closure would be required for the construction of the Paige Avenue Bridge. Alternate ramps would be closed for a period of two to four weeks for ramp construction work. Construction of the Paige Avenue Interchange and the roundabout would require the closure of the existing Paige Avenue between Blackstone Street and Laspina Street for approximately nine months. The proposed detour would be through the new Commercial Avenue Interchange, which would be constructed between Paige Avenue and Avenue 200 and would be open to traffic by the time the Tulare Six-Lane with Paige Avenue Interchange Improvement project is in construction.

State Route 99 Mainline

All design options include widening the State Route 99 mainline from four lanes to six lanes. Oleander shrubs and the existing three beam median

barrier would be removed and replaced with a concrete barrier Type 60. The 12-foot-wide additional lane and 8-foot-wide inside shoulder would be constructed with hot-mix asphalt concrete pavement in both directions.

Three locations that are depressed (below grade) where the side slope would be cut back by 2 to 15 feet to allow for the widening are between these post miles: 28.4 and 28.86, 29.34 to 30.1, and 30.33 and 30.78. The side slope would not be cut back under the Bardsley Avenue Overcrossing, Tulare Avenue Overcrossing, and Prosperity Avenue Overcrossing. Existing concrete paved side slopes would be removed due to freeway widening and profile correction. New concrete paved side slopes would be constructed in the same locations. At-grade locations where side slopes would be cut are as follows:

- Avenue 200 Overcrossing (Bridge Number 46-193) at post mile 25.43 by about 2 feet per side (no structural work would be involved).
- Tulare Pedestrian Overcrossing (Bridge Number 46-040) at post mile 29.848 by about 5.5 feet per side.
- Cross Avenue Overcrossing (Bridge Number 46-249) at post mile 29.893 by about 5.5 feet per side.

The nonstandard curve of southbound lanes west of the Mefford Field Airport would be corrected to align with the northbound lanes. The existing southbound lanes would be demolished, and three new lanes would be constructed parallel to the northbound lanes for about 0.75 mile north of the Avenue 200 Overcrossing, between post miles 25.62 and 26.35.

All existing guardrails would be replaced with Midwest Guardrail System components to meet current safety standards. All existing roadway signs would be replaced with retroreflective sheeting Type XI signs to meet current safety standards. The existing lighting within the project limits would be upgraded.

New Intelligent Transportation System elements, such as a changeable message sign and two vehicle detection systems, would be installed. The existing Intelligent Transportation System components that would be removed and replaced include a closed-circuit television, 19 traffic census systems, and two traffic census systems/vehicle detection stations.

Ramps

The pavement of existing freeway ramps would be rehabilitated to achieve a minimum design life of 20 years. Ramp metering would be added at these interchanges—Paige Avenue (northbound and southbound on-ramps), Bardsley Avenue (northbound and southbound on-ramps), and Tulare Avenue (northbound on-ramps).

Auxiliary lanes would be constructed at the end of the following on-ramps to improve merging with freeway traffic:

- Bardsley Avenue southbound and northbound on-ramps (350-foot-long lanes).
- Tulare Avenue northbound on-ramp (500-foot-long lane).
- Merritt Avenue southbound on-ramp (500-foot-long lane).
- Paige Avenue northbound and southbound on-ramps (300-foot-long lanes).

Figure 1-6 Design Layout 3 (Paige Avenue Interchange): Option 1 Four Roundabout Configuration with Paige Avenue Overcrossing Bridge

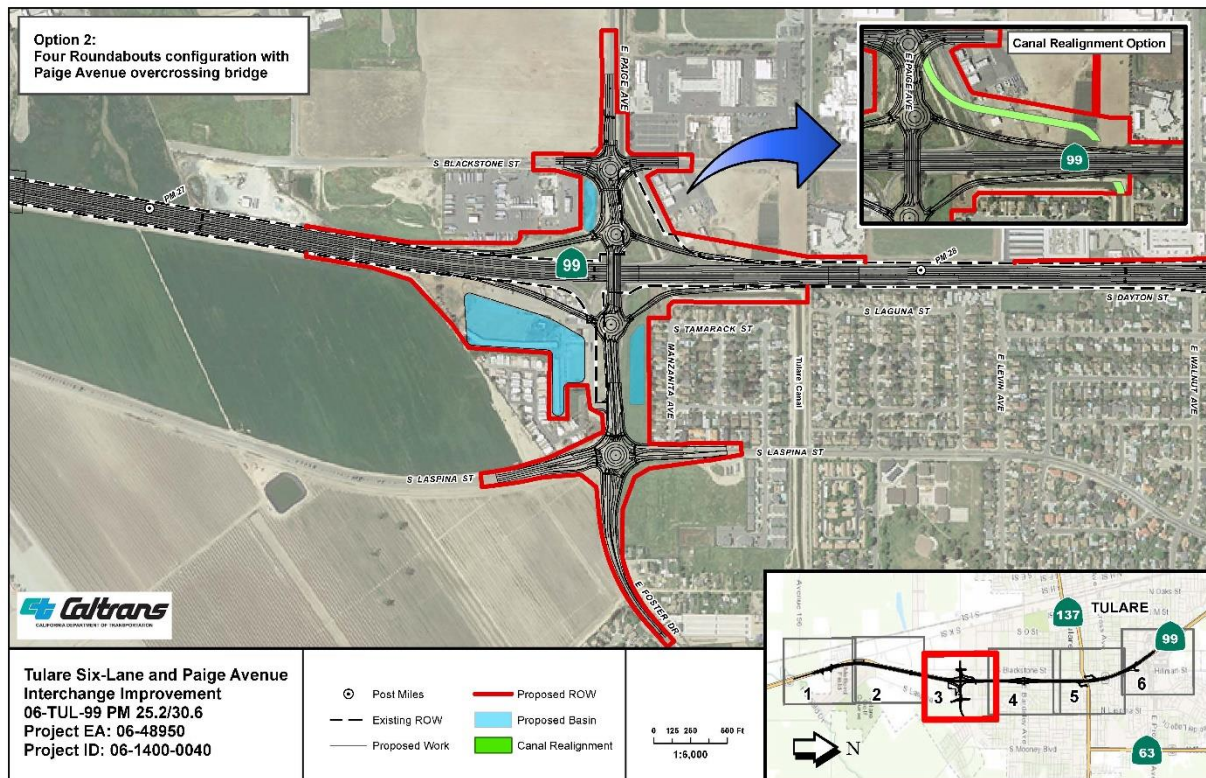


Figure 1-7 Design Layout 4 (Paige Avenue Interchange): Option 2 Four Roundabout Configuration with Paige Avenue Undercrossing Bridge

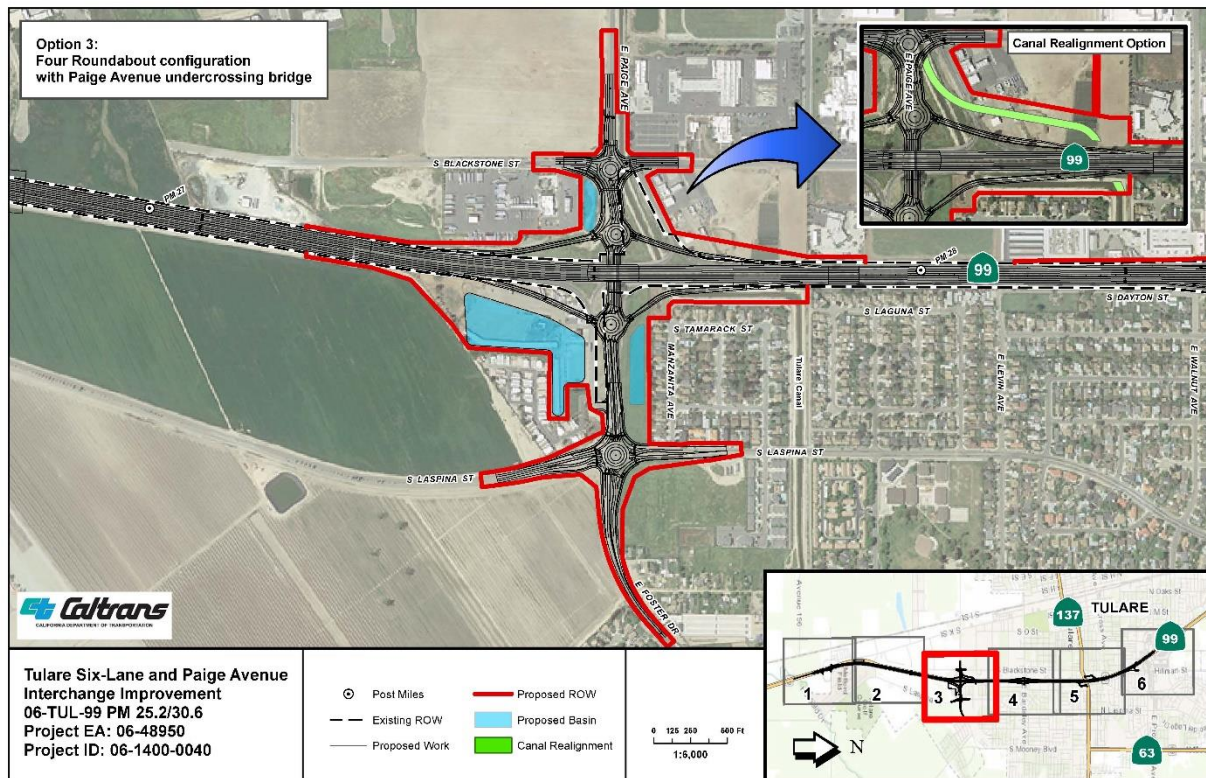


Figure 1-8 Design Layout 5: Bardsley Segment

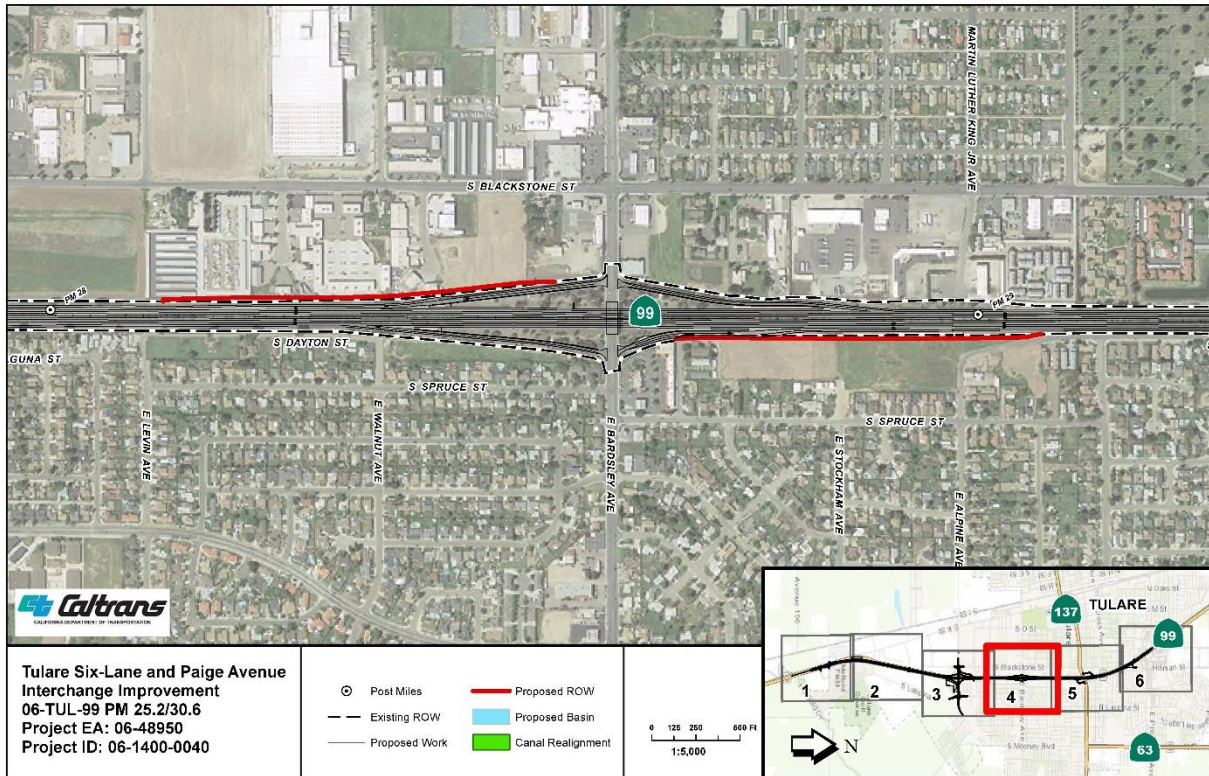


Figure 1-9 Design Layout 6: Tulare Avenue Segment

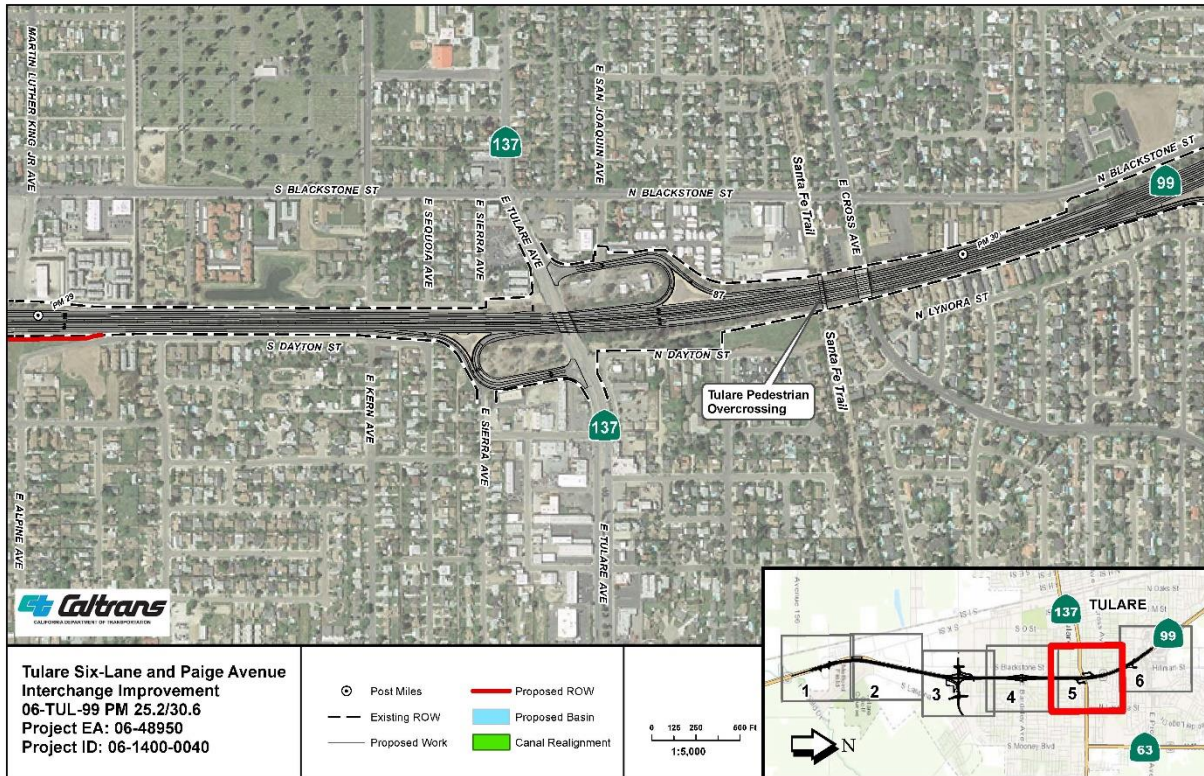
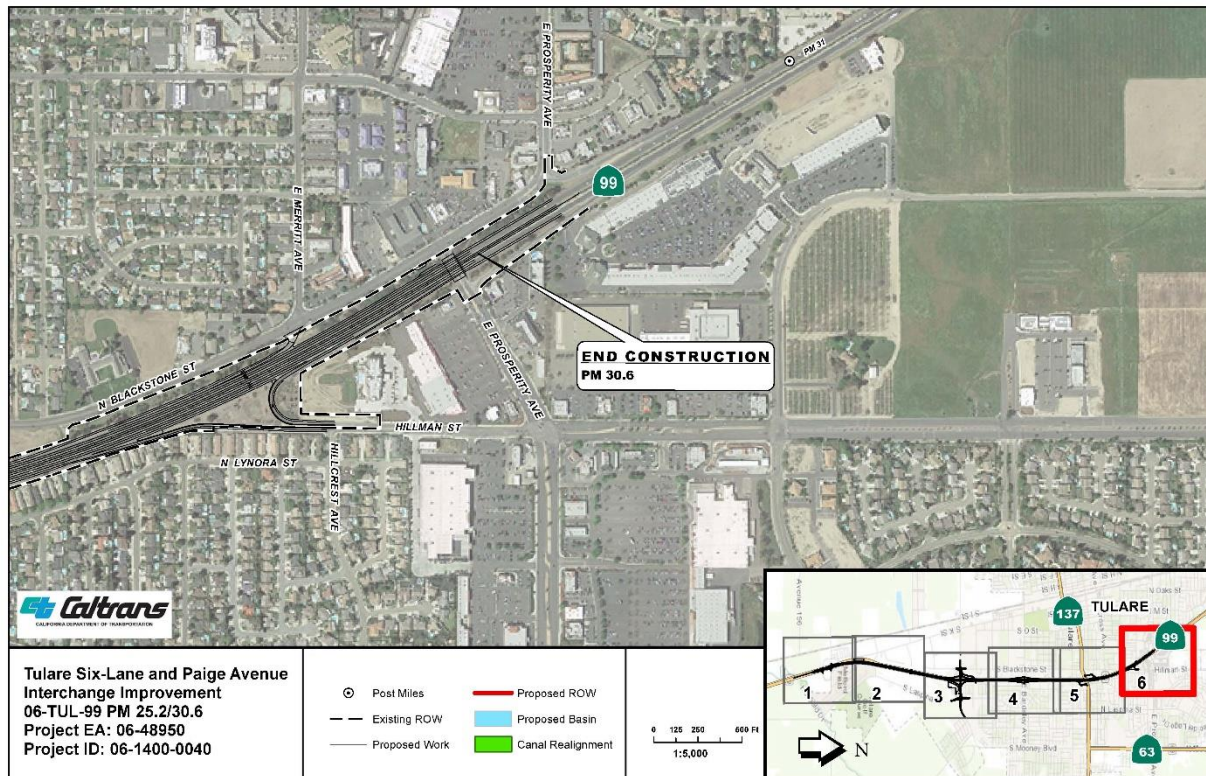


Figure 1-10 Design Layout 7: End Construction Segment



A second lane would be added to the northbound and southbound Bardsley Avenue and northbound Tulare Avenue on-ramps. The existing retaining wall would be removed, and a new retaining wall about 550 feet long would be constructed about 15 feet behind the existing wall for the Bardsley Avenue northbound on-ramp lane addition.

On-ramp improvements at Bardsley Avenue would require right-of-way acquisition from nearby properties. Widening the Bardsley Avenue northbound on-ramp would affect the existing and future extension of South Dayton Street by shortening it.

Temporary construction easements and permanent underground easements would also be needed under the shopping center that is next to the northbound Bardsley Avenue on-ramp and the paved South Dayton Street area if a soil nail type retaining wall is constructed along the on-ramp.

Soundwalls/Security Fencing

Three soundwalls are proposed. The first soundwall would run along the west (southbound) side of the freeway, inside Caltrans' right-of-way between Kern and Sierra Avenues. The second soundwall would be within Caltrans' right-of-way next to the Tulare Mobile Home Park. The third soundwall is located along the outside shoulder of the northbound onramp from Paige Avenue.

Eight-foot-high security fencing would be installed inside Caltrans' right-of-way. On the west side of the freeway, the fencing would extend from the north end of the proposed soundwall by the Tulare Mobile Home Park to the Tulare Pedestrian Overcrossing, between the pedestrian overcrossing and Cross Avenue Overcrossing, and northwards from Cross Avenue for 400 feet.

On the east side of the freeway, from the Tulare Avenue Overcrossing, a fence would be constructed to include the existing Caltrans basin, extending northwards along Caltrans' right-of-way to the Tulare Pedestrian Overcrossing. Short segments of the fence at the northeast corner of this overcrossing and at the Cross Avenue Overcrossing would connect to existing privately owned concrete block walls.

The types of walls or fencing under consideration are either concrete panel walls or concrete block walls similar to a soundwall. At the request of the Tulare City Parks Division, wrought iron fences are proposed at the connection points to the Tulare Pedestrian Overcrossing.

Drainage Improvements

Five drainage basins are proposed to be constructed, as shown in Figures 1-4 through 1-8. Existing metal and nonreinforced culverts (about 30), overside drains, and asphalt dikes would be replaced with new drainage systems.

New drainage ditches would be constructed in the areas where the side slopes of the freeway would be cut back and where the freeway is not depressed. Approximate locations are from post miles 25.74 to 26.53, post miles 27.16 to 27.27, post miles 27.85 to 28.31, post miles 28.9 to 29.38, and post miles 30.06 to 30.38 (southbound side only). Drainage ditches would be sized to accept the increased impervious surface area of the new lanes and shoulders.

The existing stormwater storage tanks for the Bardsley Avenue, Tulare Avenue, and Prosperity Avenue pumping stations would be replaced, or the existing tank capacity would be increased to handle the additional stormwater flow due to freeway and on-ramp widening. Three maintenance vehicle pullouts for access to the pumping stations would be constructed along the side of the freeway adjacent to the existing pumping stations, requiring the construction of retaining walls. One additional maintenance vehicle pullout for access would be constructed off Blackstone Street near the Prosperity Avenue pumping plant.

The Caltrans right-of-way fence at the southwest corner of the Tulare Avenue Interchange (across from the end of the southbound on- and off-ramps) would be set back to the state right-of-way line; this would provide maintenance access to the Tulare Avenue pumping plant from Sierra Avenue.

Paige Avenue Interchange

The Paige Avenue Interchange would be reconstructed into a tight diamond interchange configuration. The existing on- and off-ramps would be removed and replaced with new ramps that would lead to and from two multilane roundabouts. An additional roundabout would be added on Paige Avenue at Blackstone Street and another at Laspina Street. The existing signals along Paige Avenue at Blackstone Street, Laspina Street, and at the northbound ramps would be removed. The Paige Avenue Overcrossing would be replaced with a wider structure to add two additional lanes (one lane in each direction) and a pedestrian/bicycle shared path.

Two design options are proposed for Paige Avenue Interchange. Option 1 is a four-roundabout configuration with Paige Avenue Overcrossing Bridge. Option 2 is a four-roundabout configuration with Paige Avenue Undercrossing Bridge. Each option has a variation of realigning the Tulare Canal or installing box culverts at locations where the highway crosses the canal. See Figures 1-4 through 1-9 for preliminary design options.

Common Design Features of Paige Avenue Roundabout Design Options

All freeway ramps connecting to roundabouts would have two lanes and would include maintenance vehicle pullouts. The on-ramps would have ramp metering, California Highway Patrol pullouts, and 300-foot-long auxiliary lanes for merging.

Construction of the southbound off-ramp and the northbound on-ramp and off-ramp would require the full acquisition of three businesses and one vacant lot. In addition, slivers of land would need to be acquired from about 28 parcels (see Section 2.1.5 Relocations and Real Property Acquisition).

Paige Avenue Improvements

Paige Avenue would be widened from two to four lanes from the west approach to the Blackstone Street roundabout to the Laspina Street roundabout. A Southern California Edison electric power line that runs along the north side of Paige Avenue would be relocated.

At the Blackstone Street roundabout, street access to and from adjacent businesses would be limited to right-in, right-out turns only. The existing southbound on-ramp and off-ramp would end at a cul-de-sac just past the south entrance to the Mobil gas station. A 6-foot-high retaining wall would be constructed at the southwest side of the Blackstone Street roundabout.

At the Laspina Street roundabout, the existing northbound on-ramp and off-ramp would be converted into a cul-de-sac at the entrance to Tulare Inn Mobile Home Park. Access to and from Paige Avenue from the Tulare Inn Mobile Home Park would be changed to right-in, right-out turns only. Vehicles that are traveling westbound must pass the mobile home park and turn around at the Paige Avenue/State Route 99 roundabout to make a right turn into the entrance of the mobile home park. Access to and from Manzanita Street to Laspina Street would also become right-in, right-out only. The existing signal on Paige Avenue, just west of Laspina Street, would be removed.

Blackstone Street and Laspina Street Roundabouts

Both roundabouts would be multilane with a raised central island bordered by a truck apron. The circulating outside and inside lane widths would be 20 feet and 18 feet, respectively.

Ten-foot-wide paved paths for shared pedestrian and bicycle use would go around each roundabout and extend east and west along Paige Avenue. Americans with Disabilities Act-compliant curb ramps would be part of the design. A 5-foot-wide landscaped buffer would separate the paths from the roadway in the roundabouts and along approaching and departing lanes on Paige Avenue, Blackstone Street, and Laspina Street.

These two roundabouts would have bypass lanes but would be configured differently. Traffic going from northbound Blackstone Street to southbound State Route 99 would have a bypass lane connecting directly to the southbound on-ramp. Similarly, traffic coming from the southbound off-ramp heading to northbound Blackstone Street would have a bypass lane to skip the roundabout. On the south and north sides of the Blackstone Street

roundabout, the existing street would be split into two lanes in each direction, with a center turning lane for a length of about 300 feet.

At the Laspina Street roundabout, right-turning traffic would have bypass lanes. Two lanes in each direction would extend from the roundabout for about 1,000 feet along Laspina Street and eastward on Paige Avenue before tapering back to the existing lane configuration.

Caltrans has been coordinating with the Tulare Irrigation District to mitigate impacts to the Tulare Main Canal resulting from the Paige Avenue Interchange reconstruction. Two variations are proposed to resolve this conflict for all design options.

Variation 1 would realign the canal to the west side of State Route 99. A new reinforced concrete box culvert would be constructed under the freeway, paralleling the new southbound off-ramp until joining the existing canal at the box culvert under Blackstone Street. A 25-foot-wide maintenance access path to the realigned canal segment would be acquired, running east from Blackstone Street. The existing canal segment that runs north to south between the northbound freeway lanes and Tamarack Street, under the freeway, and west to Blackstone Street, would be removed.

Variation 2 would keep the canal in the same alignment by routing the flow of water through a 1,900-foot-long box culvert segment. The box culvert segment would begin where the canal turns south adjacent to the State Route 99 freeway, then turns southwest to cross under the freeway, and would end after crossing under Blackstone Street.

Unique Features of Paige Avenue Roundabout Design Options

Options 1 and 2 are under consideration for ramp intersections, and one will be finalized based on public comment. The environmental impacts are the same for options 1 and 2. A decision is expected after the circulation of the draft environmental document and will be detailed in the final environmental document.

Option 1—Four Roundabouts Configuration With Paige Avenue Overcrossing Bridge

With Option 1, the ramps would begin at two separate circular roundabouts built on the east side and west side of the State Route 99 freeway. The roundabouts will be multilane, with widths of the circulating outside and inside lanes measuring 20 feet and 18 feet, respectively. The inside and outside shoulders would be 4 feet wide and 8 feet wide, respectively. The bridge rail proposed is a California ST-75 type bridge rail, which would increase the sight distance and visibility of traffic driving through the roundabout. With this option, 10-foot-wide paved paths for shared pedestrian and bicycle use would go around each roundabout and extend east and west along Paige Avenue.

Americans with Disabilities Act-compliant curb ramps would be part of the design. The Paige Avenue Overcrossing structure will be a bridge on a straight-line alignment.

These two roundabouts would be connected by a single four-lane bridge on Paige Avenue crossing over the freeway. The existing structure would be demolished and replaced with a 98-foot-wide, 224-foot-long bridge. The overcrossing would have a 6-foot-wide raised median, 2-foot-wide inside shoulders, two 12-foot-wide lanes in each direction, and 2-foot-wide outside shoulders. A 2-foot-wide concrete barrier would separate vehicular traffic from 10-foot-wide shared-use paths for pedestrians and bicycles.

Option 2—Four Roundabout Configuration With Paige Avenue Undercrossing Bridge

With Option 2, Paige Avenue would cross under State Route 99 and State Route 99 would pass over Paige Avenue on a new constructed bridge. A newly formed embankment on State Route 99 would raise the profile of the freeway to the new bridge structure. The four-roundabout configuration would be similar to option 1, except that the two roundabouts adjacent to the State Route 99 bridge would be located on ground level instead of on embankments.

Ten-foot-wide paved paths for shared pedestrian and bicycle use would go around each roundabout and extend east and west along Paige Avenue. Americans with Disabilities Act-compliant curb ramps would be part of the design. The benefits of this option would have the pedestrian and bicycle facilities crossing State Route 99 on ground level and lower levels of emissions for vehicles using the interchange ramps. The option would have a smaller project footprint compared to option 1.

Reversible Lanes

Reversible freeway lanes were not considered as an alternative for this project because there is not enough of a difference in traffic volumes between the northbound and southbound directions during peak traffic hours to warrant a traffic operations analysis.

1.4.2 No-Build (No-Action) Alternative

There are no proposed improvements in the No-Build Alternative because the existing facility will remain unchanged. Current conditions will persist and worsen if no improvements are made in the future. This will result in an unsatisfactory level of service on the State Route 99 mainline beyond 2027. Without improvements, traffic operations and circulation at the Paige Avenue Interchange will worsen as traffic volumes increase in the future. The No-Build Alternative will not satisfy the purpose and need of the project.

1.4.3 Comparison of Alternatives

When alternatives are evaluated, the purpose and need of the project and the locations where environmental impacts could occur need to be considered.

The build alternative for the State Route 99 mainline would satisfy the purpose of the project because it would improve traffic flow, address current and future traffic operational needs, and alleviate congestion. The two design options proposed for the Paige Avenue Interchange would have the same environmental impacts. The first option would build a Paige Avenue Overcrossing Bridge with four roundabouts on Paige Avenue. The second option would elevate State Route 99 over Paige Avenue and construct a Paige Avenue Undercrossing Bridge with four roundabouts on Paige Avenue.

The No-Build Alternative would not satisfy the purpose and need of the project because it would not address the projected increases in traffic volume over time, which would result in motorist delays and excessive congestion within the project limits on State Route 99. The No-Build Alternative would not result in any temporary, permanent, or indirect impacts on environmental resources.

1.5 Alternatives Considered but Eliminated From Further Discussion

At the beginning of the environmental phase of the project in 2019, before beginning formal environmental studies, the three build alternatives that had been scoped in the Project Initiation Document signed in 2009 were reassessed. The work needed to construct the project, prepare environmental documents, and determine potential environmental impacts was updated, resulting in new cost estimates and schedules for each alternative.

Alternative 1 proposed widening the existing four-lane freeway to a six-lane freeway by constructing the new lanes in the median. An auxiliary lane would have been added along the outside northbound lane between Bardsley Avenue and the Hillman Street off-ramp. Construction of that lane would have required the acquisition of about 100 residences and some businesses. In addition, the existing overcrossings at Tulare Avenue (State Route 137), the Tulare Pedestrian Overcrossing, and the Cross Avenue Overcrossing would have been rebuilt to raise the bridges. The cost was estimated at \$110 million to \$130 million.

Alternative 2 proposed widening the existing four-lane freeway to an eight-lane freeway by constructing two additional lanes in each direction outside the existing lanes. All seven overcrossings would have been rebuilt, as would all interchanges within the project limits. New drainage basins would have been needed at five locations. This alternative would have acquired over 200

homes and businesses along both sides of the freeway. The project cost was estimated at \$300 million to \$350 million.

Alternative 3 proposed widening the existing four-lane freeway to a six-lane freeway by constructing the new lanes in the median. The inside and outside shoulders would have been widened. All work would have taken place within the existing Caltrans right-of-way; no right-of-way acquisition was anticipated. The cost was estimated at \$70 million to \$80 million.

The design option of a three-roundabout configuration for the Paige Avenue Interchange was considered and included in the original Draft Environmental Document that was circulated to the public from April 10, 2023, to May 24, 2023. With this option, all ramps would have been connected to a larger diameter roundabout bridge built over State Route 99. This roundabout would have required an inscribed circular diameter of 300 feet compared to a diameter of 190 feet for the other two roundabouts on Blackstone Street and Laspina Street. This option would have reduced the number of roundabouts a motorist would need to navigate while using Paige Avenue between Blackstone Street and Laspina Street. However, this larger diameter roundabout would have increased the speed limit through the roundabouts to over the maximum 30 miles per hour. For these reasons, this option was dropped from further consideration.

On August 26, 2019, the Project Development Team, including the Tulare County Association of Governments and representatives of the City of Tulare, agreed to develop Alternative 3 as the sole Build Alternative for the project. Improvements to the Paige Avenue Interchange were added to the scope of this project in 2020. The reasons that Alternatives 1 and 2 were not brought forward for detailed environmental analysis were excessive right-of-way acquisition, high costs, the large numbers of people who would have been displaced and require relocation, and other community impacts, including the potential for direct impacts to environmental justice neighborhoods and impacts to Tulare Santa Fe Trail Park that would have required an Individual Section 4(f) analysis and mitigation.

The Project Development Team discussed alternatives for reducing vehicle miles traveled. The Project Development Team considered directing funding toward an investment in rail projects within the region. The investment would have helped facilitate the transfer of freight that would normally be moved on State Route 99 using large trucks over to the rail system. The main benefit of this investment would be improving freight movement along this section of State Route 99 and, therefore, removing a large percentage of the traffic from the road system. Several concerns with this alternative were taken into consideration by the Project Development Team, and the choice was made not to move forward with this alternative. A few of the concerns are listed below.

- The railroads are privately owned industries; as a state department, it would be improper to invest in their operations.
- Senate Bill 743 does not require mitigation for truck traffic, and yet, the purpose and need for this project is to relieve freight-related congestion. Freight vehicles take up more space on the roadway than other vehicles, which magnifies the rate of congestion in locations where freight volumes, as a percentage of total traffic volumes, are high. A State Route 99 Comprehensive Multimodal Corridor Plan for the Central Valley would be prepared in accordance with the 2019 Corridor Planning guidebook that will develop a shared vision and implementation plan for the State Route 99 Corridor that aligns with state goals and policies while meeting the needs of agency partners, stakeholders, and the traveling public.
- A feasibility study conducted for the Central Valley region points to high costs when moving freight by rail, which does not provide an economic incentive to make this switch. Southern California and San Diego are the top origins and destinations for Central Valley goods. The two regions make up 56 percent of California's population, 87 percent of containerized port traffic in California, and more than 30 percent of national container traffic. Still, while there are out-of-state rail services in the Central Valley, there are almost no rail freight services between the Central Valley and Southern California. Perishable goods, such as dairy products and fresh fruits and vegetables bound for Southern California and San Diego, aren't feasible to transport by rail because travel times increase significantly compared to trucks.
- Thirty miles northwest of Tejon Pass, along the Sierra Nevada, is the Tehachapi Pass gateway. The pass features the only rail corridor that connects the Central Valley and Southern California. Nearly all rail freight shipments on this route connect to out-of-state destinations in the Midwest. If a rail freight shuttle from the Central Valley could connect to this service at a competitive rate, the potential for a diversion of Central Valley truck freight to rail might be possible. In addition, the early operating segment of the High-Speed Rail Project may free up capacity on the rail mainline between Merced and Bakersfield, providing an opportunity for containerized freight shuttle services from Merced, with possible stops at container loading ramps in Fresno and Shafter, then eventually connecting to the Midwest. However, this long-term rail strategy would not meet the purpose and need of this project.

1.6 Permits and Approvals Needed

The following permits, licenses, agreements, and certifications are required for project construction:

Agency	Permits, Licenses, Agreements, and Certifications	Status
California Department of Fish and Wildlife	1600 Streambed Alteration Agreement	To be applied for during the Plans, Specifications, and Estimates phase of the project.
Central Valley Regional Water Quality Control Board	Waste Discharge Requirement Fee	To be applied for during the Plans, Specifications, and Estimates phase of the project.
Tulare County Regional Transit Agency	Cooperative Agreement	To be obtained before the start of construction.
Tulare County Area Transit	Cooperative Agreement	To be obtained before the start of construction.

Chapter 2 Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures

As part of the scoping and environmental analysis done for the project, the following environmental issues were considered, but no adverse impacts were identified. So, there is no further discussion of these issues in this document.

- **Coastal Zone**—The proposed project is not within the coastal zone boundary, as defined by the California Coastal Act of 1976 and Public Resources Code Division 20, Section 30103(b), defining the coastal zone boundary.
- **Wild and Scenic Rivers**—There is no federal or state-designated wild and scenic river within or near the project limits (National Wild and Scenic Rivers website, January 2022).
- **Farmland**—The project proposes to acquire a small corner of parcel 191-070-021, which is currently planted in orchard crops. A review of the City of Tulare’s land use map indicates that this entire parcel, consisting of 119 total acres, is zoned C-3, Retail Commercial District. According to Volume 4 of the Standard Environmental Reference Handbook, any farmland (regardless of quality) that is already in or committed to urban development is farmland not subject to the Farmland Protection Policy Act. Where the proposed right-of-way for a transportation project is wholly within a delineated urban area, the completion and submittal of Form AD-1006 or Form NRCS-CPA-106 to the Natural Resources Conservation Service is not necessary.
- **Timberland**—There are no timber resources in the project vicinity.
- **Hydrology and Floodplain**—The project does not consist of a longitudinal encroachment or a significant encroachment on the base floodplain as defined in Section 650 105q of Code of Federal Regulations 23 (Floodplain Evaluation, November 2021).
- **Geology, Soils, Seismicity, and Topography**—The topography of the project area is flat, with no potential for landslides. The closest active earthquake fault is about 20 miles away; the potential for strong ground shaking is low. Preliminary geotechnical studies indicate that liquefaction would not occur (U.S. Geological Survey website, January 2022).

- **Natural Communities**—No natural communities remain within the project area, and no wildlife corridors are present (Natural Environment Study, June 2021).
- **Plant Species**—No special-status plant species were identified within the project area during reconnaissance-level botanical surveys. Due to the large amount of habitat modification and disturbance over time, no habitat for these species remains in the project area (Natural Environment Study, June 2021).
- **Animal Species**—No special-status animal species were identified within the project area during reconnaissance-level surveys. No habitat is present within the project area (Natural Environment Study, June 2021).
- **Wildfire**—The project is not considered to be in an area identified as vulnerable to wildfires (Caltrans District 6 Climate Change Vulnerability Map, January 2022).

2.1 Human Environment

2.1.1 Existing and Future Land Use

Affected Environment

The location of the proposed project is entirely within the city limits of the City of Tulare.

At the south end of the project, the landscape near the freeway is rural, with some commercial development and a manufactured home community on the west side of the freeway. The Mefford Field Airport is across from the manufactured home community on the east side of the freeway. Just to the north of the airport is the World Ag Expo grounds of the International Agri-Center complex. The Paige Avenue Interchange vicinity, which is approximately in the middle of the project area, consists of truck stops and associated businesses and one mobile home park. Along the west side of the freeway, recently constructed commercial businesses extend northwards to Bardsley Avenue. The zoning in this area is industrial and commercial, except for the mobile home parks.

Going northwards, the remainder of the city adjacent to the freeway is built up. From Paige Avenue north along the east side of the freeway are residential neighborhoods and commercial centers that continue past the northern end of the project, which is by the Tulare Outlets Center. Along the west side of the freeway from Bardsley Avenue northwards are residential neighborhoods, commercial centers, and a few local government facilities extending up to Cartmill Avenue, about 1 mile north of Prosperity Avenue.

Table 2.1 summarizes proposed residential developments and those under construction. One of the seven projects listed in the table is a commercial development.

Table 2.1: Proposed Development Near the Proposed Project

Name of Development	Location	Jurisdiction	Proposed Uses	Status
Fernjo Estates	Mooney Boulevard 0.25 mile south of Bardsley Avenue.	City of Tulare	Development of 80 single-family residential units and infrastructure.	Mitigated Negative Declaration completed in June 2019. The applicant has applied for building permits but waiting on the final map to be recorded.
Liberty Hill	Bardsley Avenue/West Street	City of Tulare	Development of 384 single-family residences with infrastructure on 79.5 acres. To be developed in four phases.	Mitigated Negative Declaration completed in June 2018. Model home permits have been issued. No estimated time frame on when homes will be completed.
Farrar Subdivision	Tulare Avenue/Morrison Street	City of Tulare	Development of 360 single-family residences and infrastructure.	Mitigated Negative Declaration completed in February 2020. The project is under construction.
The Greens at Oak Creek	Seminole Avenue/Mooney Boulevard	City of Tulare	Development of 88 single-family detached residences on 20 acres.	Addendum to the Mitigated Negative Declaration completed in September 2020. The project anticipates to be completed by the Summer of 2023.
Kensington 3 and 4	Cartmill Avenue/Mooney Boulevard	City of Tulare	Development of 111 low-density residential units, pocket park.	Mitigated Negative Declaration completed in September 2020. The project is expected to be completed in 2023.
Cartmill Commercial	Next to the southeast quadrant of State Route 99/Cartmill Avenue Interchange	City of Tulare	Highway-related and other commercial development with infrastructure. Would subdivide the 21-acre parcel into 10 lots.	The property is in escrow with the developer.
Cartmill Crossings	Cartmill Avenue/Akers Street/Next to the northeast quadrant of State Route 99/Cartmill Avenue Interchange	County of Tulare (the City of Tulare is the lead agency)	Multiuse commercial and residential development. Low, medium, and high-density housing and a park. To be constructed in phases on 127 acres.	Environmental Impact Report and Notice of Determination completed in October 2019. The lots are for sale.
Paige Avenue Industrial Center	South side of Paige Avenue, west of "I" Street	City of Tulare	Development of two industrial buildings on 76.44 acres	The project is expected to be completed in 2025.

The site of the proposed Fernjo Estates development is a little over a mile from the State Route 99 freeway via Paige Avenue, continuing on Foster Street to Mooney Boulevard or from Bardsley Avenue to Mooney Boulevard. The parcel is within the City of Tulare's sphere of influence and urban development boundary, and annexation is planned as part of the proposal for which the city is acting as the lead agency.

The proposed Liberty Hill development is 2 miles due west of State Route 99 on Bardsley Avenue.

The Farrar development, which is under construction, is 1 mile east of State Route 99 on Tulare Avenue (State Route 137).

The Greens at Oak Creek site on Mooney Boulevard (State Route 63) is a little over 0.5 mile from the freeway via Tulare Avenue and roughly 1.6 miles via Prosperity Avenue.

The Kensington 3 and 4 proposed development is 2 miles from the freeway via Prosperity Avenue and Mooney Boulevard (State Route 63) or 2 miles east of State Route 99 on Cartmill Avenue.

The Cartmill Commercial development site is on the southeast side of the Cartmill Avenue/State Route 99 Interchange, 1 mile north of the Prosperity Avenue Interchange, which is the north end of this freeway widening project.

The Cartmill Crossings mixed-use development site is on the northeast side of the Cartmill Interchange. The parcel is within the City of Tulare's sphere of influence and urban development boundary, and annexation is planned as part of the proposal for which the city is acting as the lead agency.

An industrial warehouse building is currently being built on the southwest corner of Paige Avenue and South I Street. The site plan has about 1 million square feet of warehouse space. The project is expected to be completed in the year 2025.

Environmental Consequences

The project would convert three developed parcels from commercial use to transportation use. Two undeveloped parcels that are commercially zoned would be converted to local government use as the new location for a City of Tulare retention basin.

Avoidance, Minimization, and/or Mitigation Measures

No specific avoidance, minimization, and/or mitigation measures are needed.

2.1.2 Consistency with State, Regional and Local Plans and Programs

Affected Environment

Land use and zoning are guided by general plans and other agency plans for the county and cities. The general plans that guide development within the area are the City of Tulare General Plan 2035 (adopted October 7, 2014) and the Tulare County General Plan 2030 (Adopted August 28, 2012).

Regional

The Tulare County General Plan, originally adopted in 1964, was most recently updated in August 2012. According to the general plan, the safe and efficient transport of people and goods within the county is of critical importance to the well-being of residents and the economic viability of the county; and the mobility of people and goods will continue to be one of the important issues the county has to face in the future (Transportation and Circulation Section, 2030 Update Tulare County General Plan).

The development of the Tulare County transportation system is guided by its Regional Transportation Plan. This plan is a 25-year planning document required by state and federal law that is comprehensively updated every four years and includes programs to better maintain, operate, and expand transportation. Transportation plans applicable to the project are also discussed in Section 2.1.8 Traffic and Transportation/Pedestrian and Bicycle Facilities and Section 3.4 Climate Change. These include the Tulare County Association of Governments' Regional Transportation Plan/Sustainable Communities Strategy 2022, the Tulare County Bicycle Plan (2010), and the Tulare County Association of Governments' Active Transportation Plan (Adopted in May 2016 and amended in November 2017 and January 2020).

Local

The City of Tulare General Plan Chapter 3 of the Transportation and Circulation Element discusses how the city should focus on increasing the capacity of facilities to improve mobility for highways within the city limits. The City of Tulare's goal is to develop an integrated transportation system that provides for the safe and efficient movement of people and goods.

Environmental Consequences

This project is included in the 2022 and 2023 Federal Statewide Transportation Improvement Program and is proposed for funding from the Tulare County Association of Governments' Regional Transportation Plan.

Table 2.2 shows the consistency between the project alternatives, the City of Tulare General Plan, and the Tulare County General Plan.

Table 2.2 Consistency With Plans

Plan	Policy	Build Alternative	No-Build Alternative
City of Tulare General Plan	COS-P2.6 Planting of Native Vegetation. The city shall encourage the planting of native trees, shrubs, and grasslands to preserve the visual integrity of the landscape, provide habitat conditions suitable for native vegetation and wildlife, and ensure that a maximum number and variety of well-adapted plants are maintained.	Consistent. The landscape project to follow construction would include most native plant species, including valley oaks.	Not Consistent. The non-native species would not be removed.

Plan	Policy	Build Alternative	No-Build Alternative
City of Tulare General Plan	TR-P1.1 Integrated Transportation System. The city shall continue working with various agencies to maintain a multimodal transportation system that is well-integrated and interconnected in terms of service, scheduling, and capacity and that effectively accommodates planned land uses and related transportation needs.	Consistent. The project would widen State Route 99 to meet the future traffic demands of the City of Tulare.	Not Consistent. Would not make any improvements to State Route 99.
City of Tulare General Plan	COS-P3.1 Protect Interim Agricultural Activity. The city shall protect the viability of existing interim agricultural activity in the Urban Development Boundary to the extent possible.	Consistent. The project would acquire a narrow strip of farmland from one parcel zoned as light industrial along the west side of the freeway and from one parcel zoned commercial by the intersection of Paige Avenue and Laspina Street. These acquisitions would not result in unfarmable remnant parcels.	Not Consistent. No change to existing land use.
Tulare County General Plan	AG-2.10 Regional Transportation The county shall work to improve regional transportation systems to support the movement of agricultural products locally, nationally, and globally.	Consistent— Creates a more efficient route for trucks that will reduce conflicts with automobile traffic.	Not Consistent— Will not provide an efficient route for trucks that will reduce conflicts with automobile traffic.

Plan	Policy	Build Alternative	No-Build Alternative
Tulare County General Plan	TC-1.9 Highway Completion The county shall support state and federal capacity improvement programs for critical segments of the State Highway System. Priority shall be given to improvements to State Routes 65, 99, and 198, including widening and interchange projects in the county.	Consistent— Provides additional lanes and interchange improvements to State Route 99.	Not Consistent— Will not make any improvements to State Route 99.
Tulare County General Plan	TC-1.10 Urban Interchanges The county shall work with Tulare County Association of Governments to upgrade State highway interchanges from rural to urban standards within urban development boundaries.	Consistent— The interchanges will be upgraded to urban standards. The urban interchanges would have multilane ramps with metering.	Not Consistent— No changes to the interchanges.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are needed.

2.1.3 Parks and Recreational Facilities

Regulatory Setting

The Park Preservation Act (California Public Resources Code Sections 5400-5409) prohibits local and state agencies from acquiring any property which is in use as a public park at the time of acquisition unless the acquiring agency pays sufficient compensation or land, or both, to enable the operator of the park to replace the park land and any park facilities on that land.

Affected Environment

City of Tulare parks are protected by the Park Preservation Act. The proposed project does not plan to acquire right-of-way from any parks; therefore, the Park Preservation Act is not applicable. However, parks are also protected by Section 4(f) of the Department of Transportation Act of 1966.

Section 4(f) requires the project development team to review how a transportation project would impact public park and recreation lands, wildlife and waterfowl refuges, and historic sites. These locations are known in the act as “Section 4(f) resources.” Section 4(f) requires the project development team to determine if a transportation project would impact the activities,

features, and/or attributes of a Section 4(f) resource. Section 4(f) applies to transportation projects that will receive federal funds or require approval by an agency under the U.S. Department of Transportation.

Two parks—Tulare Santa Fe Trail and Elk Bayou Regional Park—are within the project area.

Tulare Santa Fe Trail

Tulare Santa Fe Trail is a 5-mile-long recreational facility that runs northeast/southwest across the city within the old Santa Fe Railway right-of-way. The eastern trailhead is on east Prosperity Avenue adjacent to the Tulare Canal, about 600 feet west of Morrison Street. The western trailhead is across from the intersection of west Soult Drive with west Inyo Avenue (State Route 137).

The paved path is a Class 1 bike path that has shared use with pedestrians. In addition, separate equestrian trails extend along most of the linear park. Landscaped seating areas with benches are scattered within the park, and there is lighting along the trail. The park can be reserved for special events, such as fundraising walks and runs.

The Tulare Santa Fe Trail crosses the freeway on the Tulare Pedestrian Overcrossing (Caltrans Bridge Number 46-0040), a conversion of the old Santa Fe Railroad Bridge. This structure is traversed by all users of this segment of the trail, including horses.

Elk Bayou Regional Park

Elk Bayou Regional Park is situated between the south bank of Elk Bayou and Hosfield Drive at 19701 South Hosfield Drive. The westernmost edge of the park is about 230 feet east of the freeway right-of-way fence across Hosfield Drive. Park amenities include recreational facilities, picnic shelters, and restrooms; however, the park lacks potable water.

Environmental Consequences

Tulare Santa Fe Trail

The Tulare Santa Fe Trail would be temporarily affected by project construction. Temporary construction easements would be needed to construct an 8-foot-high wrought iron security fence that curves downward at the top. The fence would adjoin the Tulare Pedestrian Overcrossing as the trail approaches. The fence would be within Caltrans' right-of-way, but the workers and heavy equipment would need to access the park side of the structure to construct it.

During construction, one side of the trail crossing State Route 99 would remain open to the public at all times. The other side would be sectioned off to construct the security fence.

Section 4(f) coordination has been established between Caltrans and the Tulare City Parks Department on October 14, 2021. The city concurred that the proposed project is not expected to “use” those facilities as defined by Section 4(f) since the trail would be used for the ingress and egress of equipment. Refer to Appendix A under the heading “Resources Evaluated Relative to the Requirements of Section 4(f)” for additional details.

Elk Bayou Regional Park

Elk Bayou Regional Park would not be affected by the project, and there would be no “use” of this Section 4(f) resource.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures would be needed.

2.1.4 Growth

Regulatory Setting

The Council on Environmental Quality regulations, which established the steps necessary to comply with the National Environmental Policy Act (NEPA) of 1969, require evaluation of the potential environmental effects of all proposed federal activities and programs. This provision includes a requirement to examine indirect effects, which may occur in areas beyond the immediate influence of a proposed action and at some time in the future. The Council on Environmental Quality regulations (40 Code of Federal Regulations 1508.8) refer to these consequences as indirect impacts. Indirect impacts may include changes in land use, economic vitality, and population density, which are all elements of growth.

The California Environmental Quality Act (CEQA) also requires the analysis of a project’s potential to induce growth. The CEQA Guidelines (Section 15126.2[d]) require that environmental documents “...discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment...”

Affected Environment

This section addresses the relationship between the proposed project and area growth patterns. Factors affecting growth patterns depend on a range of economic forces that can be local, statewide, or even national in scope.

Different transportation projects will influence growth to different degrees and in different ways. Caltrans used a two-phase approach to evaluate growth-related impacts. The first phase, called “first-cut screening,” is designed to help the environmental planner figure out the likely growth potential effect and whether further analysis of the issue is necessary. This will be discussed further in the Environmental Consequences section.

For this growth analysis, the study area consists of Tulare County and the City of Tulare. This impact analysis discusses the environmental impacts by geographic area (at the county and city level) rather than by alternative because most sources publish economic data for areas that are within distinct geographical and political boundaries. Although some sources provide economic data (such as total employment and unemployment rate) for cities, most economic data sources describe the correlation between various economic sectors only at the county level. County-level information includes data for the unincorporated parts of the county and the cities.

The Sustainable Communities Strategy, which is included in the Tulare County Association of Governments' Regional Transportation Plan for 2022, identifies an updated forecast of population, housing, and jobs. Tulare County Association of Governments developed a new forecast for the Sustainable Communities Strategy based on the most comprehensive and up-to-date regional forecasts and projections available. The growth forecast incorporates substantial data available from projections published by the California Department of Finance, Demographic Research Office in 2021. The growth forecast, based on the Department of Finance's projection, is much more restrained than in previous Regional Transportation Plans.

The new 2021 Department of Finance population projection for the year 2040 (551,563) is quite a bit lower than that of the 2017 Department of Finance projection for the year 2040 (594,348) used for the 2018 Regional Transportation Plan and Sustainable Communities Strategy and significantly lower than the projection for the year 2040 (722,838) used for the 2014 Regional Transportation Plan and Sustainable Communities Strategy, a difference of 171,275 persons. This is due to lower birth rates consistent with the state as a whole and the fact that Tulare County is still experiencing low net migration (573 persons in 2019) as opposed to the peak (4,473-plus persons in 2004) because of the Great Recession.

According to the California County-Level Economic Forecast Methodology Update prepared by The California Economic Forecast, the Tulare County population is expected to grow more slowly than the broader Central Valley from 2022 to 2027. The Tulare County population will expand at an annual average rate of about 0.6 percent compared to the greater Central Valley region rate of about 0.9 percent per year. These projections fall in line with the Department of Finance numbers from the Sustainable Communities Strategy. The California Economic Forecast also stated that housing construction will mainly come from small projects rather than large, planned communities.

Food processing will remain a viable and growing manufacturing sector for Tulare County for the indefinite future. Tulare County is the location of major manufacturing/food companies, including International Paper, Sonoco, Green Power Bus, California Dairies, Incorporated, Saputo Cheese, Kraft Foods,

Ruiz Foods, DryVit, Land O' Lakes, Incorporated, Svenhards, and Kawneer. Many of these facilities are near the project area.

Tulare County Association of Governments' Regional Transportation Plan 2022

The land use scenario envisioned by the Tulare County Association of Governments' Regional Transportation Plan 2022 would emphasize the development of infill and transit-oriented development projects within existing urbanized areas; and, therefore, may redistribute growth patterns. The location of infill and transit-oriented development projects would generally be on properties that have been identified as vacant or underutilized within applicable local jurisdictions. Infill and transit-oriented development projects would not necessarily result in significant new population growth within these jurisdictions; rather, the proposed Tulare County Association of Governments' Regional Transportation Plan 2022 would accommodate anticipated growth and concentrate it within existing urban cores instead of on the periphery of urban areas or within rural or semi-rural areas.

Implementing the proposed Tulare County Association of Governments' Regional Transportation Plan 2022 would create short-term economic growth in the region via construction-related job opportunities. Implementing the plan would also generate additional employment opportunities for roadway, vehicle, and landscape maintenance and transportation facility cleanup. The employment increase may subsequently increase the demand for support services and utilities, which could generate secondary employment opportunities. This additional economic growth would likely raise the existing revenue base within the region, although such growth may incrementally increase economic activity in Tulare County.

Furthermore, while development envisioned as part of the proposed Tulare County Association of Governments' Regional Transportation Plan 2022 could result in additional commerce, industry, recreation, public services, and infrastructure throughout the region, this economic activity would be consistent with the regional growth forecast and local general plans.

