

# Redding to Anderson 6-Lane Project

Shasta County, California  
District 2-SHA-5 (PM R3.8/R11.7)  
Project ID: 0200020191 & 02-4C402

## Initial Study with Proposed Negative Declaration



Prepared by the  
State of California Department of Transportation

January 2013

## General Information About This Document

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

This Draft Initial Study with proposed Negative Declaration (IS/ND) examines the potential environmental effects of a proposed transportation project on Interstate 5 (I-5), in Shasta County, from post mile R3.8 to R11.7. This Draft IS/ND was prepared to comply with the California Environmental Quality Act (CEQA). It describes the purpose and need for the project, project alternatives, the existing environment, and potential effects from each of the project alternatives. Final selection of a project alternative will not be made until after the full evaluation of environmental impacts, consideration of public comments, and approval of the final IS/ND.

### ***What you should do:***

Please read this Initial Study. Additional copies of this document as well as the technical studies are available for review at the Caltrans District 2 Office of Environmental Management, located at 1031 Butte Street, Redding CA 96001. Copies of this document will also be available at the Shasta County Library 1100 Parkview Avenue, Redding CA 96001. This document can also be viewed online at: <http://www.dot.ca.gov/dist3/departments/envinternet/shasta.htm>

We welcome your comments. If you have any information or concerns regarding the project, please send your written comments to Caltrans by the deadline. Submit comments via U.S. mail to:

- California Department of Transportation  
Attention: Amber Kelley, Environmental Branch Chief  
North Region Office of Environmental Mgmt., MS-30  
1031 Butte Street  
Redding, CA 96001
- You may also submit comments via e-mail to [Amber.Kelley@dot.ca.gov](mailto:Amber.Kelley@dot.ca.gov)
- Submit comments by the deadline: February 22, 2013.

### ***What happens after this?***

After comments are received from the public and reviewing agencies, Caltrans may (1) give environmental approval to the proposed project, (2) undertake additional environmental studies, or (3) abandon the project. If the project is given environmental approval and funding is appropriated, Caltrans could construct all or part of the project.

<p>For individuals with sensory disabilities, this document is available in Braille, large print, on audiocassette, or computer disk. To obtain a copy in one of these alternate formats, please call or write to Caltrans, Attn: Carolyn Sullivan, 1031 Butte Street, Redding, CA 96001; (530) 225-2234 Voice, or use the California Relay Service TTY number, 1-800-735-2929.</p>
---

On Interstate 5 In Shasta County, In And Near Anderson  
From South Anderson Separation to 0.8 Mile North of Smith Road Overcrossing

**INITIAL STUDY WITH PROPOSED NEGATIVE DECLARATION**

Submitted Pursuant to: Division 13, California Public Resources Code

THE STATE OF CALIFORNIA  
Department of Transportation

Jan 17, 2013  
Date of Approval

  
CINDY ANDERSON  
Office Chief - North  
North Region Environmental Services  
California Department of Transportation



## ***Proposed Negative Declaration***

Pursuant to: Division 13, California Public Resources Code

### ***Project Description***

The California Department of Transportation (Department) proposes a project on Interstate 5 in Shasta County which would add a third lane and paved shoulder in both the southbound (SB) and northbound (NB) directions from Anderson to Redding. New lanes are proposed within the median of the existing roadway from post mile R4.3 to R11.2, closing a gap between existing six-lane freeway segments. Completion of the project will require clearing, grading, road widening, bridge widening, overlay of the existing pavement and bridge decks, and guardrail, electrical, and drainage improvements as needed. No right of way acquisition is anticipated. The overall construction limits are from post mile R3.8 to post mile R11.7, which will allow restriping at each end of the project.

### ***Determination***

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

The Department 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 aesthetics, agriculture and forest resources, cultural resources, geology and soils, hazards and hazardous materials, land use and planning, mineral resources, population and housing, public services, recreation, transportation and traffic, and utilities.
- The proposed project would have a less than significant effect on air quality, biological resources, hydrology and water quality, and noise.

---

Cindy Anderson  
Office Chief - North  
North Region Environmental Services  
California Department of Transportation

---

Date



## **Proposed Project**

### **Project Title**

Redding to Anderson 6-Lane Project

### **Lead Agency Name, Address, and Contact Person**

State of California, Department of Transportation  
1031 Butte Street, MS-30  
Redding, CA 96001

Amber Kelley  
Caltrans Environmental Branch Chief  
(530) 225-3510

### **Project Location**

The proposed project is located on Interstate 5 between Redding and Anderson, from post mile R3.8-R11.7 [Figure 1]

### **Project Sponsor's Name and Address**

State of California, Department of Transportation  
District 2  
1031 Butte Street  
Redding, CA 96001

## **Introduction**

The California Department of Transportation (Caltrans) is the lead agency under the California Environmental Quality Act.

Recent projects on Interstate 5 in the Redding and Anderson areas have added a third lane in each direction to the freeway segments with the highest volumes north of Woodland. The Department proposes to close the seven mile gap between existing six-lane freeway segments from Anderson to Redding on Interstate 5 (I-5).

The Shasta Regional Transportation Agency (SRTA), Caltrans, and other local agencies would like to connect existing six-lane segments on Interstate 5 and create a continuous fifteen mile segment of six-lane freeway. Traffic congestion is projected to increase if this seven mile segment remains as a four-lane freeway.

Past efforts to fund widening of mainline I-5 in Tehama and Shasta County included the "Fix Five Partnership" concept. That movement began in 2007 and ran through 2009, lead by the SRTA and the Tehama County Transportation Commission (TCTC), and had strong support from Caltrans with a mission of "Enhancing Capacity and Mobility Along the Interstate 5 Corridor." One component of the Fix Five program would have added fees to local development projects to provide funds for widening the freeway. The fee program was never approved for implementation by all the local agencies due to opposition. However, the effort resulted in the SRTA Board's commitment of all their Regional Transportation Improvement Program (RTIP) funds to the I-5 corridor, provided state or federal grants could provide matching funds. While the SRTA has entered into a cooperative agreement with Caltrans and provided funding for the project's environmental, design, and right of way phases, the project's construction funding has

not been programmed at this time. Construction funding is proposed to come from future State Transportation Improvement Program money or other special funding opportunities that may arise. The proposed work may be phased pending the availability of funding.

**The project proponents include:**

- Shasta Regional Transportation Agency
- City of Anderson
- Shasta County
- Caltrans

**Need and Purpose**

Efficient traffic operations on this portion of Interstate 5 are diminished by five existing interchanges that are in close proximity to each other. Interstate 5 was constructed in the mid-1960s and this section was designed with one full interchange and four partial interchanges located within three miles of each other. The conditions are further complicated by thirteen percent truck traffic and a rolling mainline profile which limits stopping sight distance at the South Anderson overhead. These factors combine to reduce the operational effectiveness of the existing four-lane freeway in the Anderson/Redding corridor. In addition, a major truck stop is adjacent to a sixth interchange at Knighton Road which adds significant numbers of merging big rig trucks that are longer and slower than other vehicles.

