

Betty Drive Interchange Project

06-TUL-99-PM 39.6 /41.3

06-471500

06-0000-0464

Initial Study with Proposed Mitigated Negative Declaration/ Environmental Assessment



**Prepared by the
State of California Department of Transportation**

The environmental review, consultation, and any other action required in accordance with applicable Federal laws for this project is being, or has been, carried out by Caltrans under its assumption of responsibility pursuant to 23 U.S.C. 327.



June 2011

General Information About This Document

What's in this document?

The California Department of Transportation (Caltrans), as assigned by the Federal Highway Administration has prepared this Initial Study/Environmental Assessment, which examines the potential environmental impacts of the alternatives being considered for the proposed project located in Tulare County, California. 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 of the alternatives, 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 in Fresno, California and/or Tulare County Public Library at 200 West Oak Avenue, Visalia, California 93291-4993

Attend the Public Open House on July 25, 2011

We'd like to hear what you think. If you have any comments regarding the proposed project, please attend the Public Open House or send your written comments to the Department by the deadline.

Submit comments via postal mail to:

G. William "Trais" Norris III, Senior Environmental Planner
Sierra Pacific Environmental Analysis Branch
California Department of Transportation
855 M Street, Suite 200, 3rd Floor
Fresno, California 93721

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

Be sure to submit comments by the deadline: August 5, 2011

What happens next?

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

For individuals with sensory disabilities, this document is available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please call or write to Caltrans, Attn: G. William "Trais" Norris, Sierra Pacific Environmental Analysis Branch, California Department of Transportation 855 M Street, Suite 200, 3rd Floor, Fresno, California (559) 445-6447 Voice, or use the California Relay Service 1 (800) 735-2929(TTY), 1 (800) 735-2929 (Voice) or 711.

SCH#
06-TUL-99-PM 39.6/41.3
EA #06-47150
06-0000-0464

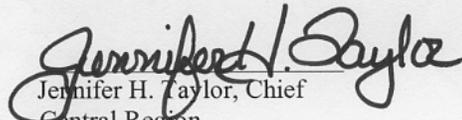
Reconstruct Betty Drive/State Route 99 Interchange in the community of Goshen, Tulare County (PM 39.6/41.3)

Initial Study with Proposed Mitigated Negative Declaration/Environmental Assessment

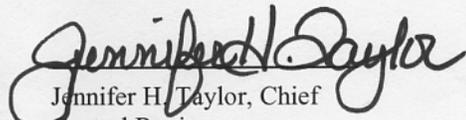
Submitted Pursuant to: (State) Division 13, California Public Resources Code
(Federal) 42 U.S. Code 4332(2)(C) and 23 U.S. Code 327

THE STATE OF CALIFORNIA
Department of Transportation

6/29/11
Date of Approval


Jennifer H. Taylor, Chief
Central Region
Environmental South
NEPA Lead Agency

6/29/11
Date of Approval


Jennifer H. Taylor, Chief
Central Region
Environmental South
CEQA Lead Agency



Proposed Mitigated Negative Declaration

Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (Caltrans) proposes to reconstruct the Betty Drive/State Route 99 Interchange (post miles 39.6/41.3) in the community of Goshen, Tulare County, California. Betty Drive would become a through-road connecting to the realigned Riggan Avenue (Avenue 312) on the east side of the interchange, and to Avenue 308 on the west side of the interchange. The Goshen overcrossing structure would be removed and replaced with a new overcrossing structure. Existing ramps at the Betty Drive Interchange would be realigned. Traffic signals would be installed at ramp intersections with Betty Drive. New local roads would be constructed on the west side of State Route 99. The ramps at Avenue 304 would be closed to provide acceptable operations between the Betty Drive interchange and State Route 99/198 Separation. Removal and reconstruction of the existing pumping plant on State Route 99 and construction of a new drainage basin would be necessary.

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; the coastal zone; wild and scenic rivers; publicly owned parks; recreation areas; growth; timberland; environmental justice; community character and cohesion; traffic and transportation/pedestrian and bicycle facilities; plant and animal species; energy; hydrology and floodplain; geology, soils, seismic activity, or topography; water quality; or wetlands and other waters of the U.S.

The proposed project would have no significant effect on farmland, noise and vibration, relocations, cultural resources, and air quality.

In addition, the proposed project would have no significantly adverse effect on aesthetics, threatened and endangered species and paleontology because the following mitigation measures would reduce potential effects to insignificance:

- Effects to visual resources would be minimized through materials and aesthetic treatments, landscaping, and erosion control, grading practices and structural provisions.
- Caltrans proposes to replace each acre of lost San Joaquin kit fox foraging habitat lost through project related impacts: 1.1 acres of quality habitat for permanent impacts and 0.3 acre of quality habitat for temporary impacts. Replacement acreage would be in a U.S. Fish and Wildlife Service-approved mitigation bank.
- Impacts on paleontology would be mitigated through the development of a site-specific Paleontological Mitigation Plan

Jennifer H. Taylor, Chief
Central Region
Environmental South

Date



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List of Abbreviated Terms

| | |
|-------------------|--|
| Caltrans | California Department of Transportation |
| CEQA | California Environmental Quality Act |
| FHWA | Federal Highway Administration |
| NEPA | National Environmental Policy Act |
| PM | post mile |
| USC | United States Code |
| PM _{2.5} | Particulate matter of 2.5 microns in diameter or smaller |
| dba | Decibels |
| LOS | Level of service |
| Leq(h) | Equivalent sound level over one hour |
| PM ₁₀ | Particulate matter of 10 microns in diameter or smaller |



Chapter 1 Proposed Project

1.1 Introduction

The California Department of Transportation (Caltrans) proposes to reconstruct the Betty Drive/State Route 99 Interchange (post miles 39.6/41.3) in the community of Goshen, Tulare County, California (see Figures 1-1 and 1-2). The proposed project makes Betty Drive a through-road by connecting to the realigned Riggins Avenue (Avenue 312) on the east side of the interchange, and to Avenue 308 on the west side of the interchange. Traffic signals would be installed at the ramp intersections at Betty Drive. The ramps at Avenue 304 would be closed to provide acceptable operations between the Betty Drive Interchange and State Route 99/198 Separation. Construction of a new drainage basin would be necessary.

The Project Approval and Environmental Document, Plan Specification and Estimates and Right of Way Support phases are currently programmed in State Transportation Improvement Program, with funding for both design and right-of-way phases to start in the 2013/14 Fiscal Year. Right-of-way capital is currently programmed as Local Transportation Funds (Measure R). Tulare County Association of Governments Draft Amendment 1-2010 State Transportation Improvement Program proposes to change the capital funding if needed to complete the project. The project is proposed as a candidate for Regional Improvement Program and/or Interregional Improvement Program funds.

The construction phase is not funded and is currently proposed to be funded with Measure R funds. Future funding opportunities to incorporate State Transportation Improvement Program, federal, and/or local developer funds for project construction will be considered.



Figure 1-1 Project Vicinity Map

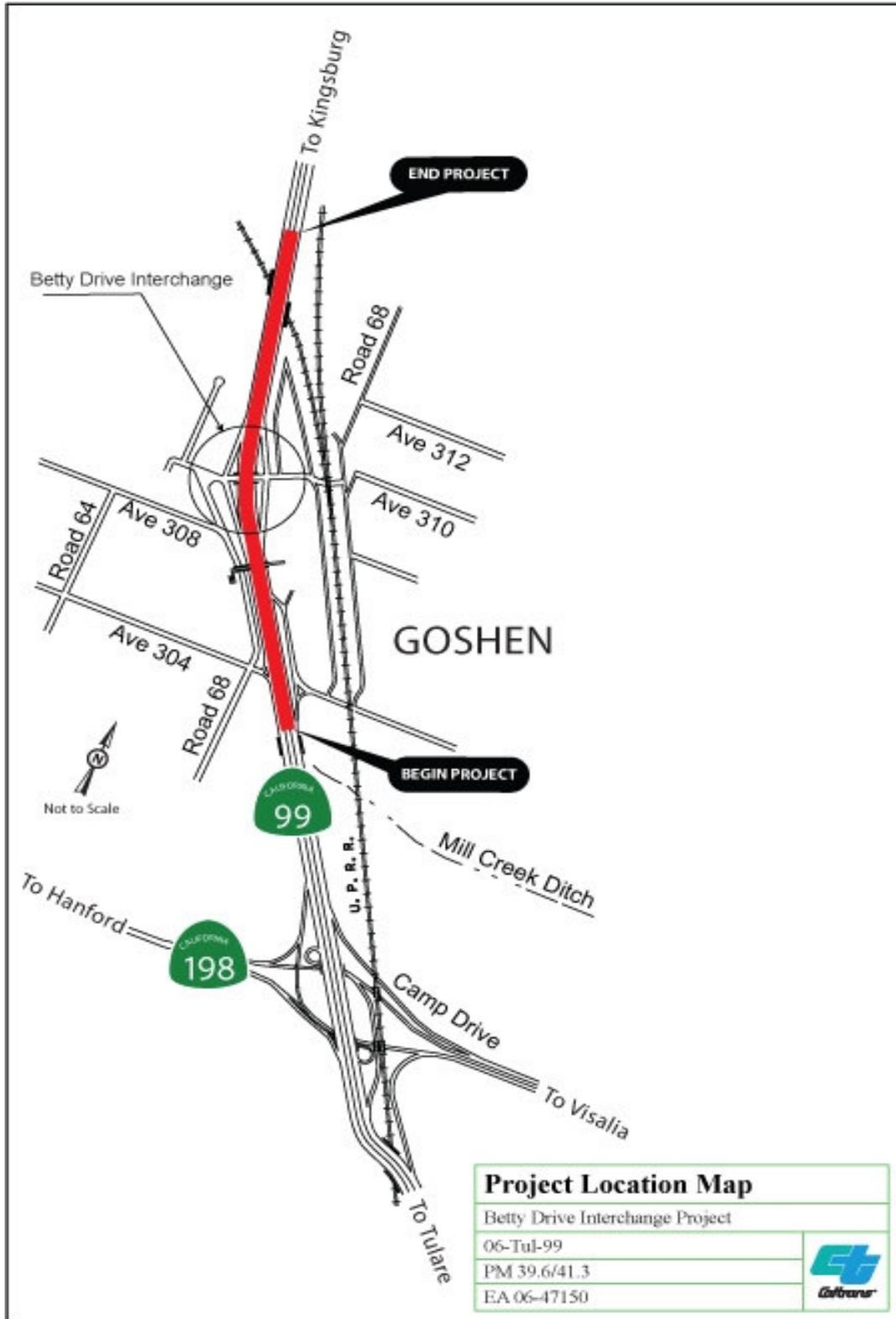


Figure 1-2 Project Location Map

1.2 Purpose and Need

1.2.1 Purpose

The purpose of the project is the following:

- Reduce congestion and improve the level of service at the State Route 99 Betty Drive interchange
- Meet current engineering design standards to improve traffic operations (the flow of traffic) on the Betty Drive on- and off-ramps, as well as on the mainline of State Route 99 and local streets in the interchange area

1.2.2 Need

Reduce Congestion and Improve Level of Service

The level of service of traffic flow is measured on a report card type scale with letter grades A through F. (See Figure 1-3, Levels of Service Unsignalized Intersections; Figure 1-4 Levels of Service Signalized Intersections). The northbound and southbound off-ramps at the Betty Drive interchange currently operate at level of service F because drivers can be delayed while waiting for a break in through traffic on Betty Drive. The problem is particularly difficult for drivers who want to make a left turn. Traffic queues sometimes form (behind the vehicles waiting to make left turns), which reduces the stopping distance for drivers exiting the freeway. Even though level of service F is the worst grade, the delay and queues experienced at these ramps would become even worse over time.

Meet Standards and Improve Traffic Operations

The Betty Drive interchange has a lot of activity in a compact area, which results in ramp intersections and local road intersections being too close together throughout the interchange. In addition, the ramps at Avenue 304 are too close to the Betty Drive interchange, which results in a short distance for southbound traffic entering State Route 99 at Betty Drive to merge left in the same space where freeway traffic is moving to the right to exit at Avenue 304. Neither the spacing of intersections in the Betty Drive interchange nor the distance between the Betty Drive interchange and the Avenue 304 interchange meet current design standards.

The on- and off-ramps do not meet current design standards for some curves or sight distance (the distance drivers can see ahead). The ramps on the west side of the freeway do not align opposite each other as they should. It is also becoming increasingly difficult for westbound traffic and eastbound traffic on Betty Drive to move through the interchange because through traffic must wait behind traffic that makes left turns to enter the southbound on-ramp or the northbound on-ramp.

In addition, the present Betty Drive overcrossing only provides 14 feet - 9 inches of vertical clearance over Freeway 99 at their closest location. Current standards call for 16.5 feet of vertical clearance.

LEVELS OF SERVICE

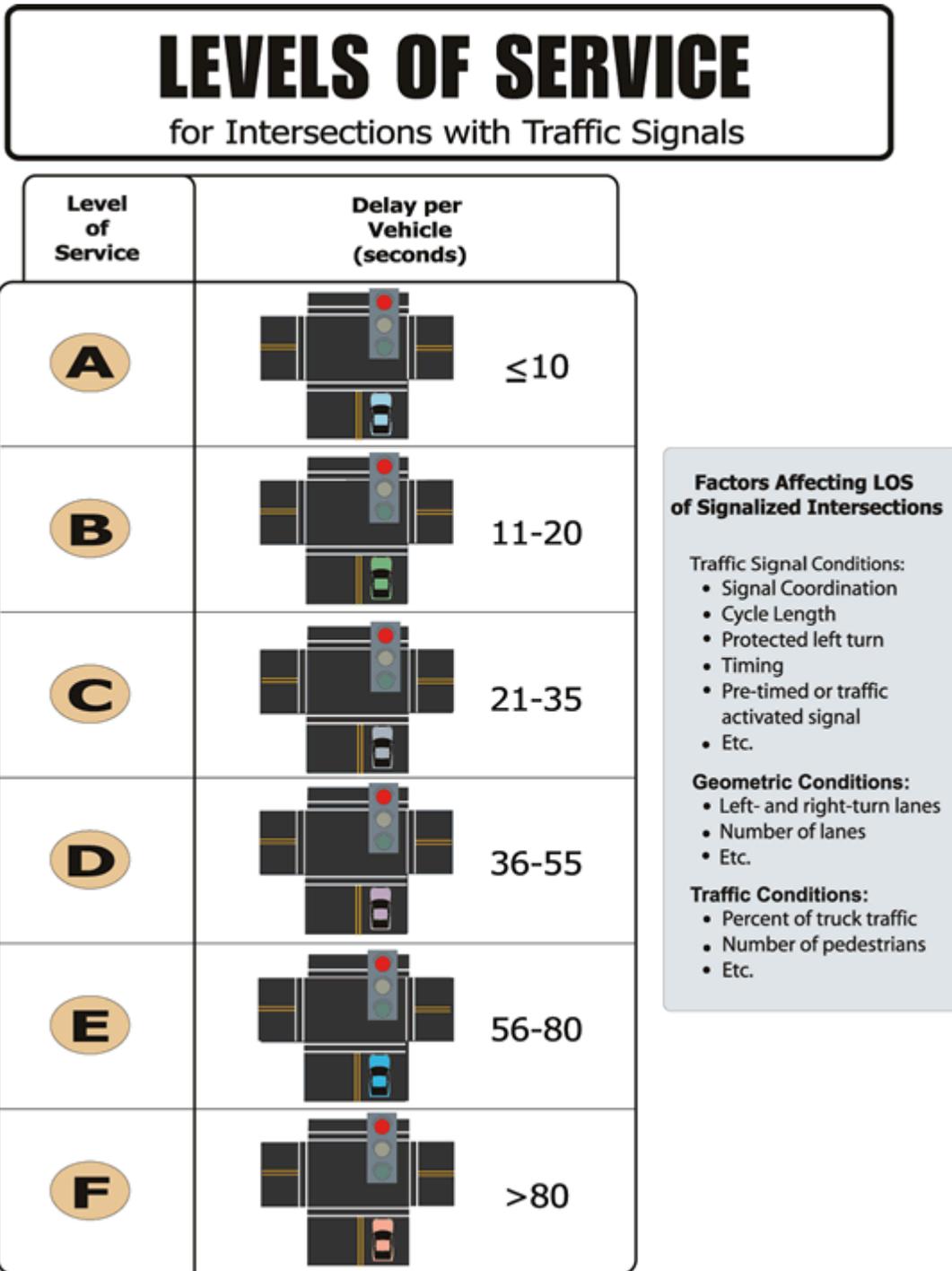
Unsignalized Intersections

Four-Way Stop

| Level of Service | Flow Conditions | Delay per Vehicle (seconds) | Technical Descriptions |
|------------------|---|-----------------------------|------------------------|
| A |  | <10 | Very short delays |
| B |  | 10-15 | Short delays |
| C |  | 16-25 | Minimal delays |
| D |  | 26-35 | Minimal delays |
| E |  | 36-50 | Significant delays |
| F |  | >50 | Considerable delays |

Source: 2000 HCM, Exhibit 17-22, Level of Service Criteria for AWSC Intersections

Figure 1-3 Levels of Service Unsignalized Intersections



Source: 2000 HCM, Exhibit 16-2, Level of Service Criteria for Signalized Intersections

Figure 1-4 Levels of Service Signalized Intersections

1.3 Alternatives

1.3.1 Build Alternatives

Caltrans evaluated reasonable alternatives that would feasibly attain the objectives of the project but would avoid or substantially lessen any significant environmental effects from the project. Evaluation criteria included project cost, environmental impacts, level of service and other traffic data.

Five alternatives were identified for study for this project, including the No-Build Alternative. Upon investigation of the four build alternatives, two were withdrawn, leaving two still under consideration, identified as Alternative 2 and Alternative 4.

Alternative 2 would replace the existing Betty Drive Overcrossing structure with a structure that would be designed to have two through lanes in each direction, with a left-turn lane for eastbound traffic to enter the northbound on-ramp to State Route 99. Betty Drive would be built to a higher elevation than it currently is near the overcrossing to allow any traffic below sufficient vertical clearance. The Betty Drive Overcrossing would be compatible with the needs of the ultimate transportation concept for State Route 99, which within the project limits is an eight-lane freeway. The overcrossing structure would have a five-foot-wide sidewalk on each side to accommodate pedestrians.

The southbound off-ramp to Betty Drive would include an extended ramp entrance lane to offset the limited sight line for motorists attempting to enter the ramp. To carry the extended ramp entrance lane over the San Joaquin Valley/Union Pacific Railroad tracks at the north end of the project, it is proposed to widen the left span of the North Goshen Overhead (Bridge No. 46-055L) at post mile 41.13.

The existing ramps at Avenue 304 (northbound off-ramp; northbound on-ramp; southbound off-ramp; and southbound on-ramp) would be eliminated to add space between interchanges and offer more room for motorists changing lanes between ramp systems in Goshen and the ramps at State Route 198, about one-and-a-half mile south of the current Betty Drive interchange.

Alternative 2 proposes an alignment for Betty Drive that nearly matches the existing alignment. This alignment would be compatible with the County's transportation projects that propose to realign Betty Drive and construct a railroad overhead on Betty Drive east of State Route 99. The proposed alignment for Betty Drive offers a

direct transition to Avenue 308 west of Goshen, with a single curve to accommodate the transition

Alternative 4 would replace the current overcrossing structure with the new Betty Drive Overcrossing, a structure that would be designed to have two through lanes in each direction, with a left turn lane for eastbound traffic to enter the northbound on-ramp to State Route 99. The structure would be built higher to give freeway traffic below sufficient vertical clearance. The Betty Drive Overcrossing would be compatible with the needs of the ultimate transportation concept for State Route 99, which is eight lanes within the project limits. The overcrossing structure would have a five-foot-wide sidewalk on each side of the roadway to accommodate pedestrians.

The proposed alignments for the northbound on-ramp from Betty Drive and the southbound off-ramp to Betty Drive extend over the San Joaquin Valley/Union Pacific Railroad tracks at the north end of the project. To carry these ramps over the railroad tracks, the project would widen the North Goshen Overhead at post mile 41.13 in both northbound and southbound directions.

Alternative 4 proposes an alignment for Betty Drive that is about 130 feet north of the existing overcrossing structure at the centerline of State Route 99, and thus would be farther north than the alignment proposed by Alternative 2. This alignment would be compatible with the County's transportation projects that propose to realign Betty Drive and construct a railroad overhead on Betty Drive east of State Route 99. This alignment allows construction of the Betty Drive Overcrossing structure to take place while maintaining full use of the existing overcrossing. The proposed alignment for Betty Drive would extend to Road 64 and the intersection would have a tee configuration.

The existing ramps at Avenue 304 (northbound off-ramp, northbound on-ramp, southbound off-ramp and southbound on-ramp) would be eliminated in order to add space between interchanges and offer more room for motorists changing lanes between ramp systems in Goshen and the ramps at State Route 198, a mile and a half to the south.

Alternative 4 has been modified as recommended by Tulare County and is supported by Tulare County Association of Governments.

Transportation System Management and Transportation Demand Management Alternatives

Transportation systems management strategies comprise operational improvements to satisfy the purpose and need of the project by increasing the efficiency of existing facilities. Examples of the strategies include auxiliary lanes, turn lanes, reversible lanes, and traffic signal coordination. Transportation systems management also encourages ridesharing, and alternate modes of transportation.

Although transportation system management measures alone could not satisfy the purpose and need of the project, the following measures have been incorporated into the build alternatives for this project: left-turn lanes and traffic signalization at ramp intersections and at certain local road intersections. The low population density in Goshen does not support an expansion of the local public transit system.

Transportation demand management focuses on regional strategies for reducing the number of vehicle trips and vehicle miles traveled as well as increasing vehicle occupancy. It facilitates higher vehicle occupancy or reduces traffic congestion by expanding the traveler's transportation choice in terms of travel method, travel time, travel route, travel costs, and the quality and convenience of the travel experience. Typical activity within this component include providing contract funds to regional agencies that are actively promoting ridesharing, maintaining rideshare databases, and providing limited rideshare services to employers and individuals. No transportation demand management alternative was developed for this project because the purpose and need does not lend itself to being met by this type of alternative. Goshen is a small community without large employers or many motorists commuting to jobs elsewhere.

1.3.2 No-Build Alternative

The No-Build Alternative would maintain all current nonstandard features including those associated with intersection spacing, interchange spacing and ramp geometry. The need for improved operational level of service that has been identified in the operational analysis would continue and would increase with growth in traffic volume that is expected as a result of industrial growth east of Goshen and as a result of transportation projects in the vicinity of this project that are expected to increase the volume of traffic at the interchange.

1.3.3 Comparison of Alternatives

After comparing and weighing the benefits and impacts of all of the feasible alternatives, the project development team has identified Alternatives 2 and 4 as the

alternatives being considered, subject to public review. Final identification of one preferred alternative will occur after the public review and comment period.

After the public circulation period, all comments will be considered, and Caltrans will select a preferred alternative and make the final determination of the project’s effect on the environment. In accordance with the California Environmental Quality Act, if no unmitigable significant adverse impacts are identified, Caltrans will prepare a Mitigated Negative Declaration. Similarly, if Caltrans determines the action does not significantly impact the environment, Caltrans, as assigned by the Federal Highway Administration, will issue a Finding of No Significant Impact in accordance with the National Environmental Policy Act.

Table 1.4 shows a comparison of the alternatives. For in-depth analysis of the items in this table, please review this document in its entirety as well as the technical documents that are also available during the circulation period at the locations listed on the inside cover. Figure 1-4 shows a map of Alternative 2, and Figure 1-5 shows a map of Alternative 4.