Tulare County General Plan, Component B, Tulare County Prosperity

The Prosperity component of the Tulare County General Plan includes the following elements listed below that help shape Tulare County's land use and economic future:

Agriculture

"One of the most identified assets in Tulare County is the rich agricultural land on the Valley floor and in the foothills. The General Plan identifies agriculture not only as an economic asset to the County, but also as a cultural, scenic, and environmental resource to be protected."

Land Use

“Tulare County’s communities and hamlets will continue to grow and develop while natural resource lands (agriculture and open space) will be preserved. Projected population growth will require a range of housing choices, neighborhood support services, and employment-producing uses that are centrally located in communities. The County will also limit the conversion of agricultural and other natural resource lands to urban uses.”

Economic Development

“The County’s economy will expand and diversify. Agriculture will remain the mainstay of the County’s economy, while agriculturally related industries and non-agricultural industries will play an increasingly larger role in the local economy. Many of the planning principles and policies in the General Plan protect existing agricultural lands and industries while providing support for advancement and diversification of agriculturally related enterprises.”

Housing

“The purpose of the Housing Element is to identify the County’s housing needs, state the counties goals and objectives with regard to housing production, rehabilitation, and conservation to meet those needs, and to define the policies and programs that the County will implement to achieve the stated goals and objectives.”

2022 Tulare County Association of Governments, Regional Transportation Plan, Chapter D, Goods Movement System Improvements

Shipping raw materials and finished goods is a central feature of any economy. While the trucking industry carries most of the freight, commodity movement can occur by road, rail, air, and pipeline. Throughout the state, freight movement over state highways has grown faster than capacity; Tulare County is no exception to this trend. Freeway widenings in the Tulare region are constrained to this one corridor. Investment in State Route 99 in Tulare County will facilitate the efficient movement of goods and improve safety. The project is one of four remaining segments of State Route 99 proposed for widening in the Regional Transportation Plan, which is designed to complete the system and close the remaining four-lane gaps in Tulare County.

Tulare General Plan for the City of Tulare, Transportation and Circulation Element

The Transportation and Circulation Element prioritizes the following transportation elements:

- Improving the safety and capacity of transportation facilities along with implementing a plan for enhancement within the City of Tulare.

- Improving goods movement infrastructure and trade to increase economic vitality, safety, and mobility while decreasing congestion and air quality issues.
- Promoting the development of a multimodal transportation system.

City of Tulare Zoning

According to the City of Tulare Zoning and Land Use Viewer available at (<https://maps.tulare.ca.gov/portal/apps/webappviewer/index.html?id=77881c8a35a445259d72b416d25ccd7d>), the current zoning designation for the entirety of land next to the project area is either heavy industrial or light industrial.

The Tulare County General Plan identifies that the development of land for industrial uses will help meet the present and future needs of Tulare County residents for jobs and economic vitality, which includes the following components:

- The County shall encourage a wide range of industrial development activities in appropriate locations to promote economic development and employment opportunities and provide a sound tax base.
- The County shall encourage the development of visually attractive, well-landscaped, and carefully planned industrial parks in areas with suitable topography and adequate infrastructure.
- The County shall require adequate landscaping and screening of industrial storage areas to minimize visual impacts and enhance the quality of the environment.
- The County shall encourage the infill of existing industrial areas and ensure that proposed industrial uses will not result in significant harmful impacts to nearby land uses.
- The County shall locate industrial development where there is access from collector or arterial roads and where industrial/heavy commercial traffic is not routed through residential or other areas with uses not compatible with such traffic.

South I Street Industrial Park Specific Plan

- In 2009, the City of Tulare approved the South I Street Industrial Park Specific Plan. The Specific Plan project area consists of about 458 acres located southwest of the State Route 99/Paige Avenue Interchange. This area is bounded by Bardsley Avenue on the north, Union Pacific Railroad Mainline on the east, Pratt Street on the west, and an east-west running line about 0.5 mile south of Paige Avenue. The Specific Plan includes the annexation of the 458 acres from Tulare County into the Tulare City limits. In addition, the Urban Reserve Line and the Urban Development Line will be amended, adding an additional 265 acres. The proposed area will be divided into 2 acres of light industrial, 361 acres of heavy industrial, and

83 acres of Urban and Suburban Residential. The remaining 12 acres are street and railroad right-of-way. Both the heavy and light industrial districts provide locations for industrial activities, protect industrial areas from the intrusion of incompatible types of land uses, adhere to performance standards provided for the protection of City of Tulare residents and the environment, and provide industrial employment opportunities for residents of the City of Tulare. The objectives of the South I Street Industrial Park Specific Plan are listed below.

- Provide additional industrial land to accommodate larger and medium size users.
- Provide a distinct separation or buffer between industrial and residential land uses.
- Provide improved circulation around the Paige Avenue - South I Street intersection that considers a future railroad grade separation crossing.
- Provide for the potential abandonment of South I Street, south of Bardsley Avenue.
- Provide for the extension of South H Street to Paige Avenue.
- Provide industrial park amenities along South H Street that include block walls and landscaping to form a separation between industrial and residential uses.
- Provide a rail connection.
- Establish a land use pattern that allows for railroad grade separation projects to occur at Bardsley Avenue and Paige Avenue efficiently and economically.

International Agri-Center Interchange Project

About 0.8 mile south of the project area, construction of a four-lane interchange at Commercial Avenue has started. The project will construct a four-lane interchange (two through lanes per the direction of traffic) at Commercial Avenue by using the existing Commercial Avenue from K Street to connect to State Route 99.

The project will also construct a left-turn lane from southbound K Street and a right-turn lane from northbound K Street for traffic to turn onto Commercial Avenue. Existing Commercial Avenue would be widened and realigned to accommodate the new freeway interchange. A new portion of Commercial Avenue would connect with Laspina Street to become a "T" intersection.

The purpose of the project is to improve the operational performance of State Route 99 within the project limits, relieve traffic congestion on local roads, and improve accessibility to the freeway system in that area. In addition, the project improvements would enhance the east-west movement of traffic and goods, supporting economic development.

International Agri-Center

The International Agri-Center is home to the World Ag Expo, an annual event held each February. Annual attendance at the World Ag Expo can exceed over 100,000 people from 70 different countries. The World Ag Expo is the largest annual agricultural show of its kind that includes about 1,500 exhibitors displaying agricultural technology and equipment on 2.6 million square feet of showgrounds. The International Agri-Center is about 1 mile south of the proposed Paige Avenue Interchange Project.

Environmental Consequences

The “first-cut screening” questions below were used to determine the likely growth potential effect and whether further analysis of the issue is necessary.

- a. How, if at all, does the project potentially change accessibility?

Response:

The State Route 99/Paige Avenue Interchange is a Type L-6 interchange with the freeway ramps connecting to Blackstone Street and Paige Avenue. The existing southbound hook ramps connect to Blackstone Street in the northwest corner of the interchange at an intersection about 150 feet north of the Paige Avenue and Blackstone Street intersection. The existing northbound hook ramps connect directly to Paige Avenue in the southeast corner of the interchange. The proposed project would improve and reconfigure an already existing interchange so it would not have the effect of opening up accessibility to an area that it currently not accessible. The proposed project would however improve the existing access by improving the operational characteristics of the interchange.

- b. How, if at all, do the project type, project location, and growth pressure potentially influence growth? Some transportation projects may have very little influence on future growth, while others may have a great influence. Some geographic locations are more conducive to influencing growth, while others are highly constrained. These differences may result from physical constraints, planning and zoning factors, or local political considerations.

Response:

Different types of projects present different potentials for influencing growth. According to the Guidance for Preparers of Growth-Related, Indirect Impact Analysis, projects that improve existing conditions on a facility, but do not increase capacity or accessibility, typically have a low likelihood of causing growth-related impacts. On the other hand, projects that increase capacity and accessibility typically have a high likelihood of growth-related impacts, particularly projects that create new facilities and new access. The Tulare Six-

Lane and Paige Avenue Interchange Improvement project would add capacity to an existing facility but would not create new access.

The proposed project is within the City of Tulare's boundaries and the city's planning area. The land use throughout the project area is a mix of agricultural land, light-to-heavy industrial uses, community commercial facilities, low-to-high-density residential tracts, and neighborhood commercial shopping centers. The immediate vicinity at the Paige Avenue Interchange is considered an industrial area of the city that extends west of the freeway, south from Bardsley Avenue along State Route 99. In this area, the 2035 Tulare General Plan indicates a shift toward heavy industrial use in the future.

Growth pressure is the amount and intensity of development in each area and can be an indicator of potential growth-related impacts. Whether or not a project influences growth depends on several factors, including maintaining existing zoning restrictions and land use designations, implementing farmland protection policies, and adhering to adopted growth boundaries. The City of Tulare and the County of Tulare work cooperatively to plan for growth and development, as reflected by the establishment of the Urban Development Boundary. Adherence to these boundaries aids in handling growth pressure by making adequate quantities of land available for development within the existing urban area. The proposed project lies completely within the Urban Development Boundary and would support the City and County plans for development in the area.

- c. Determine whether project-related growth is "reasonably foreseeable" as defined by NEPA. Under NEPA, indirect impacts need only be evaluated if they are reasonably foreseeable as opposed to remote and speculative.

Response:

Based on the project type, project location, and growth pressure within the project area, it is reasonably foreseeable that the project could have growth-related impacts and requires further analysis.

Growth Impacts for the Build Alternative

As mentioned earlier, the South I Street Industrial Park Specific Plan was approved in 2009 and will guide development throughout the vacant land along the west and southwest areas next to the project. It is reasonably foreseeable that vacant land within the South I Street Industrial Park Specific Plan boundaries will experience accelerated growth with the implementation of the interchange and widening project. Traffic congestion relief within the interchange area would be relieved as large trucks that service the industrial areas can travel more efficiently.

It is reasonably foreseeable that the International Agri-Center Interchange Project mentioned above will accelerate growth within the project area. The project will use the existing Commercial Avenue from K Street to convey traffic from the west side of State Route 99 to the east side of State Route 99 near the International Agri-Center. This interchange project will help alleviate traffic congestion throughout the Commercial Avenue and Paige Avenue areas by providing a southern entrance for northbound trucks into the industrial areas along the west side of State Route 99.

Accelerated industrial-related growth between I Street and State Route 99 would be expected as access improves to and from the area from the north at Paige Avenue and to the south at Commercial Avenue. It is reasonably foreseeable that infrastructure development and further improvement on local roads would continue as indicated in the South I Street Industrial Park Specific Plan.

Many of the adverse impacts that could occur from the implementation of the proposed project are temporary in nature, resulting primarily from the construction of the proposed transportation project. Typical construction-related impacts can involve the following issues: noise, air quality, aesthetics, and construction-related erosion and associated water quality impacts. Though such materials would not be used in a wasteful manner, all construction activity would involve the use of non-renewable energy sources, potable water, and building materials. The use of these resources during construction would increase demand and impact supplies across the Tulare County region.

For further discussion of potential growth-related impacts associated with the Tulare Six-Lane and Paige Avenue Interchange Improvement project, please see Section 2.4: Cumulative Impacts.

No-Build Alternative

The No-Build Alternative would not be consistent with the Regional Transportation Plan or the city and county general plans because the existing roadway does not meet the projected road capacity demand expected for the future. The project area would deteriorate due to increases in average daily traffic volumes to avoid the more heavily congested segments of this section of State Route 99.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required.

2.1.5 Community Character and Cohesion

Regulatory Setting

The National Environmental Policy Act (NEPA) of 1969, as amended, established that the federal government use all practicable means to ensure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings (42 U.S. Code 4331[b][2]). The Federal Highway Administration, in its implementation of NEPA (23 U.S. Code 109[h]), directs that final decisions on projects are to be made in the best overall public interest. This requires taking into account adverse environmental impacts, such as destruction or disruption of human-made resources, community cohesion, and the availability of public facilities and services.

Under the California Environmental Quality Act (CEQA), an economic or social change by itself is not to be considered a significant effect on the environment. However, if a social or economic change is related to a physical change, then social or economic change may be considered in determining whether the physical change is significant. Since this project would result in physical change to the environment, it is appropriate to consider changes to community character and cohesion in assessing the significance of the project's effects.

Affected Environment

The project lies within the City of Tulare, with a portion of the work being performed on Paige Avenue, a city street. The land use on Paige Avenue (east of State Route 99 toward Blackstone Street) is heavy industrial and light industrial. Regional chains and businesses (fast food establishments, mini-marts, and gas stations) that cater to the traveling public are concentrated near State Route 99 and Paige Avenue. Low-density residential and neighborhood commercial uses are located west of State Route 99 toward Laspina Street.

This is a cohesive community with public facilities and services overseen by the city council and administered by various city departments, such as city services, planning and economic development, public safety, and human resources.

Environmental Consequences

Three businesses would need to be relocated to construct the Paige Avenue Interchange area, including along the east and west sides of the freeway south of Paige Avenue. The businesses consist of a motel, a truck stop, and an auto/truck tire service (see Table 2.3).

Table 2.3 Potential Relocation of Businesses

Location Area	Assessor's Parcel Number	Business	Use
Southbound On-Ramp to Paige Avenue/Blackstone Street	182-110-020	Gutierrez Auto Truck and Farm Service	Agricultural equipment, tire sales, and service
Northbound On-Ramp to Paige Avenue	191-070-013	Paige Truck Stop	Truck stop
Northbound On-Ramp to Paige Avenue	191-070-014	Budget Inn Motel	Motel

The relocation of the businesses would potentially change community access to these facilities. The Paige Truck Stop is designated as a neighborhood commercial zone in the City of Tulare General Plan, which is a daily convenience shopping service adjacent to residential neighborhoods. A Relocation Impact Memorandum was completed in November 2020, and the real estate market in the area indicates that there is, and will be, in the foreseeable future, adequate property for sale or lease in the area to relocate the above businesses.

The project proposes operational improvements that would enhance community cohesion by adding a pedestrian/bicycle shared path on the Paige Avenue Overcrossing. The proposed roundabout locations at Blackstone Street and Laspina Street would have 10-foot-wide paved paths for shared pedestrian and bicycle use, would go around each roundabout, and would extend east and west along Paige Avenue. Americans with Disabilities Act-compliant curb ramps would be part of the design. A 5-foot-wide landscaped buffer would separate these paths from the roadway in the roundabouts and along the approaching and departing lanes on Paige Avenue, Blackstone Street, and Laspina Street.

The project would improve public access with planned interchange improvements and added pedestrian facilities. The project would not impact or divide neighborhoods because the project improvements would be constructed on existing facilities. There are no planned improvements in the project that would divide residences from the existing community facilities. The project is not anticipated to cause any growth in the community because the project is making improvements to existing facilities and not creating new accessibility for motorists. The planned improvements would improve the quality of life in the area through better traffic circulation and improved pedestrian/bicycle facilities.

Avoidance, Minimization, and/or Mitigation Measures

Caltrans will provide relocation assistance payments and counseling to businesses affected by the project in accordance with the Uniform Act and Relocation Assistance Program of 1970 as detailed in Appendix C.

2.1.6 Relocations and Real Property Acquisition

Regulatory Setting

The Department's Relocation Assistance Program is based on the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (Uniform Act), and Title 49 Code of Federal Regulations Part 24. The purpose of the Relocation Assistance Program is to ensure that persons displaced as a result of a transportation project are treated fairly, consistently, and equitably so that such persons will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole. Please see Appendix C for a summary of the Relocation Assistance Program.

All relocation services and benefits are administered without regard to race, color, national origin, persons with disabilities, religion, age, or sex. Please see Appendix B for a copy of the Department's Title VI Policy Statement.

Affected Environment

A Relocation Impact Memorandum was completed in November 2020, and an updated Right-of-Way Data Sheet Memorandum was completed on August 23, 2022.

To construct the build alternative, right-of-way would need to be acquired by Caltrans in the Paige Avenue Interchange area, including along the east and west sides of the freeway south of Paige Avenue, along Blackstone Street and Laspina Street where roundabouts would be constructed, between Paige Avenue and Bardsley Avenue along the west side of the freeway, and along the northbound Bardsley Avenue on-ramp.

Environmental Consequences

There are 15 full right-of-way acquisitions estimated for the proposed project that include three commercial businesses, two vacant commercial parcels, four miscellaneous/governmental used parcels, two of which are operating as a canal, and six vacant residential zoned parcels (see Table 2.4).

Gutierrez Auto Truck and Farm Service, located on the southbound off-ramp of the existing Paige Avenue Interchange, would be a full acquisition because the new southbound off-ramp and the proposed relocation of the Tulare Canal would cross onto that parcel.

Construction of the new northbound off-ramp at Paige Avenue and a new drainage basin would require the full acquisition of the Budget Inn Motel and Paige Truck Stop.

On the north side of Paige Avenue, construction of a northbound on-ramp would require the removal of an existing retention basin owned by the City of Tulare, which drains the streets between Paige Avenue, the Tulare Main

Canal, and Laspina Street. Two vacant commercial parcels on Paige Avenue are proposed as a location for a city retention basin and would be crossed by the new northbound on-ramp.

Table 2.4 Estimated Full Right-of-Way Acquisition

Location Area	Assessor's Parcel Number	Business	Use
Southbound on-ramp to Paige Avenue/Blackstone Street	182-110-020	Gutierrez Auto Truck and Farm Service	Agricultural equipment, tire sales, and service
East side of State Route 99, north of Paige Avenue	182-230-053	None; zoned as commercial	Vacant lot
Northbound on-ramp to Paige Avenue	191-070-013	Paige Truck Stop	Truck stop
Northbound on-ramp to Paige Avenue	191-070-014	Budget Inn Motel	Motel
East side of State Route 99, north of Paige Avenue	182-230-054	Zoned commercial	Vacant lot
East side of State Route 99 next to the Bardsley Avenue northbound on-ramp	177-060-009	Zoned miscellaneous	Vacant lot
East side of State Route 99 next to the Bardsley Avenue northbound on-ramp	177-060-010	Zoned miscellaneous	Vacant lot
East side of State Route 99 next to the Bardsley Avenue northbound on-ramp	177-060-011	Zoned miscellaneous	Vacant lot
East side of State Route 99 next to the Bardsley Avenue northbound on-ramp	177-060-012	Zoned miscellaneous	Vacant lot
East side of State Route 99 next to the Bardsley Avenue northbound on-ramp	177-060-013	Zoned miscellaneous	Vacant lot
East side of State Route 99 next to the Bardsley Avenue northbound on-ramp	177-060-002	Zoned miscellaneous	Vacant lot
East side of State Route 99, south of Paige Avenue	191-070-015	Not Applicable	Owned by the City of Tulare. Land being used as truck parking

Location Area	Assessor's Parcel Number	Business	Use
Proposed northbound State Route 99 on-ramp from Paige Avenue	182-230-047	Not Applicable	Drainage basin
Proposed northbound State Route 99 on-ramp from Paige Avenue	182-230-048	Not Applicable	Segment of Tulare Canal
Proposed northbound State Route 99 on-ramp from Paige Avenue	182-190-038	Not Applicable	Segment of Tulare Canal

In addition to the full acquisitions, slivers of land would need to be acquired from about 23 parcels next to existing streets and the freeway (see Table 2.5). Most of these properties are zoned for commercial or industrial uses. The areas include:

- Along the west side of the freeway from the Paige Avenue Interchange southbound ramps northwards, partial property acquisition would be needed from five parcels for the realigned southbound off-ramp and proposed realignment of the Tulare Canal.
- Along the southbound Bardsley Avenue on-ramp, a narrow strip of land would need to be acquired from 10 parcels, including vacant land, auto and truck-related businesses, and a mini-storage facility.

Table 2.5 Estimated Partial Right-of-Way Acquisition

Location Area	Assessor's Parcel Number	Business and/or Owner	Use	Required Right of Way Area (Acreage)
Southbound State Route 99, along Blackstone Street	191-060-017	Love's Country Store	The area being affected is vacant land.	5.220
Southbound State Route 99, along Blackstone Street	191-060-018	Not Applicable	Parking lot for Love's County Store	The parcel was spilt from one Assessor Parcel Number, required right of way is not determined yet.
Southbound State Route 99, along Blackstone Street	191-060-019	Not Applicable	Vacant land	The parcel was spilt from one Assessor Parcel Number, required right of way is not determined yet.
Southbound State Route 99 on-ramp from Paige Avenue	191-050-076	Flying J Travel Center	Truck Stop	0.891
Northbound State Route 99 on-ramp to Paige Avenue	191-070-019	Not Applicable	Sliver of parcel between a mobile home park and Laspina Street	0.730
Northbound State Route 99 on-ramp to Paige Avenue	191-070-024	Not Applicable	Corner lot with orchard on Laspina Street	0.924
Proposed northbound State Route 99 on-ramp from Paige Avenue	182-340-001	Not Applicable	Vacant lot	0.674
Southbound side of State Route 99, south of Paige Avenue	191-330-016	Calportland Company	Concrete Plant	0.088
Southbound State Route 99 on-ramp to Paige Avenue	182-110-019	Mobil	Truck Stop	0.508
Southbound State Route 99 on-ramp to Paige Avenue	182-110-012	Not Applicable	Agricultural field zoned commercial	0.827
Southbound State Route 99 off-ramp to Paige Avenue	182-050-046	Krone America Sales and Service Center	Farm equipment; sales	0.331

Location Area	Assessor's Parcel Number	Business and/or Owner	Use	Required Right of Way Area (Acreage)
Southbound State Route 99 Bardsley Avenue on-ramp	182-010-023	Derrel's Mini Storage, Incorporated	Mini storage	0.21
Southbound State Route 99 Bardsley Avenue on-ramp	182-020-037	Bender and Bender	Vacant basin	0.053
Southbound State Route 99 Bardsley Avenue on-ramp	182-020-048	A Premier Towing	Towing and car and truck repair	0.088
Southbound State Route 99 Bardsley Avenue on-ramp	182-020-049	A and L Truck Supply	Trucking accessories sales	0.023
Southbound State Route 99 Bardsley Avenue on-ramp	182-020-044	3D Offroad/Spectra Chrome Powder Coating	Repairs, metal fabrication/metal coating, and painting	0.148
Southbound State Route 99 Bardsley Avenue on-ramp	182-030-032	Autocom/Truck and RV Repair-Road Service and Tire	Truck and RV repair and towing	0.052
Southbound State Route 99 Bardsley Avenue on-ramp	182-030-031	Aguilar's Mobile Lube Service /Autocom	Auto and heavy equipment repair	0.080
Southbound State Route 99 Bardsley Avenue on-ramp	182-030-030	Wilbourn, Limited Liability Company	Vacant lot	0.057
Southbound State Route 99 Bardsley Avenue on-ramp	182-040-031	Santos	Vacant lot	0.126
Southbound State Route 99 Bardsley Avenue on-ramp	182-040-034	C.P. Phelps, Incorporated	Bulk plant and gas station	0.026
Northbound State Route 99 Bardsley Avenue on-ramp	177-060-026	Tulare Irrigation District	Underground pipe	0.013
Northbound State Route 99 Bardsley Avenue on-ramp	177-300-026	City of Tulare	Vacant lot	0.435

An analysis of the real estate market indicates that there is, and will be in the foreseeable future, adequate property for sale or lease in the area to relocate the three businesses that would require full acquisition

Any person, family, corporation, or partnership who moves from real property or moves personal property from real property as a result of the acquisition of the real property or is required to relocate as a result of a written notice from

the California Department of Transportation from the real property required for a transportation project is eligible for relocation assistance. All activities will be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. Relocation resources shall be available to all displacees free of discrimination.

Refer to Appendix C, Summary of Relocation Benefits, for an explanation of Caltrans' Relocation Assistance Advisory Services. Among these services, the Nonresidential Relocation Assistance Program provides assistance to businesses, farms, and nonprofit organizations in locating suitable replacement property and reimbursement for certain costs involved in relocation.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation is proposed.

2.1.7 Environmental Justice

Regulatory Setting

All projects involving a federal action (funding, permit, or land) must comply with Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, signed by President William J. Clinton on February 11, 1994.

This executive order directs federal agencies to take the appropriate and necessary steps to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. Low income is defined based on the Department of Health and Human Services poverty guidelines. For 2021, this was \$26,500 for a family of four.

All considerations under Title VI of the Civil Rights Act of 1964, and related statutes, have also been included in this project. The Department's commitment to upholding the mandates of Title VI is demonstrated by its Title VI Policy Statement, signed by the Director, which can be found in Appendix B of this document.

Affected Environment

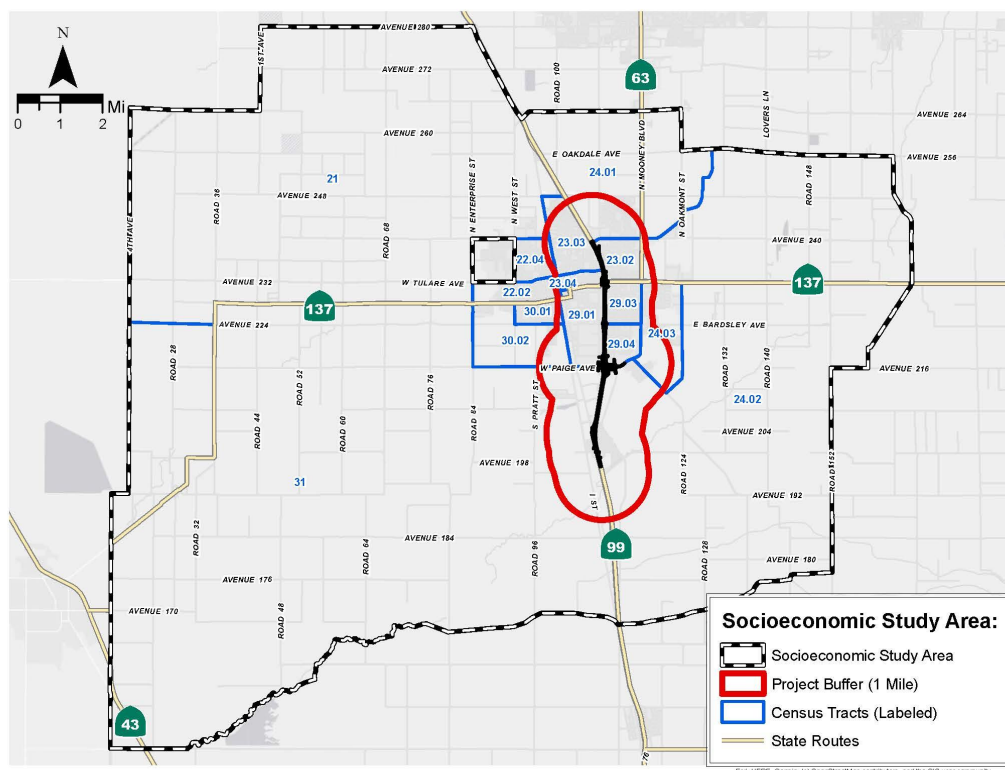
Analysis of environmental justice impacts is a two-step process. The first step is determining the presence of protected populations (minority or low-income populations). The second step is determining whether the project would have a disproportionate adverse impact on those protected populations if the populations are present. Impacts are considered disproportionate if these impacts are more severe or greater in magnitude for minority and low-income populations compared to impacts on nonminority or higher-income populations. Impacts to populations can include noise, air quality, water

quality, hazardous waste, community cohesion, aesthetics, economic vitality, accessibility, safety, and construction activities.

The study area for the environmental justice analysis consists of the census tracts and a 1-mile radius from the proposed right-of-way.

U.S. Census Bureau, 2021 American Community Survey 1-Year Estimates demographic data were analyzed to comply with Executive Order 12898. The socioeconomic data for census tracts 23.02, 23.03, 23.04, 24, 29.01, 29.03, 29.04, and 31 were used to analyze.

Figure 2-1 Socioeconomic Map of the Project Area



Source: U.S. Census Bureau TIGER/Line Shapefiles.

Income and ethnicity data for census tracts were compared with income and ethnic composition data from the City of Tulare and Tulare County to determine if the study area had a disproportionately large low-income or minority population.

A census tract is considered to contain an environmental justice population if:

- The total minority population of the census tract is more than 50 percent of the total population of the tract or is substantially higher than the city or county that the tract is in.

- The percentage of the census tract population is below the Department of Health and Human Service's poverty threshold or falls below that of the city or county in which the tract is in.

Census tracts and block groups impacted by the project and meeting the criteria of being in an area of disproportionately high ethnic minorities or lower-income households are referred to as "environmental justice populations," or "environmental justice communities" because these groups are afforded certain environmental justice protections under Executive Order 12898.

Table 2.6 Environmental Justice Populations by Census Tract in the Socioeconomic Study Area of Tulare County

Geographic Area	Aggregate Minority Percentage	Percentage of Families Below Poverty Level	Median Family Income	Environmental Justice Population?
Tulare County	72.4	18.6	\$58,209	Not Applicable
City of Tulare	66.4	12.4	\$63,668	Not Applicable
Census Tract 23.02	49.8	15.3	\$59,135	Yes
Census Tract 23.03	44.6	9.9	\$70,250	No
Census Tract 23.04	62.3	17.1	\$57,813	Yes
Census Tract 24.1	60.5	6.7	\$109,893	No
Census Tract 24.2	52.1	11.7	\$73,700	No
Census Tract 24.3	64.4	6.9	\$83,661	No
Census Tract 29.01	95.2	25.6	\$58,750	Yes
Census Tract 29.03	64.5	5.7	\$69,000	No
Census Tract 29.04	60.8	16	\$52,788	Yes
Census Tract 31	79.0	12.5	\$61,154	Yes

Source: U.S. Census Bureau, 2021 American Community Survey 1-Year Estimates.

Each census tract in the socioeconomic study area has an aggregate minority percentage above 50 percent, except for tract 23.02, with 49.8 percent and tract 23.03 with 44.6 percent. All tracts are below the city and county percentages except for tracts 29.01 and 31, with 95.2 percent and 79 percent, respectively. The median family income for the city, county, and all tracts is well above the 2021 Department of Health and Human Services poverty threshold of \$26,500 for a family of four.

Within the 1-mile radius of the study area is census tract 31, which includes the Matheny Tract, which is about 2 miles west of the Paige Avenue/State Route 99 Interchange. The Matheny Tract is a disadvantaged unincorporated community, according to the Matheny Tract Legacy Plan prepared by the Tulare County Resource Management Agency Economic Development and Planning Branch.

It is determined that environmental justice populations are present within the study area due to the high percentage of minority populations identified in the socioeconomic study area. An analysis of effects related to environmental justice populations is required subject to the provisions of Executive Order 12898.

Environmental Consequences

The following impacts would occur because of the Build Alternative.

Community Cohesion and Relocation Impacts

The project would require the relocation of three businesses (Budget Inn, Paige Truck Stop, and Gutierrez Auto Truck and Farm Service (Tire Shop) that may be used by environmental justice communities (see Community Character and Cohesion Section 2.1.5 and Relocations and Real Property Acquisition 2.1.6 for additional information). While the truck stop provides daily convenience shopping services, the real estate market analysis prepared for the project indicates that adequate relocation options are currently available and will be in the foreseeable future.

Near the Paige Avenue Interchange, similar convenience stores, such as the Flying J Travel Center and Love's Travel Stop, are less than 5 minutes away from the Paige Truck Stop. The relocation of the Paige Truck Stop would not cause an inconvenience for environmental justice communities since there are stores in the area that have similar amenities and will not increase additional travel time. There will be a loss of convenient access to the Gutierrez Auto Tire Shop, which is next to the State Route 99 southbound off-ramp; environmental justice residents would have to travel 1.28 miles to the nearest tire shop (Alfaro Tire Services) on K Street off Paige Avenue. Alfaro Tire Services is closer to the environmental justice community of Matheny Tract.

Access to stores and services providing the amenities that the community is accustomed to will remain relatively unchanged. and relocation assistance is provided for those business being displaced, there will not be any high and adverse effects to community cohesion.

Visual Impacts

The overall visual impact of the project is expected to be moderate to high. Removing oleanders within the median and replacing them with pavement would be a visual impact experienced by all users traveling on State Route 99.

Moderate and high impacts can be mitigated using conventional practices, as discussed in Section 2.1.10.

In addition to the above-listed visual impacts:

- The project will not impact scenic vistas.
- The project will not impact scenic resources within a state scenic highway.
- The project will have a less than significant impact (CEQA) on the existing visual character of the site and its surroundings.
- The project will not create a new source of light or glare.

Visual impacts due to the contractor's operation, such as night lighting, dust, temporary structure, hauling materials, contractor yards, or detours, are not expected to be out of the ordinary for a roadway construction area. Temporary construction visual impacts are expected to be low. Therefore, with the inclusion of measures to lessen visual impacts, there will not be any disproportionately high and adverse effects related to visual impacts.

Noise Impacts

Project construction is estimated to last about three years (February 2027 to October 2029). Construction activities would be performed during the day and night. Noise from construction activities may intermittently dominate the noise environment in the immediate construction area (see Section 2.2.5 for additional information).

Night work is expected during construction. Whenever this type of activity occurs, there will be standard special provisions showing the days and times of such activities. Equipment involved in construction is expected to generate noise levels ranging from 80 to 95 A-weighted decibels at 50 feet. The noise produced by construction equipment would be reduced over distance at a rate of about 6 decibels per doubling of distance.

Construction noise varies greatly depending on the construction process, the type and condition of equipment used, and the layout of the construction site. Many of these factors are traditionally left to the contractor's discretion, which

makes it difficult to accurately estimate levels of construction noise. Construction noise estimates are approximate because of the lack of specific information available at the time of the assessment.

The noise level requirement specified herein would apply to the equipment on the job or related to the job, including but not limited to trucks, transit mixers, or transient equipment that may or may not be owned by the contractor.

Vibration due to construction activities would be temporary in nature, and long-term vibration would be unlikely because highway traffic does not generally generate high enough levels of vibration to cause damage to residences or other structures, even at a very close distance from the facility.

Future traffic impacts of the proposed project were measured at frequent outdoor human use areas within the highway project limits. The future worst-case traffic noise impact at frequent outdoor human use areas along the project alignment was modeled for the Build Alternative to determine abatement measures. The project would result in noise impacts that would require the consideration of noise abatement. Three soundwalls are proposed for the project in environmental justice census tracts 23.04, 29.01 and 29.04.

Therefore, with the inclusion of minimization measures and soundwalls, there will not be any high and adverse effects related to noise impacts.

Air Quality

In the air quality report, sensitive receptors include hospitals, schools, day care facilities, elderly housing, and convalescent facilities. For sensitive receptors, the zone of greatest concern near roadways is within 500 feet (or 150 meters), according to the California Air Resources Board Air Quality and Land Use Handbook (2005). However, no sensitive receptors have been identified within 500 feet of this project.

Construction-related impacts are temporary in nature and can be reduced through the use of avoidance and minimization measures. This is implemented through compliance with applicable existing city, county, state, and district regulations for reducing construction-related emissions. The San Joaquin Valley Air Pollution Control District's Regulation 8 is applied to all construction sites and would constitute sufficient measures to reduce air quality impacts. Individual projects would be required to implement measures to reduce construction emissions as determined by the respective air quality analysis for construction impacts.

Measures to reduce construction-related greenhouse gas emissions must be included in all projects.

- Caltrans Standard Specifications pertaining to dust control and dust palliative requirements are a required part of all construction contracts and

should effectively reduce and control emission impacts during construction. The provisions of Caltrans Standard Specifications, Section 14-9.02 “Air Pollution Control” and Section 10-5 “Dust Control,” require the contractor to comply with the air pollution control rules, ordinances, and regulations and statutes that apply to work performed under the contract, including those provided in Government Code Section 11017. The amount of Particulate Matter 10 and Oxides of Nitrogen emissions are likely to exceed the San Joaquin Valley Air Pollution Control District’s (San Joaquin Valley Air Pollution Control District) Rule 9510/Indirect Source Review Rule. The construction contractor selected for this project will be required to comply with this rule and submit an Air Impact Analysis to the San Joaquin Valley Air Pollution Control District and pay any fees if required.

- Measures to reduce fugitive dust are required by the California Air Resources Board and San Joaquin Valley Air Pollution Control District. The construction contractor must comply with Caltrans’ Standard Specifications in Section 14-9 (2015) and Section 14-9-02, which specifically requires compliance by the contractor with all applicable laws and regulations related to air quality, including air pollution control district and air quality management district regulations and local ordinances.
- A dust control plan will be developed documenting sprinkling, temporary paving, speed limits, and timely revegetation of disturbed slopes as needed to minimize construction impacts on existing communities.
- Equipment and material storage sites will be located as far away from park and residential uses as practicable. Construction areas will be kept clean and orderly.
- To the extent feasible, construction traffic will be scheduled and routed to reduce congestion and related air quality impacts caused by idling vehicles along local roads during peak travel times.

A construction impact analysis will be performed later as the project moves closer to construction. Monitoring and abatement requirements of Caltrans’ Standard Specifications and Standard Special Provisions will be adhered to.

No-Build Alternative

Under the No-Build Alternative, the project roadways would remain as currently developed. Minority and low-income populations in the socioeconomic study area and residing within the region would be subject to deteriorating roadways, nonstandard road conditions, and increased congestion on State Route 99 and at the Paige Avenue Interchange. Minority and low-income populations would not experience the effects of the project, such as construction noise and dust; however, these populations would also not experience the beneficial effects associated with the project.

Conclusion

Environmental justice impacts are borne mostly by a minority population and/or a low-income population. Adverse impacts to environmental justice populations in the socioeconomic study area would occur from the following: cumulative impacts to air quality described in the 2022 Regional Transportation Plan/Sustainability Communities Strategy Environmental Impact Report, the proposed project's incremental increase in those emissions would be cumulatively considerable and would contribute to already identified significant cumulative effects (refer to Section 2.4 Cumulative Impact – Air Quality for further discussion). Therefore, the build alternative will cause disproportionately high and adverse effects on any minority or low-income populations in accordance with the provisions of Executive Order 12898 and Federal Highway Administration Order 6640.23A.

According to the Federal Highway Administration Guidance on Environmental Justice and National Environmental Policy Act (2011), if there is a disproportionately high and adverse effect on an environmental justice population, after taking benefits and mitigation into account, the National Environmental Policy Act document must evaluate whether there is a further practicable mitigation measure or practicable alternative that would avoid or reduce the disproportionately high and adverse effect(s). The proposed action will be approved only if it is determined that no such practicable measures exist.

Potential Benefits of Build Alternative

- Proposed mitigation for vehicle miles traveled would increase frequency on several bus routes within the environmental justice communities.
- The proposed project would incorporate complete street elements for all three design options, ten-foot-wide paved paths, for shared pedestrian and bicycles use, would be included in each roundabout, and would extend east and west along Paige Avenue. A 5-foot-wide landscaped buffer would separate these paths from the roadway in the roundabouts, and also along approaching and departing lanes on Paige Avenue, Blackstone Street, and Laspina Street.
- Removing the existing signalization and replacing with roundabouts along Paige Avenue at Blackstone Street, Laspina Street would have less vehicle delay and idling, roundabouts have the potential to lower fuel use and emissions in some cases (Caltrans Greenhouse Gas Emissions and Mitigation Report, 2020)
- The roundabouts would also remove conflict points and accident types associated with intersecting traffic. A Federal Highway Administration study has shown that roundabouts can reduce 35% of total crashes and 76% of injury crashes (Federal Highway Administration-SA-10-006, 2015)

- Carbon dioxide emissions will decrease as the project nears the 20-year horizon. These improvements in lessened air pollutants are attributed to technological advancements that will come about in the form of more efficiently combusting engines and fuels, and the continuance of hybrid and electric vehicles (zero emission vehicles)
- Constructing roundabouts and eliminating the hook ramps, traffic queuing due to stop-and-go traffic would be eliminated. Construction of the Paige Avenue Interchange for design options 1 and 2 would alleviate traffic congestion by removing the need for vehicles to stop at a signal, as traffic would constantly flow through the roundabouts.

In addition, the Federal Highway Administration Guidance on Environmental Justice and National Environmental Policy Act states that if the affected population is a minority population protected under Title VI, the proposed action will not be approved unless:

- 1) There is a substantial need for the project, based on the overall public interest; and
- 2) Alternatives that would have less adverse effects on protected populations have either:
 - a) Adverse social, economic, environmental, or human health impacts that are more severe; or
 - b) Would involve increased costs of an extraordinary magnitude.

The project development team has determined that there is substantial need for the project based on the overall project interest. This project has been developed in partnership with multiple public agencies at every stage of the project development process which includes the City of Tulare and the Tulare County Association of Governments. To not address the project needs would allow the corridor deficiencies to worsen which would not provide a safe and efficient roadway for the traveling public. If this project is not completed, there will be no relieve to traffic congestion along State Route 99 from Avenue 200 to Prosperity Avenue, no improvements to traffic operational deficiencies at the Paige Avenue Interchange; and no improvement access to local trucking-related facilities and the neighboring industrial area.

The Project Development Team performed analyses to determine if there were any alternatives that would have less impact on environmental justice communities and that did not create other severe environmental effects or result in costs of an extraordinary magnitude.

Alternative 1 would result in widening the existing four-lane freeway to a six-lane freeway by constructing the new lanes in the median. An auxiliary lane would have been added along the outside northbound lane between Bardsley

Avenue and the Hillman Street off-ramp. Construction of that lane would have required the acquisition of about 100 residences and some businesses.

Alternative 2 would result in widening the existing four-lane freeway to an eight-lane freeway by constructing two additional lanes in each direction outside the existing lanes. All seven overcrossings would have been rebuilt, as would all interchanges within the project limits. New drainage basins would have been needed at five locations. This alternative would have acquired over 200 homes and businesses along both sides of the freeway.

Coordination with the impacted environmental justice communities will be ongoing. The Caltrans Project Development team will also continue correspondence with various organizations and businesses.

Avoidance, Minimization, and/or Mitigation Measures

The project would incorporate Complete Street elements that would improve transportation within the surrounding community:

- Add shoulders to accommodate bike lanes on Paige Avenue.
- Caltrans will utilize construction equipment available to reduce the main pollutants in emissions: carbon monoxide, hydrocarbons, nitrogen oxides and particulate matter.
- Provide safer pedestrian crossings along Paige Avenue at Laspina Avenue and Blackstone Avenue by removing six ramp crossings, enhanced pedestrian pathways, and shoulders to accommodate bicycle lanes.
- Roundabout pedestrian/bicycle crossings would provide a safer passage.
- Improve or add pedestrian facilities such as crosswalks, sidewalks, and traffic calming devices (the roundabouts will calm and slow traffic down).
- Improve or add bicycle lanes that were not present.
- Add Complete Streets elements, such as benches at bus stops, lighting where it is not present, and/or bus shelters (keeping bus patrons out of direct sunlight or rain).
- Minimize excessive fossil fuel emissions that contribute to climate change due to large trucks and vehicles idling on the improved pathway.
- Improved infrastructure, highway landscaping, and soundwall aesthetics along the roadway will enhance the visual appeal for commuters and outside visitors.
- All pull boxes and electric service enclosures will be secured to reduce the occurrence of wire theft.
- The local communities could also experience temporary benefits from the construction project; this includes the generation of regional construction

industry jobs and the revenue that will likely be generated directly from the construction workers in the local community. This local revenue and job generation could benefit the local minority and low-income populations.

The 2022 Regional Transportation Plan/Sustainability Communities Strategy Environmental Impact Report (Section 4.3 Air Quality) outlines mitigation and minimization measures that will be incorporated by Tulare County.

- Locate sensitive receptors more than 500 feet of a freeway, 500 feet of urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day.
- Locate sensitive receptors more than 1,000 feet of a major diesel rail service or railyards. Where adequate buffer cannot be implemented, implement the following: ▫ Install air filtration (as part of mechanical ventilation systems or stand-alone air cleaners) to indoor reduce pollution exposure for residents and other sensitive populations in buildings that are close to transportation network improvement projects. Use air filtration devices rated MERV-13 or higher.
- Plant trees and/or vegetation suited to trapping roadway air pollution and/or sound walls between sensitive receptors and the pollution source. The vegetation buffer should be thick, with full coverage from the ground to the top of the canopy. Install higher efficacy public street and exterior lighting.
- Incorporate design measures and infrastructure that promotes safe and efficient use of alternative modes of transportation (e.g., neighborhood electric vehicles, bicycles) pedestrian access, and public transportation use. Such measures may include incorporation of electric vehicle charging stations, bike lanes, bicycle-friendly intersections, and bicycle parking and storage facilities
- Incorporate design measures that promote ride sharing programs (e.g., by designating a certain percentage of parking spaces for ride sharing vehicles, designating adequate passenger loading and unloading and waiting areas for ride sharing vehicles, and providing a web site or message board for coordinating rides.

2.1.8 Utilities and Emergency Services

Affected Environment

Utilities

The Caltrans Utility Engineering Workgroup conducted a preliminary review of the existing utilities inside the project limits on August 15, 2019. The following utility systems are within the project limits:

- Southern California Edison: Overhead electrical lines
- American Telephone and Telegraph: Telephone lines

- City of Tulare: Water and sewer lines
- Southern California Gas Company: Natural gas lines
- Tulare Irrigation District: Irrigation lines
- Central Valley Independent Network: Telecommunication line

Emergency Services

The closest fire station to the project is the City of Tulare Fire Station Number 61, about 0.6 mile on the west side of State Route 99. The closest police station to the project is the Tulare Police Station, about 1.3 miles on the west side of State Route 99. The closest hospital to the project is Adventist Health Tulare, about 0.5 mile from the end of the project limits. Table 2.7 lists the locations of the emergency services in the area and how far they are from the project.

Table 2.7 Emergency Services Within the Project Limits

Name	Facility Type	Address	Distance (Miles)
Adventist Health Tulare	Hospital	869 North Cherry Street Tulare, California 93274	0.5
Kaweah Health Tulare Clinic	Hospital	1000 North Mooney Boulevard Tulare, California 93274	3.1
City of Tulare Fire Station 61	Fire Station	800 South Blackstone Street Tulare, California 93274	0.6
Tulare County Fire Station 25	Fire Station	2082 East Foster Drive Tulare, California 93274	0.8
Tulare Police Department	Police Station	260 M Street Tulare, California 93274	1.3

Environmental Consequences

Utilities

The Paige Avenue Interchange construction would require relocating existing overhead and underground facilities. The existing City of Tulare storm drain basin on the northeast corner of the Paige Avenue Interchange would be relocated in coordination with the City of Tulare. Another storm drain basin owned by the City of Tulare on the southeast corner of the interchange would be combined with a proposed larger size basin to receive stormwater from the Paige Avenue Interchange area.

The proposed embankment for the Paige Avenue northbound on-ramp and the southbound off-ramp would cover the Tulare Irrigation District canal. Currently, negotiations are underway with Tulare Irrigation District to relocate the canal alignment to the west side of State Route 99.

Construction of soundwalls and security fence walls near Tulare Avenue and the proposed drainage basin would also cause conflict with existing overhead and underground utilities.

The utility relocation plans would be prepared during the plans, specifications, and estimates phase. As part of that effort, the design team would work with the utility provider to identify the relocation area that would minimize the impact on the various resources. Generally, utilities, except for large electrical towers, would be relocated within the existing right-of-way. These areas are already disturbed, so adverse impacts are not expected, and implementation of standard engineering practices would ensure that no substantial interruptions of utility service would occur. Should the relocation of the utilities result in impacts on resources, additional environmental clearance would be required.

Emergency Services

Two lanes for the northbound and southbound directions would remain open during the mainline construction work. One lane would be closed periodically during nighttime hours between different stages of construction work. Temporary freeway closure is required for the construction of the Paige Avenue Bridge. Alternate ramps would be closed for two to four weeks for ramp construction work. Construction of the Paige Avenue Interchange and the roundabout would require closing the existing Paige Avenue between Blackstone Street and Laspina Street would be closed for approximately nine months. The proposed detour would be through the new Commercial Avenue Interchange, which would be constructed between Paige Avenue and Avenue 200 and would be open to traffic by the time the Tulare Six-Lane and Paige Avenue Improvement project is in construction. Blackstone Street and Laspina Street would be closed during nighttime hours to construct the roundabout.

Caltrans would coordinate with emergency services before construction starts and during construction.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures would be needed.

2.1.9 Traffic and Transportation/Pedestrian and Bicycle Facilities

Regulatory Setting

Caltrans, as assigned by the Federal Highway Administration, directs that full consideration should be given to the safe accommodation of pedestrians and bicyclists during the development of Federal-aid highway projects (see 23 Code of Federal Regulations 652). It further directs that the special needs of the elderly and the disabled must be considered in all Federal-aid projects that include pedestrian facilities. When current or anticipated pedestrian

and/or bicycle traffic presents a potential conflict with motor vehicle traffic, every effort must be made to minimize the detrimental effects on all highway users who share the facility.

In July 1999, the U.S. Department of Transportation issued an Accessibility Policy Statement pledging a fully accessible multimodal transportation system. Accessibility in federally assisted programs is governed by the U.S. Department of Transportation regulations (49 Code of Federal Regulations 27) implementing Section 504 of the Rehabilitation Act (29 U.S. Code 794). The Federal Highway Administration has enacted regulations for the implementation of the 1990 Americans with Disabilities Act, including a commitment to build transportation facilities that provide equal access for all persons. These regulations require the application of the Americans with Disabilities Act requirements to Federal-aid projects, including Transportation Enhancement Activities.

With the passage of Senate Bill 743 (Steinberg, 2013) codified in Public Resources Code Section 21099, California embarked on a new approach for analyzing transportation impacts under CEQA. The analysis documented herein was conducted to provide Senate Bill 743 concurrence and to analyze the project's impact under California Environmental Quality Act (CEQA) due to increases in vehicle miles traveled attributable to the project. CEQA requires assessing and disclosing environmental impacts resulting from a project, that is, impacts that would not occur but for the project. Therefore, under CEQA, the transportation impact of a roadway capacity project is the overall increase in vehicle miles traveled that is attributable to the project, distinct from any background changes in vehicle miles traveled due to other factors such as population or economic growth. The vehicle miles traveled impact is the difference in vehicle miles traveled with the project and without the project.

The difference in vehicle miles traveled may be negative for some projects that reduce vehicle miles traveled, zero for projects that do not affect vehicle miles traveled, or positive for those projects that are associated with an increase in vehicle miles traveled. Generally, the project types associated with an increase in the total amount of driving are projects that add passenger vehicle and light duty truck capacity to the State Highway System. Many project types, including maintenance and rehabilitation projects and most safety projects, would be identified as unlikely to induce travel, requiring only screening and a narrative documenting that analysis and conclusion.

Affected Environment

Traffic and Transportation

Traffic Operations Analysis Memorandums were completed for this project on May 2, 2019, September 10, 2020, and February 25, 2021. A Traffic Safety

Memorandum was completed on March 28, 2019. A Vehicle Miles Traveled analysis was prepared in September 2021.

State Route 99 serves as a critical route for commercial and personal travel between the cities of the San Joaquin Valley. This segment of State Route 99 is classified as a suburban/urban four-lane freeway. It runs approximately south to north within the City of Tulare in generally level terrain. The posted speed limit is 70 miles per hour. The mainline roadway consists of four travel lanes with three beam median barriers within the unpaved median. This project would match the freeway widening of the Tagus 6-Lane Project to the north of the project and would conform to the existing four lanes to the south.

There are four interchanges with bridge crossings over the freeway in the project limits located at Avenue 200, Paige Avenue, Bardsley Avenue, and Tulare Avenue. Two other crossings include the Tulare Pedestrian Overcrossing that links the Santa Fe Trail at post mile 29.85 and the Cross Avenue Undercrossing at post mile 29.9, in which the freeway crosses over a local street.

The Paige Avenue Interchange consists of southbound hook ramps that connect to Blackstone Street in the northwest corner of the interchange, about 150 feet north of the Paige Avenue/Blackstone Street Intersection. Each of those intersections has traffic signals. The northbound hook ramps connect to Paige Avenue in the southeast corner of the interchange, with the northbound off-ramp ending at a recently installed stop light at Paige Avenue.

Traffic Volumes

Traffic volume and quality of traffic flow are used to analyze highway operation and related congestion issues. Traffic volumes are represented as annual average daily traffic counts, which are the average number of vehicles that pass a given point within a 24-hour period.

The existing average annual daily traffic on State Route 99 within the project limits is about 62,000. Table 2.8 shows this and the morning and evening peak traffic hour average speeds in miles per hour for existing conditions.

Table 2.8 Traffic Volume for Existing Conditions

Alternative	Morning Peak Traffic Hour Average Speed (Miles per Hour)	Evening Peak Traffic Hour Average Speed (Miles per Hour)	Average Annual Daily Traffic
2018 Existing Condition/Baseline Year	65.1	61.3	62,000

Caltrans Traffic Operations, 2021.

The 2018 average daily truck traffic is approximately 15,410 trucks (27.6 percent of all vehicles); more than half of these trucks are large, long-haul trucks (with five or more axles). When the average number of trucks-per-lane-per-day exceeds 2,000 on a route (the existing condition), congestion is characterized by large, long-haul trucks using all lanes for travel and passing, which creates potential safety and capacity problems for all users of the freeway. This is common within the four-lane segments of State Route 99 in Tulare County and the City of Tulare.

Caltrans describes traffic operations in terms of “level of service.” Six levels are defined, ranging from level of service A (the best-operating conditions) to level of service F (the worst-operating conditions). Caltrans’ goal is to maintain the level of service on its facilities at the transition between level of service C and level of service D. When the actual level of service of a roadway falls below this point, a need for improvement is identified.

The State Route 99 freeway within the project limits is currently operating at acceptable levels of service during peak traffic hours. As shown in Table 2.9, the existing level of service for the northbound lanes between post miles 25.2 to 30.6 is level of service D. For the southbound lanes, the level of service is C.

Table 2.9 Existing Level of Service for State Route 99

Northbound	Northbound Level of Service	Southbound	Southbound Level of Service
Existing (2018)	D	Existing (2018)	C

Caltrans Traffic Operations, 2019.

The results of the ramp merge and diverge analysis for existing conditions indicate that all existing merge/diverge operations are at acceptable levels, as shown in Table 2.10.

The cells that contain the word “Not Applicable” are labeled as such because the Commercial interchange is planned to be built by the year 2027 (International Agri-Center Way Interchange Project).

Table 2.10 State Route 99 Northbound and Southbound Ramps Existing Level of Service

Northbound Ramps	Existing Year 2018	Southbound Ramps	Existing Year 2018
Off-ramp at Avenue 200	C	Off-ramp at Avenue 200	B
On-ramp at Avenue 200	C	On-ramp at Avenue 200	C
Off-ramp at Commercial Avenue	Not Applicable	Slip on-ramp at Commercial Avenue	Not Applicable
Loop on-ramp at Commercial Avenue	Not Applicable	Loop on-ramp at Commercial Avenue	Not Applicable
On-ramp at Paige Avenue	C	Off-ramp at Paige Avenue	B
Off-ramp at Paige Avenue	C	Slip on-ramp at Paige Avenue	B
Off-ramp at Bardsley Avenue	C	Off-ramp at Bardsley Avenue	C
On-ramp at Bardsley Avenue	C	On-ramp at Bardsley Avenue	C
Off-ramp at Tulare Avenue (State Route 137)	D	Off-ramp at Tulare Avenue (State Route 137)	C
On-ramp at Tulare Avenue (State Route 137)	D	On-ramp at Tulare Avenue (State Route 137)	C
Off-ramp at Hillman Street	D	On-ramp at Prosperity Avenue	C
On-ramp at Hillman Street	C	Not Applicable	Not Applicable

Caltrans Traffic Operations, 2019 and 2021.

The four signalized intersections at the Paige Avenue Interchange perform at acceptable levels for the current (2018) morning and evening peak hour period, as shown in Table 2.11. These intersections were controlled with stop signs until signals were installed between 2019 and 2020.

Table 2.11 Paige Avenue Interchange Intersections Existing Level of Service

Intersection	Existing (2018) Morning	Existing (2018) Evening
Southbound State Route 99 Off-ramp/Blackstone Avenue	B	B
Paige Avenue/Blackstone Avenue	C	C
Northbound State Route 99 Off-ramp/Paige Avenue	C	C
Paige Avenue/Laspina Street	C	C

Source: D6 Traffic Operations.