The area adjacent to the corridor has significant development potential that would only add to the existing traffic inefficiencies. Interregional traffic is projected to continue to grow over time. Without improvements to this seven mile segment, reasonable and efficient operations are projected to drop below the route design by 2030.

The purpose of the proposed project is to improve operations on Interstate 5 by reducing merging conflicts, reducing congestion, maintaining reasonable and efficient traffic operations in the future, and improving safety for users and workers.

**Proposed Build Alternative**

In Shasta County on Interstate 5, the California Department of Transportation proposes adding a third lane and shoulder in both the southbound (SB) and northbound (NB) directions from Anderson to Redding. Twelve foot travel lanes and ten foot shoulders are proposed to be added within the median of the existing roadway from post mile R4.3 to R11.2, closing a gap between the existing six-lane freeway segments. Completion of the project would require clearing, grading, road widening, widening existing bridge and over/underpass structures, replacement of signs and electrical elements, disposal of excess earth material, and guardrail and drainage improvements as needed. [Figure 2]

On December 20, 2011, Caltrans approved an internal document called a Project Study Report (PSR) to formally initiate the project development process. Project alternatives were developed based on preliminary traffic and engineering data, traffic and planning studies, and preliminary information concerning environmental resources. The PSR considered eleven variations, which were a

combination of project alternatives and design-build strategies. As part of the project scoping process, a Value Analysis Team was organized and completed a study of the project in December 2011. Caltrans defines Value Analysis as “the process used to improve the quality and reduce the cost of transportation projects and other Caltrans programs.” The Value Analysis findings were incorporated into the Project Study Report with Alternative B, adding lanes in the median, being recommended as the best value. This alternative is being carried forward as the proposed build alternative.

The proposed build alternative includes adding new twelve foot travel lanes and ten foot paved shoulders in both the north bound and south bound directions in the median of the existing roadway from post mile R4.3 to R11.2.

A depressed median with cable barrier is proposed for the full length of the project. The median would vary in width from thirty six feet at the Deschutes under crossing to just north of the Sacramento River Bridge and widen to sixty feet for the remainder of the project limits. Compost would be tilled into the the median soil, providing stormwater retention in the median. Hydroseed would be applied to the median for erosion control and in order to maintain the current visual characteristic of the facility.

The project would require clearing, grading, and road widening. The project would include widening bridge structures over Anderson Creek and Tormey drain, widening overpass structures at the South Anderson overhead, and widening the under crossings at Deschutes Road, Balls Ferry Road and North Street. Bridges and over/underpass structures would be widened towards the median to accommodate the additional lane and shoulder. The structures would also receive seismic retrofitting of the existing columns. Crash walls would be constructed under the South Anderson overhead to protect new and existing columns.

At the Northbound Balls Ferry on-ramp, mainline will be shifted five feet towards the median to increase the ramp shoulder width at the Anderson Creek Bridge to meet current standards. The Sacramento River bridge would not require widening as it is currently wide enough to accommodate the proposed additional lane and shoulder width.

The project would also include a rubberized asphalt concrete overlay of the existing pavement and bridge decks. Guardrail, electrical and drainage systems would be modified as needed. Sign and lighting improvements are also proposed. Where applicable, existing median signs would be relocated to the outside shoulder. Intelligent Transportation System (ITS) Elements would need to be adjusted or relocated.

The project may include grinding and replacing the structural section on two local streets underneath freeway bridge structures in order to improve vertical clearance. During construction, temporary staging would shift both lanes six feet towards the right shoulder, maintaining two lanes of through traffic in both directions of Interstate 5. The right shoulders would be reconstructed before implementing the temporary lane shift and the shoulder cross slope will be raised from 5% to 2%. Median widening would be performed behind k-rail and a two foot shoulder would be provided for the inside travel lanes.

The overall construction limits are from post mile R3.8 to post mile R11.7 which would allow restriping at each end of the project. All work would be completed within the existing limits of the highway and right of way acquisition is not anticipated. The proposed work may be phased pending the availability of funding.

Benefits of adding new lanes in the median include:

- A standard, safe, and efficient project. Construction is simple and cost effective.
- Fewer impacts to traffic during construction, as the potential for extended ramp closures and detours is minimized. Most construction would take place behind temporary barriers in the median.
- Very strong support among transportation partners for this concept.
- Widening the six pairs of bridges is efficient when construction takes place in the median.
- Environmental clearance is simplified because most of the work is on ground that has already been shaped into the median.
- Adding lanes in the median simplifies design.
- Additional right of way is not anticipated.
- The structural section is not as thick for a new lane towards the median (left lane) since trucks typically travel in the right lane.

After comparing and weighing the benefits and impacts of the alternatives, the Project Development Team has identified the Build Alternative as the preferred alternative, subject to public review. Final identification of a preferred alternative will occur after the public review and comment period.

### **No-Build Alternative**

The Level of Service (LOS) for this segment of the Interstate 5 corridor is projected to be at a "D/E" rating level by 2030 if the proposed improvements are not completed. A LOS "D/E" means traffic would be subject to significant delays. Vehicles are closely spaced with little room to maneuver. Drivers must be more careful making lane changes. This would be restrictive, especially in areas where vehicles are merging such as the area between Deschutes Road and Riverside Avenue in Anderson and near Knighton Road, where there are slow moving trucks merging due to the adjacent truck stop. With congested conditions, total air pollutants produced by motor vehicles could be higher than they would be if the project is constructed.

Without a third lane, maintenance and construction activities that require lane closures would be limited to night work only (which is more expensive and can be more dangerous for workers) because daytime lane closures would cause immense delays. While this alternative wouldn't have any environmental impact, it also would not meet the purpose and need for the project.

## **Alternatives Considered but Eliminated From Further Discussion**

While the internal scoping document for the project identified eleven different alternatives, plus a no build, those variations can be summarized in the following options:

- a) add additional lanes and shoulders to the outside of the existing facility
- b) add additional lanes and shoulders to the inside (median) of the existing facility
- c) a combination of outside and inside widening.

The scoping document analyzed variations of the three options listed above in order to compare and contrast varying design and construction strategies. Variations included phasing the project construction into shorter segments or replacing bridges entirely instead of widening the existing structures. Adding lanes in the existing median was identified as the alternative with the best value and the least predicted environmental impacts.

## **Surrounding Land Uses, Setting and Zoning**

The project is located in southern Shasta County and the land is in rolling to flat terrain. The southern project limits begin within the City of Anderson where the land is zoned for a mix of commercial and residential uses. The properties surrounding the project area are privately owned with the majority of the properties adjacent and surrounding I-5 being zoned limited agricultural, but area zoning also includes industrial, commercial, residential, and mixed uses. The majority of the project located between the cities of Anderson and Redding, and the northern limits of the project end south of the City limits of Redding.

