State Route 190 and Road 284
Intersection Improvement Project

At the State Route 190 Intersection with Road 284
East of the City of Porterville in Tulare County
06-TUL-190-PM 20.9/21.3
EA: 06-0J530
06-0000-0188

Initial Study with Proposed Negative Declaration

Prepared by the
State of California Department of Transportation

May 2012

Caltrans®

General Information About This Document

What's in this document?

The California Department of Transportation (Caltrans), the California Environmental Quality Act (CEQA) lead for this project, has prepared this Initial Study with proposed Negative Declaration, which examines the potential environmental impacts of alternatives being considered for the proposed project located in Tulare County, California. The document describes why the project is being proposed, alternatives for the project, the existing environment that could be affected by the project, potential impacts from each of the alternatives, and the proposed avoidance, minimization, and/or mitigation measures.

What should you do?

- Please read this document. Additional copies of it, as well as the technical studies we relied on in preparing it, are available for review at the Caltrans district office at 1352 West Olive Avenue, Fresno, CA 93778, and the Porterville Public Library at 41 W. Thurman Avenue, Porterville, CA 93257.
- Attend the public information meeting.
- We welcome your comments. If you have any concerns regarding the proposed project, please attend the public information meeting or send your written comments to Caltrans by the deadline. Submit comments via U.S. mail to Caltrans at the following address:

  G. William "Trais" Norris III, Branch Chief
  Sierra Pacific Environmental Analysis Branch
  California Department of Transportation
  855 M Street, Suite 200
  Fresno, CA 93721

  Submit comments via email to: trais_norris@dot.ca.gov.

- Submit comments by the deadline: _**June 18, 2012**_.

What happens next?

After comments are received from the public and reviewing agencies, Caltrans 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.

For individuals with sensory disabilities, this document is available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please call or write to Caltrans, Attn: G. William "Trais" Norris III, Sierra Pacific Environmental Analysis Branch, 855 M Street, Suite 200, Fresno, CA 93721; 559-445-6447 Voice, or use the California Relay Service TTY number, 1-800-375-2929 or dial 711.

06-TUL-190-PM 20.9/21.3
06-0J5300
06-0000-0188

Improve the intersection at State Route 190 and Road 284 (post mile 20.9/21.3) east of the City of Porterville in Tulare County

INITIAL STUDY with Proposed Negative Declaration

Submitted Pursuant to: (State) Division 13, California Public Resources Code
THE STATE OF CALIFORNIA
Department of Transportation

_____
Date of Approval

Jennifer H. Taylor
Office Chief, Central Region
Environmental Southern San Joaquin Valley
California Department of Transportation
CEQA Lead Agency

Proposed Negative Declaration

Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (Caltrans) proposes to improve the intersection at State Route 190 and Road 284, located east of the City of Porterville, in Tulare County from post mile 20.9 to post mile 21.3. Two build alternatives and a no build alternative are under consideration.

Alternative 1: Construction of a single-lane rural roundabout.
Alternative 2: Signalization of the intersection with a protected left-turn.
Alternative 3: No Build.

Determination

This proposed Negative Declaration is included to give notice to interested agencies and the public that it is Caltrans' intent to adopt a Negative Declaration for this project. This does not mean that Caltrans' decision regarding the project is final. This Negative Declaration is subject to modification based on comments received by interested agencies and the public.

Caltrans has prepared an Initial Study for this project and, pending public review, expects to determine from this study that the proposed project would not have a significant effect on the environment for the following reasons:

The proposed project would have no effect on: land use, growth, community impacts, environmental justice, hydrology and floodplain, water quality, geology/soils/seismic/topography, noise, cultural resources, paleontology, hazardous waste or materials, natural communities, wetlands or other waters, animal species, plant species, or invasive species.

In addition, the proposed project would have no significant effect on the following: threatened or endangered species, visual/aesthetic issues, farmland, air quality, utilities/emergency services, relocation and property acquisition, or traffic/bicycle pedestrian facilities.

_____ _____

Jennifer H. Taylor
Office Chief Central Region
Environmental Southern San Joaquin Valley
California Department of Transportation
CEQA Lead Agency

Date

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List of Abbreviated Terms

Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
FHWA	Federal Highway Administration
NEPA	National Environmental Policy Act
PM	Post Mile
CDFG	California Department of Fish and Game
USFWS	United States Fish and Wildlife Service

Chapter 1 Proposed Project

1.1 Introduction

The California Department of Transportation (Caltrans) proposes to improve the intersection of State Route 190 and Road 284, located east of the City of Porterville, in Tulare County from post mile 20.9 to post mile 21.3. The project location and vicinity map are shown in Figures 1-1 and 1-2. The intersection is currently controlled with stop signs for Road 284 traffic. A Park and Ride, owned by the Tule River Tribe, is located on the southwest corner of the intersection and a mini-market on the northeast corner. Road 284, also known as Reservation Road, is the main road used to go to Tule River Indian Reservation and Eagle Mountain Casino. The project would be funded from the State Highway Operation and Protection Program, in the 2012/2013 fiscal year.

1.2 Purpose and Need

1.2.1 Purpose

The purpose of this project is to improve safety at the intersection of State Route 190 and Road 284 while maintaining traffic operations.

1.2.2 Need

The accident history within the project limits for the most recent three-year period (7/01/2007 to 6/30/2010) shows that the actual total accident rates are higher than the statewide average for similarly designed intersections. There were 11 collisions reported at this intersection during this time period. Accidents included six broadside-type, and one head-on, two hit object, one rear-end and one over-turn. These collisions were due to drivers either failing to slow down or not stopping at the intersection on Road 284.

Table 1.1 provides the accident rates for the intersection of State Route 190 and Road 284.

Table 1.1 Accident Rates State Route 190 and Road 284

Intersection	Actual			Average		
SR 190 at Road 284	Fatal	Fatal + Injury	Total	Fatal	Fatal + Injury	Total
	0.000	0.23	1.01	0.006	0.13	0.30

Source: Department of Transportation Office of Traffic Engineering Accident Rate, 7/01/2007 to 6/30/2010); (per million vehicle miles)

1.3 Alternatives

Two build alternatives and a no-build alternative are under consideration.

1.3.1 Build Alternatives

Alternative 1 would construct a single-lane roundabout at the intersection of State Route 190 and Road 284. The roundabout would have a design speed of approximately 15 miles per hour and would accommodate commercial truck movements. The proposed work would include the following:

- Construct a single-lane roundabout that would be approximately 150 feet in diameter with a central island approximately 102 feet in diameter, with a mountable concrete curb at the outer edge.
- Add approximately nine feet of paved truck apron around the central island and a low concrete curb around the outer edge
- Add curb ramps and sidewalks for pedestrians and add a bicycle path to comply with the Americans with Disabilities Act
- Add splitter islands (triangle-shaped island that separates entering and exiting traffic at a roundabout) and landscaping
- Install traffic warning signs along State Route 190 and Road 284 to gradually slow the traffic approximately 55 miles per hour to 15 miles per hour in the roundabout
- Acquire approximately 0.3 acre of right-of-way and relocate seven power poles

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Figure 1-1 Project Vicinity Map

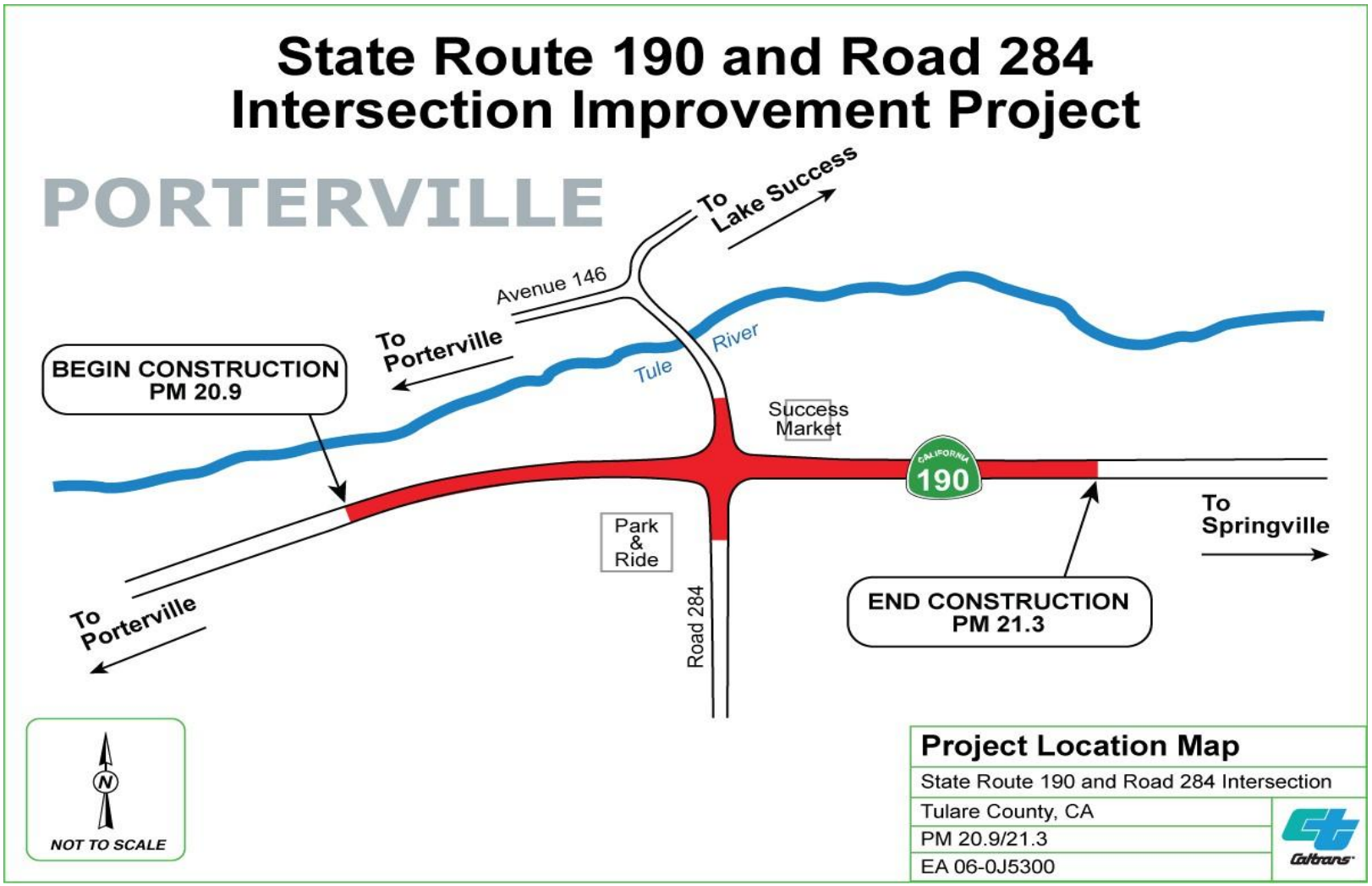


Figure 1-2 Project Location Map

Alternative 1 is estimated to cost $1,695,000.

Alternative 2 would convert the existing two-way stop intersection into a signalized intersection. The proposed work would include the following:

- Additional warning signs would be installed on State Route 190 to warn motorists of the traffic signals ahead
- Protected left (pocket) turn lanes would be placed on State Route 190 and Road 284 as well as sidewalks and curb ramps as needed.
- Curb ramps and sidewalks would be added to accommodate pedestrians and a bicycle path
- Acquire approximately 0.3 acre of right-of-way and relocate seven power poles

Alternative 2 is estimated to cost $2,130,000.

1.3.2 No-Build Alternative

The no-build alternative would keep the intersection at State Route 190 and Road 284 in its current condition (two-way stop). The no-build does not meet the purpose and need for the project because it does not address the high number of collisions at this intersection.

