

# **Kern 99 North 8-Lane Widening**

on State Route 99 within the City of Bakersfield in Kern County

06-KER-99-PM-27.0/28.39

06-OG8400

06-0002-0166

## **Initial Study with Proposed Mitigated Negative Declaration**



Prepared by the  
State of California Department of Transportation

**May 2011**



## **General Information About This Document**

### ***What's in this document?***

The California Department of Transportation (Caltrans), California Environmental Quality Act lead for this project, has prepared this Initial Study with Proposed Mitigated Negative Declaration that examines the potential environmental impacts of alternatives being considered for the proposed project in the city of Bakersfield. The document tells you why the project is being proposed, what alternatives we have considered for the project, how the existing environment could be affected by the project, the potential impacts of each alternative, and the proposed avoidance, minimization, and/or mitigation measures.

### ***What should you do?***

- Please read the document. Additional copies of it, as well as of 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 at the Kern County Library, 701 Truxtun Avenue, Bakersfield, CA 93301.
- If you would like a public hearing or wish to make any comments, write to Caltrans at the address below.

Submit your request and/or comments via postal mail to:

John Thomas, Acting Branch Chief  
San Joaquin Valley Analysis Branch  
California Department of Transportation  
2015 East Shields Avenue  
Fresno, CA 93726

- Submit comments via e-mail to: [john\\_q\\_thomas@dot.ca.gov](mailto:john_q_thomas@dot.ca.gov).
- Be sure to submit your request and/or comments by the deadline: 24 June, 2011.

### ***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, the Department 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: John Thomas, Southern Valley Environmental Analysis Branch, 2015 East Shields Avenue, Suite 100, Fresno, CA 93726; Voice mail: 559-243-8224; or use the California Relay Service TTY number, 1-800-375-2929 or dial 711.

State of California  
Department of Transportation

06-KER-99-PM-27.0/28.39  
EA: 06-OG8400  
Project I.D.: 06-0002-0166

Caltrans proposes widening State Route 99 from six lanes to eight lanes from the State Route 99 and State Route 204 connector to Beardsley Canal (post miles 27.0 to 28.39) within the northern portion of the city of Bakersfield in Kern County

**INITIAL STUDY**  
**with Proposed Mitigated Negative Declaration**

Submitted Pursuant to: (State) Division 13, California Public Resources Code

THE STATE OF CALIFORNIA  
Department of Transportation

  
Kirsten Helton  
Acting Office Chief Central Region  
Environmental North

5-11-2011  
Date of Approval

# Proposed Mitigated Negative Declaration

Pursuant to: Division 13, Public Resources Code

## ***Project Description***

The California Department of Transportation (Caltrans) proposes to improve a 1.39-mile segment of State Route 99 within the northern portion of the city of Bakersfield in Kern County. This existing segment is a six-lane highway and would be widened to an eight-lane highway by constructing two additional lanes, one in each direction, within the existing median. The project proposes to add a 12-foot-wide lane and 10-foot-wide inside shoulder in each direction separated by a concrete median barrier. The project also proposes an auxiliary lane in the northbound direction between the State Route 204 and State Route 99 connector and the Olive Drive interchange.

## ***Determination***

This proposed Mitigated Negative Declaration is included to give notice to interested agencies and the public that it is Caltrans' intent to adopt a Mitigated Negative Declaration for this project. This does not mean that Caltrans' decision regarding the project is final. This Mitigated 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, farmlands, community impacts, hydrology and floodplain, water quality, geology, soils, seismic, topography, cultural resources, paleontology, plant species, and natural communities.
- The proposed project would have no substantial effect on utilities and emergency services; traffic and transportation/bicycle and pedestrian facilities; visual/aesthetics issues; hazardous waste; noise and vibration; air quality; and animal species.
- The proposed project would have no substantial adverse effect on biology: mitigation measures would reduce the potential effect to less than significant on the San Joaquin kit fox.

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Kirsten Helton  
Acting Office Chief Central Region  
Environmental North

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Date of Approval

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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



# **Chapter 1**      **Proposed Project**

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## **1.1 Introduction**

The California Department of Transportation (Caltrans), as the lead agency under the California Environmental Quality Act, proposes to widen the existing six-lane freeway to eight lanes on State Route 99 from the State Route 99 and State Route 204 connector to Beardsley Canal (post miles 27.0 to 28.39) within the northern portion of the city of Bakersfield in Kern County. The project would add a 12-foot-wide lane and a 10-foot-wide inside shoulder in each direction separated by a concrete median barrier on State Route 99 between the State Route 204 and State Route 99 connector and the Beardsley Canal. The project also proposes an auxiliary lane in the northbound direction between the northbound State Route 204 and State Route 99 connector and the northbound Olive Drive interchange. All proposed work would be done within the existing state right-of-way (see Figure 1-1 and Figure 1-2).

State Route 99 is designated as a freeway in the national highway system and was listed as part of the national network for larger trucks allowed by the Surface Transportation Assistance Act in 1982. The portion of State Route 99 in this project area is about a one and a half-mile-long segment of 6-lane freeway in the northern Bakersfield area within the unincorporated Kern County. Currently, in the central metropolitan Bakersfield area, existing State Route 99 is an eight-lane urban freeway. The eight-lane freeway transitions to a 6-lane freeway at the State Route 204 and State Route 99 connector at the southern limits of the project. State Route 99 is a major corridor for goods movement through Kern County with trucks comprising 30 percent of the average-annual daily traffic on this section. The State Route 99 corridor is also of vital importance to local residents and businesses.

The proposed project, included in the 2011 Federal Transportation Improvement Program and the 2011 Kern Regional Transportation Plan, would receive funding from the Proposition 1B–Transportation Bond Program. The estimated escalated cost of the project is \$10.0 million dollars. There are no right-of-way costs for this project

### **1.1.1 Purpose**

- Relieve congestion on State Route 99 between the State Route 204 and State Route 99 connector and the Beardsley Canal bridge
- Enhance traffic safety

### **1.1.2 Need**

State Route 99 is a critical route for moving goods and people in the city of Bakersfield metropolitan area and surrounding developing lands. Currently, in the central metropolitan Bakersfield area, existing State Route 99 is an 8-lane urban freeway, with the exception of the proposed stretch for this project where a six-lane freeway exists.

The lane-drop transition from 8-lanes to 6-lanes creates a “bottleneck” situation and affects traffic operation. Consequently, the traffic operation on this segment is experiencing slowing, queuing (lining up), and delayed maneuvers particularly between the State Route 204 and State Route 99 connector and the Olive Drive interchange where current traffic volumes have increased beyond the capacity of the existing six-lane freeway. This worsened operation is indicated by the declining level-of-service.

#### **1.1.2.1 Congestion and Traffic Operations**

The level-of-service is an indicator of operating conditions on a roadway and is defined in categories ranging from A to F (see Figure 1-3). Level-of-service A indicates free-flowing traffic with no hindrance to driving speed caused by traffic conditions; whereas, level-of-service F indicates substantial congestion with slow-moving, stop-and-go traffic.

A Traffic Operation Analysis was prepared in May 2010; additional traffic data was provided in January 2011. The traffic analysis was performed for the existing conditions (2010) as well as the construction year (2015) and the design year (2035) conditions with and without the proposed project.

Table 1.1 shows the level-of-service without the proposed project at key intersections, portions of mainline State Route 99, and ramp junctions. The table indicates that southbound State Route 99 is currently operating at level-of-service D within the project limits where further traffic demands along this corridor would make an already-congested freeway degrade to a level-of-service E range by construction year 2015, and to range F by design year 2035. Table 1.2 shows the existing (2010) and the predicted average daily traffic for this portion of State Route 99. The data shows that traffic volume is expected to increase over project design period.

**Table 1.1 Predicted Level of Service without the Project**

Freeway Segment	2010 Existing Year	2015 Construction Year	2035 Design Year
<b>Mainline State Route 99—Northbound</b>			
Northbound State Route 204 on-ramp to northbound Olive Drive off-ramp	C	D	F
Northbound Olive Drive off-ramp to northbound Olive Drive on-ramp	B	C	D
<b>Mainline State Route 99—Southbound</b>			
Southbound Olive Drive Diagonal on-ramp to southbound State Route 204 off-ramp	D	E	F
Southbound Olive Drive Loop on-ramp to southbound Olive Drive Diagonal on-ramp	C	D	D
Southbound Olive Drive off-ramp to southbound Olive Drive loop on-ramp	C	D	D

Source: Department of Transportation - Level of Service Analysis, 2011  
LOS performed by HCM 2000 Methodology.

**Table 1.2 Existing and Predicted Traffic Volume**

Current Average-Annual Daily Traffic (vehicles/day) (2010 Existing Year)	Predicted Average-Annual Daily Traffic (vehicles/day) (2015 Construction Year)	Predicted Average-Annual Daily Traffic (vehicles/day) (2035 Design Year)
115,500	122,000	156,500

Source: Caltrans District 6 – Transportation Planning - Traffic Forecasting and Analysis Memorandums summary.

**1.1.2.2 Safety**

The accident history within the project limits for the most recent three-year study period (July 2006–June 2009) was evaluated. Out of 235 traffic accidents during this period, 68 were injury accidents, which resulted in 99 persons injured. Almost half of the 235 accidents were rear-end collisions; the other half were hit objects or sideswipes. Table 1.3 shows that the actual total accident rate is higher than the statewide average rate for a similar freeway.

**Table 1.3 Accident Rates for State Route 99 within the Project Area**

Direction	Actual			State Average		
	Fatal	Fatal & Injury	Total	Fatal	Fatal & Injury	Total
Kern Route 99	0.000	0.44	1.50	0.008	0.26	0.82

Source: Department of Transportation Office of Traffic Engineering  
\* Accident Rate (per million vehicle miles)

## **1.2 Alternatives**

Two alternatives were considered for this project. Alternative 1 is the Build Alternative. Alternative 2 is the No-Build Alternative. The alternatives were developed by a multidisciplinary team to address the purpose and need of the project.

### **1.2.1 Build Alternative**

Alternative 1 would build two additional 12-foot-wide lanes, one in each direction, within the existing median; a 10-foot-wide inside shoulder in each direction; and a concrete median barrier.

The proposed work would also build an auxiliary lane in the northbound direction between the northbound State Route 204 and State Route 99 northbound connector and the northbound Olive Drive interchange. Drainage improvements would be made in the median. The existing roadbed would not be rehabilitated. All work would be completed within the state right-of-way. The build alternative is estimated to cost \$10 million.

### ***Transportation System Management and Transportation Demand Management Alternatives***

Transportation system management strategies are actions that increase the efficiency of existing facilities, typically increasing the number of vehicle trips a facility can carry without increasing the number of through-lanes. Although transportation management measures alone could not satisfy the purpose and need of the project, an auxiliary lane has been incorporated into the build alternative for this project. This auxiliary lane would extend in the northbound direction from the State Route 204 and State Route 99 connector to the Olive Drive interchange. The auxiliary lane would further relieve the congestion and enhance traffic flow between the State Route 204 and State Route 99 connector and the Olive Drive interchange.

### **1.2.2 No-Build Alternative**

The No-Build Alternative would keep the project segment of State Route 99 in its current condition. The No-Build Alternative does not meet the purpose and need for the project because the alternative does not address congestion and traffic delays that could be expected as traffic volumes increase.

**1.2.3 Comparison of Alternatives**

Following the public circulation period, Caltrans would make the final determination of the project’s effect on the environment after all comments are addressed. After the public circulation period and all comments are considered, Caltrans would 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 would prepare a Negative Declaration or Mitigated Negative Declaration.

Criteria considered in evaluating the project alternatives include the project purpose and need objectives, potential environmental factors, congestion relief, and improved safety and traffic operations (see Table 1.4).

**Table 1.4 Comparison of Alternatives**

Evaluation Criteria	Build Alternative	No-Build Alternative
Reduces Congestion	Level-of-service D or better for the 2035 design year	No reduction in congestion
Improves traffic operations and enhances safety	The proposed capacity-increasing eight-lane project would reduce congestion, improve traffic operation, and enhance safety on State Route 99.	No improvement to traffic operations or safety
Minimizes environmental impacts	Impacts to the visual and aesthetic view, endangered species, hazardous materials and invasive species.	No effect on the environment
Meets purpose and need	Yes	No

Alternative 1, the Build Alternative, would widen the existing six-lane freeway to eight lanes on State Route 99 between the State Route 204 and State Route 99 connector and Beardsley Canal by adding one 12-foot-wide lane and a 10-foot-wide inside shoulder in each direction and construction of a concrete median barrier. The project also proposes an auxiliary lane in the northbound direction between the State Route 204 and State Route 99 connector and the Olive Drive interchange.

The No-Build Alternative would keep this segment of State Route 99 in its existing state. The No-Build Alternative would result in deteriorating level-of-service, impacts to air quality, and no improvement in traffic safety. Unless operational improvements

are made, future planned development and general regional growth would likely increase traffic congestion.

#### **1.2.4 Alternatives Considered but Eliminated from Further Discussion**

The original Project Study Report-Project Development Support, signed on August 8, 2009, initiated a project for improvements on State Route 99 from the State Route 204 and State Route 99 connector to 7<sup>th</sup> Standard Road in the northern portion of the city of Bakersfield in Kern County. This capacity increasing project proposed to widen the existing 4-mile-long segment of six-lane freeway to eight lanes within the project limits. Three Alternatives were considered. Alternative 1 intended to build one lane in each direction in the median with standard inside shoulders and a concrete median barrier, which is similar to the proposed build alternative discussed in the document. Alternative 2, the standard alternative, planned to add a lane and standard outside shoulders in each direction on the outside of the existing roadway, replace four bridges, widen two bridges, and construct improvements to ramps. Alternative 3 was the no-build alternative.

A supplemental project study report signed on July 7, 2010 shortened the proposed project limits to a 1.4-mile segment and eliminated Alternative 2 from further consideration. At \$75 to \$85 million, Alternative 2 was beyond the available funding capacity. Waiting for the funding of this alternative would delay improvements to the highway and contribute to continued delays and the realization of person hours of delay.