Collision Analysis

A traffic safety analysis prepared for the project in April 2019 includes the collision history for the most recent three-year study period (October 1, 2015, to September 30, 2018) of the freeway within the project limits (post miles 25.2 to 30.6), and also analyzed the on- and off-ramps.

The collision rates for the northbound lanes show that all actual crash rates are lower than the statewide average collisions for similar roadways with comparable traffic volumes. There were 113 collisions (0-Fatal, 38-Injury, and 75-Property Damage Only) recorded. The crash rates, expressed as crashes per million vehicle miles traveled, are shown in Table 2.12.

Table 2.12 Collision Rates Along Northbound State Route 99

Type	Actual	Type	Statewide Average
Fatal	0.000	Fatal	0.006
Fatal Plus Injury	0.23	Fatal Plus Injury	0.27
Total	0.68	Total	0.81

Caltrans Traffic Operations, 2019.

The collision rates for the southbound lanes of the freeway show that the actual fatal plus injury and actual total collision rates are lower than the statewide average. However, the actual fatal collision rate is higher than the statewide average fatal collision rate on the southbound lanes. There were 79 collisions recorded (2-Fatal, 16-Injury, and 61-Property Damage Only). One of the fatal collisions was caused by a drunk driver at night. The other fatal collision occurred when a pedestrian was walking across the freeway lanes at night and was struck by a vehicle traveling in the outside lane. The collision rates, expressed as collisions per million vehicle miles traveled, are shown in Table 2.13.

Table 2.13 Collision Rates Along Southbound State Route 99

Type	Actual	Type	Statewide Average
Fatal	0.012	Fatal	0.006
Fatal Plus Injury	0.11	Fatal Plus Injury	0.27
Total	0.47	Total	0.81

Caltrans Traffic Operations, 2019.

Given the varied locations, factors, and types of collisions along this segment of State Route 99, there do not appear to be any collision concentrations that would indicate that there is a correctable collision-causing situation.

Transit

The City of Tulare transit system—the Tulare InterModal Express—does not have any routes that use the State Route 99 freeway within the project limits. Route 7 crosses over the freeway via the Tulare Avenue (State Route 137) Overcrossing. Route 4 crosses the freeway on the Prosperity Avenue Overcrossing. Route 2 crosses the freeway on the Bardsley Avenue Overcrossing and continues eastward to Mooney Boulevard, then southwards to where it ends and meets Foster Drive, then proceeds westward to Laspina Street, where it turns north to complete a loop at Bardsley Avenue.

The Tulare County Area Transit South County Route (Route 20) originates from the Tulare Transit Center. The transit center is between K and L Streets on the south side of the Tulare Santa Fe Trail. Along State Route 99, there are stops in Tipton, Pixley, Teviston, Earlimart, and Delano. The route follows State Route 155 east to Famoso-Porterville Highway, which runs northwards to Richgrove in Tulare County.

A new Greyhound bus station is at 407 North K Street. Six buses a day provide service to Fresno, Los Angeles, and San Francisco via State Route 99.

Pedestrians and Bicycles

Bicycles and pedestrians are not permitted along this segment of State Route 99 due to the controlled access right-of-way, which prohibits nonmotorized vehicles and pedestrians along a freeway.

The Santa Fe Trail is a 5-mile-long Class 1 bike path that crosses the city from the northeast to the west. This lighted trail begins on the east approach at West Inyo Avenue, crosses State Route 99 just south of East Cross Avenue and ends at Prosperity Avenue. Amenities include benches, water fountains, a pedestrian/bicycle trail, a horse trail, and nearby parks that the trail runs alongside. This shared use path traverses the freeway on what is now named the Tulare Pedestrian Overcrossing.

The only existing sidewalks on Paige Avenue within the project area are a narrow sidewalk along the south side of the Paige Avenue Overcrossing, at

the intersection with Blackstone Street, and for a short distance north and south on Blackstone Street. On Laspina Street, north of Paige Avenue, sidewalks are present along the west side of the street; however, the sidewalk does not extend south of the residential neighborhood to Paige Avenue.

There are no bicycle lanes or signs indicating a bike route in the Paige Avenue area of the project. However, the City of Tulare's planned city-wide bikeway network includes a Class 1 bike path along Paige Avenue within the project footprint extending west to Road 84. The planned path would extend eastwards along Foster Drive to Mooney Boulevard. A Class 1 bicycle facility (multi-use path) provides a completely separated right-of-way for the exclusive use of bicycles and pedestrians, with cross traffic from motorists minimized.

The Tulare County Association of Governments' 2010 Tulare County Regional Bicycle Transportation Plan has goals and policies for identifying future improvements to bicycle facilities within the county. These include at least three Class 1 paths, four Class 2 paths, and one Class 3 path that would cross or begin near the freeway within the project limits.

Vehicle Miles Traveled

This project is considered a capacity-increasing project and therefore falls into the group of projects that require an analysis of vehicle miles traveled and an evaluation for potential mitigation measures.

In general, two approaches exist for induced travel assessment. The first is the empirical approach, which applies elasticities from empirical studies that quantify the induced travel effect. The University of California, Davis' National Center for Sustainable Transportation Induced Travel Calculator applies this approach. The other is the travel demand model-based approach. These approaches are the preferred induced travel assessment tools for projects on the State Highway System. The approach used to calculate vehicle miles traveled for the air quality assessment used actual average annual daily traffic for the project limits, the project's length in miles, and the number of days in a year as inputs. Therefore, the projected annual vehicle miles traveled is noticeably different from the estimates using the approaches discussed in this section.

The project location qualifies as "Other Metropolitan Statistical Area County," and the project type is "Lane Addition to Class 2 and Class 3 State Routes," as shown in Table 2.14. Applying the National Center for Sustainable Transportation Calculator by county outright or applicable travel demand model benchmarked with the calculator are the two methods for measuring induced travel.

**Table 2.14 Table 2: Selection Matrix for Preferred Induced Travel
Assessment Method for Projects on the State Highway System**

Project Location or Project Type	General Purpose or High Occupancy Vehicle Lane Addition to Interstate Freeway	General Purpose or High Occupancy Vehicle Lane Addition to Class 2 or Class 3 State Routes	Other Vehicle Miles Traveled-Inducing Projects and Alternatives
County in Metropolitan Statistical Area with Class 1 Facility	Apply the National Center for Sustainable Transportation Calculator by Metropolitan Statistical Area and/or Travel Demand Model benchmarked with National Center for Sustainable Transportation Calculator	Apply the National Center for Sustainable Transportation Calculator by county and/or Travel Demand Model benchmarked with National Center for Sustainable Transportation Calculator	Apply Travel Demand Model or other quantitative methods
Other metropolitan statistical area county	Apply Travel Demand Model or other quantitative methods	Apply the National Center for Sustainable Transportation Calculator by county and/or Travel Demand Model benchmarked with National Center for Sustainable Transportation Calculator	Apply Travel Demand Model or other quantitative methods
Rural county	Apply Travel Demand Model or other quantitative methods	Apply the Travel Demand Model or other quantitative methods	Apply Travel Demand Model or other quantitative methods

Source: California Department of Transportation, *Transportation Analysis Framework*, First Edition, California Department of Transportation, 2020.

Notes: If preferred methods are not available, a qualitative assessment is acceptable, as shown in Figure 5 of the Transportation Analysis Framework, First Edition. Travel Demand Models must be checked for applicability as described in Sections 4.4 and 4.5 of the Transportation Analysis Framework, First Edition

Both approaches— National Center for Sustainable Transportation Induced Travel Calculator and travel demand model-based assessment methods— were selected for evaluating travel that may be induced by this project. The model-based approach was included, despite satisfying only four of the five checkboxes of the Transportation Analysis Framework’s adequacy checklist, to provide a basis for comparison with the calculator approach.

The National Center for Sustainable Transportation Induced Calculator uses three background inputs—the percent change in lane miles, existing vehicle miles, and one of two elasticities—to estimate induced annual vehicle miles traveled attributable to the project.

The Tulare County Association of Governments' Regional Travel Demand Model is a conventional travel demand forecasting model that is similar in structure to most other area-wide models used for traffic forecasting in the San Joaquin Valley. It uses land use, socioeconomic, and road network data to estimate travel patterns, roadway traffic volumes, and performance measures.

While the travel demand model is far more sophisticated than the National Center for Sustainable Transportation Induced Travel Calculator tool, it does not include a feedback mechanism for measuring travel induced by increases in roadway capacity and therefore fails Check 1 of the Transportation Analysis Framework's adequacy checklist. It can, however, account for trip length, mode shift, route changes, and newly generated trips due to user-provided changes in land use. However, because the coverage of the model is Tulare County only, vehicle miles traveled attributable to trips to and from outside of the county are not fully captured. Therefore, using the National Center for Sustainable Transportation Induced Travel Calculator is the mandated method for the Tulare Six-Lane and Paige Avenue Interchange Improvement project.

Environmental Consequences

Traffic and Transportation

The traffic operations analysis for the year 2029 and year 2049 assumed that improvements to be constructed for the International Agri-Center Way Interchange Project (EA 06-0U880) will have been completed by the year 2027. That project will construct a new interchange on State Route 99 at Commercial Avenue and will add an auxiliary lane on the freeway in both directions between the new interchange and Paige Avenue Interchange.

The project proposes to widen the existing four-lane freeway to a six-lane freeway by constructing one lane in each direction in the existing median of State Route 99. Three 12-foot-wide lanes would convey traffic in each direction, separated by an 8-foot-wide inside shoulder on each side of a Type 60 concrete barrier forming the median divider. Where the existing outside shoulders are now 8 feet wide, they would be widened to make a uniform 10-foot-wide standard shoulder.

Ramp metering would be added to the on-ramps at Paige Avenue, Bardsley Avenue, and the Tulare Avenue (State Route 137) northbound on-ramp. A second lane would be added to the northbound and southbound Bardsley Avenue on-ramps and to the Tulare Avenue northbound on-ramp to avoid the

potential for vehicle queues to back up from the on-ramp onto the local street when ramp meters are operating during peak traffic hours.

Intelligent Transportation System elements of traffic monitoring systems would be added along the freeway, and some existing components would be removed and replaced. These include a closed-circuit television, a new permanent changeable message sign, 19 existing traffic census systems, two existing traffic census systems/vehicle detection station, and two proposed vehicle detection systems.

Traffic Volumes

The annual average daily traffic is forecast to be 85,000 by 2029, and by 2049, it is forecast to be 126,000. Table 2.15 shows this and the morning and evening peak traffic hour average speeds in miles per hour for those two years.

Table 2.15 Vehicle Miles Traveled for No-Build Alternative

Alternative	Morning Peak Traffic Hour Average Speed (Miles per Hour)	Evening Peak Traffic Hour Average Speed (Miles per Hour)	Average Annual Daily Traffic
2029 No-Build Alternative	59.2	51.5	85,000
2049 No-Build Alternative	35 or less	35 or less	126,000
2029 Build Alternative Year Open to Traffic	64.7	64.3	85,800
2049 Build Alternative 20-Year Design Year	58.2	58.3	126,000

Caltrans Traffic Operations, 2021.

The State Route 99 freeway within the project limits is currently operating at acceptable levels of service during peak traffic hours and will continue to do so through the year 2029 without any improvements. However, by 2049, the freeway mainline would have insufficient capacity to accommodate the forecast traffic demand under the No-Build Alternative, and delays would significantly increase.

As shown in Table 2.16, by 2029, the level of service would be E for the two northbound lanes and D for the two southbound lanes for the No-Build Alternative. The level of service would deteriorate to level of service F if the freeway were not widened to six lanes 20 years later, in 2049. The freeway within the project limits would operate at level of service C when the Build Alternative is completed in 2029 (open year) and would still be at an acceptable level of service, level of service D, 20 years later in 2049 (design year).

Table 2.16 Projected Level of Service for State Route 99 Freeway

No-Build Northbound Level of Service 2029	No-Build Northbound Level of Service 2049	No-Build Southbound Level of Service 2029	No-Build Southbound Level of Service 2049	Build Northbound Level of Service 2029	Build Northbound Level of Service 2049	Build Southbound Level of Service 2029	Build Southbound Level of Service 2049
E	F	D	F	C	D	C	D

Caltrans Traffic Operations, 2019.

Ramps

The results of the ramp merge and diverge analysis for the No-Build Alternative indicate that all existing merge/diverge operations are at acceptable levels. However, in 2029, the northbound off-ramps and on-ramps at Bardsley Avenue and Tulare Avenue, the southbound off-ramp at Tulare Avenue, and the northbound off-ramp at Hillman Street are forecast to operate at level of service E. In 2049, traffic conditions would be further degraded at all locations to an unacceptable level of service F during peak traffic hours.

The results of the ramp merge/diverge analysis of the freeway ramps with the proposed improvements constructed are shown in Table 2.17 and Table 2.18. The merge/diverge operations are projected to operate at acceptable levels in both 2029 and 2049, except that the Hillman Street off-ramp would degrade to level of service E in 2049. The traffic operations report recommends that an auxiliary lane and an additional lane be added to this off-ramp in the future to avoid this unacceptable level of service in 2049.

**Table 2.17 State Route 99 Freeway Ramps Level of Service—
Northbound Ramps**

Northbound Ramps	Year 2029-No- Build	Year 2049-No- Build	Opening Year 2029- Build	Design Year 2049- Build
Off-ramp at Avenue 200	D	F	B	C
On-ramp at Avenue 200	D	F	B	C
Off-ramp at Commercial Avenue	D	F	B	D
Loop on-ramp at Commercial Avenue	D	E	C	D
On-ramp at Paige Avenue	D	F	C	D
Off-ramp at Bardsley Avenue	E	F	C	D
On-ramp at Bardsley Avenue	E	F	C	D
Off-ramp at Tulare Avenue (State Route 137)	E	F	C	D
On-ramp at Tulare Avenue (State Route 137)	E	F	C	D
Off-ramp at Hillman Street	E	F	D	E
On-ramp at Hillman Street	D	F	C	C

Caltrans Traffic Operations, 2019 and 2021.

**Table 2.18 State Route 99 Freeway Ramps Level of Service—
Southbound Ramps**

Southbound Ramps	Year 2029 No-Build	Year 2049 No-Build	Opening Year 2029 Build	Design Year 2049 Build
On-ramp at Prosperity Avenue	D	F	C	D
Off-ramp at Tulare Avenue (State Route 137)	E	F	C	D
On-ramp at Tulare Avenue (State Route 137)	D	F	C	D
Off-ramp at Bardsley Avenue	D	F	C	D
On-ramp at Bardsley Avenue	D	F	C	D
Off-ramp at Paige Avenue	D	F	C	D
Loop on-ramp at Commercial Avenue	D	F	B	D
Slip on-ramp at Commercial Avenue	C	F	B	D
Off-ramp at Avenue 200	C	F	B	C
On-ramp at Avenue 200	D	F	B	D

Caltrans Traffic Operations, 2019 and 2021.

Table 2.19 summarizes the intersection level of service during the morning and evening peak hour conditions for the Build Alternative and No-Build Alternative for the open year (2029) and the design year (2049). The results show all intersections would operate at an acceptable level of service for the Build Alternative between 2029 and 2049 for all conditions. Without improvements, the intersections will deteriorate to an unacceptable level of service F by 2049.

Table 2.19 Future Level of Service at Intersections

Intersection	2029 No-Build Morning/Evening	2049 No-Build Morning/Evening	2029 Build Morning/Evening	2049 Build Morning/Evening
State Route 99/Paige Avenue Northbound Ramps	C/F	F/F	A/A	B/B
State Route 99/Blackstone Avenue Southbound Ramps	B/B	F/F	A/A	B/A
State Route 99 Ramps at Paige Avenue (Applies only to the three-roundabout option)	Not Applicable	Not Applicable	A/A	B/B
Blackstone Street/Paige Avenue	D/D	F/F	A/A	D/D
Laspina Street/Paige Avenue	D/E	F/F	A/A	C/B

Source: District 6 Traffic Operations.

Construction impacts on traffic and transportation would not be substantial. Access to and from State Route 99 would be available during construction, and the highway would remain open to traffic during construction. All ramps in the project limits would alternate closures to minimize impacts to traffic.

Bicycles and Pedestrians

A 10-foot-wide paved shared path for pedestrians and bicycles would be placed around all the roundabouts and on both sides of Paige Avenue between Blackstone Avenue and Laspina Street. A 5-foot-wide landscaped buffer would be placed between the travel lanes and the shared use path around the roundabouts. Americans with Disabilities Act-compliant curb ramps and marked crosswalks would be part of the design. This facility is classified as a Class 1 bicycle path.

There will be construction equipment accessing the Santa Fe Trail to construct the security wall, which would require closing one lane of the trail that crosses State Route 99. The other side of the trail would remain open to the public at all times.

Vehicle Miles Traveled

Consistent with the language of Section 15064.3 of the CEQA Guidelines, Caltrans agrees that vehicle miles traveled is the most appropriate measure of transportation impacts under CEQA. The determination of significance of a vehicle miles traveled impact will require a supporting induced travel analysis for capacity-increasing transportation projects on the State Highway System when Caltrans is the lead agency or when another entity acts as the lead

agency. Caltrans has developed the *Transportation Analysis Framework* and *Transportation Analysis under CEQA* documents to guide CEQA transportation impact analysis for projects on the State Highway System. Caltrans has prepared these documents to guide the implementation of Senate Bill 743 (Steinberg, 2013). The Transportation Analysis Framework and Transportation Analysis under CEQA establish Caltrans guidance on how to analyze induced travel associated with transportation projects and how to determine impact significance under CEQA, respectively. Table 1 in Section 4.2.2, *Guidance for Selecting Analysis Approach* of the Transportation Analysis Framework, provides a selection matrix to be used in identifying the preferred vehicle miles traveled assessment method(s) based on location and project type. The application of the National Center for Sustainable Transportation Induced Travel Calculator and the travel demand model are described in Sections 4.3 and 4.4 of the Transportation Analysis Framework, respectively. As shown in Table 2.22 below, the travel demand model-based method produced markedly different induced vehicle miles traveled results compared with the National Center for Sustainable Transportation Induced Travel Calculator method. The travel demand model-based estimates of induced VMT are grounded in a model calibrated to local/regional travel patterns and travel behavior. However, the travel demand model satisfies only four of the five checks on the checklist found in Table 4 of Section 4.5, *The Checklist for Evaluating Model Adequacy*. Therefore, using the National Center for Sustainable Transportation Induced Travel Calculator is the recommended method for the Tulare Six-Lane and Paige Avenue Interchange Improvement project. Tables 2.20 and 2.22 summarize the selections and data input to the National Center for Sustainable Transportation Induced Travel Calculator and the resulting annual induced vehicle miles traveled.

Table 2.20 National Center for Sustainable Transportation Induced Travel Calculator User Input Information Summary

Metric	Value
Facility Type	Classes 2 and 3
County	Tulare
Total Lane Miles Added by the Project	11.1

Source: Induced VMT Analysis for the Tulare Six-Lane and Paige Avenue Interchange Improvement, September 2021.

The National Center for Sustainable Transportation Induced Travel Calculator's results for the Tulare Six-Lane and Paige Avenue Interchange Improvement project indicated that the project would induce an additional 24 million vehicle miles traveled per year. In the vehicle miles traveled analysis completed in September 2021, the total lane miles of 10.8 was inputted into the National Center for Sustainable Transportation Induced Travel Calculator, which included only the general-purpose lanes added to State Route 99. Improvements to widen Paige Avenue between Laspina Street and Blackstone Street for 1,900 feet brought the total lane miles to 11.1. Paige

Avenue is listed as an arterial in the Tulare County General Plan and is included in the vehicle miles traveled calculation.

Transportation Analysis Framework guidance includes the following statement regarding vehicle miles traveled, “For a CEQA compliant transportation impact analysis, automobile vehicle miles traveled (cars and light trucks) may be evaluated.” Based on current estimated truck volumes (about 27.6 percent) in this corridor, it is reasonable for this project to include a reduction in the induced demand calculation and provide a calculation based on the vehicle miles traveled generated by passenger cars and light-duty trucks. Caltrans’ Interregional Transportation Strategic Plan 2021 identifies State Route 99 as a major interregional trucking route within the San Jose/San Francisco Bay Area–Central Valley-Los Angeles Corridor. The Interregional Transportation Strategic Plan further states the forecasted increase in freight trips is expected to be significantly higher than the rate of automobile trips. Two-axle trucks make up 36 percent of the overall truck percentage of 27.6 percent. Subtracting the 36 percent of light-duty trucks from the overall remaining truck percentage would be 17.67 percent. Conservatively assuming that the percentage of trucks in the induced vehicle miles traveled was the same as the existing percentage of trucks on the roadway, you could reduce the amount of vehicle miles traveled that would need to be mitigated by 17.67 percent. The conclusion would be that the National Center for Sustainable Transportation Induced Travel Calculator induced vehicle miles traveled is 82.33 percent of the total, or 19,759,200.

Table 2.21: National Center for Sustainable Transportation Induced Travel Calculator Input Information Summary

Metric	Value
Lane Miles (Classes 2 and 3)	712
Annual VMT	1,962,000 million
Elasticity	0.75

Source: Induced vehicle miles traveled Analysis for Tulare Six-Lane and Paige Avenue Interchange Improvement, September 2021.

Table 2.22 Summary of Induced Vehicle Miles Traveled Produced by Different Calculation Methods

Calculation Method	Induced Vehicle Miles Traveled (in millions)
National Center for Sustainable Transportation Induced Travel Calculator with truck reduction	19.76
Travel Demand Model 2042 (Build–No-Build)	8.0
Difference with respect to NCST Calculator	Negative 63 percent

Source: Induced VMT Analysis for Tulare Six-Lane With Paige Avenue Interchange Improvement, September 2021.

Avoidance, Minimization, and/or Mitigation Measures

Traffic and Transportation/Transit

No mitigation measures would be required for impacts to traffic and transportation. During construction, two lanes for the northbound and southbound directions would remain open during the mainline work. One lane would be closed periodically during nighttime hours between different stages of construction work. Temporary freeway closure would be required for the construction of the Paige Avenue Bridge. Alternate ramps would be closed for two to four weeks for ramp construction work. Construction of the Paige Avenue Interchange and the roundabout would require the closure of the existing Paige Avenue between Blackstone Street and Laspina Street. The proposed detour would be through the new Commercial Avenue Interchange, which would be constructed between Paige Avenue and Avenue 200 and would be open to traffic by the time the Tulare Six-Lane With Paige Avenue Interchange Improvement project is in construction.

A Transportation Management Plan would be developed for the project and would be provided during the Plans, Specifications, and Estimates phase. The plan would include public information, motorist information, incident management, construction, demand management, and alternate routes or detours.

Bicycles and Pedestrians

No avoidance, minimization, and/or mitigation measures are proposed.

Vehicle Miles Traveled

Based on the vehicle miles traveled analysis, the project would increase vehicle miles traveled by 19,759,200 after the deductions for truck vehicle miles traveled noted above, and mitigation measures must be considered. Vehicle miles traveled mitigation can be achieved through modification of the project to reduce the amount of vehicle miles traveled generated or by providing transportation improvements on-system or off-system.

On-system mitigation are measures that can be implemented within the Caltrans right-of-way. On-system mitigation may include mitigation within or outside the initial project limits of any given capacity-increasing project. Caltrans, as owner and operator of the State Highway System and associated right-of-way, exercises more direct authority over on-system measures as opposed to off-system measures. However, onsite mitigation can be very limited in the amount of vehicle miles traveled reduction. For example, bike lanes or walking paths could be added to the project scope, but the benefit to vehicle miles traveled reduction may be almost zero at the project level.

Off-system mitigation, outside Caltrans' right-of-way, requires cooperation with those jurisdictions that have influence over land use and transportation systems outside of Caltrans' direct control. The Caltrans Division of

Transportation Planning recently completed a literature review and assessment of vehicle miles traveled reduction strategies and found that measures that resulted in the largest decreases in vehicle miles traveled are generally off-system and not under Caltrans' direct control. Similarly, the most cost-effective measures identified in the literature review also tended to be outside of Caltrans' direct control (e.g., transit-oriented development, transportation demand management).

The following are proposed mitigation strategies. After public comment and during final engineering, the mitigation strategies would be incorporated into the project using cooperative agreements with local partners. The cooperative agreements would be finalized before project construction.

Tulare County Regional Transit Agency Vanpool Program

Caltrans would provide \$432,000 in funding to subsidize the vanpool program at the Tulare County Regional Transit Agency for five years. Caltrans' funding would subsidize the addition of 30 vanpools to the existing program in the first year and 15 vanpools to the program in the second year. Assumptions include that six passengers (driver not included) would use the vanpools, and each vanpool would result in an average 220,504 vehicle miles traveled. The transit agencies report transit data to the National Transit Database and the California State Controller. The numbers are used in annual apportionment calculations. This is a two-year cycle, meaning data reported in 2022 will be used to calculate 2024 annual apportionments. Increasing the revenue and passenger miles increases the annual apportionments and would allow the transit agencies to continue the services.

Increase Frequency on Tulare County Area Transit Route 20

Caltrans would provide five years of funding in the amount of \$1,500,000 to subsidize the round-trip bus service for Route 20 on the Tulare County Area Transit. Route 20 currently operates bus services every two hours between Tulare and Delano on weekdays and weekends. Adding 10 trips per day with a one-way distance of 32 miles and an assumed ridership increase of about 10 per trip would result in an annual vehicle miles traveled reduction of 2,252,800. Using the transit service improvement multiplier allowed per the vehicle miles traveled mitigation playbook would increase the vehicle miles traveled reduction to 4,505,600.

Increase Frequency on Tulare County Area Transit Route 40

Caltrans would provide five years of funding in the amount of \$1,500,000 to subsidize the round-trip bus service for Route 40 on the Tulare County Area Transit. Route 40 currently provides bus services every hour between Porterville and Visalia. Adding eight trips per day with a one-way distance of 30 miles and an assumed ridership increase of about 10 per trip would result in an annual vehicle miles traveled reduction of 1,689,600. Using the transit service improvement multiplier allowed per the vehicle miles traveled

mitigation playbook would increase the vehicle miles traveled reduction to 3,379,200.

Increase Frequency on Tulare County Area Transit Route 11x

Caltrans would provide five years of funding of \$1,250,000 to subsidize round-trip bus service for Route 11x on the Tulare County Area Transit. Route 11x currently provides bus services every hour between Tulare and Visalia. Adding 14 trips per day with a one-way distance of 15 miles and an assumed ridership increase of about 10 per trip would result in an annual vehicle miles traveled reduction of 1,478,400. Using the transit service improvement multiplier allowed per the vehicle miles traveled mitigation playbook would increase the vehicle miles traveled reduction to 2,956,800.

Public transit operates based on public need and demand. The five-year funding would allow Caltrans to build demand to meet route performance measures. Route data are analyzed every year by the transit operator to determine if they are operating effectively and efficiently and meeting set performance measures. Every three years, the Metropolitan Planning Organization would audit the transit agency's ability to meet set performance measures and determine if performance measures need to be modified. Typically, new routes or expansions are exempt from meeting these performance measures for the first two years of operation.

Comprehensive Corridor Management Plan

As discussed in Chapter 1, Caltrans Districts 6, 10, and 3 will collaborate with the local agencies in the San Joaquin Valley to prepare the Comprehensive Multimodal Corridor Plan, which will include the prioritization of identifying managed lane and mode shift opportunities in the corridor that will lead to reduced vehicle miles traveled. Implementation of vehicle miles traveled - reducing managed lane strategies, such as truck-only and/or tolling lanes, through the corridor (or parts of the corridor that include this project) could eliminate about 80 percent of the vehicle miles traveled concern from the project, as the only relevant capacity increase would result from the removal of trucks from the two general-purpose lanes. The lane-management strategy will be developed in more detail before the final environmental document is signed.

Table 2.23 summarizes the proposed funding and subsequent vehicle miles traveled reductions for the mitigation measures listed above.

Table 2.23 Proposed Mitigation, Mitigation Cost, and Annual Vehicle Miles Traveled Reduction

Proposed Mitigation	Proposed Funding Amount	Annual Vehicle Miles Traveled Reduction
Tulare County Regional Transit Agency Vanpool Program five years of funding.	\$432,000	6,544,800
Increase frequency on Tulare County Area Transit Route 20. Five years of funding.	\$1,500,000	4,505,600
Increase frequency on Tulare County Transit Route 40. Five years of funding.	\$1,500,000	3,379,200
Increased frequency on Tulare County Transit Route 11x. Five years of funding.	\$1,250,000	2,956,800
Funding and annual vehicle miles traveled reduction totals for mitigation measures listed above.	\$4,682,000	17,386,400

2.1.10 Visual/Aesthetics

Regulatory Setting

The National Environmental Policy Act of 1969, as amended, establishes that the federal government use all practicable means to ensure all Americans safe, healthful, productive, and *aesthetically* (emphasis added) and culturally pleasing surroundings (42 U.S. Code 4331[b][2]). To further emphasize this point, the Federal Highway Administration, in its implementation of the National Environmental Policy Act (23 U.S. Code 109[h]), directs that final decisions on projects are to be made in the best overall public interest taking into account adverse environmental impacts, including among others, the destruction or disruption of aesthetic values.

The California Environmental Quality Act establishes that it is the policy of the state to take all action necessary to provide the people of the state “with...enjoyment of *aesthetic*, natural, scenic and historic environmental qualities” (California Public Resources Code Section 21001[b]).

California Streets and Highways Code Section 92.3 directs Caltrans to use drought-resistant landscaping and recycled water when feasible and to incorporate native wildflowers and native and climate-appropriate vegetation into the planting design when appropriate.

Affected Environment

A visual impact assessment was completed for the project in August 2021. The visual impact assessment was prepared in accordance with the guidelines in the Federal Highway Administration’s Visual Impact Assessment for Highway Projects (Federal Highway Administration 2015).

Visual Setting

The project is in the San Joaquin Valley of Central California. The landscape is flat and can allow expansive views of the Sierra Nevada to the east and the coast ranges to the west. The mountain ranges provide the only naturally occurring variation in topography. The southern end of the project corridor is mainly covered with agricultural crops and associated structures. Moving north, the land cover becomes more residential and commercial. Within Caltrans' right-of-way are historic plantings of Eucalyptus trees and oleander shrubs.

Existing Visual Resources

The land cover in the project corridor is mainly agricultural crops, commercial, and residential. The vegetation along the freeway has large mature oleanders in the median and large mature Eucalyptus trees on the outside shoulders.

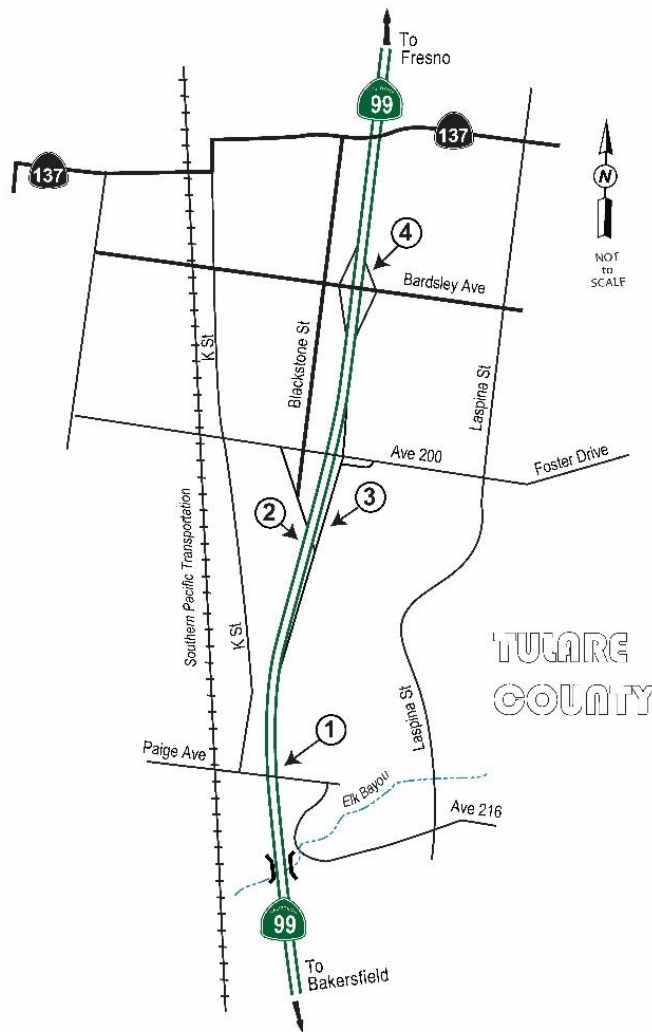
The oleanders in the median add a vibrant sense of color and texture all year round but are memorable when the plants are flowering in the spring and into the fall. The proximity of the vegetation to the traveled way allows it to dominate the views in most locations. The section of the highway between post mile 28.33 and post mile 30.06 is a Classified Landscape Freeway due to the ornamental vegetation planting that meets the criteria established by the California Code of Regulations, Outside Advertising Regulations, Title 4, Division 6.

Visual Assessment and Key Views

The project corridor is divided into a series of "outdoor rooms" or visual assessment units. Each visual assessment unit has its own visual character and visual quality. Because this project lacks a diversity of views, only one visual assessment unit and its associated four key views have been identified. A map of the key view locations is shown in Figure 2-2.

- Key View 1: Eucalyptus tree in the median at post mile 25.4. This is an example of the characteristic of State Route 99, and it demonstrates the effect a single tree can have on the landscape.
- Key View 2: Wide median at post mile 25.7 to post mile 26.2. This view is of a 0.5-mile segment where the median geometry is different than the remainder of the corridor segment being studied. The project proposes to conform the wider segment to the width of the rest of the median on the project.
- Key View 3: Oleanders in the median and Eucalyptus trees with bridge overcrossing. Key view 3A within this location is on Paige Avenue, where the project proposes a new interchange and associated roundabouts.
- Key View 4: Below grade roadway, landscaped freeway, oleanders in the median, and a bridge at post mile 28.5.

Figure 2-2 Map of the Key View Locations



Visual Resources and Resource Change

Resource change is assessed by evaluating the visual character and the visual quality of the visual resources that make up the project corridor before and after project construction. Resource change is one of the two major variables in the equation that determines visual impacts, and the other is viewer response.

Visual character includes attributes, such as form, line, color, and texture, and is used to describe, not evaluate; that is, these attributes are neither considered good nor bad. Changes in visual character can be identified by how visually compatible a proposed project would be with the existing condition by using visual character attributes as an indicator. For this project, the following attributes were considered:

Line—edges or linear definition

Texture—surface coarseness

Dominance—position, size, or contrast

Continuity—an uninterrupted flow of form, line, color, or textural pattern.

Visual quality is evaluated by identifying the vividness, intactness, and unity present in the project corridor. Public attitudes validate the assessed level of visual quality and predict how changes to the project corridor can affect these attitudes. This process helps identify specific methods for addressing each visual impact that may occur because of the project. The three criteria for evaluating visual quality are defined below:

Vividness is the extent to which the landscape is memorable and is associated with distinctive, contrasting, and diverse visual elements.

Intactness is the integrity of visual features in the landscape and the extent to which the existing landscape is free from nontypical visual intrusions.

Unity is the extent to which all visual elements combine to form a coherent, harmonious visual pattern.

Viewers and Viewers' Response

The population affected by the project is composed of viewers. Viewers are people whose views of the landscape may be altered by the proposed project—either because the landscape has changed or their perception of the landscape has changed. Viewers, or more specifically, the response viewers have to changes in their visual environment, are one of two variables that determine the extent of visual impacts that will be caused by the construction and operation of the proposed project.

Viewer Exposure and Viewer Sensitivity

Viewer exposure is a measure of the viewer's ability to see a particular object. It has three attributes:

Location relates to the position of the viewer in relation to the object being viewed. The closer the viewer is to the object, the more exposure.

Quantity refers to how many people see the object. The more people can see an object or the greater frequency an object is seen, the more exposure the object has to viewers.

Duration refers to how long a viewer can keep an object in view. The longer an object can be kept in view, the more exposure. High viewer exposure helps predict that viewers will have a response to a visual change.

Viewer sensitivity is a measure of the viewer's recognition of a specific object. It has three attributes:

Activity relates to the preoccupation of viewers. Are they preoccupied, thinking of something else, or are they truly engaged in observing their surroundings? The more they are observing their surroundings, the more sensitivity viewers will have to changes to visual resources.

Awareness relates to the focus of view. Is the focus wide and the view general, or is the focus narrow and the view specific? The more specific the awareness, the more sensitive a viewer is to change.

Local values and attitudes also affect viewer sensitivity. If the viewer group values aesthetics in general or if a specific visual resource has been protected by local, state, or national designation, viewers will likely be more sensitive to visible changes. High viewer sensitivity helps predict that viewers will have a high concern for any visual change.

Definition of Visual Impact Levels

- **Low**—Low negative change to existing visual resources and low viewer response to that change. May or may not require mitigation.
- **Moderately Low**—Low negative change to the visual resource with a moderate viewer response, or moderate negative change to the resource with a low viewer response. The impact can be mitigated using conventional practices.
- **Moderate**—Moderate negative change to the visual resource with moderate viewer response. The impact can be mitigated within five years using conventional practices.
- **Moderately High**—Moderate negative visual resource change with high viewer response or high negative visual resource change with moderate viewer response. Extraordinary mitigation practices may be required. Landscape treatment required will generally take longer than five years to mitigate.
- **High**—A high level of negative change to the resource or a high level of viewer response to visual change such that extraordinary architectural design and landscape treatment may not mitigate the impacts below a high level. An alternative project design may be required to avoid high negative impacts.

Environmental Consequences

Visual resources would be affected by project construction. The following is a description of the changes and the expected viewer response to these changes for each key view.

**Figure 2-3: Existing Conditions of State Route 99 at Post Mile 25.4,
North of the Avenue 200 Overcrossing**



Key View 1

Key view 1 is at post mile 25.4, north of the Avenue 200 Overcrossing. The proposed build alternative would remove the trees, shrubs, and guardrails in the median and replace them with a third lane in each direction separated by a concrete barrier. With the removal of the trees comes a loss of a distinctive and characteristic element of State Route 99. The level of resource change would be characterized as high. Viewer exposure can be rated as high. Viewers are close to the view, the roadway is a heavily used route, and the amount of time a viewer is in sight of the view is moderate to high. The viewer sensitivity in this segment would be high.

Figure 2-4: Existing Condition on State Route 99 at Post Mile 25.8



Key View 2

The second key view is at post mile 25.8 and is of a portion of the 0.5-mile segment where the median geometry is different than the remainder of the corridor segment being studied. The proposed build alternative would realign the roadway to remove the curve and conform the median to the current standard. Median trees would be removed and replaced by new lanes and a concrete barrier. This would result in the loss of color, texture, and pattern diversity on this segment of the route. The view would have more hard edges and be less balanced. The level of resource change would be characterized as high. Viewer exposure can be rated as high. Viewers are close to the view, the roadway is a heavily used route, and the amount of time a viewer is in sight of the view is moderate-high. The viewer sensitivity in this segment would be high.

Figure 2-5: Existing Conditions at Post Mile 27.4



Key View 3

The third key view is one of two locations—the first is at post mile 27.4—with oleanders in the median, eucalyptus trees, and a bridge overcrossing in the distance. The proposed build alternative would remove the oleanders in the median and add a third lane in each direction, separated by a concrete barrier. The level of resource change would be characterized as moderate. Viewer exposure can be rated as high. Viewers are close to the view, the roadway is a heavily used route, and the amount of time a viewer is in sight of the view is moderate-high. Viewer sensitivity is low.

Figure 2-6: Existing Conditions on Paige Avenue on the East Side of State Route 99, Looking East



Key View 3A

The second location of key view 3 is labeled as key view 3A and is on east Paige Avenue on the east side of State Route 99. The proposed project would add a roundabout at this location, with new on- and off-ramps on both sides of State Route 99. The roundabout, with its design elements and landscape, would add elements of interest to the view. A stormwater basin is also proposed for the north side of Paige Avenue. The level of resource change would be characterized as moderate-high. The viewer's exposure can be rated as high, and the viewer sensitivity is low because no visual elements would be lost with project construction.

Figure 2-7: Existing Conditions at Post Mile 28.5



Key View 4

The fourth key view is at post mile 25.5, where the segment is a classified landscape freeway, the roadway is below grade, the oleanders are in the median, and there is an overcrossing. The proposed build alternative would remove the oleanders in the median and add a third lane in each direction, separated by a concrete barrier. The side slopes would be cut back by 2 to 15 feet to allow for the widening, except under the overcrossing bridges from post mile 28.4 to post mile 28.8, post mile 29.3 to post 30.1, and post mile 30.3 to post mile 30.7. The existing landscaping on the outside would be removed, and the slope would be regraded to be steeper than the existing conditions. The level of resource change would be characterized as high. Viewer exposure can be rated as high. Viewers are close to the view, the roadway is a heavily used route, and the amount of time a viewer is in sight of the view is moderate-high. Viewer sensitivity is low.

Table 2.24 below summarizes and compares the narrative ratings for visual resource change, viewer response, and visual impacts between alternatives for each key view.

Table 2.24 Displays a Summary of Visual Impacts by Key View

Key View Summary	Resource Change	Viewer Response	Visual Impact
Key View 1	High	High	High
Key View 2	High	High	High
Key View 3 and 3A	High	Moderate	Moderately High
Key View 4	High	Moderate	Moderate

Temporary visual impacts may occur during project construction. Equipment and materials would need to be stored during construction. There may be a temporary increase in light and glare when night work is required. These visual impacts are expected to be temporary.

Avoidance, Minimization, and/or Mitigation Measures

The following measures to avoid or minimize visual impacts can be incorporated into the project:

- Minimize tree removal by removing only trees and shrubs required for the construction of the new roadway facilities. Avoid removing trees and shrubs for temporary uses, such as construction staging areas or temporary stormwater conveyance systems.

The following mitigation measures to offset visual impacts would be incorporated into the project.

- Replacement planting at a 1:1 ratio for all vegetation removed. It is estimated that over a thousand trees would be replaced or replanted. The locations of the planting may occur at the proposed stormwater basin sites and the area where State Route 99 will be realigned at post mile 25.8. Most of the new planting would consist of California natives that are drought tolerant and use low to very low amounts of water. In addition, plants that attract pollinator species would be among these new plantings.

2.1.11 Cultural Resources

Regulatory Setting

The term “cultural resources,” as used in this document, refers to the “built environment” (e.g., structures, bridges, railroads, water conveyance systems, etc.), places of traditional or cultural importance, and archaeological sites (both prehistoric and historic), regardless of significance. Under federal and state laws, cultural resources that meet certain criteria of significance are referred to by various terms, including “historic properties,” “historic sites,” “historical resources,” and “tribal cultural resources.” Laws and regulations dealing with cultural resources include:

The National Historic Preservation Act of 1966, as amended, sets forth national policy and procedures for historic properties, defined as districts, sites, buildings, structures, and objects included in or eligible for listing in the

National Register of Historic Places. Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of their undertakings on historic properties and to allow the Advisory Council on Historic Preservation the opportunity to comment on those undertakings, following regulations issued by the Advisory Council on Historic Preservation (36 Code of Federal Regulations 800). On January 1, 2014, the First Amended Section 106 Programmatic Agreement among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and Caltrans went into effect for Caltrans' projects, both state and local, with Federal Highway Administration, involvement. The Programmatic Agreement implements the Advisory Council on Historic Preservation regulations, 36 Code of Federal Regulations 800, streamlining the Section 106 process and delegating certain responsibilities to Caltrans. The Federal Highway Administration's responsibilities under the Programmatic Agreement have been assigned to Caltrans as part of the Surface Transportation Project Delivery Program (23 U.S. Code 327).

The California Environmental Quality Act (CEQA) requires the consideration of cultural resources that are historical resources and tribal cultural resources, as well as "unique" archaeological resources. California Public Resources Code Section 5024.1 established the California Register of Historical Resources and outlined the necessary criteria for a cultural resource to be considered eligible for listing in the California Register of Historical Resources and, therefore, a historical resource. Historical resources are defined in Public Resources Code Section 5020.1(j). In 2014, Assembly Bill 52 added the term "tribal cultural resources" to CEQA, and Assembly Bill 52 is commonly referenced instead of CEQA when discussing the process to identify tribal cultural resources (as well as identifying measures to avoid, preserve, or mitigate effects to them). Defined in Public Resources Code Section 21074(a), a tribal cultural resource is a California Register of Historical Resources or local register eligible site, feature, place, cultural landscape, or object which has a cultural value to a California Native American tribe. Tribal cultural resources must also meet the definition of a historical resource. Unique archaeological resources are referenced in Public Resources Code Section 21083.2.

Public Resources Code Section 5024 requires state agencies to identify and protect state-owned historical resources that meet the National Register of Historic Places listing criteria. It further requires Caltrans to inventory state-owned structures in its rights-of-way.

Affected Environment

A Historic Property Survey Report for the project was completed on November 16, 2020, which included an Archaeological Survey Report and a Historical Resources Evaluation Report. Due to the expansion of the project footprint, a Supplemental Historic Property Survey Report was completed on

June 17, 2021, which included a Supplemental Archaeological Survey Report and a Supplemental Historical Resources Evaluation Report.

The Area of Potential Effects for cultural resources consisted of areas that would be directly or indirectly affected by project activities and includes existing right-of-way, proposed temporary construction easements, and those parcels proposed for partial or full acquisition. The vertical Area of Potential Effects is based on the depth of anticipated excavation associated with construction activities.

Three historical resources were identified within the Area of Potential Effects and were evaluated for this project: Gutierrez Auto Truck and Farm Service, a single-family residence at 1282 East Sequoia Avenue, and Tulare Mobile Home Park.

No previously recorded archaeological resources are present within the Area of Potential Effects for cultural resources.

Environmental Consequences

Caltrans has determined a Finding of No Historic Properties Affected is appropriate for this undertaking because there are no historic properties within the Area of Potential Effects

Gutierrez Auto Truck and Farm Service was evaluated in October 2020. On December 23, 2020, the State Historic Preservation Officer concurred with Caltrans' determination that the Gutierrez Auto Truck and Farm Service property is not eligible for the National Register of Historic Places. On August 26, 2021, the State Historic Preservation Officer concurred with Caltrans' determination that the residence at 1282 East Sequoia Avenue and the Tulare Mobile Home Park are not eligible for the National Register of Historic Places.

Native American consultation was initiated through letters to tribal representatives on August 1, 2019, and a supplemental project notification letter was sent to tribal representatives and the Native American Heritage Commission on February 7, 2021. No comments were received.

There is a low potential that buried archaeological deposits could be encountered during project construction.

If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find.

If human remains are discovered, California Health and Safety Code Section 7050.5 states that further disturbances and activities shall stop in any area or nearby area suspected to overlie remains, and the county coroner should be

contacted. If the remains are thought by the coroner to be Native American, the coroner will notify the Native American Heritage Commission, who, pursuant to Public Resources Code Section 5097.98, will then notify the Mostly Likely Descendant. At this time, the person who discovers the remains will contact Christina Gaddis, Cultural Specialist, District 6 Environmental Branch, so that they may work with the Most Likely Descendant on the respectful treatment and disposition of the remains. Further provisions of Public Resources Code Section 5097.98 are to be followed as applicable.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation would be needed.

2.2 Physical Environment

2.2.1 Water Quality and Stormwater Runoff

Regulatory Setting

Federal Requirements: Clean Water Act

In 1972, Congress amended the Federal Water Pollution Control Act, making the addition of pollutants to the waters of the U.S. from any point source unlawful unless the discharge complies with a National Pollutant Discharge Elimination System permit. [A point source is any discrete conveyance, such as a pipe or a human-made ditch.] This act and its amendments are known today as the Clean Water Act. Congress has amended the act several times. In the 1987 amendments, Congress directed dischargers of stormwater from municipal and industrial/construction point sources to comply with the National Pollutant Clean Water Act Discharge Elimination System permit scheme. The following are important sections:

- Sections 303 and 304 require states to issue water quality standards, criteria, and guidelines.
- Section 401 requires an applicant for a federal license or permit to conduct any activity that may result in a discharge to waters of the U.S. to obtain certification from the state that the discharge will comply with other provisions of the act. This is most frequently required in tandem with a Section 404 permit request (see below).

Section 402 establishes the National Pollutant Discharge Elimination System, a permitting system for the discharges (except for dredged or fill material) of any pollutant into waters of the U.S. Regional Water Quality Control Boards administer this permitting program in California. Section 402(p) requires permits for discharges of stormwater from industrial/construction and municipal separate storm sewer systems (MS4s).

- Section 404 establishes a permit program for the discharge of dredged or fill material into waters of the U.S. This permit program is administered by the U.S. Army Corps of Engineers.

The goal of the Clean Water Act is “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.”

The U.S. Army Corps of Engineers issues two types of 404 permits: General and Individual. There are two types of General permits: Regional and Nationwide. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effects. Nationwide permits are issued to allow a variety of minor project activities with no more than minimal effects.

Ordinarily, projects that do not meet the criteria for a Regional or Nationwide Permit may be permitted under one of the U.S. Army Corps of Engineers’ Individual permits. There are two types of Individual permits: Standard permits and Letters of Permission. For Individual permits, the U.S. Army Corps of Engineers’ decision to approve is based on compliance with the U.S. Environmental Protection Agency’s (U.S. EPA) Section 404 (b)(1) Guidelines (40 Code of Federal Regulations Part 230), and whether the permit approval is in the public interest. The Section 404(b)(1) Guidelines were developed by the U.S. Environmental Protection Agency in conjunction with the U.S. Army Corps of Engineers, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The guidelines state that the U.S. Army Corps of Engineers may not issue a permit if there is a least environmentally damaging practicable alternative to the proposed discharge that would have lesser effects on the waters of the U.S. and not have any other significant adverse environmental consequences. According to the guidelines, documentation is needed that a sequence of avoidance, minimization, and compensation measures has been followed, in that order. The guidelines also restrict permitting activities that violate water quality or toxic effluent standards, jeopardize the continued existence of listed species, violate marine sanctuary protections, or cause “significant degradation” to the waters of the U.S. [The U.S. Environmental Protection Agency defines “effluent” as “wastewater, treated or untreated, that flows out of a treatment plant, sewer, or industrial outfall.”] In addition, every permit from the U.S. Army Corps of Engineers, even if not subject to the Section 404(b)(1) Guidelines, must meet general requirements. See 33 Code of Federal Regulations 320.4. A discussion of the least environmentally damaging practicable alternative determination, if any, for the document is included in the Wetlands and Other Waters section.

State Requirements: Porter-Cologne Water Quality Control Act

California’s Porter-Cologne Act, enacted in 1969, provides the legal basis for water quality regulation within California. This act requires a “Report of Waste

Discharge” for any discharge of waste (liquid, solid, or gaseous) to land or surface waters that may impair beneficial uses for surface and/or groundwater of the state. It predates the Clean Water Act and regulates discharges to the waters of the state. Waters of the State include more than just waters of the U.S., like groundwater and surface waters are not considered waters of the U.S. Additionally, it prohibits discharges of “waste” as defined, and this definition is broader than the Clean Water Act definition of “pollutant.” Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements and may be required even when the discharge is already permitted or exempt under the Clean Water Act.

The State Water Resources Control Board and Regional Water Quality Control Boards are responsible for establishing the water quality standards (objectives and beneficial uses) required by the Clean Water Act and regulating discharges to ensure compliance with the water quality standards. Details about water quality standards in a project area are included in the applicable Regional Water Quality Control Boards Basin Plan. In California, Regional Water Quality Control Boards designate beneficial uses for all water body segments in their jurisdictions and then set criteria necessary to protect those uses. As a result, the water quality standards developed for particular water segments are based on the designated use and vary depending on that use. In addition, the State Water Resources Control Board identifies waters failing to meet standards for specific pollutants. These waters are then state-listed in accordance with Clean Water Act Section 303(d). If a state determines that waters are impaired for one or more constituents and the standards cannot be met through point source or nonpoint source controls (National Pollutant Discharge Elimination System permits or Waste Discharge Requirements), the Clean Water Act requires the establishment of Total Maximum Daily Loads. Total Maximum Daily Loads specify allowable pollutant loads from all sources (point, nonpoint, and natural) for a given watershed.

State Water Resources Control Board and Regional Water Quality Control Boards

The State Water Resources Control Board administers water rights, sets water pollution control policy, issues water board orders on matters of statewide application, and oversees water quality functions throughout the state by approving basin plans, Total Maximum Daily Loads, and National Pollutant Discharge Elimination System permits. Regional Water Quality Control Boards are responsible for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

- National Pollutant Discharge Elimination System Program
- Municipal Separate Storm Sewer Systems

Section 402(p) of the Clean Water Act requires the issuance of the National Pollutant Discharge Elimination System permits for five categories of stormwater discharges, including Municipal Separate Storm Sewer Systems (MS4s). A Municipal Separate Storm Sewer System is defined as “any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels, and storm drains) owned or operated by a state, city, town, county, or other public body having jurisdiction over stormwater, that is designed or used for collecting or conveying stormwater.” The State Water Resources Control Board has identified Caltrans as an owner/operator of municipal separate storm sewer systems under federal regulations. Caltrans’ municipal separate storm sewer systems permit covers all Department rights-of-way, properties, facilities, and activities in the state. The State Water Resources Control Board or the Regional Water Quality Control Boards issues the National Pollutant Discharge Elimination System permits for five years, and permit requirements remain active until a new permit has been adopted.

Caltrans’ Municipal Separate Storm Sewer Systems Permit, Order Number 2012-0011-DWQ (adopted on September 19, 2012, and effective on July 1, 2013), as amended by Order Number 2014-0006-EXEC (effective January 17, 2014), Order Number 2014-0077-DWQ (effective May 20, 2014) and Order Number 2015-0036-EXEC (conformed and effective April 7, 2015) has three basic requirements:

1. Caltrans must comply with the requirements of the Construction General Permit (see below);
2. Caltrans must implement a year-round program in all parts of the state to effectively control stormwater and non-stormwater discharges; and
3. Caltrans’ stormwater discharges must meet water quality standards through the implementation of permanent and temporary (construction) Best Management Practices, to the maximum extent practicable, and other measures as the State Water Resources Control Board determines to be necessary to meet the water quality standards.

To comply with the permit, Caltrans developed the Statewide Stormwater Management Plan to address stormwater pollution controls related to highway planning, design, construction, and maintenance activities throughout California. The Storm Water Management Program assigns responsibilities within Caltrans for implementing stormwater management procedures and practices as well as training, public education and participation, monitoring and research, program evaluation, and reporting activities. The Storm Water Management Program describes the minimum procedures and practices Caltrans uses to reduce pollutants in stormwater and non-stormwater discharges. It outlines procedures and responsibilities for protecting water quality, including the selection and implementation of Best Management Practices. The proposed project will be programmed to follow the guidelines

and procedures outlined in the latest Storm Water Management Program to address stormwater runoff.

Construction General Permit

Construction General Permit, Order Number 2009-0009-DWQ (adopted on September 2, 2009, and effective on July 1, 2010), as amended by Order Number 2010-0014-DWQ (effective February 14, 2011) and Order Number 2012-0006-DWQ (effective on July 17, 2012). The permit regulates stormwater discharges from construction sites that result in a Disturbed Soil Area of 1 acre or greater, and/or are smaller sites that are part of a larger common plan of development. By law, all stormwater discharges associated with construction activity where clearing, grading, and excavation result in soil disturbance of at least 1 acre must comply with the provisions of the General Construction Permit. Construction activity that results in soil disturbances of less than 1 acre is subject to this Construction General Permit if there is potential for significant water quality impairment resulting from the activity as determined by the Regional Water Quality Control Boards. Operators of regulated construction sites are required to develop Stormwater Pollution Prevention Plans, implement sediment, erosion, and pollution prevention control measures, and obtain coverage under the Construction General Permit.