Table 1.4 Comparison of Alternatives

| Potential Impact | | Alternative 2 | Alternative 4 | No-Build Alternative |
|--|-----------------|---|---|--|
| Relocation Will the project displace | Businesses | Would relocate 11 businesses and require acreage from three farms. | Would relocate 8 businesses and require acreage from three farms. | There would be no impacts to businesses |
| | Housing | No impact to residences | No impact to residences | There would be no impacts to residences. |
| | Utility service | Several utilities would be relocated | Several utilities would be relocated | no utility services would be relocated |
| Utilities/Emergency Services | | A Traffic Management Plan would minimize any emergency service delays during the construction phase. | A Traffic Management Plan would minimize any emergency service delays during the construction phase. | Delays in emergency service would continue to increase |
| Traffic and Transportation/ Pedestrian and Bicycle Facilities | | There are no negative impacts to traffic and transportation facilities. Positive impacts include less congestion and improved safety for drivers. | There are no negative impacts to traffic and transportation facilities. Positive impacts include less congestion and improved safety for drivers. | If the No-Build Alternative were selected, congestion and traffic accidents in the proposed project area would increase over time. |

| Potential Impact | Alternative 2 | Alternative 4 | No-Build Alternative |
|--------------------------------------|--|---|---|
| Visual/Aesthetics | The construction of the project is anticipated to result in the removal of 17 mature single and multi-trunk Eucalyptus trees within the existing right-of-way. | The construction of the project is anticipated to result in the removal of 17 mature single and multi-trunk Eucalyptus trees within the existing right-of-way. | No trees would be removed. |
| Cultural Resources | No Known archaeological resources were found within the project study area. Rebuilds existing Betty Drive Bridge | No known archaeological resources were found within the project study area. New Betty Drive Bridge built 130 feet north of existing bridge. | No archaeological resources would be affected. No improvements to bridge. |
| Water Quality and Storm Water Runoff | would have no impacts if proper and accepted engineering practices and Best Management Practices are incorporated during construction or its operation. | would have no impacts if proper and accepted engineering practices and Best Management Practices are incorporated during construction or its operation. | There would be no impact to water quality. |
| Paleontology | Caltrans will adopt mitigation and recommendations from the Paleontological Evaluation Report | Caltrans will adopt mitigation and recommendations from the Paleontological Evaluation Report | With the No-Build Alternative there would be no impact to Paleontological resources. |
| Hazardous Waste/Materials | Would require acquisition of Arco and Goshen Travel Plaza. | Would require acquisition of Valero gas station. | There would be no risk of contact with hazardous waste. |
| Air Quality | A rough estimate of the project acreage and scope indicates that his project would be subject to the San Joaquin Valley Air Pollution Control District rule 9510 (Indirect Source Review), requiring mitigating NOx and PM10 construction emissions. | A rough estimate of the project acreage and scope indicates that his project would be subject to the San Joaquin Valley Air Pollution Control District rule 9510 (Indirect Source Review), requiring mitigating NOx and PM10 construction | Mobile Source Air Toxics and Carbon Dioxide Emissions would be expected to be greater than in either of the build alternatives. There would be no short-term construction emissions of PM10, PM2.5 and MSATS. |

| Potential Impact | Alternative 2 | Alternative 4 | No-Build Alternative |
|--|---|---|---|
| | <p>Caltrans Standard Specifications pertaining to dust control and dust palliative requirement is a required part of all construction contracts and should effectively reduce and control emission impacts during construction</p> | <p>emissions. Caltrans Standard Specifications pertaining to dust control and dust palliative requirement is a required part of all construction contracts and should effectively reduce and control emission impacts during construction</p> | |
| <p>Threatened and Endangered Species</p> | <p>kit foxes have been known to occur within the immediate vicinity of the project site (California Natural Diversity Database 2010), and may occur on the agricultural lands of the project site</p> <p>Migratory bird protection will be included in the construction contract and will require pre-construction surveys for migratory birds.</p> | <p>kit foxes have been known to occur within the immediate vicinity of the project site (California Natural Diversity Database 2010), and may occur on the agricultural lands of the project site</p> <p>Migratory bird protection will be included in the construction contract and will require pre-construction surveys for migratory birds.</p> | <p>There would be no impact to kit foxes.</p> <p>There would be no surveys or migratory bird protection.</p> |
| <p>Invasive Species</p> | <p>Two invasive plant species, Bermuda grass (<i>Cynodon dactylon</i>) and Russian thistle (<i>Salsola tragus</i>), listed on the California Invasive Plant Council's Invasive Plant Inventory were found within the project in limits.</p> | <p>Two invasive plant species, Bermuda grass (<i>Cynodon dactylon</i>) and Russian thistle (<i>Salsola tragus</i>), listed on the California Invasive Plant Council's Invasive Plant Inventory were found within the project limits.</p> | <p>No measures would be taken to avoid and minimize the spread of invasive species within the project limits.</p> |





1.3.4 Alternatives Considered but Eliminated from Further Discussion

After comparing and weighing the benefits and impacts of all of the feasible alternatives, the project development team made a decision to eliminate two proposed build alternatives: Alternatives 3 and 5. Alternative 1 is the No-Build Alternative.

Alternatives 3 and 5 were similar in design. Both proposed building a spread-diamond type interchange with dual left-turn lanes for westbound Betty Drive traffic to access southbound State Route 99. However, they differed on their alignment of Betty Drive: Alternative 3 built on the existing alignment; whereas, Alternative 5 moved the Betty Drive alignment approximately 130 feet to the north of the existing Betty Drive alignment.

- The major reasons for withdrawing Alternatives 3 and 5 were related to the fact that both alternatives required substantially more right-of-way than the other build alternatives proposed. Both alternatives would need a wider Betty Drive bridge to provide room for vehicles waiting to make a left turn onto the freeway on-ramp, which would substantially affect the surrounding properties, including the Goshen Elementary School. Also, the southbound on-ramp design proposed for both alternatives conflicted with the existing Goshen pedestrian overcrossing.

A variation of Alternative 2 was considered with a half cloverleaf ramp configuration for the southbound on- and off-ramps. This alternative was withdrawn because the ramp configuration proposed in Alternative 2 would provide better safety by eliminating more conflicting traffic movements.

- Another variation of Alternative 2 was considered with a two-lane roundabout at Betty Drive. This alternative was withdrawn because an analysis showed it would fail by the design year, and would require acquisition of more right-of-way.

1.4 Permits and Approvals Needed

The following permits, reviews, and approvals would be required for project construction:

| Agency | Permit/Approval | Status |
|---|---|---|
| United States Fish and Wildlife Service | Section 7 Consultation for Threatened and Endangered Species possibly resulting in a Biological Opinion | Biological Assessment would be submitted after a preferred alternative is chosen |
| Regional Water Quality Control Board | National Pollutant Discharge Elimination System Storm Water Permit | The Regional Water Quality Control Board, in coordination with the U.S. Army Corps of Engineers Section 404 process, confirms that the subject activity would comply with state water quality standards.. |
| San Joaquin Valley Air Pollution Control District | Notification would be required before demolition of any bridges or structures. | Notification would be made during construction phase. |
| County of Tulare | Freeway Agreement | Freeway agreement would be finalized after the approval by the California Transportation Commission |

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

This chapter explains the impacts that the project would have on the human, physical, and biological environments in the project area. It describes the existing environment that could be affected by the project, potential impacts from each of the alternatives, and proposed avoidance, minimization, and/or mitigation measures. Any indirect impacts and related regulatory information—the laws, regulations, and governmental and regulatory agencies involved for each impact area 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.

- Coastal Zone – This proposed project is not located within the coastal zone (2010 Field Survey)
- Wild and Scenic Rivers – No rivers classified as Wild and Scenic were identified in the proposed project area (2010 Field Survey)
- Parks and Recreation – No parks or recreation facilities were identified in the proposed project area (2010 Field Survey)
- Water Quality and Storm Water Runoff—By incorporating proper and accepted engineering practices and best management practices, the proposed project would not produce significant impacts to water quality during construction or its operation.(Water Quality Assessment, May 5, 2010)
- Hydrology and Floodplain—The proposed project is adjacent to the 100-year floodplain and would not impact the floodplain or change the hydrology of the project area. (Location Hydraulic Study, August 31, 2010)
- Geology/Soils/Seismic/Topography—No known earthquake faults lie in the project area. The proposed project would not result in substantial soil erosion or loss of topsoil. The proposed project is not located on a geologic unit or on soil

- that is unstable. (Supplemental Preliminary Geotechnical Report, August 25, 2010)
- Energy—When balancing energy used during construction and operation against energy saved by relieving congestion and other transportation efficiencies, the project would not have substantial energy impacts.
 - Wetlands and other Waters—No federally protected wetlands or other waters exist in the project area. (Natural Environment Study, January 2011)
 - Plant Species—No special-status plant species exist in the project impact area. (Natural Environment Study, January 2011)
 - Natural Communities—No natural communities exist in the project impact area. (Natural Environment Study, January 2011)
 - Animal Species—No special-status animal species exist in the project impact area. (Natural Environment Study, January 2011)
 - No cultural resources have been recorded and no properties requiring evaluation are within the project Area of Potential Effects (Historic Property Survey Report, August 2010)

2.1 Human Environment

2.1.1 Land Use

This section describes the current and planned land use within the proposed project area. Land use planning within the project limits is mainly a function of the Tulare County General Plan and the Goshen Community Plan (2004). Land use is one of seven elements required by state law to be addressed in the General Plan. The remaining elements are circulation, housing, natural resources, noise, open space and public safety. Land use plans and zoning are the main methods of managing local land use. These mechanisms govern the type and density of development in accordance with the county's General Plan.

2.1.1.1 Existing and Future Land Use

Affected Environment

Goshen is on the western edge of Tulare County, adjacent to State Route 99 and one half mile north of the intersection of State Route 99 and State Route 198. The proposed land use is mostly residential, highway commercial and low intensity: service commercial/industrial.

The community is generally square; both State Route 99 and the San Joaquin Valley/Union Pacific Railroad tracks cut across the town in a northwest-southeasterly direction, which divides it approximately into three equal-sized areas. Goshen is a highway-oriented service center surrounded on the north, west and south by lands in agricultural production and on the east by commercial, industrial, agricultural and vacant land.

State Route 99 will continue to attract commercial growth of a highway-oriented nature. Commercial growth is expected along the Betty Drive realignment, on parcels adjacent to State Route 99, and along the Road 67 frontage road (east of State Route 99). A neighborhood commercial area west of State Route 99 is anticipated to develop alongside new residential growth, and a low intensity commercial area is planned south of Avenue 304, between Road 64 and Road 68.

Agriculture is gradually declining in importance within the Goshen urban development boundary. The draft Goshen Community Plan has reclassified some “agricultural lands” to “residential,” “commercial,” and “light and heavy industrial.”

Environmental Consequences

Both proposed build alternatives would require the acquisition of property outside the existing State right-of-way. Depending on the build alternative selected, any category of agricultural, commercial, industrial, or vacant land uses could be affected. The acquisition would include land for the interchange and any associated features such as retaining walls and drainage basin. Land use outside of the project is controlled by local zoning and would not change without local approval.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation is required.

2.1.2 Growth

Regulatory Setting

The Council on Environmental Quality regulations, which implement the National Environmental Policy Act of 1969, requires evaluation of the potential environmental consequences of all proposed federal activities and programs. This provision includes a requirement to examine indirect consequences, which may occur in areas beyond the immediate influence of a proposed action and at some time in the future. The Council on Environmental Quality regulations, 40 Code of Federal Regulations 1508.8, refers to these consequences as indirect impacts. Indirect impacts may include

changes in land use, economic vitality, and population density, which are all elements of growth.

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

Affected Environment

Caltrans conducted a preliminary analysis to determine whether there would be a potential for project-related growth. Caltrans considered the interrelated factors of accessibility, project type, project location, and growth pressure. The screening process also took into consideration the Tulare County General Plan, the Goshen Community Plan, and the Caltrans project study report for the project.

Environmental Consequences

The proposed project modifies an existing interchange and does not necessarily change access. The location of the interchange is constrained by existing commercial businesses, residences, the freeway, and railroads Tulare County's General Plan and the Goshen Community Plan have zoned the areas adjacent to the project as residential, highway commercial, neighborhood commercial, low-intensity service commercial/industrial, industrial, public/quasi-public, and private recreation. With or without the project, the area may experience growth based on the plans.

The Betty Drive Interchange Project is not being proposed to support major new, unplanned development. The proposed project was initiated as a response to current traffic conditions and traffic forecasts based on local plans and growth projections. It would instead facilitate current planned land use within the community of Goshen.

Avoidance, Minimization, and/or Mitigation Measures

No mitigation measures pertaining to growth inducement are included in the proposed project because growth is not reasonably foreseeable beyond what is planned as a result of this project.

2.1.3 Farmlands/Timberlands

Regulatory Setting

National Environmental Policy Act and the Farmland Protection Policy Act (United States Code 4201-4209; and its regulations, 7 Code of Federal Regulations Ch. VI Part 658), require federal agencies, such as the Federal Highway Administration, to coordinate with the Natural Resources Conservation Service if their activities may irreversibly convert farmland (directly or indirectly) to nonagricultural use. For purposes of the Farmland Protection Policy Act, farmland includes prime farmland, unique farmland, and land of statewide or local importance.

The California Environmental Quality Act requires the review of projects that would convert Williamson Act contract land to non-agricultural uses. The main purposes of the Williamson Act are to preserve agricultural land and to encourage open space preservation and efficient urban growth. The Williamson Act provides incentives to landowners through reduced property taxes to deter the early conversion of agricultural and open space lands to other uses.

Affected Environment

There are 366 acres of land in the Goshen area (30 percent of land in the project vicinity) classified as agriculture. There are no timberlands. Agriculture will gradually decline in importance within the Goshen urban development boundary according to the Goshen Community Plan. Some farmland has already been proposed residential.

The Goshen Community Plan anticipates commercial services and activities will increase within the community with the development of new commercial facilities at the interchange of State Highway 99 and Betty Drive and in the community commercial areas proposed on Avenue 308 (west of State Route 99) and north of Avenue 310 (east of State Route 99). The Road 67 linear route and the intersection of Betty Drive and Road 67 are specifically designated for commercial use.

Environmental Consequences

Caltrans has determined that the project would not have an adverse impact on farmland based on consultation with the Natural Resources Conservation Service (NCRS).

As required, a Natural Resource Conservation Service Farmland Conversion Impact Rating was completed for the proposed project (see Appendix E). The Natural

Resource Conservation Service considers only Prime/Unique and Statewide/Local Importance classified land on the Farmland Conversion Impact Rating form. The Farmland Conversion Impact Rating determines the relative value of farmland to be converted by using a formula that weighs farmland classification, soil characteristics, irrigation, acreage, creation of non-farmable land, availability of farm services and other factors. If the Farmland Conversion Impact Rating exceeds 160 points, Caltrans considers measures that would minimize or mitigate farmland impacts.

The Natural Resource Conservation Service determined by soil analysis that the proposed project would convert any prime/unique, statewide/local important classified lands, 72 and 70 points were assigned in Part V of the form which has an allowance of 100 points, for Alternative 2 and 4. The Natural Resource Conservation Service incorrectly entered a larger amount of acreage than the project would convert, even with the higher acreage amounts the Farmland Conversion Impact Rating would still be less than 160 points. Caltrans assigned 28 points under Part VI Site Assessment Criteria which has an allowance of 160 points, for Alternative 2 and 4. (See Appendix E, Farmland Impact Rating Form).

Table 2.1 displays farmland conversion information for each build alternative.

Table 2.1 Farmland Conversion by Alternative

| Alternatives | Land Converted (acres) | Prime and Unique Farmland (acres) | Percentage of Farmland in County | Farmland Conversion Impact Rating |
|--------------|------------------------|-----------------------------------|----------------------------------|-----------------------------------|
| 2 | 6.1 | 0 | .00019 | 100 |
| 4 | 11.6 | 0 | .00037 | 98 |

Source: Form NRCS-CPA-106 (Farmland Conversion Impact Rating for Corridor-Type Projects)

Avoidance, Minimization, and/or Mitigation Measures

No further avoidance, minimization or mitigation measures are necessary.

2.1.4 Community Impacts

Regulatory Setting

The National Environmental Policy Act of 1969, as amended, established that the federal government use all practicable means to ensure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings [42 United States Code 4331(b)(2)]. The Federal Highway Administration in its implementation of the National Environmental Policy Act [23 United States Code 109(h)] directs that final decisions regarding projects are to be made in the best overall public interest. This requires taking into account adverse environmental

impacts, such as destruction or disruption of human-made resources, community cohesion, and the availability of public facilities and services.

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

2.1.4.1 Community Character and Cohesion

Affected Environment

Goshen is located one and one half miles north of the Visalia Municipal Airport. Goshen is a census-designated place in Tulare County. The population was 2,794 according to the U.S. 2009 census. The community is next to the Visalia city limits, a little over six miles from the downtown shopping area of Visalia and immediately west of the Visalia industrial park area. Visalia is the county seat of Tulare County. The city of Goshen is a non-incorporated community.

A total of 697 housing units are in Goshen, an increase of 30 housing units from 2000. Of the 697 dwelling units, 573 are occupied, 77 are vacant, and 47 are seasonal units. Projections indicate that there will be around 1,000 housing units in Goshen by the year 2020.

Goshen does not have a library in the traditional sense. Instead, Goshen residents are served by the Tulare County Public Library's bookmobile, which visits the Goshen Elementary School every Thursday.

There is a Tulare County Fire station in Goshen located on Road 67. The station is presently equipped with two engines. The station is staffed by one full time fireman and is supported by 10 volunteers

The Tulare County Sheriff's Department provides patrol service only. It also dispatches ambulances for emergencies. The headquarters for the Department are located 8 miles southeast of Goshen, adjacent to the Tulare County Courthouse in Visalia.

The only existing publicly owned recreational area in the community is the Goshen Elementary School.

The Goshen Elementary School, located on a 13.4 acre parcel of land at 6505 Avenue 308 is part of the Visalia Unified School District. The Goshen School offers kindergarten through sixth grade education with a 2009-2010 enrollment of 543. Design capacity of the school students. Junior High School and High School students are bused to schools in Visalia.

Environmental Consequences

Project improvements to the intersection would not divide the community but would improve community character and cohesion by making travel to school and job commuting easier, faster, and more enjoyable.

This project would improve the operational level of service of the Betty Drive Interchange. This project would accommodate the additional traffic being generated by the rapidly growing industrial area north of Visalia as well as the proposed development west of State Route 99. This project would mitigate traffic impacts of several proposed projects in the area that would divert traffic to the interchange. The project would also address impacts to local circulation caused by the construction of a new interchange. The project would also mitigate the accident rates at the ramp intersections with Betty Drive.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization and or mitigation measures are necessary.

2.1.4.2 Relocations

Regulatory Setting

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

All relocation services and benefits are administered without regard to race, color, national origin, or sex in compliance with Title VI of the Civil Rights Act (42 United States Code 2000d, et seq.). Please see Appendix B for a copy of Caltrans' Title VI Policy Statement.

Affected Environment

Goshen is an unincorporated community in Tulare County, which is centrally located both within the state and in Tulare County. Because of good railroad and State Route 99 highway access, Goshen has become a substantial packing/shipping operations point within the San Joaquin Valley. Light and medium manufacturing plants are increasing in number and are becoming an important factor in Tulare County's and Goshen's total economic picture.

Businesses impacted by these alternatives may require full acquisition of the structure and land; some will only require partial acquisition of the parcel along with the possible payment of severance damages. The appraiser will have the opportunity to work with landowners and with appraisal maps to determine which parcels will require full acquisition of the structure and land because the site would not be functional after the project is completed.

A field inspection identified the following business types that will be affected by the alternative under consideration. A strip shopping center, gas stations, a business that manufactures pallets and tenant businesses along with farming land are the types of businesses impacted by this project. At the time of inspection it appeared that there were eight operational businesses in the strip shopping center. The businesses in the strip shopping center included: two restaurants, a tattoo parlor, a barber shop, a convenience store and a transportation office. Three gas stations with convenience stores will also be acquired. The gas stations are relatively new. There appears to be no impact to the recreational vehicle business or the mobile home sales business. It appears all of the businesses/parcels that will be acquired will require relocation assistance benefits.

Environmental Consequences

A Relocation Impact Report was completed on August 31, 2010 for this project.

Alternative 2 would affect ten commercial businesses, an industrial/manufacturing business and three agricultural/farms acreage. Alternative 4 would affect eight commercial businesses and three agricultural/farms acreage.

Avoidance, Minimization, and/or Mitigation Measures

The ability of the business to rebuild and establish new parking on the remainder would have to be considered on a case by case basis during appraisal with appropriate severance damages or relocation assistance or in some instances both provided to the owner and tenants. There is always the possibility that an owner, manager or others may reside on the premise of a business, if so residential relocation assistance will be offered.

All temporary impacts to businesses during construction will be minimized through implementation of the traffic management plan that would be developed during final design. A traffic management plan would identify appropriate access to businesses in the project area. During construction, some business properties in the project area may have alternate access via local streets. Caltrans would ensure that there are shared access agreements in order for these businesses to remain accessible during construction. All potential hardship to businesses will also be minimized through implementation of the Uniform Act.

- Caltrans will work to ensure that persons displaced are treated fairly, consistently and equitably so that they will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole.
- The Relocation Advisory Assistance Program will be available to aid in the locating of a suitable replacement property.
- Relocation payments for the displacee for certain costs involved in the move to the new property can be either “actual reasonable moving costs,” “self-move agreement,” or “in lieu payment”.
- Loss of goodwill is considered an acquisition cost.
- Displaced businesses, farms and nonprofit organizations are entitled to reimbursement for actual reasonable expenses incurred in searching for a replacement property.
- Displaced businesses, farms and nonprofit organizations may be eligible for a payment for the actual direct loss of tangible personal property, which is incurred as a result of the move or discontinuance of the operation.
- Displaced businesses, farms and nonprofit organizations may be eligible for a payment, not to exceed \$10,000, for expenses actually incurred in relocation and reestablishing the enterprise at the replacement site.

- All displacees will be offered relocation advisory assistance for the purpose of locating a replacement property.

2.1.4.3 Environmental Justice

Regulatory Setting

All projects involving a federal action (funding, permit, or land) must comply with Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, signed by President Clinton on February 11, 1994. This Executive Order directs federal agencies to take the appropriate and necessary steps to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. Low income is defined based on the Department of Health and Human Services poverty guidelines. For 2010, this was \$22,050 for a family of four.

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

Affected Environment

According to the 2010 U.S. Census, the city of Goshen has a population of 3,845 people. The city's population is comprised primarily of minorities: 64.5 percent are Hispanic, 2.3 percent are American Indian; 2.0 percent are Blacks, and 0.3 percent is Asian.

According to the 2010 U.S. Census, the Tulare County has a population of 707,797 people. Minorities comprise only 42 percent of the total population: 37.8 percent are Hispanic, 1.0 percent is American Indian, 1.0 percent is Black, and 2.1 are Asian.

The city of Goshen appears to have a higher population of Hispanics, American Indians, and Blacks than the county.

Environmental Consequences

No residential units would be affected by the project. However, both build alternatives would require right of way from commercial businesses and agricultural/farms acreage. When a preferred alternative is selected, some of these businesses may be displaced but that determination would be on a case by case basis during the appraisal phase of the project.

Caltrans has determined the project would not have a disproportionately high and adverse impact to the minority populations living in Goshen because the project would result in beneficial changes for the overall population. Some of the beneficial changes for commuters include an improved level of service and reduced delays. Pedestrians will benefit from additional sidewalks: 5-foot wide sidewalks and 10-foot wide shoulders on both sides of the Betty Drive Overcrossing structure, additional 5-foot wide sidewalks and 8-foot wide shoulders between the Goshen Elementary School and the existing Road 64, and 5-foot wide sidewalk at local roads by the proposed pump station outfall basin.

Curb ramps that are compliant with Americans with Disability Act (ADA) requirements would be provided at all improved intersections or new local road intersections, as well as at proposed ramp intersections. Also, bicycle lanes are proposed at all dedicated right-turn lanes on Betty Drive. In addition, the project proposes tree replanting for screening purposes and aesthetic features for the structures. Aesthetic features considered include stamped colored concrete treatment and surface texturing.

Avoidance, Minimization, and/or Mitigation Measures

Based on the above discussion and analysis, the build alternatives would not cause disproportionately high and adverse effect on any minority or low-income populations as per Executive Order 12898 regarding environmental justice.

2.1.5 Utilities/Emergency Services

Affected Environment

Several utilities are located within the project area of each build alternative. These utilities include overhead lines as well as underground water, telephone, sanitary sewer, irrigation facilities, and gas lines. These utilities are owned and/or operated by Pacific Telephone Company, Southern California Edison Company, Southern California Gas Company, California Water Service Company, and Goshen Community Service District

A Tulare County Fire station is in Goshen on Road 67. The station is presently equipped with two engines. The station is staffed by one full-time firefighter and is supported by 10 volunteers. Community response time is approximately five minutes. Response capability is presently adequate for commercial and industrial fires. Fire response is slowed by the existing road configuration, the railroad, and State Route 99.

The Tulare County Sheriff's Department provides patrol service only. It also dispatches ambulances for emergencies. The headquarters for the Sheriff's Department is 8 miles southeast of Goshen adjacent to the Tulare County Courthouse in Visalia. The average response time to calls in Goshen is 9 to 12 minutes. The Sheriff's Department also has a community liaison office at the Goshen Community Service District Office that is staffed part-time.

Environmental Consequences

For both Alternatives 2 and 4, the proposed interchange would displace Parson Drive, which provides access for utility vehicles and service (including water, sewer, electric power and telephone) to the mobile home park at the north end of Parson Drive.

At the northeast quadrant of the interchange, the proposed alignment of Betty Drive and the northbound off-ramp to State Route 99 would impact utilities along the north side of Betty Drive and would displace the fueling station and associated utilities at the north side of Betty Drive between the existing northbound on-ramp to State Route 99 and Nutmeg Road. Utility removal and relocation would be necessary for access control at the interchange.