As funding becomes available, the original proposed project from the State Route 204 and State Route 99 connector to 7<sup>th</sup> Standard Road could be built in phases. State Route 99 bond fund savings are projected to become available in fiscal year 2012. Shortening the project to its current limits (State Route 204 and State Route 99 connector to Beardsley Canal bridge) and eliminating Alternative 2 allows for fundable sources from State Route 99 bond fund savings. By adding an auxiliary lane in the northbound direction, the shortened project limits also aim to reduce congestion caused by new developments at the Olive Drive interchange. Therefore, Alternative 1 realizes immediate benefits by motorists in reduced delays, congestion, and costs.

### **1.3 Permits and Approvals Needed**

Caltrans is requesting concurrence from the U.S. Fish and Wildlife Service that the proposed project is not likely to adversely affect the San Joaquin kit fox.



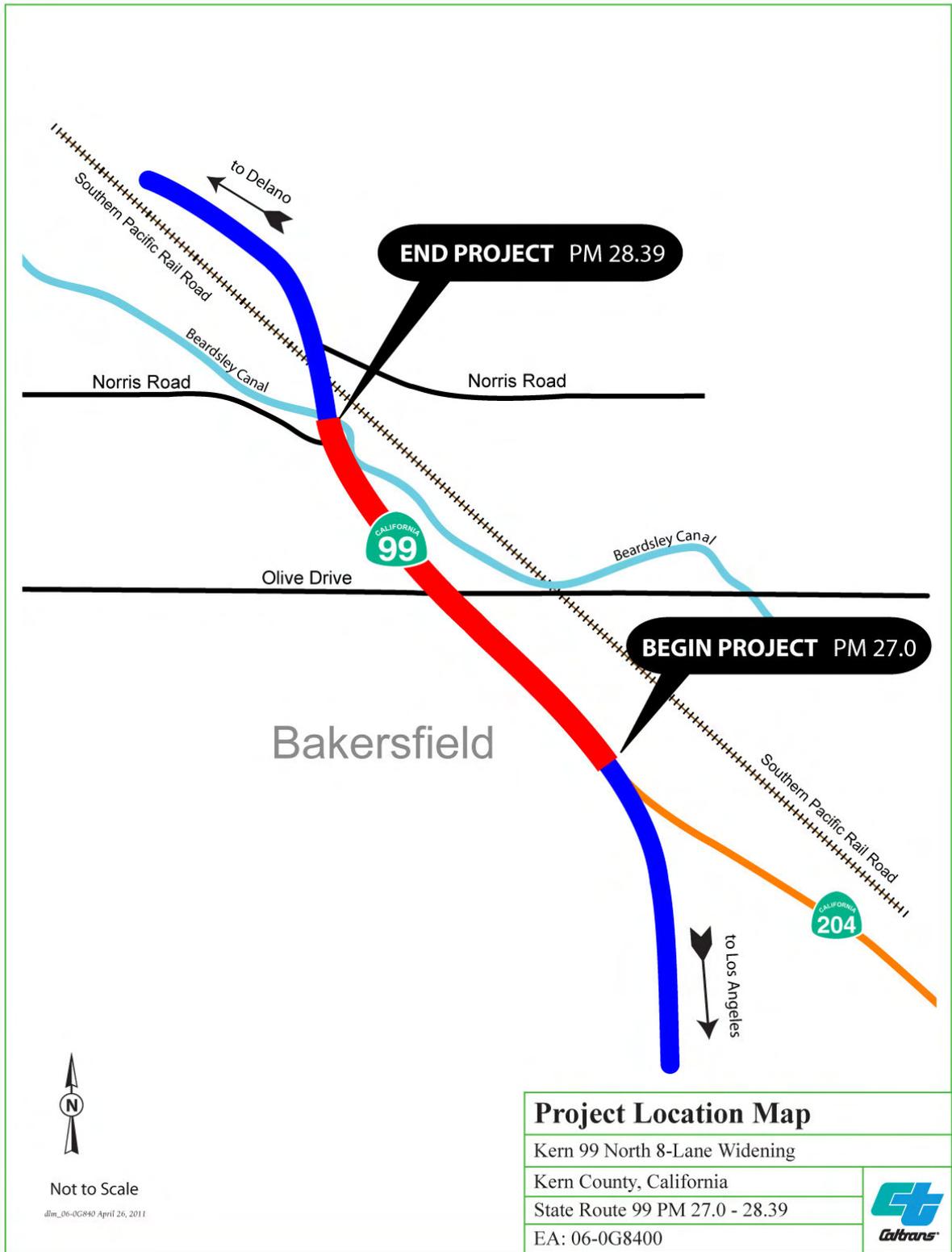


Figure 1-2 Project Location Map

# LEVELS OF SERVICE

for Freeways

Level of Service	Flow Conditions	Operating Speed (mph)	Technical Descriptions
<b>A</b>		70	Highest quality of service. Traffic flows freely with little or no restrictions on speed or maneuverability. <b>No delays</b>
<b>B</b>		70	Traffic is stable and flows freely. The ability to maneuver in traffic is only slightly restricted. <b>No delays</b>
<b>C</b>		67	Few restrictions on speed. Freedom to maneuver is restricted. Drivers must be more careful making lane changes. <b>Minimal delays</b>
<b>D</b>		62	Speeds decline slightly and density increases. Freedom to maneuver is noticeably limited. <b>Minimal delays</b>
<b>E</b>		53	Vehicles are closely spaced, with little room to maneuver. Driver comfort is poor. <b>Significant delays</b>
<b>F</b>		<53	Very congested traffic with traffic jams, especially in areas where vehicles have to merge. <b>Considerable delays</b>

Figure 1-3 Level of Service

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

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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. The existing land use in the immediate project area is mostly commercial or industrial type, and the proposed project is limited within the existing state right-of-way. The project is also consistent with the state, regional, and local plans and programs. The proposed project conforms with the Caltrans Transportation Concept Report; 2007 Metropolitan Bakersfield General Plan; 2011 Kern Regional Transportation Plan; and 2010 Regional Transportation Improvement Program.
- **Growth**—The growth-related, indirect impact analyses showed that the project would not change accessibility. It is not anticipated that the proposed project would induce or influence future growth. (Community Impact Checklist Memo, February 15, 2011).
- **Farmlands/Timberlands**—The project is in the metropolitan Bakersfield area; There is no farmland or timberland in the project area (Field visit, August 25, 2010; Community Impact Checklist Memo, February 15, 2011).
- **Community Impacts**—The project would not disrupt the community character or cohesion or result in any relocation of businesses or residences because the project is an operational improvement on an existing freeway and contained

within the state right-of-way (Community Impact Checklist Memo, February 15, 2011).

- Cultural Resources—No impact to cultural resources are anticipated based on the cultural resources review performed by Caltrans staff. A records search confirmed that there are no known cultural resources within the project area. Also, due to the nature of the project—widening within an existing freeway median—the project has no potential to affect architectural resources (Cultural Resource Compliance Memo, August 2010).
- Hydrology and Floodplain—The project site is included on the Federal Emergency Management Administration Flood Insurance Rate Map Community Panel Numbers 0600750750B and 0600751005B. Construction and operation of the project would not place any structures within a 100-year flood hazard area. No flood flows would be impeded or redirected. Consequently, a floodplain study is not required (Hydraulic and Floodplain Evaluations Report Summary, March 2011).
- 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 Memo, December 2010).
- Geology/Soils/Seismic/Topography—There are no known faults that exist in the project area. The nearest active fault is located 2.6 miles north of the project area. 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 would become unstable as a result of the project ( Paleontological Identification Report, March 2011; Final Preliminary Geotechnical Design Report for Hageman Road Extension to Golden State Avenue Project, December 2009).
- Paleontology—The project is unlikely to encounter any significant paleontological resources since project activities would occur within the existing roadway, and the excavation would be shallow and within the already disturbed median (Paleontological Identification Report, March 2011).
- Plant Species—No special status plant species were identified in the project area (Natural Environment Study, February 2011).
- Natural Communities—No natural communities of concern were identified in the project area (Natural Environment Study, February 2011).

## **2.1 Human Environment**

### **2.1.1 Utilities and Emergency Services**

#### ***Affected Environment***

The City of Bakersfield provides law enforcement and provides fire protection and emergency medical and rescue services. The Kern County Sheriff's Department also uses the freeways to gain access to their rural areas of jurisdiction, as do the contracted ambulance companies providing services to the same areas. The California Highway Patrol is responsible for traffic enforcement on State Route 99.

#### ***Environmental Consequences***

The proposed project would not remove or relocate utilities. The proposed widening project would have a beneficial impact on fire protection, law enforcement, emergency, and other public services by providing improved traffic operations when completed. In addition, the project would facilitate faster fire and medical response times to emergencies in the area by providing auxiliary lanes that would further improve the traffic flow.

Although the proposed project would temporarily create traffic delays during construction, construction impacts on traffic and transportation would be minimized with the implementation of a Traffic Management Plan.

#### ***Avoidance, Minimization, and/or Mitigation Measures***

During construction, a Traffic Management Plan would be developed to accommodate local traffic patterns and reduce delay, congestion, and accidents. Temporary lanes would be constructed in the shoulders to shift the existing mainline lanes to provide room for the construction of new lanes and shoulders within the median. Traffic would be reduced to a minimum of two lanes in each direction during day work. The Traffic Management Plan would include, but is not limited to the following:

- 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
- Use of incident management through the Construction Zone Enhancement Enforcement Program and the Transportation Management Center
- Use of precautionary measures and project phasing

## 2.1.2 Traffic and Transportation/Pedestrian and Bicycle Facilities

### ***Affected Environment***

State Route 99 through urban Bakersfield is an eight-lane freeway with the exception of the proposed project stretch where six-lane freeway exists. A Traffic Operation Analysis was prepared in August 2010. A Safety Analysis was completed in September 2010, and additional traffic data was analyzed in December 2010 and January 2011. Pedestrians and bicycles are not allowed on this segment of State Route 99 freeway throughout the metropolitan Bakersfield.

The current annual average daily traffic count for this segment of State Route 99 is estimated at 115,500 vehicles. The operational analysis indicates that southbound State Route 99 is currently operating at a level-of-service D within the project limits, where further traffic demands along this corridor would make an already-congested freeway degrade to a level-of-service F by 2035. The proposed project would improve traffic operation on this segment of State Route 99 and provide level-of-service C or better for the construction year (2015) and level-of-service D or better by 2035 (see Table 2.1.).

**Table 2.1 Predicted Level of Service with and without the Project**

Freeway Segment	2010	2015		2035	
	Current Year	Construction Year		Design Year	
<b>Mainline, State Route 99—Northbound</b>	<b>No-Build</b>	<b>No-build</b>	<b>Build</b>	<b>No-build</b>	<b>Build</b>
Northbound State Route 204 on-ramp to northbound Olive Drive off-ramp	C	D	C	F	D
Northbound Olive Drive off-ramp to northbound Olive Drive on-ramp	B	C	B	D	C
<b>Mainline, State Route 99—Southbound</b>					
Southbound Olive Drive Diagonal on-ramp to southbound State Route 204 off-ramp	D	E	C	F	C
Southbound Olive Drive Loop on-ramp to southbound Olive Drive Diagonal on-ramp	C	D	C	D	C
Southbound Olive Drive off-ramp to southbound Olive Drive loop on-ramp	C	D	C	D	C

Source: Department of Transportation - Level of Service Analysis, 2011  
LOS performed by HCM 2000 Methodology.

The accident history within the project limits for the most recent three-year study period (July 2006–June 2009) reported that the actual total accident rate is higher than the statewide average rate for a similar highway facility (see Table 1.3). The proposed project would relieve congestion, improve the traffic flow, and consequently enhance traffic operation safety.

### **Environmental Consequences**

The Level of Service Analysis shows that an eight-lane freeway is needed to maintain traffic flow within an acceptable level-of-service range through 2035(see Figure 1-3). The proposed eight-lane system would alleviate congestion, improve operations and enhance safety on this segment within the northern portion of the city of Bakersfield.

Construction of the proposed project would have a temporary effect on the State Route 204 and State Route 99 connector ramps and on this segment of State Route 99. Construction of the new lanes and the auxiliary lane would occur in different phases. Delay in traffic would be expected during construction, but this impact would not be substantial. Temporary lanes would be constructed in the shoulders to shift the existing mainline lanes to provide room for the construction of new lanes and shoulders within the median. Traffic would be reduced to a minimum of two lanes in each direction during day work.

### **Avoidance, Minimization, and/or Mitigation Measures**

A Traffic Management Plan would be developed to minimize delays and maximize safety for the motorists during construction. Further details about the Traffic Management Plan are outlined under Utilities and Emergency Services, Section 2.1.1.

## **2.1.3 Visual/Aesthetics**

### **Regulatory Setting**

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

### **Affected Environment**

A Visual Impact Assessment for the proposed project was completed on November 2, 2010. The assessment was prepared using the process developed by Federal Highway Administration in conjunction with the American Society of Landscape Architects.

This assessment defines the visual environment of the project area, quantifies the visual resources of the project area, and identifies viewer responses to those resources. The study assesses the resource change that would be introduced by the project, and the corresponding viewer response to that change. This perceived change is analyzed and used to determine the degree of potential visual impacts.

There are two landscape units within the project area. The first unit is located in industrial and commercial land use areas. Oleanders in the median and sections of mature eucalyptus trees generally comprise the roadside views. The topography is flat Valley land with no clear views beyond the industrial surrounding. The second unit accommodates the railroad bridge overcrossing. The lower position of the roadway reduces most of the views outside of the roadway itself. The roadsides in this area consist of oleanders in the median and native grasses with occasional mature eucalyptus trees on the side slopes.

Observer viewpoints (viewing locations) were selected for their effectiveness in either representing the typical visual character of the project or showing any unique project components or affected resources. A total of two view locations have been identified that best reveal the project's components and any potential visual character change (see Figure 2-1).

In order to assess the magnitude of the potential visual changes caused by the proposed project, the Visual Quality Evaluation compares the visual quality of both the existing and proposed conditions.

For existing conditions, field reviews of the observer viewpoints were conducted and rated from 1 (low) to 7 (high) for the existing quality of the view from each viewpoint. For the proposed conditions, visual simulations depicting the visual changes that may occur as a result of the proposed project were studied and rated using the same system. The numerical difference, if any, between the existing and proposed conditions measure the change that may occur as a result of the proposed project.