1.3.3 Comparison of Alternatives

The Table 1.2 is a comparison of alternatives that describes the impacts between the build and no-build alternatives.

Table 1.2 Comparison of Alternatives

	Alternative 1	Alternative 2	No Build
Meets Purpose and Need	Yes	Yes	No
Potential Environmental Impacts	Elderberry Bushes, Aerially Deposited Lead	Elderberry Bushes, Aerially Deposited Lead	Not Anticipated
Improved Safety	Yes	Yes	No Improvement

After the public circulation period, all comments will be considered, and Caltrans will select a preferred alternative and make the final determination of the project's effect on the environment. In accordance with the California Environmental Quality Act, if no unmitigable significant adverse impacts are identified, Caltrans will prepare a Negative Declaration or Mitigated Negative Declaration.

1.3.4 Alternatives Considered but Withdrawn from Consideration

A four-way stop was considered, but would not work as well as traffic volumes increase over time and it did not meet the purpose and need of the project. The level of service would decrease causing significant traffic delays and excessive queuing.

1.4 Permits and Approvals Needed

No permits are required for this project.

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

This chapter explains the impacts that the project would have on the human, physical, and biological environments in the project area. It describes the existing environment that could be affected by the project, potential impacts from each of the alternatives, and proposed avoidance, minimization, and/or mitigation measures. Any indirect impacts are included in the general impacts analysis and discussions that follow.

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

- Land Use— The project is consistent with existing and future land use and with state, regional, and local plans (Tulare County General Plan 2008, SHOPP Safety Improvement Program in 2012/2013, Regional Transportation Plan 2012, Federal Transportation Improvement Program 2008).
- Growth— The project would not promote growth because it would upgrade an existing intersection and not alter access to either State Route 190 or Road 284 (Field Review, August 2011).
- Community Impacts— The project would not relocate any businesses or residences, it would not disrupt the community character or cohesion because it would upgrade an existing intersection (Field Review, August 2011).
- Environmental Justice— The alternatives will not cause disproportionately high and adverse effects on any minority or low-income populations as per EO 12898 regarding environmental justice. (Field Review, August 2011).
- Cultural Resources— No archaeological or historical resources were identified within the project area. However, due to the sensitivity of the area, monitoring would be required during construction.(Historic Resources Compliance Report, December 2011).
- Hydrology and Floodplain—The project does not encroach on the 100- year floodplain, but flooding has been identified at the intersection and drainage recommendations have been suggested. (Hydraulic Recommendation, October 2008).

- Water Quality and Storm Water Runoff— With the incorporation of best management practices and proper and accepted engineering practices, the project would not have adverse effects on surface or groundwater runoff (Water Quality Compliance Memo, April 2008).
- Geology/Soils/Seismic/Topography— The project would not result in substantial soil erosion or landslides. The project is not located on a geologic unit or soil that is unstable or that will become unstable as a result of the project (U.S. Geological Survey Earthquake Hazards Program, December 2011).
- Paleontology— Excavation associated with the proposed project is unlikely to encounter scientifically important paleontological resources. No studies required (Preliminary Environmental Analysis Report, September 2008).
- Hazardous Waste or Materials— There are no known hazardous waste deposits or spills in the project area. Soil is considered non-hazardous and suitable for reuse (Hazardous Waste Compliance Memo, February 2012).
- Noise and Vibration— The project would not result in noise or vibration issues. This is not a Type 1 project, it is not capacity increasing, additional lanes are not being added, it is a safety project in a rural area that would upgrade an existing intersection (Noise Memo, September 2008).
- Natural Communities— No known natural communities were identified in the project area (Natural Environmental Study, August 2010).
- Wetlands and other Waters— No wetlands or other waters were identified in the project area (Natural Environmental Study, August 2010).
- Plant Species— No plant species of concern were found within the project area (Natural Environmental Study, August 2010).
- Invasive Species— The spread of invasive species during construction would be prevented with the use of best management practices (Natural Environmental Study, August 2010).
- Farmland/Timberlands —No mitigation for farmland is required other than payment for the property acquired, which is estimated to be less than one acre (Natural Resources Conservation Service, October 2011).

2.1 Human Environment

2.1.1.1 Relocation and Property Acquisition

Regulatory Setting

Caltrans' relocation assistance program is based on the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (as amended) and Title 49 Code of Federal Regulations (CFR) Part 24. The purpose of relocation assistance 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. All relocation services and benefits are administered without regard to race, color, national origin, or sex in compliance with Title VI of the Civil Rights Act (42 USC 2000d, et seq.). Please see Appendix B for a copy of Caltrans's Title VI Policy Statement.

Affected Environment

There is a gas station on its northeast corner that lies within the limits of a 1957 Freeway Agreement with the County of Tulare. In addition, a commercial development is planned for the southwest corner in the near future. (Tulare County General Plan 2008). A Park and Ride owned by the Tule River Tribe is currently located on the southwest corner.

Environmental Consequences

The project will require partial acquisition of four parcels. These parcels are located on each of the four corners of the intersection. The acquisitions are defined as sliver takes that would require approximately a total of 0.3 acre divided among the four corners of the intersection to help accommodate the intersection improvements. Properties include a park n ride, mini-market, and two vacant fields.

The project would not require any relocations of businesses or building structures. Only property acquisition would be required.

Avoidance, Minimization, and/or Mitigation Measures

Caltrans right-of-way will work with the property owners of the parcels to be partially acquired using standard relocation provisions for compensation.

2.1.2 Utilities/Emergency Services

Affected Environment

This section discusses information obtained from the Right-of-Way Data Utility Sheet Memo completed on December 15, 2011, for the proposed project. Table 2.2 lists the project area

utilities. Utilities located within the project area include seven wooden electric power poles owned by Southern California Edison.

Table 2.2 Project Area Utilities

Utility Ownership	Facilities
Southern California Edison	Electric (7 power poles)
Southern California Gas	Gas (underground)
AT&T	Telephone (underground)

Emergency response is provided by the Tulare County Sherriff's Department which provides service to the unincorporated areas of the county. The closest sheriff's office is in Porterville, approximately 6 miles to west of the proposed project. The California Highway Patrol and the Tulare County Fire Department also provide service to the project area.

Environmental Consequences

The project would require the relocation of seven power poles owned by Southern California Edison on State Route 190 and Road 284.

The project would have a beneficial impact on fire protection, law enforcement, and emergency services by improving safety at the intersection. Although construction of the project would create temporary traffic delays, these impacts would not be substantial because the proposed project would enforce a traffic management plan.

Avoidance, Minimization, and/or Mitigation Measures

Any utility relocation outside of the boundaries of the environmental studies completed for the project would require separate environmental studies. Impacts to services would be temporary. A detailed study would be conducted during the final design phase of this project and utility conflict mapping would be prepared.

A traffic management plan would be developed to minimize delays and maximize safety for the motorists and emergency responders during construction. The traffic management plan would include, but is not limited to:

- Release of information through brochures and mailers, press releases, and advertisements managed by the Caltrans Public Information Office.
- Use of fixed and portable changeable message signs.
- Incident management through COZEEP (Construction Zone Enhancement Enforcement Program) and the transportation management center.

- Use of one-way traffic control.

2.1.3 Traffic and Transportation/Pedestrian and Bicycle Facilities

Regulatory Setting

Caltrans, as assigned by FHWA, directs that full consideration should be given to the safe accommodation of pedestrians and bicyclists during the development of federal-aid highway projects (see CFR 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.

Caltrans is committed to carrying out the 1990 Americans with Disabilities Act (ADA) by building transportation facilities that provide equal access for all persons. The same degree of convenience, accessibility, and safety available to the general public will be provided to persons with disabilities.

Affected Environment

The following information was based on the Draft Project Report (January 2012) and a safety analysis. (January 2012).

State Route 190, which extends from State Route 99 near Tipton to Quaking Aspen Camp, a higher elevation resort area in Tulare County, is predominantly a 2-lane conventional highway except for the 3.6 mile, 4-lane expressway segment (post mile 14.9 to post mile 18.5) that runs through Porterville. This route provides access for agricultural and other goods movement and area travelers from State Route 65 to State Route 99. In addition to Porterville, State Route 190 serves several communities such as Poplar, Springville, and Pier Point Springs in the mountains.

The recreational areas to the east of the proposed project, such as Lake Success, Sequoia National Park and Camp Nelson, in addition to the Tule River Indian Tribe Reservation and Eagle Mountain Casino located on Road 284, contribute to the importance of the State Route 190 corridor.

Trucks account for about 6 percent of annual average daily traffic in this segment of State Route 190. In addition, the posted speed limits for trucks and passenger vehicles are 55 mph within the project limits. Additional traffic is comprised of bus traffic to the casino, house trailers for ranches located east of Lake Success and boat trailers that go to Lake Success.

The existing intersection has substantial truck traffic as well as a gas station on its northeast corner. In addition, a commercial development has been planned for the southwest corner in the near future. A Park and Ride owned by the Tule River Tribe is currently located on the southwest corner.

Currently there are no bicycle or pedestrian facilities at the intersection.

The accident history within the project limits for the most recent three-year study period (July 1, 2007 to June 30, 2010) reported that the actual total accident rates are higher than the statewide total accident rates for similar roadways with comparable traffic volumes. Eleven accidents were reported at this intersection, six of which were broadside collisions (Table 2.4).

Table 2.3 Accident Rates State Route 190 and Road 284

Intersection	**Actual**			**Average**		
SR 190 at Road 284	Fatal	Fatal + Injury	Total	Fatal	Fatal + Injury	Total
	0.000	0.23	1.01	0.006	0.13	0.30

Source: Traffic Analysis Surveillance Systems, 7/01/2007 to 6/30/2010); (per million vehicle miles)

Table 2.4 State Route 190/Road 284 Intersection Accident Summary

Primary Collision Factor	**Head-On**	**Rear-End**	**Broadside**	**Hit Object**	**Overturn**
Influence of Alcohol				1	
Failure to Yield	1		6		
Speeding		1		1	
Other Violation					1
Total	1	1	6	2	1

Source: Traffic Analysis Surveillance Systems, (7/1/2007 - 6/30/2010)

Currently there are no delays on State Route 190 because traffic flows freely. However, due to a lack of controlled traffic and traffic flow, it can be difficult to cross at the intersection from Road 284.

Environmental Consequences

Alternative 1 (single-lane roundabout) would improve safety and traffic movement in the project area by building a roundabout that would make motorists in all directions gradually decrease their speed from 55 miles per hour to the roundabout speed of 15 miles per hour, thereby limiting the number of broadside collisions. The roundabout design would include a sidewalk with curb ramps and crosswalks to accommodate pedestrians and bicycles.

Alternative 2 (signalized intersection) would improve safety by controlling traffic from all four directions. Sidewalks with curb ramps and crosswalks would be installed to accommodate pedestrians and bicycles.

A Traffic Analysis (December 2008) was performed for future levels of service for both morning and afternoon peak hours. The operation of the intersection is described in terms of "level of service". Level of service is a letter designation that describes a range of operating conditions on a particular type of facility. The 1994 Highway Capacity Manual defines levels of service as "qualitative measures that characterize operational conditions within a traffic stream and their perception by motorists and passengers." Level of service for the intersection appears to be satisfactory for both alternatives in the projected design year 2030. However, the roundabout alternative would yield a more improved level of service resulting in less delay and shorter queue length. (Table 2.5). The roundabout is expected to have a level of service A and B for the AM and PM times for the years 2020 and 2030 in comparison to the level of service F for the no-build alternative. Alternative 2 is expected to have level of service C and D in the years 2020 and 2030 in comparison to the level of service F for the no-build alternative.