The Construction General Permit separates projects into Risk Level 1, 2, or 3. Risk levels are determined during the planning and design phases and are based on potential erosion and transport to receiving waters. Requirements apply according to the Risk Level determined. For example, a Risk Level 3 (highest risk) project would require compulsory stormwater runoff, potential of hydrogen (pH) and turbidity monitoring, and before construction and after construction aquatic biological assessments during specified seasonal windows. For all projects subject to the permit, applicants are required to develop and implement an effective Stormwater Pollution Prevention Plan. In accordance with Caltrans' Storm Water Management Program and Standard Specifications, a Water Pollution Control Program is necessary for projects with DSA less than 1 acre.

Section 401 Permitting

Under Section 401 of the Clean Water Act, any project requiring a federal license or permit that may result in a discharge to a water of the U.S. must obtain a 401 Certification, which certifies that the project will comply with state water quality standards. The most common federal permits triggering 401 Certification are Clean Water Act Section 404 permits issued by the United States Army Corps of Engineers. The 401 permit certifications are obtained from the appropriate Regional Water Quality Control Boards, dependent on the project location, and are required before the United States Army Corps of Engineers issues a 404 permit.

In some cases, the Regional Water Quality Control Boards may have specific concerns with discharges associated with a project. As a result, the Regional Water Quality Control Boards may issue a set of requirements known as Waste Discharge Requirements under the State Water Code (Porter-Cologne Act) that define activities, such as the inclusion of specific features, effluent limitations, monitoring, and plan submittals that are to be implemented for protecting or benefiting water quality. Waste Discharge Requirements can be issued to address permanent and temporary discharges of a project.

Affected Environment

A Water Quality Assessment Report was completed for the project on July 25, 2021.

The project area is part of the South Valley Floor Hydrologic Unit, within the watershed of the Kaweah Delta Hydrologic Area. Elk Bayou Ditch is the main natural drainage near the project area. This waterway is a tributary of the Kaweah River that receives waters from Outside Creek at its east end and joins the Tule River southwest of the project area.

Although there is no major natural waterway near the City of Tulare, agricultural fields in and around the city are irrigated through a system of canals operated by the Tulare Irrigation District.

The Tulare Canal (also known as Main Canal or Tulare Main Canal) conveys surface water to farmland in the vicinity of Tagus and to the northwest of the City of Tulare within the Tulare Irrigation District. This canal was originally constructed in 1873. The head of the canal is on the south side of the Kaweah River. From that point, the canal has a southwesterly course, is about 15 miles long, and has a bed width of 16 feet. The segment of the Tulare Canal that flows through the project area is unlined.

The State Route 99 freeway crosses the Tulare Canal just north of the Paige Avenue Overcrossing. On the east side of the freeway, the canal is oriented east/west from east of Laspina Street until it makes a 90-degree turn by the freeway. From that point, the canal flows southwards, next to the northbound lanes for about one block, before turning at an angle to cross under the freeway via box culverts. On the west side of the freeway, the canal continues southwesterly and then flows westward along the north side of Paige Avenue.

The project area is primarily flat with a lack of significant inclined surface grade and natural creeks or streams. Because of the lack of significant grade (slope), the predominant method of runoff disposal along State Route 99 is the use of ditches and detention basins excavated below ground level.

Environmental Consequences

Project improvements that could impact the site hydrology and water quality include: relocating the existing culvert of the Tulare Main Canal under State

Route 99 further north, realigning the canal channel and extending the box culvert under Blackstone Street, grading, paving, striping, material stockpiling and storage at staging areas, and installing new drainage ditches and inlets. In-water and embankment construction activities (i.e., extending culverts, vegetation clearing, and brushing) associated with the relocation of the Tulare Canal could cause displacement of sediments and result in increased turbidity levels for a short period of time in the canal.

Contaminants that could be found in runoff from roads would include sediments, oils and grease, and heavy metals. Potential sources of water pollution would originate from sediments released in excavations and grading operations, petroleum and wear products from motor vehicle operations, accidental spills of hazardous materials, and accidental spills during normal roadway operation. Overall, postconstruction runoff from oil, grease, and chemical pollutants is not expected to harm water quality in comparison with existing conditions.

Land disturbance activities, such as grading and excavation during construction, would loosen the soil and remove the protective cover of vegetation, reducing the natural soil resistance to rainfall impact erosion. Silt fencing and hay bales are some of the temporary Best Management Practices that may be used to minimize any downstream turbidity in the Tulare Canal during construction.

The existing paved areas and hard surfaces within the project footprint amount to 97.5 acres of impervious surface area. The project would add 34.4 acres of impervious surface area. The increase of impervious surface area from widening State Route 99 has the potential to increase the stormwater velocity, volume, and potential sediment load being carried into lower elevation areas through culverts and ditches. These potential impacts due to new areas of pavement and other hard surfaces would be minimized through the implementation of stormwater treatment Best Management Practices that promote infiltration and dispersion of runoff.

New drainage inlet systems are proposed along the freeway to capture roadway runoff. The proposed drainage system would be similar to the existing one, with culverts directing runoff to roadside ditches. Using drainage culvert end devices, such as flared end sections, tees, and rock slope protection, will dissipate and disperse the energy of runoff as it flows out of the culverts into the ditches.

Five new detention basins are proposed to increase storage capacity and collect the additional runoff volume it would infiltrate into the ground.

Runoff is not expected to directly discharge into nearby waterbodies. To address increased runoff from the additional impervious surfaces and to ensure that the existing flow conditions are not exceeded, the project would

include stormwater runoff Best Management Practices to collect and retain the additional flows within the Caltrans right-of-way, as required by the Caltrans MS4 permit and Caltrans' Statewide Stormwater Management Plan.

Implementation of the following measures would reduce impacts to water quality from stormwater runoff. Caltrans would implement the following avoidance and minimization measures:

Stormwater Best Management Practices

To prevent or reduce impacts, temporary Construction Site Best Management Practices will be implemented for sediment control and material management. These could include cover, drainage inlet protection, fiber roll, silt fence, hydraulic mulch, concrete washout, and street sweeping.

Temporary Construction Site Best Management Practices are implemented during construction activities to avoid and minimize pollutant loads in stormwater/non-stormwater discharges. Construction Site Best Management Practices strategies for this project may include:

- Soil Stabilization: scheduling, preserving existing vegetation, slope protection, slope interrupter devices, and channelized flows.
- Perimeter control: Silt fences and inlet protection.
- Tracking Controls: Stabilized construction entrance and exits and street sweeping.
- Wind Erosion Controls: temporary covers.
- Non-Stormwater Management: vehicle and equipment operations (fueling, cleaning, and maintenance) and material and equipment use.
- Waste management and Materials Pollution Control: concrete washout, material delivery and storage, material use, stockpile management, spill prevention and control, soil waste management, hazardous waste and/or contaminated soil management, liquid waste management, and lead abatement and containment.

Permanent Treatment Best Management Practices are postconstruction quality control measures used to remove pollutants from stormwater runoff before being discharged from Caltrans' right-of-way. Direct and indirect discharges to surface waterbodies are not anticipated because three new detention basins will be constructed to capture the additional volume of the new impervious surface runoff.

Stormwater Pollution Prevention Plan

Before the start of construction activities, a Stormwater Pollution Prevention Plan will be prepared by the contractor and approved by Caltrans. The Stormwater Pollution Prevention Plan shall specify and require the implementation of Best Management Practices with the intent of keeping all

products of erosion from moving offsite and into receiving waters during construction. The requirements of the Stormwater Pollution Prevention Plan shall be incorporated into design specifications and construction contracts.

Recommended Best Management Practices for the construction phase would include, but would not be limited to, the following:

- Stockpiling and disposing of demolition debris, concrete, and soil properly
- Protecting existing storm drain inlets and stabilizing disturbed areas
- Implementing erosion controls
- Properly managing construction materials
- Managing waste, aggressively controlling litter, and implementing sediment controls
- Submitting a 401 Certification with the Central Valley Regional Water Quality Control Board to ensure compliance with federal and state effluent limitations and water quality standards.
- Submit a Section 1600 Streambed Alteration Agreement with the California Department of Fish and Wildlife.

Conform with other local requirements (Tulare County, City of Tulare, and Tulare Irrigation District) as appropriate.

Implementing water quality measures would be required to address project-related water quality impacts during the construction, operation, and maintenance of the built project. No additional avoidance and minimization measures would be needed to protect water quality and water resources.

Avoidance, Minimization, and/or Mitigation Measures

No additional measures would be needed.

2.2.2 Paleontology

Regulatory Setting

Paleontology is a natural science focused on the study of ancient animal and plant life as it is preserved in the geologic record as fossils.

Several federal statutes specifically address paleontological resources, their treatment, and funding for mitigation as a part of federally authorized projects.

Sixteen U.S. Code Sections 461-467 established the National Natural Landmarks program. Under this program, property owners agree to protect biological and geological resources, such as paleontological features. Federal agencies and their agents must consider the existence and location of designated National Natural Landmarks and areas found to meet the criteria

for national significance in assessing the effects of their activities on the environment under NEPA.

Twenty-three U.S. Code Section 1.9(a) requires that the use of federal-aid funds must conform with all federal and state laws.

Twenty-three U.S. Code Section 305 authorizes the appropriation and use of federal highway funds for paleontological salvage as necessary by the highway department of any state, in compliance with 16 U.S. Code Sections 431-433 above and state law.

Under California law, paleontological resources are protected by the California Environmental Quality Act (CEQA).

In addition, the Tulare County General Plan (2012) has established mitigation policies and implementation measures to protect and preserve paleontological resources.

Affected Environment

Caltrans completed a Paleontological Identification Report for the project in October 2019 and a Paleontological Evaluation Report/Preliminary Mitigation Measures in July 2021. The reports included information obtained from paleontological database searches, a review of published journals, and findings from previous Caltrans paleontological mitigation projects that involved excavation in similar geologic materials within the project area.

Caltrans staff conducted a paleontological reconnaissance of the project area on September 22, 2020. The survey consisted of a windshield survey and a systematic survey conducted on the foot of open ground where accessible. Areas observed were predominantly vegetated and covered with pavement and/or debris. Sediments observed consisted of grayish-tan silty fine-grained sands and buff-colored fines (silt and clay). These observations are consistent with descriptions of the Modesto Formation reported by past regional studies.

The geologic units expected to underlie the project area are the Modesto Formation and the Riverbank Formation. As classified according to Caltrans' guidelines, the Modesto and Riverbank Formations are identified as having a "High Potential" to contain scientifically significant nonrenewable paleontological resources.

During the construction of the Plainsburg/Arboleda Freeway Project in Merced County, hundreds of vertebrate fossils were discovered at localities attributed to the Modesto Formation. The discovery provided valuable information related to stratigraphic correlation, relative geologic age determination, plant and animal diversity, and paleoclimatology. Fossils recovered from the Modesto Formation included Columbian mammoth, horse,

camel, dire wolf, ground sloth, sabre-toothed cat, bison, llama, rabbit, squirrel, kangaroo rat, pocket gopher, goose, quail, snake, and numerous additional species. Fossils from the Plainsburg/Arboleda Freeway Project were accessioned—record the addition of (a new item) to a library, museum, or other collection—to an academic institution and museum for research and educational purposes.

Based on the paleontological mitigation conducted during construction of the Betty Drive Interchange project, located about 12 miles to the north of Tulare on State Route 99, the Pleistocene Riverbank Formation was observed underlying the Modesto Formation. Due to the widespread presence of these formations throughout the San Joaquin Valley, the Riverbank Formation is expected to be present beneath the area of the proposed project. In addition, numerous vertebrate fossils were discovered during the construction of the Arco Arena in Sacramento County. The fossils recovered consisted of species of mammoth, sloth, horse, and other vertebrates. The fossil localities from the site were correlated to the Riverbank Formation.

A search for paleontological records was completed using available databases, published peer-reviewed journals, and Paleontological Monitoring Reports from past Caltrans projects that involved excavations into previously undisturbed portions of the Modesto and Riverbank Formations.

Environmental Consequences

Grading, excavation, and other ground disturbance activities within the project area have the potential to impact scientifically significant nonrenewable fossils. Applicable excavations are defined as ground disturbance activities extending into previously undisturbed portions of the Modesto and Riverbank Formations (i.e., not previously backfilled materials) at depths greater than 1 foot below the original grade. These areas include, but are not limited to, construction of the new lanes in the median, reconstruction of existing lanes, excavation of side slopes in depressed areas, the reconfigured Paige Avenue Interchange, including new overcrossing and roundabouts, Tulare Main Canal relocation, excavation of new retention basins, new pumping stations, and excavation for soundwalls, retaining walls, and right-of-way walls or fencing.

Avoidance, Minimization, and/or Mitigation Measures

Due to the potential to affect scientifically significant nonrenewable paleontological resources, mitigation would be required. A Paleontological Mitigation Plan would be prepared before construction by a Caltrans-supplied consultant. The plan would recommend the measures required to minimize potential impacts on paleontological resources. The mitigation measures would include:

- Identifying and acknowledging construction site safety protocols.

- Conducting paleontological Worker Environmental Awareness Training for all earth-moving personnel and supervisors.
- Conducting mitigation field monitoring of excavation into undisturbed sediments of the Modesto and Riverbank Formations. Excavations from 1 to 3 feet below the ground surface would be spot-checked. Continuous or full-time monitoring would be required for excavations more than 3 feet deep.
- Establishing a protective 25-foot radius buffer zone around fossil discovery locations.
- Notification of the resident engineer upon fossil discovery.
- Processing bulk soil samples for microfossil identification.
- Use of plaster casting to stabilize and preserve macrofossils.
- Preparation of salvaged for identification to the lowest taxonomic level.
- Curation of salvaged fossils at a receiving museum or academic institution.
- Preparing a Paleontological Mitigation Report following completion of all paleontological monitoring activities, documenting compliance with all mitigation measures.

2.2.3 Hazardous Waste and Materials

Regulatory Setting

Hazardous materials, including hazardous substances and wastes, are regulated by many state and federal laws. Statutes govern the generation, treatment, storage, and disposal of hazardous materials, substances, and waste and also the investigation and mitigation of waste releases, air and water quality, human health, and land use.

The primary federal laws regulating hazardous wastes/materials are the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 and the Resource Conservation and Recovery Act of 1976. The purpose of Comprehensive Environmental Response, Compensation, and Liability, often referred to as “Superfund,” is to identify and clean up abandoned contaminated sites so that public health and welfare are not compromised. The Resource Conservation and Recovery Act provides for “cradle to grave” regulation of hazardous waste generated by operating entities. Other federal laws include:

- Community Environmental Response Facilitation Act
- Clean Water Act
- Clean Air Act
- Safe Drinking Water Act

- Occupational Safety and Health Act
- Atomic Energy Act
- Toxic Substances Control Act
- Federal Insecticide, Fungicide, and Rodenticide Act

In addition to the acts listed above, Executive Order 12088, *Federal Compliance with Pollution Control Standards*, mandates that necessary actions be taken to prevent and control environmental pollution when federal activities or federal facilities are involved.

California regulates hazardous materials, waste, and substances under the authority of the California Health and Safety Code and is also authorized by the federal government to implement the Resource Conservation and Recovery Act in the state. California law also addresses specific handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning of hazardous waste. The Porter-Cologne Water Quality Control Act also restricts the disposal of wastes and requires the cleanup of wastes that are below hazardous waste concentrations but could impact groundwater and surface water quality. California regulations that address waste management and prevention and cleanup of contamination include Title 22 Division 4.5 Environmental Health Standards for the Management of Hazardous Waste, Title 23 Waters, and Title 27 Environmental Protection.

Worker and public health and safety are key issues when addressing hazardous materials that may affect human health and the environment. Proper management and disposal of hazardous material are vital if it is found, disturbed, or generated during project construction.

Affected Environment

The Cortese list is a compilation of contaminated and potentially contaminated sites. The Cortese list was reviewed as part of the initial screening for this project. This list, or a property's presence on the list, has a bearing on the local permitting process and on compliance with the California Environmental Quality Act. The project would require partial or complete acquisition of parcels or would need temporary construction easements. These properties, if on the Cortese List, may require further evaluation.

- Roche Oil, Incorporated/Mobil gas station at 1120 East Paige Avenue and the Mobil gas station at 2200 South Blackstone Street (APN 182-110-019 and APN 182-110-018). Partial acquisition and temporary construction easements are proposed. The existing gas station property includes aboveground storage tanks and handles and stores hazardous materials and wastes. The property is a closed-case (2011) leaking underground storage tank site.
- Paige Truck Stop at 1297 East Paige Avenue (APN 191-070-013). Full acquisition of this existing gas station is proposed. Project construction

would impact tanks and piping. The parcel is a closed case (2018) leaking underground storage tank site, which had soil and groundwater contamination. A full site evaluation would be required before acquisition. The removal of tanks and/or piping would be the responsibility of the property owner, per local requirements.

- Love's Travel Stop at 2700 South Blackstone Street (APN 191-060-011). A partial acquisition is proposed from this existing gas station. The area to be acquired is asphalt, concrete, and landscaping.
- Flying J Travel Center at 979 East Paige Avenue (APN 191-050-076). A partial acquisition is proposed from this new gas station; the area to be acquired is signage and landscaping.
- Tulare Joint Union High School District, Administration Office and Bus Maintenance at 426 North Blackstone Street. Temporary construction easements are proposed from APN 171-090-031, APN 171-090-032, and APN 171-090-038). The school district owns and operated an underground storage tank and handles and stores other hazardous materials and waste; minor surface staining is likely. The area of the construction easement is asphalt and concrete. Parcels APN 171-090-029, APN 171-090-032, and APN 171-090-038 are a closed case (1998) leaking underground storage tank site.
- C. P. Phelps, Incorporated at 1010 South Blackstone Street (APN 182-040-034). A partial acquisition is proposed from this existing gas station parcel. The area to be acquired is dirty and vacant. The property is a closed case (2013) leaking underground storage tank site.

These sites, although not listed on the hazardous waste databases noted above, are locations where hazardous materials and/or hazardous wastes are handled and stored, and the parcels could include undocumented underground storage tanks.

- Gutierrez Auto Truck and Farm Service at 1132 East Paige Avenue (APN 182-110-020) would be a full acquisition. This business handles and stores hazardous materials and wastes, including tires, has a hydraulic lift and performs auto and truck repairs. This parcel may be the site of a former gas station.
- Vacant lot owned by the City of Tulare at 1285 East Paige Avenue (APN 191-070-015). This parcel, which is used for the truck stop parking area, would be a full acquisition. Minor surface and subsurface hydrocarbon impacts due to spillage and stains from truck parking are present.
- A Premier Towing at 1125 East Batavia Court (APN 182-020-048). A partial acquisition is proposed from this parcel. This business does car and truck repair; tires and miscellaneous storage are present. There is minor surface staining onsite. The area to be acquired is asphalt and concrete.

- A and L Truck Supply at 1128 East Batavia Court (APN 182-020-049). A partial acquisition is proposed from this parcel. Trucking accessories and supplies are present. The area to be acquired is dirty and vacant.
- 3D Offroad at 1442/1454 South Blackstone Street (APN 182-020-044). A partial acquisition is proposed from this parcel located in a light industrial strip mall. This business does repair, metal fabrication and has truck accessories. Also present are rusted parts and metal, and there is minor surface staining onsite; a storm drain was noted. The area to be acquired is asphalt and concrete.
- Spectra Chrome Powder Coating at 1442/1454 South Blackstone Street (APN 182-020-044). A partial acquisition is proposed from this parcel located on a light industrial strip mall. This business does metal coating and blasting and has a painting/sandblasting booth. There are miscellaneous parts, metal, and equipment storage onsite. The area to be acquired is asphalt and concrete.
- Autocom/Truck and RV Repair-Road Service and Tire at 1159 Security Court (APN 182-030-032) A partial acquisition is proposed from this parcel, which is a car and truck repair shop. A hydraulic lift, tires, steam cleaner, and miscellaneous storage are onsite. The area to be acquired is asphalt and concrete.
- Aguilar's Mobile Lube Service/AutoCom at 1175 Security Court (APN 182-030-031). A partial acquisition is proposed from this parcel. This business does auto and heavy equipment repair.

Environmental Consequences

Preliminary Site Investigations were performed in May 2022 and June 2022 at Gutierrez Auto Truck and Farm Service, Mobil/Roche Oil, Incorporated, and Paige Truck Stop. Preliminary Site Investigations are required within the proposed right-of-way acquisition area to determine if any petroleum hydrocarbon contamination and volatile organic compounds have occurred before acquisition. The results showed that the sites were not significantly impacted by total petroleum hydrocarbons, volatile organic compounds, oil and grease, or heavy metal. The hazardous waste risk associated with these sites is low.

Aerially Deposited Lead

Aerially deposited lead from the historical use of leaded gasoline exists along roadways throughout California. There is the likely presence of soils with elevated concentrations of lead because of aerially deposited lead on the State Highway System right-of-way within the limits of the project alternatives. Soil determined to contain lead concentrations exceeding stipulated thresholds must be managed under the July 1, 2016, aerially deposited lead agreement between Caltrans and the California Department of Toxic Substances Control. This agreement allows such soils to be safely reused

within the project limits as long as all requirements of the aerially deposited lead agreement are met.

The project would require work off of the existing pavement, and excess soil generated during construction would need to be relinquished or disposed of. A previous Preliminary Site Investigation addressing aerially deposited lead from post mile 26.3 to post mile 27.7 was conducted in December 2017. A Preliminary Site Investigation in May 2022 and June 2022 was done on the remaining post miles that were not previously studied (from post miles 25.4 to post mile 26.3 and post mile 27.7 to post mile 30). The results indicated that soil excavated from the surface to a depth of 3 feet on the southbound shoulder of State Route 99 would be considered nonregulated material. The soil can be either disposed of or relinquished without restrictions. Soil excavated from the northbound shoulder from the surface to a depth of 1 foot would be classified as regulated material and could be used only within Caltrans' right-of-way or at other commercial property per the Department of Toxic Substances Control's Agreement for Aerially Deposited Lead-Contaminated Soil.

Lead-Based Paint

Lead-based paint was not collected from the concrete box culverts because no paint was seen on the surfaces. Seven lead-based paint chip samples were collected from the exterior buildings within the project footprint. The interior paint was inspected and found to be in good condition. Paint on the south exterior trim and southeast overhang of existing buildings within the project footprint would classify as state and federal hazardous waste.

Asbestos-Containing Materials

A survey for asbestos-containing materials was completed for the Paige Avenue Overcrossing in 2017 and detected no asbestos. A Preliminary Site Investigation on May 2022 and June 2022 found no detection of asbestos from the concrete box culverts.

Other Hazardous Substances or Wastes

There is some agricultural land within project boundaries. Residual organochlorine pesticides are not likely to be present in shallow soils that would be of concern or exceed regulatory health-based screening thresholds for commercial/industrial land use.

According to the Department of Conservation's mapping, naturally occurring asbestos or other hazardous minerals are not expected to be found in the project area. There are no active or abandoned mining activities or operations in the project vicinity.

Other potential hazardous substances or hazardous waste issues requiring proper handling and disposal include treated wood waste on roadside signs

and guardrails and pavement paint, striping, and markings. Yellow and white pavement paint, striping, and markings have been found to contain high levels of lead.

Avoidance, Minimization, and/or Mitigation Measures

Avoidance and minimization measures for the project would include:

- A lead compliance plan and an asbestos compliance plan would be required to be prepared by the contractor before the start of construction.
- Project-specific special provisions and/or nonstandard special provisions would be included in the construction contract to address proper handling and disposal of hazardous waste and to minimize exposure to the potential hazards.

2.2.4 Air Quality

Regulatory Setting

The Federal Clean Air Act, as amended, is the primary federal law that governs air quality while the California Clean Air Act is its companion state law. These laws and related regulations by the U.S. Environmental Protection Agency and the California Air Resources Board set standards for the concentration of pollutants in the air. At the federal level, these standards are called National Ambient Air Quality Standards. National Ambient Air Quality Standards and state ambient air quality standards have been established for six criteria pollutants that have been linked to potential health concerns: carbon monoxide, nitrogen dioxide, ozone, particulate matter—which is broken down for regulatory purposes into particles of 10 micrometers or smaller (particulate matter 10) and particles of 2.5 micrometers and smaller (particulate matter 2.5), lead, and sulfur dioxide. In addition, state standards exist for visibility-reducing particles, sulfates, hydrogen sulfide, and vinyl chloride. The National Ambient Air Quality Standards and state standards are set at levels that protect public health with a margin of safety and are subject to periodic review and revision. Both state and federal regulatory schemes also cover toxic air contaminants (air toxics); some criteria pollutants are also air toxics or may include certain air toxics in their general definition.

Federal air quality standards and regulations provide the basic scheme for project-level air quality analysis under the National Environmental Policy Act (NEPA). In addition to this environmental analysis, a parallel “Conformity” requirement under the Federal Clean Air Act also applies.

Conformity

The conformity requirement is based on Federal Clean Air Act Section 176(c), which prohibits the U.S. Department of Transportation and other federal agencies from funding, authorizing, or approving plans, programs, or projects that do not conform to the State Implementation Plan for attaining the

National Ambient Air Quality Standards. “Transportation Conformity” applies to highway and transit projects and takes place on two levels: the regional (or planning and programming) level and the project level. The proposed project must conform at both levels to be approved.

Conformity requirements apply only in nonattainment and “maintenance” (former nonattainment) areas for the National Ambient Air Quality Standards, and only for the specific National Ambient Air Quality Standards that are or were violated. U.S. Environmental Protection Agency regulations at 40 Code of Federal Regulations 93 govern the conformity process. Conformity requirements do not apply in unclassifiable/attainment areas for National Ambient Air Quality Standards and do not apply at all for state standards regardless of the status of the area.

Regional conformity is concerned with how well the regional transportation system supports plans for attaining the National Ambient Air Quality Standards for carbon monoxide, nitrogen dioxide, ozone, particulate matter (particulate matter 10 and particulate matter 2.5), and in some areas (although not in California), sulfur dioxide. California has nonattainment or maintenance areas for all of these transportation-related “criteria pollutants” except sulfur dioxide, and also has a nonattainment area for lead; however, lead is not currently required by the Federal Clean Air Act to be covered in transportation conformity analysis. Regional conformity is based on emission analysis of Regional Transportation Plans and Federal Transportation Improvement Programs that include all transportation projects planned for a region over a period of at least 20 years (for the Regional Transportation Plans) and four years (for the Federal Transportation Improvement Programs). Regional Transportation Plans and Federal Transportation Improvement Programs conformity uses travel demand and emission models to determine whether or not the implementation of those projects would conform to emission budgets or other tests at various analysis years showing that the requirements of the Federal Clean Air Act and the State’s air quality implementation are met. If the conformity analysis is successful, the Metropolitan Planning Organization, Federal Highway Administration, and Federal Transit Administration make the determinations that the Programs). Regional Transportation Plans and Federal Transportation Improvement Programs are in conformity with the State’s air quality implementation plan for achieving the goals of the Federal Clean Air Act. Otherwise, the projects in the Programs). Regional Transportation Plans and/or Federal Transportation Improvement Programs must be modified until conformity is attained. If the design concept and scope and the “open-to-traffic” schedule of a proposed transportation project are the same as described in the Programs). Regional Transportation Plans and Federal Transportation Improvement Programs, then the proposed project meets regional conformity requirements for purposes of project-level analysis.

Project-level conformity is achieved by demonstrating that the project comes from a conforming Programs. Regional Transportation Plans and Transportation Improvement Program; the project has a design concept and scope that has not changed significantly from those in the Programs. Regional Transportation Plans and Transportation Improvement Program; project analyses have used the latest planning assumptions and Environmental Protection Agency-approved emissions models; and in particle matter areas, the project complies with any control measures in the State's air quality implementation plan. "Design concept" means the type of facility that is proposed, such as a freeway or arterial highway. "Design scope" refers to those aspects of the project that would clearly affect capacity and thus any regional emissions analysis, such as the number of lanes and the length of the project. Furthermore, additional analyses (known as hot-spot analyses) may be required for projects located in carbon dioxide and particle matter nonattainment or maintenance areas to examine localized air quality impacts.

Affected Environment

Caltrans completed an Air Quality Report for the project in September 2021. The project site is in the City of Tulare in Tulare County, which lies within the San Joaquin Valley Air Basin. The San Joaquin Valley Air Pollution Control District has jurisdiction over the San Joaquin Valley Air Basin.

Climatic Conditions

In the region, airflow is channeled by mountain ranges, with the predominant wind direction following the valley's north-south axis in one direction. The second most prevalent wind also follows this pattern but in the opposite direction. California's coastal mountain ranges limit the inflow of maritime air into the interior of California. Due to subsidence inversion (discussed below), marine airflow over the mountains is stifled, and airflow is limited to breaks or low points in the coastal range. The greatest portion of maritime air reaches the Central Valley via a major break in the coastal ranges, the Carquinez Straits of San Francisco Bay.

During the day, precursor emissions from the Bay Area and the northern San Joaquin Air Basin move downwind into the interior San Joaquin Valley, accumulating in a region stretching out of Stockton to Bakersfield. Limited airflow allows an escape of some air over the Tehachapi Mountains into the Mojave Desert. At night, the wind pattern is much the same. However, cooler drainage winds at the Tehachapi Mountains force the air back northwards in a circular air pattern known as the Fresno eddy. The pollutants swirl in a counterclockwise pattern and return the air back to the polluted urban areas, where more precursors are added the next day. Nighttime winds are caused by a jet stream of fast-moving air about 1,000 feet above the valley floor, up to 30 miles per hour. Pollutants transported to higher altitudes due to daytime heating settle downwards due to drainage winds.

Once marine air flows into the basin, it is relatively trapped. The San Joaquin Valley Air Basin is an essentially closed basin surrounded by the coastal ranges on the west, the Tehachapi Mountains to the south, and the Sierra Nevada to the east. These conditions result in poor horizontal movement of pollutants; meanwhile, high pressure hinders the movement of vertical pollutants, so pollutants settle and accumulate.

Criteria Pollutants

Federal and state governments have established ambient air quality standards to define clean air to protect human health and the environment. An air quality standard defines the maximum amount of a pollutant averaged over a specified period that can be present in outdoor air without harmful effects on human health or the environment.

At the federal level, there are six criteria pollutants for which National Ambient Air Quality Standards have been established: carbon monoxide, lead, nitrogen dioxide, ozone, fine and respirable particulate matter (particulate matter 10 and particulate matter 2.5), and sulfur dioxide. Table 2.25 summarizes the health effects and sources of the six criteria pollutants and additional pollutants regulated in the state of California.

Table 2.25 State and Federal Criteria Air Pollutant Effects and Sources

Pollutant	Principal Health and Atmospheric Effects	Typical Sources
Ozone	High concentrations irritate the lungs. Long-term exposure may cause lung tissue damage and cancer. Long-term exposure damages plant materials and reduces crop productivity. Precursor organic compounds include many known toxic air contaminants. Biogenic volatile organic compounds may also contribute.	Low-altitude ozone is almost entirely formed from reactive organic gases or volatile organic compounds and nitrogen oxides in the presence of sunlight and heat. Common precursor emitters include motor vehicles and other internal combustion engines, solvent evaporation, boilers, furnaces, and industrial processes.
Carbon Monoxide	Carbon monoxide interferes with the transfer of oxygen to the blood and deprives sensitive tissues of oxygen. Carbon monoxide is also a minor precursor for photochemical ozone. Colorless, odorless.	Combustion sources, especially gasoline-powered engines and motor vehicles. Carbon monoxide is the traditional signature pollutant for on-road mobile sources at the local and neighborhood scale.

Pollutant	Principal Health and Atmospheric Effects	Typical Sources
Respirable Particulate Matter (Particulate Matter 10)	Irritates eyes and respiratory tract. Decreases lung capacity. Associated with an increased risk of cancer and mortality. Contributes to haze and reduced visibility. Includes some toxic air contaminants. Many toxic and other aerosol and solid compounds are part of particulate matter 10.	Dust- and fume-producing industrial and agricultural operations; combustion smoke and vehicle exhaust; atmospheric chemical reactions; construction and other dust-producing activities; unpaved road dust and re-entrained paved road dust; natural sources.
Fine Particulate Matter (Particulate Matter 2.5)	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and produces surface soiling. Most diesel exhaust particulate matter (a toxic air contaminant) is in the particulate matter 2.5 size range. Many toxic and other aerosol and solid compounds are part of particulate matter 2.5.	Combustion, including motor vehicles, other mobile sources, and industrial activities; residential and agricultural burning; also formed through atmospheric chemical and photochemical reactions involving other pollutants, including nitric oxide, sulfur oxides, ammonia, and reactive organic gas.
Nitrogen Dioxide	Irritating to eyes and respiratory tract. Colors the atmosphere reddish-brown. Contributes to acid rain and nitrate contamination of stormwater. Part of the "Nitric Oxide" group of ozone precursors.	Motor vehicles and other mobile or portable engines, especially diesel; refineries; industrial operations.
Sulfur Dioxide	Irritates respiratory tract; injures lung tissue. Can yellow plant leaves. Destructive to marble, iron, and steel. Contributes to acid rain. Limits visibility.	Fuel combustion, especially coal and high-sulfur oil, chemical plants, sulfur recovery plants, metal processing, and some natural sources like active volcanoes. Limited contribution is possible from heavy-duty diesel vehicles if ultra-low-sulfur fuel is not used.
Lead	Disturbs the gastrointestinal system. Causes anemia, kidney disease, and neuromuscular and neurological dysfunction. Also, a toxic air contaminant and water pollutant.	Lead-based industrial processes like battery production and smelters. Lead paint, leaded gasoline. Aerially deposited lead from older gasoline use may exist in soils along major roads.
Sulfates	Premature mortality and respiratory effects. Contributes to acid rain. Some toxic air contaminants attach to sulfate aerosol particles.	Industrial processes, refineries, oil fields, mines, natural sources like volcanic areas, salt-covered dry lakes, and large sulfide rock areas.

Pollutant	Principal Health and Atmospheric Effects	Typical Sources
Hydrogen Sulfide	Colorless, flammable, poisonous. Respiratory irritant. Neurological damage and premature death. Headache, nausea. Strong odor.	Industrial processes, such as refineries and oil fields, asphalt plants, livestock operations, sewage treatment plants, and mines. Some natural sources like volcanic areas and hot springs.
Visibility Reducing Particles	Reduces visibility. Produces haze. NOTE: not directly related to the Regional Haze program under the Federal Clean Air Act, which is oriented primarily toward visibility issues in National Parks and other “Class 1” areas. However, some issues and measurement methods are similar.	See particulate matter above. May be related more to aerosols than to solid particles.
Vinyl Chloride	Neurological effects, liver damage, cancer. Also considered a toxic air contaminant.	Industrial processes

Source: Air Quality Report, September 2022.

The state and federal attainment status for all regulated air pollutants in the San Joaquin Valley Air Basin, where the project is located, is shown in Table 2.26. Tulare County is designated as a nonattainment area for the following pollutants:

- State: 1-hour and 8-hour ozone, respirable particulate matter, and fine particulate matter standards.
- Federal: 8-hour ozone and fine particulate matter standards

The basin is in attainment of the federal respirable particulate matter and carbon monoxide standards.

Table 2.26 Criteria Pollutants: State and Federal Attainment Status

Pollutant	State Attainment Status	Federal Attainment Status
One Hour Ozone	Nonattainment/Severe	Not Applicable
Eight-Hour Ozone	Nonattainment	Nonattainment/Extreme
Respirable Particulate Matter (Particulate Matter 10)	Nonattainment	Attainment
Fine Particulate Matter (Particulate Matter 2.5)	Nonattainment	Nonattainment
Carbon Monoxide	Attainment/Unclassified	Attainment/Unclassified
Nitrogen Dioxide	Attainment	Attainment/Unclassified
Sulfur Dioxide	Attainment	Nonattainment/Unclassified
Lead	Attainment	No Designation/Classification
Visibility-Reducing Particles	Unclassified	Not Applicable
Sulfates	Attainment	Not Applicable
Hydrogen Sulfide	Unclassified	Not Applicable
Vinyl Chloride	Attainment	Not Applicable

Source: Air Quality Report, September 2022.

The San Joaquin Valley Air Pollution Control District and the California Air Resources Board's air quality monitoring program collect accurate real-time measurements of ambient level pollutants at 38 sites in the San Joaquin Valley. Pollutants monitored include ozone, fine particle matter and respirable particle matter, carbon monoxide, nitrogen oxides, sulfur oxides, and hydrocarbons. The data generated are used to define the nature and severity of pollution, determine which areas are in attainment or nonattainment, identify pollution trends in the state, support agricultural burn forecasting, and develop air models and emission inventories.

The closest air quality monitoring station to the proposed project is in the City of Visalia at 310 North Church Street. The Church Street monitor is about 12 miles northeast of the Tulare Six-Lane and Paige Avenue Interchange Improvement project. A summary of 2015-2019 monitoring data from this station is included in Tables 2.27 through 2.29. The tables show the number of days that federal and California standards for ozone, fine particle matter, and respirable particle matter were exceeded in the five-year period. Data for ambient nitrogen dioxide and sulfur dioxide concentrations are not available because the station does not monitor these pollutants.

The paragraph below pertains to the third column in Table 2.27, which states, "Number of days exceeding 0.12 parts per million federal standard."

The federal one-hour ozone standard was revoked in 2005; however, under the anti-backsliding provisions of the federal Clean Air Act, areas like San Joaquin Valley not meeting the standard at the time of revocation were nonetheless required to make an attainment demonstration with the standard.

Table 2.27 Ozone Concentrations With Days Over Federal and State Standards 2015-2019

Ozone Data	2015	2016	2017	2018	2019
Highest measured one-hour concentration (parts per million)	0.110	0.098	0.109	0.112	0.093
Number of days exceeding 0.09 parts per million state standard	9	1	9	8	0
Number of days exceeding 0.12 parts per million federal standard	0	0	0	0	0
Highest measured state 8-hour average concentration (parts per million)	0.091	0.083	0.092	0.095	0.082
Number of days exceeding 0.070 parts per million state standard	52	19	65	58	26
Highest measured federal 8-hour average concentration (parts per million) (federal 0.070 parts per million)	0.090	0.083	0.091	0.094	0.082
Number of days exceeding 0.070 parts per million federal standard	49	18	61	53	22

Source: California Air Resources Board.

Table 2.28 Particulate Matter 2.5 Concentrations With Number of Days Over Federal Standards 2014-2019

Particulate Matter 2.5 Data	2014	2015	2016	2017	2018	2019
Highest measured federal 24-hour average concentration (micrograms per cubic meter)	81.3	86.3	48.0	86.1	86.8	47.2
Number of days exceeding the 24-hour (35 micrograms per cubic meter) federal standard	35.5	17.9	21.3	26.7	42.3	19.9
Measured state annual average concentration (micrograms per cubic meter) (state standard equals 12.0 micrograms per cubic meter)	17.8	Insufficient data	15.5	16.8	17.4	12.2
Measured federal annual average concentration (micrograms per cubic meter) (federal standard equals 12.0 micrograms per cubic meter)	17.8	16.1	14.6	16.2	17.3	12.9

Source: California Air Resources Board.

Table 2.29 Particulate Matter 10 Concentrations With Number of Days Over Standards 2014-2019

Particulate Matter 10 Data	2014	2015	2016	2017	2018	2019
Highest measured state 24-hour concentration	104.2	140.3	132.5	145.7	159.6	418.5
Highest measured federal 24-hour concentration	102.4	67.3	137.1	144.8	153.4	411.1
Number of days exceeding 24-hour state standard (50 micrograms per cubic meter)	Insufficient data	Insufficient data	Insufficient data	135.9	164.4	115.8
Number of days exceeding 24-hour federal standard (150 micrograms per cubic meter)	0	Insufficient data	0	0	0	5.0
Measured annual average, state methodology (standard equals 20 micrograms per cubic meter)	Insufficient data	Insufficient data	Insufficient data	46.9	52.0	46.3
Measured annual average, federal methodology (no standard)	45.4	28.9	43.3	47.4	52.5	45.7

Data Source: California Air Resources Board.

Environmental Consequences

National Environmental Policy Act Analysis Requirement

The National Environmental Policy Act applies to all projects that receive federal funding or involve a federal action. The National Environmental Policy Act requires that all reasonable alternatives for the project are rigorously explored and objectively evaluated. For the National Environmental Policy Act analysis, emissions from the future year Build scenario are compared with those from the future year No-Build scenario. Tables 2.30 to 2.34 compare the emissions for the mainline and all roundabout alternatives.

Table 2.30 Comparison of Future Build and Future No-Build Emissions on State Route 99

Analysis	Peak Particulate Matter 2.5 (Pounds per Day)	Peak Particulate Matter 10 (Pounds per Day)	Peak Carbon Monoxide (Tons per Year)
Existing Year 2018	84	268	279
No-Build 2029	87	346	125
Build 2029	84	343	129
No-Build 2049	112	486	168
Build 2049	120	494	122

Comparing the No Build 2029 to the Build 2029, both particulate matter 2.5 and particulate matter 10 Total (AM plus PM) emissions decreased, while carbon monoxide emissions increased. However, by Design Year 2049, the differences between the No-Build 2049 and Build 2049 emissions patterns invert. Project construction would increase the amounts of particulate matter 2.5 and particulate matter 10 while carbon monoxide emissions would drop.

In the future, carbon monoxide emissions are expected to decrease due to a combination of improved engine and fuel innovations that continue to improve efficiency. Carbon dioxide emissions will decrease as more motorists rely on hybrid electric/combustion and all-electric engines. At the same time, particulate matter will remain proportionate to the number of automobiles on the road and will increase with the expected additional vehicles forecasted for 2049; this is due in part because road dust and tire and brake wear are the main contributors of particulate matter. Caltrans is continuing to fund research and work with universities and regulatory agencies to develop acceptable measures to reduce particulate matter that is not from exhaust pipes; however, there are currently no formally approved measures.

Table 2.31 Comparison for Future Build and Future No-Build Emissions for the Blackstone Roundabout

Blackstone Roundabout	Peak Particulate Matter 2.5 (Pounds per Day)	Peak Particulate Matter 10 (Pounds per Day)	Peak Carbon Monoxide (Tons per Year)
Existing Year 2018	7	32	25
No-Build 2029	11	53	18
Build 2029	8	41	14
No-Build 2049	22	106	25
Build 2049	15	74	18

Blackstone Roundabout

The 2029 No-Build Particulate Matter 2.5 emissions will be 11 pounds per day. If the project is built, the Particulate Matter 2.5 emissions will be 8 pounds per day, 3 pounds less than the No-Build Alternative.

The 2049 No-Build Particulate Matter 2.5 emissions will be 22 pounds per day. If the project is built, the emissions will be 15 pounds per day, 7 pounds less than the No-Build Alternative.

The 2029 No-Build Particulate Matter 10 emissions will be 53 pounds per day. If the project is built, the Particulate Matter 10 emissions will be 41 pounds per day, 12 pounds less than the No-Build Alternative.

The 2049 No-Build Particulate Matter 10 emissions will be 106 pounds per day. If the project is built, the Particulate Matter 10 emissions will be 74 pounds per day, 32 pounds less than the No-Build Alternative.

The 2029 No-Build carbon monoxide emissions will be 18 tons per day. If the project is built, the carbon monoxide emissions will be 14 tons per day, 4 tons less than the No-Build Alternative.

The 2049 No-Build carbon monoxide emissions will be 25 tons per day. If the project is built, the carbon monoxide emissions will be 18 tons per day, 7 tons less than the No-Build Alternative.

Table 2.32 Comparison for Future Build and Future No-Build Emissions for the Laspina Roundabout

Laspina Roundabout	Peak Particulate Matter 2.5 (Pounds per Day)	Peak Particulate Matter 10 (Pounds per Day)	Peak Carbon Monoxide (Tons per Year)
Existing Year 2018	7	27	24
No-Build 2029	11	52	17
Build 2029	9	44	14
No-Build 2049	21	107	25
Build 2049	18	89	21

Laspina Roundabout

The 2029 No-Build Particulate Matter 2.5 emissions will be 11 pounds per day. If the project is built, the Particulate Matter 2.5 emissions will be 9 pounds per day, 2 pounds less than the No-Build Alternative.

The 2049 No-Build Particulate Matter 2.5 emissions will be 21 pounds per day. If the project is built, the emissions will be 18 pounds per day, 3 pounds less than the No-Build Alternative.

The 2029 No-Build Particulate Matter 10 emissions will be 52 pounds per day. If the project is built, the Particulate Matter 10 emissions will be 44 pounds per day, 8 pounds less than the No-Build Alternative.

The 2049 No-Build Particulate Matter 2.5 emissions will be 107 pounds per day. If the project is built, the Particulate Matter 10 emissions will be 89 pounds per day, 18 pounds less than the No-Build Alternative.

The 2029 No-Build Carbon Monoxide emissions will be 17 tons per day. If the project is built, the Carbon Monoxide emissions will be 14 tons per day, 3 tons less than the No-Build Alternative.

The 2049 No-Build Carbon Monoxide emissions will be 25 tons per day. If the project is built, the Carbon Monoxide emissions will be 21 tons per day, 4 tons less than the No-Build Alternative.

Table 2.33 Comparision for Future Build and Future No-Build Emissions for Two-Roundabout Configuration for the Paige Avenue Interchange

Paige Avenue: Two Roundabouts	Peak Particulate Matter 2.5 (Pounds per Day)	Peak Particulate Matter 10 (Pounds per Day)	Peak Carbon Monoxide (Tons per Year)
Existing Year 2018	7	25	21
No-Build 2029	9	47	16
Build 2029	11	62	21
No-Build 2049	19	96	23
Build 2049	23	114	27

The Existing Particulate Matter 2.5 emissions are 7 pounds per day, the Existing Particulate Matter 10 emissions are 25 pounds per day, and the Existing Carbon Monoxide emissions are 21 tons per year.

The 2029 Build Particulate Matter 2.5 emissions will be 11 pounds per day, 4 pounds more than the Existing Particulate Matter 2.5 emissions.

The 2049 Build Particulate Matter 2.5 emissions will be 23 pounds per day, 16 pounds more than the Existing Particulate Matter 2.5 emissions.

The 2029 Build Particulate Matter 10 emissions will be 62 pounds per day, 37 pounds more than the Existing Particulate Matter 10 emissions.

The 2049 Build Particulate Matter 10 emissions will be 114 pounds per day, 89 pounds more than the Existing Particulate Matter 10 emissions.

The 2029 Build Carbon Monoxide emissions will be 21 tons per year, the same as the Existing Carbon Monoxide emissions.

The 2049 Build Carbon Monoxide emissions will be 27 tons per year, 6 tons more than the Existing Carbon Monoxide emissions.

This section describes the results of the air quality analyses conducted for the project. The analyses conducted applied methodology and assumptions that are consistent with federal and state requirements for air quality. The analyses also used guidelines and procedures provided in applicable air quality analysis protocols, such as the Transportation Project-Level Carbon Monoxide Protocol (CO Protocol) (Garza et al., 1997), Transportation Conformity Guidance for Quantitative Hot-Spot Analyses in Particulate Matter 2.5 and Particulate Matter 10 Nonattainment and Maintenance Areas (U.S. Environmental Protection Agency, 2015), and the Federal Highway Administration Updated Interim Guidance on Air Toxic Analysis in NEPA Documents (Federal Highway Administration, 2016).

- **Regional Air Quality Conformity**—The project is included in the Tulare County Association of Governments' 2023 Federal Transportation Implementation Plan and the 2022 Regional Transportation Plan/Sustainable Communities Strategy and the corresponding Conformity Analysis.
- **Carbon Monoxide**—The project, individually, meets the carbon monoxide protocol standards to a satisfactory level, and no further analysis was required. In 1997, the San Joaquin Valley Air Basin was designated as a maintenance area for carbon monoxide by the Environmental Protection Agency, and the Valley was compelled to adhere to a 20-year maintenance plan to decrease the levels of carbon monoxide to acceptable levels. This goal was achieved on November 30, 2017.
- **Ozone**—While the project is in a nonattainment area for the federal and state 8-hour ozone levels, when projects are listed in an approved Regional Transportation Plan with associated conformity emissions analysis, the projects are considered to be conforming to the State Implementation Plan for ozone.
- **Particulate Matter 10 Hot-Spot Analysis**—The project was submitted for interagency consultation on January 7, 2022. It was deemed not a "Project of Air Quality Concern" by the interagency consultation partners and, therefore, did not require a Particulate Matter 10 hot-spot analysis. Concurrence for "Not a Project of Air Quality Concern" was granted by the Environmental Protection Agency on January 24, 2022, and by the Federal Highway Administration on January 27, 2022.
- **Mobile Source Air Toxics** —The analysis conducted for the project, according to Federal Highway Administration guidance to assess mobile source air toxics, found the project is considered a "Project with No Meaningful Potential Mobile Source Air Toxics Effects" and best falls into the category of "Low Potential Mobile Source Air Toxics Effects." The proposed build alternative would not increase emissions substantially

above the No-Build scenario. Mobile source air toxic emissions in the study area are likely to be lower in the future, in all cases, because of improved technology, according to the Environmental Protection Agency's analysis.

- **Construction Conformity**—Emissions from construction equipment are expected and would include carbon monoxide, nitrogen oxides, volatile organic compounds, directly emitted particulate matter (Particulate Matter 10 and Particulate Matter 2.5), and toxic air contaminants, such as diesel exhaust particulate matter. However, with the implementation of Caltrans' Standard Specifications in Section 14 and other measures included in the project, there would not be substantive impacts from the project.
- **Carbon Dioxide**—Carbon dioxide is a greenhouse gas and is discussed in Chapter 3, Section 3.3, Climate Change, of this document.

Assembly Bill 617 requires the California Air Resources Board and air districts to develop and implement additional emissions reporting, monitoring, reduction plans, and measures to reduce air pollution exposures in disadvantaged communities, according to the San Joaquin Valley Air Pollution Control District webpage. No identified Assembly Bill 617 communities are in the project area.

Regional Conformity

The proposed project is included in the 2022 Tulare County Association of Governments' financially constrained Regional Transportation Plan, which was found to conform by the Tulare County Association of Governments on August 15, 2022. Federal Highway Administration and Federal Transportation Authority's final approval for a regional conformity determination finding was approved on December 16, 2022. The design concept and scope of the proposed project are consistent with the project description in the draft 2022 Regional Transportation Plan and the "Open to Traffic" assumptions of the Tulare County Association of Governments' regional emissions analysis.

Project Level Conformity

The environmental document prepared for this project is an Environmental Assessment under NEPA and is considered a regionally significant project. A regionally significant project is a nonexempt transportation project that serves regional transportation needs, major activity centers in the region, major planned developments, or transportation terminals, and most terminals themselves.

The project is within the San Joaquin Valley Air Basin and is under the jurisdiction of the San Joaquin Valley Air Pollution Control District. Tulare County is in nonattainment for the Federal 8-hour Ozone and particulate matter 2.5 and in attainment for federal particulate matter 10 and carbon monoxide standards.

For project-level conformity, a project may not contribute to any new localized carbon monoxide, fine, and/or respirable particulate matter violations or delay the timely attainment of any National Ambient Air Quality Standards or any required interim emission reductions or other milestones during the time frame of the transportation plan (or regional emissions analysis).

No project-level conformity requirements apply to ozone because it is considered a regional pollutant. The proposed project would not interfere with the implementation of any transportation control measures.

Interagency Consultation

The Tulare Six-Lane and Paige Avenue Interchange Improvement project was submitted for Interagency Consultation on January 7, 2022. It was deemed not a “Project of Air Quality Concern” by the Environmental Protection Agency on January 24, 2022, and by the Federal Highway Administration on January 27, 2022.

The Federal Highway Administration and the Environmental Protection Agency concurred that the project will not cause or contribute to any new localized, fine, and/or respirable particulate matter violations or delay timely attainment of any National Ambient Air Quality Standards or any required interim emission reductions or other milestones during the time frame of the transportation plan (or regional emissions analysis).

Short-Term Effects (Construction Emissions)

During construction, the proposed project will generate air pollutants. The exhaust from construction equipment contains hydrocarbons, nitrogen oxides, carbon monoxide, suspended particulate matter, and odors. However, the largest percentage of pollutants would be windblown dust generated during excavation, grading, hauling, and various other activities. The impacts of these activities would vary each day as construction progresses.

Construction Equipment, Traffic Congestion, and Fugitive Dust

Construction greenhouse gas emissions for the project are calculated using Caltrans’ Construction Emissions Tool.

Project construction is expected to generate about 6,062 tons of carbon dioxide during 400 working days (less than the 264 working days per 1 year) duration. See Table 2.34 for the construction activities and related totals of construction-generated pollutants for Particulate Matter 10, Particulate Matter 2.5, carbon monoxide, nitrogen oxide, and carbon dioxide.

Table 2.34 Construction-Generated Pollutants

Activity (Pounds per Day)	Particulate Matter 10	Particulate Matter 2.5	Carbon Monoxide	Nitrogen Oxide	Carbon Dioxide
Land Clearing/Grubbing	0.358	0.074	0.577	0.608	160
Roadway Excavation and Removal	0.721	0.431	5.23	5.315	1,261.00
Structural Excavation and Removal	0.332	0.049	0.171	0.276	86
Base/Subbase/Imported Borrow	0.715	0.425	5.472	5.093	1187
Structure Concrete	0.096	0.094	1.094	1.554	396
Paving	0.218	0.214	1.356	2.965	625
Drainage/Environment/Landscaping	0.162	0.158	1.066	2.102	448
Traffic Signalization/Signage/ Striping/Painting	0.12	0.118	1.683	2.023	970
Other Operation	0	0	0	0	0
Project Total	2.722	1.563	16.649	19.936	5,133

Long-Term Effects (Operational Emissions)

Operational emissions take into account long-term changes in emissions due to the project (excluding the construction phase). The operational emissions analysis compares forecasted emissions for existing/baseline, future no-build, and future build alternatives.

In particulate matter nonattainment or maintenance areas, if a project is determined to be a project of air quality concern, a hot-spot analysis needs to be conducted under the conformity requirement. The U.S. Environmental Protection Agency guidance for particulate matter hot-spot analysis, in concert with required interagency consultation, is used to determine whether a project is a project of air quality concern.

In November 2015, the U.S. Environmental Protection Agency released an updated version of Transportation Conformity Guidance for Quantitative Hot-Spot Analyses in Fine and Respirable Particulate Matter Nonattainment and Maintenance Areas (guidance) for quantifying the local air quality impacts of transportation projects and comparing them to the particulate matter National Ambient Air Quality Standards (75 Federal Register Section 79370). The U.S. Environmental Protection Agency originally released the quantitative guidance in December 2010 and released a revised version in November 2013 to reflect the approval of the Emission Factor 2011 model and the 2012 Particulate Matter National Ambient Air Quality Standards final rule. The November 2015 version reflects the 2014 Motor Vehicle Emission Simulator model and its subsequent minor revisions, such as the Motor Vehicle Emissions Simulator model 2014a, to revise design value calculations to be more consistent with other U.S. Environmental Protection Agency programs and to reflect guidance implementation and experience in the field. Note that the Emission Factor model, not the Motor Vehicle Emissions Simulator model, should be used for project hot-spot analysis in California.

The guidance requires a hot-spot analysis to be completed for a project of air quality concern. The final rule in 40 Code of Federal Regulations Section 93.123(b)(1) defines a project of air quality concern as:

- i. New or expanded highway projects that have a significant number of or significant increase in diesel vehicles;
- ii. Projects affecting intersections that are at level of service D, E, or F with a significant number of diesel vehicles, or those that will change to level of service D, E, or F because of increased traffic volumes from a significant number of diesel vehicles related to the project;
- iii. New bus and rail terminals and transfer points that have a significant number of diesel vehicles congregating at a single location;

- iv Expanded bus and rail terminals and transfer points that significantly increase the number of diesel vehicles congregating at a single location; and

Caltrans, as a project sponsor, has determined that this project does meet these criteria for not being a “Project of Air Quality Concern.”