The numerical ratings are selected based on evaluative criteria using three primary components identified as vividness, intactness, and unity. These three criteria are defined by the Federal Highway Administration and described as follows:

**Vividness**—Visual power or memorability of the landscape components are combined in a striking and distinctive visual pattern.

**Intactness**—Visual integrity of the landscape is free from non-typical encroaching elements. If all the various elements of a landscape seem to belong together, there would be a high level of intactness.

**Unity**—Visual harmony of the landscape is considered as a whole. Unity represents the degree to which the visual elements maintain a coherent visual pattern.

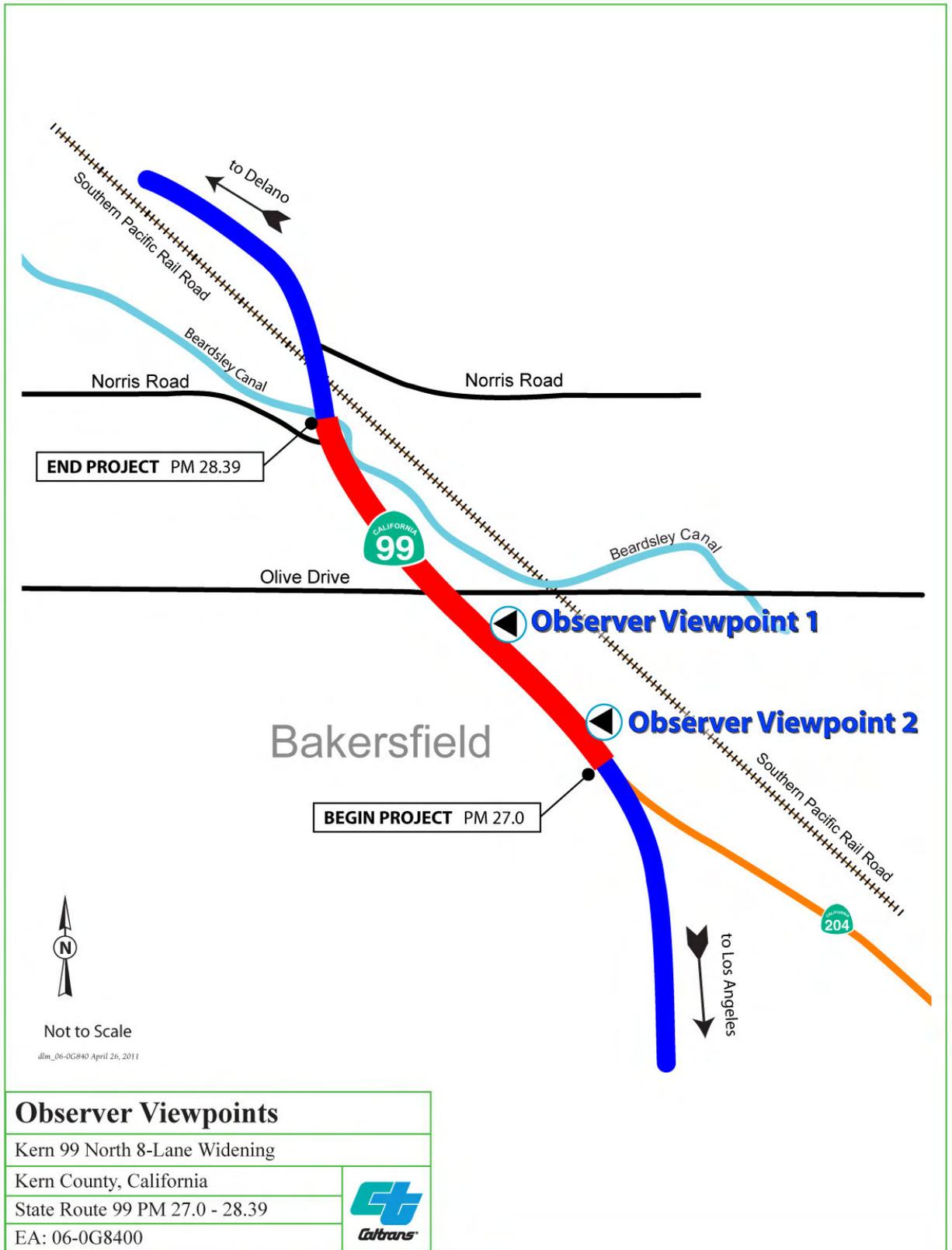


Figure 2-1 Observer Viewpoints

### **Environmental Consequences**

Viewer response to a roadway project is affected by a number of factors, including viewer exposure, duration of the view and viewer sensitivity. Two general viewer groups were considered for the evaluation of viewer response: those with views from the road and those with views of the road.

The first viewers group, viewers from the road, is the highway users. These viewers are almost exclusively in motor vehicles and include tourists, commuters, commercial vehicle operators, and local highway users. These viewers would be numerous but would be exposed to views within the project limits for only a short time (about 20 seconds when traveling at the posted speed limit) as they would be traveling through the project area at relatively high speeds (60 to 75 miles per hour). The local highway users are the most sensitive to aesthetic issues due to their familiarity as well as their personal investment in the area. Tourists, which comprise a portion of viewers on State Route 99, generally have a high awareness of the visual resources around them, yet are anticipated to be less sensitive to specific changes in that environment.

The second viewer group, viewers of the road, is composed of those who can see the roadway from off-site locations. In the case of this project, the number of these people is substantially less than those who would see the project while on the highway. This group, however, has longer duration of views of the highway. Because many of these viewers are likely using the industrial and commercial facilities, their sensitivity to any change in the existing view would be low. The duration of their views can potentially range anywhere from a few minutes to several hours. Because of the potentially long duration of views, the change in the visual surroundings would be more apparent to these viewers. The removal of median oleanders and mature eucalyptus trees would decrease the screening between the highway and this viewer group. It is not anticipated that the decreased screening would have a negative effect on this viewer group as it would provide unobstructed views of their products and company signage from the perspective of the roadway viewers.

The overall visual ratings for this project are determined by averaging the ratings of each observer viewpoint. The existing facility, with the rating of 3.3, is rated as moderate-to-low for visual quality. Based on the simulations, the visual quality ratings were reduced with the proposed project (overall visual quality difference of negative 0.75). The reduction of vividness, intactness and unity is due primarily to the widened roadway and loss of vegetation. Visual impacts consist of some mature tree removal along the roadside. The greatest visual change would be the increased

roadway width and the removed vegetation. Table 2.2 shows the visual quality evaluation rating for each observer viewpoint.

**Table 2.2 Visual Quality Evaluation Ratings**

Viewpoint	Existing Visual Quality	Visual Quality After Project	Change in Quality
Observer Viewpoint 1	3.0	2.5	-0.5
Observer Viewpoint 2	3.67	2.67	-1.0
Overall visual quality difference	<u>3.33</u>	<u>2.59</u>	<u>-0.75</u>

**Observer Viewpoint 1**

Observer Viewpoint 1 shows the center of the project on the northbound side of State Route 99 south of the Olive Drive interchange (see Figure 2-1). This view consists mainly of roadway landscapes with median oleanders to the left and a few large eucalyptus trees to the right along with the industrial/commercial land use adjacent to the roadway. Observer Viewpoint 1 shows a typical view from State Route 99, looking north. The existing ratings (3.0) show a moderate-to-low visual quality for this location. Topography is mostly flat slopes, and the roadway is linear, giving this view a low level of memorability or visual interest for the highway traveler. The vegetation along both sides of the road creates some unity in the view, but it remains low in unity and intactness (see Figure 2-2).



**Figure 2-2 Existing Condition, Observer Viewpoint 1**

The proposed four-lane highway with an auxiliary lane and a concrete median barrier simulated within Figure 2-3. This view shows the maximum widening taking place within the project limits, which would have the greatest impact to the area. In this view the roadway becomes more visible and all of the roadside vegetation is removed. The roadway changes depicted in this view show that the visual quality would be reduced slightly when the road is widened and vegetation is removed. The visual quality rating after the project is 2.5, a visual quality difference decline of -0.5.



**Figure 2-3 Simulated Condition, Observer Viewpoint 1**

### ***Observer Viewpoint 2***

Observer viewpoint 2 shows a section of the project through the recessed portion where the highway is lowered under the railroad bridge (see Figure 2-4). This view is more enclosed because of its recessed nature and the side slopes that block views to surrounding land uses. The oleanders are prominent in the foreground and would be the most noticeable change to the visual environment when removed. The ratings show that this landscape unit is moderate in visual quality. Topography ranges from flat-to-steep slopes and in this view the roadway is straight. The mature vegetation on both sides of the roadway helps to create a visual interest for the traveler.



**Figure 2-4 Existing Condition, Observer Viewpoint 2**

The proposed project would widen the roadway into the median and remove all existing median oleanders. This view shows the increased view of the railroad bridge structure and would open up more views of the travelers moving southbound on State Route 99. The change to the visual environment is very noticeable. The vividness, intactness, and unity all decrease as the roadway takes on a less vegetated character and shows more of the built environment. The visual quality rating after the project is 2.67, a visual quality difference decline of  $-1.0$  (see Figure 2-5).



**Figure 2-5 Simulated Condition, Observer Viewpoint 2**

Generally, the proposed project would have a visual impact on the highway user and the local community. Particularly, potential impacts are expected for the highway neighbors near the proposed widening who would get more exposed views of the highway. For highway users, the proposed project would be in line with what they might expect as they travel on State Route 99. The physical components of the proposed project would relate to the existing character of State Route 99 north and south of the project limits where similar features can be found. Although the physical change created by the proposed project is substantial, with the use of architectural treatments and highway planting it is not anticipated that this project would affect the overall character of the area. As well, the removal of some mature trees for the construction of this project would decrease the natural character of the area, but with the use of aesthetic treatments, the impacts could be minimized.

### ***Avoidance, Minimization, and/or Mitigation Measures***

The proposed project would require visual improvements to make up for negative visual impacts associated with the widened roadway and loss of vegetation. The following are proposed improvements:

- All areas of soil disturbed during the construction of the proposed project would require erosion control treatment.
- Where feasible, existing mature vegetation would be preserved or replaced.
- Tree and shrub species should be consistent with those located on or near State Route 99 in the area.
- Where possible, replacement plants should be placed in those locations most affected by the widening project.
- Replacement planting would be included on the side slopes to soften the impact of the widened roadway within the median.
- To increase the potential of slope revegetation and stabilization, the slopes would be 1:4 or flatter and should include rounded top and bottom of slopes.
- Accent colors, to reduce glare from the additional reflective surfaces, would be added to bridge structures to match the accepted teal green bridge accent color of Kern County.

The implementation of these recommendations would minimize the visual impacts and lessen the substantial changes in the overall visual quality. Costs of visual

requirements should be included in the construction capital costs for the roadway project.

## **2.2 Physical Environment**

### **2.2.1 Hazardous Waste or Materials**

#### ***Regulatory Setting***

Hazardous materials and hazardous wastes are regulated by many state and federal laws. These include not only specific statutes governing hazardous waste but also a variety of laws regulating air and water quality, human health, and land use.

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

- Community Environmental Response Facilitation Act of 1992
- Clean Water Act
- Clean Air Act
- Safe Drinking Water Act
- Occupational Safety and Health Act
- Atomic Energy Act
- Toxic Substances Control Act
- Federal Insecticide, Fungicide, and Rodenticide Act

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

Hazardous waste in California is regulated primarily under the authority of the federal Resource Conservation and Recovery Act of 1976 and the California Health and Safety Code. Other California laws that affect hazardous waste are specific to

handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning.

Worker health and safety and public safety are key issues when dealing with hazardous materials that may affect human health and the environment. Proper disposal of hazardous material is vital if the material is disturbed during project construction.

### ***Affected Environment***

An initial site assessment was conducted in December 2006. This included examination of consultant reports from previous initial site assessments; aerial photographs, review of the Regional Water Quality Control Board's Leaking Underground Storage Tank Information System list; a review of a corridor study compiled through the Environmental Protection Agency online data base system; and thorough field visits conducted at various times. Consequently, aerially-deposited lead contamination and lead-based paint systems were identified as hazardous waste concerns within the project limits. A Preliminary Site Investigation was recommended to further investigate these concerns.

### ***Environmental Consequences***

A Preliminary Site Investigation was conducted and completed on January 2011. The study investigated the aerially-deposited lead contamination and the lead-based paint systems within the project limits. The objective of the lead investigations were to evaluate whether impacts due to aerial-lead deposition from motor vehicle exhaust and traffic striping paint exist on the surface and near surface soils within the project limits. The investigative results would be used by Caltrans to inform the construction contractor(s) if lead-affected soil is present within the project boundaries. The information would be used for construction worker health and safety, soil reuse evaluation, and waste management and disposal purposes.

The results of the aerially-deposited lead contamination analysis shows that total lead was detected in 245 of the 326 soil samples in concentrations ranging from 5 to 1,200 milligrams per kilogram; 149 of the 326 soil samples had total lead concentrations greater than or equal to 50 milligrams per kilogram or ten times the soluble threshold limit concentration value for lead of 5 milligrams per liter. Two soil samples had total lead concentrations greater than the lead total threshold limit concentration of 1,000 milligrams per kilogram. Based on the above data, soil excavated from the surface to 1.5 feet below the surface would be classified as a California hazardous waste since

the 90 percent upper confidence limits predicted waste extraction test lead concentrations are greater than the soluble threshold limit concentration value for lead of 5 milligrams per liter.

Underlying soil (i.e., soil from depths of 1.5 to 2.0 feet), where excavated and managed separately, would not be classified as a California hazardous waste and can be reused on-site or disposed of as non-hazardous soil since the 90 percent and 95 percent upper confidence limits predicted for waste extraction test-lead concentrations are less than the soluble threshold limit-concentration value for lead of 5 milligrams per liter.

The lead-based paint systems were evaluated by samples representing intact white traffic striping used on pavement sections. The samples exhibited total lead concentrations of 17 milligrams per kilogram and 6.6 milligrams per kilogram, respectively. Other samples representing intact yellow traffic striping used on pavement sections showed a total lead concentrations of 4,900 and 3,400 milligrams per kilogram, respectively, and toxicity characteristic leaching-procedure lead concentrations of 0.61 and 0.56 milligrams per liter, respectively. Accordingly, the yellow traffic striping sampled during the investigation would be classified as California hazardous waste based on lead content if stripped, blasted, or otherwise separated from the substrate.