At Diagonal 68 between Avenue 308 and Harvest Avenue, the project proposes to realign the road to the west in order to provide road separation between Diagonal 68 and State Route 99. Such realignment would require relocation of overhead utilities along this segment of Diagonal 68 to a location agreed upon by the local agency, utility companies and Tulare County.

No relocation of utilities along Road 64 between Avenue 308 and Avenue 304 are anticipated at this time.

Avoidance, Minimization, and/or Mitigation Measures

Since Parson Drive is within the access control boundaries for the proposed interchange, Alternatives 2 and 4 propose to mitigate this impact by providing a new road alignment for access to the mobile home park west of the interchange. New alignments for utilities that serve the mobile home park would be provided west of the interchange as well, either by easement on private property or within new roads, pending discussion with the utility companies and Tulare County. Proposed easements adjacent to the southbound off-ramp would provide for relocation of underground gas lines, water lines and sewer lines that are currently located in Parson Drive.

In general, interruptions of services to utility users or customers (if any) would be minimal. A transportation management plan would be in place to ensure timely access for law enforcement, fire and other emergency services.

- Public information is to be disseminated through the use of brochures, mailers, press releases, radio announcements and other media outlets about construction activities that would inform the public about the project in planning any trips. Such information can reduce congestion by allowing the public to make decisions concerning trip routing, trip timing, detour use, and overall driver expectations when traveling through the project site. Reduced congestion resulting from an effective public information campaign can help reduce traffic delays through the project site such that the needs of emergency services can be addressed.
- The transportation management plan includes provisions for the use of Changeable Message Signs that would provide warning to motorists that are approaching the project site about any special driving conditions that drivers should be aware of for navigating through or around the project site. Such timely information can help to maintain smooth traffic operations, help improve traffic safety, and can help address the needs of emergency services by reducing congestion as well as informing emergency service vehicles traveling through the area.
- The transportation management plan includes planned use of the Central Valley Traffic Management Center, which reduces congestion by monitoring traffic and providing timely information related to traffic conditions that could affect the safe movement of people and property in the vicinity of the project site, as well as throughout the Central Valley. The center uses live radio and television reports during morning and evening commute hours to provide this information.
- The transportation management plan includes use of construction strategies such as temporary use of freeway shoulders, temporary lane closures and night time work that are intended to reduce congestion by coordinating lane closures with traffic capacity needs, conducting construction activities during lower or non-peak traffic volume periods, and using available roadway elements as necessary to maintain traffic capacity through the project construction site.
- The transportation management plan includes provision for use of California Highway Patrol officers to be stationed at the project site under the Construction Zone Enhanced Enforcement Zone Program (COZEEP). Use of COZEEP is

intended to provide incident management where lane closures are made by helping to ensure orderly flow of traffic through the construction area.

2.1.6 Traffic and Transportation/Pedestrian and Bicycle Facilities

Regulatory Setting

Caltrans as assigned by the Federal Highway Administration directs that full consideration should be given to the safe accommodation of pedestrians and bicyclists during the development of federal-aid highway project (see 23 Code of Federal Regulations 652). It further directs that the special needs of the elderly and the disabled must be considered in all federal-aid projects that include pedestrian facilities. When current or anticipated pedestrian and/or bicycle traffic presents a potential conflict with motor vehicle traffic, every effort must be made to minimize the detrimental effects on all highway users who share the facility.

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

Affected Environment

An operational analysis was prepared in July 2010 by Caltrans Traffic Engineering Division for this project.

Betty Drive provides the only east-west connection across State Route 99 in the community of Goshen. Betty Drive is a two-lane local road that terminates at intersections with other local roads on both the east and west sides of the interchange. Currently, access to State Route 99 is provided by an unsignalized compact diamond interchange. There is a separate structure allowing pedestrians to cross State Route 99 to the south of the structure that carries Betty Drive across the freeway.

The current average daily traffic on Betty Drive in the interchange area is 9,200 vehicles, which is projected to increase to 16,400 in 2019 and 35,000 in 2039. Trucks make up 18 percent of this traffic. The current level of service for the northbound and southbound off-ramps is F (see Figure 1-3 for *Levels of Service Unsignalized Intersections* diagram). Caltrans has established level of service C as the acceptable level for the State Route 99 interchange for the 20-year planning horizon. Although level of service D is acceptable for urban areas, the acceptable level of service for

rural areas is C. Goshen is considered a rural area (see Section 1.2.2.1 for additional information).

Additional details about the Betty Drive interchange, local streets, and nearby transportation facilities are provided here. For more clarity, see Figure 1-2, *Project Location Map*. Within the proposed project limits, State Route 99 is a north/south four-lane freeway. Betty Drive is an east/west two-lane collector within the community of Goshen. The existing interchange serves Betty Drive and has a compact diamond configuration in both northbound and southbound directions of the freeway. South of the interchange, at Avenue 304, are southbound off- and on-ramps with hook configurations. The matching northbound ramps, both with hook configurations, are at Avenue 304 (off-ramp) and Avenue 305 (on-ramp). These ramps do not meet current Caltrans standards for either design or distance from neighboring ramps (see Section 1.2.2.2 for additional information). The existing Betty Drive overcrossing is a two-lane facility, with no left-turn pockets. The structure has a vertical clearance of 14 feet 9 inches over the State Route 99 roadway at the southbound edge of pavement.

The Betty Drive/Diagonal 68 intersection is located slightly more than 100 feet from the southbound on-ramp intersection, and less than 100 feet from the southbound off-ramp intersection. The Betty Drive/Parson Drive intersection is located about 270 feet from the southbound off-ramp intersection.

The Goshen pedestrian overcrossing structure enables pedestrians to cross the freeway and can be reached from points at Avenue 308 on the east side of the freeway, and at Diagonal 68 by the Goshen Elementary School on the west side of the freeway. This facility is located just south of the existing interchange.

Road 64 is a north/south two-lane local road that serves traffic from Avenue 308 to State Route 198, south of Goshen. Avenue 308 is an east/west two-lane minor collector without a crossing at State Route 99 that serves rural areas west of Goshen, and which serves the community of Goshen on both sides of State Route 99. Diagonal 68 is a two-lane frontage road that is adjacent and parallel to southbound State Route 99 from Avenue 304 to Avenue 308.

The San Joaquin Valley Railroad operates on tracks belonging to Union Pacific Railroad that run north/south on the east side of the Goshen community, and operates on a secondary railroad track also belonging to Union Pacific Railroad that runs

east/west on the north side of Goshen. The North Goshen Overhead carries State Route 99 over this secondary track

The Goshen bus depot is at 30435 Road 68, just west of State Route 99. Greyhound, Amtrak and the Orange Belt Line use this bus stop, which is in the parking area of the ARCO service station. While these carriers do provide intra-county service, their routes and schedules are primarily oriented to inter-regional travel demands. The three companies do not provide local service within the community of Goshen; service is provided by the Visalia City Coach, which has two bus stops in Goshen.

Environmental Consequences

The project proposes to improve State Route 99 in the community of Goshen by reconstructing the Betty Drive Interchange to meet current standards and to have an improved interface with local roads.

Reduce Traffic Congestion and Improve Level of Service

Unsignalized off-ramps that currently operate at level of service F (see Figure 1-3 for a description of level of service for unsignalized intersections) would improve with either build alternative to level of service B in 2019, the construction year; they would operate at level of service C (northbound off-ramp) or B (southbound off-ramp) in 2039 (see Figure 1-4 for a description of level of service for signalized intersections). The intersections at the northbound and southbound off-ramps would be signalized. Under the No-Build Alternative the ramps would degrade deeper into level of service F. With the increased traffic volumes on Betty Drive, it would become more and more difficult for drivers to exit the freeway. This would result in longer queues on the off-ramps that would limit the space that drivers have to slow down after leaving the freeway.

It should be noted that safety would be improved with either build alternative, particularly at the northbound off-ramp, which currently has an accident rate twice the statewide average. Most of the accidents on the northbound off-ramp are caused by speeding cars that cannot stop in time to avoid rear-ending cars that are lined up waiting to leave the off-ramp. Queues could back up onto the mainline by 2039 under no-build conditions, particularly given that 1) off-ramp traffic at Betty Drive has a relatively high percentage of trucks, 2) the existing northbound off-ramp intersection at Betty Drive is not signalized, and traffic at the off-ramp must wait for Betty Drive traffic to clear before entering the intersection and, 3) traffic at the ramp is expected to increase in volume through 2039.

Meet Standards and Improve Traffic Operations

Under either build alternative, all proposed features would meet design standards and traffic operations would be improved. Under the No-Build Alternative, the design standards would not be met and traffic flow would become worse as traffic volumes increase over time.

The Avenue 304 hook ramps in both directions would be closed in either build alternative, eliminating the weaving conflicts between traffic entering and exiting the freeway at Betty Drive and freeway traffic entering and exiting at Avenue 304. In removing the ramps at Avenue 304, the resulting weaving distances between the new ramps at Betty Drive and the ramps at the State Route 198 separation would meet current highway design standards; this would help ensure good traffic flow and safety conditions within this freeway segment. Under the No-Build Alternative, these traffic weaving conflicts on the freeway would increase as traffic volumes increase over time. In addition, more drivers might use Avenue 304 hook ramps to avoid the increasing traffic congestion at the unimproved Betty Drive interchange.

Freeway ramps, ramp intersections with Betty Drive, and local street intersections adjacent to the interchange would all be redesigned to meet current standards, including standards for curves, length, and the distance drivers can see ahead. Under the No-Build Alternative, intersections would remain too close together and ramps would remain unaligned with each other, and other design standards would not be met.

The current Betty Drive overcrossing would be replaced with an overcrossing that would meet current standards. It would include two through lanes in each direction and a left turn pocket for eastbound traffic to enter the northbound on-ramp to the freeway. It would meet the 16.5 foot standard for vertical clearance over the freeway and be long enough to accommodate eight lanes on the freeway in the future. A loop on-ramp would provide westbound traffic with access to southbound State Route 99 without the need for a left turn. The overcrossing would include five-foot-wide sidewalks and ten-foot-wide shoulders on each side. None of these improvements would be made under the No-Build Alternative. Traffic flow on Betty Drive would continue to deteriorate over time as traffic volumes increase. Traffic queues behind vehicles waiting to make left turns would become longer because there would continue to be only a single lane in each direction without any left turn pockets.

Additional Changes to Local Streets

Under both build alternatives there would be changes to the local street system to ensure that the new interchange would interface well with local streets. Both alternatives would do the following:

- Nutmeg Road would be closed due to access control needed at the interchange.
- Road 64 would be realigned from south of Harvest Avenue using a reversing curve to facilitate smooth traffic flow and would extend to north of Betty Drive. The beginning of the curve at the south end of the proposed Road 64 realignment would be located so through truck traffic would be separated from local traffic along existing Road 64. A cul de sac is proposed at existing Road 64 south of Harvest Avenue to separate existing and proposed Road 64 alignments.
- Parson Road would be displaced by the southbound off-ramp and southbound loop on-ramp from westbound Betty Drive. Since Parson Road provides the main access to Betty Drive for patrons of the Wooden Shoe RV Park, a replacement access road to serve the park would be provided at the southwest corner of the park, connecting with proposed Road 64 north of Betty Drive. This proposed local road would meet County design standards.
- The segment of Commercial Road that is adjacent to the northbound on-ramp to State Route 99 from Avenue 304 would be realigned to improve the transition between Commercial Road and Road 68.
- In addition, Alternative 2 would make the following changes to local streets: The paved segment of Featherstone Road between Avenue 308 and Betty Drive would be displaced by the southbound on-ramp from eastbound Betty Drive and would be eliminated.
- The intersection of Diagonal 68 at Betty Drive would be displaced by the proposed southbound on-ramp from eastbound Betty Drive, and would be eliminated. Diagonal 68 would be reconfigured to terminate with a cul de sac north of Avenue 308. The alignment of Diagonal 68 between Harvest Avenue and Avenue 308 would be shifted to the west of its current alignment by about 18 feet to increase the separation between the freeway and the Diagonal 68 roadway. The realigned segment of Diagonal 68 would meet County standards for frontage roads.
- Alternative 4 would make the following additional changes to local streets: Featherstone Road between Avenue 308 and Betty Drive would be extended to intersect Avenue 308.

- The intersection of Diagonal 68 at Betty Drive would be partially displaced by the proposed southbound on-ramp from eastbound Betty Drive, so direct access to the Betty Drive Overcrossing from Diagonal 68 would be eliminated. Diagonal 68 would transition to the existing segment of Betty Drive in front of the Arco Travel Plaza, resulting in a loop connecting Diagonal 68, existing Betty Drive, Featherstone Road and Avenue 308. The alignment of Diagonal 68 between Harvest Avenue and Avenue 308 would be shifted to the west of its current alignment by about 18 feet to increase the separation between the freeway and the Diagonal 68 roadway. The realigned segment of Diagonal 68 would meet County standards for frontage roads.

The Goshen Bus Depot

Under Alternative 2, Diagonal 68 would be reconfigured with a cul de sac north of Avenue 308, displacing the current location of the Goshen Bus Depot, which is a bus stop at the ARCO station. Alternative 2 would provide a new bus stop at the cul de sac including a bus shelter with an area for wheelchairs, using City of Visalia design and improvement standards as a reference. The proposed location for the bus stop is on Diagonal 68, across from the Shell fuel station. Such improvements would be coordinated with the County of Tulare.

Under Alternative 4, Diagonal 68 would be reconfigured to make a loop connecting Diagonal 68, existing Betty Drive, Featherstone Road and Avenue 308. The existing location of the Goshen Bus Depot could be maintained, although it does not meet current standards for bus shelters as provided by the City of Visalia and is not compatible with current standards due to conflicts with driveways that are used for access to the fuel stations at this location. As an upgrade, it is proposed with Alternative 4 to provide an improved bus shelter on Diagonal 68 across from the existing Arco Travel Plaza that meets City of Visalia design standards. Such improvements would be coordinated with the County of Tulare.

Bicyclists and Pedestrians

Both Alternative 2 and Alternative 4 would provide five-foot-wide sidewalks and 10-foot-wide shoulders on both sides of Betty Drive from the east side of State Route 99 east to the end of the project limits and on the west side of State Route 99 to the Road 64 intersection. At Avenue 308, five-foot-wide sidewalks and eight-foot-wide shoulders would be provided on both sides from the end of existing sidewalks in the vicinity of the Goshen Elementary School to existing Road 64. For Alternative 2 and Alternative 4, five-foot-wide sidewalks would also be provided at local roads by the proposed pump station outfall basin.

Curb ramps that are compliant with Americans with Disability Act requirements would be provided at all improved intersections or new local road intersections, as well as at proposed ramp intersections.

Bicycle lanes are proposed at all dedicated right-turn lanes on Betty Drive.

Construction

Traffic delays and changes in traffic patterns would occur during construction.

Avoidance, Minimization, and/or Mitigation Measures

All elements of the transportation facilities that are proposed as part of the build alternatives are considered part of the project to ensure a smoothly operating system. Mitigation measures focus on construction impacts on traffic flow and the Goshen bus depot.

During construction along Diagonal 68, service at the existing Goshen Bus Depot would be interrupted or unavailable. In order to maintain bus service in the vicinity of the existing bus stop, effort would be made to provide for a temporary bus stop location such as at Avenue 308 across from the Goshen Elementary School, where no roadway construction is proposed with the project. This location is also proposed as a temporary bus stop for the Visalia City Coach, which has a bus stop on southbound Diagonal 68 just south of the Goshen Pedestrian Overcrossing that may be inaccessible during construction of improvements at Diagonal 68. During construction of proposed improvements to Betty Drive east of the freeway, the existing Visalia City Coach stop on eastbound Betty Drive next to the Visalia RV Sales & Service business may be inaccessible. As mitigation for this condition, effort would be made to provide for a temporary bus stop on westbound Betty Drive, across from the existing stop location. These proposals would require coordination with representatives of the Visalia City Coach service.

During construction, a traffic management plan would help reduce traffic delays, congestion, and accidents. Standard Caltrans construction practices include information on roadway conditions, portable changeable message signs, lane and road closure, advance warning signs, alternate routes, reverse and alternate traffic control, and a traffic contingency plan for unforeseen circumstances and emergencies.

The Caltrans Public Affairs Office would keep the local media informed of construction progress and information pertaining to delays, closures, and major changes in traffic patterns with information provided by the resident engineer.

A Construction Zone Enhanced Enforcement Program may be appropriate during portions of this project. The program involves the continuous presence of the California Highway Patrol in construction zones to serve as a reminder to motorists to slow down and use caution when traveling through work areas. The Caltrans Construction Division would be consulted to determine if the program is warranted for this project.

2.1.7 Visual/Aesthetics

Regulatory Setting

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

Likewise, the California Environmental Quality Act 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 minor analysis was completed in September 2010.

The area surrounding the Betty Drive intersection is predominately urban-agricultural. For the most part, the right-of-way is characterized by urban development and agribusinesses, as well as agricultural land.

The numerous eucalyptus trees in the project vicinity add a memorable visual element to the highway. The vertical structure of the existing trees contrasts with the general flat topography, accentuating the scale of the trees. The varying heights of the trees give diversity to the visual uniformity of the landform. The highway creates a strong line in the landscape. This line is accentuated in its continuity and existing eucalyptus trees serve to visually soften the highway by blending it with its urban environment.

During construction, temporary visual impacts are expected in the normal visual environment are temporary and therefore, not significant.

Environmental Consequences

State Route 99 is not a designated scenic route. However, the existing eucalyptus trees could be considered visual resources.

The construction of the project is anticipated to result in the removal of 17 mature single and multi-trunk eucalyptus trees within the existing right-of-way. Median oleanders within the project limits would not be removed.

Avoidance, Minimization, and/or Mitigation Measures

This project is adjacent to some projects that would widen the State Route 99 corridor from four to six lanes to the ultimate planned transportation corridor of eight lanes. Replacement of highway planting for future capacity-increasing projects is addressed in Caltrans policy. Future projects in the project area would be evaluated for visual impacts. Current policy requires replacement of any highway planting removed or damaged as a result of construction activity. This replacement planting must be funded from the highway construction project and must be under construction within two years of the acceptance of the highway contract that removed the highway planting. Failure to provide replacement planting per Caltrans' policy would likely result in adverse visual impacts per CEQA guidelines. Seventeen mature eucalyptus trees would be removed with either build alternative. In addition to the Caltrans replacement policy, the community would also expect replacement of the trees.

Design features to mitigate visual impacts are:

- Minimize visual inconsistencies by providing an interchange design in keeping with the character of the structures on State Route 99 within Tulare County. This can be accomplished by using the same or similar design as the existing pedestrian overcrossing to the south of the replacement structure, such as flared columns and the incorporation of architectural features in keeping with the Route 99 Corridor Enhancement Master Plan. For example, Tulare County has chosen the color green to be used as an enhancement stripe for aesthetic purposes on bridge structures.
- Stain median barriers to visually match the color and incorporate any architectural details of the existing concrete median barrier through Tulare County.

- Mature vegetation should be preserved where possible. For this project, the emphasis would be to minimize disturbance and protect the existing vegetation. Minimize the effect of removal of the highway planting of eucalyptus trees by providing funds of replacement planting within the project area in accordance with established Caltrans policy for replacement planting.
- All disturbed areas not to be paved should receive erosion control and storm water runoff control measures.
- Maximum recommended slopes for this project are 1:2 with immediate transitions to 1:4 side slopes when feasible. The newly constructed slopes should be designed to aesthetically blend with the surrounding landscape. In order to comply with the Highway Design Manual and the National Pollutant Discharge Elimination System Storm Water Permit, the slope design would require the written concurrence of the District Landscape Architect, and may also require concurrence from the District Maintenance and the District Storm Water Coordinators. The District Landscape Architect should be involved early in the design phase to help make the determination on slope design.

2.2 Physical Environment

2.2.1 Paleontology

Regulatory Setting

Paleontology is the study of life in past geologic time based on fossil plants and animals. A number of federal statutes specifically address paleontological resources, their treatment, and funding for mitigation as a part of federally authorized or funded projects. (e.g., Antiquities Act of 1906 [16 USC 431-433], Federal-Aid Highway Act of 1935 [20 USC 78]). Under California law, paleontological resources are protected by the California Environmental Quality Act, the California Code of Regulations, Title 14, Division 3, Chapter 1, Sections 4307 and 4309, and Public Resources Code Section 5097.5.

Affected Environment

A paleontological identification report was prepared in May 2010. The ground surface of the project vicinity is flat. The project area is located on the Kaweah River alluvial fan within the San Joaquin Valley. The alluvial fan consists of rock debris deposited by the Kaweah River and adjacent smaller streams, all of which drain from the foothills of the Sierra Nevada. The gravel, sand, and silt that compose these alluvial deposits are capable of preserving significant fossils, such as large land

mammals including mammoths, mastodons, camels, bison, and horses. Stratigraphic units within the project area include Plio-Pleistocene nonmarine deposits and Quaternary Alluvium.

Although no fossil localities are reported within the project right-of-way, the presence of fossils in sediments elsewhere in the area suggests that there is a high potential for additional similar fossil remains to be uncovered by excavations during project construction.

Fossil remains salvaged during project construction could provide a more comprehensive documentation of the diversity of animal and plant life that once existed in Tulare County and could result in a more accurate reconstruction of the geologic and paleobiologic history of the San Joaquin Valley.

Environmental Consequences

A Paleontological Identification Report for this project was prepared on May 4, 2010.

The project would excavate several storm water retention basins within the project limits. Potential impacts on paleontological resources resulting from construction of the project would primarily involve terrain modification. These impacts could result from vegetation clearing, grading, widening of road cuts, and any other earth-moving activity that disturbs or buries previously undisturbed fossiliferous sediments, making those sediments and their paleontological resources unavailable for future scientific investigation.

Avoidance, Minimization, and/or Mitigation Measures

Before construction, mitigation measures that would be outlined in a Paleontological Evaluation Report would be implemented to reduce potential adverse impacts to substantial paleontological resources resulting from construction. In areas determined to have a high potential for substantial paleontological resources, an adequate program for mitigating the impact of development should include:

- Preliminary survey and surface salvage prior to construction.
- Monitoring and salvage during excavation.
- Preparation, such as screen washing to recover small specimens (if applicable), and specimen preparation to a point of stabilization and identification.
- Identification, cataloging, curation, and storage of specimens.

- Preparation of a final report of the finds and their significance, after all operations are complete.

Development of a site-specific Paleontological Mitigation Plan would assist Caltrans in complying with environmental laws and regulations requiring mitigation of impacts on paleontological macrofossil resources if found within the project.

Components of a Paleontological Mitigation Plan are:

- A qualified principal paleontologist (M.S. or Ph.D. in paleontology or geology familiar with paleontological procedures and techniques) would be retained to be present at pre-grading meetings to consult with grading and excavation contractors.
- A paleontological monitor, under the direction of the qualified principal paleontologist, would be on-site to inspect cuts for fossils at all times during original grading involving sensitive geologic formations.
- If fossils are discovered, the paleontologist (or paleontological monitor) would recover them. Construction work in these areas would be halted or diverted to allow recovery of fossil remains in a timely manner.
- Fossil remains collected during the monitoring and salvage portion of the mitigation program would be cleaned, repaired, sorted, and cataloged.
- Prepared fossils, along with copies of all pertinent field notes, photos, and maps, would then be deposited in a scientific institution with paleontological collections.
- A final report would be completed that outlines the results of the mitigation program.

2.2.2 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/materials are the Resource Conservation and Recovery Act of 1976 (RCRA) and the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA). The purpose of CERCLA, often referred to as Superfund, is to clean up contaminated sites

so that public health and welfare are not compromised. RCRA provides for “cradle to grave” regulation of hazardous wastes. Other federal laws include:

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

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 it is disturbed during project construction

Affected Environment

The Central Region Hazardous Waste and Paleontology Branch conducted an Initial Site Assessment (ISA) in March 2008 and a Preliminary Site Investigation (PSI) in August 2009 within the project limits on State Route 99, Tulare County. A study of the Betty Drive Interchange included analysis for hydrocarbons and heavy metals at two active retail-refueling facilities, both the Arco Mini-Mart and Goshen Travel Plaza are located east of State Route 99 south of Betty Drive interchange along Frontage Rd. Both of these retail re-fueling stations would be full parcel acquisitions for Alternative 2.

A third active retail-refueling facility Valero Gas Station is located on the east side of State Route 99 at Betty Drive and would be a full parcel acquisition for either Alternative 2 or Alternative 4. The Valero Gas Station is not a former leaking underground storage tank site under review by either the County or Regional Water Quality Control Board.