- Mainline Build/No-Build Annual Average Daily Traffic and Truck Annual Average Daily Traffic for the project are the same for the Existing, Open to Traffic, and Design Years. Traffic/Truck volumes are not expected to increase significantly over the life of the project.
- Operational improvements to the freeway and Paige Avenue will not induce out-of-area traffic to the vicinity. The increased mainline capacity will allow more free flow in traffic and lessen the chance of lane overcrowding and gridlock. The Paige Avenue operational improvements will improve safety for local and regional traffic. Truck transport movement will become more efficient if the project is implemented.
- Significant improvements would be made to improve safety along this segment of State Route 99. Hazardous features that impede line-of-sight would be removed, including the realignment of a nonstandard curve in the roadway.
- Time delays due to waiting at stop- or signal-controlled intersections would be reduced by substituting with roundabouts. Trucks navigating the Paige Avenue intersections would not have to stop completely while surrounding traffic would be able to freely flow through the roundabout lanes.
- Project construction would reduce harmful emissions. Travel time could be shortened due to increased capacity on the freeway. Replacing the intersections with roundabouts would eliminate the need for vehicles to come to a complete stop, idle, and reaccelerate.

General Construction Impacts for Build Alternative

During construction, short-term degradation of air quality may occur due to the release of particulate emissions (airborne dust) generated by excavation, grading, hauling, and other construction-related activities. Emissions from construction equipment are expected and would include carbon monoxide, nitrogen oxides, volatile organic compounds, directly emitted particulate matter (Particulate Matter 10 and Particulate Matter 2.5), and toxic air contaminants, such as diesel exhaust particulate matter. Ozone is a regional pollutant that comes from nitrogen oxides and volatile organic compounds in the presence of sunlight and heat. For more details on construction emissions for this project, see Appendix C of the Air Quality Report in Volume 2, Technical Studies, which can be sent upon request.

Site preparation and roadway construction typically involve clearing, cut-and-fill activities, grading, removing or improving existing roadways, building bridges, and paving roadway surfaces. Construction-related effects on air

quality from most highway projects would be greatest during the site preparation phase because most engine emissions are associated with the excavation, handling, and transport of soils to and from the site. These activities could temporarily generate enough Particulate Matter 10, Particulate Matter 2.5, and small amounts of carbon monoxide, sulfur dioxide, nitrogen oxides, and volatile organic compounds to be of concern.

Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soil. Unless properly controlled, vehicles leaving the site could deposit mud on local streets, which could be an added source of airborne dust after it dries. Particulate Matter 10 emissions would vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. Particulate Matter 10 emissions would depend on soil moisture, silt content of the soil, wind speed, and the amount of equipment operating. Larger dust particulates would settle near the source, while fine particulates would be dispersed over greater distances from the construction site.

Construction activities for large development projects are estimated by the U.S. Environmental Protection Agency to add 1.2 tons of fugitive dust per acre of soil disturbed per month of activity. If water or other soil stabilizers are used to control dust, the emissions can be reduced by up to 50 percent. In addition to dust-related particulate matter 10 emissions, heavy-duty trucks and construction equipment powered by gasoline and diesel engines would generate carbon monoxide, sulfur dioxide, nitrogen oxides, volatile organic compounds, and some soot particulate (Particulate Matter 10 and Particulate Matter 2.5) in exhaust emissions.

Construction activities would not last for more than five years at one general location, so construction-related emissions do not need to be included in regional and project-level conformity analysis (40 Code of Federal Regulations 93.123 (c) (5)). During construction, short-term degradation of air quality may occur due to the release of particulate emissions (airborne dust) generated by excavation, grading, hauling, and other construction-related activities. Emissions from construction equipment are expected and would include carbon monoxide, nitrogen oxides, volatile organic compounds, directly emitted particulate matter (particulate matter 10 and particulate matter 2.5), and toxic air contaminants, such as diesel exhaust particulate matter. Ozone is a regional pollutant that comes from nitrogen oxides and volatile organic compounds in the presence of sunlight and heat.

If construction activities were to increase traffic congestion in the area, carbon monoxide and other emissions from traffic would increase slightly while those vehicles are delayed. These emissions would be temporary and limited to the immediate area surrounding the construction site.

Sulfur dioxide is generated by oxidation during the combustion of organic sulfur compounds contained in diesel fuel. Under California law and Air Resources Board regulations, off-road diesel fuel used in California must meet the same sulfur and other standards as on-road diesel fuel (not more than 15 parts per million sulfur), so sulfur dioxide -related issues due to diesel exhaust would be minimal.

Some phases of construction, particularly asphalt paving, may result in short-term odors in the immediate area of each paving site. Such odors would quickly disperse to below detectable levels as the distance from the site increases.

Implementation of the following standardized measures, some of which may also be required for other purposes, such as stormwater pollution control, would reduce any air quality impacts resulting from construction activities:

The construction contractor must comply with Caltrans Standard Specifications Section 14. Section 14 specifically requires compliance by the contractor with all applicable laws and regulations related to air quality, including air pollution control district and air quality management district regulations and local ordinances. Section 14 is directed at controlling dust. If dust palliative materials other than water are to be used, material specifications are described in Section 18 specification.

- Water or dust palliatives would be applied to the site and equipment as often as necessary to control fugitive dust emissions. Fugitive emissions and avoidance, minimization, and/or mitigation measures generally must meet a “no visible dust” criterion either at the point of emissions or at the right-of-way line, depending on local regulations.
- Soil binder would be spread on any unpaved roads used for construction purposes and on all project construction parking areas.
- Construction equipment and vehicles would be properly tuned and maintained. All construction equipment would use low sulfur fuel as required by California Code of Regulations Title 17, Section 93114.
- A dust control plan would be developed to document sprinkling, temporary paving, speed limits, and timely revegetation of disturbed slopes as needed to minimize construction impacts on existing communities.
- Track-out reduction measures, such as gravel pads at project access points to minimize dust and mud deposits on roads affected by construction traffic, would be used.
- All transported loads of soils and wet materials would be covered before transport, or adequate freeboard (space from the top of the material to the top of the truck) would be provided to minimize the emission of dust (particulate matter) during transportation.

- Dust and mud that are deposited on paved, public roads due to construction activity and traffic would be promptly and regularly removed to decrease particulate matter emissions.
- To the extent feasible, construction traffic would be scheduled and routed to reduce congestion and related air quality impacts caused by idling vehicles along local roads during peak travel times.
- Mulch would be placed or vegetation planted as soon as practical after grading to reduce windblown particulate matter in the area.

The project contains standardized project measures that are used on most, if not all, Caltrans projects and were not developed in response to any specific environmental impact resulting from the proposed project.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation would be required.

Climate Change

The U.S. Environmental Protection Agency and the Federal Highway Administration have not issued explicit guidance or methods to conduct project-level greenhouse gas analysis. FHWA emphasizes concepts of resilience and sustainability in highway planning, project development, design, operations, and maintenance. Because there have been requirements set forth in California legislation and executive orders on climate change, the issue is addressed in the California Environmental Quality Act (CEQA) chapter of this document. The CEQA analysis may be used to inform the National Environmental Policy Act (NEPA) determination for the project.

2.2.5 Noise and Vibration

Regulatory Setting

The National Environmental Policy Act (NEPA) of 1969 and the California Environmental Quality Act (CEQA) provide the broad basis for analyzing and abating highway traffic noise effects. These laws intend to promote the general welfare and foster a healthy environment. The requirements for noise analysis and consideration of noise abatement and/or mitigation, however, differ between NEPA and CEQA.

California Environmental Quality Act

CEQA requires a strictly baseline versus build analysis to assess whether a proposed project will have a noise impact. If a proposed project is determined to have a significant noise impact under CEQA, then CEQA dictates that mitigation measures must be incorporated into the project unless those measures are not feasible. The rest of this section will focus on the NEPA/Title 23 Part 772 of the Code of Federal Regulations noise analysis; please see Chapter 3 of this document for further information on noise analysis under CEQA.

National Environmental Policy Act and 23 CFR 772

For highway transportation projects with Federal Highway Administration involvement (and Caltrans, as assigned), the Federal-Aid Highway Act of 1970 and its implementing regulations (23 Code of Federal Regulations 772) govern the analysis and abatement of traffic noise impacts. The regulations require that potential noise impacts in areas of frequent human use be identified during the planning and design of a highway project. The regulations include noise abatement criteria that are used to determine when a noise impact would occur. The noise abatement criteria differ depending on the type of land use under analysis. For example, the noise abatement criteria for residences (67 A-weighted decibel) are lower than the noise abatement criteria for commercial areas (72 A-weighted decibel). The following table, Table 2.35, lists the noise abatement criteria for use in the NEPA/23 CFR 772 analysis.

Columns B and C in Table 2.35 includes undeveloped lands permitted for the activity category.

Table 2.35 Noise Abatement Criteria

Activity Category	Noise Abatement Criteria, Hourly A-Weighted Noise Level, Leq(h)	Description of Activity Category
A	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 (Exterior)	Residential.
C	67 (Exterior)	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	52 (Interior)	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E	72 (Exterior)	Hotels, motels, offices, restaurants/bars, and other developed lands, properties, or activities not included in A-D or F.
F	No Noise Abatement Criteria—Reporting Only	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical, etc.), and warehousing.
G	No Noise Abatement Criteria—Reporting Only	Undeveloped lands that are not permitted.

Figure 2-8 below lists the noise levels of common activities to enable readers to compare the actual and predicted highway noise levels discussed in this section with common activities.

Figure 2-8 Noise Levels of Common Activities

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
Jet Fly-over at 300m (1000 ft)	110	Rock Band
Gas Lawn Mower at 1 m (3 ft)	100	
Diesel Truck at 15 m (50 ft), at 80 km (50 mph)	90	Food Blender at 1 m (3 ft)
Noisy Urban Area, Daytime	80	Garbage Disposal at 1 m (3 ft)
Gas Lawn Mower, 30 m (100 ft)	70	Vacuum Cleaner at 3 m (10 ft)
Commercial Area		Normal Speech at 1 m (3 ft)
Heavy Traffic at 90 m (300 ft)	60	Large Business Office
Quiet Urban Daytime	50	Dishwasher Next Room
Quiet Urban Nighttime	40	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	30	Library
Quiet Rural Nighttime	20	Bedroom at Night, Concert Hall (Background)
	10	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	0	Lowest Threshold of Human Hearing

According to Caltrans' *Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects, May 2011*, a noise impact occurs when the predicted future noise level with the project substantially exceeds the existing noise level (defined as a 12 dBA or more) or when the future noise level with the project approaches or exceeds the NAC. A noise level is considered to approach the noise abatement criteria if it is within 1 A-weighted decibel of the noise abatement criteria.

If it is determined that the project would have noise impacts, then potential abatement measures must be considered. Noise abatement measures that are determined to be reasonable and feasible at the time of final design are incorporated into the project plans and specifications. This document discusses noise abatement measures that would likely be incorporated into the project.

Caltrans' *Traffic Noise Analysis Protocol* sets forth the criteria for determining when an abatement measure is reasonable and feasible. The feasibility of noise abatement is an engineering concern. Noise abatement must be predicted to reduce noise by at least 5 decibel at an impacted receptor to be considered feasible from an acoustical perspective. It must also be possible to design and construct the noise abatement measure for it to be considered feasible. Factors that affect the design and constructability of noise abatement include, but are not limited to, safety, barrier height, topography, drainage, access requirements for driveways, presence of local cross streets, underground utilities, other noise sources in the area, and maintenance of the abatement measure. The overall reasonableness of noise abatement is determined by the following three factors: 1) the noise reduction design goal of 7 dB at one or more impacted receptors, 2) the cost of noise abatement, and 3) the viewpoints of benefited receptors (including property owners and residents of the benefited receptors).

Affected Environment

A Noise Study Report was completed for the project on October 22, 2020, and was updated on November 8, 2021.

Field investigations were conducted on September 13, 2020, and October 4, 2020, to identify land uses that could be subject to traffic noise impacts from the proposed project. The land uses within the project limits and their representative receivers are divided into segments and described in detail in the following section based on roadway topography with respect to the identified receivers.

Segment 1 Between Post Mile 25.2 and Paige Avenue

State Route 99 is on flat terrain in this segment with respect to the represented receivers. Land uses within this segment on both sides of State Route 99 consist of two mobile home communities, light industries, manufacturing facilities, and truck stops.

Segment 2 Between Paige Avenue and Bardsley Avenue

State Route 99 is on flat terrain in this segment with respect to the represented receivers. Land uses within this segment consist of single-family residences on the east side of State Route 99 and small businesses and warehouses on the west side of State Route 99.

Segment 3 Between Bardsley Avenue and Cross Avenue

State Route 99 is depressed at some locations within this segment with respect to the representative receivers. Land uses within this segment on both sides of State Route 99 consist of single-family residences and multifamily residences, a mobile home community, and offices.

Segment 4 Between Cross Avenue and Post Mile 30.4 (About 350 Feet South of Prosperity Avenue)

State Route 99 is depressed at some locations within this segment with respect to the representative receivers. Land uses on both sides of State Route 99 within this segment consist of multifamily residences and duplexes with no outdoor locations for outdoor gatherings. Tulare Church of Christ and First Church of God have no outdoor locations for gatherings.

Environmental Consequences

This project is a Type 1 project as defined by the Federal Highway Administration because it would increase the number of through-traffic lanes, potentially increase the volume or speed of traffic, and would move the traffic closer to a receiver.

The project would result in noise impacts that require the consideration of noise abatement. Three soundwalls are proposed for the project.

A noise study investigation was performed on September 13, 2020, and October 4, 2020. Short-term (10-minute) noise measurements were conducted at nine sites to evaluate the existing noise environment. Most residences visited during the field work have barking dogs and other noise-generating equipment, such as lawn mowers and agricultural farming equipment that would contaminate a noise measurement. Therefore, nine short-term field measurements were collected to represent a total of 43 potentially impacted receiver locations. Table 2.36 shows the short-term noise measurement results for the nine sites.

Table 2.36 Short-Term Noise Measurement Results

Receiver Number	Location	Land Use	Noise Level Meter Distance From Right-of-Way in Feet	Measure of Equivalent, A-weighted decibels
Receiver 1	900 East Rankin Avenue	Residential	36	56
Receiver 2	Agriculture Field	Agricultural	100	60
Receiver 3	1678 South Dayton Street	Residential	39	70
Receiver 4	1442 South Blackstone	Commercial	64	68
Receiver 5	1216 East Sequoia Avenue	Residential	54	61
Receiver 6	320 North Blackstone Street	Residential	41	69
Receiver 7	1225 East Hillman Street	Motel	152	61
Receiver 8	500 North Blackstone Street	Church	101	61
Receiver 9	833 North Blackstone Street	Church	425	53

Predicted design year traffic noise levels with the project are compared with existing conditions and design year no-build conditions. The comparison with existing conditions is included in the analysis to identify traffic noise impacts under federal law.

Noise abatement is considered for areas of frequent human use that would benefit from a lowered noise level. The noise study report impact analysis focused mainly on locations with defined outdoor use areas, such as residential backyards, common use areas at multifamily residences, parks, and pool areas of hotels/motels.

The 43 receivers and the impacts are described below:

Segment 1 Between Post Mile 25.0 and Paige Avenue

Predicted traffic noise levels for the design year with project conditions do not approach or exceed the noise abatement criteria for five receivers; therefore, noise abatement is not proposed in this segment:

Receiver 1: There is an existing 11-foot-high soundwall at this mobile home park community. The noise level for the design year build alternative at Receiver 1 is 62 A-weighted decibels. This noise level would not approach or exceed the federal noise abatement criteria threshold of 67 A-weighted decibels for the designated land use, and the design year noise levels at Receiver 1 would not substantially exceed the existing noise level.

Receiver 2: The noise level for the design year build alternative is 75 A-weighted decibels. No noise impact criteria have been set for agricultural fields.

Receiver 41: This receiver represents the westernmost row of mobile homes at the Tulare Inn Mobile Home Park located at 1401 East Paige Avenue, east of State Route 99, and south of two of the proposed roundabouts at the Paige Avenue Interchange. This receiver is set back about 600 feet from the existing edge of the traveled way of the freeway. In addition, a wall on top of the fill that surrounds the mobile home park also provides some protection from noise. The noise level for the design year build alternative at Receiver 41 is 62 A-weighted decibels, which is below the noise abatement criteria for this land use. Therefore, no noise abatement was considered for this location.

Receiver 42: This receiver represents the first row of the mobile homes facing Laspina Street and is located in the northeast corner of the walled Tulare Inn Mobile Home Park. The receiver is set back 85 feet from the edge of the traveled way of the southbound traffic on Laspina Street. The noise level for the design year build alternative at Receiver 42 is 62 A-weighted decibels, which is below the noise abatement criteria for this land use. Therefore, no noise abatement was considered for this location.

Receiver 43: This receiver also represents the first row of the mobile homes facing Laspina Avenue in Tulare Inn Mobile Home Park and is located south of Receiver 42. This receiver is set back about 125 feet from the edge of the traveled way of the southbound traffic on Laspina Street. The noise level for the design year build alternative at this receiver is 61 A-weighted decibels,

which is below the noise abatement criteria for this land use. For that reason, noise abatement was not considered for this location.

Segment 2 Between Paige Avenue and Bardsley Avenue

Receiver 3: This receiver is for a single-family residence at 1678 South Dayton Street and represents the first row of five homes on the east side of State Route 99 between East Levin and East Walnut Avenues. The noise level for the design year build alternative at Receiver 3 is 74 A-weighted decibels. The design year noise level at this receiver is above the noise abatement criteria threshold of 67 A-weighted decibels for this land use. However, a field visit to this site revealed no outdoor locations for frequent gatherings at these homes that would benefit from a soundwall as an abatement measure. No abatement is recommended for this location.

Receiver 4: This receiver is for an industrial site (Elements Design Center) located on the west side of State Route 99 and set back about 200 feet from the freeway. The noise level for the design year build alternative at Receiver 4 is 76 decibels. No noise impact criteria for industrial land uses have been set.

Receiver 11: This receiver is for a single-family residence at 1173 South Spruce Street and represents the first row of 17 homes on the east side of State Route 99 between East Bardsley and East Walnut Avenues. The noise level for the design year build alternative at Receiver 11 is 61 dBA. The design year noise level at this receiver is below the noise abatement criteria threshold of 67 dBA. No abatement is recommended for this location.

Receiver 17: This receiver is for a single-family residence at 1703 South Spruce Street and represents the first row of 19 homes on the east side of State Route 99 between East Levin and East Walnut Avenues. The noise level for the design year build alternative at Receiver 17 is 65 A-weighted decibels, which is below the noise abatement criteria threshold of 67 A-weighted decibels. No abatement is recommended for this location.

Receiver 18: This receiver is for a single-family residence at 1875 South Laguna Street and represents the first row of 13 single-family residences and three multifamily residences located on the east side of State Route 99 between East Levin Avenue and the Tulare Canal. There is an existing wall about 10 to 12 feet high between the residences and northbound State Route 99. The noise level for the design year build alternative at Receiver 18 is 64 A-weighted decibels, which is below the noise abatement criteria threshold of 67 A-weighted decibels. No abatement is recommended for this location.

Receiver 19: This receiver is for a single-family residence at 2259 South Tamarack Street and represents the first row of 12 single-family residences located on the east side of State Route 99 between the Tulare canal and Paige Avenue. All residences have backyards that are facing traffic noise on State Route 99. An addendum to the 2021 Noise Study Report was prepared

to discuss the feasibility of constructing a noise abatement in the form of soundwall for these homes to provide protection from traffic noise on State Route 99. Receiver 19 would be at 70-A weighted decibels by design year 2047 which exceed the noise abatement category of 67 decibels. Therefore, a noise abatement must be considered at this location.

Segment 3 Between Bardsley Avenue and Cross Avenue

Receiver 5: This receiver is for a single-family residence at 1216 East Sequoia Avenue and represents the first row of five residences on the west side of State Route 99 just south of Sierra Avenue. The noise level for the design year build alternative at Receiver 5 is 70 A-weighted decibels, which is above the noise abatement criteria threshold of 67 A-weighted decibels. Therefore, noise abatement must be considered at this location.

Receiver 6, Receivers 29-37: These receivers are in Tulare Mobile Home Park, 320 North Blackstone Street, located on the west side of State Route 99. The receiver locations represent the first row of nine mobile homes and a swimming pool. The mobile homes in the first row are set back at various distances ranging from about 130 feet to 350 feet from the edge of the shoulder of southbound State Route 99. Appendix G shows that the design year build noise levels for Receiver 6 and Receiver 30 exceed the noise abatement criteria of 67 A-weighted decibels. Therefore, noise abatement must be considered at these receiver locations.

Receiver 12: This receiver is for a single-family residence at 757 South Spruce Street and represents the first row of 11 residences on the east side of State Route 99 north of Bardsley Avenue. The noise level for the design year build alternative at Receiver 12 is 62 A-weighted decibels, which is below the noise abatement criteria threshold of 67 dBA. No abatement is recommended for this location.

Receiver 13: This receiver is for a single-family residence at 468 South Dayton Street, located on the east side of State Route 99, and represents the first row of 13 single-family residences and 13 multifamily units between East Alpine Avenue and East Kern Avenue. The noise level for the design year build alternative at Receiver 13 is 72 A-weighted decibels. Although the design year noise level at this receiver is above the noise abatement criteria threshold of 67 A-weighted decibels, there are no locations for outdoor frequent gatherings that face State Route 99 at these residences that would benefit from noise abatement. No abatement is recommended for this location.

Receiver 20: This receiver is for a multifamily residence on the west side of State Route 99 at 498 South Blackstone Street and represents the first row of eight units. These multifamily units have no locations for outdoor gathering activities, so the receiver was placed outside the unit to measure the outdoor noise level. Furthermore, there is an existing 7-foot wall surrounding the units.

The noise level for the design year build alternative at Receiver 20 is 70 A-weighted decibels. The resulting indoor noise level for this receiver with the windows closed will be 45 A-weighted decibels (25 A-weighted decibels below the outside noise level). Therefore, the indoor design year noise level at this receiver is below the threshold of 52 A-weighted decibels. No abatement is recommended for this location.

Receiver 21: This receiver is for an apartment building unit at 1100 Martin Luther King Junior Avenue and represents the first row of eight units on the first floor. The units face the highway and have high solid wall balconies that overlook the parking garages. In addition, there is an existing 8-foot wall between the apartments and State Route 99. The receiver was placed at the sports field (a common gathering location at the apartments) and set back about 250 feet from the southbound edge of the traveled way of State Route 99. The noise level for the design year build alternative at Receiver 21 is 63 A-weighted decibels, which is below the noise abatement criteria threshold of 67 A-weighted decibels. No abatement is recommended for this location.

Receiver 22: This receiver is for an industrial/commercial site at 976 South Blackstone Street, located on the west side of State Route 99 just north of Bardsley Avenue. The noise level for the design year build alternative at Receiver 22 is 70 A-weighted decibels. However, there are no noise impact criteria for industrial and commercial land uses.

Receiver 23: This receiver is for a quadruplex unit at 908 South Dayton Street, located on the east side of State Route 99 north of Bardsley Avenue. The noise level for the design year build alternative at Receiver 23 is 64 A-weighted decibels, which is below the noise abatement criteria threshold of 67 A-weighted decibels. No abatement is recommended for this location.

Receiver 24: This receiver is for a single-family residence at 877 South Spruce Street and represents the first row of six residences on the east side of State Route 99 between Stockham and Alpine Avenues. The noise level for the design year build alternative at Receiver 24 is 60 A-weighted decibels, which is below the noise abatement criteria threshold of 67 A-weighted decibels. No abatement is recommended for this location.

Receiver 27: This receiver is for a single-family residence at 1282 East Sequoia Avenue, located on the east side of State Route 99, and represents the first row of three single-family residences between East Kern Avenue and East Sierra Avenue. The noise level for the design year build alternative at Receiver 27 is 75 A-weighted decibels, which is above the NAC threshold of 67 A-weighted decibels. Since the noise level at Receiver 27 exceeds the noise abatement criteria threshold, noise abatement must be considered at this location.

Receiver 28: This receiver is for a multifamily unit at 400 South Blackstone Street and represents the first row of 20 first-floor units located on the west side of State Route 99. The units' windows face away from State Route 99. There is an existing 7-foot wall between the first units and the freeway. The receiver was placed at the swimming pool (a common gathering area for activities) and was set back about 300 feet from the southbound edge of the shoulder of State Route 99. The noise level for the design year build alternative at Receiver 28 is 61 A-weighted decibels. The wall noise attenuation could be increased by raising the wall height if desired. No noise abatement is recommended for this location.

Segment 4 Between Cross Avenue and Post Mile 30.4 (About 350 Feet South of Prosperity Avenue)

Receiver 7: This receiver represents the swimming pool (a place for frequent gathering) at the Fairfield Inn and Suites at 1225 Hillman Street; it was set back about 220 feet from the edge of the shoulder of northbound State Route 99. The noise level for the design year build alternative at Receiver 7 is 70 dBA, which is below the noise abatement criteria threshold of 72 A-weighted decibels designated for this land use. Therefore, no abatement is recommended for this location.

Receiver 8: This receiver is on the west side of State Route 99 at 500 North Blackstone Street (Tulare Church of Christ). Although there are no outdoor locations for frequent activity gatherings, the receiver was placed outside the church building to record the outside noise level at the church. The noise level for the design year build alternative at Receiver 8 is 68 A-weighted decibels. However, the interior noise level in the church with windows closed would be much quieter at 43 A-weighted decibels (25 A-weighted decibels less than the exterior noise level reading). This noise level is below the noise abatement criteria threshold for the interior noise level of 52 A-weighted decibels designated for this land use. Since there are no locations outside the church building for frequent gatherings that would benefit from a noise abatement, no abatement is recommended at this location.

Receiver 9: This receiver is on the west side of State Route 99 at 833 North Blackstone Street (First Church of God). The receiver was placed outside the church building at a gathering location, as recommended by the church minister. The receiver location is set back about 425 feet from the chain-link fence adjacent to the southbound lanes of State Route 99. The noise level for the design year build alternative at Receiver 9 is 60 A-weighted decibels, which is below the noise abatement criteria threshold of 67 A-weighted decibels. No abatement is recommended for this location.

Receiver 14: This receiver is for a multifamily residence on the east side of State Route 99 at 731 North Lynora Street and represents 32 multifamily residence units located along the east side of northbound State Route 99.

Receiver 14 is set back about 60 feet from the edge of the shoulder of northbound State Route 99. The noise level for the design year build alternative at Receiver 14 is 67 A-weighted decibels. There is currently an existing 7-foot wall that protects the residences from highway traffic noise, providing a 5 A-weighted decibels noise reduction (the noise level at Receiver 14 without wall noise attenuation is 72 A-weighted decibels). The wall noise attenuation could be increased by raising the wall height if desired. No abatement is recommended for this location.

Receiver 15: This receiver represents offices located on the west side of State Route 99 at 947 North Blackstone Street; it was set back about 185 feet from the edge of the traveled way of southbound State Route 99. The noise level for the design year build alternative at Receiver 15 is 71 A-weighted decibels. The design year noise level at this receiver is approaching the designated noise abatement criteria of 72 A-weighted decibels for this land use; however, there are no defined outdoor locations for frequent gatherings that would benefit from noise abatement. No abatement is recommended for this location.

Receiver 16: This receiver represents the swimming pool (place for frequent gatherings) at the Quality Inn hotel at 1010 East Prosperity Avenue. The receiver was set back about 130 feet from the edge of the shoulder of northbound State Route 99. The noise level for the design year build alternative at Receiver 16 is 67 A-weighted decibels, which is below the noise abatement criteria threshold of 72 A-weighted decibels designated for this land use. No abatement is recommended for this location.

Receiver 38: This receiver is for a multifamily residence on the west side of State Route 99 at 600 North Blackstone Street and represents eight multifamily residence units located along the west side of southbound State Route 99. Receiver 38 is set back about 70 feet from the edge of the shoulder of southbound State Route 99. The noise level for the design year build alternative at Receiver 38 is 67 A-weighted decibels. There is currently an existing 7-foot wall that protects the residences from highway traffic noise and provides a 6 A-weighted decibels noise reduction (the noise level at Receiver 38 without wall noise attenuation is 73 A-weighted decibels). The wall noise attenuation could be increased by raising the wall height if desired. No abatement is recommended for this location.

Construction Noise

Temporary construction noise impacts would be unavoidable in areas immediately next to the proposed project alignment. Noise from construction activities may intermittently dominate the noise environment in the immediate area of construction.

Construction time for this project is expected to last 400 days. Approximately 150 nights of work are expected.

Construction noise varies greatly depending on the construction process, the type and condition of equipment used, and the layout of the construction site. Many of these factors are traditionally left to the contractor's discretion, which makes it difficult to accurately estimate levels of construction noise.

Construction noise estimates are approximate because of the lack of specific information available at the time of the assessment. Temporary construction noise impacts would be unavoidable in areas immediately next to the proposed project alignment.

Table 2.37 lists the type of construction equipment typically used for similar projects. As indicated, equipment involved in construction is expected to generate noise levels ranging from 80 to 95 A-weighted decibels at a distance of 50 feet. Noise produced by construction equipment would be reduced over distance at a rate of about 6 A-weighted decibels per doubling of distance.

Table 2.37 Construction Equipment Noise

Noise Source	50-Foot Maximum Noise Level A-weighted Decibels
Air Compressor (portable)	89
Air Compressor (stationary)	89
Auger, Drilled Shaft Rig	89
Backhoe	90
Chain Saw	88
Compactor	85
Concrete Mixer (small trailer)	68
Concrete Mixer Truck	89
Concrete Pump Trailer	84
Concrete Vibrator	81
Crane, Derrick	90
Crane, Mobile	85
Dozer (Bulldozer)	90
Excavator	92
Forklift	86
Front End Loader	90
Generator	87
Grader	89
Grinder	82
Impact Wrench	85
Jackhammer	88
Paver	92
Pavement Breaker	85
Pneumatic Tool	88
Pump	80
Roller	83
Sand Blaster	87
Saw, Electric	80
Scraper	91
Shovel	90
Tamper	88
Tractor	90
Trucks (Under Load)	95
Water Truck	94

Avoidance, Minimization, and/or Abatement Measures

Four soundwalls were evaluated for this project at locations where the design year build noise levels exceed the noise abatement criteria. Only three soundwalls were found to be reasonable and feasible. The soundwalls are discussed below. Figure 2-9 for an aerial view of the locations of all two soundwalls.

Soundwall 1

This 815-foot-long soundwall is proposed to provide noise attenuation for the five residences represented by Receiver 5 along the west side of State Route 99 between Kern and Sierra Avenues. The wall would extend about 220 feet south of Kern Avenue to cover the house represented by Receiver 10 at 1229

East Kern Avenue. The masonry wall would be located about 4 feet within Caltrans' right-of-way.

According to the noise study report, soundwall 1 would need to be at least 10 feet high to provide the required noise attenuation of 5 decibels and to meet the required design goal noise attenuation of 7 decibels. The height recommendation for the proposed soundwall is 12 feet to break the line of sight of an 11.5-foot-high truck exhaust stack.

The standard cost allowance for noise abatement is \$107,000 per benefited residence; the total allowance for this structure is \$535,000. The project engineer's construction cost estimate for a uniform 12-foot-high soundwall is \$677,000, which is higher than the reasonable allowance. Therefore, a variable-height soundwall was considered for this location since the roadway profile is lower than the existing ground profile at the soundwall. Based on the profile difference, it was determined that a variable-height, 8-to-12-foot-high soundwall would provide the same coverage as a 12-foot-high soundwall and meet the required design goal noise attenuation of 7 decibels at this location. The estimated total construction cost for this wall is \$552,000, which is about 3 percent more than the total reasonable allowance. Construction of this design of soundwall is recommended.

Soundwall 2

This 775-foot-long soundwall is proposed along the right-of-way next to Tulare Mobile Home Park on the west side of State Route 99, next to the Tulare Avenue southbound off-ramp. The masonry wall would be located about 4 feet within Caltrans' right-of-way. This soundwall would provide noise attenuation for five residences represented by Receiver 6 and the swimming pool location (Receiver 29).

Soundwall 2 would need to be at least 12 feet high to provide the required noise attenuation of 5 decibels and to meet the required design goal noise attenuation of 7 decibels. The height recommendation for the proposed soundwall is 12 feet to break the line of sight of an 11.5-foot-high truck exhaust stack.

The total cost allowance for the 12-foot-high wall is \$535,000. The project engineer's construction cost estimate for a uniform 12-foot-high soundwall is \$646,000, which is higher than the reasonable allowance. Therefore, a variable-height soundwall was considered at this location because the roadway profile is lower than the existing ground profile at the soundwall. Based on the profile difference, it was determined that a variable-height, 8-to-14-foot-high soundwall would provide the same coverage as a 12-foot-high soundwall and meet the required design goal noise attenuation of 7 decibels at this location. The soundwall would start at San Joaquin Avenue, starting with the 14-foot-high section of the wall that would be 150 feet long, next to the swimming pool area. The next wall section would be 12 feet high and 100

feet long. The third section of the wall would be 10 feet high and 100 feet long. The final section of the soundwall would be 8 feet high and extend for 425 feet, past the corner of the mobile home park. The estimated total construction cost for this variable-height soundwall is \$545,000, which is about 2 percent more than the total reasonable allowance. Construction of this design of soundwall is recommended.

Soundwall 3

This 635-foot-long soundwall was proposed on the edge of the shoulder of the northbound off-ramp to Tulare Avenue, south of Sierra Avenue. This soundwall would provide noise attenuation for two residences represented by Receiver 27 and Receiver 39 along the off-ramp and between Sierra Avenue and Kern Avenue.

Soundwall 3 would need to be at least 12 feet high to provide the required noise attenuation of 5 decibels and meet the required design goal of noise attenuation of 7 decibels. The wall height of 12 feet is also recommended to break the line of sight of an 11.5-foot-high truck exhaust stack.

The total reasonable allowance for this soundwall, which would benefit the two residences, is \$214,000 (\$107,000 per residence). The engineer's construction cost estimate for a uniform 12-foot-high soundwall is \$499,000, which is higher than the reasonable allowance. Based on the profile difference, it was determined that a variable-height, 8-to-14-foot-high soundwall would provide the same coverage as a 12-foot-high soundwall and meet the required design goal noise attenuation of 7 decibels at this location. However, construction of the variable-height soundwall is expected to require a combination of spread footing and Cast-In-Drilled-Hole pile foundations; the estimated total cost would be \$421,000, which is about 97 percent more than the total reasonable allowance. Therefore, the construction of soundwall 3 is not recommended.

Soundwall 4

This soundwall is proposed on the edge of shoulder of the onramp from the Paige Avenue to northbound State Route 99 to provide noise abatement for the 12 residences represented by receiver 19. The soundwall would start approximately from the beginning of the Paige Avenue northbound onramp and extend along the on-ramp edge of shoulder for a total length of 1,240 feet. Soundwall 4 would need to be at least 12 feet to provide the required attenuation of 5 decibel and meet the required design goal attenuation of 7 decibels.

The total reasonable allowance for this soundwall, which would benefit the 12 residences is \$1,284,000 (107,000 per residences). The engineer's construction cost estimate for a uniform 12-foot-high soundwall is \$1,035,500,

which is lower than the reasonable allowance. Construction of this design of soundwall is recommended.

Based on the studies completed to date, Caltrans intends to incorporate noise abatement in the form of three barriers described above as Soundwall 1, Soundwall 2 and Soundwall 4. These measures may change based on input received from the public. If conditions have substantially changed during the final design, the preliminary noise abatement decision may be changed or eliminated from the final project design. The final decision on noise abatement will be made upon completion of the project design.

Construction Noise

The following are possible control measures that can be implemented to minimize noise disturbances in sensitive areas during construction.

- All equipment shall have sound-control devices no less effective than those provided on the original equipment.
- Each internal combustion engine used for any purpose on the job or related to the job shall be equipped with a muffler of a type recommended by the manufacturer. No internal combustion engine should be operated on the job site without an appropriate muffler.
- Construction methods or equipment that will provide the lowest level of noise impacts should be used.
- Idling equipment shall be turned off.
- Truck loading, unloading, and hauling operations shall be restricted so that noise and vibration are kept to a minimum through residential neighborhoods to the greatest extent possible.

The contractor would be required to adhere to the following administrative noise control measures:

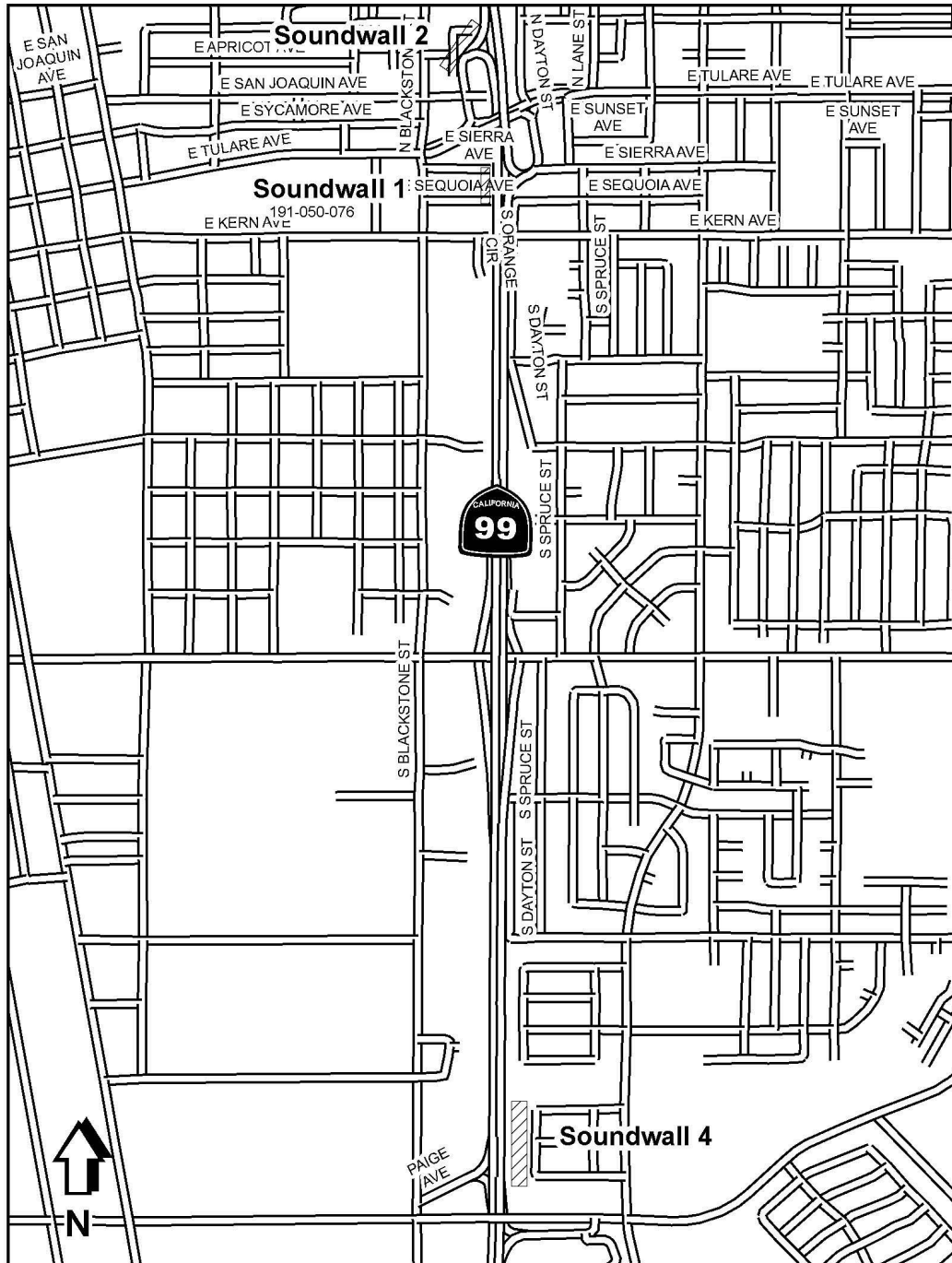
- Once details of construction activities become available, the contractor shall work with local authorities to develop an acceptable approach to minimize interference with the business and residential communities, traffic disruptions, and the total duration of the construction.
- Good public relations shall be maintained with the community to minimize objections to unavoidable construction impacts. Frequent activity updates of all construction activities shall be provided. A construction noise monitoring program to track sound levels and limit the impacts shall be implemented.
- In case of construction noise complaints by the public, the resident engineer shall coordinate with the construction manager, and the specific noise-producing activity may be changed, altered, or temporarily suspended, if necessary.

Certain construction activities could cause intermittent localized concerns from vibration in the project area. During certain construction phases, processes, like earth moving with bulldozers, the use of vibratory compaction rollers, demolitions, or pavement braking, may cause construction-related vibration impacts, such as human annoyance or, in some cases, building damages. The following measures would be used to minimize potential impacts from construction vibration:

- Restrict the hours of vibration-intensive equipment or activities, such as vibratory rollers, so that impacts to residents are minimal (e.g., weekdays during daytime hours only when as many residents as possible are away from home).
- The owner of a building close enough to a construction vibration source that damage to that structure due to vibration is possible would be entitled to a preconstruction building inspection to document the preconstruction condition of that structure.

Conduct vibration monitoring during vibration-intensive activities.

Figure 2-9 Proposed Soundwall Locations



2.2.6 Energy

Regulatory Setting

The National Environmental Policy Act (NEPA) (42 U.S. Code [USC] Part 4332) requires the identification of all potentially significant impacts to the environment, including energy impacts.

The California Environmental Quality Act (CEQA) Guidelines Section 15126.2(b) and Energy Conservation, require an analysis of a project's energy use to determine if the project may result in significant environmental effects due to wasteful, inefficient, or unnecessary use of energy, or wasteful use of energy resources.

Affected Environment

Trucks account for about 20.2 percent of the Annual Average Daily Traffic within this corridor as compared with the State average of 9 percent truck traffic. Large amounts of truck traffic within the project area stress the exiting pavement; surface cracks and larger holes in the pavement are prevalent throughout the project area. The current condition of the pavement contributes to higher energy consumption, i.e., shorter intervals between maintenance.

Transportation systems management within the project area consists of traffic count stations, vehicle detection systems, changeable message signs, extinguishable message signs, and a highway advisory radio station. Highway lighting within the project limits is very sparse and limited mainly to light poles situated near State Route 99 on- and off-ramps; most of the light poles are equipped with LED lights.

Environmental Consequences

Activities that consume energy also contribute to other related impacts. Greenhouse gas emissions, for example, are linked to energy consumption. In transportation, carbon dioxide is the primary greenhouse gas pollutant due to its abundance when compared with other vehicle-emitted greenhouse gases, including methane, nitrous oxide, hydrofluorocarbon, and black carbon.

Therefore, direct energy consumption can be quantified by using an approved version of the emissions modeling tool CT- Emission FACTor or Emission FACTor. Construction energy consumption can be estimated using the Caltrans Construction Emission Tool, the Sacramento Metropolitan Air Quality Management District's Road Construction Emissions Model, or the California emissions estimator model. If energy consumption is not quantified in the emissions modeling tool used, gasoline and diesel consumption can be estimated from carbon dioxide using U.S. Environmental Protection Agency's greenhouse gas equivalencies formulas for diesel and gasoline.

To assess fuel consumed by vehicles, Emission FACtor 2017 was used to estimate operational fuel consumption. This is shown in Table 2.38 below.

Table 2.38 Annual Construction Fuel Consumption

Scenario/ Analysis Year	Energy Consumption: Gasoline (Gallons)	Energy Consumption: Diesel (Gallons)	Energy Consumption: Electricity (Kilowatt Hour)	Total Energy Consumption (in 100,000 British Thermal Unit)	Change From Base Year (in 100,000 British Thermal Unit)	Change From No- Build (in 100,000 British Thermal Unit)
2018 Existing	11,363	7,951	720,746	24,592	Not Applicable	Not Applicable
2029 No- Build	10,700	10,053	781,998	26,682	2,090	Not Applicable
2029 Build	10,799	10,147	789,284	26,930	2,339	249
2049 No- Build	12,520	11,931	921,767	31,451	6,859	Not Applicable
2049 Build	12,520	11,931	921,767	31,451	6,859	0

When comparing the 2029 and 2049 future No-Build/Build energy consumption to the existing 2018 energy consumption, there is an increase due to additional traffic on mainline State Route 99. The increase in traffic can be contributed to population growth in the valley. When comparing the 2029 and 2049 future No-Build energy consumption to the 2029 and 2049 future Build energy consumption, there is little to no difference. Project improvements are not expected to increase operational energy consumption and would not induce traffic volumes within the project limits.

Avoidance, Minimization, and/or Mitigation Measures

Per Caltrans' Best Management Practices, newer or well-maintained equipment that is more energy efficient would be used during construction. The amount of energy used by construction during the project would be temporary. The following Best Management Practices would be used to minimize energy use and would be incorporated into the contract specifications:

- The contractor would consolidate material delivery whenever possible to promote efficient vehicle and energy use. The contractor would schedule material deliveries during non-rush hours to minimize fuel loss during traffic congestion.
- The contractor would maintain equipment and machinery in good working condition and inspect it regularly. The contractor would also maintain inspection records.
- Operators would avoid leaving equipment and vehicles idling when parked or not in use.
- Equipment found operating on the project that has not been inspected or has oil leaks would be shut down and subject to citation.

The contractor would implement, to the extent feasible, the following measures to reduce greenhouse gas emissions from construction equipment:

- Use alternative-fueled (e.g., biodiesel and electric) construction vehicles/equipment, making up at least 15 percent of the fleet.
- Use at least 10 percent of local building materials during construction.
- Recycle at least 50 percent of construction waste or demolition materials.

2.3 Biological Environment

2.3.1 Wetlands and Other Waters

Regulatory Setting

Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the Federal Water Pollution Control Act, more

commonly referred to as the Clean Water Act (33 U.S. Code 1344), is the primary law regulating wetlands and surface waters. One purpose of the Clean Water Act is to regulate the discharge of dredged or fill material into waters of the U.S., including wetlands. Waters of the U.S. include navigable waters, interstate waters, territorial seas, and other waters that may be used in interstate or foreign commerce. The lateral limits of jurisdiction over nontidal waterbodies extend to the ordinary high water mark in the absence of adjacent wetlands. When adjacent wetlands are present, Clean Water Act jurisdiction extends beyond the ordinary high water mark to the limits of the adjacent wetlands. To classify wetlands for the purposes of the Clean Water Act, a three-parameter approach is used, which includes the presence of hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils formed during saturation/inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the Clean Water Act.

Section 404 of the Clean Water Act establishes a regulatory program that provides that discharge of dredged or fill material cannot be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded. The Section 404 permit program is run by the U.S. Army Corps of Engineers with oversight by the U.S. Environmental Protection Agency.

The U.S. Army Corps of Engineers issues two types of 404 permits: General and Individual. There are two types of General permits: Regional and Nationwide. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effects. Nationwide permits are issued to allow a variety of minor project activities with no more than minimal effects.

Ordinarily, projects that do not meet the criteria for a Regional or Nationwide Permit may be permitted under one of the U.S. Army Corps of Engineers' Individual permits. There are two types of Individual permits: Standard permits and Letters of Permission. For Individual permits, the U.S. Army Corps of Engineers' decision to approve is based on compliance with U.S. Environmental Protection Agency's Section 404(b)(1) Guidelines (40 Code of Federal Regulations Part 230) and whether permit approval is in the public interest. The Section 404 (b)(1) Guidelines (guidelines) were developed by the U.S. Environmental Protection Agency in conjunction with the U.S. Army Corps of Engineers and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The guidelines state that the U.S. Army Corps of Engineers may not issue a permit if there is a "least environmentally damaging practicable alternative" to the proposed discharge that would have lesser effects on waters of the U.S. and not have any other significant adverse environmental consequences.

The executive order for the Protection of Wetlands (Executive Order 11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, Executive Order 11990 states that a federal agency, such as Federal Highway Administration and/or Caltrans, as assigned, cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds: (1) that there is no practicable alternative to the construction, and (2) the proposed project includes all practicable measures to minimize harm. A Wetlands Only Practicable Alternative Finding must be made.

At the state level, wetlands and waters are regulated primarily by the State Water Resources Control Board, the Regional Water Quality Control Boards, and the California Department of Fish and Wildlife. In certain circumstances, the Coastal Commission (or Bay Conservation and Development Commission or the Tahoe Regional Planning Agency) may also be involved. Sections 1600-1607 of the California Fish and Game Code require any agency that proposes a project that will substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify California Department of Fish and Wildlife before beginning construction. If California Department of Fish and Wildlife determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement will be required. California Department of Fish and Wildlife jurisdictional limits are usually defined by the tops of the stream or lake banks or the outer edge of riparian vegetation, whichever is wider. Wetlands under the jurisdiction of the U.S. Army Corps of Engineers may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the California Department of Fish and Wildlife.

The Regional Water Quality Control Boards were established under the Porter-Cologne Water Quality Control Act to oversee water quality. Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements and may be required even when the discharge is already permitted or exempt under the Clean Water Act. In compliance with Section 401 of the Clean Water Act, the Regional Water Quality Control Boards also issue water quality certifications for activities that may result in a discharge to waters of the U.S. This is most frequently required in tandem with a Section 404 permit request. Please see the Water Quality section for more details.

Affected Environment

A Natural Environmental Study was completed for the project on May 28, 2021. The biology action area studied for the project consists of the project footprint plus a 250-foot-wide buffer zone. The Tulare Main Canal, an unlined, channelized distributary of the Kaweah River, crosses the project area. No waters of the U.S. are present within the project footprint.

There are no wetlands within the project footprint. Elk Slough is outside the limits of the action area.

Environmental Consequences

Realigning the Tulare Canal would temporarily impact about 2 acres of the existing canal. Construction would not permanently affect the flow, volume, or capacity of the canal. The realigned segment of the canal would match the existing canal in appearance.

Due to the unvegetated and channelized nature of the canal, no special-status species or habitats are expected to occur or to experience impacts as a result of the canal realignment.

A 1600 Streambed Alteration Agreement would be required by the California Department of Fish and Wildlife due to the realignment of the Tulare Canal, a water of the state. Also, a Waste Discharge Requirement fee would be paid to the Central Valley Regional Water Quality Control Board.

Culverts that would be replaced by the project are limited to roadway runoff and crossroad conveyances and do not connect to any wetland or waterway.

Elk Slough is outside the limits of the action area and project footprint, and no impacts are expected to this waterway.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation is required.

2.3.2 Threatened and Endangered Species

Regulatory Setting

The primary federal law protecting threatened and endangered species is the Federal Endangered Species Act: 16 U.S. Code Section 1531, et seq. See also 50 Code of Federal Regulations Part 402. This act and later amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of this act, federal agencies, such as the Federal Highway Administration (and Caltrans, as assigned), are required to consult with the U.S. Fish and Wildlife Service and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 may include a Biological Opinion with an Incidental Take Statement or a Letter of Concurrence. Section 3 of Federal Endangered Species Act defines take as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct."

California has enacted a similar law at the state level, the California Endangered Species Act, California Fish and Game Code Section 2050, et

seq. California Endangered Species Act emphasizes early consultation to avoid potential impacts on rare, endangered, and threatened species and to develop appropriate planning to offset project-caused losses of listed species populations and their essential habitats. The California Department of Fish and Wildlife is the agency responsible for implementing California Endangered Species Act. Section 2080 of the California Fish and Game Code prohibits “take” of any species determined to be an endangered species or a threatened species. Take is defined in Section 86 of the California Fish and Game Code as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” California Endangered Species Act allows for take incidental to otherwise lawful development projects; for these actions, an incidental take permit is issued by California Department of Fish and Wildlife. For species listed under both Federal Endangered Species Act and California Endangered Species Act requiring a Biological Opinion under Section 7 of Federal Endangered Species Act, the California Department of Fish and Wildlife may also authorize impacts to California Endangered Species Act species by issuing a Consistency Determination under Section 2080.1 of the California Fish and Game Code.

Another federal law, the Magnuson-Stevens Fishery Conservation and Management Act of 1976, was established to conserve and manage fishery resources found off the coast, as well as anadromous species and Continental Shelf fishery resources of the U.S., by exercising (A) sovereign rights for the purposes of exploring, exploiting, conserving, and managing all fish within the exclusive economic zone established by Presidential Proclamation 5030, dated March 10, 1983, and (B) exclusive fishery management authority beyond the exclusive economic zone over such anadromous species, Continental Shelf fishery resources, and fishery resources in special areas.

Affected Environment

A Natural Environment Study was completed for the project on November 8, 2021. The biology action area studied for the project consists of the project footprint plus a 250-foot-wide buffer zone.

A list of federally endangered or threatened species and critical habitat(s) that may be affected by the proposed project was requested from the U.S. Fish and Wildlife Service on November 1, 2022. Caltrans Federal Endangered Species Act Determinations are listed in Appendix. Based on in-office research (California Native Plant Society, the California Department of Fish and Wildlife, and the U.S. Fish and Wildlife Service) and field surveys, Caltrans biologists determined that there was potentially suitable habitat for the vernal pool fairy shrimp, San Joaquin kit fox, and Swainson’s hawk that may be present within the project footprint.

Vernal Pool Fairy Shrimp

The vernal pool fairy shrimp is listed as federally threatened by the U.S. Fish and Wildlife Service. This freshwater crustacean is found in vernal pools or vernal pool-like habitats. These depressions fill with rainwater in the winter and are dry by the summer, which is why these invertebrates have such a short life cycle. Fairy shrimp hatch, mature, and reproduce in a few weeks. They produce specialized eggs that mature as cysts, which lie dormant in the soil during the dry season. When the winter rain returns, the pool fills with water. Some of the cysts hatch, and some continue to lie dormant in dry conditions for years.

The vernal pool fairy shrimp is found in suitable habitats in California and southern Oregon. The fairy shrimp feeds on algae, bacteria, protozoa, and detritus. Because these crustaceans have no defenses, they are easy prey for other species, including the California tiger salamander and the western spadefoot toad. Waterfowl can disperse fairy shrimp to other vernal pools during migration. The vernal pool fairy shrimp ranges in size from 0.12 to 1.5 inches long and typically appears semitransparent or grayish white with delicate elongated bodies, large, stalked compound eyes, and 11 pairs of swimming legs. The vernal pool fairy shrimp is distinguished from other fairy shrimp by the presence and size of the mound on the male's second antennae and by the female's short pear-shaped brood pouch.

San Joaquin kit fox

The San Joaquin kit fox is federally listed as endangered and is state listed as threatened.

The San Joaquin kit fox is a small fox that is native only to the San Joaquin Valley. Its historical range included most of the valley from San Joaquin County southward to southern Kern County. Currently, San Joaquin kit foxes occur in the remaining native valley and foothill grasslands and saltbush scrub communities of the valley floor and surrounding foothills from southern Kern County north to Merced County. San Joaquin kit foxes use dens for protection, temperature regulation, and shelter from the weather. They may dig their own dens, use dens constructed by other animals, or use artificial structures (culverts, abandoned pipelines, or banks in sumps). Females are capable of breeding two or more times per year.

The San Joaquin kit fox is active year-round, living in grassland, scrubland, oak woodland, alkali sink scrubland, and vernal pool and alkali meadow communities, but is also known to occur in extensively modified habitats, such as oil fields and wind turbine facilities. San Joaquin kit foxes are present but less common in agricultural row crops, irrigated pastures, orchards, and vineyards.

Swainson's Hawk

The Swainson's hawk is listed as a state-threatened species by the California Department of Fish and Wildlife. In addition, hawks are protected by the Migratory Bird Treaty Act and California Fish and Game Code Section 3503. The Swainson's hawk is a summer migrant to California, wintering in South America and breeding in western North America. This hawk prefers to nest in large trees surrounded by open areas and riparian forests; it forages in nearby grasslands or some agricultural fields and pastures. Formerly abundant in California, populations have declined due to loss of nesting habitat, migration mortalities, and low fertility rates.

Nests are made from sticks, bark, and fresh leaves built in a tree or bush from 4 feet to 100 feet above the ground.

There are no occurrences of Swainson's hawks recorded within the action area; however, multiple occurrences have been reported within 1 mile. The project falls within the known range of the species, and potential nesting habitat is present, primarily in landscape shrubs and trees, including those within the existing right-of-way.

Four occurrences of Swainson's hawk sightings and nests within the Tulare area have been recorded, most recently in 2011. The closest observation was in 2007, about 1,500 feet from the anticipated work area, along Elk Slough.