### ***Avoidance, Minimization, and/or Mitigation Measures***

As required by Caltrans, the contractor(s) would prepare a project-specific Lead Compliance Plan (California Code of Regulation, Title 8, Section 1532.1, the “Lead in Construction” standard) to minimize worker exposure to lead-impacted soil. The plan would include protocols for environmental and personnel monitoring, requirements for personal protective equipment, and other health and safety protocols and procedures for the handling of lead-impacted soil.

Soil excavated from the surface to 1.5 feet below the surface may be reused on-site as Caltrans Type Y1 material in accordance with the Department of Toxic Substances Control Variance and must be covered by at least one foot of non-hazardous soil or a pavement structure. If the top 1.5 feet of excavated soil was not re-used onsite, the excavated soil should be either (1) managed and disposed of as a California hazardous waste, or (2) stockpiled and re-sampled to confirm waste classification in accordance with specific disposal facility acceptance criteria, if applicable.

Based on the preliminary site investigation results, all paints within the project limits would be treated as lead-containing to determine the applicability of the California Division of Occupational Safety and Health lead standard for any future maintenance, renovation, and demolition activities. This recommendation is based on lead-containing paint sample results and the fact that lead was a common ingredient of paints manufactured before 1978 and is still an ingredient of some paints. In accordance with Title 8, California Code of Regulation, Section 1532.1(p), written notification to the nearest California Division of Occupational Safety and Health district office is required at least 24 hours prior to certain lead-related work.

## **2.2.2 Air Quality**

### ***Regulatory Setting***

The Clean Air Act, as amended in 1990, is the federal law that governs air quality. Its counterpart in California is the California Clean Air Act of 1988. These laws set 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. Standards have been established for six criteria pollutants that have been linked to potential health concerns: carbon monoxide, nitrogen dioxide, ozone, particulate matter (PM), lead, and sulfur dioxide.

Under the 1990 Clean Air Act amendments, the U.S. Department of Transportation cannot fund, authorize, or approve federal actions to support programs or projects that are not first found to conform to State Implementation Plan for achieving the goals of the Clean Air Act requirements. Conformity with the Clean Air Act takes place on two levels: the regional level and the project level. The proposed project must conform at both levels to be approved.

Regional-level conformity in California is concerned with how well the region is meeting the standards set for carbon monoxide, nitrogen dioxide, ozone, and particulate matter. California is in attainment for the other criteria pollutants. At the regional level, regional transportation plans are developed that include all of the transportation projects planned for a region over a period, usually, of at least 20.

Based on the projects included in the Regional Transportation Plan, an air quality model is run to determine whether or not the implementation of those projects would conform to emission budgets or other tests showing that attainment requirements of the Clean Air Act are met. If the conformity analysis is successful, the regional

planning organization, such as the Kern Council of Governments for Kern County, and the appropriate federal agencies, such as the Federal Highway Administration, make the determination that the Regional Transportation Plan is in conformity with the State Implementation Plan for achieving the goals of the Clean Air Act. Otherwise, the projects in the Regional Transportation Plan must be modified until conformity is attained. If the design and scope of the proposed transportation project are the same as described in the Regional Transportation Plan, then the proposed project is deemed to have met regional conformity requirements for purposes of project-level analysis.

Conformity at the project-level also requires “hot-spot” analysis if an area is in “nonattainment” or “maintenance” for carbon monoxide or particulate matter. A region is a “nonattainment” area if one or more monitoring stations in the region fail to attain the relevant standard. Areas that were previously designated as nonattainment areas but have recently met the standard are called “maintenance” areas. Hot-spot analysis is essentially the same, for technical purposes, as carbon monoxide or particulate matter analysis performed for the National Environmental Policy Act. Conformity does include some specific standards for projects that require a hot-spot analysis. In general, projects must not cause the carbon monoxide standard to be violated. In “nonattainment” areas, the project must not cause any increase in the number and severity of violations. If a known carbon monoxide 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 Report was prepared in April 2011. The proposed project is located in Kern County within the San Joaquin Valley Air Basin. The San Joaquin Valley is nearly 300 miles long, bounded by the Tehachapi Mountains in the south and the San Joaquin Delta in the north. The Sierra Nevada 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 October and April. Snow is rare on the valley floor, with only a trace occurring in about one year out of seven, though the Sierra Nevada Range generally has heavy accumulations during the winter. Thunderstorms rarely occur in the valley. 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.

The 2009 Air Resources Board manual states the following: “The overall particulate matter air quality trends have included some improvements over time. The amount of direct emissions of particulate matter 10 microns in diameter (PM<sub>10</sub>) and particulate matter 2.5 microns in diameter (PM<sub>2.5</sub>) has remained relatively unchanged from 1975 to the present. The sources are forecasted to stay relatively unchanged through 2020. Particulate matter can come from area-wide sources such as fugitive dust from paved and unpaved roads, waste burning, agricultural operations and residential fuel burning.” Due to a combination of factors, including many increased regulations by the San Joaquin Valley Air Pollution Control District—less polluting vehicles and fuels; road improvements that include paving roadway shoulders—the San Joaquin Valley is now in the process of going from a nonattainment area to an attainment and maintenance area (see Table 2.4).

Kern County is in a nonattainment area for particulate matter 2.5 microns in diameter (PM<sub>2.5</sub>) and ozone. The county is an attainment and maintenance area for carbon monoxide and particulate matter 10 microns in diameter (PM<sub>10</sub>).

### ***Environmental Consequences***

#### ***Regional Air Quality Conformity***

The proposed project is included in the 2011 Federal Transportation Improvement Program and the 2010 Kern Council of Governments Regional Transportation Plan. The design concept and scope of the proposed project are consistent with the project description in the 2007 Regional Transportation Plan, the 2009 Interim Regional Transportation Improvement Program, and the assumptions in the regional emissions analysis.

#### ***Project Level Conformity***

Kern County is in a nonattainment area for particulate matter 2.5 microns in diameter (PM<sub>2.5</sub>) and ozone. According to federal standards, the county is an attainment and maintenance area for carbon monoxide and particulate matter 10 microns in diameter (PM<sub>10</sub>).

#### ***Particulate Matter Analysis***

Qualitative particulate matter hot-spot analysis is required under the Environmental Protection Agency Transportation Conformity rule for projects of air quality concern, as described in the Environmental Protection Agency’s Final Rule of March 10, 2006.

Project types listed in 40 Code of Federal Regulations 93.126 do not require any hot-spot analysis for conformity purposes. All other projects in areas subject to conformity for particulate matter (PM<sub>10</sub> or PM<sub>2.5</sub>) must have documented consideration with interagency consultation and public involvement of whether or not they are projects of air quality concern. If they are in fact projects of air quality concern, a full qualitative analysis is needed. This project is considered to be a project of air quality concern since the annual-average daily traffic for the design year (2035) is more than 125,000 vehicles (see Table 2.3).

**Table 2.3 Current and Future Traffic Volumes**

Volume	2010	2015		2035	
		Build	No-build	Build	No-build
<b>Annual-average daily traffic for all vehicles</b>	115,500	122,000	122,000	156,500	156,500
<b>Annual-average daily traffic for diesel trucks (15 percent)</b>	15,015	15,860	15,860	20,343	20,343

Source: Caltrans District 6 Traffic Operations

**Table 2.4 Attainment Status for Kern County**

Pollutant	Averaging Time	State Standard	Federal Standard	State Status	Federal Status	Health and Atmospheric Effects	Typical Sources
Ozone (O <sub>3</sub> ) <sup>a</sup>	1 hour 8 hours	0.09 ppm 0.070 ppm	– <sup>b</sup> 0.08 ppm	Moderate non-attainment Non-attainment	Non-Attainment	High concentrations irritate lungs. Long-term exposure may cause lung tissue damage. Long-term exposure damages plant materials and reduces crop productivity. Precursor organic compounds include a number of known toxic air contaminants.	Low-altitude ozone is almost entirely formed from reactive organic gases (ROG) and nitrogen oxides (NO <sub>x</sub> ) in the presence of sunlight and heat. Major sources include motor vehicles and other mobile sources, solvent evaporation, and industrial and other combustion processes. Biologically produced ROG may also contribute.
Carbon Monoxide (CO)	1 hour 8 hours	20 ppm 9.0 ppm <sup>c</sup> 6 ppm	35 ppm 9 ppm –	Attainment	Attainment	Asphyxiant. CO interferes with the transfer of oxygen to the blood and deprives sensitive tissues of oxygen.	Combustion sources, especially gasoline-powered engines and motor vehicles. CO is the traditional signature pollutant for on-road mobile sources at the local and neighborhood scale.
Respirable Particulate Matter (PM <sub>10</sub> ) <sup>a</sup>	24 hours Annual	50 µg/m <sup>3</sup> 20 µg/m <sup>3</sup>	150 µg/m <sup>3</sup> –	Non-attainment	Attainment	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 <sub>10</sub> .	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).
Fine Particulate Matter (PM <sub>2.5</sub> ) <sup>a</sup>	24 hours Annual	– 12 µg/m <sup>3</sup>	35 µg/m <sup>3</sup> 15 µg/m <sup>3</sup>	Non-Attainment	Non-Attainment	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and produces surface soiling. Most diesel exhaust particulate matter – considered a toxic air contaminant – is in	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

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Pollutant	Averaging Time	State Standard	Federal Standard	State Status	Federal Status	Health and Atmospheric Effects	Typical Sources
						the PM2.5 size range. Many aerosol and solid compounds are part of PM2.5.	including NO <sub>x</sub> , sulfur oxides (SO <sub>x</sub> ), ammonia, and ROG.
Nitrogen Dioxide (NO <sub>2</sub> )	1 hour Annual	0.25 <a href="#">ppm</a> –	– 0.053 <a href="#">ppm</a>	Attainment	Attainment/ Unclassified	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown. Contributes to acid rain.	Motor vehicles and other mobile sources; refineries; industrial operations.
Sulfur Dioxide (SO <sub>2</sub> )	1 hour 3 hours 24 hours Annual	0.25 <a href="#">ppm</a> – 0.04 <a href="#">ppm</a> –	– 0.5 <a href="#">ppm</a> 0.14 <a href="#">ppm</a> 0.030 <a href="#">ppm</a>	Attainment	Unclassified	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.
Lead (Pb) <sup>d</sup>	Monthly Quarterly	1.5 <a href="#">µg/m<sup>3</sup></a> –	– 1.5 <a href="#">µg/m<sup>3</sup></a>	Attainment	NA	Disturbs gastrointestinal system. Causes anemia, kidney disease, and neuromuscular and neurological dysfunction. Also considered a toxic air contaminant.	Primary: lead-based industrial process like battery production and smelters. Past: lead paint, leaded gasoline. Moderate to high levels of aerielly deposited lead from gasoline may still be present in soils along major roads, and can be a problem if large amounts of soil are disturbed.

Sources: California Air Resources Board Ambient Air Quality Standards chart, 05/17/2006 (<http://www.arb.ca.gov/aqs/aaqs2.pdf>)

Sonoma-Marin Area Rail Transit Draft Air Pollutant Standards and Effects table, November 2005, page 3-52.

U.S. EPA and California Air Resources Board air toxics websites, 05/17/2006

Notes: ppm = parts per million; µg/m<sup>3</sup> = micrograms per cubic meter

<sup>a</sup> Annual PM10 NAAQS revoked October 2006; was 50 [µg/m<sup>3</sup>](#). 24-hr. PM2.5 NAAQS tightened October 2006; was 65 [µg/m<sup>3</sup>](#).

<sup>b</sup> [12/22/2006 Federal court decision](#) may affect applicability of Federal 1-hour ozone standard. Prior to 6/2005, the 1-hour standard was 0.12 [ppm](#). Case is still in litigation.

<sup>c</sup> Rounding to an integer value is not allowed for the State 8-hour CO standard. A violation occurs at or above 9.05 [ppm](#).

<sup>d</sup> The ARB has identified lead, vinyl chloride, and the particulate matter fraction of diesel exhaust as toxic air contaminants. Diesel exhaust particulate matter is part of PM10 and, in larger proportion, PM2.5. Both the ARB and U.S. EPA have identified various organic compounds that are precursors to ozone and PM2.5 as toxic air contaminants. There is no threshold level of exposure for adverse health effect determined for toxic air contaminants, and control measures may apply at ambient concentrations below any criteria levels specified for these pollutants or the general categories of pollutants to which they belong.

The air-quality monitor station at 5558 California Avenue in Bakersfield, California recorded the project data. This monitor records data for carbon monoxide, particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>), and ozone. It is the closest monitoring station to the project area.

The project is in a federal PM<sub>2.5</sub> nonattainment area and a federal attainment/maintenance PM<sub>10</sub> area and requires a full qualitative PM<sub>10</sub> and PM<sub>2.5</sub> hot-spot analysis under 40 Code of Federal Regulations 93.123(b)(1)(i).

#### *Particulate Matter Conclusions*

The hot-spot analysis was conducted and submitted to the Model Coordinating Committee in January 2011. Caltrans is seeking concurrence from the Federal Highway Administration and the United States Environmental Protection Agency. The concurrence would state that this project is “a Project of Air Quality Concern.” It has been concluded that this project would not create a new violation or worsen an existing violation of federal standards.

#### *Ozone Analysis and Conclusion*

The project area is located in a nonattainment area for the federal and state eight-hour ozone levels. Ozone is considered a regional pollutant. Because there are no approved guidelines for ozone, a project is considered as conforming to the State Implementation Plan for ozone when the project is listed in an approved Regional Transportation Plan and associated conformity analysis. The proposed project is listed in the 2011 Kern County Regional Transportation Plan.

#### *Carbon Monoxide Analysis*

The proposed project is in Kern County, which is in attainment for the federal and state carbon monoxide standards.

According to the California Almanac of Emissions and Air Quality (2008 edition), California has reduced carbon monoxide concentrations over the past ten years. It is expected that improved motor vehicle emissions controls and less-polluting fuels would continue this downward trend.

The University of California at Davis Transportation Project-Level Carbon Monoxide Protocol (December 1997) was used to evaluate the potential carbon monoxide impact of this project (see Table 2.5).