Table 2.5 State Route 190 and Road 284 Intersection Level of Service

Years Analysis		Alternative 1 (Roundabout)		Alternative 2 (Signalization)		No - Build	
		Level of Service	Delay (seconds)	Level of Service	Delay (seconds)	Level of Service	Delay (seconds)
2020	AM	A	5.3	C	31.9	F	69.6
	PM	A	5.1	C	30.8	F	117.8
2030	AM	B	11.7	D	46.2	F	538.7
	PM	A	9.1	D	41.8	F	659.7

Source: Draft Project Report (January 2012)

Avoidance, Minimization, and/or Mitigation Measures

A traffic management plan would be developed to minimize delays and maximize safety for the motorists and emergency responders during construction. Refer to Section 2.1.2 Utilities/Emergency Services for control measures.

2.1.4 Visual/Aesthetics

Regulatory Setting

The National Environmental Policy Act of 1969 as amended (NEPA) establishes that the federal government use all practicable means to ensure all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings (42 USC 4331 [b][2]). To further emphasize this point, the Federal Highway Administration (FHWA) in its implementation of NEPA (23 USC 109[h]) directs that final decisions regarding 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.

Likewise, the California Environmental Quality Act (CEA) 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." (CA Public Resources Code Section 21001[b]).

Affected Environment

A Visual Impact Assessment (Minor) was completed for the project on November 29, 2011. The focus of the recommendation was to determine the impacts the project would have on the views at the intersection of State Route 190 and Road 284. The surrounding land use is agricultural, with scattered businesses and residences. The project limits are in a rural setting in Tulare County, east of Porterville. The existing visual quality of the area is considered high; with a single homogeneous landscape type: Valley Rural. This segment of State Route 190 is considered to have scenic resources because of the nearby foothills and oak woodlands. The proposed project is located along an Eligible State Scenic Highway. Since the signalization alternative would have a minimal impact on aesthetics, a Visual Impact Assessment was conducted for Alternative 1 (roundabout) only.

Environmental Consequences

The project is near the Tule River, but no part of this project will be visible from the river. The both alternatives would require the modification and disturbance of the side slopes, drainage ditches and shoulders of the State Route 190 and Road 284 intersection.

No existing trees will be removed. Native shrub vegetation surrounding the project site may be impacted during the construction of this project.

The Eligible State Scenic Highway status of the route will not be affected as a result of the construction of the proposed project.

Compared to the existing un-signalized and unimproved intersection at State Route 190 and Road 284, the proposed single lane roundabout in this rural environment will cause minor visual changes and those changes are not expected to be negative.

Avoidance, Minimization, and/or Mitigation Measures

Aesthetic considerations for Alternative 1 (Roundabout) would be considered during the final design phase for sidewalks, splitter islands, mountable curbs, lighting, landscaping in the middle of the roundabout, and stamped concrete at the perimeter of the roundabout in the truck apron area. No mitigation is required for visual impacts, however, the use of temporary environmentally sensitive area fencing for the contractor staging areas would be required to protect existing vegetation as much as possible.

2.2 Physical Environment

2.2.1 Air Quality

Regulatory Setting

The Federal Clean Air Act (FCAA) as amended in 1990 is the federal law that governs air quality. The California Clean Air Act of 1988 is its companion state law. These laws, and related regulations by the United States Environmental Protection Agency (U.S. EPA) and California Air Resources Board (ARB), sets standards for the quantity of pollutants that can be in the air. At the federal level, these standards are called National Ambient Air Quality Standards (NAAQS). NAAQS and State ambient air quality standards have been established for six transportation-related criteria pollutants are: carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM, broken down for regulatory purposes into particles of 10 micrometers or smaller – PM_{10} and particles of 2.5 micrometers and smaller – $PM_{2.5}$), lead (Pb), and sulfur dioxide (SO_2). In addition, State standards exist for visibility reducing particles, sulfates, hydrogen sulfide (H_2S), and vinyl chloride. The NAAQS and State standards are set at a level that protects 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 within their general definition.

Federal and State air quality standards and regulations provide the basic scheme for project-level air quality analysis under the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). In addition to this type of environmental analysis, a parallel "conformity" requirement under the FCAA also applies.

FCAA Section 176 (c) - prohibits the U.S. Department of Transportation and other Federal agencies from funding, authorizing, or approving, plans, programs or projects that are not first found o conform to State Implementation Plan (SIP) for achieving the goals of Clean Air Act requirements related to the NAAQS. "Transportation Conformity" 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 NAAQS, and only for the specific NAAQS that are or were violated. U.S. EPA regulations at 40 CFR 93 govern the conformity process.

Regional conformity is concerned with how well the regional transportation system supports plans for attaining the standards set for carbon monoxide (CO), nitrogen dioxide (NO2), ozone(O3), particulate matter (PM_{10} and $PM_{2.5}$), and in some areas sulfur dioxide (SO_2). California has attainment or maintenance areas for all of these transportation-related "criteria pollutants" except SO_2 and also has a nonattainment area for lead (Pb). However, lead is not currently required by the FCAA to be covered in transportation conformity analysis. Regional conformity is based on regional transportation plans (RTPs) and Federal transportation improvement programs (FTIPs) that include all of the transportation projects planned for a region over a period of at least 20 years for the RTP) and 4 years (for the FTIP). RTP and FTIP conformity is based on use of travel demand and air quality models to determine whether or not the implementation of those projects would conform to emission budgets or other tests showing that requirements of the Clean Air Act and the SIP are met. If the conformity analysis is successful, the Metropolitan Planning Organization (MPO), Federal Highway Administration (FHWA), and Federal Transit Administration (FTA), make determinations that the RTP and the FTIP are in conformity with the SIP for achieving the goals of the FCAA. Otherwise, the projects in the RTP and/or FIP must be modified until conformity is attained. If the design concept, scope, and "open to traffic" schedule of a proposed transportation project are the same as described in the RTP and FTIP, then the proposed project is deemed to meet regional conformity requirements for purposes of project-level analysis.

Conformity at the project-level also requires 'hot spot" analysis if an area is "nonattainment" or "maintenance" for carbon monoxide (CO) and/or particulate matter (PM_{10} or $PM_{2.5}$). A region is "nonattainment if one or more of the monitoring stations in the region measures violation of the relevant standard and U.S. EPA officially designates the area nonattainment. Areas that were previously designated as nonattainment areas but subsequently meet the standard may be officially re-designated to attainment by the U.S. EPA and are then called "maintenance" areas. "Hot spot" analysis is essentially the same, for technical purposes, as CO or particulate matter analysis performed for NEPA purposes. Conformity does include

some specific procedural and documentation standards for projects that require a hot spot analysis. In general, projects must not cause the "hot spot"-related standard to be violated and must not cause any increase in the number and severity of violations in nonattainment areas. If a known CO or particulate matter violation is located in the project vicinity, the project must include measures to reduce or eliminate the existing violation(s) as well.

Affected Environment

An Air Quality Memo was prepared in September 2011. The proposed project is located south of Kerman in Tulare County, which is within the San Joaquin Valley Air Basin. The San Joaquin Valley is nearly 300 miles long, bounded by the Tehachipi Mountains in the south to the San Joaquin-Sacramento River Delta in the north. The Sierra Nevada Mountain Range forms the eastern boundary and extends to the lower coastal ranges in the west. The total land area is 23,720 square miles.

The valley is characterized by hot, dry summers and cool winters. Precipitation is directly related to latitude and elevation, with the southern portion accumulating an average of less than six inches of rain per year. The rainy season is typically between November and April, with Tulare County's average annual rainfall ranging from 8 inches in the south to 18 inches in the north. Snow is rare on the valley floor, though the Sierra Nevada range generally has heavy accumulations during the winter. Warm temperatures, prevailing winds and the location of the county within an enclosed valley all play a role in the air quality of the area.

Tulare County is in a non-attainment area for particulate matter ($PM_{2.5}$) and ozone and an attainment-non attainment area for PM_{10}. Table 2.6 refers to the State and Federal Criteria Air Pollutant Standards, Effects, and Sources.

Table 2.6 State and Federal Criteria Air Pollutant Standards, Effects, and Sources

Pollutant	Averaging Time	State [9] Standard	Federal [9] Standard	Principal Health and Atmospheric Effects	Typical Sources	Attainment Status
Ozone (O_3) [2]	1 hour 8 hours 8 hours (conformity process [5])	0.09 ppm 0.070 ppm ---	--- [4] 0.075 ppm [6] 0.08 ppm (4^{th} highest in 3 years)	High concentrations irritate 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 VOC may also contribute.	Low-altitude ozone is almost entirely formed from reactive organic gases/volatile organic compounds (ROG or VOC) and nitrogen oxides (NOx) in the presence of sunlight and heat. Major sources include motor vehicles and other mobile sources, solvent evaporation, and industrial and other combustion processes.	Federal: Nonattainment /Extreme State: Nonattainment
Carbon Monoxide (CO)	1 hour 8 hours	20 ppm 9.0 ppm [1]	35 ppm 9 ppm	CO interferes with the transfer of oxygen to the blood and deprives	Combustion sources, especially gasoline-powered engines and	Federal: Attainment/ Unclassified

Pollutant	Averaging Time	State [9] Standard	Federal [9] Standard	Principal Health and Atmospheric Effects	Typical Sources	Attainment Status
	8 hours (Lake Tahoe)	6 ppm	---	sensitive tissues of oxygen. CO also is a minor precursor for photochemical ozone.	motor vehicles. CO is the traditional signature pollutant for on-road mobile sources at the local and neighborhood scale.	State: Attainment/ Unclassified
Respirable Particulate Matter (PM_{10}) [2]	24 hours Annual	50 µg/m^3 20 µg/m^3	150 µg/m^3 --- [2]	Irritates eyes and respiratory tract. Decreases lung capacity. Associated with increased cancer and mortality. Contributes to haze and reduced visibility. Includes some toxic air contaminants. Many aerosol and solid compounds are part of PM_{10}.	Dust- and fume-producing industrial and agricultural operations; combustion smoke; atmospheric chemical reactions; construction and other dust-producing activities; unpaved road dust and re-entrained paved road dust; natural sources (wind-blown dust, ocean spray).	Federal: Attainment State: Nonattainment
Fine Particulate Matter ($PM_{2.5}$) [2]	24 hours Annual 24 hours (conformity process [5])	--- 12 µg/m^3 ---	35 µg/m^3 15.0 µg/m^3 65 µg/m^3 (4th highest in 3 years)	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 $PM_{2.5}$ size range. Many aerosol and solid compounds are part of $PM_{2.5}$.	Combustion including motor vehicles, other mobile sources, and industrial activities; residential and agricultural burning; also formed through atmospheric chemical (including photochemical) reactions involving other pollutants including NOx, sulfur oxides (SOx), ammonia, and ROG.	Federal: Nonattainment State: Nonattainment
Nitrogen Dioxide (NO_2)	1 hour Annual	0.18 ppm 0.030 ppm	0.100 ppm [7] (98th percentile over 3 years) 0.053 ppm	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown. Contributes to acid rain. Part of the "NOx" group of ozone precursors.	Motor vehicles and other mobile sources; refineries; industrial operations.	Federal: Attainment/Unclassified State: Attainment
Sulfur Dioxide (SO_2)	1 hour 3 hours 24 hours Annual	0.25 ppm --- 0.04 ppm ---	0.075 ppm [8] (98th percentile over 3 years) 0.5 ppm 0.14 ppm 0.030 ppm	Irritates respiratory tract; injures lung tissue. Can yellow plant leaves. Destructive to marble, iron, steel. Contributes to acid rain. Limits visibility.	Fuel combustion (especially coal and high-sulfur oil), chemical plants, sulfur recovery plants, metal processing; some natural sources like active volcanoes. Limited contribution possible from heavy-duty diesel vehicles if ultra-low sulfur fuel not used.	Federal: Attainment/Unclassified Extreme State: Attainment
Lead (Pb) [3]	Monthly Quarterly Rolling 3-month average	1.5 µg/m^3 --- ---	--- 1.5 µg/m^3 0.15 µg/m^3	Disturbs 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 gasoline may exist in soils along major roads.	Federal: No Designation/Classification State: Attainment
Sulfate	24 hours	25 µg/m^3	---	Premature mortality and respiratory effects. Contributes to acid rain. Some toxic air contaminants attach to sulfate aerosol particles.	Industrial processes, refineries and oil fields, mines, natural sources like volcanic areas, salt-covered dry lakes, and large sulfide rock areas.	State Only: **Attainment (entire state)**

