

Summary

S.1 Introduction

The California Department of Transportation (Caltrans), in cooperation with the Federal Highway Administration (FHWA) and the Santa Cruz County Regional Transportation Commission (RTC), proposes improvements to State Route 1 (Route 1) in Santa Cruz County. This project is divided into two components: the Tier I component from approximately 0.4 mile south of the San Andreas-Larkin Valley Road interchange to 0.3 mile north of the Morrissey Boulevard interchange, a distance of approximately 8.9 miles; and the Tier II component from 41st Avenue to Soquel Avenue/Drive. This stretch of Route 1 is subject to recurrent congestion that affects highway operations. Proposed improvements under consideration include the following major features: mainline high-occupancy vehicle (HOV) lanes, HOV on-ramp bypass lanes, auxiliary lanes, pedestrian and bicycle overcrossings, and reconstructed interchanges. Both the proposed Tier I and Tier II components are included in RTC's Highway 1 Corridor Investment Program, a program of funding for corridor improvements that RTC seeks to implement over time as funding becomes available.

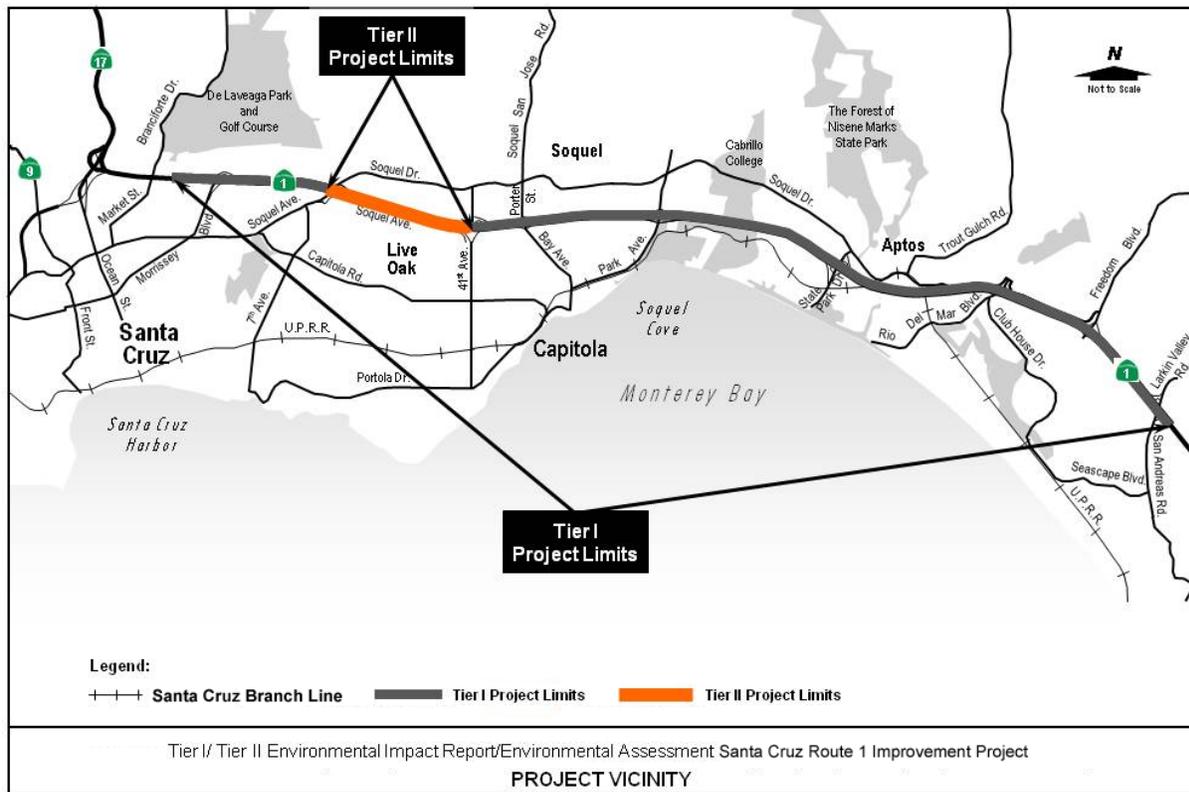
The Federal Highway Administration is the Federal Lead Agency for the project under the National Environmental Policy Act, and Caltrans is the State Lead Agency under the California Environmental Quality Act. This project has been evaluated as a combined Tier I/ Tier II Draft Environmental Impact Report/Environmental Assessment (Tier I/II DEIR/EA). Tiering or tiered environmental review is a streamlining tool for environmental review, under both state and federal law. This process allows agencies to conduct environmental review of large projects that will be phased in over an extended period of time. Under the Tier I project, three alternatives are being considered: an HOV lane alternative, a Corridor Transportation Management (TSM) alternative, and a No Build Alternative. The Tier I corridor portion of this environmental document analyzes the reasonably foreseeable environmental impacts of the ultimate construction and operation of those alternatives under consideration within the study corridor at a master-plan level. As portions of the Tier I project are ultimately programmed for design and construction, they will become Tier II projects and will be analyzed in separate Tier II environmental documents. The tiered approach is being used for the corridor because it is anticipated that funding to implement a program of transportation improvements within the corridor will occur over a multi-year time frame.