During surveys in the project area, Swainson's hawks were seen flying overhead. Fields adjacent to the project footprint contain low-growing ruderal species that provide potential foraging habitat.

There are no known nest trees within the action area, and no Swainson's hawk nests were detected during field surveys.

Environmental Consequences

Vernal Pool Fairy Shrimp

In late March, a fairy shrimp species was seen on the roadside and in a ponding area in the vicinity of Paige Avenue/Laspina Street and Paige Avenue/Blackstone Street, as well as in sediment-covered asphalt puddles in Love's Travel Stop parking lot. Due to significantly below-average rainfall during the winter and spring of 2020 and 2021 that may have prevented cysts from hatching, the U.S. Fish and Wildlife Service deemed the season a non-sampling season for fairy shrimp. Due to the inability to sample, the exact species identity of the fairy shrimp found could not be confirmed. Based on visual observations and the extremely poor-quality habitat, however, it was determined that the species found in the project area is most likely the versatile fairy shrimp, a more common species that does not have a special-status designation.

The most recent occurrences of vernal pool fairy shrimp in the Tulare area were recorded over 10 miles from the project area in significantly higher quality habitat. Vernal pool fairy shrimp are not expected to occur within the project area and thus would not be impacted by the proposed project. The potential habitat for the species within the action area is extremely poor, and reconnaissance surveys indicated that a common species of fairy shrimp is likely to be present. Therefore, the area does not support the species. No direct, indirect, or future impacts on vernal pool fairy shrimp are expected to occur from the proposed project.

San Joaquin Kit Fox

San Joaquin kit foxes are not expected to occur within the project area and thus would not be impacted by the proposed project. The potential habitat for the species within the action area is poor, and reconnaissance surveys found very little prey available. The action area does not support this species. No direct, indirect, or future impacts on San Joaquin kit foxes are expected to occur from the proposed project. Therefore, the project will have no effect on the San Joaquin kit fox.

Swainson's Hawk

While the action area contains suitable nest trees, no nesting Swainson's hawks were seen within the project limits. About 128 shrubs and trees are expected to be removed to complete the proposed project.

Avoidance, Minimization, and/or Mitigation Measures

Vernal Pool Fairy Shrimp

Fairy shrimp surveys will be conducted during the final design phase of the project in a U.S. Fish and Wildlife Service protocol survey year to confirm visual observations that it is the non-listed species, versatile fairy shrimp, present in briefly ponded areas. If surveys detect vernal pool fairy shrimp in the action area, a Biological Opinion and avoidance, minimization, and/or mitigation measures would be required before completion of the project's design phase action.

San Joaquin Kit Fox

Preconstruction surveys will be conducted within the action area within 30 days prior of beginning work on the project to ensure no listed species, including the San Joaquin kit fox, are present. Worker Environmental Awareness training will also be included in the contract's special provisions.

Swainson's Hawk

With the implementation of the following avoidance and minimization measures, no impacts on Swainson's hawks are anticipated:

- Preconstruction surveys following the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central*

Valley (May 2000) would be conducted by qualified biologists within 500 feet of the project footprint during nesting season (February 1 to September 30) before groundbreaking activities.

- If nesting Swainson's hawks are discovered within 500 feet of the project footprint, the nest site would be designated an Environmentally Sensitive Area and a 500-foot buffer (exclusion zone) would be established until a qualified biologist has determined that the nest is no longer active.
- A qualified biologist would monitor the active nest during construction activities within the buffer.
- Removal of any trees within the project area should be done outside of the nesting season; however, if trees within the project area need to be removed during the nesting season, a qualified biologist will inspect the tree before removal to ensure that no nests are present.

2.3.3 Invasive Species

Regulatory Setting

On February 3, 1999, President William J. Clinton signed Executive Order 13112 requiring federal agencies to combat the introduction or spread of invasive species in the U.S. The order defines invasive species as "any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health." Federal Highway Administration guidance issued on August 10, 1999, directs the use of the state's invasive species list, maintained by the California Invasive Species Council to define the invasive species that must be considered as part of the NEPA analysis for a proposed project.

Affected Environment

A Natural Environment Study was completed for the project on November 8, 2021.

Several California Invasive Plant Council-listed plant species were encountered in the action area. All of these species observed have a widespread distribution throughout the Central Valley and are characteristic of many disturbed sites throughout the region. Dominant invasive plants include Russian thistle, various mustard species, star thistles, ripgut brome, and wild radish.

These invasive weeds grow along areas of unpaved highway shoulders, vegetated highway medians, and weedy areas around and between agricultural fields and other structures.

Environmental Consequences

To prevent the introduction and spread of invasive species, Caltrans has issued policy guidelines, which provide a framework for addressing roadside vegetation management issues for construction activities and maintenance programs. These measures may include the inspection and cleaning of project equipment, commitments to ensure the use of native or invasive-free mulches, topsoils, and seed mixes, and eradication strategies for the removal and proper disposal of existing populations or those that could occur in the future.

In compliance with the Executive Order on Invasive Species, Executive Order 13112, and guidance from the Federal Highway Administration, the landscaping and erosion control included in the project will not use species listed as invasive. None of the species on the California list of invasive species is used by Caltrans for erosion control or landscaping in the San Joaquin Valley. All equipment and materials will be inspected for the presence of invasive species and cleaned if necessary.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures would be required.

2.3.4 Cumulative Impacts

Regulatory Setting

Cumulative impacts are those that result from past, present, and reasonably foreseeable future actions combined with the potential impacts of the proposed project. A cumulative effect assessment looks at the collective impacts posed by individual land use plans and projects. Cumulative impacts can result from individually minor but collectively substantial impacts taking place over a period of time.

Cumulative impacts to resources in the project area may result from residential, commercial, industrial, and highway development, as well as from agricultural development and the conversion to more intensive agricultural cultivation. These land use activities can degrade habitat and species diversity through consequences such as displacement and fragmentation of habitats and populations, alteration of hydrology, contamination, erosion, sedimentation, disruption of migration corridors, changes in water quality, and introduction or promotion of predators. They can also contribute to potential community impacts identified for the project, such as changes in community character, traffic patterns, housing availability, and employment.

The California Environmental Quality Act Guidelines Section 15130 describes when a cumulative impact analysis is necessary and what elements are necessary for an adequate discussion of cumulative impacts. The definition of cumulative impacts under the California Environmental Quality Act can be

found in Section 15355 of the California Environmental Quality Act Guidelines. A definition of cumulative impacts under the National Environmental Policy Act can be found in 40 Code of Federal Regulations Section 1508.7.

Affected Environment

Cumulative impacts identified for the Tulare Six-Lane and Paige Avenue Interchange Improvement project are those impacts that result from past, present, and reasonably foreseeable future actions occurring in the project area. The study area for each of the resources potentially affected by the cumulative projects is discussed here. The affected environment for each of these resources has been previously discussed in their respective portions of Chapter 2.

Cumulative impacts on resources in the project area may result from residential, commercial, industrial, and highway development. These land use activities can degrade habitat and populations, alteration of hydrology, contamination, erosion, sedimentation, disruptions of migration corridors, changes in water quality, and introduction or promotion of predators. They can also contribute to potential community impacts identified for the project, such as changes in community character, traffic patterns, housing availability, and employment.

To define the resource study area of a transportation system, the cumulative impact analysis must consider the impacts of resource areas in which there are significant impacts. The project would not impact the following resource areas.

Resources Not Substantially Affected by Cumulative Impacts

The following resources were studied and determined not to be in poor or declining health or that the proposed project would not contribute to cumulatively considerable impacts. Impacts to the health, status, or condition of these resources as a result of past, present, and reasonably foreseeable impacts would not occur as a result of this project.

Section: 2.1.1 Existing and Future Land Use

Section: 2.1.2 Consistency with State, Regional, and Local Plans

Section: 2.1.3 Parks and Recreational Facilities

Section: 2.1.5 Community Character and Cohesion

Section: 2.1.6 Relocation and Real Property Acquisition

Section: 2.1.8 Utilities and Emergency Services

Section: 2.1.11 Cultural Resources

Section 2.2.1 Water Quality and Stormwater Runoff

Section 2.2.2: Paleontology

Section 2.2.3 Hazardous Waste and Materials

Section 2.2.6 Energy

Section: 2.3.1 Wetland and Other Waters

Section 2.3.2 Threatened and Endangered Species

Section 2.3.3 Invasive Species

The cumulative impact analysis is based on known projects that are currently proposed, approved, or under construction with Caltrans, Tulare County, and the City of Tulare.

The analysis concluded there may be cumulative impacts on several resources:

- Air Quality
- Environmental Justice
- Visual/Aesthetics
- Noise and Vibration
- Traffic/Growth
- Greenhouse Gas

An analysis of the cumulative impacts of these resources is presented below. The affected environment for each of these resources has been previously discussed in its respective portion in Chapter 2; the analysis focuses on the cumulative impacts of the Build Alternatives in this section.

This section describes the social and demographic characteristics of the project area. The data were derived from the 2022 Tulare County Association of Governments' Regional Transportation Plan and 2014 City of Tulare General Plan were also referenced for this section.

This section is the baseline evaluation of the cumulative analysis, with the identification of resource study areas, resource health or status, and project contribution to cumulative effects, based on the individual evaluations provided and summarized in Table 2.40. Resource study areas are generally on the natural boundaries of the resource affected rather than jurisdictional boundaries. The geographic scope (or area within which projects may

contribute to a specific cumulative effect) of the cumulative impact analysis varies depending on the specific environmental issue area being analyzed.

Environmental Consequences

The list of reasonably foreseeable projects is based on known projects identified by Caltrans and the City of Tulare. Table 2.39 shows the reasonably foreseeable projects considered in the cumulative impact analysis for this project.

Table 2.39 Present and Resonable Foreseeable Future Actions

Project Name or Applicant	Project Location	Project Description	Project Uses	Environmental Impacts	Project Status
International Agri-Center Way Interchange	City of Tulare; 0.8 mile south of the Paige Avenue Overcrossing.	This project proposes to construct a new interchange by using the existing Commercial Avenue from K Street to connect to State Route 99.	The project will improve the operational performance of State Route 99 within the project limits, relieve traffic congestion on local roads, and improve accessibility on the freeway system in that area.	A total of 19 acres of farmland and one business needed to be acquired.	Start of Construction Summer of 2023
Bardsley Interchange Operational Improvements	In the City of Tulare, between post mile 28.20 and post mile 28.90.	This project proposes to signalize the State Route 99 northbound and southbound intersections at Bardsely Avenue. The northbound and southbound ramps would be widened to accommodate one left-turn and one right-turn lane.	The project would improve the operation of ramp intersections at Bardsley Avenue Interchange and optimize traffic flow for vehicles, pedestrians, and bicyclists.	The project is in the early stages of development. Environmental studies are anticipated to begin in February 2024, which would provide further determination on environmental impacts.	The project is anticipated to begin environmental studies in February 2024.
Tagus Six-Lane	In Tulare County, on State Route 99 between Prosperity Avenue and north of the North Goshen Overhead.	This project will widen State Route 99 from a four-lane freeway to a six-lane freeway.	The project will provide improved operations by meeting current design standards and adding merge lanes.	A total of 26 acres of farmland and one parking lot of a business were acquired.	The project is currently under construction.

Project Name or Applicant	Project Location	Project Description	Project Uses	Environmental Impacts	Project Status
Delano to Pixley 6-lane with Pavement Rehabilitation	On State Route 99, from post miles 56.4 to 57.6 in Kern County and from post miles 0.0 to 13.5 in Tulare County.	This project will widen State Route 99 from a four-lane freeway to a six-lane freeway.	The project will improve operational deficiencies, improve freight movement, provide for future growth, and repair and extend the service life of the existing pavement along this segment.	The project will increase vehicle miles traveled.	The draft Environmental Impact Report/Environmental Assessment was completed and circulated.
Paige Avenue Industrial Center	South side of Paige Avenue, west of I Street.	Development of two industrial buildings on 76.44 acres.	The project will build a distribution center to bring hundreds of jobs to the City of Tulare.	A total of 76.44 acres of land are zoned for industrial.	The project is anticipated to be completed in 2025.

Table 2.40 Resources in the Study Area

Resource Study Areas and Resource Evaluations Environmental Issues	Geographic Scope of Resource Study Area	Resource Health/Status	Project Contribution to Cumulative Impacts
Air Quality	Surrounding Project Area	Declining	Considerable
Visual/Aesthetics	Proposed Project Corridor	Stable	Not Considerable
Noise and Vibration	Proposed Project Corridor	Declining	Not Considerable
Traffic Circulation/Growth	Proposed Project Corridor	Declining	Not Considerable
Greenhouse Gas	Surrounding Project Area	Declining	Considerable

Air Quality

Resource Study Area and Current Cumulative Condition

Within the San Joaquin Valley Air Basin, Tulare County is a designated non-attainment area for ozone and particulate matter and must consider transportation control measures to reduce emissions to demonstrate conformity with the State Implementation Plan for air quality to satisfy federal requirements. The 2022 Tulare County Association of Governments' Regional Transportation Plan/Sustainable Communities Strategy Environmental Impact Reports (Draft May 2022; Final August 2022), which includes the proposed project as part of its build alternative, assessed the cumulative impacts of the Regional Transportation Plan/Sustainability Communities Strategy. Those documents, including but not limited to the cumulative impact analysis contained in Section 4.3 are hereby incorporated by reference into this Environmental Assessment/Environmental Impact Report; they can be found at the Tulare County Association of Governments' website at: <https://tularecog.org/tcag/planning/rtp/rtp-2022/>.

The 2022 Tulare County Association of Governments' Regional Transportation Plan/Sustainable Communities Strategy Environmental Impact Reports analyzed and determined the following which are relevant to the cumulative condition and conclusions for the Tulare Six-Lane and Paige Avenue Interchange Improvement project:

1. Construction activities associated with transportation improvements and land use project would result in a cumulatively considerable net increase in criteria pollutants for which the project region is non-attainment under applicable federal or state ambient air quality standard. This impact would be significant and unavoidable.
2. Operation of the proposed transportation improvements and land use projects envisioned by the proposed 2022 Regional Transportation

Plan/Sustainability Communities Strategy would result in cumulatively considerable net increase of criteria pollutants for which the project is in non-attainment attainment under applicable federal or state ambient air quality standard. This impact would be significant and unavoidable.

The 2022 Regional Transportation Plan/Sustainability Communities Strategy Environmental Impact Report cumulative analysis states:

Emissions of reactive organic gases, nitrogen oxides, Particulate Matter 2.5 and Particulate Matter 10 under the proposed 2022 Regional Transportation Plan/Sustainability Communities Strategy would decrease as compared to Tulare County Association of Governments' 2021 baseline despite a projected increase in vehicle miles traveled. This decrease in emissions is consistent with the statewide downward trend for these pollutants as a result of California Air Resources Board rules designed to emissions from cars and trucks. The transportation improvements and future land use scenario envisioned by the Regional Transportation Plan/Sustainability Communities Strategy encourage improved circulation and higher density development along transportation corridors, which would further reduce on-road mobile emissions.

The proposed 2022 Regional Transportation Plan/Sustainability Communities Strategy is intended to increase residential and commercial land use capacity within existing transit corridors, shifting a greater share of future growth to these corridors and ultimately increasing density, improving circulation and multi-modal connections, and leading to lower per capita vehicle miles traveled, which would have a beneficial effect on air quality. Conditions under the proposed 2022 Regional Transportation Plan/Sustainability Communities Strategy were compared to 2046 "No Project" conditions for informational purposes. The proposed 2022 Regional Transportation Plan/Sustainability Communities Strategy would result in a net decrease in vehicle miles traveled compared to the 2046 "No Project" scenario due to transportation improvements and land use patterns identified in the proposed 2022 Regional Transportation Plan/Sustainability Communities Strategy. As such, on-road vehicle emissions would also be reduced under proposed 2022 Regional Transportation Plan/Sustainability Communities Strategy conditions when compared to the "No Project" scenario. As previously noted, Tulare County is currently in nonattainment for federal and state Particulate Matter 2.5 and ozone standards and state Particulate Matter 10 standards. As shown in Table 4.3-5, under the "No Project" and "proposed 2022 Regional Transportation Plan/Sustainability Communities Strategy" scenarios, emissions levels for ozone precursors are forecast to decline despite projected future growth. Nitrogen oxides emissions are primarily generated by trucks and are expected to decrease over time due in part to the impact of California Air Resources Board rules designed to reduce nitrogen oxides emissions from diesel trucks and buses. Reactive organic gases emissions are primarily due to gasoline vehicles and are lower due to improvements in

vehicle emission rates. Particulate Matter 10 emissions are also generally consistent with statewide trends.

Also note that the air contaminant emissions shown in Table 4.3-5 are modeled emissions based on vehicle miles traveled. The results do not account for some proposed vehicle miles traveled reduction strategies, such as a transportation demand management plan, telecommuting, and transit service enhancements, because these strategies are off-model reductions that cannot be included in EMFAC. The mobile air contaminant emissions from the proposed 2022 Regional Transportation Plan/Sustainability Communities Strategy are expected to decrease with the inclusion of these vehicle miles traveled reduction strategies, such that the analysis herein represents a reasonable worst-case scenario for air contaminant emissions. Therefore, long-term operational impacts would be less than significant.

However, with the inclusion of other land use emissions the cumulative impacts of both transportation and other land use emissions was determined to be cumulatively considerable and would result in a significant and unavoidable cumulative impact.

1. The proposed transportation improvements and land use projects envisioned by the proposed 2022 Regional Transportation Plan/Sustainability Communities Strategy would expose sensitive receptors to substantial particulate matter pollutant concentrations. However, because the proposed 2022 Regional Transportation Plan/Sustainability Communities Strategy would reduce exposure in comparison to the baseline, impacts would be less than significant.

The 2022 Regional Transportation Plan/Sustainability Communities Strategy Environmental Impact Report cumulative analysis states:

Re-entrained dust refers to roadway dust that is “kicked up” by moving vehicles on paved and unpaved roadways. This type of dust would be generated by roadway activity under the proposed 2022 Regional Transportation Plan/Sustainability Communities Strategy. In addition, dust from construction activity would add to regional dust levels. The synergistic effects of road dust (typically measured as Particulate Matter 10) with ozone and the hazardous constituents of re-entrained road dust itself (carcinogens, irritants, pathogens) may affect human health by contributing to respiratory illnesses such as asthma and allergies. Although motor vehicle emission control advances have allowed vehicle tailpipe emissions of some pollutants to decrease over the last 20 years, the number of vehicles in use and the amount of vehicle activity has continued to increase. This would suggest that re-entrained road dust has increased as well, as the amount of re-entrained dust is related to the number of vehicles on a road

Total particulate emissions would be lower with implementation of the proposed 2022 Regional Transportation Plan/Sustainability Communities

Strategy as compared to 2021 baseline conditions. Despite an increase in vehicle miles traveled within the Tulare County Association of Governments region, particulate emissions would be lower under proposed 2022 Regional Transportation Plan/Sustainability Communities Strategy conditions as compared to existing conditions largely due to emission control advances. Therefore, the proposed 2022 Regional Transportation Plan/Sustainability Communities Strategy would not expose sensitive receptors to substantial pollutant concentrations associated with re-entrained road dust, and impacts would be less than significant.

1. The transportation improvements and land use projects envisioned by the proposed 2022 Regional Transportation Plan/Sustainability Communities Strategy would expose sensitive receptors to substantial toxic air contaminants concentrations. Impacts would be significant and unavoidable.

The 2022 Regional Transportation Plan/Sustainability Communities Strategy Environmental Impact Report cumulative analysis states:

While overall toxic air contaminant concentrations and associated health risks within any given distance of mobile sources in the region would generally decrease with implementation of the proposed 2022 Regional Transportation Plan/Sustainability Communities Strategy compared to existing (2021) levels (refer to Table 4.3-7), exposure is primarily based on local parameters such as average daily traffic on local roadway segments, or wind direction in relation to source and receptor. As such, the health risks adjacent to heavily trafficked roadways and transportation facilities (e.g., State Routes 99 and 198) would remain higher than regional averages. See Section 4.14, Transportation, for a summary of average daily traffic on heavily trafficked roadways in the Tulare County Association of Government region.

It is important to note that a variety of other factors contribute to the decline in contaminant emissions compared to existing conditions, including vehicle technology, cleaner fuels, and fleet turnover. However, in order to achieve the greatest vehicle miles traveled reductions from an efficient circulation network, development also must necessarily be in relatively close proximity to public transit and major roadway corridors. Although the precise location and density of such development is not known at this time, the proposed 2022 Regional Transportation Plan/Sustainability Communities Strategy could result in new sensitive receptors sited close to Tulare County Association of Governments 2022 Regional Transportation Plan & Sustainable Communities Strategy 4.3-32 existing and new toxic air contaminants sources, potentially resulting in the exposure of sensitive receptors to substantial toxic air contaminants concentrations. Therefore, impacts related to toxic air contaminants emissions would be potentially significant. The siting of new sensitive receptors would be subject to an individual jurisdiction's land use approval processes and would be analyzed on an individual project basis and

subject to mitigation measures identified below. The below mitigation measures would reduce this impact

Indirect and Direct Project Impacts (Contribution)

As discussed in Section 2.2.4 of this document, the proposed project would result in an increase in emissions for some criteria pollutants when compared to existing conditions; it would also increase emissions for some criteria pollutants when comparing future build to future no build.

Past and Foreseeable Future Projects

Future planned transportation projects, such as the Delano to Pixley 6-Lane with Pavement Rehabilitation, Tagus Six-Lane, International Agri-Center Interchange, and Paige Avenue Industrial Park, are within the project vicinity. These projects could contribute to cumulative short-term air quality impacts if construction schedules for these projects overlap. This scenario is not expected to occur because the construction of the various present and reasonably foreseeable future projects is not expected to be simultaneous.

Based on the air quality analysis documented in Section 4.3 of the Draft Environmental Impact Report, the 2022 Tulare County Association of Governments' Regional Transportation Plan conforms to the applicable San Joaquin Valley Air Pollution Control District plans (2016 Ozone Plan, the 2007 Particulate Matter 10 Maintenance Plan, and the 2012 Particulate Matter 2.5) and demonstrates progress toward attainment with the state ambient air quality standards for fine and respirable particle matter and ozone.

Potential Cumulative Impacts

Construction activities cause short-term air quality impacts, which are considered unavoidable. Long-term air quality impacts would be due to the project's increase in vehicle travel due to growth in the area. The project will improve safety and operational efficiency at the Paige Avenue Interchange and improve local traffic flow on and off State Route 99. Construction of the build alternative would improve travel along the state route, maximize operational efficiency, and minimize motorists' exposure to hazards that may contribute to vehicular collisions.

While the proposed project increases in air pollutant emissions detailed in Section 2.2.4 would individually not be considered substantial under NEPA/significant under CEQA, given the existing and future cumulative conditions described in the 2022 Regional Transportation Plan/Sustainability Communities Strategy Environmental Impact Report, the proposed project's incremental increase in those emissions would be cumulatively considerable and would contribute to already identified significant cumulative effects.

Environmental Justice

Environmental justice impacts are borne mostly by a minority population and/or a low-income population. Adverse impacts to environmental justice populations in the socioeconomic study area would occur from the following: cumulative impacts to air quality described in the 2022 Regional Transportation Plan/Sustainability Communities Strategy Environmental Impact Report, the proposed project's incremental increase in those emissions would be cumulatively considerable and would contribute to already identified significant cumulative effects (refer to Section 2.4 Cumulative Impact – Air Quality for further discussion and to Section 2.1.7 for Environmental Justice).

Visual/Aesthetics

Resource Study Area

The land cover in the project corridor is mainly agricultural crops, commercial, and residential. The vegetation along the freeway has large mature oleanders in the median and large mature Eucalyptus trees on the outside shoulders. The oleanders in the median add a vibrant sense of color and texture all year round but are memorable when the plants are flowering in the spring and into the fall. The proximity of the vegetation to the traveled way allows it to dominate the views in most locations. The section of the highway between post mile 28.33 and post mile 30.06 is a Classified Landscape Freeway due to the ornamental vegetation planting that meets the criteria established by the California Code of Regulations, Outside Advertising Regulations, Title 4, Division 6.

Indirect and Direct Project Impacts

The removal of trees and other vegetation for this project, especially those that are large or long-established visual features, is a moderate to high visual impact, as is the removal of the characteristic median oleander shrubs. When trees are removed from the roadside, the trees should be replaced, preferably in the landscape or visual impact area where they were removed from when there is adequate right-of-way. In the case of this project, the cumulative impact will be lessened by replacement plantings, all of which should be able to be accommodated within the project limits. Past transportation improvement projects and maintenance activities have removed trees and other vegetation recently, and ongoing maintenance activity may result in the additional removal of trees and shrubs. This project includes replanting, which will reduce this project's impacts and, therefore, its contribution to the cumulative visual condition.

Past and Foreseeable Future Projects

Three projects that are planned or currently in construction could be considered as contributing to the corridor's visual resources: Delano to Pixley 6-Lane with Pavement Rehabilitation, Tagus Six-Lane, and International Agri-Center Interchange. All projects would contribute to the corridor's visual

changes; however, with measures to lessen the visual impacts, they would not significantly alter the visual landscape, degrade the visual quality of the project area, and negatively affect highway users and highway neighbors. Therefore, the project's cumulative effects would not be cumulatively considerable.

Noise and Vibration

Resource Study Area

Field investigations were conducted on September 13, 2020, and October 4, 2020, to identify land uses that could be subject to traffic noise impacts from the proposed project. The land uses within the project limits and their representative receivers are divided into segments and described in detail in the following section based on roadway topography with respect to the identified receivers.

Indirect and Direct Project Impacts

This project is a Type 1 project as defined by the Federal Highway Administration because it would increase the number of through-traffic lanes, potentially increase the volume or speed of traffic, and move the traffic closer to a receiver. Temporary construction noise impacts would be unavoidable in areas immediately next to the proposed project alignment. Noise from construction activities may intermittently dominate the noise environment in the immediate construction area.

Past and Foreseeable Future Projects

Future planned transportation projects, such as the Delano to Pixley 6-Lane with Pavement Rehabilitation, Tagus Six-Lane, and International Agri-Center Interchange, are within the project vicinity. These projects could contribute to cumulative short-term noise impacts if construction schedules for these projects overlap. This scenario is not expected to occur because the construction of the various present and reasonable is not expected to be simultaneous. Further, each project would be responsible for following applicable noise ordinances during construction, thereby reducing the noise impact. As a result, the proposed project would not contribute to a cumulative noise quality impact.

Potential Cumulative Impacts

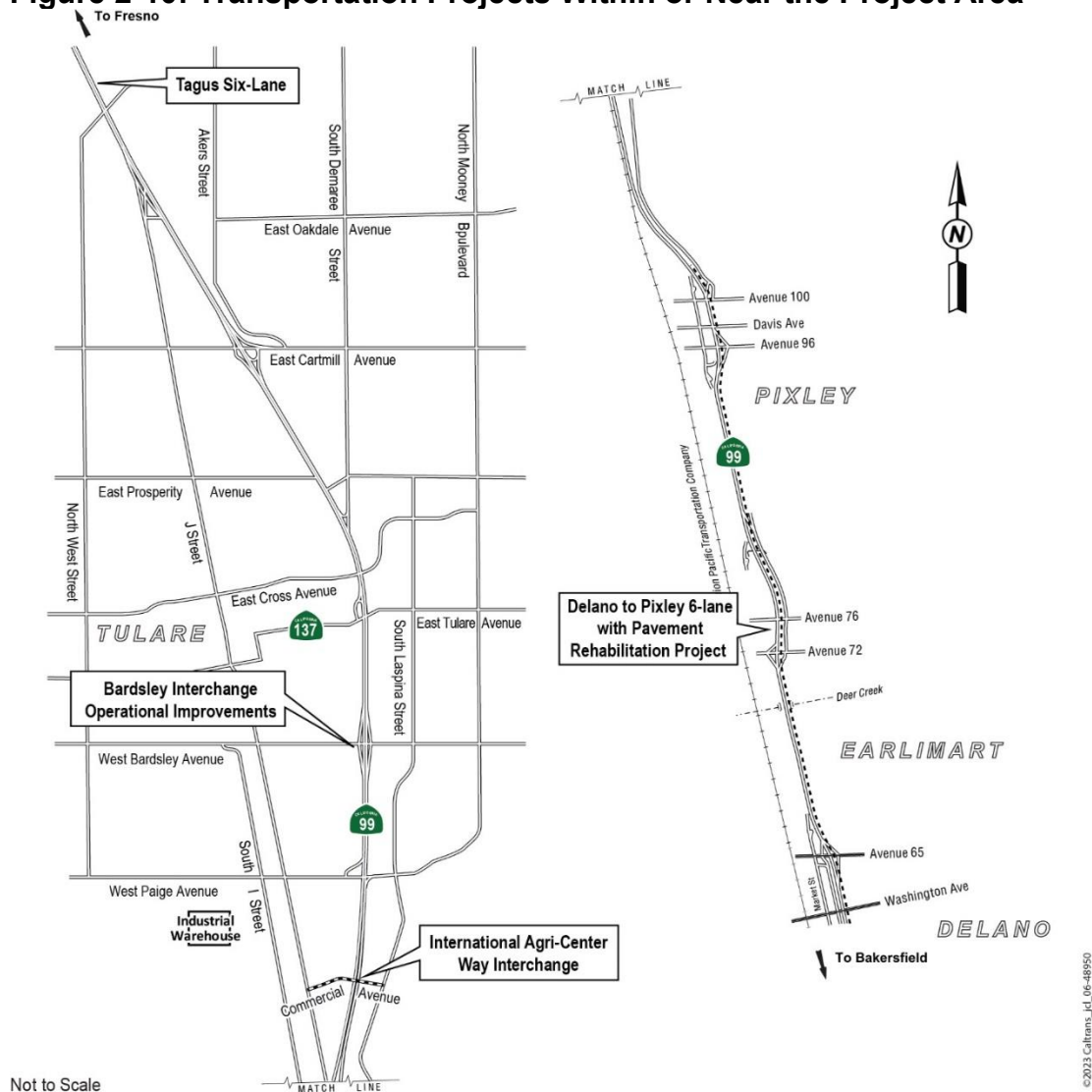
Caltrans intends to incorporate noise abatement in the form of three barriers described above as Soundwall 1, Soundwall 2, and Soundwall 4. These measures may change based on input received from the public. If conditions have substantially changed during the final design, noise abatement may not be constructed. The final decision on noise abatement will be made upon completion of the project design. With abatement, the proposed project would not have a cumulatively considerable noise impact.

Traffic/Growth

Resource Area

The proposed project is within the City of Tulare's boundaries and the city's planning area. The land use throughout the project limits is a mix of agricultural land, light-to-heavy industrial uses, community commercial facilities, low-to-high-density residential tracts, and neighborhood commercial shopping centers. The immediate vicinity at the Paige Avenue Interchange is considered an industrial area of the city that extends west of the freeway, south of Bardsley Avenue along State Route 99. In this area, the 2035 Tulare General Plan indicates a shift toward heavy industrial use in the future. See Figure 2.10 for the transportation projects relevant to the project area.

Figure 2-10: Transportation Projects Within or Near the Project Area



Indirect and Direct Project Impacts

Under the cumulative condition, ongoing urban development is expected to continue within the study area. Local and regionally planned transportation projects are intended to accommodate the expected increase in traffic related to development in the region. However, if work on multiple projects were to overlap with the proposed project during construction, significant cumulative impacts related to traffic delays and detours for travel in the region could occur.

Past and Foreseeable Future Projects

The City of Tulare approved the Paige Avenue Industrial Center on West Paige Avenue and I Street on 74.66 acres of land designated in the City of Tulare's General Plan as industrial. The project is in line with the 2009 Final Environmental Impact Report for the South I Street Industrial Park Specific

Plan and anticipates having an opening year of 2025. The Specific Plan project area consists of about 458 acres, and the land was divided into 2 acres of light industrial, 361 acres of heavy industrial, and 83 acres of urban and suburban residential. The remaining 12 acres are for street and railroad. The specific plan outlines several objectives, one of them to provide additional industrial land to accommodate larger and medium size users. Therefore, the current and future developments would have occurred with or without the improvements to Paige Avenue Interchange. The Tulare Six-Lane and Paige Avenue Interchange Improvement project would not induce growth substantially beyond what is projected in city and county general plans.

Planned highway projects, such as the Delano to Pixley 6-Lane with Pavement Rehabilitation and Tagus Six-Lane widening projects on the State Route 99 corridor, could require temporary reductions in lane widths and speed limits along State Route 99, which could contribute to substantial cumulative impacts on traffic circulation and congestion in construction zones. While some level of traffic disruption could occur if planned development and transportation improvement projects overlap, cumulative construction impacts would be temporary and individual projects would contain measures to avoid major traffic delays. Therefore, it is not anticipated that the temporary effects of the construction of multiple projects would combine to result in cumulatively substantial impacts, and the proposed project would not have a cumulatively considerable contribution.

Potential Cumulative Impacts

Over the long term, planned transportation improvements of major roadways in the study area are expected to benefit the existing State Route 99 highway and the Paige Avenue interchanges by improving safety and reducing congestion. Taken together, these transportation projects would provide a cumulative regional benefit to transportation and improve circulation and access in the region. Therefore, traffic impacts would not be cumulatively considerable.

Greenhouse Gas

Greenhouse Gas analysis is, by its nature, cumulative. No individual project is of sufficient size to be the sole reason for climate change. Instead, climate change is the result of millions of activities that emit greenhouse gases. The analysis of the proposed project's greenhouse gas emissions is within the context of statewide efforts to minimize the impacts of climate change. See Section 3.3., Climate Change, for the discussion of cumulative impacts and mitigation measures.

Chapter 3 California Environmental Quality Act Evaluation

3.1 Determining Significance Under CEQA

The proposed project is a joint project by the California Department of Transportation (Caltrans) and the Federal Highway Administration and is subject to state and federal environmental review requirements. Project documentation, therefore, has been prepared in compliance with both the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). FHWA's responsibility for environmental review, consultation, and any other actions required by applicable federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 U.S. Code Section 327 and the Memorandum of Understanding dated December 23, 2016, and executed by FHWA and Caltrans. Caltrans is the lead agency under NEPA and CEQA.

One of the primary differences between NEPA and CEQA is the way significance is determined. Under NEPA, significance is used to determine whether an Environmental Impact Statement, or a lower level of documentation, will be required. NEPA requires that an Environmental Impact Statement be prepared when the proposed federal action (project) as a whole has the potential to "significantly affect the quality of the human environment." The determination of significance is based on context and intensity. Some impacts determined to be significant under CEQA may not be of sufficient magnitude to be determined significant under NEPA. Under NEPA, once a decision is made regarding the need for an Environmental Impact Statement, it is the magnitude of the impact that is evaluated and no judgment of its individual significance is deemed important for the text. NEPA does not require that a determination of significant impacts be stated in the environmental documents.

CEQA, on the other hand, does require Caltrans to identify each "significant effect on the environment" resulting from the project and ways to mitigate each significant effect. If the project may have a significant effect on any environmental resource, then an Environmental Impact Report must be prepared. Each and every significant effect on the environment must be disclosed in the Environmental Impact Report and mitigated if feasible. In addition, the CEQA Guidelines list a number of "mandatory findings of significance," which also require the preparation of an Environmental Impact Report. There are no types of actions under NEPA that parallel the findings of mandatory significance of CEQA. This chapter discusses the effects of this project and CEQA significance.

3.2 CEQA Environmental Checklist

This checklist identifies physical, biological, social, and economic factors that might be affected by the proposed project. Potential impact determinations include Significant and Unavoidable Impact, Less Than Significant Impact With Mitigation Incorporated, Less Than Significant Impact, and No Impact. In many cases, background studies performed in connection with a project will indicate that there are no impacts to a particular resource. A No Impact answer reflects this determination. The words “significant” and “significance” used throughout the following checklist are related to CEQA, not NEPA, impacts. The questions in this checklist are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

Project features, which can include both design elements of the project, and standardized measures that are applied to all or most Caltrans projects, such as Best Management Practices and measures included in the Standard Plans and Specifications or as Standard Special Provisions, are considered to be an integral part of the project and have been considered before any significance determinations documented below; see Chapters 1 and 2 for a detailed discussion of these features. The annotations to this checklist are summaries of information contained in Chapter 2 to provide you with the rationale for significance determinations; for a more detailed discussion of the nature and extent of impacts, please see Chapter 2. This checklist incorporates by reference the information contained in Chapters 1 and 2.

3.2.1 Aesthetics

CEQA Significance Determinations for Aesthetics

Except as provided in Public Resources Code Section 21099, would the project:

a) Have a substantial adverse effect on a scenic vista?

No Impact—The project would not have a substantial adverse effect on a scenic vista because the project area does not include any scenic vistas.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact—The project would not substantially damage scenic resources within a state scenic highway because the project area does not include any scenic vistas.

c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point.) If the

project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Less Than Significant Impact With Mitigation Incorporated—As discussed in Chapter 2 under the Visual/Aesthetics section, the project would have an impact on the existing visual character of the site and its surroundings. The project would remove approximately 23,880 linear feet of oleander, 543 trees, and 7 acres of landscaping (pending the ultimate design choices made for the Paige Avenue Interchange). Replacement planting at a 1:1 ratio for all vegetation removed. It is estimated that over a thousand trees would be replaced or replanted. The locations of the planting may occur at the proposed stormwater basin sites and the area where State Route 99 will be realigned at post mile 25.8.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

No Impact—The project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

3.2.2 Agriculture and Forest Resources

CEQA Significance Determinations for Agriculture and Forest Resources

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

Would the project:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

No Impact—The project proposes to acquire a small corner of parcel 191-070-021, which is currently planted in orchard crops. A review of the City of Tulare's land use map indicates that this entire parcel which consists of 119

total acres, is zoned C-3, Retail Commercial District. According to Volume 4 of the Standard Environmental Reference Handbook, any farmland (regardless of quality) that is already in or committed to urban development is not subject to the Farmland Protection Policy Act.

b) Conflict with existing zoning for agricultural use or a Williamson Act contract?

No Impact—The project would not conflict with existing zoning for agricultural use or a Williamson Act contract because the project would not acquire land would be acquired under Williamson Act contract.

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

No Impact—There is no forest land or timberland in the project area.

d) Result in the loss of forest land or conversion of forest land to non-forest use?

No Impact—There is no forest land or timberland in the project area.

e) Involve other changes in the existing environment which, due to their location or nature, could result in the conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?

No Impact—There are no other changes anticipated to farmland, and there is no forest land in the project area.

3.2.3 Air Quality

CEQA Significance Determinations for Air Quality

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations.

Would the project:

a) Conflict with or obstruct implementation of the applicable air quality plan?

No Impact—The project is included in the Tulare County Association of Governments' 2023 Federal Transportation Improvement Program and 2022 Regional Transportation Plan with corresponding air conformity analysis.

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

No Impact—The project is located within the San Joaquin Valley Air Basin and is under the jurisdiction of the San Joaquin Valley Air Pollution Control District. Tulare County is in nonattainment for the federal 8-hour ozone and fine particulate matter standards, and in attainment for federal respirable particulate matter and carbon monoxide standards. Tulare County must consider transportation control measures to reduce emissions to demonstrate conformity with the State Implementation Plan for air quality to satisfy federal requirements. The Tulare Six-Lane and Paige Avenue Interchange Improvement was submitted for Interagency Consultation on January 7, 2022. It was deemed not a “Project of Air Quality Concern” by the Environmental Protection Agency on January 24, 2022, and by the Federal Highway Administration on January 27, 2022. The Federal Highway Administration and the Environmental Protection Agency concurred that the project will not cause or contribute to any new localized, fine, and/or respirable particulate matter violations or delay timely attainment of any National Ambient Air Quality Standards or any required interim emission reductions or other milestones during the time frame of the transportation plan (or regional emissions analysis).

c) Expose sensitive receptors to substantial pollutant concentrations?

No Impact—Sensitive receptors include hospitals, schools, day care facilities, elderly housing, and convalescent facilities. For sensitive receptors, the zone of greatest concern near roadways is within 500 feet (or 150 meters) according to the California Air Resources Board Air Quality and Land Use Handbook (2005). However, no sensitive receptors have been identified within 500 feet of this project.

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

No Impact—The project will not result in other emissions, such as odors, adversely affecting a substantial number of people. The project is in a transportation corridor within a major highway, and there are no sensitive receptors in the immediate area.

3.2.4 Biological Resources

CEQA Significance Determinations for Biological Resources

Would the project:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-

status species in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Less Than Significant Impact—The project would have a less than significant impact on the San Joaquin kit fox and Swainson's hawk with the incorporation of avoidance and minimization measures as discussed in Chapter 2 under Biological Environment.

Fairy shrimp surveys will be conducted during the final design phase of the project. If surveys detect vernal pool fairy shrimp in the action area, a Biological Opinion and additional avoidance, minimization, and/or mitigation measures would be required.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

No Impact—A California Natural Diversity Database query did not identify any riparian habitat or other sensitive natural communities of special concern within the project area. No potential impacts on riparian habitats or natural communities of special concern are expected.

c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

No Impact—There are no wetlands within the project footprint. Elk Slough is outside the limits of the action area. Realigning the Tulare Canal would temporarily impact about 2 acres of the existing canal. Construction would not permanently affect the flow, volume, or capacity of the canal. The realigned segment of the canal would match the existing canal in appearance.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

No Impact—The project would not interfere with the movement of fish or wildlife species. To ensure this, preconstruction surveys would be done for migratory birds during the nesting season.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact—There would be no conflicts with any local policies or ordinances protecting biological resources.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Impact—The project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

3.2.5 Cultural Resources

CEQA Significance Determinations for Cultural Resources

Would the project:

a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?

No Impact—As discussed in Chapter 2 under Cultural Resources, there are no historical resources within the project area.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

No Impact—As discussed in Chapter 2 under Cultural Resources, no previously recorded archaeological resources are present within the Area of Potential Effects. No surface indications of historic or prehistoric archaeological sites were found as a result of the archaeological surveys.

c) Disturb any human remains, including those interred outside of dedicated cemeteries?

No Impact—As discussed in Chapter 2 under Cultural Resources, no archeological sites were discovered. If buried cultural material is encountered during construction, it is Caltrans' policy that work stop in that area until a qualified archaeologist can evaluate the nature and significance of the find.

3.2.6 Energy

CEQA Significance Determinations for Energy

Would the project:

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?

No Impact—Per Caltrans' Best Management Practices, newer or well-maintained equipment that is more energy efficient would be used during construction. The amount of energy used by construction during the proposed

project would be temporary. Fuel consumption projected for the build alternative will be offset by efficiencies experienced from the new freeway alignment and reduction of congestion on local roadways.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

No Impact—The project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

3.2.7 Geology and Soils

CEQA Significance Determinations for Geology and Soils

Would the project:

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

No Impact—Rupture of a known earthquake fault is not expected since the project is not in a known earthquake fault area (California Geological Survey, Seismic Hazard Zones, and Alquist-Priolo Earthquake Fault Zone Interactive Map accessed January 2022).

ii) Strong seismic ground shaking?

No Impact—Strong seismic ground shaking is not expected since the project is not in a known earthquake fault area (U.S. Geological Survey U.S. Quaternary Faults interactive map accessed January 2022).

iii) Seismic-related ground failure, including liquefaction?

No Impact—The project is in an area with low potential for seismic-related ground failure, including liquefaction, because the project area does not contain soil that is prone to liquefaction or seismic-related ground failure (U.S. Geological Survey U.S. Quaternary Faults interactive map accessed January 2022).

iv) Landslides?

No Impact—The project area would not be subject to landslides because of the generally flat topography and because the project would not involve large cuts and fills or steep excavation.

b) Result in substantial soil erosion or the loss of topsoil?

No Impact—Project construction would not result in substantial erosion or loss of topsoil because the project would include appropriate Best Management Practices to prevent substantial soil erosion or loss of topsoil.

c) Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in on-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

No Impact—Project construction would not cause the project area to become unstable or result in landslides, lateral spreading, subsidence, or collapse. The soil in the project area is not subject to liquefaction.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

No Impact—The project is not on expansive soil and would not create substantial direct or indirect risks to life or property.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

No Impact—The project would not include septic tanks or alternative wastewater disposal systems; therefore, there would be no impact.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less Than Significant Impact With Mitigation Incorporated—As discussed in Chapter 2 under Paleontology, the geologic units expected to underlie the project area are the Modesto Formation and the Riverbank Formation, both of which have a high potential to contain paleontological resources. A Paleontological Mitigation Plan would be prepared before construction by a Caltrans-supplied consultant. The plan would recommend the measures required to minimize potential impacts on paleontological resources.

3.2.8 Greenhouse Gas Emissions

CEQA Significance Determinations for Greenhouse Gas Emissions

Would the project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less Than Significant Impact—Greenhouse gas reduction strategies will be implemented to reduce greenhouse gas emissions and potential climate change impacts from the project. See 3.2.21 for cumulative impacts.

b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

No Impact—The proposed project does not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

3.2.9 Hazards and Hazardous Materials

CEQA Significance Determinations for Hazards and Hazardous Materials

Would the project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less Than Significant Impact—As discussed in Chapter 2 under Hazardous Waste, applicable Caltrans Standard Special Provisions and/or Non-Standard Special Provisions addressing proper handling and disposal of aerially deposited lead, asbestos-containing materials, lead-based paint, and treated wood waste would be included in the construction contract to protect construction personnel and the public.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

No Impact—Project construction would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?

No Impact—No public schools exist within 0.25 mile of the project.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Less Than Significant Impact—As discussed in Chapter 2 under Hazardous Waste and Materials, six parcels are listed on the Cortese list that Caltrans proposes to acquire within its right-of-way. During the preliminary site

investigation, there was little to no contamination, and/or the low risk can be minimized with construction contract special provisions.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

No Impact—The project is not within an airport land use plan or within 2 miles of a public or private airport that would result in a safety hazard or excessive noise for people residing or working in the project area.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

No Impact—The project would not temporarily impair the implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan during construction. State Route 99 would remain open, and/or detours would be provided during any required closure.

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

No Impact—The project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires. The project is not considered to be in an area identified as vulnerable to wildfires.

3.2.10 Hydrology and Water Quality

CEQA Significance Determinations for Hydrology and Water Quality

Would the project:

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface water or groundwater quality?

No Impact—With the implementation of Best Management Practices and Caltrans Standard Specifications, the project would not violate any water quality standards or waste discharge requirements or substantially degrade surface water or groundwater quality.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

No Impact—The construction or operation of the project would not impede sustainable groundwater management of the basins. The new drainage inlets, drainage ditches, culverts, and detention basins would be installed to capture

the additional runoff and promote groundwater recharge or seepage into the underlying acquirer.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i) Result in substantial erosion or siltation on-site or off-site;

No Impact—Project construction would not result in substantial soil erosion or siltation because the project would include appropriate Best Management Practices to prevent soil erosion and siltation.

ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on-site or off-site;

Less Than Significant Impact—The proposed project would increase the amount of surface runoff but would capture it by building five new drainage basins.

iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or

Less Than Significant Impact—The proposed project would build five new detention basins to accommodate the additional runoff.

iv) Impede or redirect flood flows?

Less Than Significant Impact—The project would not impede or redirect flood flows. As discussed in Chapter 2 under Water Quality, the build alternative proposes five new detention basins to increase the storage capacity and collect the additional runoff volume.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

No Impact—The project is not in a flood hazard, tsunami, or seiche zone.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

No Impact—The project would not conflict with or obstruct the implementation of a water quality control plan or sustainable groundwater management plan.

3.2.11 Land Use and Planning

CEQA Significance Determinations for Land Use and Planning

Would the project:

a) Physically divide an established community?

Less Than Significant Impact—As discussed in Chapter 2 under Community Character and Cohesion, three businesses would need to be relocated to construct the Paige Avenue Interchange. A Relocation Impact Memorandum was completed in November 2020, and the real estate market in the area indicates that there is, and will be, in the foreseeable future, adequate property for sale or lease in the area to relocate the businesses.

The project proposes operational improvements that would enhance community cohesiveness by adding a pedestrian/bicycle shared path on the Paige Avenue Overcrossing.

b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

No Impact—The project would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

3.2.12 Mineral Resources

CEQA Significance Determinations for Mineral Resources

Would the project:

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

No Impact—No known mineral resources are present within or near the City of Tulare.

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

No Impact—No mineral resources are delineated within or near the City of Tulare (Tulare County Mineral Resources Zones, Figure 8-B, Tulare County General Plan, 2012).

3.2.13 Noise

CEQA Significance Determinations for Noise

Would the project result in:

a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies?

Less Than Significant Impact—As discussed in Chapter 2 under Noise and Vibration, the Build Alternative would move future traffic closer to the identified receptors on State Route 99.

According to the Caltrans Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects, May 2011, a noise impact occurs when the predicted future noise levels with the project substantially exceed the existing noise level (defined as an increase of 12 decibels or more) or when the future noise level with the project approaches or exceeds the noise abatement criterion (67 decibels, in this case). Approaching the noise abatement criterion is defined as coming within 1 decibel of the noise abatement criterion. Therefore, potential abatement measures must be considered.

Based on the studies completed to date, Caltrans intends to incorporate noise abatement in the form of three barriers described as soundwall 1 and soundwall 2. These measures may change based on input received from the public. If conditions have substantially changed during the final design, noise abatement may not be constructed. The final decision on noise abatement will be made upon completion of the project design.

b) Generation of excessive groundborne vibration or groundborne noise levels?

Less Than Significant Impact—Groundborne vibration may occur during project construction; however, equipment noise control and administrative measures would be in place. The application of these measures would reduce construction-related noise impacts; nevertheless, a temporary increase in noise and vibration may still occur. These measures are detailed in Chapter 2.

c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

No Impact—The project is not within the vicinity of a private airstrip or an airport land use plan and is not within 2 miles of a public airport or public use airport.

3.2.14 Population and Housing

CEQA Significance Determinations for Population and Housing

Would the project:

a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

No Impact—The project would not induce substantial unplanned population growth in the area. Because project work would improve the existing highway and the Paige Avenue Interchange, the project would not involve the extension of new roads or infrastructure. Additionally, the project would not propose new homes or businesses in the area. The interchange improvements could indirectly lead to growth in the area after the improvements are made but would not increase population growth substantially.

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact—The project would not displace substantial numbers of existing people or housing.

3.2.15 Public Services

CEQA Significance Determinations for Public Services

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

Fire protection? Police protection?

Less Than Significant Impact—The project would have a temporary impact on fire and police protection. Two lanes for the northbound and southbound directions would remain open during the mainline construction work. One lane would be closed periodically during nighttime hours during different stages of construction work. Temporary freeway closure would be required for the construction of the Paige Avenue Bridge. Alternate ramps would be closed for two to four weeks for ramp construction work. Construction of the Paige

Avenue Interchange and the roundabout would require the closure of the existing Paige Avenue between Blackstone Street and Laspina Street.

Detours would be provided during road closures. Caltrans will be in coordination with emergency services before the start of construction and during construction.

Schools?

No Impact—The project would not result in an impact on schools because there are no schools within the project area.

Parks?

No Impact—The Tulare Santa Fe Trail Park would be temporarily affected by project construction. During construction, one side of the trail crossing State Route 99 will remain open to the public. The other side will be sectioned off for the construction of the security wall.

Other public facilities?

No Impact—The project would not result in an impact on public facilities because there are no public facilities within the project area.

3.2.16 Recreation

CEQA Significance Determinations for Recreation

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

No Impact—The Tulare Santa Fe Trail Park would be temporarily affected by project construction. During construction, one side of the trail crossing State Route 99 will remain open to the public. The other side will be sectioned off for the construction of the security wall. This project is not expected to “use” those facilities, as defined by Section 4(f).

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

No Impact—The project does not propose any recreational facilities or require the construction or expansion of recreation facilities.

3.2.17 Transportation

CEQA Significance Determinations for Transportation

Would the project:

a) Conflict with a program plan, ordinance, or policy addressing the circulation system, including transit, roadway, and bicycle and pedestrian facilities?

No Impact—The project would not conflict with any applicable program plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. The project would ensure the safe operation of the highway system for motorists, bicyclists, and emergency responders.

b) Conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

Significant and Unavoidable—According to CEQA, transportation projects that reduce or have no impact on vehicle miles traveled should be presumed to cause a less than significant transportation impact. For roadway capacity projects, such as the Tulare Six-Lane and Paige Avenue Interchange Improvement, agencies have the discretion to determine the appropriate measure of transportation impact consistent with CEQA and other applicable requirements. A lead agency has the discretion to choose the most appropriate methodology to evaluate a project's vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household, or in any other measure.

An Induced vehicle miles Traveled Analysis was completed in September 2021 for the project. The analysis found that annual vehicle miles traveled induced by the proposed project would increase by about 19,759,200 after the deductions for truck vehicle miles traveled as discussed in Chapter 2, Section 2.1.9 Transportation/Pedestrian and Bicycle Facilities. The increase in vehicle miles traveled would result from the addition of one northbound travel lane and one southbound travel lane and the widening of Paige Avenue between Laspina Street and Blackstone Street for 1,900 feet.

Mitigation Measures

Mitigation measures would be used to decrease the project's permanent effects on vehicle miles traveled, as discussed in Chapter 2, Section 2.1.9 Transportation/Pedestrian and Bicycle Facilities. As discussed in Chapter 1, Section 1.2.2 Need, the Comprehensive Multimodal Corridor Plan would include the prioritization of identifying managed lane and mode shift opportunities in the corridor that would lead to reduced vehicle miles traveled. Implementation of vehicle miles traveled-reducing managed lane strategies, such as truck-only and/or tolling lanes, through the corridor (or parts of the corridor that include this project) could eliminate about 80 percent of the

vehicle miles traveled concern from the project, as the only relevant capacity increase would result from the removal of trucks from the two general-purpose lanes. Vehicle miles traveled reducing outcomes through implementation of managed lanes may be identified in the development of the Comprehensive Multimodal Corridor Plan and included in the Final Environmental Document. Additional other proposed mitigation measures would fully mitigate the annual vehicle miles traveled impacts by 20,767,880.

With the proposed mitigation, the impacts from induced vehicle miles traveled appear to be less than significant. However, there is the possibility of an unforeseen event that would prevent the mitigation from being completed, therefore there is the potential to proceed with a Statement of Overriding Consideration for unmitigated impacts.

c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

No Impact—The project would not increase hazards due to a geometric design feature.

d) Result in inadequate emergency access?

No Impact—The project would not result in inadequate access. During construction, temporary freeway closure would be required for the construction of the Paige Avenue Bridge. Alternate ramps will be closed for two to four weeks for ramp construction work. Construction of the Paige Avenue Interchange and the roundabout would require the closure of the existing Paige Avenue between Blackstone Street and Laspina Street. Caltrans would coordinate with emergency services before the start of construction and during construction. Detours would be provided during road closures.

3.2.18 Tribal Cultural Resources

CEQA Significance Determinations for Tribal Cultural Resources

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or

No Impact—No resources in the proposed project area are listed or eligible for listing in the California Register of Historical Resources or a local register of historical resources as defined in Public Resources Code Section 5020.1(k).

b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

No Impact—There are no tribal cultural resources in the proposed project area that are significant to a California Native American tribe pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1.

3.2.19 Utilities and Service Systems

CEQA Significance Determinations for Utilities and Service Systems

Would the project:

a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Less Than Significant Impact—The project will require the relocation of existing stormwater drainage, electric power, and telecommunications facilities. These facilities will be relocated as needed within the project area, which will not cause significant environmental effects.

The utility relocation plans would be prepared during the plans, specifications and estimates phase. As part of that effort, the design team would work with the utility provider to identify the relocation area that would minimize impacts to various resources. Generally, utilities, with the exception of large electrical towers, would be relocated within the existing right-of-way. These areas are already disturbed, so adverse impacts are not expected, and implementation of standard engineering practices would ensure that no substantial interruptions of utility service would occur.

b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?