## **Consistency with State, Regional, and Local Plans**

Interstate 5 is part of the National Highway System, the Interregional Road System, and is designated as a high emphasis route in the 1998 Interregional Transportation Strategic Plan. High emphasis routes are classified as being the most critical interregional road system routes for interregional travel and the state as a whole.

The proposed project is listed in the 2010 Shasta County Regional Transportation Plan (RTP) which addresses the need to add lanes at this location. The project is also consistent with State transportation plans. The Transportation Concept Report (TCR), which is maintained by Caltrans and was updated in 2008, estimates future transportation needs on the state highway system. The proposed project is consistent with meeting those needs. The TCR states that the twenty year facility concept at this location is a six lane freeway. Therefore, the proposed project is consistent with State and Local transportation plans and programs.

## Permits and Approvals

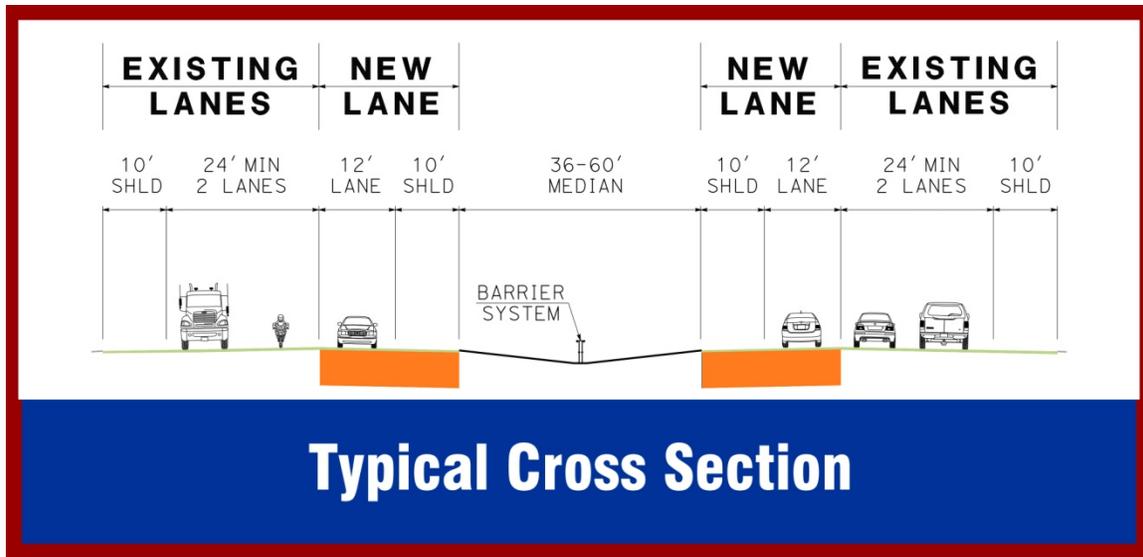
Agency	Permit/Approval	Requirement
California Department of Fish & Wildlife, Region 1	Stream/Lakebed Alteration Agreement [Section 1602 Fish and Game code]	Required for construction activities within the stream/riparian corridor. Permit to be obtained by Caltrans.
California Department of Fish & Wildlife, Region 1	Consistency Determination	Required due to potential effects upon listed species.
United States Army Corps of Engineers, Sacramento District	Department of the Army Permit [Section 404 of the Clean Water Act]	Required for construction activities in wetlands and within the ordinary high water elevation of the stream. Permit to be obtained by Caltrans.
Regional Water Quality Control Board, Central Valley Region	Water Quality Certification [Section 401 of the Clean Water Act]	Pre-requisite for Army Corps permit. Water Quality Certification to be obtained by Caltrans.
Regional Water Quality Control Board, Central Valley Region	Dewatering permit [National Pollutant Discharge Elimination System]	A dewatering permit may be necessary for diverting the stream and dewatering the work area. Permit to be obtained by contractor.
NOAA Fisheries	Letter of Concurrence - Informal Section 7 consultation for threatened and endangered species (Central Valley steelhead and Sacramento River Winter-run Chinook salmon)	Required due to work required within potential salmonid habitat. Coordination conducted by Caltrans.

## List of Figures and Tables

Figure 1	Vicinity Map
Figure 2	Typical Cross Section
Figure 3	Environmental Study Limits Typical Section
Figure 4	California GHG Inventory Forecast
Figure 5	Possible Effect of Traffic Operation Strategies in Reducing On-Road CO <sub>2</sub>
Figure 6	Outcome of Strategic Growth Plan
Figure 7	Levels of Service for Freeways
Table A	Noise Impact Comparison
Table B	Existing Freeway Features
Table C	Freeway Interchanges
Table D	2010 and Projected Traffic Information



**Figure 1. Interstate 5 Redding to Anderson 6 Lane Project Vicinity Map**



## Typical Cross Section

Figure 2. Typical Cross Section of proposed improvements



Figure 3. Environmental Study Limits Typical Section

# CEQA Environmental Checklist

02/SHA/5

3.8/11.7

02-4C402

Dist.-Co.-Rte.

P.M/P.M.

E.A.

This checklist identifies physical, biological, social and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the projects indicate no impacts. A NO IMPACT answer in the last column reflects this determination. Where there is a need for clarifying discussion, the discussion is included in the section following the checklist. The words "significant" and "significance" used throughout the following checklist are related to CEQA, not NEPA, impacts. The questions in this form are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
<b>I. AESTHETICS:</b> Would the project:				
a) Have a substantial adverse effect on a scenic vista	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**II. AGRICULTURE AND FOREST RESOURCES:** In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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

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

**IV. BIOLOGICAL RESOURCES:** Would the project:

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

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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

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

**VI. GEOLOGY AND SOILS:** Would the project:

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**VII. GREENHOUSE GAS EMISSIONS:** Would the project:

- a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?
- b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

An assessment of the greenhouse gas emissions and climate change is included in the section following the checklist. 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 GHG emissions and CEQA significance, it is too speculative to make a significance determination regarding the project's direct and indirect impact with respect to climate change. Caltrans does remain firmly committed to implementing measures to help reduce the potential effects of the project. These measures are outlined in the section following the checklist.

**VIII. HAZARDS AND HAZARDOUS MATERIALS:** Would the project:

- a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?
- b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?
- c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

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

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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

a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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

a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**XI. MINERAL RESOURCES:** Would the project:

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**XII. NOISE:** Would the project result in:

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**XIII. POPULATION AND HOUSING:** Would the project:

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**XIV. PUBLIC SERVICES:**

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
--------------------------------------	--	------------------------------------	--------------

**XV. RECREATION:**

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? | <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 which might have an adverse physical effect on the environment?                        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

**XVI. TRANSPORTATION/TRAFFIC:** Would the project:

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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"/> |

**XVII. UTILITIES 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"/> |

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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 a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**XVIII. MANDATORY FINDINGS OF SIGNIFICANCE**

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## **Discussion of Environmental Impacts**

Expanded discussion is included for checklist questions answered Less than Significant Impact. Clarifying discussion *may* be included for checklist questions answered No Impact.