**Table 2.5 Transportation Project-Level Carbon Monoxide Protocol Questionnaire**

<b>Protocol Question</b>	<b>Answer</b>
Does the project significantly increase the percentage of vehicles operating in cold start mode?	No
Does the project improve traffic flow?	Yes, levels of service would improve
Does the project move traffic closer to receptors?	Yes and no
Is the project suspected of resulting in higher carbon monoxide concentrations than those existing within the region at the time of attainment demonstration?	No
Does the project involve a signalized intersection at level-of-service E or F?	No
Does the project involve a signalized intersection worsening its level-of-service to E or F?	No. If built, level of service would improve.
Are there any other reasons to believe the project may have adverse air quality impacts?	No.

***Carbon Monoxide Conclusions***

The project would not have an adverse effect on carbon monoxide levels. Historical air quality data shows that the existing carbon monoxide levels for the project area do not exceed either the state or federal ambient air-quality standards.

***Short-Term Construction Impacts***

Construction activity may generate a temporary increase in mobile-source air toxics emissions. 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 at some residences very close to the right-of-way 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 Rule 9510 (indirect-source review rule). This rule applies to construction equipment emissions for transportation projects that exceed 2 tons of either PM<sub>10</sub> and/or nitrogen oxide air pollutants. Mitigation options include using a

construction fleet that is “cleaner than the California state average” and/or in the form of fees paid to the district. The contractor would be responsible for the indirect-source review air-impact analysis and any applicable fees.

- 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 San Joaquin Valley Unified Air Pollution Control 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 could 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 which can be deployed as emissions mitigation measures for equipment used in construction.

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 (reduction) requirement is 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.

### **2.2.3 Noise and Vibration**

#### ***Regulatory Setting***

##### ***California Environmental Quality Act***

The California Environmental Quality Act requires a strictly baseline versus build analysis to assess whether a proposed project would have a noise impact. If a proposed project is determined to have a significant noise impact under the California Environmental Quality Act, mitigation measures must be incorporated into the project

unless such measures are not feasible. Figure 2-6 shows noise levels of common activities to let readers compare the actual and predicted highway noise levels with common activities.

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

**Figure 2-6 Typical Noise Levels**

In accordance with the Department's *Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects, August 2006*, a noise impact occurs when the project results in a substantial increase in noise level (defined as 12 dBA or more).

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

***Affected Environment***

Caltrans completed a Noise Study in December 2010. The project is located in Kern County within the northern portion of the city of Bakersfield. This section of six-lane

freeway lies in an urban setting between post miles 27.0 and 28.39 of State Route 99. The land surrounding the project area is basically flat and consists of small business properties about 80 to 125 feet distance from the edge of the traveled way. These properties served as sound receivers in the project area.

Sound can be described as the mechanical energy of a vibrating object transmitted by pressure waves through a liquid or gaseous medium (e.g., air) to a hearing organ, such as a human ear. Noise is defined as loud, unexpected, or annoying sound. Continuous sound can be described by frequency (pitch) and amplitude (loudness). Frequency is expressed in terms of cycles per second, or Hertz (Hz). The audible frequency range for humans is generally between 20 and 20,000 Hertz. The extent of pressure waves generated by a sound source determines the loudness of that source. Sound pressure amplitude is measured in micro-Pascals.

Because of the huge range of the micro-Pascals values for different kinds of noise environments, the logarithmic scale is used to describe sound pressure level. A unit used to measure the sound pressure level known as a decibel (dBA). Since the human ear cannot perceive all frequencies equally well, measured sound levels are often adjusted, or weighted to correspond to human hearing. This adjusted unit is known as the A-weighted decibel (dBA). A-weighted decibels are defined as the expression of the relative loudness of sounds in air as perceived by the human ear. All references to sound levels in this report refer to A-weighted decibels.

Caltrans identified six receptors that could be affected by the project. These receptors were divided into two segments (see Figure 2-7). The sensitive receptors represent a total of 22 first-tier commercial buildings adjacent to the highway and the rehabilitation center within the project area. The existing noise levels for the receptors within both segments ranged between 69 to 75 decibels (dBA).

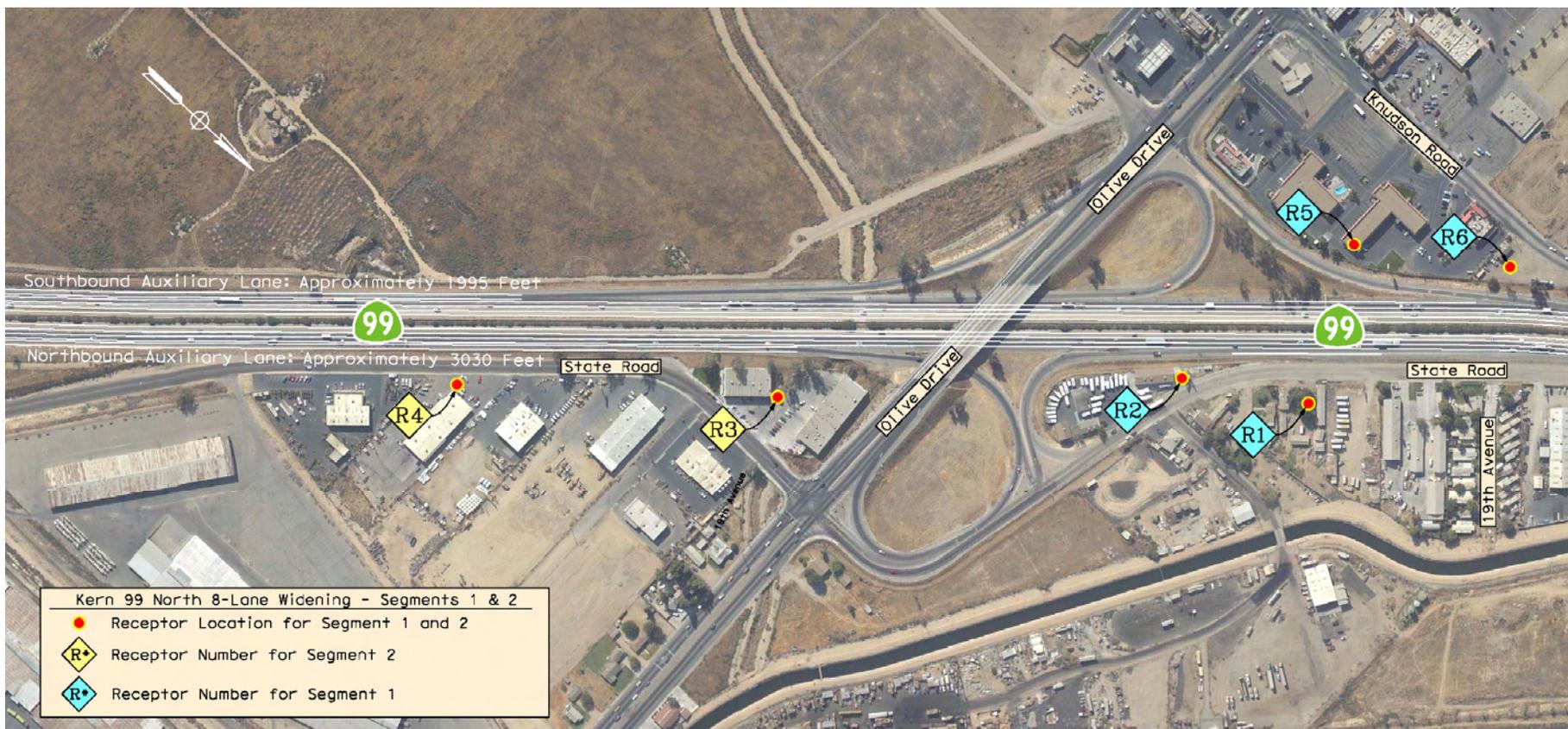


Figure 2-7 Segment 1 and Segment 2 Receptors

**Environmental Consequences under the California Environmental  
Quality Act**

Table 2.6 and Table 2.7 show predictions of future noise levels for the design year (2035) with and without the project between post miles 27.0 and 28.39 on State Route 99.

Table 2.6 displays the noise impact analysis for four receptors in Segment 1. This segment begins just north of the State Route 99 and State Route 204 connector (post mile 27.0) to the Olive Drive interchange. Receptor 1, listed in the table, represents a rehabilitation center (abandoned) and residential facility. Receptors 2, 5 and 6 represent commercial establishments. The existing noise levels for these receptors range between 69 and 75 decibels. The predicted noise levels without the project range between 71 and 78 decibels.

**Table 2.6 Noise Impact Analysis for Segment 1**

<b>Receptor # and Location</b>	<b>Existing Noise Level (dBA)</b>	<b>Predicted Noise Level without Project (dBA)</b>	<b>Predicted Noise Level with Project (dBA)</b>
R1—5930 State Road (residential-abandoned property)	71	74	75
R2—5801 State Road. (commercial property)	75	78	78
R5—6100 Knudson Road (commercial hotel)	71	73	73
R6—6112 Knudson Road (commercial property)	69	71	71

Source: Caltrans Noise Study Report, 2010

Table 2.7 displays the noise impact analysis for two receptors in Segment 2. This segment begins near Knudson Drive and Norris Road intersection south of post mile 28.4 to the Olive Drive interchange. Receptor 3 and 4 listed in the table represent commercial establishments. The existing noise levels for the receivers within this segment range from 74 to 75 decibels. The predicted noise levels without the project range between 75 and 76 decibels.

**Table 2.7 Noise Impact Analysis for Segment 2**

<b>Receptor # and Location</b>	<b>Existing Noise Level (dBA)</b>	<b>Predicted Noise Level without Project (dBA)</b>	<b>Predicted Noise Level with Project (dBA)</b>
R3—4525 State Road (commercial property)	74	75	75
R4—4420 State Road. (commercial property)	75	76	77

Source: Caltrans Noise Study Report, 2010

*Future Prediction Noise levels on Segment 1 and Segment 2*

Traffic noise modeling (see Table 2.6 and Table 2.7) indicates that traffic noise levels at all studied receptors within both Segment 1 and Segment 2 are predicted to be in a range of 71 to 78 decibels for design year 2035.

The following is a discussion of noise impact considerations for each analyzed receptor in the project area:

*Commercial and Industrial Establishments*

Receptors R2, R3, R4, and R6 represent commercial and industrial establishments. The noise levels predicted at these receivers for the design year 2035 range between 71 to 78 decibels. The existing noise levels for these receptors range from 69 to 75 decibels.

*Days Inn Hotel*

The noise level predicted at Days Inn, receiver R5, is 73 decibels in the design year 2035. The existing noise level is 71 decibels.

*Rehabilitation Center*

The noise level predicted at receiver R1 (see Table 2.6), for design year 2035, is 75 decibels. The existing noise level is 71 decibels. This property is currently vacant and Caltrans considers it an abandoned property.

The California Environmental Policy Act noise analysis is completely independent of the National Environmental Policy Act (23 Code of Federal Regulations 772) that centers on noise abatement criteria. Under the California Environmental Policy Act, the assessment entails looking at the setting of the noise impact and then how large or perceptible any noise increase would be in the given area. Key considerations include the uniqueness of the setting, the sensitive nature of the noise receptors, the magnitude of the noise increase, the number of residences affected, and the absolute noise level.

Caltrans identified six noise receptors: four commercial and industrial establishments, one hotel, and one vacant, abandoned rehabilitation center. Tables 2.6 and 2.7 show the existing and predicted noise levels at these receptors with and without the project. The traffic noise modeling indicated that the existing noise levels at the studied receptors are between 69 to 75 decibels within the project area, and the predicted noise levels at all studied receptors would be between 71 to 78 decibels for the design build year (2035). The difference between the existing and the predicted noise levels ranges from 2 to 3 decibels.

Given a sound level change measured with precise instrumentation, the subjective human perception of a doubling of loudness would usually be different than what is measured. Under controlled conditions in an acoustical laboratory, the trained, healthy human ear is able to discern a 1-decibel change in sound level when exposed to steady, single-frequency (“pure-tone”) signals in the mid-frequency (1,000 Hz–8,000 Hz) range. In typical noisy environments, changes in noise of 1 to 2 decibels are generally not perceptible. However, it is widely accepted that people are able to begin to detect sound level increases of 3 decibels in typical noisy environments. Further, a 5-decibel increase is generally perceived as a distinctly noticeable change, and a 10-decibel increase is generally perceived as a doubling of loudness. Therefore, a doubling of sound energy (doubling the volume of traffic on a highway) that would result in a 3-decibel increase in sound would generally be perceived as barely detectable.

The proposed project would build within a commercial area where the frequent uses of areas such as parking lots are generally transitory in nature. In accordance with the guidelines set forth in Section 2.8.3 of the Caltrans Traffic Noise Analyses Protocol, which states that noise abatement is normally not considered reasonable for commercial areas, noise abatement does not need to be considered for this project. Therefore, the proposed project would not result in an adverse noise impact.

### **Construction Noise**

During construction of the project, noise from building activities may now and then be louder than the noise environment in the immediate area.

Table 2.8 summarizes noise levels produced by equipment that is commonly used on roadway construction projects. Construction equipment is expected to generate noise levels ranging from 70 to 90 decibels at a distance of 50 feet, and noise produced by

construction equipment would be reduced over distance at a rate of about 6 decibels as the distance doubles.

**Table 2.8 Construction Equipment Noise**

<b>Equipment</b>	<b>Maximum Noise Level (dBA at 50 feet)</b>
Scrapers	89
Bulldozers	85
Heavy Trucks	88
Backhoe	80
Pneumatic Tools	85
Concrete Pump	82

Source: Federal Transit Administration 1995.

No adverse noise impacts from building activities are anticipated as construction would be done under Caltrans Standard Specifications Section 7-1.01I and applicable local noise standards. Construction noise would be short-term, intermittent, and overshadowed by local traffic noise.

***Avoidance, Minimization, and/or Mitigation Measures under the California Environmental Quality Act***

Using the following measures would minimize the temporary noise impacts from construction:

- All equipment would have sound-control devices that are no less effective than those provided on the original equipment. No equipment would have an unmuffled exhaust.
- As directed by Caltrans, the contractor would use appropriate additional noise reduction measures: change the location of stationary construction equipment; turn off idling equipment; reschedule construction activities; notify nearby residents in advance of construction work; and install acoustic barriers around stationary construction noise sources.
- Construction noise is regulated by Caltrans Standard Specifications Section 7-1.01I, Sound Control Requirements, which states that noise levels generated during construction would comply with applicable local, state, and federal regulations, and that all equipment would be fitted with adequate mufflers according to the manufacturers' specifications.