No Impact—The project will have sufficient water supplies for construction and will not require additional water supplies in future years.

c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

No Impact—The project will not generate significant amounts of wastewater or require future capacity for wastewater treatment.

d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

No Impact—The project will not generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.

e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

No Impact—The construction contractor will be responsible for controlling/disposing of solid waste in accordance with federal, state, and local statutes and regulations.

3.2.20 Wildfire

CEQA Significance Determinations for Wildfire

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

No Impact—The project is not in or near state responsibility areas or lands classified as very high fire hazard severity zones.

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

No Impact—The project would not exacerbate wildfire risks, expose project occupants to pollutant concentrations from a wildfire or promote the uncontrolled spread of a wildfire. The project is not within a very high fire hazard severity zone.

c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

No Impact—The project would not require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may result in temporary or ongoing impacts to the environment. The project is not within a very high fire hazard severity zone.

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

No Impact—The project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. The project is not within a very high fire hazard severity zone.

3.2.21 Mandatory Findings of Significance

CEQA Significance Determinations for Mandatory Findings of Significance

a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

No Impact—The environmental studies conducted for this project found the project would not substantially degrade the quality of the environment. The project would not reduce the habitat of fish or wildlife, cause a fish or wildlife population to drop, threaten to eliminate plant or animal communities, reduce the number or restrict the range of rare or endangered plant or animal species, or eliminate important examples of California history or prehistory.

Biological and cultural studies conducted in 2020 and 2021 using data research and field reviews for species, habitat, and historical resources found no evidence of the presence of special-status species, and/or historic resources in the project area. The area is highly disturbed by mostly agricultural development with no native plant species found. There is a potential for vernal pool fairy shrimp and Swainson's hawk to occur in the project area. Caltrans has best management practices to avoid and minimize impacts to existing nests according to regulatory requirements. Preconstruction surveys would be conducted to identify any new arrivals and protect them if they do appear. The Caltrans Historic Property Survey Report (June 2021) determined that no sensitive historic or prehistoric resources would be impacted by the project. No mitigation would be required.

b) Does the project have impacts that are individually limited but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)

Significant and Unavoidable—The project has been evaluated for cumulative impacts as described in Section 2.4 Potential Cumulative Impacts: While the proposed project’s increases in air pollutant emissions detailed in Section 2.2.4 would individually not be considered significant under CEQA, given the existing and future cumulative conditions described in the 2022 Regional Transportation Plan/Sustainability Communities Strategy Environmental Impact Report (see Section 2.4), the proposed project’s incremental increase in those emissions would be cumulatively considerable and would contribute to already identified significant cumulative effects. Adverse impacts to environmental justice populations in the socioeconomic study area would occur from the following: cumulative impacts to air quality described in the 2022 Regional Transportation Plan/Sustainability Communities Strategy Environmental Impact Report, the proposed project’s incremental increase in those emissions would be cumulatively considerable and would contribute to already identified significant cumulative effects.

The 2022 Regional Transportation Plan/Sustainability Communities Strategy Environmental Impact Report (Section 4.3 Air Quality) outlines mitigation and minimization measures that will be incorporated by Tulare County.

- Locate sensitive receptors more than 500 feet of a freeway, 500 feet of urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day.
- Locate sensitive receptors more than 1,000 feet of a major diesel rail service or railyards. Where adequate buffer cannot be implemented, implement the following: ▫ Install air filtration (as part of mechanical ventilation systems or stand-alone air cleaners) to indoor reduce pollution exposure for residents and other sensitive populations in buildings that are close to transportation network improvement projects. Use air filtration devices rated MERV-13 or higher.
- Plant trees and/or vegetation suited to trapping roadway air pollution and/or sound walls between sensitive receptors and the pollution source. The vegetation buffer should be thick, with full coverage from the ground to the top of the canopy Install higher efficacy public street and exterior lighting.
- Incorporate design measures and infrastructure that promotes safe and efficient use of alternative modes of transportation (e.g., neighborhood electric vehicles, bicycles) pedestrian access, and public transportation use. Such measures may include incorporation of electric vehicle charging

stations, bike lanes, bicycle-friendly intersections, and bicycle parking and storage facilities

- Incorporate design measures that promote ride sharing programs (e.g., by designating a certain percentage of parking spaces for ride sharing vehicles, designating adequate passenger loading and unloading and waiting areas for ride sharing vehicles, and providing a web site or message board for coordinating rides.

Greenhouse Gas analysis is, by its nature, cumulative. No individual project is of sufficient size to be the sole reason for climate change. Instead, climate change is the result of millions of activities that emit greenhouse gases.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Less Than Significant Impact—The project would increase capacity by constructing one additional lane on either side of State Route 99, which would increase vehicle miles traveled. Based on the vehicle miles traveled analysis, the project will induce an additional 19,759,200 vehicle miles traveled per year after the deduction for truck vehicle miles traveled. The improvements proposed for the Tulare Six-Lane and Paige Avenue Interchange Improvement project primarily address the anticipated growth in freight traffic. Trucks account for about 20.2 percent of the Annual Average Daily Traffic within this corridor compared with the state average of 9 percent of truck traffic. When the average number of trucks per lane per day exceeds 2,000 on a route (the existing condition), congestion is characterized by large, long-haul trucks using all lanes for travel and passing, which creates potential safety and capacity problems for all users of the freeway. This is particularly noticeable within the four-lane segments of State Route 99 in Tulare County and the City of Tulare.

While the traffic study projections show that traffic will increase in the project area, which correlates with the predicted increase in vehicle miles traveled, this is primarily from predicted increased population growth and implementation of approved local planned developments and not from project construction. The impacts from the individual project are not cumulatively considerable. No mitigation for cumulative impacts would be required.

3.3 Climate Change

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the Earth's climate system. The Intergovernmental Panel on Climate Change, established by the United Nations and World Meteorological Organization in 1988, is devoted to greenhouse gas emissions reduction and climate change research and policy. Climate change in the past has generally occurred gradually over millennia, or

more suddenly in response to cataclysmic natural disruptions. The research of the Intergovernmental Panel on Climate Change and other scientists over recent decades, however, has unequivocally attributed an accelerated rate of climatological changes over the past 150 years to greenhouse gas emissions generated from the production and use of fossil fuels.

Human activities generate greenhouse gas consisting primarily of carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF₆), and various hydrofluorocarbons (HFCs). Carbon dioxide is the most abundant greenhouse gas; while it is a naturally occurring and necessary component of Earth's atmosphere, fossil-fuel combustion is the main source of additional, human-generated carbon dioxide that is the main driver of climate change. In the U.S. and in California, transportation is the largest source of greenhouse gas emissions, mostly carbon dioxide.

The impacts of climate change are already being observed in the form of sea level rise, drought, extended and severe fire seasons, and historic flooding from changing storm patterns. The most important strategy to address climate change is to reduce greenhouse gas emissions. Additional strategies are necessary to mitigate and adapt to these impacts. In the context of climate change, "mitigation" involves actions to reduce greenhouse gas emissions to lessen adverse impacts that are likely to occur. "Adaptation" is planning for and responding to impacts to reduce vulnerability to harm, such as by adjusting transportation design standards to withstand more intense storms, heat, and higher sea levels. This analysis will include a discussion of both in the context of this transportation project.

3.3.1 Regulatory Setting

This section outlines federal and state efforts to comprehensively reduce greenhouse gas emissions from transportation sources.

Federal

To date, no national standards have been established for nationwide mobile-source greenhouse gas reduction targets, nor have any regulations or legislation been enacted specifically to address climate change and greenhouse gas emissions reduction at the project level.

The National Environmental Policy Act (NEPA) (42 U.S. Code Part 4332) requires federal agencies to assess the environmental effects of their proposed actions before making a decision on the action or project.

The Federal Highway Administration recognizes the threats that extreme weather, sea-level change, and other changes in environmental conditions pose to valuable transportation infrastructure and those who depend on it. Federal Highway Administration, therefore, supports a sustainability approach

that assesses vulnerability to climate risks and incorporates resilience into planning, asset management, project development and design, and operations and maintenance practices (Federal Highway Administration 2019). This approach encourages planning for sustainable highways by addressing climate risks while balancing environmental, economic, and social values—“the triple bottom line of sustainability” (Federal Highway Administration n.d.). Program and project elements that foster sustainability and resilience also support economic vitality and global efficiency, increase safety and mobility, enhance the environment, promote energy conservation, and improve the quality of life.

The federal government has taken steps to improve fuel economy and energy efficiency to address climate change and its associated effects. The most important of these was the Energy Policy and Conservation Act of 1975 (42 United States Code Section 6201) as amended by the Energy Independence and Security Act of 2007; and Corporate Average Fuel Economy Standards. This act established fuel economy standards for on-road motor vehicles sold in the United States. The U.S. Department of Transportation’s National Highway Traffic and Safety Administration sets and enforces the Corporate Average Fuel Economy standards based on each manufacturer’s average fuel economy for the portion of its vehicles produced for sale in the United States. The Environmental Protection Agency calculates average fuel economy levels for manufacturers, and also sets related greenhouse gas emissions standards under the Clean Air Act. Raising Corporate Average Fuel Economy standards leads automakers to create a more fuel-efficient fleet, which improves our nation’s energy security, saves consumers money at the pump, and reduces greenhouse gas emissions (U.S. Department of Transportation 2014).

U.S. Environmental Protection Agency published a final rulemaking on December 30, 2021, that raised federal greenhouse gas emissions standards for passenger cars and light trucks for model years 2023 through 2026, increasing in stringency each year. This rulemaking revised lower emissions standards that had been previously established for model years 2021 through 2026 in the Safer Affordable Fuel-Efficient Vehicles Rule Part Two in June 2020. The updated standards will result in avoiding more than 3 billion tons of greenhouse gas emissions through 2050 (U.S. Environmental Protection Agency 2021a).

State

California has been innovative and proactive in addressing greenhouse gas emissions and climate change by passing multiple Senate and Assembly bills and executive orders, including, but not limited to, the following:

Executive Order S-3-05 (June 1, 2005): The goal of this Executive Order is to reduce California’s greenhouse gas emissions to: (1) year 2000 levels by 2010, (2) year 1990 levels by 2020, and (3) 80 percent below year 1990

levels by 2050. This goal was further reinforced with the passage of Assembly Bill 32 in 2006 and Senate Bill 32 in 2016.

Assembly Bill 32, Chapter 488, 2006, Núñez and Pavley, The Global Warming Solutions Act of 2006: Assembly Bill 32 codified the 2020 greenhouse gas emissions reduction goals outlined in executive Order S-3-05, while further mandating that the California Air Resources Board create a scoping plan and implement rules to achieve “real, quantifiable, cost-effective reductions of greenhouse gases.” The legislature also intended that the statewide greenhouse gas emissions limit continue in existence and be used to maintain and continue reductions in emissions of greenhouse gases beyond 2020 (Health and Safety Code Section 38551(b)). The law requires Air Resources Board to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective greenhouse gas reductions.

Executive Order S-01-07 (January 18, 2007): This order sets forth the low carbon fuel standard for California. Under this Executive Order, the carbon intensity of California’s transportation fuels is to be reduced by at least 10 percent by the year 2020. Air Resources Board readopted the low carbon fuel standard regulation in September 2015, and the changes went into effect on January 1, 2016. The program establishes a strong framework to promote the low-carbon fuel adoption necessary to achieve the governor’s 2030 and 2050 greenhouse gas reduction goals.

Senate Bill 375, Chapter 728, 2008, Sustainable Communities and Climate Protection: This bill requires Air Resources Board to set regional emissions reduction targets for passenger vehicles. The Metropolitan Planning Organization for each region must then develop a “Sustainable Communities Strategy” that integrates transportation, land use, and housing policies to plan how it will achieve the emissions target for its region.

Senate Bill 391, Chapter 585, 2009, California Transportation Plan: This bill requires the state’s long-range transportation plan to identify strategies to address California’s climate change goals under Assembly Bill 32.

Executive Order B-16-12 (March 2012) orders state entities under the direction of the governor, including Air Resources Board, the California Energy Commission, and the Public Utilities Commission, to support the rapid commercialization of zero-emission vehicles. It directs these entities to achieve various benchmarks related to zero-emission vehicles.

Executive Order B-30-15 (April 2015) establishes an interim statewide greenhouse gas emission reduction target of 40 percent below 1990 levels by 2030 to ensure California meets its target of reducing greenhouse gas emissions to 80 percent below 1990 levels by 2050. It further orders all state agencies with jurisdiction over sources of greenhouse gas emissions to

implement measures, pursuant to statutory authority, to achieve reductions in greenhouse gas emissions to meet the 2030 and 2050 greenhouse gas emissions reductions targets. It also directs Air Resources Board to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent. [greenhouse gasses differ in how much heat each trap in the atmosphere (global warming potential). carbon dioxide is the most important greenhouse gas, so amounts of other gases are expressed relative to carbon dioxide, using a metric called “carbon dioxide equivalent.” The global warming potential of carbon dioxide is assigned a value of 1, and the global warming potential of other gases is assessed as multiples of carbon dioxide.] Finally, it requires the Natural Resources Agency to update the state’s climate adaptation strategy, Safeguarding California, every 3 years and to ensure that its provisions are fully implemented.

Senate Bill 32, Chapter 249, 2016, codifies the greenhouse gas reduction targets established in Executive Order B-30-15 to achieve a mid-range goal of 40 percent below 1990 levels by 2030.

Senate Bill 1386, Chapter 545, 2016, declared “it to be the policy of the state that the protection and management of natural and working lands ... is an important strategy in meeting the state’s greenhouse gas reduction goals, and would require all state agencies, departments, boards, and commissions to consider this policy when revising, adopting, or establishing policies, regulations, expenditures, or grant criteria relating to the protection and management of natural and working lands.”

Assembly Bill 134, Chapter 254, 2017, allocates Greenhouse Gas Reduction Funds and other sources to various clean vehicle programs, demonstration/pilot projects, clean vehicle rebates and projects, and other emissions-reduction programs statewide.

Senate Bill 743, Chapter 386 (September 2013): This bill changes the metric of consideration for transportation impacts pursuant to CEQA from a focus on automobile delay to alternative methods focused on vehicle miles traveled to promote the state’s goals of reducing greenhouse gas emissions and traffic-related air pollution and promoting multimodal transportation while balancing the needs of congestion management and safety.

Senate Bill 150, Chapter 150, 2017, Regional Transportation Plans: This bill requires Air Resources Board to prepare a report that assesses progress made by each metropolitan planning organization in meeting their established regional greenhouse gas emission reduction targets.

Executive Order B-55-18 (September 2018) sets a new statewide goal to achieve and maintain carbon neutrality no later than 2045. This goal is in addition to existing statewide targets of reducing greenhouse gas emissions.

Executive Order N-19-19 (September 2019) advances California's climate goals in part by directing the California State Transportation Agency to leverage annual transportation spending to reverse the trend of increased fuel consumption and reduce greenhouse gas emissions from the transportation sector. It orders a focus on transportation investments near housing, managing congestion, and encouraging alternatives to driving. This executive order also directs Air Resources Board to encourage automakers to produce more clean vehicles, formulate ways to help Californians purchase them, and propose strategies to increase demand for zero-emission vehicles.

3.3.2 Environmental Setting

State Route 99, currently a four-lane freeway within the project limits, traverses a small city that is surrounded by the vast rural agricultural area of the San Joaquin Valley. The project is entirely within the city limits of the City of Tulare.

At the south end of the project, the landscape near the freeway is rural, with some commercial development but no residences except for one mobile home community located on the west side of the freeway. Mefford Field Airport is across from it on the east side of the freeway. Just to the north of the airport are the World Ag Expo grounds of the International Agri-Center complex. Approximately in the middle of the project is the Paige Avenue Interchange area, which consists of truck stops, associated businesses, and one mobile home park. Recently constructed commercial businesses extend northwards to Bardsley Avenue along the west side of the freeway. The zoning in this area is industrial and commercial, except for the mobile home parks.

Going northwards, the remainder of the city adjacent to the freeway is built up. From Paige Avenue north along the east side of the freeway are residential neighborhoods and commercial centers that continue past the northern end of the project, which is by the Tulare Outlets. Along the west side of the freeway from Bardsley Avenue northwards are residential neighborhoods, commercial centers, and a few local government facilities extending up to Cartmill Avenue, about 1 mile north of Prosperity Avenue.

The 2022 Regional Transportation Plan/Sustainable Communities Strategy by the Tulare County Association of Governments guides transportation development in the area. This document, along with the Climate Action Plans incorporated in the County of Tulare and the City of Tulare General Plans, addresses greenhouse gasses in the project area.

Greenhouse Inventories

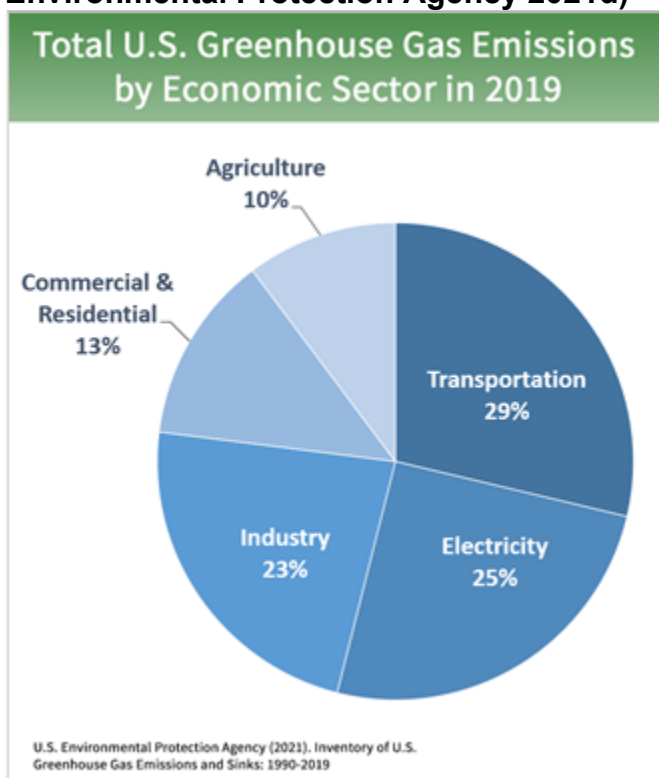
A greenhouse gas emissions inventory estimates the amount of greenhouse gases discharged into the atmosphere by specific sources over a period of time, such as a calendar year. Tracking annual greenhouse gas emissions

allows countries, states, and smaller jurisdictions to understand how emissions are changing and what actions may be needed to attain emission reduction goals. The U.S. Environmental Protection Agency is responsible for documenting greenhouse gas emissions nationwide, and the Air Resources Board does so for the state, as required by Health and Safety Code Section 39607.4. Cities and other local jurisdictions may also conduct local greenhouse gas inventories to inform their greenhouse gas reduction or climate action plans.

National Greenhouse Gas Inventory

The annual greenhouse gas inventory submitted by the U.S. Environmental Protection Agency to the United Nations provides a comprehensive accounting of all human-produced sources of greenhouse gases in the United States. The 1990-2019 inventory found that overall greenhouse gas emissions were 6,558 million metric tons in 2019, down 1.7 percent from 2018 but up 1.8% from 1990 levels. Of these, 80 percent were carbon dioxide, 10 percent were methane, and 7 percent were nitrous oxide; the balance consisted of fluorinated gases. Carbon dioxide emissions in 2019 were 2.2 percent less than in 2018, but 2.8 percent more than in 1990. As shown on Figure 3.1, the transportation sector accounted for 29 percent of U.S. Greenhouse gas emissions in 2019 (U.S. Environmental; Protection Agency 2021b, 2021c)

Figure 3-1 U.S. 2016 Greenhouse Gas Emissions (Source: U.S. Environmental Protection Agency 2021d)



State Greenhouse Gas Inventory

Air Resources Board collects greenhouse emissions data for transportation, electricity, commercial/residential, industrial, agricultural, and waste management sectors each year. It then summarizes and highlights major annual changes and trends to demonstrate the state's progress in meeting its greenhouse gas reduction goals. The 2021 edition of the greenhouse emissions inventory reported emissions trends from 2000 to 2019. It found total California emissions were 418.2 metric tons of carbon dioxide equivalent in 2019, a reduction of 7.2 metric tons of carbon dioxide equivalent since 2018 and almost 13 metric tons of carbon dioxide equivalent below the statewide 2020 limit of 431 metric tons of carbon dioxide equivalent. The transportation sector (including intrastate aviation and off road sources) was responsible for about 40 percent of direct greenhouse gas emissions, a 3.5 metric tons of carbon dioxide equivalent decrease from 2018 (Figure 3-2). Overall statewide greenhouse gas emissions declined from 2000 to 2019 despite growth in population and state economic output (Figure 3-3) (Air Resources Board 2021a).

Figure 3-2 California 2019 Greenhouse Gas Emissions by Economic Sector (Source: Air Resources Board 2021a)

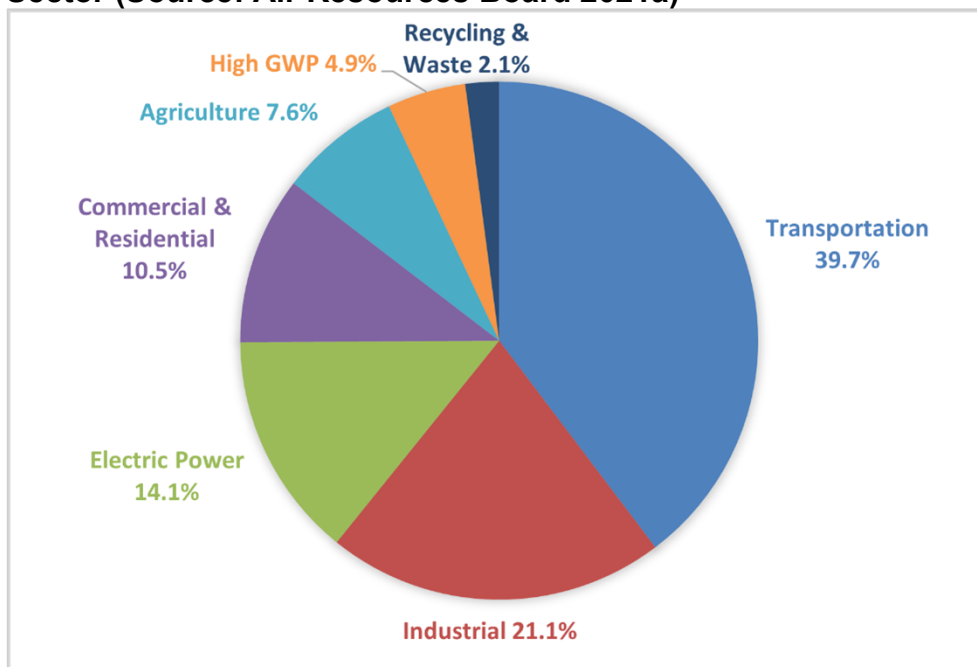
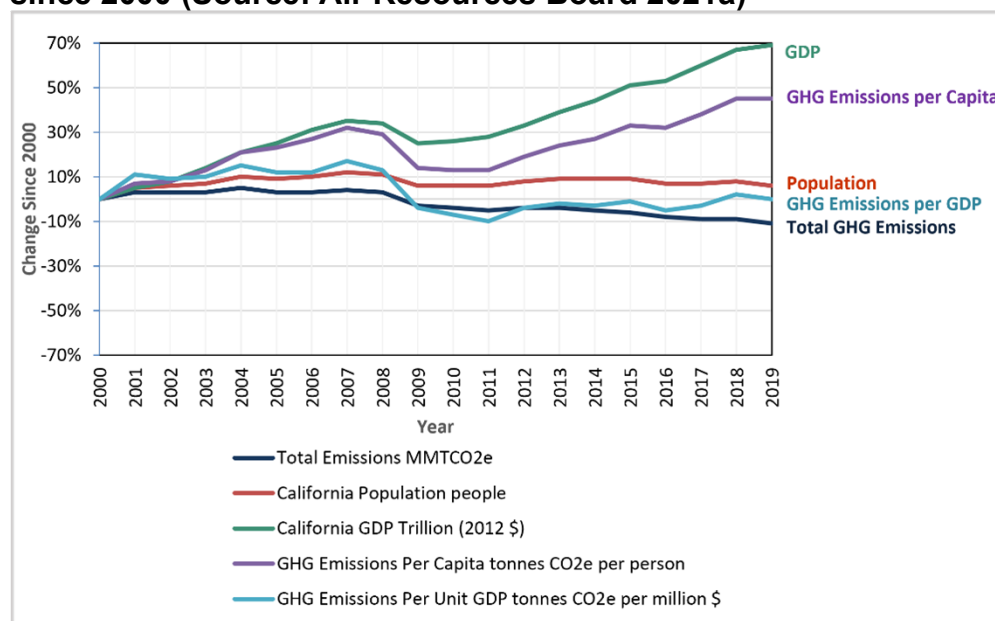


Figure 3-3 Change in California GDP, Population, and GHG Emissions since 2000 (Source: Air Resources Board 2021a)



Assembly Bill 32 required Air Resources Board to develop a Scoping Plan that describes the approach California will take to achieve the goal of reducing greenhouse gas emissions to 1990 levels by 2020 and to update it every 5 years. Air Resources Board adopted the first scoping plan in 2008. The second updated plan, California's 2017 Climate Change Scoping Plan, adopted on December 14, 2017, reflects the 2030 target established in Executive Order B-30-15 and Senate Bill 32. The Assembly Bill 32 Scoping Plan and the subsequent updates contain the main strategies California will use to reduce greenhouse gas emissions.

Regional Plans

Air Resources Board sets regional targets for California's 18 Metropolitan Planning Organizations to use in their Regional Transportation Plan/Sustainable Communities Strategy to plan future projects that will cumulatively achieve greenhouse gas reduction goals. Targets are set at a percent reduction of passenger vehicle greenhouse gas emissions per person from 2005 levels. The proposed project is included in the 2018 Regional Transportation Plan/Sustainable Communities Strategy issued by the Tulare County Association of Governments. The regional reduction target for Tulare County is 13 percent for the year 2020 and 16 percent for the year 2035 (Air Resources Board 2019c).

The following table, titled Table 3.1 Regional and Local Greenhouse Gas Reduction Plans, lists policies, strategies, and goals—included in the Regional Transportation Plan and in the climate action plans of Tulare County and the City of Tulare—that are pertinent to greenhouse gas reduction related to transportation.

Table 3.1 Regional and Local Greenhouse Gas Reduction Plans

Plan	Greenhouse Gas Reduction Policies or Strategies
Tulare County Association of Governments' 2018 Regional Transportation Plan/Sustainable Communities Strategy	Reduce vehicle miles traveled. Reduce criteria air emissions. Reduce commute times. Improve reliability of the road system. Increase use of active transportation modes. Expand use of transit.

Plan	Greenhouse Gas Reduction Policies or Strategies
Tulare County Climate Action Plan 2018 Update (lists measures in Tulare County General Plan 2030 [Adopted 2012])	<p>Greenhouse gas emissions reduction plan.</p> <p>Alternative fuel vehicle infrastructure.</p> <p>Purchase of low emission/alternative fuel vehicles.</p> <p>Transportation demand management programs.</p> <p>Ridesharing.</p> <p>Provide a wide variety of public transportation options that reduce vehicle trips and miles traveled, such as transit and rail service.</p> <p>Nodal land use patterns that support public transit.</p> <p>Consider nonmotorized modes in planning and development.</p> <p>Provisions for bicycle use.</p> <p>Bicycle/pedestrian trail system.</p>
City of Tulare 2011 Climate Action Plan (Included in City of Tulare General Plan 2035 [Adopted 2014])	<p>Shift single-occupancy trips to alternative modes:</p> <p>Increase transportation-related bicycle trips to reduce vehicle miles traveled.</p> <p>Improve mobility by implementing a citywide Complete Streets ordinance and program.</p> <p>Expand public transit routes and provide light rail transit options.</p> <p>Reduce work-related vehicle miles traveled through the support of transportation demand management programs.</p> <p>Support regional transportation management programs to shift single-occupancy vehicle trips to other modes.</p> <p>Reduce emissions from vehicles:</p> <p>Reduce emissions from on-road vehicle sources.</p> <p>Reduce emissions from on-road commercial and industrial transportation sources through reduced vehicle idling and efficient vehicle flow.</p>

3.3.3 Project Analysis

Greenhouse gas emissions from transportation projects can be divided into those produced during the operation of the state highway system and those

produced during construction. The primary greenhouse gases produced by the transportation sector are carbon dioxide, methane, nitrous oxide, and hydrofluorocarbon. Carbon dioxide emissions are a product of the combustion of petroleum-based products, like gasoline, in internal combustion engines. Relatively small amounts of methane and nitrous oxide are emitted during fuel combustion. In addition, a small amount of hydrofluorocarbon emissions are included in the transportation sector.

The CEQA Guidelines generally address greenhouse gas emissions as a cumulative impact due to the global nature of climate change (Public Resources Code, Section 21083(b)(2)). As the California Supreme Court explained, “because of the global scale of climate change, any one project’s contribution is unlikely to be significant by itself.” (Cleveland National Forest Foundation versus San Diego Association of Governments (2017) 3 Cal.5th 497, 512.) In assessing cumulative impacts, it must be determined if a project’s incremental effect is “cumulatively considerable” (CEQA Guidelines Sections 15064(h)(1) and 15130).

To make this determination, the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. Although climate change is ultimately a cumulative impact, not every individual project that emits greenhouse gases must necessarily be found to contribute to a significant cumulative impact on the environment.

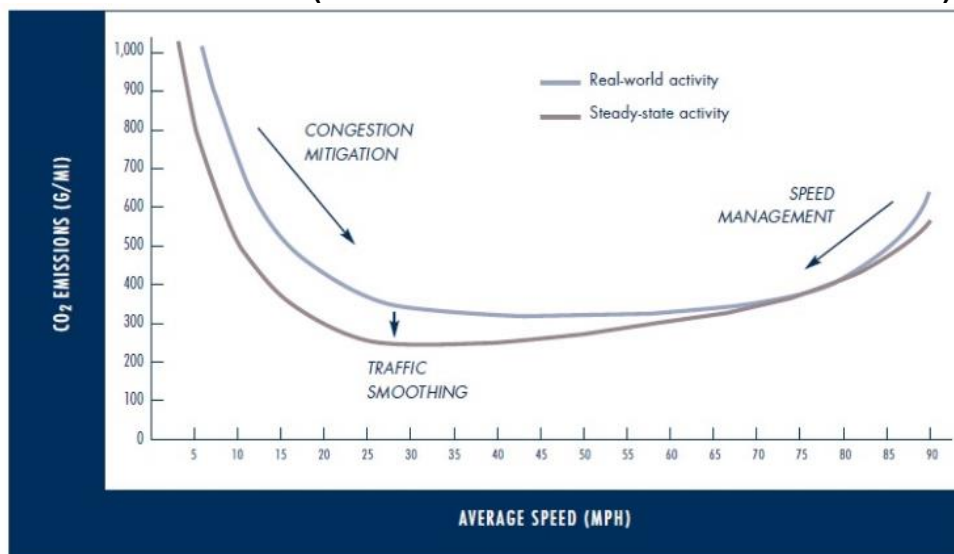
Operational Emissions

Nearly 29 percent of U.S. greenhouse gas emissions in 2019 came from the transportation sector. Carbon dioxide emissions from fossil fuel combustion accounted for 74.1 percent of all greenhouse gas emissions, and transportation activities accounted for about 37.5 percent of carbon dioxide emissions from fossil fuel combustion in 2019. Most transportation-related greenhouse gas emissions are from passenger cars (40.5 percent), freight trucks (23.6 percent), and light-duty trucks (17.2 percent). The remainder of greenhouse gas emissions comes from other modes of transportation, including aircraft, ships, boats, and trains, as well as pipelines and lubricants (U.S. Environmental Protection Agency 2021b, 2021c). Because carbon dioxide emissions represent the greatest percentage of greenhouse gas emissions it has been selected as a proxy within the following analysis for potential climate change impacts.

The highest levels of carbon dioxide from mobile sources such as automobiles occur at stop-and-go speeds (0–25 miles per hour) and speeds over 55 miles per hour; the most severe emissions occur from 0–25 miles per hour (see Figure 3-3). To the extent that a project enhances operational efficiency and improves travel times in high-congestion travel corridors, greenhouse gas emissions, particularly carbon dioxide, may be reduced, provided that improved travel times do not induce additional vehicle miles traveled.

Four primary strategies can reduce greenhouse gas emissions from transportation sources: (1) improving the transportation system and operational efficiencies, (2) reducing travel activity, (3) transitioning to lower GHG emitting fuels, and (4) improving vehicle technologies and efficiency. To be most effective, all four strategies should be pursued concurrently.

Figure 3-3 Possible Use of Traffic Operation Strategies in Reducing On-road CO₂ Emissions (Source: Barth and Boriboonsomsin 2010)



The proposed project is in the 2018 Regional Transportation Plan/Sustainable Communities Strategy issued by the Tulare County Association of Governments. The project meets all of Tulare County Association of Governments' performance measures for listing a capacity-increasing project in the Regional Transportation Plan. The project is consistent with the Regional Transportation Plan/Sustainable Communities Strategy goals of improving goods movement along the regionally significant transportation corridor of State Route 99. The project location is identified as a congested corridor needing operational improvements to the existing freeway to improve the level of service and air quality.

The Tulare Six-Lane and Paige Avenue Interchange Improvement project would reduce congestion by adding one lane in each direction of the State Route 99 freeway in the City of Tulare. The project would include ramp metering and Intelligent Transportation System elements of traffic monitoring systems. Furthermore, the Paige Avenue Interchange would be reconfigured with new ramps, a wider overcrossing with an additional lane in each direction, and four multilane roundabouts. The design for this interchange area includes 10-foot-wide shared use paths (a Class 2 bikeway), which would encourage active transportation use.

The 2016 Active Transportation Plan, part of the 2018 Regional Transportation Plan, shows that a Class 1 bike path is planned along Paige Avenue within the project footprint. The Regional Transportation Plan/Sustainable Communities Strategy goals include protecting and enhancing specific major transportation corridors, including the State Route 99 (and Union Pacific rail line) corridor through Tulare County. The plan lists the widening of State Route 99 through Tulare as a planned strategy for interregional connectivity.

During the planning stages of this project (which occurred before 2010), no transportation modes other than vehicular were considered as alternatives.

Quantitative Analysis

Air Resources Board developed the EMISSION FACTORS model to facilitate preparation of statewide and regional mobile source emissions inventories. The model generates emissions rates that can be multiplied by vehicle activity data from all motor vehicles, including passenger cars to heavy-duty trucks, operating on highways, freeways, and local roads in California. EMISSION FACTOR has a rigorous scientific foundation, has been approved by U.S. Environmental Protection Agency, and has been vetted through multiple stakeholder reviews. Caltrans developed CT- EMISSION FACTOR to apply project-specific factors to Air Resources Board's model.

EMISSION FACTOR's greenhouse gas emission rates are based on tailpipe emissions test data and the model does not account for factors such as the rate of acceleration and vehicle aerodynamics, which influence the amount of emissions generated by a vehicle. Greenhouse gas emissions quantified using CT- EMISSION FACTORS are therefore estimates and may not reflect actual on-road emissions. The model does not, however, account for induced travel. Modeling greenhouse gas estimates with EMISSION FACTORS or CT- EMISSION FACTORS nevertheless remains the most precise means of estimating future greenhouse gas emissions. While CT- EMISSION FACTORS is currently the best available tool for calculating greenhouse gas emissions from mobile sources, it is important to note that the greenhouse gas results are only useful for a comparison of alternatives.

The Safer Affordable Fuel-Efficient Vehicles Rule Part One, effective November 2019, revoked California's authority to set its own greenhouse gas emissions standards. Part Two, effective June 2020, established new Corporate Average Fuel Economy and tailpipe carbon dioxide emissions standards for passenger cars and light trucks covering model years 2021 through 2026 (National Highway Traffic Safety Administration 2020). Therefore, Air Resources Board provided greenhouse gas emissions adjustment factors for EMISSION FACTOR 2017 based on the Safer Affordable Fuel-Efficient Rule. Since then, EMISSION FACTOR 2021 has been released, which accounts for the Safer Affordable Fuel-Efficient Rule and does not require adjustment factors. Federal Corporate Average Fuel Economy and

greenhouse gas emissions standards are evolving, and models will be updated to account for final regulatory changes.

Data for the fourth column in Table 3.2 represent off-model adjustment factors for gasoline light duty vehicle carbon dioxide emissions in Emission FACTor 2014 and Emission FACTor 2017.

The annual vehicle miles traveled values in the fifth column in Table 3.2 were derived from daily vehicle miles traveled values multiplied by 347. Table 3.2 take into account both the Option 1 and Option 2 for the Paige Avenue Interchange.

Table 3.2 Modeled Annual Carbon Dioxide Emissions and Vehicle Miles Traveled

Alternative	Carbon Dioxide Emissions (Metric Tons/Year)	Safer Affordable Fuel-Efficient Factor	Safer Affordable Fuel- Efficient Carbon Dioxide Emissions (Metric Tons/Year)	Vehicle Miles Traveled (Annual)
2018 Existing Condition/Baseline Year	140,298	Earliest year is 2021	Not Applicable	117,676,000
2029 No-Build Alternative	141,728	1.0629	150,642,691	161,330,000
2029 Build Alternative Year Open to Traffic	183,371	1.0629	194,905,036	239,148,000
2049 No-Build Alternative	158,335	1.1268	178,411,878	162,848,400
2049 Build Alternative 20-Year Design Year	201,371	1.1268	226,904,843	239,148,000

Source: Air Quality Report CT Emission FACTor (2017) model.

The amount of carbon dioxide emissions generated during the baseline year 2018 is 140,298 tons per year. Because the earliest year for which Safer Affordable Fuel-Efficient factors were developed was 2021, this factor could not be incorporated into the modeling for the 2018 existing conditions (baseline).

In the year 2029, if the project is not built, the carbon dioxide emissions are modeled to be 141,728 metric tons per year, which is 1,430 metric tons more carbon dioxide emissions than for the baseline year. With the Safer Affordable Fuel-Efficient factor applied, the 2029 No-Build Alternative carbon dioxide emissions would be 150,643 metric tons per year, 10,345 tons more than for the baseline year.

Assuming the proposed project is open to traffic in 2029 Build, the Emission FACTor 2017 model calculated the carbon dioxide emissions to be 183,371 metric tons per year, which is an increase of 43,073 metric tons of carbon dioxide emissions over the baseline year. With the Safer Affordable Fuel-Efficient factor applied, carbon dioxide emissions for the opening year would be 194,905 metric tons per year, which is 54,607 more metric tons of emissions than for the Baseline Year.

Carbon dioxide emissions modeled for the No-Build Alternative for the design year 2049 are 158,335 tons per year, which is 18,037 more tons per year than the baseline year. With the Safer Affordable Fuel-Efficient factor incorporated into the modeling, these emissions would be 178,411.878 metric tons per year, which is 38,114 more metric tons of carbon dioxide than for the baseline year of 2018.

For the Build Alternative in the design year 2049, carbon dioxide emissions would be 201,329 tons per year, which is 61,031 more metric tons of carbon dioxide emissions than for the baseline year. Applying the Safer Affordable Fuel-Efficient factor, carbon dioxide emissions were modeled to be 226,904.843 metric tons, which is about 86,607 more metric tons of carbon dioxide emissions than for the baseline year 2018.

Table 2.23 also shows an increase in vehicle miles traveled over time under the baseline conditions; annual vehicle miles traveled within the project limits were 117,676,000. In the year 2029, this number is projected to increase to 161,330,000 if the project is not built. If the project is constructed and opens to traffic in 2029, as planned, the vehicle miles traveled would increase to 239,148,000 that year. In the year 2049, if the freeway within the project limits is not widened, the annual vehicle miles traveled would be 162,848,400. Twenty years after project construction, vehicle miles traveled for the design year would be 239,148,000.

While CT- Emission FACTor has a rigorous scientific foundation and has been vetted through multiple stakeholder reviews, its greenhouse gas emission

rates are based on tailpipe emission test data. Moreover, the model does not account for factors, such as the rate of acceleration and vehicle aerodynamics, which influence the amount of emissions generated by a vehicle. Greenhouse gas emissions quantified using CT- Emission FACtor are, therefore, estimates and may not reflect actual physical emissions. Though CT- Emission FACtor is currently the best available tool for calculating greenhouse gas emissions from mobile sources, it is important to note that the greenhouse gas results are useful only for a comparison among alternatives.

Construction Emissions

Construction greenhouse gas emissions would result from material processing and transportation, on-site construction equipment, and traffic delays due to construction. These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases.

Use of long-life pavement, improved traffic management plans, and changes in materials can also help offset greenhouse gas emissions produced during construction by allowing longer intervals between maintenance and rehabilitation activities.

All construction contracts include Caltrans Standard Specifications related to air quality. Section 7-1.02A and 7-1.02C, Emissions Reduction, requires contractors to comply with all laws applicable to the project and to certify they are aware of and will comply with all Air Resources Board emission reduction regulations. Section 14-9.02, Air Pollution Control, requires contractors to comply with all air pollution control rules, regulations, ordinances, and statutes. Certain common regulations, such as equipment idling restrictions, that reduce construction vehicle emissions also help reduce greenhouse gas emissions.

The following measures would be incorporated into the project and would help to reduce construction-related emissions:

- Truck and equipment idling is limited to five minutes for delivery and dump trucks and other diesel-powered equipment (with some exceptions).
- Schedule truck trips outside of peak morning and evening commute hours.
- Encourage improved fuel efficiency from construction equipment by maintaining equipment in proper working condition, using the right size equipment for the job, and using equipment with new technologies.
- Use recycled water for construction

CEQA Conclusion

The analysis found carbon dioxide emissions would increase, regardless of whether the Safer Affordable Fuel-Efficient Factor is applied. However, the difference between the Safer Affordable Fuel-Efficient Factor carbon dioxide emissions and the Baseline emissions is much larger than those without the Safer Affordable Fuel-Efficient Factor multiplier.

The comparison of the carbon dioxide emissions for both the 2029 and 2049 No-Build/Build emissions are not excessive. However, the imposition of the Safer Affordable Fuel-Efficient Factor is progressive, increasing each year, as shown in Table 3.2. The application of the Safer Affordable Fuel-Efficient Factor multiplier shows an increase in carbon dioxide emissions throughout the project.

Furthermore, the Safer Affordable Fuel-Efficient Factor multiplier does not apply to projects that predate the year 2021, so there is a larger carbon dioxide emissions difference when comparing the 2018 Existing Year to the 2029 Open to Traffic Year and the 2049 Design Year.

The increase in emissions would mainly come from population growth in the county along with the implementation of planned development in the area. Improvement of the existing Paige Avenue Interchange would provide more direct access and redistribute future traffic that would otherwise use circuitous routes on local roads and nearby interchanges traveling to and from the project area.

The emerging requirements to model and measure mitigation to reduce greenhouse gas emissions are narrowly defined and limited. Requirements limit projects to zero increase from existing emissions to meet California's emissions reduction goals. The modeling results focus only on the state highway and don't consider the local street system. There are no regulatory or industry-wide established methods to accurately measure whether the project features and measures would reduce emissions enough to mitigate the project impacts.

By all regulatory standards, as reported in Section 2.2.3 Air Quality of this document, this project complies with all regulatory requirements for regional air-quality conformity, carbon monoxide, ozone, particulate matter 2.5 and 10, mobile source air toxics, emissions during construction, and for reporting carbon dioxide.

Caltrans and regional partner agencies have determined the project is needed. The improvements to local roads and the construction of complete interchanges would reduce stop-and-go traffic and provide more direct access to and from the highway. It would reduce the traffic driving in-direct routes on local roads to destinations. As air studies have documented, the highest vehicle emissions occur in stop-and-go traffic, while free-flowing traffic

produces the least amount of vehicle emissions, regardless of the criteria pollutant.

The project does include features and measures that reduce greenhouse gas emissions, such as Complete Streets elements with landscaping to promote bicycle and pedestrian use and encourage active transportation overuse of vehicles. The installation of Intelligent Transportation System elements is designed to improve traffic efficiency and reduce congestion on roadways, thereby lowering vehicle emissions. Also, roundabouts proposed on Blackstone Street and Laspina Street along Paige Avenue would contribute to smoother, more efficient traffic circulation resulting in less stop-and-go travel and lower vehicle emissions. Caltrans applies a large list of standard measures on most, if not all, projects during construction that require practices and restrict equipment that reduces dust and equipment emissions.

The project would increase greenhouse gas emissions and therefore conflict with current air quality plans that require the reduction of greenhouse gas emissions. Without established regulatory, industry-wide methods to accurately measure whether the project features and measures would reduce emissions enough to mitigate the project impacts, Caltrans must determine that the project impacts for increased greenhouse gas emissions are significant and unavoidable.

3.3.4 Greenhouse Gas Reduction Strategies

Statewide Efforts

In response to Assembly Bill 32, California is implementing measures to achieve emission reductions of greenhouse gases that cause climate change. Climate change programs in California are effectively reducing greenhouse gas emissions from all sectors of the economy. These programs include regulations, market programs, and incentives that will transform transportation, industry, fuels, and other sectors, to take California into a sustainable, low-carbon and cleaner future, while maintaining a robust economy (Air Resources Board 2022).

Major sectors of the California economy, including transportation, will need to reduce emissions to meet 2030 and 2050 greenhouse gas emissions targets. The Governor's Office of Planning and Research identified five sustainability pillars in a 2015 report: (1) Increasing the share of renewable energy in the State's energy mix to at least 50 percent by 2030; (2) Reducing petroleum use by up to 50 percent by 2030; (3) Increasing the energy efficiency of existing buildings by 50 percent by 2030; (4) Reducing emissions of short-lived climate pollutants; and (5) Stewarding natural resources, including forests, working lands, and wetlands, to ensure that they store carbon, are resilient, and enhance other environmental benefits (Office of Planning and Research 2015).

The transportation sector is integral to the people and economy of California. To achieve greenhouse gas emission reduction goals, it is vital that the state build on past successes in reducing criteria and toxic air pollutants from transportation and goods movement. Greenhouse gas emission reductions will come from cleaner vehicle technologies, lower-carbon fuels, and reduction of vehicle miles traveled. Reducing today's petroleum use in cars and trucks is a key state goal for reducing greenhouse gas emissions by 2030 (California Environmental Protection Agency 2015).

In addition, Senate Bill 1386 (Wolk 2016) established as state policy the protection and management of natural and working lands and requires state agencies to consider that policy in their own decision making. Trees and vegetation on forests, rangelands, farms, and wetlands remove carbon dioxide from the atmosphere through biological processes and sequester the carbon in above- and below-ground matter.

Subsequently, Governor Gavin Newsom issued Executive Order N-82-20 to combat the crises in climate change and biodiversity. It instructs state agencies to use existing authorities and resources to identify and implement near- and long-term actions to accelerate natural removal of carbon and build climate resilience in our forests, wetlands, urban greenspaces, agricultural soils, and land conservation activities in ways that serve all communities and in particular low-income, disadvantaged, and vulnerable communities. To support this order, the California Natural Resources Agency released *Natural and Working Lands Climate Smart Strategy Draft* for public comment in October 2021.

Caltrans Activities

Caltrans continues to be involved on the Governor's Climate Action Team as the Air Resources Board works to implement Executive Orders S-3-05 and S-01-07 and help achieve the targets set forth in Assembly Bill 32. Executive Order B-30-15, issued in April 2015, and Senate Bill 32 (2016), set an interim target to cut greenhouse gas emissions to 40 percent below 1990 levels by 2030. The following major initiatives are underway at Caltrans to help meet these targets.

Climate Action Plan for Transportation Investments

The California Action Plan for Transportation Infrastructure builds on executive orders signed by Governor Newsom in 2019 and 2020 targeted at reducing greenhouse gas emissions in transportation, which account for more than 40 percent of all polluting emissions, to reach the state's climate goals. Under the *California Action Plan for Transportation Infrastructure*, where feasible and within existing funding program structures, the state will invest discretionary transportation funds in sustainable infrastructure projects that align with its climate, health, and social equity goals (California State Transportation Agency 2021).

California Transportation Plan

The California Transportation Plan is a statewide, long-range transportation plan to meet our future mobility needs and reduce greenhouse gas emissions. It serves as an umbrella document for all the other statewide transportation planning documents. The California Transportation Plan 2050 presents a vision of a safe, resilient, and universally accessible transportation system that supports vibrant communities, advances racial and economic justice, and improves public and environmental health. The plan's climate goal is to achieve statewide greenhouse gas emissions reduction targets and increase resilience to climate change. It demonstrates how greenhouse gas emissions from the transportation sector can be reduced through advancements in clean fuel technologies; continued shifts toward active travel, transit, and shared mobility; more efficient land use and development practices; and continued shifts to telework (Caltrans 2021a).

Caltrans Strategic Plan

The *Caltrans 2020–2024 Strategic Plan* includes goals of stewardship, climate action, and equity. Climate action strategies include developing and implementing a Caltrans Climate Action Plan; a robust program of climate action education, training, and outreach; partnership and collaboration; a vehicle miles traveled monitoring and reduction program; and engaging with the most vulnerable communities in developing and implementing Caltrans climate action activities (Caltrans 2021b).

Caltrans Policy Directives and Other Initiatives

Caltrans Director's Policy 30 Climate Change (June 22, 2012) established a Department policy to ensure coordinated efforts to incorporate climate change into Departmental decisions and activities. *Caltrans Greenhouse Gas Emissions and Mitigation Report* (Caltrans 2020) provides a comprehensive overview of Caltrans' emissions. The report documents and evaluates current Caltrans procedures and activities that track and reduce greenhouse gas emissions and identifies additional opportunities for further reducing greenhouse gas emissions from Department-controlled emission sources, in support of Departmental and State goals.

Project-Level Greenhouse Gas Reduction Strategies

The following measures will also be implemented in the project to reduce greenhouse gas emissions and potential climate change impacts from the project.

- Truck and equipment idling is limited to five minutes for delivery and dump trucks and other diesel-powered equipment (with some exceptions).
- Schedule truck trips outside of peak morning and evening commute hours.

- Encourage improved fuel efficiency from construction equipment by maintaining equipment in proper working condition, **using the right size** equipment for the job, and using equipment with new technologies.
- Use recycled water for construction.

3.3.5 Adaptation

Reducing greenhouse gas emissions is only one part of an approach to addressing climate change. Caltrans must plan for the effects of climate change on the state's transportation infrastructure and strengthen or protect the facilities from damage. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, variability in storm surges and their intensity, and in the frequency and intensity of wildfires. Flooding and erosion can damage or wash out roads; longer periods of intense heat can buckle pavement and railroad tracks; storm surges combined with a rising sea level can inundate highways. Wildfires can directly burn facilities and indirectly cause damage when rain falls on denuded slopes that landslide after a fire. Effects will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. Accordingly, Caltrans must consider these types of climate stressors in how highways are planned, designed, built, operated, and maintained.

Federal Efforts

Under NEPA assignment, Caltrans is obligated to comply with all applicable federal environmental laws and Federal Highway Administration NEPA regulations, policies, and guidance.

The U.S. Global Change Research Program delivers a report to Congress and the president every 4 years, in accordance with the Global Change Research Act of 1990 (15 U.S. Code Chapter 56A Section 2921 et seq.). The Fourth National Climate Assessment, published in 2018, presents the foundational science and the "human welfare, societal, and environmental elements of climate change and variability for 10 regions and 18 national topics, with particular attention paid to observed and projected risks, impacts, consideration of risk reduction, and implications under different mitigation pathways." Chapter 12, "Transportation," presents a key discussion of vulnerability assessments. It notes that "asset owners and operators have increasingly conducted more focused studies of particular assets that consider multiple climate hazards and scenarios in the context of asset-specific information, such as design lifetime" (U.S. Global Change Research Program 2018).

The U.S. Department of Transportation Policy Statement on Climate Adaptation in June 2011 committed the federal Department of Transportation to "integrate consideration of climate change impacts and adaptation into the planning, operations, policies, and programs of Department of Transportation to ensure that taxpayer resources are invested wisely and that transportation

infrastructure, services, and operations remain effective in current and future climate conditions” (U.S. Department of Transportation 2011).

Federal Highway Administration order 5520 (Transportation System Preparedness and Resilience to Climate Change and Extreme Weather Events, December 15, 2014) established Federal Highway Administration policy to strive to identify the risks of climate change and extreme weather events to current and planned transportation systems. Federal Highway Administration has developed guidance and tools for transportation planning that foster resilience to climate effects and sustainability at the federal, state, and local levels (Federal Highway Administration 2019).

State Efforts

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system. A number of state policies and tools have been developed to guide adaptation efforts.

California’s Fourth Climate Change Assessment (Fourth Assessment) (2018) is the state’s effort to “translate the state of climate science into useful information for action.” It provides information that will help decision makers across sectors and at state, regional, and local scales protect and build the resilience of the state’s people, infrastructure, natural systems, working lands, and waters. The State’s approach recognizes that the consequences of climate change occur at the intersections of people, nature, and infrastructure. The Fourth Assessment reports that if no measures are taken to reduce greenhouse gas emissions by 2021 or sooner, the state is projected to experience a 2.7 to 8.8 degrees Fahrenheit increase in average annual maximum daily temperatures, with impacts on agriculture, energy demand, natural systems, and public health; a two-thirds decline in water supply from snowpack and water shortages that will impact agricultural production; a 77% increase in average area burned by wildfire, with consequences for forest health and communities; and large-scale erosion of up to 67% of Southern California beaches and inundation of billions of dollars’ worth of residential and commercial buildings due to sea level rise (State of California 2018).

Sea level rise is a particular concern for transportation infrastructure in the coastal zone. Major urban airports will be at risk of flooding from sea level rise combined with storm surge as early as 2040; San Francisco airport is already at risk. Miles of coastal highways vulnerable to flooding in a 100-year storm event will triple to 370 by 2100, and 3,750 miles will be exposed to temporary flooding. The Fourth Assessment’s findings highlight the need for proactive action to address these current and future impacts of climate change.

In 2008, then-governor Arnold Schwarzenegger recognized the need when he issued Executive Order S-13-08, focused on sea level rise. Technical reports on the latest sea level rise science were first published in 2010 and updated

in 2013 and 2017. The 2017 projections of sea level rise and new understanding of processes and potential impacts in California were incorporated into the *State of California Sea-Level Rise Guidance Update* in 2018. This executive order also gave rise to the *California Climate Adaptation Strategy* (2009), updated in 2014 as *Safeguarding California: Reducing Climate Risk* (Safeguarding California Plan), which addressed the full range of climate change impacts and recommended adaptation strategies. The Safeguarding California Plan was updated in 2018 and again in 2021 as the *California Climate Adaptation Strategy*, incorporating key elements of the latest sector-specific plans such as the *Natural and Working Lands Climate Smart Strategy*, *Wildfire and Forest Resilience Action Plan*, *Water Resilience Portfolio*, and the California Transportation Plan (described above). Priorities in the 2021 California Climate Adaptation Strategy include acting in partnership with California Native American Tribes, strengthening protections for climate-vulnerable communities that lack capacity and resources, nature-based climate solutions, use of best available climate science, and partnering and collaboration to best leverage resources (California Natural Resources Agency 2021).

Executive Order B-30-15, signed in April 2015, requires state agencies to factor climate change into all planning and investment decisions. This Executive Order recognizes that effects of climate change in addition to sea level rise also threaten California's infrastructure. At the direction of Executive Order B-30-15, the Office of Planning and Research published *Planning and Investing for a Resilient California: A Guidebook for State Agencies* in 2017, to encourage a uniform and systematic approach.

Assembly Bill 2800 (Quirk 2016) created the multidisciplinary Climate-Safe Infrastructure Working Group to help actors throughout the state address the findings of California's Fourth Climate Change Assessment. It released its report, *Paying it Forward: The Path Toward Climate-Safe Infrastructure in California*, in 2018. The report provides guidance to agencies on how to address the challenges of assessing risk in the face of inherent uncertainties still posed by the best available science on climate change. It also examines how state agencies can use infrastructure planning, design, and implementation processes to address the observed and anticipated climate change impacts (Climate Change Infrastructure Working Group 2018).