### **Air Quality**

An Air Quality Report was completed for this project in November 2012. The report concluded that air pollutant emissions associated with the proposed project would occur over the short term from construction activity such as dust from grading or site preparation and equipment exhaust. Long term emissions would improve from the enhanced traffic flow that the lane additions would provide.

The objective of the proposed project is to decrease traffic congestion. The proposed project is not expected to generate any additional traffic. Regional traffic trips would remain at the rate they are projected with the no build alternative. The proposed project would improve traffic movement in the project vicinity, thereby lowering the total pollutants emitted by motor vehicles. Therefore, no new long term regional emissions would result from implementation of the proposed project.

Construction related effects on air quality from most highway projects are 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 particulate matter. Caltrans' Standard Specifications (Section 10) pertaining to dust minimization requirements requires use of water or dust reducing compounds and would reduce potential fugitive dust emissions during construction. Additionally, the Shasta Air Pollution Control District has established construction control measures for reducing fugitive dust emissions. With the implementation of standard construction measures such as frequent watering (e.g. minimum twice per day), fugitive dust emissions from construction activities would not result in adverse air quality impacts.

Based on *Guidelines for the Implementation of California Environmental Quality Act*, Appendix G, Public Resource Code (PRC) Sections 15000-15387, a project would normally be considered to have a significant effect on air quality if the project would violate any ambient air quality standards, contribute substantially to an existing air quality violation, expose sensitive receptors to substantial pollutants concentrations, or conflict with adopted environmental plans and goals of the community in which it is located. The project would not lead to violation of ambient air quality standards, contribute substantially to an existing air quality violation, expose sensitive receptors to substantial pollutants concentrations, or conflict with adopted environmental plans and goals of the community in which it is located. Therefore, the proposed project would have a less than significant impact on air quality.

### **Biology**

The information in this section is based on the draft Natural Environment Study (December 2012) and Biological Assessment for Potential Impacts to Anderson Creek prepared for the project. Efforts completed for the biological study included field surveys, research, and coordination with regulatory agencies and professional contacts.

The proposed project would be completed within the existing center median area which would allow for expansion of Interstate 5 without creating a larger overall footprint of the interstate. Although the Sacramento River is located within the project limits, the existing bridge is currently wide enough to accommodate the additional lanes in the median. The only bridge work would be an asphalt overlay of the lane surface. This greatly minimizes any potential impacts to natural resources. Work within the project limits would include widening the two existing bridge structures over Anderson Creek. This work would require the permits and consultation outlined below.

### **Permits and approvals**

- U.S. Army Corps of Engineers, Clean Water Act Section 404 Permit
- California Regional Water Quality Control Board, Clean Water Act Section 401 Permit
- Central Valley RWQCB Construction Dewatering Permit may be required
- CA Water Resources Control Board, Division of Water Quality, Order 2009-0009-Construction Activities General Storm Water Permit (CGP)
- California Department of Fish and Wildlife, Section 1600 Streambed Alteration Agreement
- National Marine Fisheries Service, Letter of concurrence for threatened and endangered species (Central Valley steelhead and Sacramento River Winter-run Chinook salmon)

### **Existing Setting**

The project construction area is almost entirely within the existing Interstate 5 roadway in the median between the north and south bound lanes. The median is sparsely vegetated with annual grasses and occasional trees and shrubs. The project crosses the Sacramento River and the riparian corridor associated with the river, but no impacts would occur to either of these resources. The project area also crosses Anderson Creek, a perennial stream which is a tributary to the Sacramento River.

Caltrans is required to avoid impacting to protected fish species which could be present in Anderson Creek. This would be accomplished by implementing work windows or BMPs negotiated as part of the ongoing consultation process with the National Marine Fisheries Service (NOAA). A Biological Assessment (BA) was prepared in accordance with Section 7 of the Federal Endangered Species Act to address potential effects to listed salmonids. Based on the BA, *the project may effect, but is not likely to adversely affect endangered Sacramento River winter-run Chinook salmon or threatened Central Valley steelhead*. Upon receipt of concurrence from NOAA Fisheries, Caltrans will seek a Consistency Determination from the California Department of Fish and Wildlife.

Anderson Creek supports protected anadromous fish habitat near the confluence with the Sacramento River, which is approximately seven miles from the project location. Habitat for protected fish species does not occur within the project construction limits. The water in Anderson creek is too shallow and the temperatures are too high to support either Chinook salmon or Steelhead during the summer months when construction activities are expected to occur. The creek is home to warm water species such as minnows and no special status species were found during biological surveys. Impacts would be minor and will only include the addition of footings to support the bridge and temporary construction impacts to riparian habitat.

At Anderson Creek, bridge widening would impact a section of riparian vegetation between the two existing bridge structures. The existing vegetation is sparse, low quality, consisting of willows and non-native Tree of Heaven. The project is anticipated to impact less than 1/10 of an acre of vegetation. The project design includes replacement of this riparian vegetation at a 1:1 ratio. Bridge pier installation would require the fill of Waters of the U.S. The project is anticipated to impact less than 0.01 acres of Other Waters of the U.S. The project would have a less than significant effect to riparian vegetation and Waters of the U.S.

## **Greenhouse Gas Emissions**

### **Climate Change (CEQA)**

Caltrans and its parent agency, the Business, Transportation, and Housing Agency, have taken an active role in addressing GHG emission reduction and climate change. Recognizing that 98 percent of California's GHG emissions are from the burning of fossil fuels and 40 percent of all human made GHG 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>

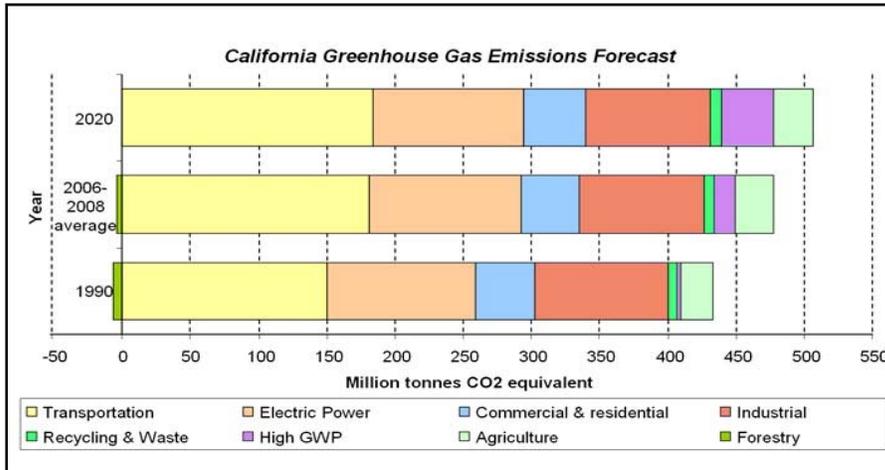
### **Project Analysis**

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 GHG 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 GHG.<sup>1</sup> In assessing cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable." See CEQA Guidelines Sections 15064(h)(1) and 15130. To make this determination, the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. To gather sufficient information on a global scale of all past, current, and future projects in order to make this determination is a difficult if not impossible task.