## 2.3 Biological Environment

### 2.3.1 Animal Species

#### **Regulatory Setting**

Many state and federal laws regulate impacts to wildlife. The United States Fish and Wildlife Service, the National Oceanic and Atmospheric Administration, Fisheries and the California Department of Fish and Game are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with wildlife not listed or proposed for listing under the state or federal Endangered Species Act. Species listed or proposed for listing as threatened or endangered are discussed in Section 2.3.4 below. All other special-status animal species are discussed here, including California Department of Fish and Game fully protected species and species of special concern, and United States Fish and Wildlife Service or National Oceanic Atmospheric Administration candidate species.

Federal laws and regulations pertaining to wildlife include the following:

- National Environmental Policy Act
- Migratory Bird Treaty Act
- Fish and Wildlife Coordination Act

State laws and regulations pertaining to wildlife include the following:

- California Environmental Quality Act
- Sections 1600–1603 of the Fish and Game Code
- Section 4150 and 4152 of the Fish and Game Code

#### **Affected Environment**

A Natural Environmental Study for this project was completed in February 2011. During biological surveys in the project study area, existing habitat and any observed species were documented. Common wildlife species observed included California ground squirrels, crow, and mourning doves. Species of concern with potential to occur in the project area include the western burrowing owl.

Hoary bats do not carry any formal listing status. They are, however, protected by California Department of Fish and Game code and are discussed below.

### *Hoary bat*

Hoary bat (*Lasiurus cinereus*) does not carry any formal listing status by either the Federal Endangered Species Act or California Endangered Species Act. All bats, however, are protected by California Department of Fish and Game code.

Hoary bats can be distinguished from all other species by their large size, frosted fur, golden coloration around the face, rounded ears, blunt tragus (ear area), and furred uropatagium (wing skin). Hoary bats are solitary and roost primarily in foliage of both coniferous and deciduous trees, near the ends of branches, 10 to 40 feet above the ground. Roosts are typically found at the edge of a clearing in forested areas.

### *Burrowing owl*

The burrowing owl (*Athene cunicularia*) is a state species of concern. Burrowing owls are small, ground-dwelling owls with white eyebrows, yellow eyes, and long stilt-like legs. These owls are found in open, dry grasslands, deserts, and scrublands characterized by low-growing vegetation. Burrowing owls nest in the ground, usually using abandoned small mammal burrows. These owls are most active at dusk and dawn, hunting for large insects and small mammals.

## **Environmental Consequences**

### *Hoary bat*

No hoary bats were located during surveys. Since hoary bats typically roost at edges of forested areas, it is unlikely that the isolated eucalyptus trees scheduled to be removed are being used. The California Natural Diversity Database, however, shows the hoary bat has been seen roosting within 2 miles of the project location.

### *Burrowing owl*

During surveys for the proposed project, no burrowing owls or signs (molted feathers, cast pellets, prey remains or excrement) were identified. Although burrowing owls were not observed during biological surveys, the California Natural Diversity Database shows the burrowing owl has been seen within 2 miles of the project site. Within the biological study area, there are active California ground squirrel (*Spermophilus beechyi*) burrows which, if abandoned prior to project construction, could provide potential nesting habitat for burrowing owls.

### **Avoidance, Minimization, and/or Mitigation Measures**

#### *Hoary bat*

Tree removal would likely take place during the non-nesting season for migratory birds, which coincides with the time that hoary bats migrate away from the area. If tree removal is not possible during non-nesting season, pre-construction surveys would take place to ensure migratory birds or bats or their nests would not be affected. If any bats are located during these surveys, California Department of Fish and Game would be consulted and tree removal would be suspended until the bats have migrated.

Although no bats were located within the project limits, there is potential roosting habitat that would be removed as part of the proposed project.

Due to the low likelihood the eucalyptus trees are being used for roosts, and with the presence of several large eucalyptus trees in the immediate vicinity that would not be removed, no mitigation is being proposed.

#### *Burrowing owl*

Although burrowing owls were not observed at the project site, Migratory Bird Special Provisions would be included in the construction contract. These provisions would require pre-construction surveys for nesting migratory birds, including burrowing owls, so that if it is identified, measures can be taken to avoid impacts. If burrowing owls are located during pre-construction surveys, the California Department of Fish and Game would be consulted, and the construction schedule would be altered or appropriate buffer zones created to ensure the owls are not disturbed.

Direct impacts to burrowing owl are not anticipated as the potential habitat would not be affected by construction activities. No burrowing owl habitat would be removed as part of this project and no mitigation is proposed.

### **2.3.2 Threatened and Endangered Species**

#### ***Regulatory Setting***

The primary federal law protecting threatened and endangered species is the Federal Endangered Species Act, 16 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 act, federal agencies, such as the Federal Highway Administration, are required to consult with the United States Fish and Wildlife Service and the National Marine Fisheries Service to ensure that federal agencies 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 the Federal Endangered Species Act defines “take” as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct.”

California has enacted a similar law at the state level, the California Endangered Species Act, California Fish and Game Code, Section 2050, et seq. The California Endangered Species Act 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 is the agency responsible for carrying out the California Endangered Species Act. 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."

The California Endangered Species Act allows for take incidental to otherwise lawful development projects; for these actions, an Incidental Take permit is issued by the California Department of Fish and Game. For projects requiring a Biological Opinion under Section 7 of the Federal Endangered Species Act, the California Department of Fish and Game may also authorize impacts to California Endangered Species Act species by issuing a Consistency Determination under Section 2080.1 of the Fish and Game Code.

### ***Affected Environment***

A Natural Environment Study was completed for the Kern 99 North 8-Lane Widening project in February 2011. The biological study area consists of ruderal species (weeds), disturbed and non-native grassland habitats, and disturbed areas. The project area has mostly been developed for industrial and commercial uses. A special-status wildlife species that has potential to occur within the project area and for which measures may be required is the San Joaquin kit fox.

A species list for federally threatened or endangered species that occur or may be affected by the project was originally obtained from the US Fish and Wildlife Service on August 25, 2010 and updated November 29, 2010. Caltrans is requesting concurrence from the US Fish and Wildlife Service that the proposed project is not likely to adversely affect the San Joaquin kit fox.

### *San Joaquin Kit Fox*

The San Joaquin kit fox is a federally endangered and state threatened species, and typically inhabits grassland, scrubland, oak woodland, alkali sink scrubland, vernal pool, and alkali meadow communities. Many of extensively modified habitats such as oil fields and wind-turbine facilities also provide habitat for kit fox.

Kit foxes are active year-round and are primarily nocturnal, although they are commonly seen during the day in the late spring and early summer. Kit foxes require underground dens for temperature regulation, shelter, reproduction, and predator avoidance. Kit foxes dig their own dens, but also commonly modify and use dens constructed by other animals. Kit foxes frequently use human-made structures, such as culverts, abandoned pipes, and banks in roadbeds, as den sites.

### ***Environmental Consequences***

The Natural Environment Study concluded that since the project is in an area known to support San Joaquin kit fox, no surveys to confirm presence were conducted. Instead, reconnaissance and general survey data assessed the existing habitats for potential use by San Joaquin kit fox. The data results show that the project does not contain suitable habitats for use as foraging or potential den locations. The project impacts would occur in areas that are routinely maintained through actions such as mowing and herbicidal spraying or are heavily compacted as is the case in the median.

Most of the area in the project vicinity is currently utilized as commercial land use. The one area that is open land consists of disturbed non-native and native grasses and forbs (herbs). This area would not be affected. Most of the impacts from this project would occur within the existing median that does not provide any suitable habitat for kit foxes.

Currently the median in the vicinity of the project consists of metal beam guardrail surrounding thick oleander shrubs. This type of barrier allows wildlife to pass through the freeway at any point that is not too thickly covered by the oleander. The new barrier design would be continuous except for the spots where passageways are

installed. The new design may cause wildlife to be exposed to danger from vehicles for longer periods of time. Although the concrete median barrier would be continuous, unlike the metal beam guard rail, it would contain openings at prescribed distances (typically every 200 feet) that would allow wildlife to pass through.

The proposed project is not anticipated to have a measurable cumulative effect on Kit foxes. The proposed project would not induce urban growth, nor would it increase access to adjacent habitat. Caltrans is requesting concurrence from the US Fish and Wildlife Service that the proposed project is not likely to adversely affect the San Joaquin kit fox.

### ***Avoidance, Minimization, and/or Mitigation Measures***

The proposed project would construct a modified median barrier to include wildlife passageways that would allow kit fox as well as other wildlife to continue across the freeway.

In addition to the modified design and limiting the major components of the work to the daytime, the following precautionary measures would be used to avoid and minimize impacts to San Joaquin kit fox:

- At the end of each working day the contractor would take measures to prevent the entrapment of San Joaquin kit foxes in all excavated, steep-walled holes or trenches. These measures would include covering excavations with plywood or providing dirt or plank escape ramps. The contractor would also inspect all pipes and culverts before burying, capping, or other activities. If a San Joaquin kit fox is discovered during this inspection, the pipe or culvert would not be disturbed (other than to move it to a safe location if necessary) until after the fox has escaped.
- The contractor should immediately notify the engineer if a dead, injured, or entrapped San Joaquin kit fox is found. All construction activity within 150-foot radius of the kit fox would be halted and may not resume until the engineer provides written authorization. Any entrapped kit fox would be permitted to escape. No injured or dead kit fox may be handled or otherwise disturbed.
- If a San Joaquin kit fox den is discovered, all construction activity within a 150-foot radius of the den would be halted and the engineer would be contacted immediately. Construction may not continue within the 150-foot radius until the engineer provides written authorization.

- Prior to the initiation of groundbreaking, a Caltrans biologist would conduct an education and training session for all construction personnel. All individuals who would be involved in the site preparation or construction would be present, including the project representative(s) responsible for reporting take to the United States Fish and Wildlife Service and Department of Fish and Game. Training sessions would be repeated for all new employees before they access the project site.
- All food-related trash items such as wrappers, cans, bottles, and food scraps would be disposed of in closed containers and removed at least once every day from the entire project site.
- All construction related vehicles would adhere to a 20 mile-per-hour speed limit while within construction limits and vehicle travel would be limited to established roadways except for new lane construction within the median.
- To avoid harassment or killing or injuring San Joaquin kit fox, no pets or firearms would be permitted on the construction site.

The proposed project would not remove San Joaquin kit fox habitat. Therefore, no compensatory mitigation is being proposed

### **2.3.3 Invasive Species**

#### ***Regulatory Setting***

On February 3, 1999, President Clinton signed Executive Order 13112 requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as “any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health.” Federal Highway Administration guidance issued August 10, 1999 directs the use of the state’s noxious weed list to define the invasive plants that must be considered as part of the National Environmental Policy Act analysis for a proposed project.

#### ***Affected Environment***

The project area was evaluated for the presence of invasive species based on the California Noxious Weed List (California Department of Food and Agriculture, 2010), the California Invasive Plant Council List (California Invasive Plant Council 2010), and the United States Department of Agriculture Federal Weed List (United

States Department of Agriculture 2010). Within the project study area, both Russian thistle (*Salsola tragus*) and Bermuda grass (*Cynodon dactylon*) were identified. These species, while invasive, do not have special regulations or requirements based on their status on either the Federal or California Noxious Weeds list unless they are located in a nursery setting.

### ***Environmental Consequences***

Construction activities would remove invasive species from the project area and would not cause it to spread beyond its current distribution.

### ***Avoidance, Minimization, and/or Mitigation Measures***

In compliance with Executive Order 13112 pertaining to invasive species, best management practices would be implemented to reduce the potential spread of noxious weeds to or from the project site. This should include only utilizing clean dirt for fill, properly disposing of any excavated materials, and deploying proper erosion-control techniques.

## **2.4 Climate Change under the California Environmental Quality Act**

### ***Regulatory Setting***

While climate change has been a concern since at least 1988, as evidenced by the establishment of the United Nations and World Meteorological Organization's Intergovernmental Panel on Climate Change, the efforts devoted to greenhouse gas emissions reduction and climate change research and policy have increased dramatically in recent years. These efforts are primarily concerned with the emissions of greenhouse gases related to human activity that include carbon dioxide (CO<sub>2</sub>), methane, nitrous oxide, tetrafluoromethane, hexafluoroethane, sulfur hexafluoride, HFC-23 (fluoroform), HFC-134a (s, s, s, 2 –tetrafluoroethane), and HFC-152a (difluoroethane).

In 2002, with the passage of Assembly Bill 1493, California launched an innovative and proactive approach to dealing with greenhouse gases emissions and climate change at the state level. Assembly Bill 1493 requires the California Air Resources Board 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; however, in order to enact the standards, California needed a waiver from the U.S. Environmental Protection Agency. The waiver was denied by the U.S. Environmental Protection

Agency in December 2007 (see *California v. Environmental Protection Agency*, 9th Cir. Jul. 25, 2008, No. 08-70011).

On January 26, 2009, however, it was announced that the U.S. Environmental Protection Agency would reconsider their decision regarding the denial of California's waiver. On May 18, 2009, President Obama announced the enactment of a 35.5 miles-per-gallon fuel economy standard for automobiles and light-duty trucks that would take effect in 2012. On June 30, 2009, the U.S. Environmental Protection Agency granted California the waiver. California is expected to enforce its standards for 2009 to 2011 and then look to the federal government to implement equivalent standards for 2012 to 2016. Granting the waiver also allowed California to put into place even stronger standards in the future. The state is expected to start developing new standards for the post-2016 model years later this year.

On June 1, 2005, then-Governor Arnold Schwarzenegger signed Executive Order S-3-05. 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, the Global Warming Solutions Act of 2006. Assembly Bill 32 sets the same overall greenhouse gas emissions reduction goals while further mandating that the California Air Resources Board create a plan that 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 Assembly Bill 32, including the recommendations made by the state's Climate Action Team.

With Executive Order S-01-07, then-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 10 percent by 2020.