Pollutant	Averaging Time	State [9] Standard	Federal [9] Standard	Principal Health and Atmospheric Effects	Typical Sources	Attainment Status
Hydrogen Sulfide (H_2S)	1 hour	0.03 ppm	---	Colorless, flammable, poisonous. Respiratory irritant. Neurological damage and premature death. Headache, nausea.	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.	State Only: Unclassified
Visibility Reducing Particles (VRP)	8 hours	Visibility of 10 miles or more (Tahoe: 30 miles) at relative humidity less than 70%	---	Reduces visibility. Produces haze. NOTE: not 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 I" areas.	See particulate matter above.	State Only: Unclassified
Vinyl Chloride[3]	24 hours	0.01 ppm	---	Neurological effects, liver damage, cancer. Also considered a toxic air contaminant.	Industrial processes	State Only: **Unclassified (entire state)**

Based on the California ARB Air Quality Standards chart (http://www.arb.ca.gov/research/aaqs/aaqs2.pdf).

Notes: ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter; ppb=parts per billion (thousand million)

1 Rounding to an integer value is not allowed for the State 8-hour CO standard. Violation occurs at or above 9.05 ppm. Violation of the Federal standard occurs at 9.5 ppm due to integer rounding.

2 Annual PM_{10} NAAQS revoked October 2006; was 50 $\mu g/m^3$. 24-hr. $PM_{2.5}$ NAAQS tightened October 2006; was 65 $\mu g/m^3$. In 9/09 U.S. EPA began reconsidering the $PM_{2.5}$ NAAQS; the 2006 action was partially vacated by a court decision.

3 The ARB has identified vinyl chloride and the particulate matter fraction of diesel exhaust as toxic air contaminants. Diesel exhaust particulate matter is part of PM_{10} and, in larger proportion, $PM_{2.5}$. Both the ARB and U.S. EPA have identified lead and various organic compounds that are precursors to ozone and $PM_{2.5}$ as toxic air contaminants. There are no exposure criteria for adverse health effect due to toxic air contaminants, and control requirements may apply at ambient concentrations below any criteria levels specified above for these pollutants or the general categories of pollutants to which they belong. Lead NAAQS are not required to be considered in Transportation Conformity analysis.

4 Prior to 6/2005, the 1-hour NAAQS was 0.12 ppm. The 1-hour NAAQS is still used only in 8-hour ozone early action compact areas, of which there are none in California. However, emission budgets for 1-hour ozone may still be in use in some areas where 8-hour ozone emission budgets have not been developed.

5 The 65 $\mu g/m^3$ $PM_{2.5}$ (24-hr) NAAQS was not revoked when the 35 $\mu g/m^3$ NAAQS was promulgated in 2006. Conformity requirements apply for all NAAQS, including revoked NAAQS, until emission budgets for the newer NAAQS are found adequate or SIP amendments for the newer NAAQS are completed.

6 As of 9/16/09, U.S. EPA is reconsidering the 2008 8-hour ozone NAAQS (0.075 ppm); U.S. EPA is expected to tighten the primary NAAQS to somewhere in the range of 60-70 ppb and to add a secondary NAAQS. U.S. EPA plans to finalize reconsideration and promulgate a revised standard by August 2010.

7 Final 1-hour NO_2 NAAQS published in the Federal Register on 2/9/2010, effective 3/9/2010. Initial nonattainment area designations should occur in 2012 with conformity requirements effective in 2013. Project-level hot spot analysis requirements, while not yet required for conformity purposes, are expected.

8 U.S. EPA finalized a 1-hour SO_2 standard of 75 ppb in June 2010.

9 State standards are "not to exceed" unless stated otherwise. Federal standards are "not to exceed more than once a year" or as noted above.

Environmental Consequences

Regional Air Quality Conformity

This project is exempt from regional conformity requirements based on 40 Code of Federal Regulations 93.127. Local effects of this project with respect to carbon monoxide and particulate matter concentrations must be considered and hot-spot analysis is required prior to

making a project-level conformity determination. Separate listing of the project in the Regional Transportation Plan and Transportation Improvement Program, and their regional conformity analyses, is not necessary. The project would not interfere with timely implementation of transportation control measures identified in the applicable state implementation plan and regional conformity analysis.

Project Level Conformity

A project that is located in a non-attainment or maintenance area for a given pollutant requires additional air quality analysis and reduction measures in regard to the pollutant. Table 2.6 summarizes the federal and state attainment status of the project. This "hot-spot" analysis is most frequently done for carbon monoxide and particulate matter. This project is not considered a project of air quality concern because it is an intersection channelization involving turn lanes or other operational improvements.

Currently, the project area is a non-attainment area for particulate matter ($PM_{2.5}$). The closest monitor station is located in Visalia on North Church Ave., and it has registered violations of the federal standard in the last three years (2008-2010) but the overall trend points downward (it slipped below the national annual average standard in 2010).

The project is located in a federal attainment and state non-attainment area for PM_{10}. The monitoring station has not listed any violations in the last three years.

The traffic and the trucks volumes for the horizon year (2030) are well below to the threshold. Table 2.7 shows the traffic data.

Table 2.7 Traffic Data

Year	Average Annual Daily Traffic	% Trucks
2020	11,800	6
2030	15,200	6
Project of Air Quality Concern Thresholds	125,000	8

Source: Caltrans Traffic Department (September 2011)

There is no reason to believe that this project will create a new violation or worsen an existing violation of the $PM_{2.5}$ and PM_{10} National Ambient Air Quality Standards (NAAQS). It has been determined that this project is not "Project of Air Quality Concern" therefore no further analysis is required.

Mobile Source Air Toxics Conclusions

This is a project with low potential for mobile source air toxics effects. The project would replace an un-signalized intersection with a roundabout or a signalized intersection. The project would improve the operation of the highway and intersection without adding new capacity or creating a facility that is likely to meaningfully increase emissions. Design year 2030 traffic is not projected to meet the 140,000 to 150,000 annual average daily traffic criterions for a project with higher potential mobile source air traffic effects.

Construction activity may generate a temporary increase in mobile source air toxics emissions.

During construction, the project would generate air pollutants. The exhaust from construction equipment contains hydrocarbons, oxides of nitrogen, 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. Dust and odors could cause occasional annoyance and complaints.

Avoidance, Minimization, and/or Mitigation Measures

The project would be subject to the San Joaquin Valley Air Pollution Control District (the Air District) Rule 9510 (Indirect Source Review Rule). This rule applies to construction equipment emissions for transportation projects that exceed two tons of either PM_{10} or nitrogen oxide air pollutants. Mitigation options include using a construction fleet that is "cleaner that the California state average" and/or in the form of fees paid to the air district. The contractor will be responsible for the indirect source review air impact analysis and any applicable fees.

The project would be subject to a dust control permit from the Air District. Caltrans standard specifications pertaining to dust control and dust palliative requirement is a required part of all construction contracts and should effectively reduce and control emission impacts during construction. The provisions of Caltrans Standard Specifications, Section 7-1.01F "Air Pollution Control" and Section 10 "Dust Control" require the contractor to comply with the Air District rules, ordinances and regulations.

The use of diesel retrofit technologies outlined in the Congestion Mitigation and Air Quality Improvement Program provisions (technologies that are designed to lessen a number of mobile source air toxics) would help lower short-term mobile source air toxics. Compliance with the Air District rules and regulations during construction would reduce construction related air quality impacts.

Construction mitigation includes strategies that reduce engine activity or reduce emissions per unit of operating time. Operational agreements that reduce or redirect work or shift times to avoid community exposures would have positive benefits when sites are near vulnerable populations. The use of technological adjustments to equipment, such as off-road dump trucks and bulldozers, would also be appropriate strategies. These technological fixes would include particulate matter traps, oxidation catalysts, and other devices that provide an after-treatment of exhaust emissions. The use of clean fuels, such as ultra-low sulfur diesel, also would be a very cost-beneficial strategy. The EPA has listed a number of approved diesel retrofit technologies; many of these can be deployed as emissions mitigation measures for equipment used in construction.

2.3 Biological Resources

2.3.1 Threatened and Endangered Species

Regulatory Setting

The primary federal law protecting threatened and endangered species is the Federal Endangered Species Act (FESA): 16 USC Section 1531, et seq. See also 50 CFR Part 402. This act and subsequent amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend.

Under Section 7 of this consult with the U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA 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 is a Biological Opinion or an Incidental Take statement. Section 3 of FESA 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 (CESA), California Fish and Game Code, Section 2050, et seq. CESA emphasizes early consultation to avoid potential impacts to 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 Game (CDFG) is the agency responsible for implementing CESA. Section 2081 of the 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 Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA allows for take incidental to otherwise lawful development projects; for these actions an incidental take permit is issued by CDFG. For species listed under both FESA and CESA requiring a Biological Opinion under Section 7 of the FESA, CDFG may also authorize impacts to CESA 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 United States, 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

Habitat within the project site contains ruderal vegetation within the Caltrans right-of-way. The majority of the vegetation consists of non-native grasses. The project area contains flat open fields with a retail store located in the northeast corner of the intersection. Also present in the general area are rural residences and farmland.

Raptors and Migratory Birds

The Migratory Treaty Act protects migratory birds. The responsibilities of Federal agencies to protect migratory birds are set forth in Executive Order 13186. United States Fish and Wildlife Service is the lead agency for migratory birds. Farm Service Agency and Natural Conservation Services Agency are currently working with United States Fish and Wildlife Services to establish a Memorandum of Understanding on migratory birds in compliance with Executive Order 13186. The birds protected under this statute are many of our most common species, as well as birds listed as threatened or endangered.

There are several mature trees adjacent to the project impact area that could provide suitable habitat for nesting birds.

Valley Elderberry Longhorn Beetle (Federal Status: Threatened/State Status: None)

A total of nine elderberry shrubs with exit holes were identified near the project area. Eight are on the northeast side of the intersection and one is on the southeast side of the intersection. Of these nine shrubs, four are located near the Tule River directly adjacent to the Caltrans right of way. Another shrub is located at the southern end of the project impact

area within the Caltrans right of way. Four of the elderberry shrubs are located at the eastern end of the project area and are approximately 100 feet from where construction will occur, outside of the Caltrans right-of-way.

San Joaquin Kit Fox (Federally Endangered Species/ State Status: Threatened)

The California Natural Diversity Database shows occurrences of the San Joaquin kit fox (federally endangered, state threatened) within four miles of the project site. Potential habitat for this species is located adjacent to the impact area, however, the area to be directly affected by the project does not contain habitat suitable for foraging or contain any suitable den sites for the kit fox.