---

<sup>1</sup> This approach is supported by the AEP: Recommendations by the Association of Environmental Professionals on How to Analyze GHG Emissions and Global Climate Change in CEQA Documents (March 5, 2007), as well as the SCAQMD (Chapter 6: The CEQA Guide, April 2011) and the U.S. Forest Service (Climate Change Considerations in Project Level NEPA Analysis, July 13, 2009).

**Figure 4: California GHG Inventory Forecast**



Source: California Department of Transportation Environmental Impact Report/Environmental Impact Statement Annotated Outline, July 2011.

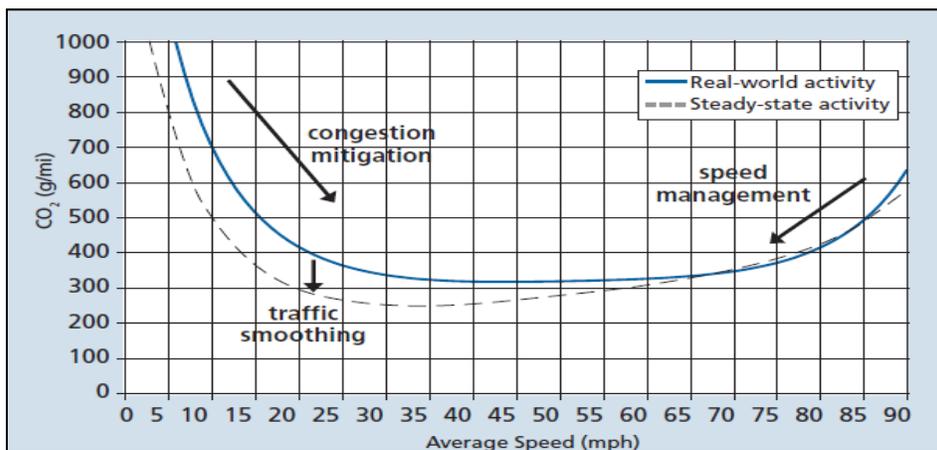
Taken from: <http://www.arb.ca.gov/cc/inventory/data/forecast.htm>

Caltrans and its parent agency, the Business, Transportation, and Housing Agency, have taken an active role in addressing GHG emission reduction and climate change. Recognizing that 98 percent of California’s GHG emissions are from the burning of fossil fuels and 40 percent of all human made GHG emissions are from transportation, Caltrans has created and is implementing the Climate Action Program at Caltrans that was published in December 2006 (see Climate Action Program at Caltrans, December 2006).<sup>2</sup>

One of the main strategies in Caltrans’ Climate Action Program to reduce GHG emissions is to make California’s transportation system more efficient. The highest levels of CO<sub>2</sub> from mobile sources, such as automobiles, occur at stop-and-go speeds (0–25 mph) and speeds over 55 mph; the most severe emissions occur from 0–25 mph (see Figure 4 below).

<sup>2</sup> Caltrans Climate Action Program is located at the following web address:  
[http://www.dot.ca.gov/hq/tpp/offices/ogm/key\\_reports\\_files/State\\_Wide\\_Strategy/Caltrans\\_Climate\\_Action\\_Program.pdf](http://www.dot.ca.gov/hq/tpp/offices/ogm/key_reports_files/State_Wide_Strategy/Caltrans_Climate_Action_Program.pdf)

**Figure 5: Possible Effect of Traffic Operation Strategies in Reducing On-Road CO<sub>2</sub> Emission<sup>3</sup>**



Source: California Department of Transportation Environmental Impact Report/Environmental Impact Statement Annotated Outline, July 2011.

Interstate 5 is a crucial freight movement corridor, servicing local, regional, interregional, and international goods movement. There are no viable alternatives for north/south goods movement in California north of Red Bluff. It is in the regional, state, and national interest to prevent I-5 from becoming congested. Caltrans, Shasta County, Redding, Anderson, Shasta Lake, and Redding Area Bus Authority (RABA) have a combined investment in the County's transportation system. The Shasta County Travel Demand Model is the primary tool available to address Transportation System Management (TSM). The Shasta County Travel Demand Model was used to project the portion of Interstate 5 that runs through the Anderson and Redding area to have a Level of Service D/E for most of its length by the year 2020 if the proposed project is not constructed.

It is projected that vehicle miles traveled will increase in Shasta County in the long term. Despite technological improvements in vehicle emission rates, this will likely result in continued violation of state ozone standards and future violation of new and more stringent federal ozone standards. As a state designated nonattainment area for ozone and PM10, Shasta County is faced with a state mandated emission reduction program. Nonattainment of the existing one hour federal air quality standard for ozone is also possible during any year, especially given local atmospheric conditions. Out of county traffic on Interstate 5 and state highways is projected to increase, adding to local air quality problems. If air quality cannot be maintained within Shasta County, growth may be substantially curtailed by both regulation and a lack of general appeal to new residents. Efforts will be necessary to reduce transportation related GHG emissions. The 2010 Regional Transportation Plan for Shasta County focused on Short-Range (2010 – 2020) and Long-Range (2020 – 2030) goals to address air quality issues. The Goal in Shasta County is to reduce harmful air emissions and maintain a level that meets or is better than the minimum state and federal health standards and identify projects to optimize traffic control, traffic signal performance, reduce traffic congestion,

<sup>3</sup> Traffic Congestion and Greenhouse Gases: Matthew Barth and Kanok Boriboonsomsin (TR News 268 May-June 2010) <<http://onlinepubs.trb.org/trnews/trnews268.pdf>>

and improve air quality. The proposed project would reduce traffic congestion and maintain Level of Service.