Caltrans Adaptation Efforts

Caltrans Vulnerability Assessments

Caltrans completed climate change vulnerability assessments to identify segments of the State Highway System vulnerable to climate change effects of precipitation, temperature, wildfire, storm surge, and sea level rise.

The climate change data in the assessments were developed in coordination with climate change scientists and experts at federal, state, and regional

organizations at the forefront of climate science. The findings of the vulnerability assessments guide analysis of at-risk assets and development of Adaptation Priority Reports as a method to make capital programming decisions to address identified risks.

Project Adaptation Analysis

Sea Level Rise

The proposed project is outside the coastal zone and not in an area subject to sea-level rise. Accordingly, direct impacts to transportation facilities due to projected sea-level rise are not expected.

Floodplains Analysis

No portion of the project footprint is within the 100-year floodplain (FEMA flood maps for Tulare, California <https://msc.fema.gov/portal/search?addressquery=tulare%20ca#searchresult> sanchor accessed October 7, 2020, and August 25, 2021).

Wildfire

The project area is located in the San Joaquin Valley many miles away from areas that are vulnerable to wildfire (California Department of Forestry and Fire Protection Local Responsibility Map for Tulare County [2008 draft] https://osfm.fire.ca.gov/media/6832/fhszl06_1_map54.pdf).

Temperature

The District Climate Vulnerability Assessment does not indicate temperature changes during the project's design life that would require adaptive changes in pavement design or maintenance practices.

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Chapter 4 Comments and Coordination

Early and continuing coordination with the general public and public agencies is an essential part of the environmental process. It helps planners determine the necessary scope of environmental documentation and the level of analysis required and to identify potential impacts and avoidance minimization, and/or mitigation measures, and related environmental requirements. Agency and tribal consultation and public participation for this project have been accomplished through a variety of formal and informal methods, including interagency coordination meetings, public meetings, public notices, and Project Development Team meetings. This chapter summarizes the results of Caltrans' efforts to fully identify, address, and resolve project-related issues through early and continuing coordination.

A Notice of Preparation was distributed through the State of California, Governor's Office of Planning and Research, and the State Clearinghouse and Planning Unit electronically and posted on the State of California, Governor's Office of Planning and Research website on April 21, 2021. A copy of the Notice of Preparation was sent to 72 potential interested agencies and parties, per CEQA guidelines. The Notice of Preparation was sent to the California Transportation Commission.

See Chapter 6 Distribution List of the agencies and organizations who were sent copies of the Notice of Preparation. See a copy of the original Notice of Preparation in Appendix D of this document.

Caltrans received a total of six response letters and emails on the project from the following representatives:

- Church of Christ of Tulare
- Leadership Counsel for Justice and Accountability
- Native American Heritage Commission, Santa Rosa Rancheria Tachi Yokut Tribe
- California Department of Fish and Wildlife
- San Joaquin Valley Air Pollution Control District.

The following text describes some of the agencies and community members Caltrans coordinated with through face-to-face meetings, phone calls, and email to research and gather information about the project area and to share information about the project.

Tulare County Association of Governments—The Tulare County Association of Governments is responsible for regional transportation planning. The Tulare County Association of Governments is a policy board composed of 17 members representing the eight cities within Tulare County,

five members of the Tulare County Board of Supervisors, three members at large, and one representative of public transit.

The Tulare County Association of Governments plays a major role in building regional consensus among the region's transit systems. State and federal laws and local tax measures have given the Tulare County Association of Governments an important role in financing numerous transportation improvements. The Tulare County Association of Governments coordinates the countywide sales tax measure, Measure R, which was passed in November 2006. The Tulare County Association of Governments also conducts transportation planning, delivers projects, and manages various transportation programs.

The Tulare County Association of Governments has coordinated with Caltrans to plan this project. Representatives participated in the Project Development Team, which is a multidisciplinary team of managers, engineers, and planners established to problem solve and gather information. The Tulare County Association of Governments has focused mostly on decisions made for the improvements at the Paige Avenue Interchange.

On August 26, 2019, representatives from the Tulare County Association of Governments were part of the discussion on the proposed build alternatives. In the meeting, the Tulare County Association of Governments requested that Caltrans include the Paige Avenue Interchange improvements in the proposed project scope.

City of Tulare Public Works Department—The public works department is responsible for the design, construction, and maintenance of streets, sidewalks, traffic signals, streetlights, trails, public buildings, and landscaping throughout the city.

Staff from the public works department have coordinated with Caltrans to plan this project. Department staff members participate in the multidisciplinary team to problem solve and gather information. They are liaisons who work on behalf of the interests of the city for this project. The city has focused mostly on decisions made for the improvements at the Paige Avenue Interchange.

Tulare County Regional Transit Agency—The Tulare County Regional Transit Agency provides fixed-route, Americans with Disabilities Act complementary paratransit, and on-demand services in the Cities of Dinuba, Exeter, Farmersville, Lindsay, Porterville, Tulare, Woodlake, and the unincorporated areas of Tulare County. The Tulare County Regional Transit Agency is governed by eight Boards of Directors.

Caltrans coordinated with the Tulare County Regional Transit Agency to discuss potential mitigation for vehicle miles traveled by providing funding through city bus services.

Chapter 5 List of Preparers

This document was prepared by the following Caltrans District 6 staff:

Allam Alhabaly, Transportation Engineer. B.S., Civil Engineering, California State University, Fresno; 18 years of environmental technical studies, with emphasis on noise studies. Contribution: Noise Study Report.

Rebecca Ashjian, Associate Environmental Planner. B.S., Forest Resource Conservation, Humboldt State University; 4 years of environmental planning experience. Contribution: Environmental generalist and prepared the Environmental Impact Report/Environmental Assessment.

Myles Barker, Editorial Specialist. B.A., Mass Communication and Journalism, California State University, Fresno; 7 years of writing and editing experience. Contribution: Technical Editor.

Jefferson Birrell, Landscape Associate. B.S. Landscape Architecture, University of California, Davis; 18 years of landscape architecture work on environmental restoration, emphasis on riparian/wetland and oak woodland restoration.

Brian Clerico, Transportation Engineer. M.S., Chemistry, California State University, Fresno; 20 years of air quality experience. Contribution: Air Study Report.

Ezekiel Currier, Environmental Planner (Natural Sciences). B.S., Biology (Ecology and Biodiversity), Humboldt State University, Arcata; 7 years of botany and biology experience. Contribution: Natural Environment Study-Minimal Impact.

Christina Gaddis, Associate Environmental Planner, Archaeologist. M.A., Theological Studies, Vanguard University of Southern California, Costa Mesa; B.A., Anthropology, Vanguard University of Southern California; 16 years of both archaeological and cultural resource management experience. Contribution: Historic Property Survey Report and Archaeological Survey Report

Maya Jean Hildebrand-Garcia, Associate Environmental Planner (Air Quality Coordinator). B.S., Geology, Utah State University; 5 years of experience in air quality analysis and 4 years of experience in combined geological/environmental hazards. Contribution: Air Quality.

Rogerio Leong, Engineering Geologist. B.S., Geology, University of Sao Paulo, Brazil; 18 years of environmental site assessment and investigation experience. Authored and co-authored several Remedial

Investigation/Feasibility Study Reports for Superfund contaminated sites. Contributions: Water Quality Compliance Study.

Michelle Maggi, Landscape Associate. B.S. Landscape Architecture, California Polytechnic State University, San Luis Obispo, 24 years of experience in landscape architecture. Contribution: Visual Impact Assessment.

David Meyers, Audio Visual Specialist. B.A., Fine Arts/Music, California State University, Fresno; A.A., Liberal Studies, College of the Sequoias, Visalia; more than 25 years of visual design, public participation, multimedia, and fine arts/music experience. Contribution: Graphics.

Kai Pavel, Engineering Geologist. Professional Geologist. M.A., Geography, Geology, Heinrich Heine University Dusseldorf, Germany; 14 years of experience in hazardous waste/materials, water quality, and environmental technical studies. Contributions: Paleontological Study.

Som Phongsavanh, Associate Environmental Planner. B.S., Biology/Physiology, California State University, Fresno; 18 years of environmental planning experience. Contributions: Assisted in preparation of the Environmental Impact Report/Environmental Assessment.

Lea Spann, Engineering Geologist. B.A., Environmental Studies, University of California, Santa Barbara; over 20 years of hazardous waste/materials experience and 6 years of environmental planning experience. Contributions: Hazardous Waste Study

Kyle Singh, GIS Coordinator. B.A., City Planning, California State University, Fresno; 27 years of experience in Geographic Information Systems. Contribution: Environmental Justice Map.

Jennifer H. Taylor, Environmental Office Chief. Double Bachelor of Arts in Political Studies and Organizational Sciences, Pitzer College; more than 30 years of experience in environmental and land use planning. Contribution: Oversight review of the environmental document.

Juergen Vespermann, Senior Environmental Planner. Civil Engineering, Fachhochschule Muenster, Germany; more than 30 years of experience in transportation planning/environmental planning. Contribution: Environmental Manager.

Chapter 6 Distribution List

Local Government

Rob A., Hunt, City Manager, City of Tulare, 411 East Kern Avenue, Tulare, California 93274

Michael W., Miller, PE, City Engineer, City of Tulare, 411 East Kern Avenue, Tulare, California 93274

Luis, Nevarez, Fire Chief, City of Tulare, 800 South Blackstone Street, Tulare, California 93274

Craig, Miller, Community Services Director, City of Tulare, 830 S. Blackstone Street, Tulare, California 93274

Mario, Anaya, Principal Planner, City of Tulare, 411 East Kern Avenue, Tulare, California 93274

Wes, Hensley, Police Chief, City of Tulare, 260 South M Street, Tulare, California 93274

Richard, Lujan, Airport Operations Manager, City of Tulare, 3981 South K Street, Tulare, California 93274

Trisha, Whitfield, Public Works Director, City of Tulare, 3981 South K Street, Tulare, California 93274

Stephen, Harrell, Councilmember, District 3, City of Tulare, 411 East Kern Avenue, Tulare, California 93274

Dennis A., Mederos, Councilmember District 4, City of Tulare, 411 East Kern Avenue, Tulare, California 93274

Patrick, Isherwood, Councilmember District 5, City of Tulare, 411 East Kern Avenue, Tulare, California 93274

Tony, Rodriguez, Superintendent, Tulare Joint Union High School District, 426 North Blackstone Street, Tulare, California 93274

Brian, Hollingshead, Superintendent, Tulare City School District, 6000 North Cherry Street, Tulare, California 93274

Pete Vander Poel III, Tulare County Supervisor, 2800 West Burrel Avenue, Visalia, California 93291

Charlie, Norman, Fire Chief, Tulare County Fire Department, 835 South Akers Street, Visalia, California 93277

Andrew, Lockman, Manager, Tulare County Office of Emergency Services, 5957 South Mooney Boulevard, Visalia, California 93277

Roland P., Hill, Clerk-Recorder, Tulare County, 221 South Mooney Boulevard, Courthouse Room 105, Visalia, California 93291

Reed, Schenke, Director, Tulare County Resource Management Agency, 5961 South Mooney Boulevard, Visalia, California 93277

Theodore, Smalley, Executive Director, Tulare County Association of Governments, 210 North Church Street, Suite B, Visalia, California 93291

Samir, Sheikh, Executive Director, San Joaquin Valley Air Pollution Control District, 1990 East Gettysburg Avenue, Fresno, California 93726

Tashia, Clemons, Director, Planning and Environment, Federal Highway Administration, 650 Capitol Mall, Suite 4-100, Sacramento, California 95814

U.S. Fish and Wildlife Service, 2800 Cottage Way, Sacramento, California 95825

Ashley, Werner, Attorney, Leadership Counsel for Justice and Accountability, 2210 San Joaquin Street, Fresno, California 93721

Tulare Irrigation District, 6826 Avenue 240, Tulare, California 93274

Prithi Paul, Singh, 1297 East Paige Avenue, Tulare, California 93274

Courtney & Hazel, Roche, 22674 Road 148, Tulare, California 93274

Love's Travel Stop, 2700 South Blackstone Street, Tulare, California 93274

Ridenour Enterprises, Incorporated 3239 West Ashlan Avenue, Fresno, California 93722

Robert West & Richard T. Bender, 283 East Estate Drive, Tulare, California 93274

Scott, Wilbourn, Wilbourn LLC, 1101 Security Court, Tulare, California 93274

Security Court Realty, 1100 Security Court, Tulare, California 93274

Philip M. & Jesslyn C. Santos, 5516 West Judy Avenue, Visalia, California 93277

Phelps & Santos Family LP, 2473 Presidential Drive, Tulare, California 93274

Oleta, Gomes, 1019 North Manor Drive, Tulare, California 93274

Abbona Family LP, 15236 Hawthorn Avenue, Chino Hills, California 91709

Faria Family II LP, P. O. Box 1137, Tipton, California 93272

Surinder Singh and Jasvir K. Kang, 1301 East Paige Avenue, Tulare, California 93274

Flying J Travel Center, 979 East Paige Avenue, Tulare, California 93274

Southern California Edison, 2425 South Blackstone Street, Tulare, California 93274

Tulare Inn Mobile Home Park, 636 Lakemead Way, Emerald Hills, California 94062

Tulare Inn Mobile Home Park, 1401 East Paige Avenue, Tulare, California 93274

John, Duron, Manager, Tulare Mobile Home Park, 320 North Blackstone Street, Tulare, California 93274

Tulare Mobile Home Park LLC, 3511 Del Paso Road, Suite 160, Sacramento, California 95835

JCH Family LP, 5917 West Elowin Drive, Visalia, California 93291

Luis and Maria Almodovar, 14619 Clark Avenue, Bellflower, California 90706

RNK Enterprises LLC, 2006 West Prosperity Avenue, Tulare, California 93274

Carol C. Coelho, 1200 North Margaret Street, Tulare, California 93274

Willard William Wilkins, 139 South Salida Place, Tulare, California 93274

Vincent G., Hovannisian, P.O. Box 3665, Fresno, California 93650

Frank, Arano, 1628 East Burton Avenue, Tulare, California 93274

Dana, Brummer, 1293 East Sequoia Avenue, Tulare, California 93274

Jorge, Molina, 339 South Dayton Street, Tulare, California 93274

Saputo Cheese, 800 East Paige Avenue, Tulare, California 93274

United Truck Service and Wash, 2811 South Blackstone Street, Tulare, California 93274

Seventh-Day Adventist Church, 494 North Blackstone Street, Tulare, California 93274

Tulare Church of Christ, 500 North Blackstone Street, Tulare, California 93274

Jesus Arambula & Damariz Mendoza Leon, 16613 Millwood Way, Bakersfield, California 93314

Darlene, Franco, Chairperson, Wukchumni Tribal Council, P.O Box 6576, Visalia, California 93291

Kenneth, Woodrow, Chairperson, Eshom Valley Band of Indians/Wuksachi Indian Community, 1179 Rockhaven Court, Salinas, California 93906

Julie, Turner, Secretary, Kern Valley Indian Council, P.O Box 1010, Lake Isabella, California 93240

Robert, Gomez Jr., Chairman, Tubatulabal of Kern County, P.O. Box 226, Lake Isabella, California 93240

Neil, Peyron, Chairman, Tule River Indian Tribe, P.O. Box 589, Porterville, California 93258

Octavio, Escobedo III, Chair, Tejon Indian Tribe, P.O. Box 640, Arvin, California 93203

Leo, Sisco, Chairperson, Santa Rosa Indian Community of the Santa Rosa Rancheria, P.O. Box 8, Lemoore, California 93245

Brenda, Lavall, Chairperson, Table Mountain Rancheria, P.O. Box 410, Friant, California 93626

Elected Officials

Devon J., Mathis, The Honorable, California State Assemblyman, 26th District, State Assemblyman, 100 West Willow Plaza, Suite 405, Visalia, California 93291

Dianne, Feinstein, The Honorable, U.S. Senator, Senator, 2500 Tulare Street, Suite 4290, Fresno, California 93721

Alex, Padilla, The Honorable, U.S. Senator, Senator, 2500 Tulare Street, Suite 5290, Fresno, California 93721

Devin, Nunes, The Honorable, U.S. House of Representatives, Congressman, 22nd, 113 North Church Street, Suite 208, Visalia, California 93291

Tribes

Tule River Indian Tribe, Kerri, Vera, Director, P.O. Box 589, Porterville, California 93258

Tule River Indian Tribe, William, Garfield, Chairperson, P.O. Box 589, Porterville, California 93258

Tule River Indian Tribe, Joey, Garfield, Tribal Archaeologist, P.O. Box 589, Porterville, California 93258

Santa Rosa Rancheria-Tachi Yokut Tribe, Shana, Powers, Director, 16998 Kent Ave., Lemoore, California 93245

Santa Rosa Rancheria-Tachi Yokut Tribe, Leo, Sisco, Chairperson, P.O. Box 8, Lemoore, California 93245

Wuksache Indian Tribe/Eshom Valley Band, Kenneth, Woodrow, Chairperson, 1179 Rock Haven Ct, Salinas, California 93906

Wukchumni Tribe, Darlene, Franco, Chairperson, 4737 West Concord Ave., Visalia, California 93277

Big Sandy Rancheria of Western Mono Indians, Elizabeth, Kipp, Chairperson, P.O. Box 337, Auberry, California 93602

Kern Valley Indian Community, Brandy, Kendricks, 30741 Foxridge Court, Tehachapi, California 93561

Kern Valley Indian Council/Community, Julie, Turner, Secretary, P.O. Box 1010, Lake Isabella, California 93240

Kern Valley Indian Council/Community, Robert, Robinson, Chairperson, P.O. Box 1010, Lake Isabella, California 93240

Library Plus News

Tulare Public Library, 475 North M Street, Tulare, California 93274

Tulare Advance-Register, 330 North West Street, Visalia, California 93291

Appendix A Section 4(f)

Resources Evaluated Relative to the Requirements of Section 4(f): No-Use Determinations

Section 4(f) of the Department of Transportation Act of 1966, codified in federal law at 49 U.S. Code 303, declares that “it is the policy of the U.S. Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites.”

This section of the document discusses parks, recreational facilities, wildlife refuges, and historic properties found within or next to the project area that do not trigger Section 4(f) protection because 1) they are not publicly owned, 2) they are not open to the public, 3) they are not eligible historic properties or 4) the project does not permanently use the property and does not hinder the preservation of the property.

Properties Not Protected by Section 4(f)

Tulare Pedestrian Overcrossing (Caltrans Bridge Number 46-0040)

The Tulare Pedestrian Overcrossing (Caltrans Bridge Number 46-0040) is a modified railroad bridge. This structure, which formerly belonged to the Santa Fe Railroad, has been determined to be not eligible for the National Register of Historic Places. Therefore, the property is not a Section 4(f) property, and the provisions of Section 4(f) do not apply.

Properties Protected by Section 4(f)

Elk Bayou Regional Park

Elk Bayou Regional Park is within the City of Tulare and is part of its park system. Therefore, the property is a Section 4(f) property. However, the park would not be affected by the project, so there would be no “use” of this Section 4(f) resource. Therefore, the provisions of Section 4(f) do not apply.

Tulare Santa Fe Trail Park

The Tulare Santa Fe Trail Park is part of the city’s park system. Section 4(f) applies because the affected area meets the criteria of a park or recreation area because it is publicly owned, open to the public, its major purpose is for recreation, and it is a significant recreation area. The proposed construction will affect this resource.

During construction, one side of the trail crossing State Route 99 would remain open to the public at all times. The other side would be sectioned off

to construct the security fence. The work involved near the trail would include soil excavation to install footings for the posts and the use of machinery, such as a Bobcat, with forks to lift fence panels into place. Other impacts include removing vegetation and temporary noise and dust impacts. Vegetation that is removed will be replaced, and the area affected will be returned to its original state or better. The duration of work adjacent to the Santa Fe Trail would require one side of the trail to be temporarily closed and the other side to remain open for the public. The work in the trail would last for approximately two weeks and would be intermittent during this time frame.

Temporary construction easements would be needed from the property to construct the security fencing that would adjoin the Tulare Pedestrian Overcrossing at its trail approaches. Types of walls or fencing under consideration are either concrete panel walls or concrete block walls with wrought iron fencing to be placed near the trail at the request of the City Parks Manager. Although the fence or wall would be within Caltrans' right-of-way, workers and heavy equipment would need to access the park side of the structure to construct it. However, this project is not expected to permanently “use” park facilities as defined by Section 4(f).

Caltrans anticipates that the temporary impacts to the Tulare Santa Fe Trail would meet the criteria of “temporary occupancy” described below.

If the following five conditions set forth in 23 CFR 774.13(d) can be satisfied, Section 4(f) will not apply:

- Duration of occupancy must be temporary, i.e., less than the time needed for construction of the project, and there should be no change in ownership of the land;
- Scope of the work must be minor, i.e., both the nature and magnitude of the changes to the 4(f) resource must be minimal;
- There are no anticipated permanent adverse physical impacts, nor will there be interference with the activities or purposes of the resource, on either a temporary or permanent basis;
- The land being used must be fully restored, i.e., the resource must be returned to a condition which is at least as good as that which existed before the project, and;
- There must be documented agreement of the appropriate federal, state, or local officials having jurisdiction over the resource regarding the above conditions.

Caltrans has determined the work to be minor in scope and would not constitute “use” of the park after taking into account avoidance, minimization, and/or mitigation measures and because there is no net effect or no adverse effect to the Section 4(f) resource.

Caltrans contacted the City of Tulare Parks and Recreation Department on October 14, 2021, to initiate coordination between the city and Caltrans regarding the Section 4(f) coordination process. A summary of Caltrans' coordination with the City of Tulare Parks and Recreation Department is as follows:

- October 14, 2021: Caltrans called City of Tulare Parks Manager Ivan Nicari to confirm that he is the primary contact for any decisions regarding the trail facility and that information regarding Caltrans' security wall proposal would be emailed.
- November 5, 2021: A fact sheet with information about Section 4(f), the security wall proposal, and mapping was emailed to Mr. Nicari to review. Caltrans also requested to meet with Mr. Nicari.
- November 9, 2021, Caltrans received an email reply from Mr. Nicari indicating that the City of Tulare Parks and Recreation Department preferred the wrought iron fence option to keep visibility as open as possible and that Caltrans' request for construction easements would be accommodated.
- November 19, 2021: Caltrans held a Microsoft Teams virtual meeting with Mr. Nicari to discuss any concerns regarding the security fence proposal. He expressed the city's desire for the wrought iron fence to be installed near the trail. Caltrans confirmed with Mr. Nicari that the project would be able to accommodate the city's preference for a wrought iron fence. Caltrans will send a letter to Mr. Nicari to request written concurrence that the proposed impacts to the trail park do not constitute "use" as defined in 23 CFR 774.13(d) of the Section 4(f) policy.
- December 10, 2021: Caltrans emailed a letter to Mr. Nicari summarizing Caltrans' Section 4(f) coordination effort. The letter requested written concurrence that the proposed impacts to the Santa Fe Trail park do not constitute "use" as defined in 23 CFR 774.13(d) of the Section 4(f) policy.
- December 14, 2021: Caltrans received written concurrence from Mr. Nicari (see letter below).

CALIFORNIA STATE TRANSPORTATION AGENCY

GAVIN NEWSOM, GOVERNOR

California Department of Transportation

DISTRICT 6 MANCHESTER OFFICE
2015 EAST SHIELDS AVENUE, SUITE A-100
FRESNO, CA 93726-5428
(559) 832-0051 | FAX 559-445-6236 | TTY 711
www.dot.ca.gov



December 10, 2021

Mr. Ivan Nicari
Park Manager
City of Tulare/Community Services/Parks & Recreation
830 South Blackstone
Tulare, CA 93274

Dear Mr. Nicari:

Caltrans proposes to install a security fence along the state right of way as part of the State Route 99 Tulare City Widening project in the city of Tulare. The Santa Fe Trail has been determined to be a resource that is protected by the U.S. Department of Transportation Act of 1966 or Section 4(f), codified as law in title 49 U.S.C. Section 303 and 23 U.S.C. Section 138. The proposed construction will affect this resource.

Section 4(f) applies because the affected area meets the criteria of a park or recreation area because it is publicly owned, open to the public, its major purpose is for recreation, and it is a significant recreation area.

The security wall construction will require temporary closure of the Santa Fe Trail crossing over State Route 99 to protect public safety due to the egress and ingress of earth-moving equipment. The work involved near the trail includes soil excavation to install footings for the posts and use of machinery such as a Bobcat with forks to lift fence panels into place. Other impacts include removal of vegetation and temporary noise and dust impacts. Vegetation that is removed will be replaced and the area affected will be returned to its original state or better. The duration of work adjacent to the Santa Fe Trail requiring its temporary closure would be intermittent and not continuous for approximately 2 weeks.

Caltrans has determined the work to be minor in scope after taking into account avoidance, minimization, and mitigation measures and because there is no net effect or no adverse effect to the Section 4(f) resource. A map of the proposed work near the trail is enclosed.

The work proposed would not constitute "use" of the resource because it is temporary, minor, and would not cause adverse changes to the park facility. To satisfy the provisions of a no "use" temporary occupancy as defined in 23 CFR 774.13(d) of the Section 4(f) policy, the following conditions must apply:

"Provide a safe and reliable transportation network that serves all people and respects the environment"

Mr. Ivan Nicar, Parks Manager

December 10, 2021

Page 2

- The land use is of short duration (defined as less than the time needed for the construction of the project).
- There is no change in ownership of the land.
- The scope of work is minor.
- There are no anticipated permanent adverse physical impacts.
- The land must be fully restored to a condition at least as good as prior to the project.
- There must be documented agreement of the appropriate official(s) having jurisdiction over the resource regarding the above conditions.

Caltrans held a Microsoft Teams virtual meeting with you on November 19, 2021, to discuss any concerns regarding the security fence proposal. The city is amenable to granting temporary construction easements for the security wall installation. You also expressed the city's preference for a wrought iron fence to be installed near the trail to keep visibility as open as possible. Caltrans confirmed that the project would be able to accommodate the city's preference for a wrought iron fence near the trail area.

Caltrans is requesting written concurrence that the proposed impacts to the Santa Fe Trail park do not constitute "use" as defined in 23 CFR 774.13(d) of the Section 4(f) policy. Indicate your concurrence by signing below. Please make a copy of the signed letter for your records and return the original letter to me by January 10, 2022. A non-response from you will automatically be deemed a non-concurrence.


Ivan Nicar
Park Manager
City of Tulare/Community Services/Parks & Recreation

12/14/2021
Date

"Provide a safe and reliable transportation network that serves all people and respects the environment"

Mr. Ivan Nicar, Parks Manager
December 10, 2021
Page 3

If you have any questions or concerns, please contact me at (559) 832-0051 or Som Phongsavanh, Associate Environmental Planner, at (559) 246-8601 or by e-mail to som.phongsavanh@dot.ca.gov.

Sincerely,



JUERGEN VESPERMANN
Senior Environmental Planner

Enclosure

c: Eric Karlson, Project Manager, Program/Project Management, Caltrans
Peter Chander, Project Engineer, District 6 Design, Caltrans

"Provide a safe and reliable transportation network that serves all people and respects the environment!"



Appendix B Title VI Policy Statement

CALIFORNIA STATE TRANSPORTATION AGENCY

GAVIN NEWSOM, GOVERNOR

California Department of Transportation

OFFICE OF THE DIRECTOR
P.O. BOX 942873, MS-49 | SACRAMENTO, CA 94273-0001
(916) 654-6130 | FAX (916) 653-5776 TTY 711
www.dot.ca.gov



September 2022

NON-DISCRIMINATION POLICY STATEMENT

The California Department of Transportation, under Title VI of the Civil Rights Act of 1964, ensures *"No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance."*

Caltrans will make every effort to ensure nondiscrimination in all of its services, programs and activities, whether they are federally funded or not, and that services and benefits are fairly distributed to all people, regardless of race, color, or national origin. In addition, Caltrans will facilitate meaningful participation in the transportation planning process in a non-discriminatory manner.

Related federal statutes, remedies, and state law further those protections to include sex, disability, religion, sexual orientation, and age.

For information or guidance on how to file a complaint, or obtain more information regarding Title VI, please contact the Title VI Branch Manager at (916) 639-6392 or visit the following web page: <https://dot.ca.gov/programs/civil-rights/title-vi>.

To obtain this information in an alternate format such as Braille or in a language other than English, please contact the California Department of Transportation, Office of Civil Rights, at PO Box 942874, MS-79, Sacramento, CA 94274-0001; (916) 879-6768 (TTY 711); or at Title.VI@dot.ca.gov.

A handwritten signature in black ink, appearing to read 'Tony Tavares', is written over a horizontal line.

TONY TAVARES
Director

"Provide a safe and reliable transportation network that serves all people and respects the environment"

Appendix C Summary of Relocation Benefits

California Department of Transportation Relocation Assistance Program

RELOCATION ASSISTANCE ADVISORY SERVICES

DECLARATION OF POLICY

“The purpose of this title is to establish a ***uniform policy for fair and equitable treatment*** of persons displaced as a result of federal and federally assisted programs in order that such persons ***shall not suffer disproportionate injuries*** as a result of programs designed for the benefit of the public as a whole.”

The Fifth Amendment to the U.S. Constitution states, “No Person shall...be deprived of life, liberty, or property, without due process of law, nor shall private property be taken for public use without just compensation.” The Uniform Act sets forth, in statute, the due process that must be followed in Real Property acquisitions involving federal funds. Supplementing the Uniform Act is the government-wide single rule for all agencies to follow, set forth in 49 Code of Federal Regulations Part 24. Displaced individuals, families, businesses, farms, and nonprofit organizations may be eligible for relocation advisory services and financial benefits, as discussed below.

FAIR HOUSING

The Fair Housing Law (Title VIII of the Civil Rights Act of 1968) sets forth the policy of the U.S. to provide, within constitutional limitations, for fair housing. This act and as amended, makes discriminatory practices in the purchase and rental of most residential units illegal. Whenever possible, minority persons shall be given reasonable opportunities to relocate to any available housing regardless of neighborhood, as long as the replacement dwellings are decent, safe, and sanitary and are within their financial means. This policy, however, does not require Caltrans to provide a person with a larger payment than is necessary to enable a person to relocate to a comparable replacement dwelling.

Any persons to be displaced will be assigned to a relocation advisor, who will work closely with each displacee to see that all payments and benefits are fully utilized and that all regulations are observed, thereby avoiding the possibility of displacees jeopardizing or forfeiting any of their benefits or payments. At the time of the initiation of negotiations (usually the first written offer to purchase), owner-occupants are given a detailed explanation of the state’s relocation services. Tenant occupants of properties to be acquired are contacted soon after the initiation of negotiations and also are given a

detailed explanation of the Caltrans Relocation Assistance Program. To avoid loss of possible benefits, no individual, family, business, farm, or nonprofit organization should commit to purchasing or renting a replacement property without first contacting a Caltrans relocation advisor.

RELOCATION ASSISTANCE ADVISORY SERVICES

In accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, Caltrans will provide relocation advisory assistance to any person, business, farm, or nonprofit organization displaced as a result of the acquisition of real property for public use, so long as they are legally present in the U.S.. Caltrans will assist eligible displacees in obtaining comparable replacement housing by providing current and continuing information on the availability and prices of both houses for sale and rental units that are “decent, safe, and sanitary.” Nonresidential displacees will receive information on comparable properties for lease or purchase (for business, farm, and nonprofit organization relocation services, see below).

Residential replacement dwellings will be in a location generally not less desirable than the displacement neighborhood at prices or rents within the financial ability of the individuals and families displaced and reasonably accessible to their places of employment. Before any displacement occurs, comparable replacement dwellings will be offered to displacees that are open to all persons regardless of race, color, religion, sex, or national origin and consistent with the requirements of Title VIII of the Civil Rights Act of 1968. This assistance will also supply information concerning federal- and state-assisted housing programs and any other known services being offered by public and private agencies in the area.

Persons who are eligible for relocation payments and who are legally occupying the property required for the project will not be asked to move without first being given at least 90 days written notice. Residential occupants eligible for relocation payment(s) will not be required to move unless at least one comparable “decent, safe, and sanitary” replacement dwelling available on the market is offered to them by Caltrans.

RESIDENTIAL RELOCATION FINANCIAL BENEFITS

The Relocation Assistance Program will help eligible residential occupants by paying certain costs and expenses. These costs are limited to those necessary for or incidental to the purchase or rental of a replacement dwelling and actual reasonable moving expenses to a new location within 50 miles of the displacement property. Any actual moving costs in excess of the 50 miles are the responsibility of the displacee. The Residential Relocation Assistance Program can be summarized as follows:

Moving Costs

Any displaced person, who lawfully occupied the acquired property, regardless of the length of occupancy in the property acquired, will be eligible for reimbursement of moving costs. Displacees will receive either the actual reasonable costs involved in moving themselves and personal property up to a maximum of 50 miles or a fixed payment based on a fixed moving cost schedule. Lawful occupants who move into the displacement property after the initiation of negotiations must wait until Caltrans obtains control of the property to be eligible for relocation payments.

Purchase Differential

In addition to moving and related expense payments, fully eligible homeowners may be entitled to payments for increased costs of replacement housing.

Homeowners who have owned and occupied their property for 90 days or more before the date of the initiation of negotiations (usually the first written offer to purchase the property), may qualify to receive a price differential payment and may qualify to receive reimbursement for certain nonrecurring costs incidental to the purchase of the replacement property. An interest differential payment is also available if the interest rate for the loan on the replacement dwelling is higher than the loan rate on the displacement dwelling, subject to certain limitations on reimbursement based upon the replacement property interest rate.

Rent Differential

Tenants and certain owner-occupants (based on length of ownership) who have occupied the property to be acquired by Caltrans before the date of the initiation of negotiations may qualify to receive a rent differential payment. This payment is made when Caltrans determines that the cost to rent a comparable “decent, safe, and sanitary” replacement dwelling will be more than the present rent of the displacement dwelling. As an alternative, the tenant may qualify for a down payment benefit designed to assist in the purchase of a replacement property and the payment of certain costs incidental to the purchase, subject to certain limitations noted under the *Down Payment* section below.

To receive relocation benefits, the displaced person must buy or rent and occupy a “decent, safe and sanitary” replacement dwelling within one year from the date Caltrans takes legal possession of the property or from the date the displacee vacates the displacement property, whichever is later.

Down Payment

The down payment option has been designed to aid owner-occupants of less than 90 days and tenants in legal occupancy before Caltrans' initiation of negotiations. The one-year eligibility period in which to purchase and occupy a "decent, safe and sanitary" replacement dwelling will apply.

Last Resort Housing

Federal regulations (49 CFR 24) contain the policy and procedure for implementing the Last Resort Housing Program on Federal-aid projects. Last Resort Housing benefits are, except for the amounts of payments and the methods in making them, the same as those benefits for standard residential relocation as explained above. Last Resort Housing has been designed primarily to cover situations where a displacee cannot be relocated because of a lack of available comparable replacement housing, or when the anticipated replacement housing payments exceed the limits of the standard relocation procedure, because either the displacee lacks the financial ability or other valid circumstances.

After the initiation of negotiations, Caltrans will, within a reasonable length of time, personally contact the displacees to gather important information, including the following:

- Number of people to be displaced.
- Specific arrangements needed to accommodate any family member(s) with special needs.
- Financial ability to relocate into a comparable replacement dwelling that will adequately house all members of the family.
- Preferences in area of relocation.
- Location of employment or school.

NONRESIDENTIAL RELOCATION ASSISTANCE

The Nonresidential Relocation Assistance Program provides assistance to businesses, farms, and nonprofit organizations in locating suitable replacement property and reimbursement for certain costs involved in relocation. The Relocation Advisory Assistance Program will provide current lists of properties offered for sale or rent, suitable for a particular business's specific relocation needs. The types of payments available to eligible businesses, farms, and nonprofit organizations are searching and moving expenses, and possibly reestablishment expenses, or a fixed in lieu payment instead of any moving, searching, and reestablishment expenses. The payment types can be summarized as follows:

Moving Expenses

Moving expenses may include the following actual, reasonable costs:

- The moving of inventory, machinery, equipment, and similar business-related property, including dismantling, disconnecting, crating, packing, loading, insuring, transporting, unloading, unpacking, and reconnecting of personal property. Items identified as real property may not be moved under the Relocation Assistance Program. If the displacee buys an item pertaining to the Realty back at salvage value, the cost to move that item is borne by the displacee.
- Loss of tangible personal property provides payment for actual, direct loss of personal property that the owner is permitted not to move.
- Expenses related to searching for a new business site, up to \$2,500, for reasonable expenses actually incurred.

Reestablishment Expenses

Reestablishment expenses related to the operation of the business at the new location, up to \$25,000 for reasonable expenses actually incurred.

Fixed In Lieu Payment

A fixed payment in lieu of moving, searching, and reestablishment payments may be available to businesses that meet certain eligibility requirements. This payment is an amount equal to half the average annual net earnings for the last two taxable years before the relocation and may not be less than \$1,000 or more than \$40,000.

ADDITIONAL INFORMATION

Reimbursement for moving costs and replacement housing payments are not considered income for the purpose of the Internal Revenue Code of 1954 or for the purpose of determining the extent of eligibility of a displacee for assistance under the Social Security Act or any other law, except for any federal law providing local "Section 8" Housing Programs.

Any person, business, farm, or nonprofit organization that has been refused a relocation payment by a Caltrans relocation advisor or believes that the payment(s) offered by the agency are inadequate may appeal for a special hearing of the complaint. No legal assistance is required. Information about the appeal procedure is available from the relocation advisor.

California law allows for the payment for lost goodwill that arises from the displacement of a public project. A list of ineligible expenses can be obtained from the Caltrans Division of Right of Way and Land Surveys. California's law and the federal regulations covering relocation assistance provide that no

payment shall be duplicated by other payments being made by the displacing agency.

Appendix D Avoidance, Minimization and/or Mitigation Measures Summary

Traffic and Transportation/Pedestrian and Bicycle Facilities

Traffic and Transportation/Transit

Construction of the Paige Avenue Interchange and the roundabout would require the closure of the existing Paige Avenue between Blackstone Street and Laspina Street. The proposed detour would be through the new Commercial Avenue Interchange, which would be constructed between Paige Avenue and Avenue 200 and would be open to traffic by the time the Tulare Six-Lane and Paige Avenue Interchange Improvement project is in construction.

A Transportation Management Plan would be developed for the project. The plan would include public information, motorist information, incident management, construction, demand management, and alternate routes or detours.

Vehicle Miles Traveled

Tulare County Regional Transit Agency Vanpool Program

Caltrans would provide \$432,000 in funding to subsidize the vanpool program at the Tulare County Regional Transit Agency for five years. Caltrans' funding would subsidize the addition of 30 vanpools to the existing program in the first year and 15 vanpools to the program in the second year.

Increase Frequency on Tulare County Area Transit Route 20

Caltrans would provide five years of funding in the amount of \$1,500,000 to subsidize the round-trip bus service for Route 20 on the Tulare County Area Transit.

Increase Frequency on Tulare County Area Transit Route 40

Caltrans would provide five years of funding in the amount of \$1,500,000 to subsidize the round-trip bus service for Route 40 on the Tulare County Area Transit.

Increase Frequency on Tulare County Area Transit Route 11x

Caltrans would provide five years of funding of \$1,250,000 to subsidize round-trip bus service for Route 11x on the Tulare County Area Transit.

Comprehensive Corridor Management Plan

As discussed in Chapter 1, Caltrans Districts 6, 10, and 3 will collaborate with the local agencies in the San Joaquin Valley to prepare the Comprehensive Multimodal Corridor Plan, which will include the prioritization of identifying managed lane and mode shift opportunities in the corridor that will lead to reduced vehicle miles traveled.

Visual

The following measures to avoid or minimize visual impacts can be incorporated into the project:

- Minimize tree removal by removing only trees and shrubs required for the construction of the new roadway facilities. Avoid removing trees and shrubs for temporary uses, such as construction staging areas or temporary stormwater conveyance systems.

The following mitigation measures to offset visual impacts would be incorporated into the project.

- Replacement planting will occur at a 1-1 ratio for all vegetation removed. It is estimated that over a thousand trees would be replaced or replanted. The locations of the planting may occur at the proposed stormwater basin sites and the area where State Route 99 will be realigned at post mile 25.8.

Paleontology

A Paleontological Mitigation Plan would be prepared before construction by a Caltrans-supplied consultant. The plan would recommend the measures required to minimize potential impacts on paleontological resources. The mitigation measures would include:

- Identifying and acknowledging construction site safety protocols.
- Conducting paleontological Worker Environmental Awareness Training for all earth-moving personnel and supervisors.
- Conducting mitigation field monitoring of excavation into undisturbed sediments of the Modesto and Riverbank Formations. Excavations from 1 to 3 feet below the ground surface would be spot-checked. Continuous or full-time monitoring is required for excavations greater than 3 feet.
- Establishing a protective 25-foot radius buffer zone around fossil discovery locations.
- Processing bulk soil samples for microfossil identification.
- Curating salvaged fossils at a receiving museum or academic institution.

- Preparing a Paleontological Mitigation Report following completion of all paleontological monitoring activities, documenting compliance with all mitigation measures.

Hazardous Waste and Materials

Avoidance and minimization measures for the project would include:

- A lead compliance plan and an asbestos compliance plan would be required to be prepared by the contractor before the start of construction.
- Project-specific special provisions and/or nonstandard special provisions would be included in the construction contract to address proper handling and disposal of hazardous waste and to minimize exposure to the potential hazards.

Noise

- Construct two soundwalls within the project limits for noise abatement. The construction of these walls may change based on input received from the public. If conditions have substantially changed during final design, noise abatement may not be constructed.

Construction Noise

The following are possible control measures that can be implemented to minimize noise disturbances in sensitive areas during construction.

- All equipment shall have sound-control devices no less effective than those provided on the original equipment.
- Each internal combustion engine used for any purpose on the job or related to the job shall be equipped with a muffler of a type recommended by the manufacturer. No internal combustion engine should be operated on the job site without an appropriate muffler.
- Construction methods or equipment that will provide the lowest level of noise impacts should be used.
- Idling equipment shall be turned off.
- Truck loading, unloading, and hauling operations shall be restricted so that noise and vibration are kept to a minimum through residential neighborhoods to the greatest extent possible.

The contractor would be required to adhere to the following administrative noise control measures:

- Once details of construction activities become available, the contractor shall work with local authorities to develop an acceptable approach to minimize interference with the business and residential communities, traffic disruptions, and for the total duration of the construction.

- Good public relations shall be maintained with the community to minimize objections to unavoidable construction impacts. Frequent activity updates of all construction activities shall be provided. A construction noise monitoring program to track sound levels and limit the impacts shall be implemented.
- In case of construction noise complaints by the public, the resident engineer shall coordinate with the construction manager, and the specific noise-producing activity may be changed, altered, or temporarily suspended, if necessary.

The following measures would be used to minimize potential impacts from construction vibration:

- Restrict the hours of vibration-intensive equipment or activities, such as vibratory rollers, so that impacts to residents are minimal (e.g., weekdays during daytime hours only when as many residents as possible are away from home).
- The owner of a building close enough to a construction vibration source that damage to that structure due to vibration is possible would be entitled to a preconstruction building inspection to document the preconstruction condition of that structure.
- Conduct vibration monitoring during vibration-intensive activities.

Energy

Per Caltrans' Best Management Practices, newer or well-maintained equipment that is more energy efficient would be used during construction. The amount of energy used by construction during the project would be temporary. The following Best Management Practices would be used to minimize energy use and would be incorporated into the contract specifications:

- The contractor would consolidate material delivery whenever possible to promote efficient vehicle and energy use. The contractor would schedule material deliveries during non-rush hours to minimize fuel loss during traffic congestion.
- The contractor would maintain equipment and machinery in good working condition and inspect it regularly. The contractor would also maintain inspection records.
- Operators would avoid leaving equipment and vehicles idling when parked or not in use.
- Equipment found operating on the project that has not been inspected or has oil leaks would be shut down and subject to citation.

The contractor would implement, to the extent feasible, the following measures to reduce greenhouse gas emissions from construction equipment:

- Use alternative-fueled (e.g., biodiesel and electric) construction vehicles/equipment, making up at least 15 percent of the fleet.
- Use at least 10 percent of local building materials during construction.
- Recycle at least 50 percent of construction waste or demolition materials.

Threatened or Endangered Species

Vernal Pool Fairy Shrimp

- Fairy shrimp surveys will be conducted during the final design phase of the project in a U.S. Fish and Wildlife Service protocol survey year to confirm visual observations that it is the non-listed species, versatile fairy shrimp, present in briefly ponded areas. If surveys detect vernal pool fairy shrimp in the action area, a Biological Opinion and avoidance, minimization, and/or mitigation measures would be required before completion of the project's design phase action.

San Joaquin Kit Fox

- Preconstruction surveys will be conducted within the action area within 30 days of beginning work on the project to ensure no listed species, including the San Joaquin kit fox, are present. Worker Environmental Awareness training will also be included in the contract's special provisions.

Swainson's Hawk

With the implementation of the following avoidance and minimization measures, no impacts on Swainson's hawks are anticipated:

- Preconstruction surveys following the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (May 2000) would be conducted by qualified biologists within 500 feet of the project footprint during nesting season (February 1 to September 30) before groundbreaking activities.
- If nesting Swainson's hawks are discovered within 500 feet of the project footprint, the nest site would be designated an Environmentally Sensitive Area and a 500-foot buffer (exclusion zone) would be established until a qualified biologist has determined that the nest is no longer active.
- A qualified biologist would monitor the active nest during construction activities within the buffer.
- Removal of any trees within the project area should be done outside of the nesting season; however, if trees within the project area need to be removed during the nesting season, a qualified biologist will inspect the tree before removal to ensure that no nests are present.

Greenhouse Gas

Project-Level Greenhouse Gas Reduction Strategies

The following measures will also be implemented in the project to reduce greenhouse gas emissions and potential climate change impacts from the project.

- Truck and equipment idling is limited to five minutes for delivery and dump trucks and other diesel-powered equipment (with some exceptions).
- Schedule truck trips outside of peak morning and evening commute hours.
- Encourage improved fuel efficiency from construction equipment by maintaining equipment in proper working condition, **using the right size** equipment for the job, and using equipment with new technologies.
- The construction schedule will require lane closures for a longer period than in the past to reduce necessary mobilization efforts.
- Use recycled water for construction.

Appendix E Notice of Preparation

Notice of Preparation

Notice of Preparation

Notice of Preparation

To: State Clearinghouse	From: Caltrans - District 6 Environmental
1400 Tenth Street	2015 E. Shields Avenue, Suite 100
Sacramento, CA 95814	Fresno, CA 93703

Subject: Notice of Preparation of a Draft Environmental Impact Report

California Department of Transportation (Caltrans) will be the Lead Agency and will prepare an environmental impact report for the project identified below. We need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

The project description, location, and the potential environmental effects are contained in the attached materials. A copy of the Initial Study (☐ is ☒ is not) attached.

Due to the time limits mandated by State law, your response must be sent at the earliest possible date but not later than 30 days after receipt of this notice.

Please send your response to Juergen Vespermann at the address shown above. We will need the name for a contact person in your agency.

Project Title: Tulare City Widening EA 06-48950

Project Applicant, if any: _____

Date	<u>04-19-2021</u>	Signature	<u>Juergen Vespermann</u>
		Title	<u>Senior Environmental Planner</u>
		E-mail	<u>juergen.vespermann@dot.ca.gov</u>

Reference: California Code of Regulations, Title 14, (CEQA Guidelines) Sections 15082(a), 15103, 15375.

Notice of Completion and Environmental Document Transmittal

Appendix C

Notice of Completion & Environmental Document Transmittal

Mail to: State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613
 For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814

SCH #

Project Title: Tulare City Widening

Lead Agency: Caltrans

Contact Person: Juergen Vespermann

Mailing Address: 2015 E. Shields Ave, Suite 200

Email: juergen.vespermann@dot.ca.gov

City: Fresno

Zip: 93726

County: Fresno

Project Location: County: Tulare

City/Nearest Community: Tulare

Cross Streets: Ave 200, Paige Ave, Bardsley Ave, Tulare Ave (SR 137), Cross Ave, Prosperity Ave

Zip Code: 93274

Longitude/Latitude (degrees, minutes and seconds): ° ' " N / ° ' " W Total Acres:

Assessor's Parcel No.: Section: Twp: Range: Base:

Within 2 Miles: State Hwy #: 137 Waterways: Tulare Canal, Elkhorn Slough

Airports: Mefford Field Railways: Union Pacific Schools: all schools in city

Document Type:

CEQA: ☒ NOP☐ Draft EIRNEPA: ☐ NOIOther: ☐ Joint Document☐ Early Cons☐ Supplement/Subsequent EIR☒ EA☐ Final Document☐ Neg Dec☐ (Prior SCH No.)☐ Draft EIS☐ Other:☐ Mit Neg Dec

Other:

☐ FONSI

Local Action Type:

☐ General Plan Update☐ Specific Plan☐ Rezone☐ Annexation☐ General Plan Amendment☐ Master Plan☐ Prezone☐ Redevelopment☐ General Plan Element☐ Planned Unit Development☐ Use Permit☐ Coastal Permit☐ Community Plan☐ Site Plan☐ Land Division (Subdivision, etc.)☐ Other:

Development Type:

☐ Residential: Units _____ Acres _____☐ Office: Sq.ft. _____ Acres _____ Employees _____☒ Transportation: Type: Freeway widening & interchange improvement☐ Commercial: Sq.ft. _____ Acres _____ Employees _____☐ Industrial: Sq.ft. _____ Acres _____ Employees _____☐ Mining: Mineral _____☐ Educational: _____☐ Power: Type _____ MW _____☐ Waste Treatment: Type _____ MGD _____☐ Recreational: _____☐ Hazardous Waste: Type _____☐ Other: _____☐ Water Facilities: Type _____ MGD _____

Project Issues Discussed in Document:

☒ Aesthetic/Visual☐ Fiscal☐ Recreation/Parks☒ Vegetation☐ Agricultural Land☐ Flood Plain/Flooding☐ Schools/Universities☒ Water Quality☒ Air Quality☐ Forest Land/Fire Hazard☐ Septic Systems☐ Water Supply/Groundwater☒ Archeological/Historical☐ Geologic/Seismic☐ Sewer Capacity☒ Wetland/Riparian☒ Biological Resources☐ Minerals☐ Soil Erosion/Compaction/Grading☐ Growth Inducement☐ Coastal Zone☒ Noise☐ Solid Waste☒ Land Use☒ Drainage/Absorption☒ Population/Housing Balance☒ Toxic/Hazardous☒ Cumulative Effects☐ Economic/Job☐ Public Services/Facilities☒ Traffic/Circulation☒ Other: Paleontology

Present Land Use/Zoning/General Plan Designation:

transportation facility, light industrial, heavy industrial, commercial, residential, public land

Project Description: (please use a separate page if necessary)

The California Department of Transportation (Caltrans) proposes to widen State Route 99 in the City of Tulare from just south of Avenue 200 Overcrossing to just north of Prosperity Avenue Overcrossing (post miles 25.4/30.6). One lane would be constructed in each direction in the existing freeway median to create a six-lane freeway, divided by a concrete median barrier. The existing lanes, shoulders, and ramps would be rehabilitated. In addition, the existing Paige Avenue Interchange would be reconstructed. The Paige Avenue Overcrossing would be replaced with a wider structure to add one lane in each direction and a pedestrian/bicycle shared path.

Note: The State Clearinghouse will assign identification numbers for all new projects. If a SCH number already exists for a project (e.g., Notice of Preparation or previous draft document) please fill in.

Revised 2010

Reviewing Agencies Checklist

Reviewing Agencies Checklist

Lead Agencies may recommend State Clearinghouse distribution by marking agencies below with an "X".
If you have already sent your document to the agency please denote that with an "S".

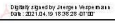
<input checked="" type="checkbox"/> Air Resources Board	<input checked="" type="checkbox"/> Office of Historic Preservation
<input type="checkbox"/> Boating & Waterways, Department of	<input type="checkbox"/> Office of Public School Construction
<input type="checkbox"/> California Emergency Management Agency	<input type="checkbox"/> Parks & Recreation, Department of
<input checked="" type="checkbox"/> California Highway Patrol	<input type="checkbox"/> Pesticide Regulation, Department of
<input type="checkbox"/> Caltrans District # _____	<input checked="" type="checkbox"/> Public Utilities Commission
<input checked="" type="checkbox"/> Caltrans Division of Aeronautics	<input checked="" type="checkbox"/> Regional WQCB # 5
<input type="checkbox"/> Caltrans Planning	<input type="checkbox"/> Resources Agency
<input type="checkbox"/> Central Valley Flood Protection Board	<input type="checkbox"/> Resources Recycling and Recovery, Department of
<input type="checkbox"/> Coachella Valley Mtns. Conservancy	<input type="checkbox"/> S.F. Bay Conservation & Development Comm.
<input type="checkbox"/> Coastal Commission	<input type="checkbox"/> San Gabriel & Lower L.A. Rivers & Mtns. Conservancy
<input type="checkbox"/> Colorado River Board	<input type="checkbox"/> San Joaquin River Conservancy
<input type="checkbox"/> Conservation, Department of	<input type="checkbox"/> Santa Monica Mtns. Conservancy
<input type="checkbox"/> Corrections, Department of	<input type="checkbox"/> State Lands Commission
<input type="checkbox"/> Delta Protection Commission	<input type="checkbox"/> SWRCB: Clean Water Grants
<input type="checkbox"/> Education, Department of	<input type="checkbox"/> SWRCB: Water Quality
<input type="checkbox"/> Energy Commission	<input type="checkbox"/> SWRCB: Water Rights
<input checked="" type="checkbox"/> Fish & Game Region # 4	<input type="checkbox"/> Tahoe Regional Planning Agency
<input type="checkbox"/> Food & Agriculture, Department of	<input checked="" type="checkbox"/> Toxic Substances Control, Department of
<input type="checkbox"/> Forestry and Fire Protection, Department of	<input checked="" type="checkbox"/> Water Resources, Department of
<input type="checkbox"/> General Services, Department of	
<input type="checkbox"/> Health Services, Department of	Other: _____
<input type="checkbox"/> Housing & Community Development	Other: _____
<input checked="" type="checkbox"/> Native American Heritage Commission	

Local Public Review Period (to be filled in by lead agency)

Starting Date _____ Ending Date _____

Lead Agency (Complete if applicable):

Consulting Firm: _____	Applicant: _____
Address: _____	Address: _____
City/State/Zip: _____	City/State/Zip: _____
Contact: _____	Phone: _____
Phone: _____	

Signature of Lead Agency Representative: Juergen Vespermann  Date: 04-19-2021

Authority cited: Section 21083, Public Resources Code. Reference: Section 21161, Public Resources Code.

Revised 2010

List of Technical Studies

Draft Relocation Memorandum: November 2020

Air Quality Report: September 2022

Noise Study Report: November 2021

Addendum Noise Study Report: June 2023

Water Quality Assessment Report: July 2021

Natural Environment Study (Minimal Impacts): November 2021

Historic Property Survey Report: November 2020

Supplementary Historical Property Survey Report: June 2021

Supplemental Archaeological Survey Report: March 2022

Paleontology Evaluation Report and Preliminary Mitigation Measures: July 2021

Initial Site Assessment: November 2021

Preliminary Site Investigation: September 2022

Scenic Resource Evaluation/Visual Impact Assessment: December 2021

Induced VMT Analysis: September 2021

To obtain a copy of one or more of these technical studies/reports or the Environmental Impact Report/Environmental Assessment, please send your request to:

Javier Almaguer
District 6 Environmental Division
California Department of Transportation
2015 East Shields Avenue, Suite 100, Fresno, California 93726

Or send your request via email to: javier.almaguer@dot.ca.gov

Or call: 559-287-9320

Please provide the following information in your request:

Project title: Tulare Six-Lane and Paige Avenue Interchange Improvement

General location information: Widen State Route 99 from four to six lanes from post miles 25.4 to 30.0 and reconstruct the Paige Avenue Interchange in the City of Tulare in Tulare County

District number-county code-route-post mile: 06-TUL-99-PM 25.2-30.6

Project ID number: 0614000040