The surrounding area is predominantly urban-agricultural. The right-of-way is characterized by urban development and agribusiness, as well as agricultural land.

Environmental Consequences

A Preliminary Site Investigation was completed for this project on October 26, 2010 for this project.

Field activities included the advancement of 8 direct-push soil borings at the Arco Mini-Mart and the Goshen Travel Plaza. The borings were advanced to a maximum depth of 16 feet at each facility with the exception of a single boring drilled to a total depth of 28 feet at the Goshen Travel Plaza facility. Findings of the Goshen Overcrossing Bridge survey for Bridge No. 46-0175 included potential asbestos containing materials. Soil samples were collected and submitted to the analytical laboratory for analysis of gasoline and diesel range total petroleum hydrocarbons and motor oil range petroleum hydrocarbons by modified United States Environmental Protection Agency (EPA) Method 8015B. A select number of soil samples were also submitted for analysis of benzene, toluene, ethylbenzene, and total xylenes also methyl, tertiary, butyl and ether by Environmental Protection Agency Method 8020A and Title 22 metals by Environmental Protection Agency Method 6010B.

Concentrations of Aerially Deposited Lead do not exceed regulatory threshold limits therefore, excavated material would not require special disposal and can be reused without restriction.

Arco Mini-mart and Goshen Travel Plaza

Based upon this Preliminary Site Investigation, the report indicates that soil in the vicinity of the soil borings at the Arco and Goshen Travel Plaza has not been materially impacted by petroleum based constituents or metal contaminants.

In addition to the Arco site being an active retail-fueling facility, the report indicates that the site remains an “open” leaking underground storage tank site under the jurisdiction of Tulare County Environmental Health Division and the Regional Water Quality Control Board. According to discussions with a representative of the Tulare

County Environmental Health Division, concentrations of hydrocarbons in the impacted area are not anticipated to require future investigations or remedial activity.

Goshen OC Bridge No. 46-0175

In addition to analyzing soil at the above referenced fuel service stations, samples were obtained from the Goshen OC Bridge and included analysis for asbestos containing materials as part of the proposed operational improvements to the bridge.

Asbestos was not detected during the survey, and as such, the Cal/OSHA asbestos standard does not apply for planned bridge improvement activities at this project. In addition, debris from planned improvement activities would not be considered a California hazardous waste based on asbestos content

Alternative 2 and 4 will impact an existing agricultural well and above ground storage tank containing diesel fuel. Soil is stained at the concrete well pad and tank foundation. The well and tank is located west of Francisco Pallet and north of Avenue 308.

Avoidance, Minimization, and/or Mitigation Measures

Caltrans' policy is to avoid contaminated properties if possible, to have responsible parties accept responsibility for remediation, and to seek reimbursement from responsible parties when Caltrans must conduct a remediation as part of the project development process. In situations where contaminated property must be acquired in order for a project to proceed, acquisition of contaminated property may occur only after an adequate site investigation of the property has been conducted and the cost of the remediation has been considered in the appraisal and acquisition process. It is Caltrans' policy to remediate project related contamination prior to Plan Specification and Estimates submittal for advertising whenever possible, reasonable, and feasible in order to minimize potential construction delays and change orders. This includes remediation by the responsible party whenever possible or by Caltrans when necessary. In cases where remediation of project related contamination prior to construction is not feasible, an exception must be approved by the Regional or District Director. Examples of such situations include cases where remediation prior to construction cannot be scheduled or cases where remediation prior to construction would require excavation, backfill and then re-excavation of the backfilled soil during construction.

Caltrans' policy is that no property acquisition shall take place until hazardous waste/material investigation reports have been completed and appraisals reflect the

findings. When a Certificate of Sufficiency is requested for the project, the Caltrans Central Region Hazardous Waste Branch will complete the Hazardous Materials Disclosure Document, which clears the property conditionally or unconditionally or requires the preparation of an exception request to purchase the contaminated property. Caltrans would pursue site remediation by the property owner prior to property transfer and prior to project construction. If the property owner cannot or will not investigate and remediate the site, Caltrans would take responsibility for site remediation prior to project construction if time allows or remediate during construction if necessary. The Legal Division would be engaged to seek cost reimbursement from the owner and/or responsible parties for remediation.

With regard to the project site stained soil at the agricultural well and above ground storage tank should be excavated, stockpiled and analyzed to determine if hazardous. Soil determined to be hazardous shall be disposed according to soil classification.

Arco Mini-mart, Goshen Travel Plaza and Valero Gas Station

If Alternative 2 is chosen, and full parcel acquisition is pursued, the Arco, Goshen Travel Plaza and Valero Gas Station would need to be decommissioned under direction of the Tulare County Environmental Health Division. Decommissioning would include removal of the underground storage tanks, any above ground storage tanks; product lines and fuel pump islands. Soil and/or groundwater samples would be required and a report of findings would be prepared at that time. If contamination were found, the responsible party would be required to define the lateral and vertical extent of the contamination and to remediate the site to regulatory standards. If the property could not be avoided and contamination was found, mitigation cost estimates could be as high as 1 million dollars

If partial parcel acquisition were pursued in the area investigated, it is not likely that special health and safety, soil handling, or disposal activities within the planned roadway improvements would be required.

The Arco station has not been included in this investigation therefore; Caltrans should not pursue full or partial acquisition requiring construction at or near the area of the former leaking underground storage tanks, until such time as the regulatory agencies “clean close” the leaking underground storage tank case.

If Alternative 4 is chosen, as the Preferred Alternative full parcel acquisition of the Arco and Goshen Travel Plaza will not be required. However, full parcel acquisition of the fuel service station doing business as Valero Gas Station, will be required and

will require decommissioning under direction of the Tulare County Environmental Health Division. The Valero Gas Station is not a former leaking underground storage tank site under review by either the County or Regional Water Quality Control Board. The responsible party must meet all county and regional water quality control board regulatory requirements for closure of the site by removing all underground storage tanks, pumps and appurtenances and obtaining soil samples to ascertain if contamination exists and if remediation is required.

Goshen OC Bridge No. 46-0175

In accordance with San Joaquin Valley Air Pollution Control District, Regulation IV, Rule 4002, written notification to San Joaquin Valley Air Pollution Control District is required ten working days prior to commencement of any demolition activity (whether asbestos is present or not).

2.2.3 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 concentration 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, 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 the State Implementation Plan for achieving the goals of the Clean Air Act requirements. Conformity with the Clean Air Act takes place on two levels—first, at the regional level and second, at the project level. The proposed project must conform at both levels to be approved.

Regional level conformity 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 of years, usually at least 20.

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, transportation plans are developed that include all of the transportation projects planned for a period of years, usually at least 20. Based on the projects included in the region's 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 Tulare County Association of Governments for Tulare County and the appropriate federal agencies, such as the Federal Highway Administration, make the determination that the regional plan is in conformity with the State Implementation Plan for achieving the goals of the Clean Air Act. Otherwise, the projects in the regional 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 region's transportation plan, then the proposed project is deemed to meet regional conformity requirements for purposes of project-level analysis.

Conformity at the project-level also requires "hot spot" analysis if an area is in "nonattainment" or "maintenance" for carbon monoxide and/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 non-attainment 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 National Environmental Policy Act and California Environmental Quality Act purposes.

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, and 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

The most important influence over the weather pattern of the San Joaquin Valley is the semi-permanent subtropical high-pressure cell referred to as the "Pacific High."

During summer, the Pacific High is positioned off the coast of northern California, diverting ocean-driven storms to the north. Hence, the summer months are virtually rainless. During winter, the Pacific High moves southward, allowing storms to pass through the San Joaquin Valley. Almost all of the precipitation expected during a given year occurs from December through April.

During summer, the predominant surface winds are out of the northwest. Air enters the valley through the Carquinez Strait and flows south toward the Tehachapi Mountains. This down-valley wind flow is interrupted in early fall by the emergence of nocturnal, up-valley winds that become progressively more predominant as winter approaches. Wind speeds are generally highest during the spring and lightest in fall and winter. The relatively cool air flowing through the Carquinez Strait is warmed on its journey south through the valley. As it reaches the south end of the valley, the average high temperature during the summer is nearly 100 degrees Fahrenheit. Relative humidity during the summer is quite low, causing large temperature variations between day and nighttime.

In winter, the average high temperatures reach into the mid-50s, and the average low temperatures drop to the mid-30s. In addition, another high-pressure cell, known as the “Great Basin High,” develops east of the Sierra Nevada mountain range during winter. When this cell is weak, a layer of cool, damp air becomes trapped in the basin, and extensive fog results. In San Joaquin Valley, heavy fog typically forms about 20 days per year, with December and January having the most frequent fog. The topography is generally flat around the proposed project location.

The Tulare County Office of Education provides information stating average annual temperatures of between 76.6 and 49.6 degrees characterize Tulare County's climate. Because of lower rainfall and warmer temperatures, Tulare County's climate is classified as Mediterranean. The rainy season is October through April, and although ice and snow are rare on the Valley floor, the snow pack often measures more than 200 inches in the nearby Sierra Nevada mountain range

Environmental Consequences

Caltrans conducted an air quality study for the project in December 2010.

Even though the project increases capacity, it is expected to improve traffic flow and decrease delays, therefore potentially improving the air quality.

Regional Air Quality Conformity

The proposed project is fully funded and is in the 2011 Tulare Council of Governments Regional Transportation Plan which was found to conform by Tulare County Association of Governments on July 19, 2010, and Federal Highway Administration and Federal Transit Administration adopted the air quality conformity finding on December 14, 2010.

The project is also included in Tulare Council of Governments financially constrained 2011 Regional Transportation Improvement Program, page 29 of the State Transportation Improvement Program-Regional Choice Project List, the Tulare Council of Governments, Regional Transportation Improvement Program, and was found to conform by Federal Highway Administration and Federal Transit Administration on December 14, 2010. The design concept and scope of the proposed project is consistent with the project description in the 2011 Regional Transportation Program, the 2011 Regional Transportation Improvement Program and the assumptions in the Tulare County Association of Governments regional emissions analysis.

During construction, short-term degradation of air quality may occur due to the release of particulate emissions (airborne dust) generated by excavation, grading, hauling, and other activities related to construction. Emissions from construction equipment also are anticipated and would include carbon monoxide, nitrogen oxides, volatile organic compounds, directly-emitted particulate matter (PM₁₀ and PM_{2.5}), and toxic air contaminants such as diesel exhaust particulate matter. Ozone is a regional pollutant that is derived from nitrogen oxide and volatile organic compounds in the presence of sunlight and heat.

Site preparation and roadway construction would involve clearing, cut-and-fill activities, grading, removing or improving existing roadways, and paving roadway surfaces. Construction-related effects on air quality from most highway projects would be greatest during the site preparation phase because most engine emissions are associated with the excavation, handling, and transport of soils to and from the site. If not properly controlled, these activities would temporarily generate PM₁₀ and PM_{2.5}, and small amounts of carbon monoxide, sulfur dioxide, nitrogen oxides, and volatile organic compounds. Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site would deposit mud on local streets, which could be an additional source of airborne dust after it dries. PM₁₀ emissions would vary

from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM₁₀ emissions would depend on soil moisture, silt content of soil, wind speed, and the amount of equipment operating. Larger dust particles would settle near the source, while fine particles would be dispersed over greater distances from the construction site.

Construction activities for large development projects are estimated by the Environmental Protection Agency (EPA) to add 1.09 tonne (1.2 tons) of fugitive dust per acre of soil disturbed per month of activity. If water or other soil stabilizers are used to control dust, the emissions can be reduced by up to 50 percent. Caltrans' Standard Specifications (Section 10) pertaining to dust minimization requirements requires use of water or dust palliative compounds and would reduce potential fugitive dust emissions during construction.

In addition to dust-related PM₁₀ emissions, heavy trucks and construction equipment powered by gasoline and diesel engines would generate carbon monoxide, sulfur dioxide, nitrogen oxides, and volatile organic compounds and some soot particulate (PM₁₀ and PM_{2.5}) in exhaust emissions. If construction activities were to increase traffic congestion in the area, carbon monoxide and other emissions from traffic would increase slightly while those vehicles are delayed. These emissions would be temporary and limited to the immediate area surrounding the construction site.

Sulfur dioxide is generated by oxidation during combustion of organic sulfur compounds contained in diesel fuel. Off-road diesel fuel meeting federal standards can contain up to 5,000 parts per million (ppm) of sulfur, whereas on-road diesel is restricted to less than 15 ppm of sulfur. However, under California law and Air Resources Board regulations, off-road diesel fuel used in California must meet the same sulfur and other standards as on-road diesel fuel, so sulfur dioxide -related issues due to diesel exhaust would be minimal. Some phases of construction, particularly asphalt paving, would result in short-term odors in the immediate area of each paving site(s). Such odors would be quickly dispersed below detectable thresholds as distance from the site(s) increases.

Project Level Conformity

The project was submitted in January 2011 for interagency consultation to the Model Coordinating Committee as *not* a project of air quality concern.

Table 2.2 Air Quality Standards and Status

| Pollutant | Averaging Time | State Standard | State Attainment Status | Federal Standard | Federal Attainment Status | Health and Atmospheric Effects | Typical Sources |
|--|---|--|----------------------------------|--|----------------------------------|--|---|
| Ozone (O ₃) ^a | 1 hour 8 hours | 0.09 ppm 0.070 ppm | Non-attainment Non-attainment | – ^b 0.08 ppm | 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 _x) 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 8 hours (Lake Tahoe) | 20 ppm 9.0 ppm ^c 6 ppm | Attainment | 35 ppm 9 ppm – | 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 ₁₀) ^a | 24 hours Annual | 50 µg/m ³ 20 µg/m ³ | Non-attainment | 150 µg/m ³ – | Attainment-maintenance | Irritates eyes and respiratory tract. Decreases lung capacity. Associated with increased cancer and mortality. Contributes to haze and reduced visibility. Includes some toxic air contaminants. Many aerosol and solid compounds are part of PM ₁₀ . | Dust- and fume-producing industrial and agricultural operations; combustion smoke; atmospheric chemical reactions; construction and other dust-producing activities; unpaved road dust and re-entrained paved road dust; natural sources (wind-blown dust, ocean spray). |
| Fine Particulate Matter (PM _{2.5}) ^a | 24 hours Annual | – 12 µg/m ³ | Non-attainment | 35 µg/m ³ 15 µg/m ³ | 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 including NO _x , sulfur |

| Pollutant | Averaging Time | State Standard | State Attainment Status | Federal Standard | Federal Attainment Status | Health and Atmospheric Effects | Typical Sources |
|-------------------------------------|---|--------------------------------|--|---------------------------------------|--|---|--|
| | | | | | | the PM2.5 size range. Many aerosol and solid compounds are part of PM2.5. | oxides (SO _x), ammonia, and ROG. |
| Nitrogen Dioxide (NO ₂) | 1 hour Annual | 0.25 ppm – | This pollutant was not studied because Tulare County is in State and Federal attainment and there is no approved methods to study NO ₂ at the project level even if the air was in non-attainment | – 0.053 ppm | This pollutant was not studied because Tulare County is in State and Federal attainment and there is no approved methods to study NO ₂ at the project level even if the air was in non-attainment | 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 ₂) | 1 hour 3 hours 24 hours Annual | 0.25 ppm – 0.04 ppm – | This pollutant was not studied because Tulare County is in State and Federal attainment and there is no approved methods to study SO ₂ at the project level even if the air was in non-attainment | – 0.5 ppm 0.14 ppm 0.030 ppm | This pollutant was not studied because Tulare County is in State and Federal attainment and there is no approved methods to study SO ₂ at the project level even if the air was in non-attainment | 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) ^d | Monthly Quarterly | 1.5 µg/m ³ – | This pollutant was not studied because Tulare County is in State and Federal attainment and | – 1.5 µg/m ³ | This pollutant was not studied because Tulare County is in State and Federal attainment and there is no | 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 aerially deposited lead from gasoline may still be present in soils along major roads, and can be |

| Pollutant | Averaging Time | State Standard | State Attainment Status | Federal Standard | Federal Attainment Status | Health and Atmospheric Effects | Typical Sources |
|-----------|----------------|----------------|---|------------------|---|--------------------------------|---|
| | | | there is no approved methods to study lead at the project level even if the air was in non-attainment | | approved methods to study lead at the project level even if the air was in non-attainment | | 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-Marín Area Rail Transit Draft Air Pollutant Standards and Effects table, November 2005, page 3-52. U.S. Environmental Protection Agency and California Air Resources Board air toxics websites, 05/17/2006

Notes: ppm = parts per million; $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter

^a Annual PM10 National Ambient Air Quality Standard revoked October 2006; was 50 $\mu\text{g}/\text{m}^3$. 24-hr. PM2.5 National Ambient Air Quality Standard tightened October 2006; was 65 $\mu\text{g}/\text{m}^3$.

^b 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.

^c Rounding to an integer value is not allowed for the State 8-hour CO standard. A violation occurs at or above 9.05 ppm.

^d The Air Resources Board 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 Air Resources Board and U.S. Environmental Protection Agency 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.

Carbon Monoxide Analysis

The project is located in a state and federal carbon monoxide attainment area. Due to the attainment status, a federal project level conformity analysis is not required. The December 1997 UC Davis Transportation Project-Level Carbon Monoxide Protocol (Protocol) was followed as the preferred guideline in California to qualitatively evaluate potential effects, if any. The results of following the Protocol questions (Section 3 and 4) determined that the project was conforming and is not expected to result in any adverse air quality impacts

The highest carbon monoxide emissions occur at very low speeds, during stop and go traffic and when vehicles undergo a cold start (the vehicle has been sitting for at least 8 hours). The project is not expected to result in higher carbon monoxide concentrations for the following reasons: bus traffic would be directed west and north of the school to wait for students and not all waiting in front of the school; there is expected to be less carbon monoxide emission from future model years gasoline and diesel vehicles; and the proposed alternatives would provide a better level of service on nearby streets and ramps.

Particulate Matter Analysis

PM₁₀

The project complies with PM₁₀ control measures in the PM₁₀ State Implementation Plan.

Tulare County is in a non-attainment area for state standards and an attainment-maintenance area for federal PM₁₀. The North Church Street monitor, located about seven miles east of the project and within the Visalia city limits, shows a downward trend for ambient PM₁₀ (see Table 2.3). The annual national average has been below the federal standard since 2003 and is expected to continue this trend. Requirements minimizing PM₁₀ included in the State Implementation Plan as well as state, federal and local regulations are anticipated to help maintain this downward trend. There is also a decrease from 2000 through 2009 of the state annual average readings, but they are still above the state standard. See Table 2.4 for existing and projected particulate matter emissions PM₁₀ and PM_{2.5} (tons per year).

Table 2.3 PM₁₀ Trends Visalia-North Church Street Monitor

| | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
|--|------|------|------|------|------|------|------|------|------|------|
| CA Annual Average µg/m ³ | 53.7 | 52.3 | 52.3 | 43.0 | 41.3 | 44.5 | 47.4 | 42.3 | 47.1 | 41.8 |
| CA Standard µg/m ³ | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| National Annual Average µg/m ³ | 52.7 | 51.9 | 51.6 | 42.6 | 41.2 | 44.3 | 47.2 | 42.6 | 47.3 | * |
| National Standard µg/m ³ | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |

Source: ARB ADAM database PM trends. . *=data not available

**Table 2.4 Existing and Projected Particulate Matter Emissions
Tons/Year**

| 2007 | | | |
|-------------------|-------------------------------------|------------------|-------------------|
| EXISTING | | | |
| AADT ¹ | Vehicle Miles Traveled ² | PM ₁₀ | PM _{2.5} |
| 21,800 | 17,778 | 0.00 | 0.00 |

| 2019 | | | | | | |
|---------|------------------|-------------------|------------------|-------------------|------------------|-------------------|
| | Alternative 2 | | Alternative 4 | | No Build | |
| AADT | PM ₁₀ | PM _{2.5} | PM ₁₀ | PM _{2.5} | PM ₁₀ | PM _{2.5} |
| 96,350 | 0.0006 | 0.0006 | 0.0007 | 0.0007 | 0.00040 | 0.00030 |
| 2039 | | | | | | |
| | Alternative 2 | | Alternative 4 | | No Build | |
| AADT | PM ₁₀ | PM _{2.5} | PM ₁₀ | PM _{2.5} | PM ₁₀ | PM _{2.5} |
| 146,700 | 0.0012 | 0.0011 | 0.0014 | 0.0013 | 0.0006 | 0.0006 |

Source: Caltrans Central Region Environmental Engineering EMFAC model runs October 2010
*+No data available; does not currently exist, ¹=Annual Average Daily Traffic, ²= Vehicle Miles
Travelled (Miles x AADT).

Table 2.5 was included to provide a general reference point for estimated emissions from traffic in the current (2007) year, open to traffic (2019) year and horizon year (2039) vehicle miles travelled and level of service greatly affect the results of air emissions estimating using the EMFAC air model. The EPA recently (December 20, 2010) issued quantitative guidelines for particulate matter modeling using EMFAC. These guidelines do not go into effect until December 2012. Modeling results indicates that emissions under the No-Build Alternative would increase in 2019 and 2039, largely due the poor level of service and that the four Avenue 304 ramps would still be in use. Road 64 between Betty Drive and Avenue 308 has at least twice as many vehicle miles traveled for the No-Build Alternative and this also increases the No-Build emissions estimates. Both Alternatives 2 and 4 have similar estimated emissions in 2019 and 2039, but Alternative 2 has slightly higher emissions predicted.

Table 2.5 PM_{2.5} Trends Visalia-North Church Street Monitor

| YEAR | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
|---|------|------|------|------|------|------|------|------|------|------|
| CA Annual Average $\mu\text{g}/\text{m}^3$ | 23.9 | * | 23.2 | 19.7 | * | 19.9 | 19.7 | 22.5 | 19.8 | 16.6 |
| Standard $\mu\text{g}/\text{m}^3$ | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| National Annual Average $\mu\text{g}/\text{m}^3$ | 23.9 | 22.5 | 23.2 | 18.2 | 17.0 | 18.8 | 18.8 | 20.4 | 19.8 | 16.0 |
| Standard $\mu\text{g}/\text{m}^3$ | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |

Source: ARB ADAM database PM trends

PM_{2.5}

Tulare County is in a non-attainment area for state and federal PM_{2.5} standards. The Church Street monitor located about seven miles east of the project and within the Visalia city limits, shows a downward trend for ambient PM_{2.5} (see Table 2.5). The state and national annual average has decreased about 6 $\mu\text{g}/\text{m}^3$ from 2000 to 2009. Requirements minimizing PM_{2.5} included in the State Implementation Plan as well as state, federal and local regulations are anticipated to help maintain this downward trend.

Air modeling indicates that there would be slightly more PM_{2.5} emissions for Alternative 4 than for Alternative 2 in both 2019 and 2039. Modeling also indicates that the No-Build Alternative would have the lowest emissions. The results are misleading because the vehicle miles travelled is the major factor effecting EMFAC

model data results. Improved and safer ramps and streets in the proposed project should be weighed against the estimated Alternative 2 and 4 emissions.

The project level PM₁₀ and PM_{2.5} conformity analysis was submitted for interagency consultation in January, 2011, as not a project of air quality concern.

Mobile Source Air Toxics

The proposed project best fits into the category of projects with a low potential for mobile source air toxics.

For each alternative in this Environmental Analysis, the amount of mobile source air toxics emitted would be proportional to the vehicle miles traveled, assuming that other variables such as fleet mix are the same for each alternative. The Emission Factors model was used to estimate mobile source air toxic emissions in recent and future years. There is no federal mobile source air toxics threshold limit for transportation projects. There is little difference between the estimated emissions between the two build alternatives. The expected emissions from both build alternatives is expected to be less than emissions from the No-Build Alternative (see Table 2.6).

Table 2.6 2019 Estimated Mobile Source Air Toxics (tons)

| Pollutant | 2007 (Existing) Average Annual Daily Traffic = 41, 070 vehicles | Operational 2019 Average Annual Daily Traffic = 96,350 vehicles | | | Horizon Year 2039 Average Annual Daily Traffic = 146,700 vehicles | | |
|---------------------------|---|---|--------|----------|---|--------|----------|
| | | Alternative | | | Alternative | | |
| | | 2 | 4 | No-Build | 2 | 4 | No-Build |
| Diesel PM | 0.00140 | 0.0003 | 0.0003 | 0.0002 | 0.0004 | 0.0004 | 0.0001 |
| Formaldehyde ¹ | 0.00038 | 0.0001 | 0.0001 | 0.0001 | 0.0002 | 0.0002 | 0.0001 |
| Butadiene ² | 0.00007 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Benzene | 0.00020 | 0.0001 | 0.0001 | 0.0000 | 0.0001 | 0.0001 | 0.0001 |
| Acrolein ³ | 0.00001 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |

Regardless of the alternative chosen, emissions would likely be lower than present levels in the design year as a result of EPA's national control programs that are projected to reduce annual mobile source air toxics emissions by 72 percent from 1999 to 2050. Local conditions may differ from these national projections in terms of fleet mix and turnover, vehicle miles traveled, growth rates, and local control measures. However, the magnitude of the EPA-projected reductions is so great (even

after accounting for vehicle miles traveled growth) that mobile source air toxics emissions in the study area are likely to be lower in the future in virtually all locations.