### **Construction Emissions**

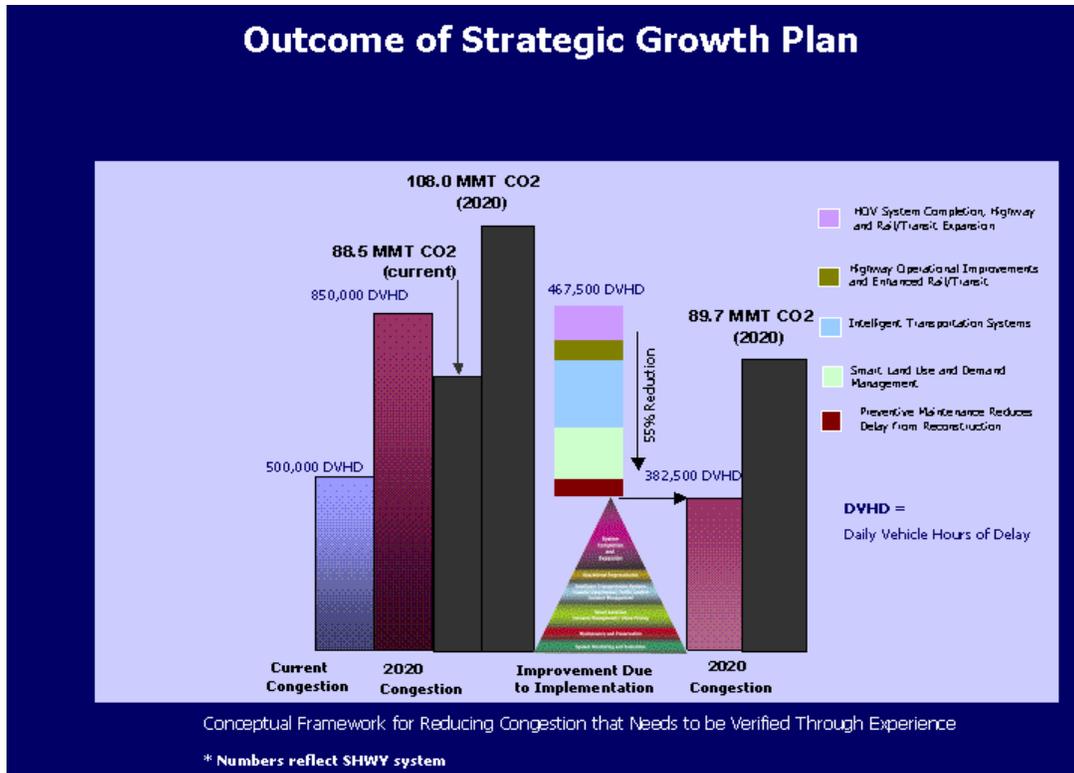
GHG emissions for transportation projects can be divided into those produced during construction and those produced during operations. Construction GHG emissions include emissions produced as a result of material processing, emissions produced by onsite construction equipment, and emissions arising from traffic delays due to construction. These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases. Even though the project is not anticipated to increase operational GHG emissions, the proposed project would generate some GHG emissions during construction.

### **CEQA Conclusion**

While construction would result in a slight increase in GHG emissions during construction, it is anticipated that the project would not result in any increase in operational GHG emissions. While it is Caltrans' determination that in the absence of further regulatory or scientific information related to GHG emissions and CEQA significance, it is too speculative to make a significance determination regarding the project's direct impact and its contribution on the cumulative scale to climate change, Caltrans is firmly committed to implementing measures to help reduce GHG emissions. These measures are outlined in the following section.

### **AB 32 Compliance**

Caltrans continues to be actively involved on the Governor's Climate Action Team as CARB 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. Former Governor Arnold Schwarzenegger's Strategic Growth Plan calls for a \$222 billion infrastructure improvement program to fortify the state's transportation system, education, housing, and waterways, including \$100.7 billion in transportation funding during the next decade. 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 GHG 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.



**Figure 6: Conceptual Framework for Reducing Congestion**

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 CARB. Lastly, the use of alternative fuels is also being considered; the Department is participating in funding for alternative fuel research at the UC Davis.

**Adaptation Strategies:**

“Adaptation strategies” refer to how Caltrans and others can plan for the effects of climate change on the state’s transportation infrastructure and strengthen or protect the facilities from damage. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, storm surges and intensity, and the frequency and intensity of wildfires. These changes may affect the transportation infrastructure in various ways, such as damaging roadbeds by longer periods of intense heat; increasing storm damage from flooding and erosion; and inundation from rising sea levels. These effects will vary by location and may, in the most extreme cases, require

that a facility be relocated or redesigned. There may also be economic and strategic ramifications as a result of these types of impacts to the transportation infrastructure.

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

Executive Order S-13-08 (signed by Former Governor Sshwarzenegger in November 2008) 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. The Department 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* (due to be released in December 2010 from the National Academy of Sciences), 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. Sea level rise estimates should also be used in conjunction with information regarding local uplift and subsidence, coastal erosion rates, predicted higher high water levels, storm surge and storm wave data. (Executive Order S-13-08 allows some exceptions to this planning requirement.) This proposed project was programmed for construction funding in 2010, it is exempt at this time from the requirements to analyze the impacts of sea level rise as directed in Executive order S-13-08.

Currently, the Department 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, the Department 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, the Department will be able review its current design standards to determine what changes, if any, may be warranted in order to protect the transportation system from sea level rise.

### **Hydrology and Water Quality**

Receiving waters within the project's limits are Anderson Creek and the Sacramento River. They are both included in the Clean Water Act Section 303(d) impaired water bodies list. Construction activities could trigger short-term impacts to receiving waters. These activities include grading in the median, drainage facility upgrades, use of heavy equipment, chemicals associated with paving and concrete work, and discharge of earthen material. Approximately 52,000 cubic yards of soil would be excavated as part of the project. Optional disposal sites have been identified for the contractor's use. Potential short-term water quality impacts include: sediment discharges, increased turbidity in receiving waters, removing riparian vegetation, groundwater dewatering, and

accidental fuel and lubricant leaks from heavy equipment. In order to comply with the Construction General Permit (CGP), the contractor would be required to develop a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP would identify construction activities that may cause discharges of pollutants or waste into waters of the United States or waters of the State, as well as measures to control these pollutants. The SWPPP would be prepared by the construction contractor and is subject to Caltrans' review and approval.

Potential long-term impacts could include filling jurisdictional waters, vegetation removal, increasing the amount of impervious surface, downstream impacts, roadway pollutants, erosion, and sedimentation. Multiple measures would be implemented to prevent or reduce sediment discharges and increased receiving water turbidity. Compost would be tilled into the median soil, providing storm water detention in the median. Hydroseed would be applied to the median for erosion control. Existing sheet-flow patterns would be perpetuated wherever possible. In most locations, storm water runoff would flow to flat vegetated areas and soil infiltration would decrease the flows before they reach surface waters. Re-vegetation would include erosion control application, replanting the median, and riparian planting.

The project includes widening the Anderson Creek bridges. Dewatering groundwater may be required when installing the bridge piers at the Anderson Creek Bridge. Groundwater that has been contaminated with cement or chemical related products cannot be discharged to either land or receiving waters. This material would be contained and disposed of at an approved location.

Implementing construction site Best Management Practices (BMPs) would significantly reduce or eliminate storm water pollution. An erosion control and sediment transport BMP combination would be implemented to address potential sediment and turbidity discharges during construction. These include applying disturbed ground protection products (bonded fiber matrix, straw mulch, plastic sheeting) to prevent erosion, and linear barriers (check dams, fiber rolls, silt fence, gravel berms) for reducing sediment transport. Construction site management provisions would address chemical pollution source control. The California Regional Water Quality Control Board general permit would require inspections and water quality sampling. The inspections and monitoring would help evaluate any BMP deficiencies.

Permanent measures coupled with effective construction BMP implementation would address the potential short-term and long-term impacts from this project. The project will have a less than significant impact on water quality.