Environmental Consequences

The five elderberry shrubs located adjacent to or within the Caltrans right-of-way will be identified as environmentally sensitive areas and fenced off with high visibility fencing. A minimum distance of 20 feet will be maintained during construction activities. The other four shrubs will not have environmentally sensitive area fencing installed. They are far enough away from construction activities to avoid any indirect impacts. All nine elderberry shrubs would be completely avoided during construction.

Avoidance, Minimization, and/or Mitigation Measures

The project site contains suitable habitat for nesting birds including raptors. A pre-construction survey by a qualified Caltrans biologist will be required if construction is to occur during the nesting season (February 15 to September 1).

Environmental awareness training will be required to inform all construction personnel of the sensitive resources in the area, including San Joaquin kit fox and Valley elderberry longhorn beetle.

Five elderberry shrubs, as described above, will be identified as environmentally sensitive areas and fenced off with high visibility fencing. A minimum distance of 20 feet will be maintained during construction activities.

The *US Fish and Wildlife Standard Recommendations for Protection of the SJKF, Construction and Operational Requirements* include the following:

Habitat subject to permanent and temporary construction disturbances and other types of project related disturbance should be minimized. Project designs should limit or cluster permanent project features to the smallest area possible while still permitting project goals to be achieved. To minimize temporary disturbances, all project-related vehicle traffic should be restricted to established roads, construction areas, and other designated areas. These areas

should also be included in preconstruction surveys and, to the extent possible, should be established in locations disturbed by previous activities to prevent further impacts.

1. Project-related vehicles should observe a 20-mph speed limit in all project areas, except on county roads and State and Federal highways; this is particularly important at night when kit foxes are most active. To the extent possible, night-time construction should be minimized. Off-road traffic outside of designated project areas should be prohibited.
2. To prevent inadvertent entrapment of kit foxes or other animals during the construction phase of a project, all excavated, steep walled holes or trenches more than 2 feet deep should be covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled, they should be thoroughly inspected for trapped animals. If at any time a trapped or injured kit fox is discovered, the procedures under number 13 of this section must be followed.
3. Kit foxes are attracted to den-like structures such as pipes and may enter stored pipe becoming trapped or injured. All construction pipes, culverts, or similar structures with a diameter of 4 inches or greater that are stored at a construction site overnight should be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox is discovered inside a pipe, that section of pipe should not be moved until USFWS has been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved once to remove it from the path of construction activity, until the fox has escaped.
4. All food-related trash items such as wrappers, cans, bottles, and food scraps should be disposed of in closed containers and removed at least once a week from a construction or project site.
5. No firearms shall be allowed on the project site.
6. To prevent harassment, mortality of kit foxes or destruction of dens by dogs or cats, no pets should be permitted on project sites.
7. Use of rodenticides and herbicides in project areas should be restricted. This is necessary to prevent primary or secondary poisoning of kit foxes and the depletion of prey populations on which they depend. All uses of such compounds should observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other State and Federal legislation, as well as additional project-related restrictions deemed necessary by

USFWS. If rodent control must be conducted, zinc phosphide should be used because of proven lower risk to kit fox.

8. A representative shall be appointed by the project proponent who will be the contact source for any employee or contractor who might inadvertently kill or injure a kit fox or who finds a dead, injured or entrapped individual. The representative will be identified during the employee education program. The representative's name and telephone number shall be provided to USFWS.
9. An employee education program should be conducted for any project that has expected impacts to kit fox or other endangered species. The program should consist of a brief presentation by persons knowledgeable in kit fox biology and legislative protection to explain endangered species concerns to contractors, their employees, and military and agency personnel involved in the project. The program should include the following; a description of the San Joaquin kit fox and its habitat needs; a report of the occurrence of kit fox in the project area; an explanation of the status of the species and its protection under the Endangered Species Act; and a list of measures being taken to reduce impacts to the species during project construction and implementation. A fact sheet conveying his information should be prepared for distribution to the above-mentioned people and anyone else who may enter the project site.
10. Upon completion of the project, all areas subject to temporary ground disturbances, including storage and staging areas, temporary roads, pipeline corridors, etc., should be re-contoured if necessary, and revegetated to promote restoration of the area to pre-project conditions. An area subject to "temporary" disturbance means any area that is disturbed during the project, but that after project completion will not be subject to further disturbance and has the potential to be revegetated. Appropriate methods and plant species used to revegetate such areas should be determined on a site-specific basis in consultation with USFWS, California Department of Fish and Game (CDFG), and revegetation experts.
11. In case of trapped animals, escape ramps or structures should be installed immediately to allow the animal(s) to escape, or USFWS should be contacted for advice.
12. Any contractor, employee, or military or agency personnel who inadvertently kills or injures a San Joaquin kit fox shall immediately report the incident to their representative. This representative shall contact the California Department of Fish and Game immediately in the case of a dead, injured or entrapped kit fox. The

California Department of Fish and Game contact for immediate assistance is State Dispatch at 1-916-445-0045. They will contact the local warden or biologist.

13. The Sacramento Fish and Wildlife Office and the California Department of Fish and Game will be notified in writing within three working days of the accidental death or injury to a San Joaquin kit fox during project related activities. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal and any other pertinent information.

2.4 Climate Change under the California Environmental Quality Act

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the earth's climate system. An ever-increasing body of scientific research attributes these climatological changes to greenhouse gases (GHGs), particularly those generated from the production and use of fossil fuels.

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change (IPCC) by the United Nations and World Meteorological Organization's in 1988, has led to increased efforts devoted to greenhouse gas (GHG) emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of greenhouse gases related to human activity that include carbon dioxide (CO_2), methane, nitrous oxide, tetrafluoromethane, hexafluoroethane, sulfur hexafluoride, HFC-23 (fluoroform), HFC-134a (s, s, s, 2 –tetrafluoroethane), and HFC-152a (difluoroethane).

There are typically two terms used when discussing the impacts of climate change. "Greenhouse Gas (GHG) Mitigation" is a term for reducing greenhouse gas emissions in order to reduce or "mitigate" the impacts of climate change. "Adaptation," refers to the effort of planning for and adapting to impacts due to climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea levels)[1].

Transportation sources (passenger cars, light duty trucks, other trucks, buses and motorcycles) in the state of California make up the largest source (second to electricity generation) of greenhouse gas emitting sources. Conversely, the main source of greenhouse gas emissions in the United States (U.S.) is electricity generation followed by transportation. The dominant greenhouse gas emitted is CO_2, mostly from fossil fuel combustion.

[1] http://climatechange.transportation.org/ghg_mitigation/

There are four primary strategies for reducing greenhouse gas emissions from transportation sources: 1) improve system and operation efficiencies, 2) reduce growth of vehicle miles traveled (VMT) 3) transition to lower greenhouse gas fuels and 4) improve vehicle technologies. To be most effective all four should be pursued collectively. The following regulatory setting section outlines state and federal efforts to comprehensively reduce greenhouse gas emissions from transportation sources.

Regulatory Setting

State

With the passage of several pieces of legislation including State Senate and Assembly Bills and Executive Orders, California launched an innovative and pro-active approach to dealing with greenhouse gas emissions and climate change at the state level.

Assembly Bill 1493 (AB 1493), Pavley. Vehicular Emissions: Greenhouse Gases (AB 1493), 2002: requires the California Air Resources Board (ARB) to develop and implement regulations to reduce automobile and light truck greenhouse gas emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the 2009-model year. In June 2009, the U.S. Environmental Protection Agency (U.S. EPA) Administrator granted a Clean Air Act waiver of preemption to California. This waiver allowed California to implement its own greenhouse gas emission standards for motor vehicles beginning with model year 2009. California agencies will be working with Federal agencies to conduct joint rulemaking to reduce greenhouse gas emissions for passenger cars model years 2017-2025.

Executive Order S-3-05: (signed on June 1, 2005, by Governor Arnold Schwarzenegger) the goal of this Executive Order is to reduce California's greenhouse gas emissions to: 1) 2000 levels by 2010, 2) 1990 levels by the 2020 and 3) 80 percent below the 1990 levels by the year 2050. In 2006, this goal was further reinforced with the passage of Assembly Bill 32.

AB32 (AB 32), the Global Warming Solutions Act of 2006: AB 32 sets the same overall greenhouse gas emissions reduction goals as outlined in Executive Order S-3-05, while further mandating that CARB create a plan, which includes market mechanisms, and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." Executive Order S-20-06 further directs state agencies to begin implementing AB 32, including the recommendations made by the State's Climate Action Team.

Executive Order S-01-07: Governor Schwarzenegger set 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 ten percent by 2020.

Senate Bill 97 (Chapter 185, 2007): required the Governor's Office of Planning and Research (OPR) to develop recommended amendments to the State CEQA Guidelines for addressing greenhouse gas emissions. The Amendments became effective on March 18, 2010.

Federal

Although climate change and greenhouse gas reduction is a concern at the federal level; currently there are, no regulations or legislation that have been enacted specifically addressing greenhouse gas emissions reductions and climate change at the project level. Neither the United States Environmental Protection Agency (U.S. EPA) nor Federal Highway Administration (FHWA) has promulgated explicit guidance or methodology to conduct project-level greenhouse gas analysis. As stated on FHWA's climate change website (http://www.fhwa.dot.gov/hep/climate/index.htm), climate change considerations should be integrated throughout the transportation decision-making process–from planning through project development and delivery. Addressing climate change mitigation and adaptation up front in the planning process will facilitate decision-making and improve efficiency at the program level, and will inform the analysis and stewardship needs of project level decision-making. Climate change considerations can easily be integrated into many planning factors, such as supporting economic vitality and global efficiency, increasing safety and mobility, enhancing the environment, promoting energy conservation, and improving the quality of life.

The four strategies set forth by FHWA to lessen climate change impacts do correlate with efforts that the State has undertaken and is undertaking to deal with transportation and climate change; the strategies include improved transportation system efficiency, cleaner fuels, cleaner vehicles, and reduction in the growth of vehicle hours travelled.

Climate change and its associated effects are also being addressed through various efforts at the federal level to improve fuel economy and energy efficiency, such as the "National Clean Car Program" and Executive Order 13514- *Federal Leadership in Environmental, Energy and Economic Performance*.

Executive Order 13514 is focused on reducing greenhouse gases internally in federal agency missions, programs and operations, but also direct federal agencies to participate in the interagency Climate Change Adaptation Task Force, which is engaged in developing a U.S. strategy for adaptation to climate change.

On April 2, 2007, in *Massachusetts v. EPA*, 549 U.S. 497 (2007), the Supreme Court found that greenhouse gases are air pollutants covered by the Clean Air Act and that the U.S. EPA has the authority to regulate greenhouse gas. The Court held that the U.S. EPA Administrator must determine whether or not emissions of greenhouse gases from new motor vehicles cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision.

On December 7, 2009, the U.S. EPA Administrator signed two distinct findings regarding greenhouse gases under section 202(a) of the Clean Air Act:

Endangerment Finding: The Administrator found that the current and projected concentrations of the six key well-mixed greenhouse gases--carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6)--in the atmosphere threaten the public health and welfare of current and future generations.

Cause or Contribute Finding: The Administrator found that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution which threatens public health and welfare.

Although these findings did not themselves impose any requirements on industry or other entities, this action was a prerequisite to finalizing the U.S. EPA's *Proposed Greenhouse Gas Emission Standards for Light-Duty Vehicles*, which was published on September 15, 2009[2]. On May 7, 2010 the final *Light-Duty Vehicle Greenhouse Gas Emissions Standards and Corporate Average Fuel Economy Standards* was published in the Federal Register.