Under each alternative there may be localized areas where vehicle miles traveled would increase and other areas where vehicle miles traveled would decrease. Therefore, it is possible that localized increases and decreases in mobile source air toxics emissions would occur. The localized increases in mobile source air toxics emissions would likely be most pronounced along the new roadway sections that would be built at new Road 64, Betty Drive west expansion, new northbound and southbound on and off-ramps (both Alternatives). More effect on the farm residence located south of Betty Drive and west of Road 64 from Alternative 2 is expected as it brings more new roads near the home as well as adding a new, proposed signalized intersection adjacent to the northeast area of the yard. However, even if these increases do occur, they too would be substantially reduced in the future due to implementation of EPA's vehicle and fuel regulations. Under both Alternatives in the design year it is expected there would be reduced MSAT emissions in the immediate area of the project, relative to the No-Build Alternative, due to the reduced vehicle miles traveled associated with more direct routing, and due to EPA's mobile source air toxics reduction programs.

During construction the proposed project would generate air pollutants. The exhaust from construction equipment contains hydrocarbons, oxides of nitrogen, carbon monoxide, suspended particulate matter, and odors. However, the largest percentage of pollutants would be windblown dust generated during excavation, grading, hauling, and various other activities. The impacts of these activities would vary each day as construction progresses. Dust and odors at some residences or the school on Avenue 308 very close to the right of way could probably cause occasional annoyance and complaints.

Tulare County is not among the counties listed as containing serpentine and ultramafic rock (Governor's Office of Planning and Research, October 26, 2000). However, the project area is not at or near the areas known to contain serpentine and ultramafic rock. Therefore, the impact from naturally occurring asbestos during project construction would be minimal to none. If structures that may contain asbestos are to be demolished, it is the responsibility of the contractor to comply with the Rules and Regulations of the Air Pollution Control District.

Avoidance, Minimization, and/or Mitigation Measures

The highest carbon monoxide emissions occur at very low speeds, during stop and go traffic and when vehicles undergo a cold start (the vehicle has been sitting for at least 8 hours). The project is not expected to result in higher carbon monoxide concentrations for the following reasons: bus traffic would be directed west and north of the school to wait for students and not all waiting in front of the school; there is expected to be less carbon monoxide emission from future model years gasoline and diesel vehicles; and the proposed alternatives would provide a better Level of Service on nearby streets and ramps.

Project design includes paved shoulders which should minimize particulate matter and re-entrained dust.

A rough estimate of the project acreage and scope indicates that his project would be subject to the San Joaquin Valley Air Pollution Control District rule 9510 (Indirect Source Review), requiring mitigating Nitrogen Dioxide and PM₁₀ construction emissions. Caltrans is now requiring contractors to be responsible for submitting the Rule 9510 Air Impact Analysis as well as the dust control plan to the Air District prior to beginning construction.

Caltrans Standard Specifications pertaining to dust control and dust palliative requirement is a required part of all construction contracts and should effectively reduce and control emission impacts during construction. The provisions of Caltrans Standard Specifications, Section 7-1.0F “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.

Most of the construction impacts to air quality are short-term in duration and, therefore, would not result in adverse or long-term conditions. Implementation of the following measures would reduce any air quality impacts resulting from construction activities. The construction contractor shall comply with Caltrans’ Standard Specifications Section 7-1.01F and Section 10 of Caltrans’ Standard Specifications (1999). Section 7, "Legal Relations and Responsibility," addresses the contractor's responsibility on many items of concern, such as: air pollution; protection of lakes, streams, reservoirs, and other water bodies; use of pesticides; safety; sanitation; and convenience of the public; and damage or injury to any person or property as a result of any construction operation. Section 7-1.01F specifically requires compliance by the contractor with all applicable laws and regulations related to air quality, including air pollution control district and air quality management district regulations and local

ordinances. Section 10 is directed at controlling dust. If dust palliative materials other than water are to be used, material specifications are contained in Section 18. These measures include the following:

- Apply water or dust palliative to the site and equipment as frequently as necessary to control fugitive dust emissions.
- Spread soil binder on any unpaved roads used for construction purposes, and all project construction parking areas.
- Wash off trucks as they leave the right-of-way as necessary to control fugitive dust emissions.
- Properly tune and maintain construction equipment and vehicles. Use low-sulfur fuel in all construction equipment as provided in California Code of Regulations Title 17, Section 93114.
- Develop a dust control plan documenting sprinkling, temporary paving, speed limits, and expedited revegetation of disturbed slopes as needed to minimize construction impacts to existing communities.
- Locate equipment and materials storage sites as far away from residential and park uses as practical. Keep construction areas clean and orderly.
- Establish environmentally sensitive areas for sensitive air receptors within which construction activities involving extended idling of diesel equipment would be prohibited, to the extent that is feasible.
- Use track-out reduction measures such as gravel pads at project access points to minimize dust and mud deposits on roads affected by construction traffic.
- Cover all transported loads of soils and wet materials prior to transport, or provide adequate freeboard (space from the top of the material to the top of the truck) to reduce PM₁₀ and deposition of particulate matter during transportation.
- Remove dust and mud that are deposited on paved, public roads due to construction activity and traffic to decrease particulate matter.
- Route and schedule construction traffic to avoid peak travel times as much as possible, to reduce congestion and related air quality impacts caused by idling vehicles along local roads.
- Install mulch or plant vegetation as soon as practical after grading to reduce windblown particulate in the area

Climate change is analyzed in Chapter 2 under “Climate Change (CEQA)”. Neither EPA nor FHWA has promulgated explicit guidance or methodology to conduct project-level greenhouse gas analysis. As stated on FHWA’s climate change website (<http://www.fhwa.dot.gov/hep/climate/index.htm>), climate change considerations should be integrated throughout the transportation decision-making process—from planning through project development and delivery. Addressing climate change mitigation and adaptation up front in the planning process would facilitate decision-making and improve efficiency at the program level, and would inform the analysis and stewardship needs of project level decision-making. Climate change considerations can easily be integrated into many planning factors, such as supporting economic vitality and global efficiency, increasing safety and mobility, enhancing the environment, promoting energy conservation, and improving the quality of life.

Because there have been more requirements set forth in California legislation and executive orders regarding climate change, the issue is addressed in the CEQA chapter of this environmental document and may be used to inform the NEPA decision. The four strategies set forth by FHWA to lessen climate change impacts do correlate with efforts that the State has undertaken and is undertaking to deal with transportation and climate change; the strategies include improved transportation system efficiency, cleaner fuels, cleaner vehicles, and reduction in the growth of vehicle hours travelled.

2.2.4 Noise and Vibration

Regulatory Setting

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

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, then the act dictates that mitigation measures must be incorporated into the project unless such measures are not feasible.

National Environmental Policy Act and 23 Code of Federal Regulations 772

For highway transportation projects with Federal Highway Administration involvement, the Federal-Aid Highway Act of 1970 and the associated implementing regulations (23 Code of Federal Regulations 772) govern the analysis and abatement of traffic noise impacts. The regulations require that potential noise impacts in areas of frequent human use be identified during the planning and design of a highway project. The regulations contain noise abatement criteria that are used to determine when a noise impact would occur.

The noise abatement criteria differ depending on the type of land use under analysis. For example, the criterion for residences (67 decibels) is lower than the criterion for commercial areas (72 decibels). Table 2.7 lists the noise abatement criteria for use in the National Environmental Policy Act and 23 Code of Federal Regulations 772 analyses and lists the noise levels of common activities to enable readers to compare the actual and predicted highway noise-levels discussed in this section with common activities.

Table 2.7 Activity Categories and Noise Abatement Criteria

| Activity Category | Noise Abatement Criteria, A-weighted Noise Level, Leq(h) | Description of Activities |
|--------------------------|---|--|
| A | 57 Exterior | Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose |
| B | 67 Exterior | Picnic areas, recreation areas, playgrounds, active sport areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals |
| C | 72 Exterior | Developed lands, properties, or activities not included in Categories A or B above |
| D | -- | Undeveloped lands |
| E | 52 Interior | Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums |

Source: Caltrans Traffic Noise Analysis Manual, 1998

A-weighted decibels are adjusted to approximate the way humans perceive sound. Leq(h) is the steady A-weighted level that is equivalent to the same amount of energy as that contained in the actual time-varying levels over one hour.

| 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 2-1 Noise Levels

In accordance with Caltrans' *Construction and Reconstruction Projects*, August 2006, a noise impact occurs when the future noise level with the project results in a substantial increase in noise level (defined as a 12-decibel or more increase) or when the future noise level with the project approaches or exceeds the noise abatement criteria. Approaching the noise abatement criteria is defined as coming within 1 decibel of the criteria.

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

Caltrans' *Traffic Noise Analysis Protocol* sets forth the criteria for determining when an abatement measure is reasonable and feasible. The reasonableness determination is basically a cost-benefit analysis. Factors used in determining whether a proposed noise abatement measure is reasonable include residents' acceptance, the absolute noise level, build versus existing noise, environmental impacts of abatement, public and local agencies' input, newly constructed development versus development pre-dating 1978, and the cost per benefited residence.

Feasibility of noise abatement is basically an engineering concern. A minimum 5-decibel reduction in the future noise level must be achieved for an abatement measure to be considered feasible. Other considerations include topography, access requirements, other noise sources, and safety considerations.

Affected Environment

Caltrans completed a noise study report in November 2010. The purpose of the study was to evaluate potential noise impacts of the proposed build alternatives for the project at the State Route 99/Betty Drive interchange in Goshen, California. A field investigation was conducted to identify land uses that could be subject to traffic and construction noise impacts from the proposed project.

Current noise levels were modeled for receptors along the project route using the Federal Highway Administration Traffic Noise Model Version 2.5 (TNM 2.5). Field measurements were recorded with a calibrated noise meter, while at the same time traffic counts were collected. The collected data was used to calibrate the traffic noise model, which was then used to predict peak hour noise levels for the existing and the build and no-build design years (2039)

The project lies in an urban setting, the terrain is generally flat and the freeway within the project area is mainly below-grade. The land uses fall primarily into the Activity Category C (commercial uses) and Activity Category B (single-family residences.)

The noise analysis for the project divided the area surrounding the Betty Drive interchange into Area A and Area B. Area A represents residential and commercial structures west of the proposed Betty Drive interchange, and Area B represents residential and commercial structures east of the proposed interchange (See Figure 2-2).

Within these two areas, Caltrans identified 10 sensitive receptors that represent nearby residences and commercial businesses that could be affected by the project, which are also shown in Figure 2-2. Receptors R1A and R1B represent single-family

residences in Area A and receptors R6 and R9 represent single-family residences in Area B.

Receptors R2 and R3 represent commercial businesses in Area A and receptors R4, R5, R7, and R8 represent commercial businesses in Area B. No outdoor areas associated with the commercial uses are considered to be areas of frequent human use.

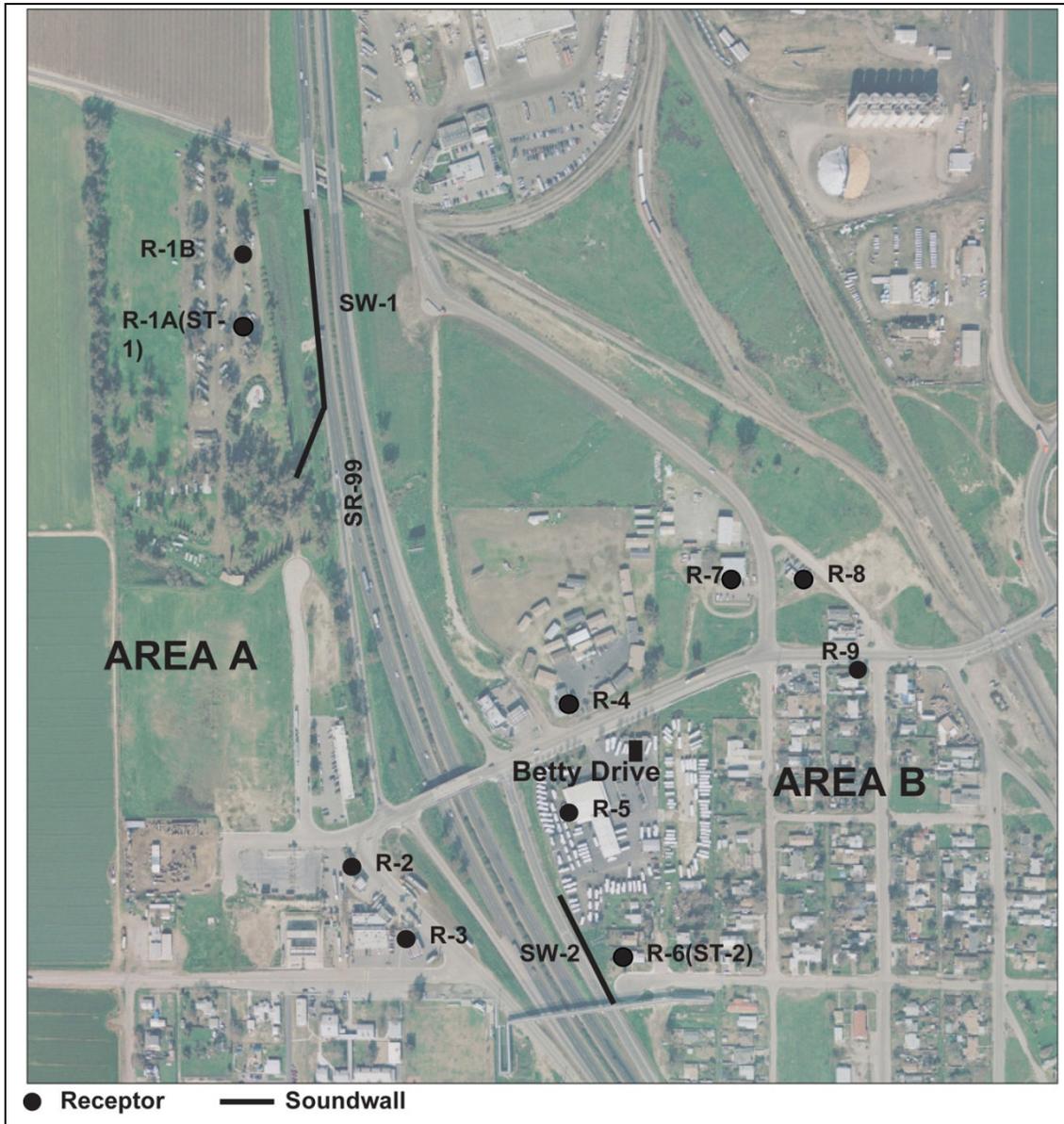


Figure 2-2 Receptors and Proposed Soundwall Locations

Environmental Consequences under National Environmental Policy Act

Table 2.8 shows the existing noise levels without the project, and predictions of future noise levels for the design year (2039) with and without the project.

The traffic noise modeling indicates that existing noise levels without the project for residential receptors range between 60 and 66 decibels. The traffic noise modeling indicates that all residential receptors are predicted to experience an increase in traffic noise levels. When noise levels approach or exceed 67 decibels for residential receptors, the noise abatement criterion is triggered.

The traffic noise modeling indicates that existing noise levels without the project for commercial receptors range between 64 and 71 decibels. The traffic noise modeling indicates that all commercial receptors are predicted to experience an increase in traffic noise levels except receptors R3 and R8. The noise abatement criterion for commercial businesses is approaching or exceeding 72 decibels.

Table 2.8 Noise Impact Analysis

| Receptor Number and Location | Existing Noise Level (dBA) | Predicted Noise Level without Project (dBA) | Predicted Noise Level with Project (dBA) | Noise Abatement Considered | Predicted Noise Level with Abatement (dBA) | | | Feasible | Reasonable |
|--|----------------------------|---|--|----------------------------|--|--------------|--------------|----------|------------|
| | | | | | 10-foot wall | 12-foot wall | 14-foot wall | | |
| R1A-6504 Betty Drive | 66 | 66 | 68 | YES | -- | 62 | -- | YES | NO |
| R1B-6504 Betty Drive | 65 | 65 | 67 | YES | -- | 62 | -- | YES | NO |
| R2-30821 Highway 99 | 71 | 72 | 72 | YES | -- | -- | -- | YES | NO |
| R3-6544 Avenue 308 | 70 | 71 | 69 | NO | -- | -- | -- | N/A | N/A |
| R4-6610 Betty Drive | 66 | 67 | 67 | NO | -- | -- | -- | N/A | N/A |
| R5-6544 Avenue 308 | 64 | 65 | 67 | NO | -- | -- | -- | N/A | N/A |
| R6-30827 Dollar Hide Road and Avenue 308 | 66 | 68 | 69 | YES | -- | 68 | -- | YES | NO |
| R7-30979 Road 67 | 66 | 68 | 70 | NO | -- | -- | -- | N/A | N/A |
| R8-30975 East Effie Drive | 64 | 66 | 64 | NO | -- | -- | -- | N/A | N/A |
| R9-30953 Juniper St | 60 | 67 | 62 | NO | -- | -- | -- | N/A | N/A |

Source: Caltrans Noise Study, November 2010

Receptors R1A and R1B represent three homes in the Wooden Shoe Recreational Vehicle Park, 6504 Betty Drive, in Goshen. The existing noise level at receptor R1A is 66 decibels and at receptor R1B it is 65 decibels. The future noise level at receptor R1A with the project is predicted to be 68 decibels and at R1B it is predicted to be 67 decibels. Because the predicted future noise levels exceed the noise abatement criterion for residences (67 decibels), the three homes represented by receptors R1A and R1B would be adversely affected by noise. To achieve a 5-decibel reduction, a 12-foot noise wall would be needed. If the total cost of the wall at this location is less than the total cost allowance, then the wall would likely be incorporated into the project. The total cost allowance, calculated in accordance with Caltrans' *Traffic Noise Analysis Protocol*, is \$175,000. The current estimated cost of the wall is \$316,000.

Receptor R2 represents a commercial receptor at 30821 State Route 99 in Goshen where the existing noise level is 71 decibels. The future noise level at receptor R2 with the project is predicted to be 72 decibels. Because the predicted future noise levels equals the noise abatement criterion for commercial uses (72 decibels), the commercial facility represented by receptor R2 would be adversely affected by noise, which requires consideration of noise abatement measures. However, Caltrans determined that sound abatement was not reasonable or feasible for this receptor because no outdoor area associated with this receptor was considered to be an area of frequent human use.

Receptor R3 represents a commercial receptor at 6544 Avenue 308 in Goshen, where the existing noise level is 70 decibels, and the future noise level is predicted to be 69 decibels. Because the predicted future noise levels is less than the noise abatement criterion for commercial uses (72 decibels), the commercial facility represented by receptor R3 would not be adversely affected by noise and noise abatement does not need to be considered.

Receptor R4 represents a commercial receptor at 6610 Betty Drive in Goshen where the existing noise level is 66 decibels. The future noise level at receptor R4 with the project is predicted to be 67 decibels, which is less than the noise abatement criterion for commercial uses (72 decibels). Therefore the commercial facility represented by receptor R4 would not be adversely affected by noise and noise abatement does not need to be considered.

Receptor R5 represents a commercial receptor at 6544 Avenue 308 in Goshen where measurements show the existing noise level is 64 decibels. The future noise level at

receptor R5 with the project is predicted to be 67 decibels. Because the predicted future noise levels is less than the noise abatement criterion for commercial uses (72 decibels), the commercial facility represented by receptor R5 would not be adversely affected by noise and noise abatement does not need to be considered.

Receptor R6 represents two homes at 30825 Dollar Hide Road and Avenue 308 in Goshen. The existing noise level at receptor R6 is 66 decibels, while the model predicts future noise levels with the project to be 69 decibels. Because the predicted future noise levels exceed the noise abatement criterion for residential uses (67 decibels), the two homes would be adversely affected by noise. To achieve a 5-decibel reduction, a 12-foot noise wall would be needed. If the total cost of the wall at this location is less than the total cost allowance, then the wall would likely be incorporated into the project. The total cost allowance, calculated in accordance with Caltrans' *Traffic Noise Analysis Protocol*, is \$175,000. The current estimated cost of the wall is \$218,000.

Receptor R7 represents a commercial receptor at 30979 Road 67 in Goshen where the existing noise level has been measured at 66 decibels, and the future noise level with the project is predicted to be 70 decibels. Because the predicted future noise levels is less than the noise abatement criterion for commercial uses (72 decibels), the commercial facility represented by receptor R7 would not be adversely affected by noise and noise abatement does not need to be considered.

Receptor R8 represents a commercial receptor at 30975 East Effie Drive in Goshen. Measurements taken at this receptor show the existing noise level is 64 decibels. The future noise level with the project is predicted to be 64 decibels. Because the predicted future noise levels is less than the noise abatement criterion for commercial uses (72 decibels), the commercial facility represented by receptor R8 would not be adversely affected by noise and noise abatement does not need to be considered.

Receptor R9 represents a home at 30953 Juniper Street in Goshen where the existing noise level is 60 decibels. The future noise level at this receptor with the project is predicted to be 62 decibels, which does not exceed the noise abatement criterion for residential uses (67 decibels). The home represented by receptors R9 would not be adversely affected by noise and noise abatement does not need to be considered.

Environmental Consequences under the California Environmental Quality Act

Under the California Environmental Quality Act, noise impact assessment entails looking at the setting of the proposed project and then how large or perceptible any

noise increase would be. 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 and businesses affected, and the absolute noise level. For work on state highways a 12-decibel increase is used as the significance threshold. Because the proposed work would not cause a 12-decibel increase, the project has no significant noise impacts under the California Environmental Quality Act.

Avoidance, Minimization, and/or Noise Abatement under the National Environmental Policy Act

Noise abatement, in the form of soundwalls, was considered for the residential receptors identified as approaching or exceeding the noise abatement criteria by the design year of 2039. Caltrans' Traffic Noise Analysis Protocol sets forth the criteria for determining when an abatement measure is reasonable and feasible. Feasible means that when constructed at the height and length recommended, the barrier would reduce local noise levels by 5 decibels or more.

Abatement is considered reasonable if a cost/benefit analysis indicates it to be prudent or practical expenditure of public funds. Whether the recommended sound abatement is a reasonable expenditure will be determined by comparing the reasonable costs to the engineer's estimate for each barrier. The total reasonable cost allowance, calculated in accordance with Caltrans' Traffic Noise Analysis Protocol, is \$45,000 per residence benefited.

The current estimated cost of a sound or noise wall for receptors R1A and R1B is \$316,000, which exceeds the total cost allowance of \$175,000 calculated in accordance with Caltrans' *Traffic Noise Analysis Protocol*. Because the cost of the wall does not meet the reasonableness criteria set out in the protocol, the preliminary noise abatement decision is that a soundwall is not recommended or proposed for this project. The barrier evaluated is identified as barrier SW-1 in Figure 2-2.

The current estimated cost of a sound or noise wall for receptor R6 is \$218,000, which exceeds the total cost allowance of \$175,000 calculated in accordance with Caltrans' *Traffic Noise Analysis Protocol*. On the basis that the cost of the wall does not meet the reasonableness criteria as provided in the protocol, the preliminary noise abatement decision is that a soundwall is not recommended or proposed for this project. The barrier evaluated is identified as barrier SW-2 in Figure 2-2.

The 2010 noise analysis indicated that the predicted increase in noise for receptor R2, a commercial facility, would be 72 decibels, which equals the noise abatement criterion of 72 decibels. The traffic noise modeling level results require consideration

of noise abatement because the noise level would equal the noise abatement criterion for commercial facilities.

For commercial and industrial establishments, soundwall barriers are considered only for affected sites where highway traffic noise would substantially impair the land use activity of areas of frequent human use. The frequent human use of areas such as parking lots, bikeways and golf courses is generally transitory in nature and these areas not considered to be “affected.” Furthermore, construction of such barriers may also interfere with the access to driveways and local cross streets that provide access to properties in some areas. Any break in the soundwall would affect the feasibility of the wall. Caltrans Section 2.8.3-d states that noise abatement is normally not considered reasonable for commercial areas. Caltrans determined that sound abatement was not reasonable or feasible for this receptor because no outdoor area associated with this receptor was considered to be an area of frequent human use. Noise abatement is not recommended at this location.

Construction

During construction, receptors close to the highway may experience temporary impacts. Noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. Control measures will be suggested in this document to minimize noise and vibration disturbances at sensitive receptors during construction.