## **Noise Analysis**

A Noise Study Report was completed for this project in December 2012 which included research of land uses, measuring existing noise levels at a number of locations in the project study area, modeling existing noise levels in areas that could not be measured due to restrictions during field measurements (e.g. such as barking dogs, receiver exposure limitations), and modeling future noise levels to predict what noise levels would be if the project is constructed. When determining whether a noise impact is significant under the California Environmental Quality Act, a comparison is made between the existing noise level (baseline) and the Build Alternative noise levels. The California

Environmental Quality Act noise analysis is independent of the National Environmental Policy Act noise analysis, which is centered on noise abatement criteria. Under the California Environmental Quality Act, the assessment entails looking at the setting of the noise impact and then how large or perceptible any noise increase would be in the given area. The following are key considerations: the uniqueness of the setting, the sensitive nature of the noise receptor(s), the magnitude of the noise increase, the number of residences affected, and the project noise level. If a proposed project is determined to have a significant noise impact under the California Environmental Quality Act, the Act dictates that mitigation measures must be incorporated into the project unless such measures are not feasible.

The study area includes urban residential and commercial as well as small scale agricultural uses with existing noise levels ranging from 57 to 74 decibels. The main source of noise is the existing Interstate 5. Much of the project corridor is currently undeveloped. Pockets of residential development occur throughout the project corridor with some existing residential neighborhoods located adjacent to the existing Interstate right of way. The following sensitive land uses are generally areas where lower noise levels are expected and considered beneficial: residences, schools, hotels, churches, and libraries. Sensitive receptors within the study corridor include residential neighborhoods and hotels.

Under controlled conditions, the trained healthy human ear is able to discern a one decibel change in noise levels. In typical noisy environments, a change in noise levels of one to two decibels is generally not perceptible. It is generally accepted that people are able to begin to detect sound level increases of three decibels in typical noisy environments and that a five decibel increase is perceived as a distinctly noticeable increase. A ten decibel increase is generally perceived as a doubling of loudness. Therefore, a doubling of sound energy, such as doubling the volume of traffic on a highway that would result in a three decibel increase in sound would generally be perceived as barely detectable. The general consideration for a community noise environment would be that a change in noise levels over five decibels would be a noticeable change and a change of less than three decibels would not be noticeable.

Table A compares the predicted Design Year (2030) traffic noise levels to existing noise levels at twenty four sites measured and modeled in the Noise Study Report. Noise levels under the Build Alternative are predicted to remain the same for three site receivers and to increase between one and three decibels for twenty site receivers. One receiver shows a future decrease of one decibel due to a rounding procedure in the model.

**Table A: Noise Impact Comparison**

Receptor ID	Area/Land Use Activity	Existing Noise Levels (dBA)	Predicted Design Year (2030) Noise Levels with Build Alternative (dBA)	Predicted Increase in Noise Levels (dBA) with project
R-37	Hotel	72	74	2
R-39	Pasture	72	74	2
R-35	Commercial	67	69	2
R-42	Commercial	64	66	2
R-45	Retail Facility	70	71	1
R-43	Vet Hospital	70	70	0
R-29	Residential	61	63	2
R-46	Hotel	59	61	2
R-3	Office Spaces	74	76	2
R-27	Residential	57	56	-1
R-8	Commercial	71	73	2
R-6	Residential	70	71	1
R-12	Residential	66	70	4
R-15	Residential	67	69	2
R-19	Residential	71	72	1
R-14	Residential	71	72	1
R-16	Residential	65	68	3
R-20	Residential	70	72	2
R-31	Commercial	71	73	2
R-22	Residential	68	68	0
R-24	Residential	68	68	0
R-4	Residential	70	72	2
R-28	Commercial	59	60	1
R-10	Pasture	72	74	2

The proposed build alternative which adds lanes in the median moves traffic farther away from receptors. The increase in noise would be the result of future increases in traffic levels. Future traffic increases and the resulting increase in noise levels would occur gradually over a period of about twenty years. Traffic levels are predicted to increase at the same levels with or without completion of the project. The noise study included an evaluation of the feasibility and reasonableness of sound walls. None of the locations studied are projected to have significant increases in noise levels under CEQA as a result of this project and sound walls are not required as mitigation.

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 7-1.01I "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.

Construction noise would be short-term, intermittent, and overshadowed by local traffic noise. Because construction would be conducted following Caltrans' Standard Specifications, no adverse noise impacts from construction are anticipated.

The proposed project is not considered to have a significant effect under the California Environmental Quality Act for the following reasons: increase in noise levels would occur over an approximate twenty year timeframe, traffic increases are anticipated at the same levels with either the Build or No Build Alternatives, increased noise levels are not predicted to be high enough that they would be considered noticeable at the majority of survey locations.

**Transportation/Traffic**

In Shasta County, Interstate 5 is currently six-lanes from Cottonwood to the interchange with highway 299 in Redding, with the exception of the seven mile portion included in the proposed project. Recent projects, including the Cottonwood Hills project completed in 2011 and the South Redding 6-Lane project completed in 2012, have widened the roadway to six-lanes in those sections. Interregional traffic is projected to continue to grow over time. Without the proposed improvements to this seven mile section, reasonable and efficient operations are projected to drop below the route design by 2030. Table B lists the existing freeway features in the project vicinity.

**Table B: Existing Freeway Features**

			<b>Begin Post Mile</b>	<b>End Post Mile</b>	<b>Length (miles)</b>	<b>Median Width* (Feet)</b>	<b>Segment</b>	<b>Comments</b>
Total length of 15.2 miles	6-Lane freeway 3.00 miles		1.30	R4.30	3.00	36 - 60	Cottonwood Hill EA 02-37100	6-lane completed in 2011
	4-Lane freeway 3.95 miles	Redding to Anderson 6 Lane Project 7 miles	R4.30	R8.25	3.95	60	Includes elevated portion through Anderson	Proposed Redding to Anderson 6 Lane project connects the existing 6-lane freeway segments on each end
	4-Lane freeway 0.15 miles		R8.25	R8.40	0.15	60 - 84	Transition to wider median	
	4-Lane freeway 2.80 miles		R8.40	R11.20	2.80	84		
	6-Lane freeway 5.30 miles			R11.20	R16.50	5.30	60	South Redding 6-Lane EA 02-4C4014

\*Median width is expressed as the dimension between inside edges of traveled way, including the inside shoulder (in other words, "yellow stripe to yellow stripe").

**15.2 Total Miles**

At the southern portion of the proposed project, I-5 includes five existing interchanges that are in close proximity to each other. Those five interchanges are located at Deschutes Road, Balls Ferry Road, North Street, and Riverside Avenue. The conditions are complicated by thirteen percent truck traffic and a rolling mainline profile which limits sight distance at on and off ramps. These factors combine to reduce the operational effectiveness of the existing four lane freeway in the Anderson/Redding corridor. A major truck stop is adjacent to a sixth interchange at Knighton Road which adds significant numbers of merging big rig trucks that are longer and slower than other vehicles. The area adjacent to the corridor has significant development potential that

would only add to the existing traffic inefficiencies. Three of the interchanges in Anderson are partial interchanges and do not meet user expectations because all four moves are not provided at each interchange (off and on north bound and on south bound). Addressing these interchanges is not included in the scope of this proposed project. However, at the Northbound Balls Ferry on-ramp, lanes will be shifted five feet towards the median to increase the ramp shoulder width at the Anderson Creek Bridge. Table C lists the existing freeway interchanges in the vicinity, the movements provided and distances between the interchanges. Bicycles and pedestrians are not allowed to use this segment of freeway.