U.S. EPA and the National Highway Traffic Safety Administration (NHTSA) are taking coordinated steps to enable the production of a new generation of clean vehicles with reduced greenhouse gas emissions and improved fuel efficiency from on-road vehicles and engines. These next steps include developing the first-ever greenhouse gas regulations for heavy-duty engines and vehicles, as well as additional light-duty vehicle greenhouse gas regulations. These steps were outlined by President Obama in a memorandum on May 21, 2010.[3]

The final combined U.S. EPA and NHTSA standards that make up the first phase of this national program apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. The standards require these vehicles to

[2] http://www.epa.gov/climatechange/endangerment.html
[3] http://epa.gov/otaq/climate/regulations.htm

meet an estimated combined average emissions level of 250 grams of carbon dioxide per mile, equivalent to 35.5 miles per gallon (MPG) if the automobile industry were to meet this carbon dioxide level solely through fuel economy improvements. Together, these standards will cut greenhouse gas emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012-2016).

On January 24, 2011, the U.S. EPA along with the U.S. Department of Transportation and the State of California announced a single timeframe for proposing fuel economy and greenhouse gas standards for model years 2017-2025 cars and light-trucks. Proposing the new standards in the same timeframe (September 1, 2011) signals continued collaboration that could lead to an extension of the current National Clean Car Program.

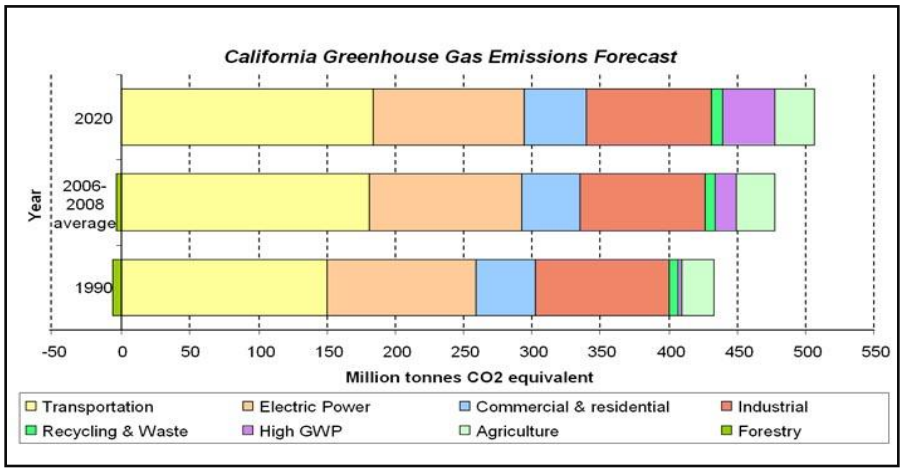
Project Analysis

An individual project does not generate enough greenhouse gas emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may participate in a potential impact through its incremental contribution combined with the contributions of all other sources of greenhouse gas.[4] In assessing cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable." See California Environmental Quality Act (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. To gather sufficient information on a global scale of all past, current, and future projects in order to make this determination is a difficult if not impossible task.

The AB 32 Scoping Plan contains the main strategies California will use to reduce greenhouse gas. As part of its supporting documentation for the Draft Scoping Plan, ARB released the greenhouse gas inventory for California (Forecast last updated: 28 October 2010). The forecast is an estimate of the emissions expected to occur in the year 2020 if none of the foreseeable measures included in the Scoping Plan were implemented. The base year used for forecasting emissions is the average of statewide emissions in the greenhouse gas inventory for 2006, 2007, and 2008.

[4] This approach is supported by the AEP: *Recommendations by the Association of Environmental Professionals on How to Analyze GHG Emissions and Global Climate Change in CEQA Documents* (March 5, 2007), as well as the SCAQMD (Chapter 6: : The CEQA Guide, April 2011) and the US Forest Service (Climate Change Considerations in Project Level NEPA Analysis, July 13, 2009).

Figure 2-1 California Greenhouse Gas Forecast



Source: http://www.arb.ca.gov/cc/inventory/data/forecast.htm

Caltrans and its parent agency, the Business, Transportation, and Housing Agency, have taken an active role in addressing greenhouse gas emission reduction and climate change. Recognizing that 98 percent of California's greenhouse gas emissions are from the burning of fossil fuels and 40 percent of all human made greenhouse gas emissions are from transportation, Caltrans has created and is implementing the Climate Action Program at Caltrans that was published in December 2006 (see Climate Action Program at Caltrans (December 2006).[5]

Caltrans proposes to improve the intersection of State Route 190 and Road 284 near the City of Porterville, in Tulare County, California. Two build alternatives and a no-build alternative are under consideration. The construction and implementation of this project would not increase capacity. The features of this project are designed to make the traffic flow smoother in the project area. Implementation of either build alternative is likely to reduce emissions when the future build conditions are compared to future no-build conditions. For Alternative 1 (single-lane roundabout), vehicles are not required to idle as long because drivers are not required to stop while passing through a roundabout. This helps reduce fuel consumption and vehicle emissions. A study by the Insurance Institute for Highway Safety found that roundabouts can reduce fuel consumption by approximately 30 percent. Another study by the institute found that roundabouts can lead to a reduction of a carbon dioxide emissions by at least 37 percent. (http;//www.iihs.org/research/qanda/roundabouts.html#cite12). Alternative 2 (signalization) would cause more idle time and emissions compared with the roundabout alternative.

[5] Caltrans Climate Action Program is located at the following web address: http://www.dot.ca.gov/hq/tpp/offices/ogm/key_reports_files/State_Wide_Strategy/Caltrans_Climate_Action_Program.pdf

Construction Emissions

Greenhouse gas emissions for transportation projects can be divided into those produced during construction and those produced during operations. Construction greenhouse gas emissions include emissions produced as a result of material processing, emissions produced by onsite construction equipment, and emissions arising from 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.

In addition, with innovations such as longer pavement lives, improved traffic management plans, and changes in materials, the greenhouse gas emissions produced during construction can be mitigated to some degree by longer intervals between maintenance and rehabilitation events.

CEQA Conclusion

While construction would result in a slight increase in greenhouse gas emissions during construction, Caltrans expects there would be a reduction in greenhouse gas emissions with the build alternatives when compared to the no-build conditions.
However, it is Caltrans' determination that in the absence of further regulatory or scientific information related to greenhouse gas emissions and California Environmental Quality Act significance, it is too speculative to make a determination on the project's direct impact and its contribution on the cumulative scale to climate change. Nonetheless, Caltrans is taking further measures to help reduce energy consumption and greenhouse gas emissions. These measures are outlined in the following section.

Greenhouse Gas Reduction Strategies

AB 32 Compliance
The Department continues to be actively involved on the Governor's Climate Action Team as ARB works to implement the Executive Orders S-3-05 and S-01-07 and help achieve the targets set forth in AB 32. Many of the strategies Caltrans is using to help meet the targets in AB 32 come from the California Strategic Growth Plan, which is updated each year.

Former Governor Arnold Schwarzenegger's Strategic Growth Plan calls for a $222 billion infrastructure improvement program to fortify the state's transportation system, education,

Figure 2-2 Mobility

housing, and waterways, including $100.7 billion in transportation funding during the next decade. The Strategic Growth Plan targets a significant decrease in traffic congestion below today's level and a corresponding reduction in greenhouse gas emissions. The Strategic Growth Plan proposes to do this while accommodating growth in population and the economy. A suite of investment options has been created that combined together are expected to reduce congestion. The Strategic Growth Plan relies on a complete systems approach to attain CO_2 reduction goals: system monitoring and evaluation, maintenance and preservation, smart land use and demand management, and operational improvements as depicted in Figure 2.2: The Mobility Pyramid.

The Department is supporting efforts to reduce vehicle miles traveled by planning and implementing smart land use strategies: job/housing proximity, developing transit-oriented communities, and high density housing along transit corridors. The Department is working closely with local jurisdictions on planning activities; however, Caltrans does not have local land use planning authority. The Department is also supporting efforts to improve the energy efficiency of the transportation sector by increasing vehicle fuel economy in new cars, light and heavy-duty trucks; Caltrans is doing this by supporting on-going research efforts at universities, by supporting legislative efforts to increase fuel economy, and by its participation on the Climate Action Team. It is important to note, however, that the control of the fuel economy standards is held by U.S. EPA and ARB. Lastly, the use of alternative fuels is also being considered; Caltrans is participating in funding for alternative fuel research at the UC Davis.

Table 2.8 summarizes Caltrans and statewide efforts that Caltrans is implementing in order to reduce greenhouse gas emissions. More detailed information about each strategy is included in the Climate Action Program at Caltrans (December 2006).

Table 2.8 Climate Change/CO2 Reduction Strategies

Strategy	Program	Partnership		Method/Process	Estimated CO_2 Savings (MMT)	
		Lead	Agency		2010	2020
Smart Land Use	Intergovernmental Review (IGR)	Caltrans	Local Governments	Review and seek to mitigate development proposals	Not Estimated	Not Estimated
	Planning Grants	Caltrans	Local and regional agencies & other stakeholders	Competitive selection process	Not Estimated	Not Estimated
	Regional Plans and Blueprint Planning	Regional Agencies	Caltrans	Regional plans and application process	.975	7.8
Operational Improvements & Intelligent Trans. System (ITS) Deployment	Strategic Growth Plan	Caltrans	Regions	State ITS; Congestion Management Plan	.07	2.17
Mainstream Energy & GHG into Plans and Projects	Office of Policy Analysis & Research; Division of Environmental Analysis	Interdepartmental effort		Policy establishment, guidelines, technical assistance	Not Estimated	Not Estimated
Educational & Information Program	Office of Policy Analysis & Research	Interdepartmental, CalEPA, CARB, CEC		Analytical report, data collection, publication, workshops, outreach	Not Estimated	Not Estimated
Fleet Greening & Fuel Diversification	Division of Equipment	Department of General Services		Fleet Replacement B20 B100	.0045	.0065 .045 .0225
Non-vehicular Conservation Measures	Energy Conservation Program	Green Action Team		Energy Conservation Opportunities	.117	.34
Portland Cement	Office of Rigid Pavement	Cement and Construction Industries		2.5 % limestone cement mix 25% fly ash cement mix > 50% fly ash/slag mix	1.2 .36	4.2 3.6
Goods Movement	Office of Goods Movement	Cal EPA, CARB, BT&H, MPOs		Goods Movement Action Plan	Not Estimated	Not Estimated
Total					2.72	18.18

To the extent that it is applicable or feasible for the project and through coordination with the project development team, the following measures will also be included in the project to reduce the greenhouse gas emissions and potential climate change impacts from the project:

Landscaping reduces surface warming, and through photosynthesis, decreases CO_2. The project proposes planting in the intersection slopes, drainage channels, and seeding in areas adjacent to frontage roads and planting a variety of different-sized plant material and scattered skyline trees where appropriate but not to obstruct the view of the mountains. Caltrans has committed to planting a minimum of 40 trees. These trees will help offset any potential CO_2 emissions increase. Based on a formula from the Canadian Tree Foundation[6], it is anticipated that the planted trees will offset between 7-10 tons of $C0_2$ per year.

1. The project could incorporate the use of energy efficient lighting, such as LED traffic signals. LED bulbs cost $60 to $70 apiece but last five to six years, compared to the one-year average lifespan of the incandescent bulbs previously used. The LED bulbs themselves consume 10 percent of the electricity of traditional lights, which will also help reduce the projects CO_2 emissions.[7]

2. According to Caltrans's Standard Specifications, the contractor must comply with all local Air Pollution Control District's rules, ordinances, and regulations in regards to air quality restrictions.

3. Construction mitigation includes strategies that reduce engine activity or reduce emissions per unit of operating time. Operational agreements that reduce or redirect work or shift times to avoid community exposures would have positive benefits when sites are near vulnerable populations. The use

[6] Canadian Tree Foundation at http://www.tcf-fca.ca/publications/pdf/english_reduceco2.pdf. For rural areas the formula is: # of trees/360 x survival rate = tones of carbon/year removed for each of 80 years.