During construction of the project, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. Construction noise is regulated by Caltrans Standard Specifications Section 7-1.011, Sound Control requirements which states that noise levels generated during construction shall comply with applicable local, state, and federal regulations, and that all equipment shall be fitted with adequate mufflers according to the manufacturers’ specifications.

No adverse noise impacts from construction are anticipated because construction would be conducted in accordance with Caltrans Standard Specifications Section 7-1.011 and applicable local noise impacts from construction:

- All equipment will have sound-control devices that are no less effective than those provided on the original equipment. No equipment will have an unmuffled exhaust.
- As directed by Caltrans, the contractor will implement appropriate additional noise mitigation 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

Avoidance, Minimization, and/or Noise Abatement under the California Environmental Quality Act

Caltrans has determined the project has no significant noise impacts under the California Environmental Quality Act; therefore, no avoidance, minimization, and/or noise abatement is required.

2.3 Biological Environment

2.3.1 Threatened and Endangered Species

The primary federal law protecting threatened and endangered species is the Federal Endangered Species Act: U.S. Code 16, 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 ecosystem 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 to ensure that they are not undertaking, funding, permitting or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of formal consultation under Section 7 is a Biological Opinion with an incidental take permit. Section 3 of Federal Endangered Species Act defines take as: “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or any attempt at such conduct.”

California has enacted a similar law at the state level, the California Endangered Species Act (Department of Fish and Game Code, Section 2050, et seq.). California’s 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 Department of Fish and Game is the agency responsible for implementing California Endangered Species Act. Section 2081 of the Department of Fish and Game Code prohibits “take” of any species determined to be an endangered or threatened species. For the purposes of code, take is defined in Section 86 as: “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill.” California Endangered Species Act allows for incidental take to otherwise lawful development

projects; for these actions an incidental take permit is issued by Department of Fish and Game. For projects requiring a Biological Opinion under Section 7 of the Federal Endangered Species Act, 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 Department of Fish and Game Code.

Affected Environment

Caltrans completed a Natural Environment Study in January 2011.

San Joaquin kit fox

San Joaquin kit fox is a federally endangered and state threatened species. San Joaquin kit foxes are active year-round and inhabit grassland, scrubland, oak woodland, alkali sink scrubland, and vernal pool and alkali meadow communities, but are also known to occur in extensively modified habitats such as oil fields and wind turbine facilities (United States Fish and Wildlife Service 1998). Kit foxes are present, but generally less abundant, in other highly modified landscapes such as agricultural row crops, irrigated pastures, orchards, and vineyards.

The kit fox requires 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. Dens are typically located in loose-textured soils on slopes less than 40 degrees. Kit foxes also frequently use human-made structures (culverts, abandoned pipelines, or banks in sumps or roadbeds) as den sites.

Although San Joaquin kit foxes were not observed during biological surveys, kit foxes have been known to occur within the immediate vicinity of the project site (California Natural Diversity Database 2010), and may occur on the agricultural lands of the project site as a potential transient forager.

Swainson's hawk

Swainson's hawk breed from late March to late August, with peak activity occurring in late May through July. Nests are a platform of sticks, bark, and fresh leaves built in a tree or bush, or on a utility pole from 4-100 feet above ground. Nests occur in open waterside habitat, in scattered trees, or in small groves in sparsely vegetated flatlands. Nests are usually found near water in the Central Valley, but they can also be found in arid regions.

Though no active Swainson's hawk nests were identified during surveys, potential nesting habitat does exist within the biological study area in the form of a small eucalyptus grove located within a mobile home park on the northern end of the project site.

Vernal Pool Fairy Shrimp

The vernal pool fairy shrimp is a federally threatened crustacean found in vernal pools (seasonal ponds) or vernal pool-like habitats. Vernal pool fairy shrimp are widely distributed in grassland habitats throughout California, but are not abundant in any one location. Two major habitat types are characteristic for this species: small, clear, sandstone rock pools surrounded by foothill grasslands or small grass or mud bottomed swales, or basalt flow depression pools in unplowed grasslands. Within the Central Valley, it is not uncommon for vernal pool fairy shrimp to also occupy disturbed sites that lack other species presence.

Vernal Pool Tadpole Shrimp

The vernal pool tadpole shrimp is a federally endangered crustacean found in vernal pools (seasonal ponds) or vernal pool-like habitats. Vernal pool tadpole shrimp are distinguished by a large, shield-like carapace, or shell, that covers the anterior half of their body. They have 35 to 71 pairs of phyllopods (leg-like appendages), a segmented abdomen, paired cercopods or tail-like appendages, and fused eyes. At maturity, they range in size from 0.6 to 3.3 inches in length. Species in the genus *Lepidurus* can be distinguished from members of the similar looking genus *Triops* by the presence of a supra-anal plate between their cercopods, which is lacking in *Triop*.

Environmental Consequences

San Joaquin kit fox

Although there are California ground squirrels present, none of the current burrows are of sufficient size to provide refuge to the San Joaquin kit fox. However, there is documentation of San Joaquin kit fox occurring within the biological study area (and within the immediate vicinity of the project site California Natural Diversity Database 2010).

The open agricultural fields provide suitable corridors for the movements of this animal. However, the biological study area contains very limited prey for the San Joaquin kit fox. While San Joaquin kit foxes may occur as transient foragers, they are unlikely to reside within the biological study area due to the continued disturbance

from nearby road traffic and commercial operations and the presence of more suitable habitat directly to the north and west of the project site.

The construction of the current Alternative 2 would permanently impact 9.44 acres of San Joaquin kit fox potential foraging habitat that is currently in agricultural production.

The construction of the current Alternative 4 would permanently impact 9.28 acres of San Joaquin kit fox potential foraging habitat that is currently in agricultural production.

Additional permanent and/or temporary impacts to San Joaquin kit fox potential foraging habitat may occur to adjacent habitat which is currently in agricultural production; however, specific acreages regarding these impacts would not be able to be determined until a preferred alternative is selected.

Swainson's hawk

The Swainson's hawk was historically regarded as one of the most numerous raptors in the state. The dramatic decline in the population of the Swainson's hawk has been attributed to the loss of native nesting and foraging habitat, and more recently to the loss of suitable nesting trees. This loss of nesting habitat within riparian areas has been accelerated by flood control practices and bank stabilization programs (California Department of Fish and Game, 2006).

Vernal Pool Fairy Shrimp and Vernal Pool Tadpole Shrimp

A total of 50 roadside depressions were identified and sampled for branchiopods within the biological study area. None of these roadside depressions contained any vegetation besides occasional algae. All of these depressions were highly disturbed and are exposed to continuous chemical runoff from nearby roads, litter and vehicular traffic. A few of these roadside depressions contained gas, oil or other lubricants that created a filmy layer along the surface of the water. The majority of these roadside depressions are exposed to sustained disturbance from vehicular traffic as they are in areas used as parking lots or dirt roads for the commercial businesses and residences in the area. Some, if not all, of these depressions may be affected by project construction depending upon the alternative selected.

Avoidance, Minimization, and/or Mitigation Measures

San Joaquin kit fox

A preconstruction survey and a standard special provision for San Joaquin kit fox would be included in the construction contract and would minimize impacts to this special-status species.

Impacts to potential kit fox habitat would be mitigated through the purchase of mitigation credits at a United States Fish and Wildlife Service approved mitigation bank.

Caltrans proposes to replace each acre of lost San Joaquin kit fox foraging habitat, due to project related impacts, with 1.1 acres of quality habitat for permanent impacts and 0.3 acre of quality habitat for temporary impacts at a US Fish and Wildlife Service-approved mitigation bank.

Swainson's hawk

A preconstruction survey for Swainson's hawk would be conducted within the biological study area and within a half mile radius around its boundaries. If an active Swainson's hawk nest is detected, minimization efforts would be coordinated with the California Department of Fish Game and may include a no-work buffer zone around an active nest and/or a qualified biologist would monitor an active nest during construction activities to ensure that no interference with the hawk's breeding activities would occur.

Vernal Pool Fairy Shrimp and Vernal Pool Tadpole Shrimp

Since all of these roadside depressions are highly disturbed and continuously exposed to chemical runoff from nearby roads, litter and vehicular traffic they are unsuitable and do not serve as habitat for either the vernal pool tadpole shrimp or the vernal pool fairy shrimp. Consequently, suitable habitat for the vernal pool tadpole shrimp and vernal pool fairy shrimp does not exist within the biological study area and no avoidance, minimization or mitigation measures are proposed for either the vernal pool tadpole shrimp or the vernal pool fairy shrimp.

2.3.2 Cumulative Affects

Cumulative effects include the effects of future state, tribal, local, or private actions that are certain to occur within and around the study area of the proposed project. Cumulative effects to biological resources could result from past, current, and reasonably foreseeable future projects within the region.

A cumulative effect assessment looks collectively at the impacts posed by individual land use projects. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. Land use activities can degrade habitat and species diversity through consequences such as displacement and fragmentation of habitats and populations, alteration of hydrology, contamination by pesticides and herbicides, erosion, sedimentation, disruption of migration corridors, changes in water quality, and introduction or promotion of predators.

The Caltrans project database was searched to determine if Caltrans is planning any state or federally funded projects within the project area. At the time of the search only two other projects, Goshen to Kingsburg 6-Lane Project and the Tulare to Goshen 6-Lane Project, were listed along State Route 99 within the vicinity of the Betty Drive Interchange Project. The Goshen to Kingsburg 6-Lane Project began construction in the fall of 2010, and the Tulare to Goshen 6-Lane Project is scheduled to begin construction during the summer of 2016. Both of these projects would independently mitigate for potential biological impacts.

The Tulare County Redevelopment Agency has proposed a project to divert non-local and truck traffic around the community of Goshen by widening Riggin Avenue (Avenue 312) to a four-lane divided road and realigning it into the existing and terminating Betty Drive alignment. This project is scheduled to be completed before the Betty Drive Interchange Project. The industrial area north of Visalia is growing rapidly and fueling the need for both of these projects. Planned mitigation efforts for these projects would minimize expected impacts.

Apart from the above mentioned projects, Caltrans is unaware of any new state, tribal, local, or private development that is planned within the project area. The proposed project is not expected to measurably accelerate growth in the project area. Based on the information provided, it has been determined that the proposed project improvements, with mitigation measures implemented, are not expected to cause measurable cumulative effects to the surrounding natural resources.

2.3.3 Invasive Species

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 an invasive species as: “any species, including its seeds, eggs, or spores, or other biological material capable of propagating that species, which is not native to that ecosystem, whose introduction does or is likely to

cause economic or environmental harm or harm to human health.” FHWA 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 NEPA analysis for a proposed project

Affected Environment

Caltrans completed a Natural Environment Study in January 2011.

Biological studies included the existing Caltrans right-of-way and a portion of privately owned parcels.

The majority of the project area has been developed for commercial, industrial, residential and agricultural land use. The few parcels of undeveloped land in the project area contain disturbed, non-native vegetation that is routinely disked for fire suppression.

Environmental Consequences

Two invasive plant species, Bermuda grass (*Cynodon dactylon*) and Russian thistle (*Salsola tragus*), listed on the California Invasive Plant Council’s Invasive Plant Inventory were found within the project limits

These species have severe or substantial impacts on physical processes, plant and animal communities and vegetation structure.

Imported and exported fill material have the greatest potential to spread invasive plants. The dispersal of invasive species in the area may also be caused by maintenance operations, such as mowing or the inadvertent inclusion of invasive species in seed mixes that are applied adjacent to the highway.

Avoidance, Minimization, and/or Mitigation Measures

The project would not include transportation of invasive plants and would not change the surrounding habitat to encourage immigration of invasive plants to the site. The proposed project is unlikely to aid the spread of invasive plant species because Caltrans would follow preventative measures.

In compliance with the Executive Order on Invasive Species, Executive Order 13112, and subsequent guidance from the Federal Highway Administration, the landscaping and erosion control included in the project would not use species listed as noxious weeds. In areas of particular sensitivity, extra precautions would be taken if invasive species were found in or adjacent to the construction areas. These include the

inspection and cleaning of construction equipment and eradication strategies to be implemented should an invasion occur.

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 gas related to human activity that include carbon dioxide (CO₂), 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 (AB 1493), California launched an innovative and pro-active approach to dealing with greenhouse gas 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 (EPA). The waiver was denied by EPA in December 2007. See *California v. Environmental Protection Agency*, 9th Cir. Jul. 25, 2008, and No. 08- 70011. However, on January 26, 2009, it was announced that EPA would reconsider their decision regarding the denial of California's waiver. On May 18, 2009, President Obama announced the enactment of a 35.5 mpg fuel economy standard for automobiles and light duty trucks which would take effect in 2012. This standard is the same standard that was proposed by California, and so the California waiver request has been shelved.

On June 1, 2005, 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 (AB 32), the Global Warming Solutions Act of 2006. AB 32 sets the same overall greenhouse gas emissions reduction goals while further mandating that California Air Resources Board create a plan, which includes market mechanisms, and implement rules to achieve “real, quantifiable, cost-effective reductions of greenhouse gases.” Executive Order S-20-06 further directs state agencies to begin implementing AB 32, including the recommendations made by the state’s Climate Action Team. With Executive Order S-01-07, Governor Schwarzenegger set forth the low carbon fuel standard for California. Under this executive order, the carbon intensity of California’s transportation fuels is to be reduced by at least 10 percent by 2020.

Climate change and greenhouse gas reduction are also concerns 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 EPA 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 EPA does have the authority to regulate greenhouse gas emissions. Despite the Supreme Court ruling, there are no promulgated federal regulations to date limiting greenhouse gas emissions.

On December 7, 2009, the EPA 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 (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆)--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.

According to *Recommendations by the Association of Environmental Professionals on How to Analyze GHG Emissions and Global Climate change in CEQA Documents* (March 5, 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 CEQA 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 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, 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

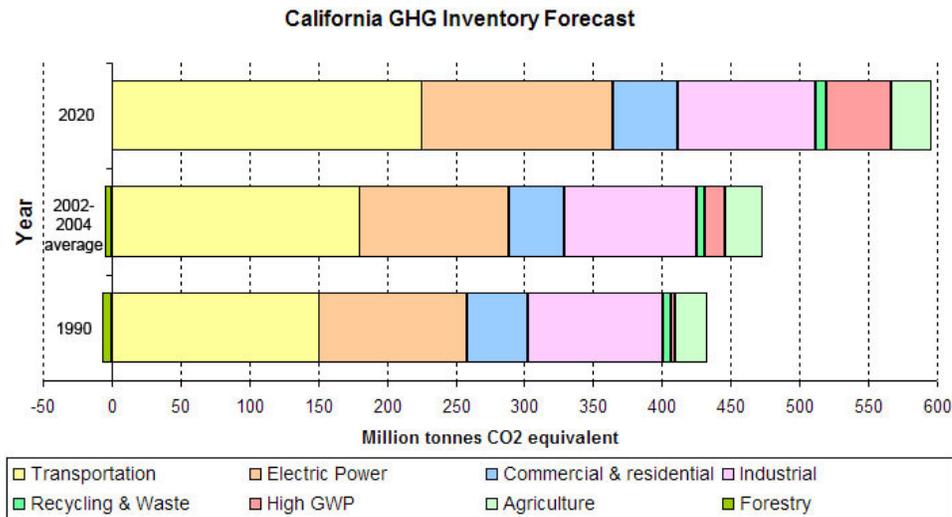


Figure 2-3 California Greenhouse Gas Inventory

Taken from : <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 at Caltrans that was published in December 2006. This document can be found at: <http://www.dot.ca.gov/docs/ClimateReport.pdf>

Project Analysis

One of the main strategies in Caltrans' Climate Action Program to reduce greenhouse gas emissions is to make California's transportation system more efficient. The highest levels of carbon dioxide from mobile sources, such as automobiles, occur at stop-and-go speeds (0-25 miles per hour) and speeds over 55 mph; the most severe emissions occur from 0-25 miles per hour (see Figure 2-3). To the extent that a project relieves congestion by enhancing operations and improving travel times in high congestion travel corridors greenhouse gas emissions, particularly carbon dioxide, may be reduced.

The Betty Drive Interchange Project build alternatives as proposed are expected to reduce congestion caused by deficient intersection capacity. Level of service would be improved by additional through lanes. Traffic is also anticipated to be improved by having turn lanes at the ramp intersections in the Betty Drive interchange. This would relieve the long delays at each stop-sign-controlled intersection for left-turn movements.

As shown in Table 2.9, the level of service is anticipated to improve or remain the same as existing conditions under both proposed build alternatives in the 2019 and 2039 projections.

Local traffic flow would be improved by Betty Drive becoming a through road connecting to the realigned Riggin (Avenue 312) on the east and to Avenue 308 on the west side of the interchange as planned in both alternatives in the September 2003 Project Study Report by Caltrans.

Although the proposed project would increase capacity, it is also expected to reduce congestion with additional lanes and improved flow of traffic. While carbon dioxide levels would increase over current (2007) conditions, overall emissions would decrease with both proposed future build alternative conditions when compared to the future no-build conditions (see Air Quality 2.2.4).

Carbon dioxide is a common indicator of the various greenhouse gases. Carbon dioxide and most of the greenhouse gases are not currently listed in the Clean Air Act as priority pollutants; therefore, there is no federal or state ambient air quality limit for these gasses. To obtain a general idea of the comparison between the build/no-

build alternatives, Caltrans has modeled the proposed project using CT-EMFAC (Emission Factor 2007).

The assumptions used in the model assume a non-peak hour prevailing free-flow speed of 30-50 miles per hour for the Build Alternatives 2 and 4 and less than 50 miles per hour for the No-Build Alternative. The results are as follows, in Table 2.9 and 2.10:

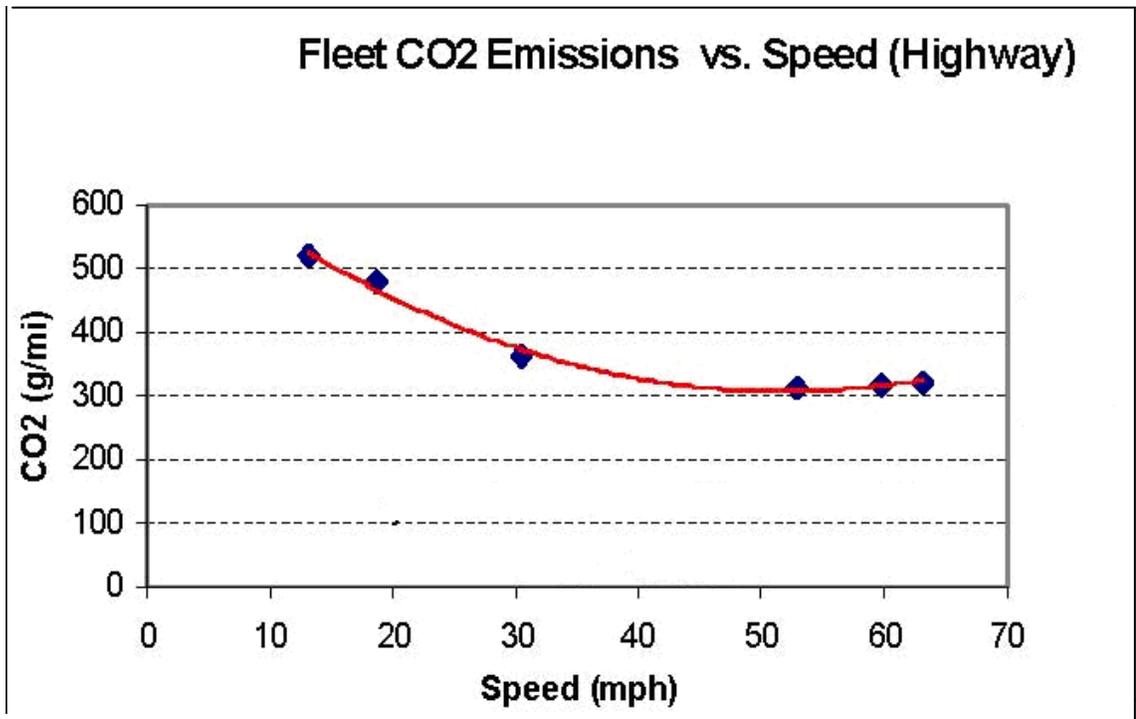
Table 2.9 Estimated Current Carbon Dioxide Emissions (Tons)

| 2007 (Current Year) | | | |
|---------------------|-----|------------------------|----------------|
| AADT | LOS | vehicle miles traveled | carbon dioxide |
| 41,070 | N/A | 17,736 | 8.758 |

Table 2.10 Estimated Future Carbon Dioxide Emissions (TONS)

| Future Build Year | AADT | Alternative 2 | Alternative 4 | No Build |
|-------------------|---------|---------------|---------------|----------|
| 2019 | 70,250 | 12.17 | 11.95 | 23.09 |
| 2039 | 146,700 | 26.48 | 28.14 | 39.23 |

Source: Caltrans Central Region Environmental Engineering EMFAC model runs October 2010



Source: Center for Clean Air Policy— [http://www.ccap.org/Presentations/Winkelman%20TRB%202004%20\(1-13-04\).pdf](http://www.ccap.org/Presentations/Winkelman%20TRB%202004%20(1-13-04).pdf)

Figure 2-4 Fleet Carbon Dioxide Emissions vs. Speed (Highway)

With the current science, project-level analysis of greenhouse gas emissions is limited. There are numerous key greenhouse gas variables that are likely to change dramatically during the design life of the proposed project and would thus dramatically change the projected carbon dioxide emissions

First, vehicle fuel economy is increasing. The Environmental Protection Agency's annual report, *Light-Duty Automotive Technology and Fuel Economy Trends: 1975 through 2008* (<http://www.epa.gov/oms/fetrends.htm>), which provides data on the fuel economy and technology characteristics of new light-duty vehicles including cars, minivans, sport utility vehicles, and pickup trucks, confirms that average fuel economy, has improved each year beginning in 2005, and is now the highest since 1993.

Most of the increase since 2004 is due to higher fuel economy for light trucks, following a long-term trend of slightly declining overall fuel economy that peaked in 1987. These vehicles also have a slightly lower market share, peaking at 52 percent in 2004, with projections at 48 percent in 2008.

Table 2.10 shows the alternatives for vehicle fuel economy increases currently being studied by the National Highway Traffic Safety Administration in its Draft Environmental Impact Statement for New Corporate Average Fuel Economy (CAFE) Standards (June 2008).

Table 2.10 Required Miles Per Gallon by Alternative

| 2015 Required Miles Per Gallon (mpg) by Alternative | | | | | | | |
|---|------|---------------------|-----------------------|---------------------|---------------------|----------------------------------|-----------------------|
| No-Build | | 25% Below Optimized | Optimized (Preferred) | 25% Above Optimized | 50% Above Optimized | Total Costs Equal Total Benefits | Technology Exhaustion |
| Cars | 27.5 | 33.9 | 35.7 | 37.5 | 39.5 | 43.3 | 52.6 |
| Trucks | 23.5 | 27.5 | 28.6 | 29.8 | 30.9 | 33.1 | 34.7 |

Second, near-zero carbon vehicles would come into the market during the design life of this project. According to a March 2008 report released by University of California Davis (UC Davis), Institute of Transportation Studies: “Large advancements have occurred in fuel cell vehicle and hydrogen infrastructure technology over the past 15 years. Fuel cell technology has progressed substantially resulting in power density, efficiency, range, cost, and durability all improving each year. In another sign of progress, automotive developers are now demonstrating over 100 fuel cell vehicles in California – several in the hands of the general public – with configurations designed to be attractive to buyers. Cold-weather operation and vehicle range challenges are close to being solved, although vehicle cost and durability improvements are required before a commercial vehicle can be successful without incentives.” The pace of development is on track to approach pre-commercialization within the next decade. “A number of the U.S. Department of Energy 2010 milestones for fuel cell vehicles development and commercialization are expected to be met by 2010. Accounting for a five- to six-year production development cycle, the scenarios developed by the U.S. DOE suggest that 10,000s of vehicles per year from 2015 to 2017 would be possible in a federal demonstration program, assuming large cost share grants by the government and industry are available to reduce the cost of production vehicles.”¹

Third and as previously stated, California has recently adopted a low-carbon transportation fuel standard. The California Air Resources Board is scheduled to

¹ Cunningham, Joshua, Sig Cronich, Michael A. Nicholas. March 2008. *Why Hydrogen and Fuel Cells are Needed to Support California Climate Policy*, UC Davis, Institute of Transportation Studies, pp. 9-10.

come out with draft regulations for low-carbon fuels in late 2008 while implementation of the standard began in 2010

Fourth, driver behavior has been changing as the U.S. economy and oil prices have changed. In its January 2008 report, *Effects of Gasoline Prices on Driving Behavior and Vehicle Market*, <http://www.cbo.gov/ftpdocs/88xx/doc8893/01-14-GasolinePrices.pdf> the Congressional Budget Office found the following results based on data collected from California: 1) freeway motorists have adjusted to higher gas prices by making fewer trips and driving more slowly; 2) the market share of sports utility vehicles is declining; and 3) the average prices for larger, less-fuel-efficient models have declined over the past five years as average prices for the most-fuel-efficient automobiles have risen, showing an increase in demand for the more fuel-efficient vehicles.