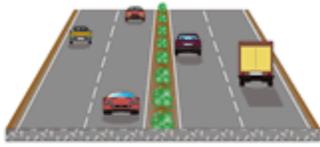
**Table C: Freeway Interchanges**

Exit Number	Road Served	Ramp Movements Provided	Post Mile (PM)	Distance between Interchanges (miles)	Local government jurisdiction and comments
667	Route 273	<ul style="list-style-type: none"> <li>NB Off</li> <li>SB On</li> </ul>	3.8		<ul style="list-style-type: none"> <li>City of Anderson</li> <li>Not a part of this project</li> </ul>
				0.5	
667	Deschutes Road / Factory Outlets Drive	<ul style="list-style-type: none"> <li>NB On</li> <li>SB Off</li> </ul>	4.3		<ul style="list-style-type: none"> <li>City of Anderson</li> <li>NB Off and roundabout is planned to be constructed</li> </ul>
				1.0	
668	Balls Ferry Road	<ul style="list-style-type: none"> <li>NB Off</li> <li>SB On</li> </ul>	5.3		<ul style="list-style-type: none"> <li>City of Anderson</li> <li>Split diamond half interchange – combined with North Street to complete all 4 moves</li> </ul>
				0.3	
668	North Street	<ul style="list-style-type: none"> <li>NB On</li> <li>SB Off</li> </ul>	5.6		<ul style="list-style-type: none"> <li>City of Anderson</li> <li>Split diamond half interchange – combined with Balls Ferry Road to complete all 4 moves</li> </ul>
				1.1	
670	Riverside Avenue	<ul style="list-style-type: none"> <li>NB Off</li> <li>NB On</li> <li>SB Off</li> <li>SB On</li> </ul>	6.7		<ul style="list-style-type: none"> <li>City of Anderson</li> </ul>
				3.1	
673	Knighton Road	<ul style="list-style-type: none"> <li>NB Off</li> <li>NB On</li> <li>SB Off</li> <li>SB On</li> </ul>	9.8		<ul style="list-style-type: none"> <li>Shasta County</li> <li>Major retail center is planned for northeast quadrant of this interchange</li> </ul>
				2.4	
675	Bonnyview Road / Churn Creek Road/ Bechelli Lane	<ul style="list-style-type: none"> <li>NB Off</li> <li>NB On</li> <li>SB Off</li> <li>SB On</li> </ul>	12.2		<ul style="list-style-type: none"> <li>City of Redding</li> <li>Not a part of this project</li> </ul>

### Level of Service

Level of Service (LOS) is a qualitative measure of traffic operating conditions as perceived by drivers, which varies from LOS A (un-congested conditions) to LOS F (congested conditions). Figure 7 illustrates and describes the LOS thresholds from the Highway Capacity Manual (HCM) for freeway sections.

Figure 7: Levels of Service for Freeways

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

Caltrans District 2 seeks to implement improvements on I-5 when LOS is projected to fall below LOS C. This improvement standard is commonly referred to as the “C/D Threshold.” When projections show a segment will fall to LOS D under average monthly conditions, improvements should be pursued. According to the Caltrans District 2 Traffic Engineering and Operations unit, traffic volumes on Interstate 5 are not projected to change through the project area with or without the project. There is a lack of alternative routes for drivers through this area. Drivers using routes other than Interstate 5 are projected to make that same route choice even if the proposed lanes are added to I-5.

Traffic data for this project is based on and compared to the existing traffic counts and classifications determined by the Caltrans District 2 Traffic Operations Unit as well as projected data provided by the Caltrans District 2 Office of System Planning. Table E shows the existing and projected traffic volumes. The Caltrans District 2 Office of system Planning made adjustments to the 2030 projections in November 2011, based on the lower than expected growth from 2005 through 2010, and reduced interregional traffic. If this seven mile segment remains as a four-lane freeway, congestion that reduces Level of Service below the C/D threshold is anticipated.

The project is consistent with State and Local transportation plans and programs. The 2010 Shasta County Regional Transportation Plan (RTP) addresses the need to add lanes at this location. The 2008 Transportation Concept Report for Interstate 5 states that the twenty year facility concept at this location is a six lane freeway. The post twenty year concept in this area is an eight-lane freeway. There is no induced growth on the interstate due to the addition of a third lane in each direction.

**Table E: 2010 and Projected Traffic Information\***

Postmile			Description	Actual 2010 Volumes	Peak Hour	Level of Service (LOS)	Projected 2030 Volumes	Year 2030 (LOS)
R3.8	R4.3	6-Lane	Route 273 Jct. to Deschutes Road	51,000	4,900	C	82,000	C
R4.3	R6.7	4-Lane	Deschutes Road to Riverside Avenue	50,000	4,750	C	83,000	E
R6.7	R9.8	4-Lane	Riverside Avenue to Knighton Road	49,500	4,550	C	78,500	D
R9.8	R11.2	4-Lane	Knighton Road to Smith Avenue OC	51,000	4,700	C	78,000	D
R11.2	R12.2	6-Lane	Smith Avenue OC to Churn Ck Road	51,000	4,700	C	78,000	C

\* Total volumes – northbound and southbound combined Average Annual Daily Traffic (AADT)

## **Mandatory Findings of Significance**

- a) The proposed project does not have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory.
- b) Based on the description of the proposed project and consideration of potential effects, there is no evidence to support a finding that the project has impacts that are individually limited, but cumulatively considerable.
- c) The proposed project does not have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly.

### **List of Preparers**

This Initial study was prepared by the California Department of Transportation, North Region Office of Environmental Management, with input from the following staff:

**Allam Alhabaly**, Noise Specialist

Contribution: Noise Analysis

**Shalanda Christian**, Air Quality Specialist

Contribution: Air Quality Analysis

**Tom Graves**, Hazardous Waste Coordinator

Contribution: Initial Site Assessment for Hazardous Waste

**Amber Kelley**, Environmental Branch Chief

Contribution: Document preparation oversight

**Christian Lavric**, Transportation Engineer

Contribution: Water Quality Assessment

**Robert Nixon**, Project Engineer

Contribution: Project design

**Susan Stanbrough**, Project Archaeologist

Contribution: Cultural resource surveys and compliance

**Carolyn Sullivan**, Environmental Planner

Contribution: Environmental Coordination and Document writer

**Brooks Taylor**, Project Biologist

Contribution: Biological Evaluation and Natural Environment Study

**Steve Thorne**, District Hydraulic Engineer

Contribution: Floodplain Evaluation Report Summary