[7] Knoxville Business Journal, "LED Lights Pay for Themselves," May 19, 2008 at http://www.knoxnews.com/news/2008/may/19/led-traffic-lights-pay-themselves/.

of technological adjustments to equipment, such as off-road dump trucks and bulldozers, would also be appropriate strategies. These technological fixes would include particulate matter traps, oxidation catalysts, and other devices that provide an after-treatment of exhaust emissions. The use of clean fuels, such as ultra-low sulfur diesel, also would be a very cost-beneficial strategy. The Environmental Protection Agency has listed a number of approved diesel retrofit technologies; many of these can be deployed as emissions mitigation measures for equipment used in construction.

4. The project would be subject to a dust control permit from the San Joaquin Unified Air Pollution Control District. Caltrans standard specifications pertaining to dust control and dust palliative requirement is a required part of all construction contracts and should effectively reduce and control emission impacts during construction. The provisions of Caltrans Standard Specifications, Section 7-1.01F "Air Pollution Control" and Section 10 "Dust Control" require the contractor to comply with the San Joaquin Valley Air Pollution Control District rules, ordinances and regulations.

Adaptation Strategies

"Adaptation strategies" refer to how Caltrans and others can 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, storm surges and intensity, and the frequency and intensity of wildfires. These changes may affect the transportation infrastructure in various ways, such as damaging roadbeds by longer periods of intense heat; increasing storm damage from flooding and erosion; and inundation from rising sea levels. These effects will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. There may also be economic and strategic ramifications as a result of these types of impacts to the transportation infrastructure.

At the Federal level, the Climate Change Adaptation Task Force, co-chaired by the White House Council on Environmental Quality (CEQ), the Office of Science and Technology Policy (OSTP), and the National Oceanic and Atmospheric Administration (NOAA), released its interagency report October 14, 2010 outlining recommendations to President Obama for how Federal Agency policies and programs

can better prepare the United States (U.S.) to respond to the impacts of climate change. The Progress Report of the Interagency Climate Change Adaptation Task Force recommends that the Federal Government implement actions to expand and strengthen the nation's capacity to better understand, prepare for, and respond to climate change.

Climate change adaption must also involve the natural environment as well. Efforts are underway on a statewide-level to develop strategies to cope with impacts to habitat and biodiversity through planning and conservation. The results of these efforts will help California agencies plan and implement mitigation strategies for programs and projects.

On November 14, 2008, Governor Schwarzenegger signed Executive Order S-13-08 which directed a number of state agencies to address California's vulnerability to sea level rise caused by climate change. This Executive Order set in motion several agencies and actions to address the concern of sea level rise.

The California Natural Resources Agency (Resources Agency) was directed to coordinate with local, regional, state and federal public and private entities to develop. *The California Climate Adaptation Strategy* (Dec 2009)[8], which summarizes the best known science on climate change impacts to California, assesses California's vulnerability to the identified impacts, and then outlines solutions that can be implemented within and across state agencies to promote resiliency.

The strategy outline is in direct response to Executive Order S-13-08 that specifically asked the Resources Agency to identify how state agencies can respond to rising temperatures, changing precipitation patterns, sea level rise, and extreme natural events. Numerous other state agencies were involved in the creation of the Adaptation Strategy document, including Environmental Protection; Business, Transportation and Housing; Health and Human Services; and Caltrans of Agriculture. The document is broken down into strategies for different sectors that include: Public Health; Biodiversity and Habitat; Ocean and Coastal Resources; Water Management; Agriculture; Forestry; and Transportation and Energy Infrastructure. As data continues to be developed and collected, the state's adaptation strategy will be updated to reflect current findings.

[8] http://www.energy.ca.gov/2009publications/CNRA-1000-2009-027/CNRA-1000-2009-027-F.PDF

Resources Agency was also directed to request the National Academy of Science to prepare a Sea Level Rise Assessment Report by December 2012[9] to advise how California should plan for future sea level rise. The report is to include:

- relative sea level rise projections for California, Oregon and Washington taking into account coastal erosion rates, tidal impacts, El Niño and La Niña events, storm surge and land subsidence rates

- the range of uncertainty in selected sea level rise projections

- a synthesis of existing information on projected sea level rise impacts to state infrastructure (such as roads, public facilities and beaches), natural areas, and coastal and marine ecosystems

- a discussion of future research needs regarding sea level rise

Prior to the release of the final sea level rise assessment report, all state agencies that are planning to construct projects in areas vulnerable to future sea level rise were directed to consider a range of sea level rise scenarios for the years 2050 and 2100 in order to assess project vulnerability and, to the extent feasible, reduce expected risks and increase resiliency to sea level rise. Sea level rise estimates should also be used in conjunction with information regarding local uplift and subsidence, coastal erosion rates, predicted higher high water levels, storm surge and storm wave data

Until the final report from the National Academy of Sciences is released, interim guidance has been released by The Coastal Ocean Climate Action Team (CO-CAT) as well as Caltrans as a method to initiate action and discussion of potential risks to the states infrastructure due to projected sea level rise.

All projects that have filed a notice of preparation, and/or are programmed for construction funding from 2008 through 2013, or are routine maintenance projects as of the date of Executive Order S-13-08 may, but are not required to, consider these planning guidelines.

Furthermore Executive Order S-13-08 directed the Business, Transportation, and Housing Agency to prepare a report to assess vulnerability of transportation systems to sea level affecting safety, maintenance and operational improvements of the system and economy of the state. Caltrans continues to work on assessing the transportation system vulnerability to climate change, including the effect of sea level rise.

[9] The Sea Level Rise Assessment report is currently due to be completed in 2012 and will include information for Oregon and Washington State as well as California.

Currently, Caltrans is working to assess which transportation facilities are at greatest risk from climate change effects. However, without statewide planning scenarios for relative sea level rise and other climate change impacts, Caltrans has not been able to determine what change, if any, may be made to its design standards for its transportation facilities. Once statewide planning scenarios become available, Caltrans will be able review its current design standards to determine what changes, if any, may be warranted in order to protect the transportation system from sea level rise.

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system from increased precipitation and flooding; the increased frequency and intensity of storms and wildfires; rising temperatures; and rising sea levels. Caltrans is an active participant in the efforts being conducted in response to Executive Order S-13-08 and is mobilizing to be able to respond to the National Academy of Science report on sea level rise assessment, which is due to be released in 2012.

The project area is relatively flat so increased erosion due to storms or flooding is not anticipated. The project is not in an area close to the ocean therefore the area would not be affected by rising sea levels.

The project is located within the San Joaquin Valley Air Basin and is in a non-attainment area for ozone and $PM_{2.5}$, and an attainment-maintenance area for PM_{10}. The area could be subject to long periods of intense heat from climate change. Higher temperatures may worsen poor air quality and increase the frequency, duration, and intensity of air quality conditions. More severe heat may increase the risk of death by dehydration, heat stroke/exhaustion, heart attack, stroke, and respiratory distress. However, more extreme heat would be seen in urban centers than in rural areas like where the proposed project would be located. The most vulnerable populations are those who are already ill, children, the elderly, and the poor.

Chapter 3 Comments and Coordination

Early and continuing coordination with the general public and appropriate public agencies is an essential part of the environmental process to determine the scope of environmental documentation, the level of analysis, potential impacts and mitigation measures, and related environmental requirements. Agency consultation and public participation for this project have been accomplished through a variety of formal and informal methods, including project development team meetings, interagency coordination meetings. This chapter summarizes the results of Caltrans' efforts to identify, address, and resolve project-related issues through early and continuing coordination.

Caltrans Project Management has been in communication with the County of Tulare and the Tule River Tribe since 2008. Caltrans Project Management shared the conceptual report with the County in February 2008. A Cooperative agreement was fully executed by Tulare County in 2010.

The Initial Study will be circulated to the public and agencies for their review. A public hearing is also planned for the end of April 2012.

Chapter 4 List of Preparers

This document was prepared by the following Caltrans Central Region staff:

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Appendix A California Environmental Quality Act Checklist

The following checklist identifies physical, biological, social, and economic factors that might be affected by the proposed project. The California Environmental Quality Act impact levels include "potentially significant impact," "less than significant impact with mitigation," "less than significant impact," and "no impact."

Supporting documentation of all California Environmental Quality Act checklist determinations is provided in Chapter 2 of this Initial Study/Environmental Assessment. Documentation of "No Impact" determinations is provided at the beginning of Chapter 2. Discussion of all impacts, avoidance, minimization, and/or mitigation measures is under the appropriate topic headings in Chapter 2.

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
I. AESTHETICS: Would the project:				
a) Have a substantial adverse effect on a scenic vista	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☐	☒
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒
II. 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 Dept. 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?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a 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))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
III. AIR QUALITY: Where available, the significance criteria established by the applicable air quality management 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?	☐	☐	☐	☒
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☐	☒
c) 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 (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☐	☒
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	☒
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☒
IV. 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 Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
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 Game or US Fish and Wildlife Service?	☐	☐	☐	☒
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
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?	☐	☐	☐	☒
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
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?	☐	☐	☐	☒

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
V. CULTURAL RESOURCES: Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☐	☒
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒
VI. GEOLOGY AND SOILS: Would the project:				
a) Expose people or structures to 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?	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☐	☒
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the 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- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☒
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact

VII. GREENHOUSE GAS EMISSIONS: Would the project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

An assessment of the greenhouse gas emissions and climate change is included in the body of environmental document. While Caltrans has included this good faith effort in order to provide the public and decision-makers as much information as possible about the project, it is Caltrans' determination that in the absence of further regulatory or scientific information related to greenhouse gas emissions and CEQA significance, it is too speculative to make a significance determination regarding the project's direct and indirect impact with respect to climate change. Caltrans does remain firmly committed to implementing measures to help reduce the potential effects of the project. These measures are outlined in the body of the environmental document.

VIII. 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?	☐	☐	☐	☒
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?	☐	☐	☐	☒
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
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?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒

h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact

IX. HYDROLOGY AND WATER QUALITY: Would the project:

a) Violate any water quality standards or waste discharge requirements?	☐	☐	☐	☒
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☐	☒
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☐	☒
e) 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?	☐	☐	☐	☒
f) Otherwise substantially degrade water quality?	☐	☐	☐	☒
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j) Result in inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

X. LAND USE AND PLANNING: Would the project:

a) Physically divide an established community?	☐	☐	☐	☒

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
	☐	☐	☐	☒
b)Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?				
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒
XI. 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?	☐	☐	☐	☒
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?	☐	☐	☐	☒
XII. NOISE: Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☐	☒
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☒
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two 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?	☐	☐	☐	☒
(f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
XIII. POPULATION AND HOUSING: Would the project:				
a) Induce substantial 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)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
XIV. 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, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	☐	☐	☐	☒
Fire protection?	☐	☐	☐	☒
Police protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒
XV. 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?	☐	☐	☐	☒
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?	☐	☐	☐	☒
XVI. TRANSPORTATION/TRAFFIC: Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☐	☒
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☒
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
e) Result in inadequate emergency access?	☐	☐	☐	☒
f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒
XVII. UTILITIES AND SERVICE SYSTEMS: Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒
e) 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?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☒
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒
XVIII. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to 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?	☐	☐	☐	☒
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)?	☐	☐	☐	☒
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☒

Appendix B Title VI Policy Statement

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY ARNOLD SCHWARZENEGGER, Governor

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE DIRECTOR
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Flex your power!
Be energy efficient!