Taken from pp. 3-48 and 3-49 of the National Highway Traffic Safety Administration Draft Environmental Impact Statement for New Corporate Average Fuel Economy Standards (June 2008), Figure 2-5 illustrates how the range of uncertainties in assessing greenhouse gas impacts grows with each step of the analysis:

“Cascade of uncertainties typical in impact assessments showing the ‘uncertainty explosion’ as these ranges are multiplied to encompass a comprehensive range of future consequences, including physical, economic, social, and political impacts and policy responses.”

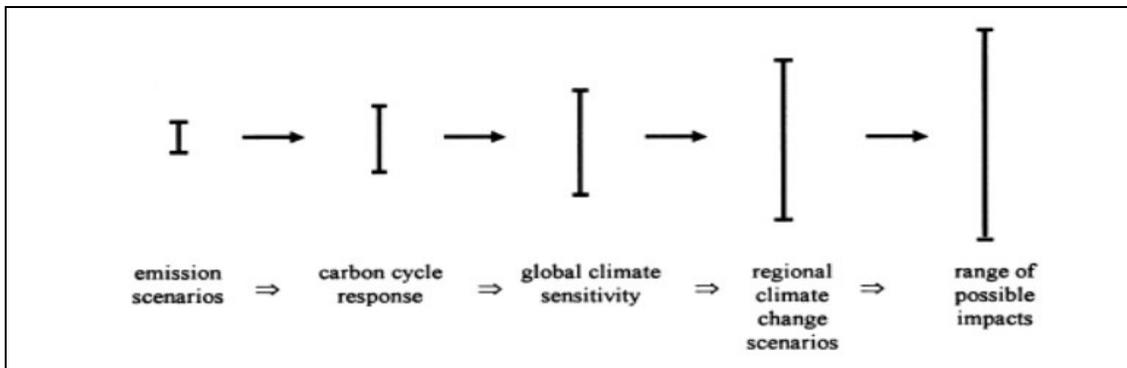


Figure 2-5 Cascade of Uncertainties

Much of the uncertainty in assessing an individual project’s impact on climate change surrounds the global nature of the climate change. Even assuming that the target of meeting the 1990 levels of emissions is met, there is no regulatory framework in place that would allow for a ready assessment of what the modeled 11.4- to 20.9-ton increase in carbon dioxide emissions would mean for climate change given the

overall California greenhouse gas emissions inventory of approximately 430 million tons of carbon dioxide equivalent. This uncertainty only increases when viewed globally

The IPCC has created multiple scenarios to project potential future global greenhouse gas emissions as well as to evaluate potential changes in global temperature, other climate changes, and their effect on human and natural systems. These scenarios vary in terms of the type of economic development, the amount of overall growth, and the steps taken to reduce greenhouse gas emissions. Non-mitigation IPCC scenarios project an increase in global greenhouse gas emissions by 9.7 up to 36.7 billion metric tons carbon dioxide from 2000 to 2030, which represents an increase of between 25 and 90 percent.²

The assessment is further complicated by the fact that changes in greenhouse gas emissions can be difficult to attribute to a particular project because the projects often cause shifts in the locale for some type of greenhouse gas emissions, rather than causing “new” greenhouse gas emissions. Although some of the emission increases might be new, a net global increase, reduction, or no change, is uncertain and there are no models approved by regulatory agencies that operate at the global or even statewide scale.

The complexities and uncertainties associated with project level impact analysis are further borne out in the recently released draft environmental impact statement completed by the National Highway Traffic Safety Administration Corporate Average Fuel Economy standards, June 2008. As the text quoted below shows, even when dealing with greenhouse gas emission scenarios on a national scale for the entire passenger car and light truck fleet, the numerical differences among alternatives is very small and well within the error sensitivity of the model.

“In analyzing across the Corporate Average Fuel Economy 30 alternatives, the mean change in the global mean surface temperature, as a ratio of the increase in warming between the B1 (low) to A1B (medium) scenarios, ranges from 0.5 percent to 1.1 percent. The resulting change in sea level rise (compared to the No Action Alternative) ranges, across the alternatives, from 0.04 centimeter to 0.07 centimeter. In summary, the impacts of the MY 2011-2015 Corporate Average Fuel Economy alternatives on global mean surface temperature, sea level rise, and precipitation are

² Intergovernmental Panel on Climate Change (IPCC). February 2007. *Climate Change 2007: The Physical Science Basis: Summary for Policy Makers*. <http://www.ipcc.ch/SPM2feb07.pdf>.

relatively small in the context of the expected changes associated with the emission trajectories. This is due primarily to the global and multi-sectoral nature of the climate problem. Emissions of carbon dioxide, the primary gas driving the climate effects, from the United States automobile and light truck fleet represented about 2.5 percent of total global emissions of all greenhouse gases in the year 2000 (EPA, 2008; CAIT, 2008). While a significant source, this is a still small percentage of global emissions, and the relative contribution of carbon dioxide emissions from the United States light vehicle fleet is expected to decline in the future, due primarily to rapid growth of emissions from developing economies (which are due in part to growth in global transportation sector emissions).” [NHTSA Draft Environmental Impact Statement for New Corporate Average Fuel Economy Standards, June 2008, pp. 3–77 to 3–78].

Caltrans recognizes the concern that carbon dioxide emissions raise for climate change. However, modeling and gauging the impacts associated with an increase in greenhouse gas emission levels, including carbon dioxide, at the project level is not currently possible. No federal, state, or regional regulatory agency has provided methodology or criteria for greenhouse gas emissions and climate change impact analysis. Therefore, Caltrans is unable to provide a scientific- or regulatory-based conclusion regarding whether the project’s contribution to climate change is cumulatively considerable.

CEQA Conclusion

Based on the above, it is Caltrans’ determination that in the absence of further regulatory or scientific information related to greenhouse gas emissions and CEQA significance, it is too speculative to make a determination regarding the project’s direct impact and its contribution on the cumulative scale to climate change.

However, as previously stated, Caltrans does anticipate a reduction in greenhouse gas emissions with the project. Caltrans is also taking further measures to help reduce energy consumption and greenhouse gas emissions. These measures are outlined in the following section.

Construction Emissions

Greenhouse gas emissions for transportation projects can be divided into those produced during construction and those produced during operations. Construction greenhouse gas emissions include emissions produced as a result of material processing, emissions produced by onsite construction equipment, and emissions arising from traffic delays due to construction. These emissions 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 implementing better traffic management during construction phases. In addition, with innovations such as longer pavement lives, improved traffic management plans, and changes in materials, the greenhouse gas emissions produced during construction can be mitigated to some degree by longer intervals between maintenance and rehabilitation events.

As a part of the Storm Water Pollution Prevention Plan that would be prepared for this project, there may be best management practice measures that would be included to minimize the potential for airborne dust generation, such as street sweeping, temporary construction entrances with tire washes, and water trucks that would apply water to the construction area to control dust.

Assembly Bill 32 Compliance

Caltrans continues to be actively involved on the Governor's Climate Action Team as California Air Resources Board works to implement the Governor's Executive Orders and help achieve the targets set forth in AB 32. Many of the strategies Caltrans is using to help meet the targets in AB 32 come from the California Strategic Growth Plan, which is updated each year. 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 2016.³ As shown on the figure below, the Strategic Growth Plan targets a significant decrease in traffic congestion below today's level and a corresponding reduction in greenhouse gas emissions. The Strategic Growth Plan proposes to do this while accommodating growth in population and the economy. A suite of investment options has been created that combined together 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 preservation, smart land use and demand management, and operational improvements.

³ Governor's Strategic Growth Plan, Fig. 1 (<http://gov.ca.gov/pdf/gov/CSGP.pdf>)

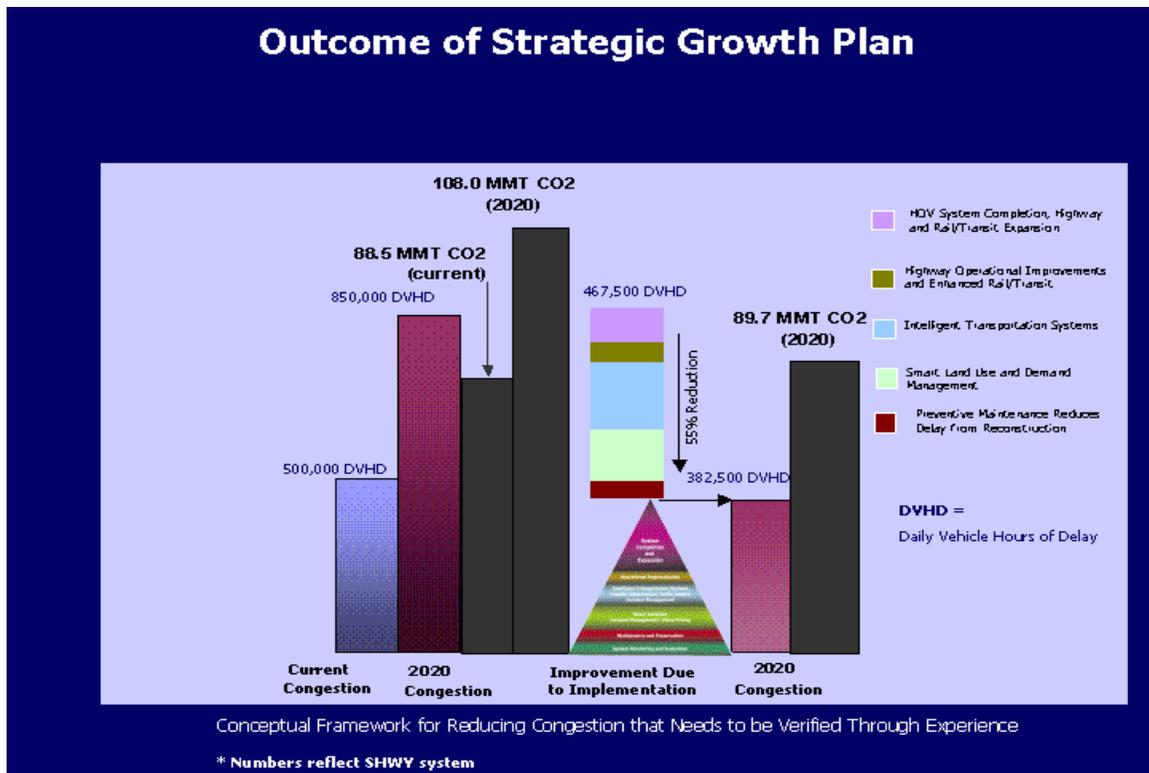


Figure 2-6 Outcome of Strategic Growth Plan

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/housing proximity, developing 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, light and heavy-duty trucks; Caltrans is doing this by supporting on-going research efforts at universities, by supporting legislative efforts to increase fuel economy, and by its participation on the Climate Action Team. It is important to note, however, that the control of the fuel economy standards is held by EPA and 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 UC Davis

Table 2.12 summarizes the internal and statewide efforts that Caltrans is implementing in order to reduce greenhouse gas emissions. For more detailed

information about each strategy, please see Climate Action Program at Caltrans
(December 2006); it is available at <http://www.dot.ca.gov/docs/ClimateReport.pdf>.

Table 2.12 Climate Change Strategies

| Strategy | Program | Partnership | | Method/Process | Estimated carbon dioxide 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, GEC | | 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 |
| Total | | | | | 2.72 | 18.67 |

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

- Mature vegetation should be preserved where possible. For this project, the emphasis would be to minimize disturbance and protect the existing vegetation. Minimize the effect of removal of the highway planting of Eucalyptus trees by providing funds of replacement planting within the project area in accordance with established Caltrans policy for replacement planting.
- All disturbed areas not to be paved should receive erosion control and storm water runoff control measures.
- Maximum recommended slopes for this project are 1:2 with transitions to 1:4 side slopes as soon as possible. The newly constructed slopes should be designed to aesthetically blend with the surrounding landscape. In order to comply with the Highway Design Manual and the National Pollutant Discharge Elimination System Storm Water Permit, the slope design would require the written concurrence of the District Landscape Architect, and may also require concurrence from District Maintenance and the District Storm Water Coordinator. The District Landscape Architect should be involved early in the design phase to help make the determination on slope design.

The State of California maintains several websites that provide public information on measures to improve renewable energy use, energy efficiency, water conservation and efficiency, land use and landscape maintenance, solid waste measures, and transportation alternatives.

Adaptation Strategies

“Adaptation strategies” are those measures that Caltrans and others can use to 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 longer periods of intense heat damaging roadbeds; increasingly intense storms causing additional flooding and erosion; and rising sea levels inundating infrastructure and communities. 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 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, 200, then-Governor Schwarzenegger signed Executive Order S-13-08 which directed a number of state agencies to address California's vulnerability to sea level rise caused by climate change.

The California Resources Agency [now the Natural Resources Agency, (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 can be implemented within and across state agencies to promote resiliency.

As part of its development of the climate adaptation strategy, 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 includes:

- The 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 vulnerability of transportation systems

to sea level rise affecting safety, maintenance and operational improvements of the system and economy of the state. Caltrans continues to work on assessing the transportation system vulnerability to climate change, including the effect of sea level rise.

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 from 2008 through 2013, or are routine maintenance projects as of the date of Executive Order S-13-08 may, but are not required to, consider these planning guidelines. This project has not yet been programmed for construction. 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

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system from increased precipitation and flooding; the increased frequency and intensity of storms and wildfires; rising temperatures; and rising sea levels. Caltrans is an active participant in the efforts being conducted as part of then-Governor Schwarzenegger's executive order on sea level rise and is mobilizing to be able to respond to the National Academy of Science report on *Sea Level Rise Assessment* which is due to be released by Summer 2012.

On August 3, 2009, Natural Resources Agency in cooperation and partnership with multiple state agencies released the 2009 California Climate Adaptation Strategy Discussion Draft, which summarizes the best known science on climate change impacts in seven specific sectors and provides recommendations on how to manage against those threats. The release of the draft document set in motion a 45-day public comment period. Led by the California Natural Resources Agency, numerous other state agencies were involved in the creation of discussion draft, including Environmental Protection; Business, Transportation and Housing; Health and Human Services; and the Department of Agriculture. The discussion draft focuses on sectors that include: Public Health; Biodiversity and Habitat; Ocean and Coastal Resources; Water Management; Agriculture; Forestry; and Transportation and Energy Infrastructure. The strategy is in direct response to Gov. Schwarzenegger's November

2008 Executive Order S-13-08 that specifically asked the Natural Resources Agency to identify how state agencies can respond to rising temperatures, changing precipitation patterns, sea level rise, and extreme natural events. As data continues to be developed and collected, the state's adaptation strategy would be updated to reflect current findings. A revised version of the report was posted on the Natural Resource Agency website on December 2, 2009; it can be viewed at <http://www.energy.ca.gov/2009publications/CNRA-1000-2009-027/CNRA-1000-2009-027-F.PDF>

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

Chapter 3 Comments and Coordination

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

January 21, 2010. A request was submitted to David Kelly, United States Fish and Wildlife Service biologist, to conduct non-project surveys for vernal pool branchiopods on the project site.

January 25, 2010. Approval to conduct non-protocol surveys for vernal pool branchiopods on the project site was received from David Kelly, United States Fish and Wildlife Service biologist.

On July 13, 2010 a meeting was held at Caltrans with a Natural Resource Conservation Service (NRCS) representative. The representative had attempted to complete a Farmland Conversion Impact Rating Form for the project. The form was completed incorrectly and the NRCS representative requested a meeting to clarify some questions. After the meeting the second form was completed incorrectly (the acreage figures entered by NRCS were incorrect). Caltrans was unable to obtain a correct form however; the 28 points impact rating is well below the 160 points threshold.

July 13, 2010. A sensitive species list was obtained from the following database query:

- United States Fish and Wildlife Service, Sacramento Office, Species List for the Goshen United States Geological Survey (USGS) 7.5-Minute Topographic Quadrangle
- California Natural Diversity Database species list for the Goshen United States Geological Survey (USGS) 7.5-Minute Topographic Quadrangle

- California Native Plant Society species list for the Goshen United States Geological Survey (USGS) 7.5-Minute Topographic Quadrangle

On July 13, 2010 a meeting was held with Chu Yang from the Natural Conservation Resource Services. Mr. Yang needed information regarding the exact area of impact in order to determine the impact to prime farmland in the project area. Mr. Yang determined from soil analyses that there was no prime farmland impacted.

The State of California maintains several websites that provide public information on measures to improve renewable energy use, energy efficiency, water conservation and efficiency, land use and landscape maintenance, solid waste measures, and transportation alternatives.

Chapter 4 List of Preparers

The following Caltrans Central Region staff prepared this document:

Sherry Alexander, Landscape Associate. Masters Degree in Landscape Architecture, California State Polytechnic University, Pomona, CA., three years of Landscape Architecture experience, 17 years planning (city, county, and state) experience. Contribution: Visual Impact Assessment May 20, 2010.

Bryan Apper, Senior Environmental Planner. M.A., Environmental Planning, California State University Consortium, Long Beach; B.A., English, California State University, Northridge; 26 years of environmental and transportation planning experience. Contribution: Reviewed document for Quality Assurance and Quality Control and for compliance with state and federal environmental regulations and guidance.

Rebecca Bakhoud, Transportation Engineering Technician. B.A., Liberal Studies/Education, Minor in Mathematics, California State University, San Bernardino; 9 years of CADD/Micro station support and visual design experience. Contribution: Graphic design of project vicinity and project location maps. .

Lori Bono, Biologist. Biology, Minor in Agricultural Business, Minor in Communicative Disorders, California State University, Fresno; A.S., College of the Sequoias, Visalia; 6 years of biology experience; 1.4 years of biology experience with Caltrans. Contribution: Wrote Natural Environmental Study January 2011.

Lucy Colwell, Environmental Planner. M.A., Education, National University; B.A., Management of Human Resources, Fresno Pacific University; 5 years of environmental planning experience. Contribution: Wrote Initial Study and coordinated the environmental process for the project.

Rajeev Dwivedi, Associate Engineering Geologist. Ph.D., Environmental Engineering, Oklahoma State University, Stillwater; 18 years of environmental technical studies experience. Contribution: Wrote Water Quality Study May 5, 2010.

Gary Gagliolo, Associate Environmental Planner. B.A., Biological Science with emphasis in molecular biology, California State University, San Jose; 21 years of environmental health, 2 years of water quality, and 7 years of hazardous waste and environmental planning experience. Contribution: Wrote Preliminary Site Investigation, August 25, 2009.

Marie (Terry) Goewert, Environmental Planner-Air Quality Specialist. B.S., Foods and Nutrition, Colorado State University; 12 years environmental compliance and 5 years environmental planning experience. Contribution: Air Quality Technical Study January 2011.

Joseph Llanos, Graphic Designer I. B.A., Graphic Design, California State University, Fresno; 14 years of visual design and public participation experience. Contribution: Graphic design of alternatives maps.

G. William "Trais" Norris, III, Senior Associate Environmental Planner. B.S., Urban Regional Planning, California State Polytechnic University, Pomona; 11 years of land use, housing, redevelopment, and environmental planning experience. Contribution: Reviewed document as Senior Environmental Planner.

Richard C. Stewart, Engineering Geologist, P.G. B.S., Geology, California State University, Fresno; 21 years of hazardous waste and water quality experience; 4 years of paleontology/geology experience. Contribution: Paleontological Identification Report, May 4, 2010.

Vallejo, Philip, Associate Environmental Planner (Architectural History) B.A. California State University, Fresno, 8 years of cultural resource experience. Contribution: Wrote Historic Property Survey Report, August 2010.

Vladimir Timofei, Transportation Engineer. M.S., Civil Engineering, California State University, Fullerton, 10 years of environmental technical studies experience. Contribution: Noise Study Report, October, 2010.

Brian Wickstrom, Associate Environmental Planner (Archaeology). M.A., Cultural Resources Management, Sonoma State University; 27 years of cultural resource experience. Contribution: Wrote Archaeological Survey Report, December 21, 2009.

Appendix A California Environmental Quality Act Checklist

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

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

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 building within a state scenic highway? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input 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 that would adversely affect day or nighttime views in the area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

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 checked="" type="checkbox"/> | <input 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, forestland (as defined in Public Resources Code | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?

- d) Result in the loss of forestland or conversion of forestland to non-forest use?
- e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forestland to non-forest use?

AIR QUALITY - Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:

- a) Conflict with or obstruct implementation of the applicable air quality plan?
- b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?
- c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?
- d) Expose sensitive receptors to substantial pollutant concentration?
- e) Create objectionable odors affecting a substantial number of people?

BIOLOGICAL RESOURCES - Would the project:

- a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?
- b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

CULTURAL RESOURCES - Would the project:

a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? Archaeological resources are considered "historical resources" and are covered under (a).

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

d) Disturb any human remains, including those interred outside of formal cemeteries?

GEOLOGY AND SOILS - Would the project:

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

ii) Strong seismic ground shaking?

| | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| iii) Seismic-related ground failure, including liquefaction? | <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 offsite 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 wastewater disposal systems where sewers are not available for the disposal of wastewater? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

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

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

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

c) Emit hazardous emissions or handle hazardous or acutely hazardous material, substances, or waste within one-quarter mile of an existing or proposed school?

d) Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

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

HYDROLOGY AND WATER QUALITY - Would the project:

a) Violate any water quality standards or waste discharge requirements?

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?

c) Substantially alter the existing drainage pattern of

the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on or offsite?

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 that would result in flooding on or offsite?

e) Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?

f) Otherwise substantially degrade water quality?

g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?

i) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?

j) Result in inundation by a seiche, tsunami, or mudflow?

LAND USE AND PLANNING - Would the project:

a) Physically divide an established community?

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

MINERAL RESOURCES - Would the project:

a) Result in the loss of availability of a known mineral

resource that would be of value to the region and the residents of the state?

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

NOISE - Would the project result in:

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

POPULATION AND HOUSING - Would the project:

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

PUBLIC SERVICES -

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:

| | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|
| Fire protection? | <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"/> |

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?

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

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

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

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?

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

b) Conflict with an applicable congestion management

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

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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Result in inadequate emergency access? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

UTILITY AND SERVICE SYSTEMS - Would the project:

- | | | | | |
|--|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Result in determination by the wastewater treatment provider that 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"/> |

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, 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 checked="" type="checkbox"/> | <input 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 that 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"/> |
|--------------------------|--------------------------|--------------------------|-------------------------------------|



Appendix B Title VI Policy Statement

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY

ARNOLD SCHWARZENEGGER, Governor

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE DIRECTOR
P.O. Box 942873, MS-49
SACRAMENTO, CA 94273-0001
PHONE (916) 654-5266
FAX (916) 654-6608
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.

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


CINDY MCKIM
Director

"Caltrans improves mobility across California"



Appendix C Summary of Relocation Benefits

Relocation Assistance Advisory Services

The California Department of Transportation (Caltrans) would provide relocation advisory assistance to any person, business, farm, or non-profit organization displaced as a result of Caltrans' acquisition of real property for public use. Caltrans would assist residential displacees in obtaining comparable decent, safe, and sanitary replacement housing by providing current and continuing information on sales prices and rental rates of available housing. Non-residential displacees would receive information on comparable properties for lease or purchase.

Residential replacement dwellings would be in equal or better neighborhoods, at prices within the financial means of the individuals and families displaced, and reasonably accessible to their places of employment. Before any displacement occurs, displacees would be offered comparable replacement dwellings that are open to all persons regardless of race, color, religion, sex, or national origin, and are consistent with the requirements of Title VIII of the Civil Rights Act of 1968. This assistance would also include supplying information concerning federal- and state-assisted housing programs, and any other known services being offered by public and private agencies in the area.

Residential Relocation Payments Program

For more information or a brochure on the residential relocation program, please contact G. William "Trais" Norris III at 855 M Street, Suite 200, Fresno, California, 93721, 559 445-6447.

The brochure on the residential relocation program is also available in English at http://www.dot.ca.gov/hq/row/pubs/residential_english.pdf and in Spanish at http://www.dot.ca.gov/hq/row/pubs/residential_spanish.pdf.

If you own or rent a mobile home that may be moved or acquired by Caltrans, a relocation brochure is available in English at http://www.dot.ca.gov/hq/row/pubs/mobile_eng.pdf and in Spanish at http://www.dot.ca.gov/hq/row/pubs/mobile_sp.pdf.

The Business and Farm Relocation Assistance Program

For more information or a brochure on the relocation of a business or farm, please contact G. William “Trais” Norris III at 855 M Street, Suite 200, Fresno, California, 93721, 559 445-6447.