Climate change and greenhouse gas reduction is also a concern at the federal level; however, at this time, no legislation or regulations have been enacted specifically addressing greenhouse gas emissions reductions and climate change. California, in conjunction with several environmental organizations and several other states, sued to force the U.S. Environmental Protection Agency to regulate greenhouse gas as a pollutant under the Clean Air Act (*Massachusetts vs. Environmental Protection Agency et al.*, 549 U.S. 497 (2007)). The court ruled that greenhouse gas does fit within the Clean Air Act's definition of a pollutant, and that the U.S. Environmental

Protection Agency does have the authority to regulate greenhouse gas. Despite the Supreme Court ruling, no federal regulations to date limiting greenhouse gas emissions have been publicly declared.

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

- **Endangerment Finding:** The administrator finds that the current and projected concentrations of the six key well-mixed greenhouse gases—carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF<sub>6</sub>)—in the atmosphere threaten the public health and welfare of current and future generations.
- **Cause or Contribute Finding:** The administrator finds 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.

These findings do not themselves impose any requirements on industry or other entities. However, this action is a prerequisite to finalizing the U.S. Environmental Protection Agency’s proposed greenhouse gas emission standards for light-duty vehicles that were jointly proposed by U.S. Environmental Protection Agency and the Department of Transportation’s National Highway Safety Administration on September 15, 2009.<sup>1</sup>

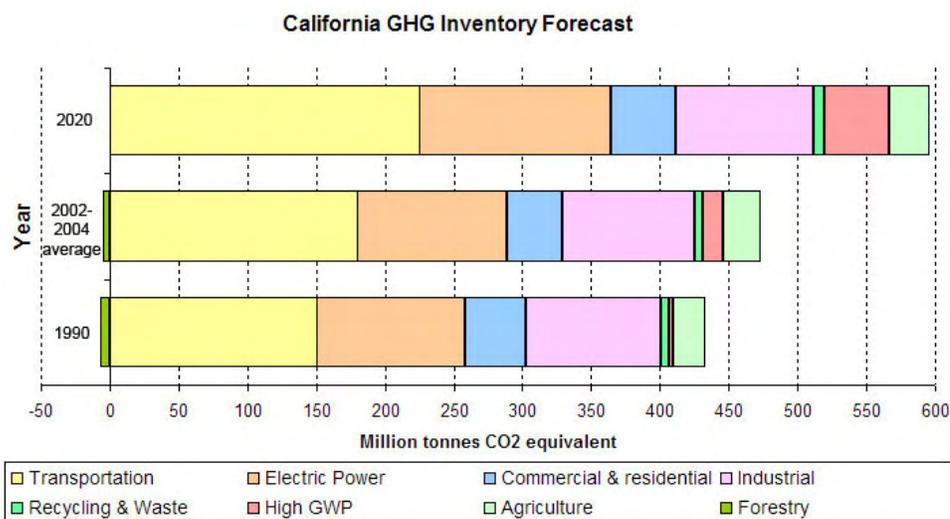
According to *Recommendations by the Association of Environmental Professionals on How to Analyze GHG Emissions and Global Climate change in CEQA Documents* (March 2007), an individual project does not generate enough greenhouse gas emissions to significantly influence global climate change. Rather, 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. In assessing cumulative impacts, it must be determined if a project’s incremental effect is “cumulatively considerable” (see California Environmental Quality Act Guidelines sections 15064(i)(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

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<sup>1</sup> <http://www.epa.gov/climatechange/endangerment.html>

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.

As part of its supporting documentation for the Draft Scoping Plan, the California Air Resources Board recently released an updated version of the greenhouse gas inventory for California (June 26, 2008). Shown below is a graph from that update that shows the total greenhouse gas emissions for California for 1990, 2002–2004 average, and 2020 projected if no action is taken.



**Figure 2.8 California Greenhouse Gas Inventory**

<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 (see Climate Action Program at Caltrans, December 2006), Caltrans has created and is implementing the Climate Action Program (December 2006). This document can be found at <http://www.dot.ca.gov/docs/ClimateReport.pdf>

*Project Analysis*

One of the main strategies in the Department’s Climate Action Program to reduce greenhouse gas emissions is to make California’s transportation system more efficient. Transportation’s contribution to greenhouse gas emissions depends on three factors: the types of vehicles on the road, the type of fuel the vehicles use, and the

time and the distance the vehicles travel. The highest levels of carbon dioxide from mobile sources, such as automobiles, occur at stop-and-go speeds (0 to 25 miles per hour). Gasoline and diesel-powered vehicles operate less efficiently at low speeds. Optimum speeds are between 45 and 50 miles per hour, as shown in Figure 5 below. Looking at the state transportation system as a whole, enhancing operations and improving travel times in high congestion travel corridors would lead to an overall reduction in greenhouse gas emissions.

This project proposes to widen the existing six-lane freeway to eight-lanes at State Route 99 between post miles 27.0 and 28.39 in Kern County by constructing one lane and a standard inside shoulder in each direction within the median. The project also proposes to construct a northbound auxiliary lane from the State Route 204 and State Route 99 connector to the Olive Drive off-ramp. Currently, this segment of State Route 99 is experiencing level-of-service D during peak hours. If the project is not constructed, level-of-service would continue to deteriorate to level-of-service F by the 2035 design year. The build alternative would relieve congestion, improve traffic flow, and improve safety.

The estimated annual carbon dioxide emissions were evaluated using the Caltrans and University of California Davis jointly developed analysis tool: Caltrans Emission Factors, 2007 emissions model (CT-EMFAC – 2007 model). Table 6 displays carbon dioxide emissions for the Build Alternative and the No-Build Alternative.

The results show that the No-build Alternative would cause five tons less carbon dioxide emissions compared to the Build Alternative by the 2035 design year (Table 2.9).

**Table 2.9 Estimated Carbon Dioxide Emissions (Tons per Year)**

Volume	2010	2015		2035	
	Existing	Build	No-Build	Build	No-Build
Carbon dioxide (CO <sub>2</sub> ) (tons per year)	19570.4	19850.2	18940.3	35400.7	30330.4

Source: Caltrans Central Region Environmental Engineering

### **Greenhouse Gas 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, on-site construction equipment, and traffic delays due to construction.

These emissions would be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by using better traffic management during the construction phases. In addition, with innovations such as longer pavement life, improved traffic management plans, and changes in materials, the greenhouse gas emissions produced during construction can be reduced to some degree by longer intervals between maintenance and rehabilitation events.

### ***California Environmental Quality Act Conclusion***

With the project resulting in less congestion and an increase in efficiency, it is anticipated that daily CO<sub>2</sub> emissions would decrease as a result of the project. 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 regarding significance of the project's direct impact and its contribution on the cumulative scale to climate change. However, Caltrans is firmly committed to implementing measures to help reduce the potential effects of the project. These measures are outlined in the following sections.

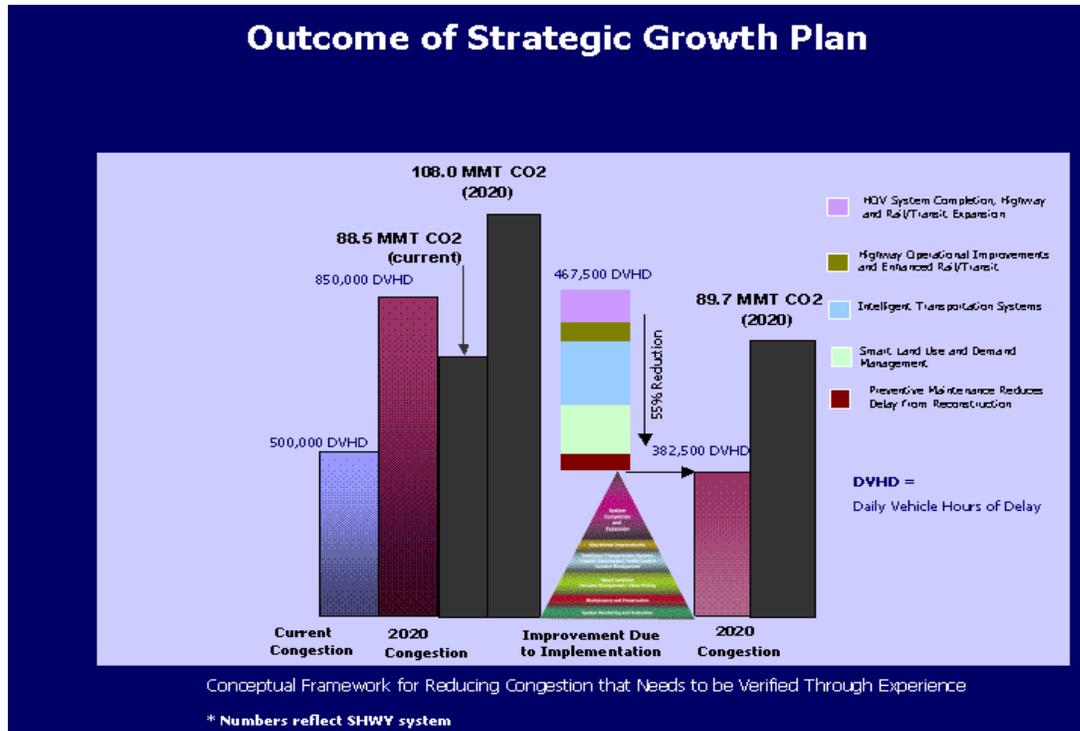
### ***Assembly Bill 32 Compliance***

Caltrans continues to be actively involved on the governor's Climate Action Team as the California Air Resources Board works to implement the governor's executive orders and help achieve the targets set forth in Assembly Bill 32. Many of the strategies Caltrans is using to help meet the targets in Assembly Bill 32 come from the California Strategic Growth Plan, which is updated each year. Then-Governor Arnold Schwarzenegger's Strategic Growth Plan calls for a \$238.6 billion infrastructure improvement program to fortify the state's transportation system, education, housing, and waterways, including \$100.7 billion in transportation funding through 2016<sup>2</sup>. As shown in Figure 2-15, 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 when combined, yield the promised reduction in congestion. The Strategic Growth Plan relies on a complete systems approach of a variety of strategies: system monitoring and evaluation, maintenance and

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<sup>2</sup> Governor's Strategic Growth Plan, Fig. 1 (<http://gov.ca.gov/pdf/gov/CSGP.pdf>)

preservation, smart land use and demand management, and operational improvements.



**Figure 2.9 Outcome of Strategic Growth Plan**

As part of the Climate Action Program at Caltrans (December 2006, <http://www.dot.ca.gov/docs/ClimateReport.pdf>), Caltrans is supporting efforts to reduce vehicle miles traveled by planning and implementing smart land use strategies: job and housing proximity, transit-oriented communities, and high density housing along transit corridors. Caltrans is working closely with local jurisdictions on planning activities; however, Caltrans does not have local land use planning authority. Caltrans is also supporting efforts to improve the energy efficiency of the transportation sector by increasing vehicle fuel economy in new cars and light- and heavy-duty trucks. Caltrans is doing this by supporting on-going research efforts at universities, legislative efforts to increase fuel economy, and participation on the Climate Action Team. It is important to note, however, that the control of the fuel economy standards is held by United State Environmental Protection Agency and the California Air Resources Board. Lastly, the use of alternative fuels is also being considered. Caltrans is participating in funding for alternative fuel research at the University of California at Davis.

Table 2.10 summarizes Caltrans' statewide efforts to reduce greenhouse gas emissions. For more detailed information about each strategy, please see the Climate Action Program at Caltrans (December 2006); it is available at <http://www.dot.ca.gov/docs/ClimateReport.pdf>

### *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 would 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.

Climate change adaptation 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 would help California agencies plan and implement mitigation strategies for programs and projects.

On November 14, 2008, then-Governor Schwarzenegger signed Executive Order S-13-08 that directed a number of state agencies to address California's vulnerability to sea-level rise caused by climate change.

The California Resources Agency (now the Natural Resources Agency), through the interagency Climate Action Team, was directed to coordinate with local, regional, state and federal public and private entities to develop a state Climate Adaptation Strategy. The Climate Adaptation Strategy would summarize the best known science on climate change impacts to California, assess California's vulnerability to the identified impacts, and then outline solutions that could be implemented within and across state agencies to promote resiliency. As part of its development of the Climate Adaptation Strategy, the Natural Resources Agency was directed to request the National Academy of Science to prepare a Sea Level Rise Assessment Report by

December 2010 to advise how California should plan for future sea-level rise. The report was to include the following:

- Relative sea-level rise projections for California, 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 for California

Furthermore, Executive Order S-13-08 directed the Business, Transportation, and Housing Agency to prepare a report to assess the 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 effects of 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. However, all projects that have filed a Notice of Preparation, and/or are programmed for construction funding the next five years (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. 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. (Executive Order S-13-08 allows some exceptions to this planning requirement.).

**Table 2.10 Climate Change Strategies**

Strategy	Program	Partnership		Method/Process	Estimated CO2 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	0.975	7.8
Operational Improvements & Intelligent Trans. System (ITS) Deployment	Strategic Growth Plan	Caltrans	Regions	State ITS; Congestion Management Plan	.007	2.17
Mainstream Energy & Greenhouse Gas 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	0.0045	0.0065 0.45 .0225
Non-vehicular Conservation Measures	Energy Conservation Program	Green Action Team		Energy Conservation Opportunities	0.117	.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	3.6
Goods Movement	Office of Goods Movement	Cal EPA, CARB, BT&H, MPOs		Goods Movement Action Plan	Not Estimated	Not Estimated
<b>Total</b>					<b>2.72</b>	<b>18.67</b>

## **Chapter 3**      **Comments and Coordination**

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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 and interagency coordination meetings. This chapter summarizes the results of Caltrans' efforts to identify, address, and resolve project-related issues through early and continuing coordination.

### ***Coordination with Public Agencies***

On April 2011, interagency consultation for particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>) hot-spot conformity was sent out to the United States Environmental Protection Agency. Caltrans is seeking concurrence from the Federal Highway Administration and the United States Environmental Protection Agency that the project has air quality concerns, and that the preliminary results indicate that the project would not result in a violation of federal standards.

A species list for federally threatened or endangered species that occur or may be affected by the project was originally obtained from the US Fish and Wildlife Service on August 25, 2010 and updated November 29, 2010. Caltrans is requesting concurrence from the US Fish and Wildlife Service that the proposed project is not likely to adversely affect the San Joaquin kit fox.