July 20, 2010

TITLE VI
POLICY STATEMENT

The California Department of Transportation, under Title VI of the Civil Rights Act of 1964 and related statutes, ensures that no person in the State of California shall, on the grounds of race, color, national origin, sex, disability, or age, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity it administers.

For information or guidance on how to file a complaint based on the grounds of race, color, national origin, sex, disability, or age, please visit the following web page: http://www.dot.ca.gov/hq/bep/title_vi/t6_violated.htm.

Additionally, if you need this information in an alternate format, such as in Braille or in a language other than English, please contact Charles Wahnon, Manager, Title VI and Americans with Disabilities Act Program, California Department of Transportation, 1823 14th Street, MS-79, Sacramento, CA 95811. Phone: (916) 324-1353 or toll free 1-866-810-6346 (voice), TTY 711, fax (916) 324-1869, or via email: charles_wahnon@dot.ca.gov.

CINDY McKIM
Director

"Caltrans improves mobility across California"

Appendix C Minimization and/or Mitigation Summary

Utilities and Emergency Services

Any utility relocation outside of the boundaries of the environmental studies completed for the project would require separate environmental studies. If relocation of utilities is required, the impacts to services would be temporary. A detailed study would be conducted during the final design phase of this project and utility conflict mapping would be prepared.

A traffic management plan would be developed to minimize delays and maximize safety for the motorists and emergency responders during construction. The traffic management plan would include, but is not limited to:

- Release of information through brochures and mailers, press releases, and advertisements managed by the Public Information Office.
- Use of fixed and portable changeable message signs.
- Incident management through COZEEP (Construction Zone Enhancement Enforcement Program) and the transportation management center.
- Use of one-way traffic control.

Traffic

A traffic management plan would be developed as describe above to minimize delays and maximize safety for motorists.

Visual/Aesthetics

Aesthetic considerations for Alternative 1 would be considered during the final design phase for sidewalks, splitter islands, mountable curbs, lighting, landscaping in the middle of the roundabout, and stamped concrete at the perimeter of the roundabout in the truck apron area No additional mitigation is required for visual impacts.

Air Quality

The project would be subject to the San Joaquin Valley Air Pollution Control District Rule 9510 (Indirect Source Review Rule). This rule applies to construction equipment emissions for transportation projects that exceed 2.0 tons of either PM_{10} and/or

nitrogen oxide air pollutants. Mitigation options include using a construction fleet that is "cleaner that the California state average" and/or in the form of fees paid to the District. The contractor will be responsible for the Indirect Source Review Air Impact Analysis and any applicable fees.

Construction mitigation includes strategies that reduce engine activity or reduce emissions per unit of operating time. Operational agreements that reduce or redirect work or shift times to avoid community exposures would have positive benefits when sites are near vulnerable populations. The use of technological adjustments to equipment, such as off-road dump trucks and bulldozers, would also be appropriate strategies. These technological fixes would include particulate matter traps, oxidation catalysts, and other devices that provide an after-treatment of exhaust emissions. The use of clean fuels, such as ultra-low sulfur diesel, also would be a very cost-beneficial strategy. The Environmental Protection Agency has listed a number of approved diesel retrofit technologies; many of these can be deployed as emissions mitigation measures for equipment used in construction.

Threatened and Endangered Species

The project site contains suitable habitat for nesting birds including raptors. A pre-construction survey by a qualified Caltrans biologist will be required if construction is to occur during the nesting season (February 15 to September 1).

Environmental awareness training will be required to inform all construction personnel of the sensitive resources in the area, including San Joaquin kit fox and Valley elderberry longhorn beetle.

Five elderberry shrubs, as described above, will be identified as environmentally sensitive areas and fenced off with high visibility fencing. A minimum distance of 20 feet will be maintained during construction activities.

The *US Fish and Wildlife Standard Recommendations for Protection of the SJKF, Construction and Operational Requirements* include the following:

Habitat subject to permanent and temporary construction disturbances and other types of project related disturbance should be minimized. Project designs should limit or cluster permanent project features to the smallest area possible while still permitting project goals to be achieved. To minimize temporary disturbances, all project-related vehicle traffic should be restricted to established roads, construction areas, and other designated areas. These areas should also be included in preconstruction surveys and,

to the extent possible, should be established in locations disturbed by previous activities to prevent further impacts.

1. Project-related vehicles should observe a 20-mph speed limit in all project areas, except on county roads and State and Federal highways; this is particularly important at night when kit foxes are most active. To the extent possible, night-time construction should be minimized. Off-road traffic outside of designated project areas should be prohibited.
2. To prevent inadvertent entrapment of kit foxes or other animals during the construction phase of a project, all excavated, steep walled holes or trenches more than 2 feet deep should be covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled, they should be thoroughly inspected for trapped animals. If at any time a trapped or injured kit fox is discovered, the procedures under number 13 of this section must be followed.
3. Kit foxes are attracted to den-like structures such as pipes and may enter stored pipe becoming trapped or injured. All construction pipes, culverts, or similar structures with a diameter of 4 inches or greater that are stored at a construction site overnight should be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox is discovered inside a pipe, that section of pipe should not be moved until USFWS has been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved once to remove it from the path of construction activity, until the fox has escaped.
4. All food-related trash items such as wrappers, cans, bottles, and food scraps should be disposed of in closed containers and removed at least once a week from a construction or project site.
5. No firearms shall be allowed on the project site.
6. To prevent harassment, mortality of kit foxes or destruction of dens by dogs or cats, no pets should be permitted on project sites.
7. Use of rodenticides and herbicides in project areas should be restricted. This is necessary to prevent primary or secondary poisoning of kit foxes and the depletion of prey populations on which they depend. All uses of such compounds should observe label and other restrictions mandated by the U.S.

Environmental Protection Agency, California Department of Food and Agriculture, and other State and Federal legislation, as well as additional project-related restrictions deemed necessary by USFWS. If rodent control must be conducted, zinc phosphide should be used because of proven lower risk to kit fox.

8. A representative shall be appointed by the project proponent who will be the contact source for any employee or contractor who might inadvertently kill or injure a kit fox or who finds a dead, injured or entrapped individual. The representative will be identified during the employee education program. The representative's name and telephone number shall be provided to USFWS.
9. An employee education program should be conducted for any project that has expected impacts to kit fox or other endangered species. The program should consist of a brief presentation by persons knowledgeable in kit fox biology and legislative protection to explain endangered species concerns to contractors, their employees, and military and agency personnel involved in the project. The program should include the following; a description of the San Joaquin kit fox and its habitat needs; a report of the occurrence of kit fox in the project area; an explanation of the status of the species and its protection under the Endangered Species Act; and a list of measures being taken to reduce impacts to the species during project construction and implementation. A fact sheet conveying his information should be prepared for distribution to the above-mentioned people and anyone else who may enter the project site.
10. Upon completion of the project, all areas subject to temporary ground disturbances, including storage and staging areas, temporary roads, pipeline corridors, etc., should be re-contoured if necessary, and revegetated to promote restoration of the area to pre-project conditions. An area subject to "temporary" disturbance means any area that is disturbed during the project, but that after project completion will not be subject to further disturbance and has the potential to be revegetated. Appropriate methods and plant species used to revegetate such areas should be determined on a site-specific basis in consultation with USFWS, California Department of Fish and Game (CDFG), and revegetation experts.
11. In case of trapped animals, escape ramps or structures should be installed immediately to allow the animal(s) to escape, or USFWS should be contacted for advice.

12. Any contractor, employee, or military or agency personnel who inadvertently kills or injures a San Joaquin kit fox shall immediately report the incident to their representative. This representative shall contact the California Department of Fish and Game immediately in the case of a dead, injured or entrapped kit fox. The California Department of Fish and Game contact for immediate assistance is State Dispatch at 1-916-445-0045. They will contact the local warden or biologist.
13. The Sacramento Fish and Wildlife Office and the California Department of Fish and Game will be notified in writing within three working days of the accidental death or injury to a San Joaquin kit fox during project related activities. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal and any other pertinent information.

Cultural Resources

Based on the high level of archaeological sensitivity within project area, archaeological monitoring will be necessary during the construction of this project. It is Caltrans' policy to avoid cultural resources whenever possible. If buried cultural materials are encountered during construction, it is the policy of Caltrans that work stop in that area until a qualified archaeologist can evaluate the nature and significance of the find. If human remains are exposed during project work, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to Public Code 5097.98.

Appendix D Natural Resources Conservation Service Farmland Conversion Impact Rating Form

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*		Date Of Land Evaluation Request 10/4/10	
Name Of Project Route 190 & Road 284 Intersection Improvement		Federal Agency Involved	
Proposed Land Use		County And State Tulare California	
PART II *(To be completed by NRCS)*		Date Request Received By NRCS 10/11/11	
Does the site contain prime, unique, statewide or local important farmland? *(If no, the FPPA does not apply -- do not complete additional parts of this form).*	Yes ☒ No ☐	Acres Irrigated 550,342	Average Farm Size 223
Major Crop(s) Citrus, Cotton, ALFALFA	Farmable Land In Govt. Jurisdiction Acres: 638,789 % 20.7	Amount Of Farmland As Defined In FPPA Acres: 867,965	% 28.1
Name Of Land Evaluation System Used California Storie System	Name Of Local Site Assessment System None	Date Land Evaluation Returned By NRCS 10/12/11	

PART III *(To be completed by Federal Agency)*	Alternative Site Rating Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly	0.3			
B. Total Acres To Be Converted Indirectly				
C. Total Acres In Site	0.3	0.0	0.0	0.0
PART IV *(To be completed by NRCS)* Land Evaluation Information				
A. Total Acres Prime And Unique Farmland	0.1			
B. Total Acres Statewide And Local Important Farmland				
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted				
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value	0.000015			
PART V *(To be completed by NRCS)* Land Evaluation Criterion Relative Value Of Farmland To Be Converted *(Scale of 0 to 100 Points)*	0 50	0	0	0

PART VI *(To be completed by Federal Agency)* Site Assessment Criteria *(These criteria are explained in 7 CFR 658.5(b)*	Maximum Points				
1. Area In Nonurban Use	15	14			
2. Perimeter In Nonurban Use	10	7			
3. Percent Of Site Being Farmed	~~10~~ 20	5			
4. Protection Provided By State And Local Government	~~15~~ 20	0			
5. Distance From Urban Builtup Area	15	15			
6. Distance To Urban Support Services	15	10			
7. Size Of Present Farm Unit Compared To Average	10	5			
8. Creation Of Nonfarmable Farmland	5	0			
9. Availability Of Farm Support Services	4	4			
10. On-Farm Investments	~~15~~ 20	5			
11. Effects Of Conversion On Farm Support Services	0	0			
12. Compatibility With Existing Agricultural Use	0	0			
TOTAL SITE ASSESSMENT POINTS	160	0 65	0	0	0
PART VII *(To be completed by Federal Agency)*					
Relative Value Of Farmland *(From Part V)*	100	0	0	0	0
Total Site Assessment *(From Part VI above or a local site assessment)*	160	0	0	0	0
TOTAL POINTS *(Total of above 2 lines)*	260	0 115	0	0	0

Site Selected:	Date Of Selection	Was A Local Site Assessment Used? Yes ☐ No ☒

Reason For Selection:

(See Instructions on reverse side)

This form was electronically produced by National Production Services Staff

Form AD-1006 (10-83)

List of Technical Studies that are Bound Separately

Air Quality Report
Noise Study Report
Water Quality Report
Natural Environment Study
Historical Resources Compliance Report
Hazardous Waste Reports:

- Initial Site Assessment
- Preliminary Site Investigation (Geophysical Survey)

Paleontology Report
Floodplain and Hydraulic Reference
Scenic Resource Evaluation/Visual Assessment