The brochure on the business relocation program is also available in English at http://www.dot.ca.gov/hq/row/pubs/business_farm.pdf and in Spanish at http://www.dot.ca.gov/hq/row/pubs/business_sp.pdf.

Additional Information

No relocation payment received would be considered as income for the purpose of the Internal Revenue Code of 1954 or for the purposes of determining eligibility or the extent of eligibility of any person for assistance under the Social Security Act or any other federal law (except for any federal law providing low-income housing assistance).

Persons who are eligible for relocation payments and who are legally occupying the property required for the project would not be asked to move without being given at least 90 days advance notice, in writing. Occupants of any type of dwelling eligible for relocation payments would not be required to move unless at least one comparable “decent, safe, and sanitary” replacement residence, open to all persons regardless of race, color, religion, sex, or national origin, is available or has been made available to them by the state.

Any person, business, farm, or non-profit organization, which has been refused a relocation payment by Caltrans, or believes that the payments are inadequate, may appeal for a hearing before a hearing officer or the Caltrans’ Relocation Assistance Appeals Board. No legal assistance is required; however, the displacee may choose to obtain legal counsel at his/her expense. Information about the appeal procedure is available from Caltrans’ Relocation Advisors.

The information above is not intended to be a complete statement of all of Caltrans’ laws and regulations. At the time of the first written offer to purchase, owner-occupants are given a more detailed explanation of the state’s relocation services. Tenant occupants of properties to be acquired are contacted immediately after the first written offer to purchase, and also given a more detailed explanation of Caltrans’ relocation programs.

Important Notice

To avoid loss of possible benefits, no individual, family, business, farm, or non-profit organization should commit to purchase or rent a replacement property without first contacting a Department of Transportation relocation advisor at the following address:

State of California
Department of Transportation, District 6
855 M Street, Suite 200
Fresno, CA 93721



Appendix D Minimization and/or Mitigation Summary

Relocation

All temporary impacts to businesses during construction will be minimized through implementation of the Traffic Management Plan that would be developed during final design. A Traffic Management Plan would identify appropriate access to businesses in the project area. During construction, some business properties in the project area may have alternate access via local streets. Caltrans would ensure that there are shared access agreements in order for these businesses to remain accessible during construction. All potential hardship to businesses will also be minimized through implementation of the Uniform Act.

- Caltrans will work to ensure that persons displaced are treated fairly, consistently and equitably so that such persons will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole.
- The Relocation Advisory Assistance Program, which is to aid in the locating of a suitable replacement property.
- Relocation Payments for the displacee for certain costs involved in the move to the new property, can be either “actual reasonable moving costs,” “self-move agreement,” or “in lieu” payment.
- Loss of goodwill is considered an acquisition cost.
- Displaced businesses, farms and nonprofit organizations are entitled to reimbursement for actual reasonable expenses incurred in searching for a replacement property.
- Displaced businesses, farms and nonprofit organizations may be eligible for a payment for the actual direct loss of tangible personal property, which is incurred as a result of the move or discontinuance of the operation.
- Displaced businesses, farms and nonprofit organizations may be eligible for a payment, not to exceed \$10,000, for expenses actually incurred in relocation and reestablishing the enterprise at the replacement site.

- All displacees will be offered relocation advisory assistance for the purpose of locating a replacement property.

Utilities/Emergency Services

Since Parson Drive is within the access control boundaries for the proposed interchange, Alternatives 2 and 4 propose to mitigate this impact by providing a new road alignment for access to the mobile home park west of the interchange. New alignments for utilities that serve the mobile home park will be provided west of the interchange as well, either by easement on private property or within new roads, pending discussion with the utility companies and Tulare County.

In general, interruptions (if any) of services to utility users or customers would be minimal. A Transportation Management Plan would be in place to ensure timely access for law enforcement, fire and other emergency services.

- Public information is to be disseminated through the use of brochures, mailers, press releases, radio announcements and other media outlets about construction activities that will inform the public about the project in planning any trips. Such information can reduce congestion by allowing the public to make decisions concerning trip routing, trip timing, detour use, and overall driver expectations when traveling through the project site. Reduced congestion resulting from an effective public information campaign can help reduce traffic delays through the project site such that the needs of emergency services can be addressed.
- The transportation management plan includes provisions for the use of Changeable Message Signs that will provide warning to motorists that are approaching the project site about any special driving conditions that drivers should be aware of for navigating through or around the project site. Such timely information can help to maintain smooth traffic operations, help improve traffic safety, and can help address the needs of emergency services by reducing congestion as well as informing emergency service vehicles traveling through the area.
- The transportation management plan includes planned use of the Central Valley Traffic Management Center, which reduces congestion by monitoring traffic and providing timely information related to traffic conditions which could affect the safe movement of people and property in the vicinity of the project site, as well as throughout the Central Valley. The traffic management center uses live radio and television reports during morning and evening commute hours to provide this information.

- The transportation management plan includes planned use of the Central Valley Traffic Management Center, which reduces congestion by monitoring traffic and providing timely information related to traffic conditions which could affect the safe movement of people and property in the vicinity of the project site, as well as throughout the Central Valley. The traffic management center uses live radio and television reports during morning and evening commute hours to provide this information.
- The transportation management plan includes use of construction strategies such as temporary use of freeway shoulders, temporary lane closures and night time work that are intended to reduce congestion by coordinating lane closures with traffic capacity needs, conducting construction activities during lower or non-peak traffic volume periods, and using available roadway elements as necessary to maintain traffic capacity through the project construction site.
- The transportation management plan includes provision for use of California Highway Patrol officers to be stationed at the project site under the Construction Zone Enhanced Enforcement Zone Program (COZEEP). Use of COZEEP is intended to provide incident management where lane closures are made by helping to ensure orderly flow of traffic through the construction area.

Traffic and Transportation/Pedestrian and Bicycle Facilities

During construction, a traffic management plan would help reduce traffic delays, congestion, and accidents. Standard Caltrans construction practices include information on roadway conditions, portable changeable message signs, lane and road closure, advance warning signs, alternate routes, reverse and alternate traffic control, and a traffic contingency plan for unforeseen circumstances and emergencies.

The Caltrans Public Affairs Office would keep the local media informed of construction progress and information pertaining to delays, closures, and major changes in traffic patterns with information provided by the resident engineer.

A Construction Zone Enhanced Enforcement Program may be appropriate during portions of this project. The program involves the continuous presence of the California Highway Patrol in construction zones to serve as a reminder to motorists to slow down and use caution when traveling through work areas. The Caltrans Construction Division would be consulted to determine if the program is warranted for this project.

Visual/Aesthetics

This project is adjacent to some projects that will widen the State Route 99 corridor from four to six lanes to the ultimate transportation corridor of eight lanes.

Replacement of highway planting for future capacity increasing projects is addressed in Caltrans policy. Future projects in the project area will be evaluated for visual impacts. Current policy requires replacement of any highway planting removed or damaged as a result of construction activity. This replacement planting must be funded from the highway construction project and must be under construction within two years of the acceptance of the highway contract that removed the highway planting. Failure to provide replacement planting per Caltrans' policy will likely result in adverse visual impacts per CEQA guidelines. Seventeen mature Eucalyptus trees will be removed with either build alternative. In addition to the Caltrans replacement policy, the community would also expect replacement of the trees.

The following design features would mitigate visual impacts:

- Minimize visual inconsistencies by providing an interchange design in keeping with the character of the structures on State Route 99 within Tulare County. This can be accomplished by using the same or similar design as the existing pedestrian overcrossing to the south of the replacement structure, such as flared columns and the incorporation of architectural features in keeping with the Route 99 Corridor Enhancement Master Plan. For example, Tulare County has chosen the color green to be used as an enhancement stripe for aesthetic purposes on bridge structures.
- Stain median barriers to visually match the color and incorporate any architectural details of the existing concrete median barrier through Tulare County.
- Mature vegetation should be preserved where possible. For this project, the emphasis will be to minimize disturbance and protect the existing vegetation. Minimize the effect of removal of the highway planting of Eucalyptus trees by providing funds of replacement planting within the project area in accordance with established Caltrans policy for replacement planting.
- All disturbed areas not to be paved should receive erosion control and storm water runoff control measures.
- Maximum recommended slopes for this project are 1:2 with immediate transitions to 1:4 side slopes when feasible. The newly constructed slopes should be designed to aesthetically blend with the surrounding landscape. In order to comply with the Highway Design Manual and the National Pollutant Discharge

Elimination System Storm Water Permit, the slope design will require the written concurrence of the District Landscape Architect, and may also require concurrence from the District Maintenance and the District Storm Water Coordinators. The District Landscape Architect should be involved early in the design phase to help make the determination on slope design.

Cultural Resources

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

If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall cease in any area or nearby area suspected to overlie remains, and the County Coroner contacted. Pursuant to Public Resources Code Section 5097.98, if the remains were thought to be Native American, the coroner would notify the Native American Heritage Commission, who would then notify the Most Likely Descendent. At this time, the person who discovered the remains would contact the District 6 Central California Cultural Resources Branch Chief so that they may work with the Most Likely Descendent on the respectful treatment and disposition of the remains. Further provisions of Public Resources Code Section 5097.98 are to be followed as applicable.

Paleontology

Before construction mitigation measures that will be outlined in a Paleontological Evaluation Report would be implemented to reduce potential adverse impacts to substantial paleontological resources resulting from construction. In areas determined to have a high potential for substantial paleontological resources, an adequate program for mitigating the impact of development should include:

- Preliminary survey and surface salvage prior to construction.
- Monitoring and salvage during excavation.
- Preparation, such as screen washing to recover small specimens (if applicable), and specimen preparation to a point of stabilization and identification.
- Identification, cataloging, curation, and storage of specimens.
- Preparation of a final report of the finds and their significance, after all operations are complete.

Development of a site-specific Paleontological Mitigation Plan will assist Caltrans in complying with environmental laws and regulations requiring mitigation of impacts

on paleontological macrofossil resources if found within the project. Components of a Paleontological Mitigation Plan are:

Hazardous Waste or Materials

Caltrans' policy is to avoid contaminated properties if possible, to have responsible parties accept responsibility for remediation, and to seek reimbursement from responsible parties when Caltrans must conduct a remediation as part of the project development process. In situations where contaminated property must be acquired in order for a project to proceed, acquisition of contaminated property may occur only after an adequate site investigation of the property has been conducted and the cost of the remediation has been considered in the appraisal and acquisition process. It is Caltrans' policy to remediate project related contamination prior to Plan Specification and Estimates submittal for advertising whenever possible, reasonable, and feasible in order to minimize potential construction delays and change orders. This includes remediation by the responsible party whenever possible or by Caltrans when necessary. In cases where remediation of project related contamination prior to construction is not feasible, an exception must be approved by the Regional or District Director. Examples of such situations include cases where remediation prior to construction cannot be scheduled or cases where remediation prior to construction would require excavation, backfill and then re-excavation of the backfilled soil during construction.

Caltrans' policy is that no property acquisition shall take place until hazardous waste/material investigation reports have been completed and appraisals reflect the findings. When a Certificate of Sufficiency is requested for the project, the Caltrans Central Region Hazardous Waste Branch will complete the Hazardous Materials Disclosure Document (HMDD), which clears the property conditionally or unconditionally or requires the preparation of an exception request to purchase the contaminated property. Caltrans would pursue site remediation by the property owner prior to property transfer and prior to project construction. If the property owner cannot or will not investigate and remediate the site, Caltrans would take responsibility for site remediation prior to project construction if time allows or remediate during construction if necessary. The Legal Division would be engaged to seek cost reimbursement from the owner and/or responsible parties for remediation.

With regards to the project stained soil at the agricultural well and above ground storage tank should be excavated, stockpiled and analyzed to determine if hazardous. Soil determined to be hazardous shall be disposed according to soil classification.

Arco Mini-mart and Goshen Travel Plaza

If Alternative 2 is chosen, and full parcel acquisition is pursued, the Arco and Goshen Travel Plaza would need to be decommissioned under direction of the Tulare County Environmental Health Division (TCEHD). Decommissioning would include removal of the USTs, any above ground storage tanks; product lines and fuel pump islands. Soil and/or groundwater samples would be required and a report of findings would be prepared at that time. If contamination were found, the responsible party would be required to define the lateral and vertical extent of the contamination and to remediate the site to regulatory standards. If the property could not be avoided and contamination was found, mitigation cost estimates could be as high as 1 million dollars

If partial parcel acquisition were pursued in the area investigated, it is not likely that special health and safety, soil handling, or disposal activities within the planned roadway improvements would be required.

The Arco station has not been included in this investigation therefore; Caltrans should not pursue full or partial acquisition requiring construction at or near the area of the former leaking underground storage tanks, until such time as the regulatory agencies “clean close” the LUST case.

If Alternative 4 is chosen, full parcel acquisition of the Arco and Goshen Travel Plaza will not be required. However, full parcel acquisition of the fuel service station doing business as Valero Gas Station, will be required and will require decommissioning under direction of the Tulare County Environmental Health Division.

If partial parcel acquisition were pursued in the area investigated, it is not likely that special health and safety, soil handling, or disposal activities within the planned roadway improvements would be required

Goshen OC Bridge No. 46-0175

In accordance with San Joaquin Valley Air Pollution Control District (SJVAPCD) Regulation IV, Rule 4002, written notification to SJVAPCD is required ten working days prior to commencement of any demolition activity (whether asbestos is present or not).

Air Quality

The highest carbon monoxide emissions occur at very low speeds, during stop and go traffic and when vehicles undergo a cold start (the vehicle has been sitting for at least 8 hours). The project is not expected to result in higher carbon monoxide

concentrations for the following reasons: bus traffic will be directed west and north of the school to wait for students and not all waiting in front of the school; there is expected to be less carbon monoxide emission from future model years gasoline and diesel vehicles; and the proposed alternatives would provide a better Level of Service on nearby streets and ramps.

Project design includes paved shoulders which should minimize particulate matter and re-entrained dust.

A rough estimate of the project acreage and scope indicates that his project would be subject to the San Joaquin Valley Air Pollution Control District rule 9510 (Indirect Source Review), requiring mitigating NO_x and PM₁₀ construction emissions. Caltrans is now requiring contractors to be responsible for submitting the Rule 9510 Air Impact Analysis as well as the dust control plan to the Air District prior to beginning construction.

- Caltrans Standard Specifications pertaining to dust control and dust palliative requirement is a required part of all construction contracts and should effectively reduce and control emission impacts during construction. The provisions of Caltrans Standard Specifications, Section 7-1.0F “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.

Most of the construction impacts to air quality are short-term in duration and, therefore, will not result in adverse or long-term conditions. Implementation of the following measures will reduce any air quality impacts resulting from construction activities:

- The construction contractor must comply with Caltrans’ Standard Specifications Section 7-1.01F and Section 10 of Caltrans’ Standard Specifications (1999).
 - Section 7, "Legal Relations and Responsibility," addresses the contractor's responsibility on many items of concern, such as: air pollution; protection of lakes, streams, reservoirs, and other water bodies; use of pesticides; safety; sanitation; and convenience of the public; and damage or injury to any person or property as a result of any construction operation. Section 7-1.01F specifically requires compliance by the contractor with all applicable laws and regulations related to air quality, including air pollution control district and air quality management district regulations and local ordinances.
 - Section 10 is directed at controlling dust. If dust palliative materials other than water are to be used, material specifications are contained in Section 18.

- Apply water or dust palliative to the site and equipment as frequently as necessary to control fugitive dust emissions.
- Spread soil binder on any unpaved roads used for construction purposes, and all project construction parking areas.
- Wash off trucks as they leave the right-of-way as necessary to control fugitive dust emissions.
- Properly tune and maintain construction equipment and vehicles. Use low-sulfur fuel in all construction equipment as provided in California Code of Regulations Title 17, Section 93114.
- Develop a dust control plan documenting sprinkling, temporary paving, speed limits, and expedited revegetation of disturbed slopes as needed to minimize construction impacts to existing communities.
- Locate equipment and materials storage sites as far away from residential and park uses as practical. Keep construction areas clean and orderly.
- Establish ESAs for sensitive air receptors within which construction activities involving extended idling of diesel equipment would be prohibited, to the extent that is feasible.
- Use track-out reduction measures such as gravel pads at project access points to minimize dust and mud deposits on roads affected by construction traffic.
- Cover all transported loads of soils and wet materials prior to transport, or provide adequate freeboard (space from the top of the material to the top of the truck) to reduce PM10 and deposition of particulate matter during transportation.
- Remove dust and mud that are deposited on paved, public roads due to construction activity and traffic to decrease particulate matter.
- Route and schedule construction traffic to avoid peak travel times as much as possible, to reduce congestion and related air quality impacts caused by idling vehicles along local roads.
- Install mulch or plant vegetation as soon as practical after grading to reduce windblown particulate in the area

Climate change is analyzed in Chapter 2 under “Climate Change (CEQA).” Neither EPA nor FHWA has promulgated explicit guidance or methodology to conduct project-level greenhouse gas analysis. As stated on FHWA’s climate change website (<http://www.fhwa.dot.gov/hep/climate/index.htm>), climate change considerations should be integrated throughout the transportation decision-making process—from

planning through project development and delivery. Addressing climate change mitigation and adaptation up front in the planning process will facilitate decision-making and improve efficiency at the program level, and will inform the analysis and stewardship needs of project level decision-making. Climate change considerations can easily be integrated into many planning factors, such as supporting economic vitality and global efficiency, increasing safety and mobility, enhancing the environment, promoting energy conservation, and improving the quality of life.

Because there have been more requirements set forth in California legislation and executive orders regarding climate change, the issue is addressed in the CEQA chapter of this environmental document and may be used to inform the NEPA decision. The four strategies set forth by FHWA to lessen climate change impacts do correlate with efforts that the State has undertaken and is undertaking to deal with transportation and climate change; the strategies include improved transportation system efficiency, cleaner fuels, cleaner vehicles, and reduction in the growth of vehicle hours traveled.

Noise Abatement under the National Environmental Policy Act

During construction of the project, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. Construction noise is regulated by Caltrans Standard Specifications Section 7-1.011, Sound Control requirements which states that noise levels generated during construction shall comply with applicable local, state, and federal regulations, and that all equipment shall be fitted with adequate mufflers according to the manufacturers' specifications.

Biology

San Joaquin kit fox

A preconstruction survey and a standard special provision for San Joaquin kit fox will be included in the construction contract and would minimize impacts to this special-status species.

Impacts to potential kit fox habitat will be mitigated through the purchase of mitigation credits at a United States Fish and Wildlife Service approved mitigation bank.

Caltrans proposes to replace each acre of lost San Joaquin kit fox foraging habitat, due to project related impacts, with 1.1 acres of quality habitat for permanent impacts

and 0.3 acres of quality habitat for temporary impacts at a United States Fish and Wildlife Service approved mitigation bank

Swainson's hawk

A preconstruction survey for Swainson's hawk will be conducted within the Biological Study Area and within a half mile radius around the Biological Study Area. If an active Swainson's hawk nest is detected minimization efforts will be coordinated with the California Department of Fish Game and may include a no work buffer zone around an active nest and/or a qualified biologist will monitor an active nest during construction activities to ensure that no interference with the hawk's breeding activities will occur.

Vernal Pool Fairy Shrimp and Vernal Pool Tadpole Shrimp

Since all of these roadside depressions are highly disturbed and continuously exposed to chemical runoff from nearby roads, litter and vehicular traffic they are unsuitable and do not serve as habitat for either the vernal pool tadpole shrimp or the vernal pool fairy shrimp. Consequently, suitable habitat for the vernal pool tadpole shrimp and vernal pool fairy shrimp does not exist within the Biological Study Area and no avoidance, minimization or mitigation measures are proposed for either the vernal pool tadpole shrimp or the vernal pool fairy shrimp

Invasive Species

The project would not include transportation of invasive plants and would not change the surrounding habitat to encourage immigration of invasive plants to the site. The proposed project is unlikely to aid the spread of invasive plant species because Caltrans would follow preventative measures.

In compliance with the Executive Order on Invasive Species, Executive Order 13112, and subsequent guidance from the Federal Highway Administration, the landscaping and erosion control included in the project would not use species listed as noxious weeds. In areas of particular sensitivity, extra precautions would be taken if invasive species were found in or adjacent to the construction areas. These include the inspection and cleaning of construction equipment and eradication strategies to be implemented should an invasion occur.



Appendix E Farmland Impact Rating

| U.S. Department of Agriculture | | | | | | |
|---|--|--|---|--|------------------------|-----------------------|
| FARMLAND CONVERSION IMPACT RATING | | | | | | |
| PART I (To be completed by Federal Agency) | | | Date Of Land Evaluation Request 4/29/10 | | | |
| Name Of Project Betty Drive Intersection PM 39.6/41.3 | | Federal Agency Involved CA Dept of Transportation | | | | |
| Proposed Land Use Highway Project | | County And State Tulare, California | | | | |
| PART II (To be completed by NRCS) | | | Date Request Received By NRCS | | | |
| Does the site contain prime, unique, statewide or local important farmland? (If no, the FPPA does not apply -- do not complete additional parts of this form). | | | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Acres Irrigated 550342 | Average Farm Size 223 |
| Major Crop(s) citrus, cotton, alfalfa | Farmable Land In Govt. Jurisdiction Acres: 638789 % 21 | Amount Of Farmland As Defined In FPPA Acres: 867965 % 28 | | | | |
| Name Of Land Evaluation System Used California Storie System | Name Of Local Site Assessment System none | Date Land Evaluation Returned By NRCS 7/23/10 | | | | |
| PART III (To be completed by Federal Agency) | | | Alternative Site Rating | | | |
| | | | Site A | Site B | Site C | Site D |
| A. Total Acres To Be Converted Directly | | | 6.1 | 11.6 | | |
| B. Total Acres To Be Converted Indirectly | | | 0.0 | | | |
| C. Total Acres In Site | | | 6.1 | 11.6 | 0.0 | 0.0 |
| PART IV (To be completed by NRCS) Land Evaluation Information | | | | | | |
| A. Total Acres Prime And Unique Farmland | | | 76.1 * | 21.9 * | | |
| B. Total Acres Statewide And Local Important Farmland | | | | 24.4 * | | |
| C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted | | | 0.02 | 0.01 | | |
| D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value | | | N/A | N/A | | |
| PART V (To be completed by NRCS) Land Evaluation Criterion Relative Value Of Farmland To Be Converted (Scale of 0 to 100 Points) | | | 72 | 70 | 0 | 0 |
| PART VI (To be completed by Federal Agency) Site Assessment Criteria (These criteria are explained in 7 CFR 658.5(b)) | | | Maximum Points | | | |
| 1. Area In Nonurban Use | | | 15 | 0 | 0 | |
| 2. Perimeter In Nonurban Use | | | 10 | 0 | 0 | |
| 3. Percent Of Site Being Farmed | | | 20 | 0 | 0 | |
| 4. Protection Provided By State And Local Government | | | 20 | 0 | 0 | |
| 5. Distance From Urban Bullup Area | | | 15 | 0 | 0 | |
| 6. Distance To Urban Support Services | | | 15 | 10 | 10 | |
| 7. Size Of Present Farm Unit Compared To Average | | | 10 | 1 | 1 | |
| 8. Creation Of Nonfarmable Farmland | | | 10 | 3 | 3 | |
| 9. Availability Of Farm Support Services | | | 5 | 2 | 2 | |
| 10. On-Farm Investments | | | 20 | 1 | 1 | |
| 11. Effects Of Conversion On Farm Support Services | | | 10 | 3 | 3 | |
| 12. Compatibility With Existing Agricultural Use | | | 10 | 8 | 8 | |
| TOTAL SITE ASSESSMENT POINTS | | | 160 | 28 | 28 | 0 0 |
| PART VII (To be completed by Federal Agency) | | | | | | |
| Relative Value Of Farmland (From Part V) | | | 100 | 72 | 70 | 0 0 |
| Total Site Assessment (From Part VI above or a local site assessment) | | | 160 | 28 | 28 | 0 0 |
| TOTAL POINTS (Total of above 2 lines) | | | 260 | 100 | 98 | 0 0 |
| Site Selected: Either alternative | | Date Of Selection 5/5/11 | | Was A Local Site Assessment Used? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | | |

Reason For Selection: * Numbers entered incorrectly by NRCS by entering a larger amount of acreage than the project would convert. The impact rating is less than 160 points; therefore, there is no substantial impact.



List of Technical Studies that are Bound Separately

Draft Relocation Statement

Air Quality Report

Noise Study Report

Noise Abatement Decision Report

Water Quality Report

Natural Environment Study

Location Hydraulic Study

Historical Property Survey Report

- Historic Study Report
- Historic Resource Evaluation Report
Historic Architectural Survey Report
Archaeological Survey Report

Hazardous Waste Reports:

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

Scenic Resource Evaluation/Visual Assessment

Initial Paleontology Study