### ***Coordination with Native American Groups***

Caltrans District 06 Native American Coordinator was notified about the project on August 19, 2010. The Coordinator expressed no Native American concerns within the project area and agreed no notification to local tribal representatives would be necessary.

## **Chapter 4**      List of Preparers

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

Alhabaly, Allam; Transportation Engineer. B.S., California State University, Fresno, School of Engineering; 11 years in Environmental Engineering unit.  
Contribution: Prepared Noise Report.

Assi, Jamal A; Environmental Planner. Doctoral degree in agricultural engineering - Pannon University of Agriculture, Hungary; More than 5 years of postdoctoral experience in the College of Agriculture & Environmental Sciences at the University of California Davis; 3 years of environmental planning experience at Caltrans. Contribution: Draft Environmental Document and environmental coordination.

Bakhdoud, Rebecca; Transportation Engineering Technician. B.A., Liberal Studies/Education, Minor in Mathematics, California State University, San Bernardino; 11 years of CADD/Microstation support and visual design experience. Contribution: Designed maps for the Noise Study.

Chafi, Abdulrahim; Transportation Engineer. Ph.D., Environmental Engineering, California Coast University, Santa Ana; B.S., M.S., Chemistry and M.S. Civil/Environmental Engineering, California State University, Fresno; 14 years of environmental technical studies experience. Contribution: Air Quality Report.

Dwivedi, Rajeev; Associate Engineering Geologist. Ph.D., Environmental Engineering, Oklahoma State University, Stillwater; 19 years of environmental technical studies experience. Contribution: Water Quality Report.

Doran, Ken, Engineering Geologist. M.S., Geology, California State University, Fresno; B.S., Geology, California State University, Fresno; 11 years of hazardous waste assessment experience. Contribution: Hazardous Waste Memo.

Kayaian, Masis; Transportation Engineer (Civil). B.S., Industrial Technology, California State University, Fresno. A.S., Engineering, Fresno City College; 11 years transportation engineering experience. Contribution: Wrote the

Technical Information for Location Hydraulic Study and the Floodplain Evaluations Report Summary.

Keister, Kevin; Transportation Engineering, University of Idaho, Moscow; 10 years experience in transportation engineering design. Contribution: prepared Project Design and Project Report.

Lanner, David; Environmental Planner. B.F.A., Art, Utah State University; 16 years of cultural resources experience. Contribution: prepared Memorandum of Cultural Resources.

Meraz, Frank; Associate Environmental Planner (Natural Science). B.S. Biology, California State University, Fresno; 8 years of wildlife biology and environmental planning experience. Contribution: 2010 Natural Environment Study.

Meyers, David; Audio Visual Specialist. Fine Arts/Music, California State University, Fresno; A.A., Liberal Studies, College of the Sequoias, Visalia; more than 25 years of visual design, public participation, multimedia and fine arts/music experience. Contribution: Project mapping and graphics.

Stewart, Richard C; Engineering Geologist, P.G. B.S., Geology, California State University, Fresno; 22 years of hazardous waste and water quality experience; 5 years of paleontology/geology experience. Contribution: prepared Memorandum of Paleontology.

Thomas, John; Acting Senior Environmental Planner. B.A., Geography, California State University, Fresno; 12 years of environmental planning experience. Contribution: Environmental Unit Supervisor.

## **Appendix A** California Environmental Quality Act Checklist

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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  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| c) Substantially degrade the existing visual character or quality of the site and its surroundings?   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?                                   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

**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?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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))? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Result in the loss of forest land or conversion of forest land to non-forest use?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

**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:

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

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Conflict with or obstruct implementation of the applicable air quality plan?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Expose sensitive receptors to substantial pollutant concentrations?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Create objectionable odors affecting a substantial number of people?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

**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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 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?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 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?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 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?   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 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?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

**V. CULTURAL RESOURCES:** Would the project:

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

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

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Disturb any human remains, including those interred outside of formal cemeteries?                          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

**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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| ii) Strong seismic ground shaking?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| iii) Seismic-related ground failure, including liquefaction?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| iv) Landslides?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Result in substantial soil erosion or the loss of topsoil?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

**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? | An assessment of the greenhouse gas emissions and climate change is included in the body of environmental document. While Caltrans has included |
|---|---|

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

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

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 GHG 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?  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 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?  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 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?                                   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 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?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 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?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

**IX. HYDROLOGY AND WATER QUALITY:** Would the project:

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Violate any water quality standards or waste discharge requirements? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

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

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 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)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Otherwise substantially degrade water quality?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| j) Result in inundation by seiche, tsunami, or mudflow?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

**X. LAND USE AND PLANNING:** Would the project:

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Physically divide an established community?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Conflict with any applicable habitat conservation plan or natural community conservation plan?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

**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?                                | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
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**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?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| (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?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

**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)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

**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: | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Fire protection?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Police protection?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Schools?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Parks?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Other public facilities?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
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**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)?
- 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?

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

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

g) Comply with federal, state, and local statutes and regulations related to solid waste?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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**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?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

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)?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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# 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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SACRAMENTO, CA 94273-0001  
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TTY 711



*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](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 Wahnnon, Manager, Title VI and Americans with Disabilities Act Program, California Department of Transportation, 1823 14<sup>th</sup> 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\\_wahnnon@dot.ca.gov](mailto:charles_wahnnon@dot.ca.gov).

  
CINDY MCKIM  
Director

*"Caltrans improves mobility across California"*

# **Appendix C** Minimization and/or Mitigation Summary

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Environmental commitments for the proposed project are described in the Avoidance, Minimization, and/or Mitigation sections in their respective environmental categories in this Initial Study. This section summarizes these environmental commitments.

## ***Below is the summary of the avoidance and minimization measures:***

### ***Utilities and Emergency Services***

During construction, a Traffic Management Plan would be developed to accommodate local traffic patterns and reduce delay, congestion, and accidents. Temporary lanes would be constructed in the shoulders to shift the existing mainline lanes to provide room for the construction of new lanes and shoulders within the median. Traffic would be reduced to a minimum of two lanes in each direction during day work. The Traffic Management Plan would include, but is not limited to the following:

- 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 Construction Zone Enhancement Enforcement Program and the Transportation Management Center
- Precautionary measures and project phasing

### ***Traffic and Transportation/Pedestrian and Bicycle Facilities***

A Traffic Management Plan would be developed to minimize delays and maximize safety for the motorists during construction. The Traffic Management Plan outlined as above mentioned under Utilities and Emergency Services.

### ***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 tons of either particulate matter (PM<sub>10</sub>) and or nitrogen oxide air pollutants. Mitigation options include using a construction fleet that is “cleaner than the California state average” or in the form of fees paid to the San Joaquin Valley Air Pollution Control District. The contractor would be responsible for the Indirect Source Review Air Impact Analysis and any applicable fees.

- 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 San Joaquin Valley Air Pollution Control 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 could 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 which can be deployed as emissions mitigation measures for equipment used in construction.

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 (reduction) 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.

### *Noise and Vibration*

Use of the following measures would minimize the temporary noise impacts from construction:

- All equipment would have sound-control devices that are no less effective than those provided on the original equipment. No equipment would have an un-muffled exhaust.
- As directed by Caltrans, the contractor would use appropriate additional noise reduction measures, including changing the location of stationary construction equipment; turning off idling equipment; rescheduling construction activity;

notifying adjacent residents in advance of construction work; and installing acoustic barriers around stationary construction noise sources.

- Construction noise is regulated by Caltrans Standard Specifications Section 7-1.01I, Sound Control Requirements, which states that noise levels generated during construction would comply with applicable local, state, and federal regulations, and that all equipment would be fitted with adequate mufflers according to the manufacturers' specifications.

***Below is the summary of the mitigation measures:***

***Visual/Aesthetics***

The proposed project would require visual improvements to make up for negative visual impacts associated with a widened roadway and loss of vegetation. Proposed improvements include the following:

- All areas of soil disturbed during the construction of the proposed project would require erosion-control treatment.
- Where feasible, existing mature vegetation would be preserved or replaced.
- Tree and shrub species should be consistent with those located on or near State Route 99 in the area.
- Where possible, replacement plants should be placed in those locations most affected by the widening project.
- Replacement planting would be included on the side slopes to soften the impact of the widened roadway within the median.
- To increase the potential of slope revegetation and stabilization, the slopes would be 1:4 or flatter and should include rounded top and bottom of slopes.
- To reduce glare from the additional reflective surfaces, bridge accent colors would be added to bridge structures to match the teal green bridge accent color of Kern County.

The use of these recommendations would minimize the visual impacts and lessen the substantial changes in the overall visual quality. Costs of visual requirements should be included in the construction capital costs for the roadway project.

### ***Hazardous Waste or Materials***

As required by Caltrans, the contractor(s) would prepare a project-specific Lead Compliance Plan (California Code of Regulation) Title 8, Section 1532.1, the Lead in Construction standard) to minimize worker exposure to lead-impacted soil. The plan would include protocols for environmental and personnel monitoring, requirements for personal protective equipment, and other health and safety protocols and procedures for the handling of lead-impacted soil.

Soil excavated from the surface to 1.5 feet below the surface may be reused on-site (as Caltrans Type Y1 material) in accordance with the Department of Toxic Substances Control Variance and must be covered by at least one foot of non-hazardous soil or a pavement structure. If the top 1.5 feet of excavated soil would not be reused on-site, then the excavated soil should be either (1) managed and disposed of as a California hazardous waste, or (2) stockpiled and re-sampled to confirm waste classification in accordance with specific disposal facility acceptance criteria, if applicable.

Based on the Preliminary Site Investigation results, all paints within the project limits should be treated as lead-containing for purposes of determining the applicability of the California Division of Occupational Safety and Health lead standard during any future maintenance, renovation, and demolition activities. This recommendation is based on lead-containing paint sample results, and the fact that lead was a common ingredient of paints manufactured before 1978 and is still an ingredient in some paints. In accordance with Title 8, California Code of Regulation, Section 1532.1(p), written notification to the nearest California Division of Occupational Safety and Health district office is required at least 24 hours prior to certain lead related work.

### ***Biological Environment***

#### ***Animal Species***

##### Hoary bat

Tree removal would likely take place during non-nesting season for migratory birds, which coincides with the migration away from the area hoary bats. If tree removal is not possible during non-nesting season, pre-construction surveys would take place to ensure migratory birds or bats or their nests would not be affected. If any bats are located during these surveys, the California Department of Fish and Game would be consulted and tree removal would be suspended until bats have migrated.

Although no bats were located within the project limits, there is potential roosting habitat that would be removed as part of the proposed project.

Due to the low likelihood that bats are roosting in the eucalyptus trees to be removed and the presence of several other large eucalyptus trees in the immediate vicinity that would not be removed, no compensatory mitigation is being proposed.

#### Burrowing owl

Although burrowing owls were not observed at the project site, Migratory Bird Special Provisions would be included in the Construction Contract. These provisions would require pre-construction surveys for nesting migratory birds, including burrowing owls, so that if it is identified, measures can be taken to avoid impacts. If burrowing owls are located during pre-construction surveys, the California Department of Fish and Game would be consulted and the construction schedule would be altered or appropriate buffer zones created to ensure the owls are not disturbed.

Direct impacts to burrowing owls are not anticipated as the potential habitat would not be affected by construction activities. No burrowing owl habitat would be removed as part of this project and no mitigation is proposed.

#### *Threatened and Endangered Species*

The proposed project would construct a modified median barrier to include wildlife passageways that would allow kit fox as well as other wildlife to continue across the freeway.

In addition to the modified design and limiting the major components of the work to the daytime, the following precautionary measures would be used to avoid and minimize impacts to San Joaquin kit fox:

- At the end of each working day, the contractor would take measures to prevent the entrapment of San Joaquin kit foxes in all excavated, steep-walled holes or trenches. These measures would include covering excavations with plywood or providing dirt or plank escape ramps. The contractor would also inspect all pipes and culverts before burying, capping, or other activities. If a San Joaquin kit fox is discovered during this inspection, the pipe or culvert would not be disturbed (other than to move it to a safe location if necessary) until after the fox has escaped.
- The contractor should immediately notify the engineer if a dead, injured, or entrapped San Joaquin kit fox is found. All construction activity within a 150-foot radius of the kit fox would be halted and may not resume until the engineer

provides written authorization. Any entrapped kit fox would be permitted to escape. No injured or dead kit fox may be handled or otherwise disturbed.

- If a San Joaquin kit fox den is discovered, all construction activity within a 150-foot radius of the den would be halted and the engineer would be contacted immediately. Construction may not continue within the 150-foot radius until the engineer provides written authorization.
- Prior to the initiation of groundbreaking, a Caltrans biologist would conduct an education and training session for all construction personnel. All individuals who would be involved in the site preparation or construction would be present, including the project representative(s) responsible for reporting take to the United State Fish and Wildlife Service and Department of Fish and Game. Training sessions would be repeated for all new employees before they access the project site.
- All food-related trash items such as wrappers, cans, bottles and food scraps would be disposed of in closed containers and removed at least once every day from the entire project site.
- All construction-related vehicles would adhere to a 20-mile-per-hour speed limit while within construction limits and vehicle travel would be limited to established roadways except for new lane construction within the median.
- To avoid harassment or killing or injuring a San Joaquin kit fox, no pets or firearms would be permitted on the construction site.

The proposed project would not remove San Joaquin kit fox habitat. Therefore, no compensatory mitigation is being proposed.

### *Invasive Species*

In compliance with Executive Order 13112 pertaining to invasive species, best management practices would be used to reduce the potential spread of noxious weeds to or from the project site. This should include using only clean dirt for fill, properly disposing of any excavated materials, and deploying proper erosion control techniques.

## **List of Technical Studies that are Bound Separately**

Air Quality Report

Community Impact Memorandum

Cultural Resources Compliances

Hydraulic and Floodplain Evaluations Report Summary

Hazardous Waste Summary Reports along with

- Initial Site Assessment enclosed a request for review of consultant prepared PEAR—Hazardous Waste Section Memorandum (February 22, 2007)
- Aerially Deposited Lead Site Investigation Report—GEOCON Consultants, INC
- Asbestos and Lead-containing Paint Survey—GEOCON Consultants, INC

Natural Environment Study

Noise Study Report

Paleontological Identification Report

Visual Impact Assessment

Water Quality Report