The Tier II component of this Tier I/II DEIR/EA also analyzes a project-level Auxiliary Lane Alternative and a No Build Alternative between 41st Avenue and Soquel Avenue/Drive within the larger project corridor. Unlike the Tier I Corridor Alternatives discussed above, it is anticipated that construction of the Tier II Auxiliary Lane Alternative would begin in 2019.

The Tier II portion of this environmental document analyzes the environmental impacts of construction and operation of the proposed alternatives at a project level.

S.2 Overview of Project Area

Route 1 is the primary route connecting communities in the southern and central areas of Santa Cruz County and is the only continuous commuter route linking Watsonville, Capitola, Aptos, Cabrillo College, Santa Cruz, and the University of California at Santa Cruz. Approximately 25 percent of commuters using Route 1 continue on Route 17 to jobs in Santa Clara County. Route 1 also is the southern terminus for Route 9 and Route 17, which bring heavy tourist traffic to coastal destinations in Santa Cruz and Monterey counties. Route 1 is a High Emphasis Route in the Caltrans Interregional Transportation Strategic Plan.



Route 1 between San Andreas Road and the Route 1/17 interchange is a four-lane divided freeway with a median width of approximately 8 to 63 feet. Within the Tier I project limits there are nine interchanges, two roadway overcrossings, and two Santa Cruz Branch Rail Line overhead bridge structures.

The Santa Cruz Route 1 HOV Lane Project is included in the 2014 Regional Transportation Plan as a financially unconstrained project, reflecting RTC’s long-term commitment to this Tier I project. Traffic data compiled for the Tier I project in 2009 estimated the average daily traffic volume on Route 1 within the project limits to be as high as 104,000 vehicles (both

directions combined). Traffic conditions are most congested in the commute directions—northbound in the morning, southbound in the evening during the peak hour.

S.3 Purpose and Need

The purpose of the proposed Tier I project on Route 1 within the project limits is to achieve the following:

- Reduce congestion.
- Promote the use of alternative transportation modes as means to increase transportation system capacity.
- Encourage carpooling and ridesharing.

The purpose of the Tier II project is to

- Reduce congestion.
- Improve safety.
- Promote the use of alternative transportation modes as means to increase transportation system capacity.

The main distinction between the Tier I and Tier II project purposes is that the Tier II project also addresses a congestion-related safety need within its limits, but will not promote carpooling in the Route 1 corridor. The Tier II project would promote the use of alternative modes and increase the capacity of the transportation system by providing a bicycle and pedestrian overcrossing of Route 1 at Chanticleer Avenue, as well as a new sidewalk along a portion of Soquel Avenue at Chanticleer Avenue, reducing travel distance for bicyclists and pedestrians.

The Tier I and Tier II projects are intended to address specific deficiencies and needs on Route 1, as described in the following subsection.

S.3.1 Need

The Tier I and Tier II projects address the following needs resulting from deficiencies on Route 1 within the project limits:

- Several bottlenecks along Route 1 in the southbound and northbound directions cause recurrent congestion during peak hours.
- Travel time delays due to congestion are experienced by commuters, commerce, and emergency vehicles.
- “Cut-through” traffic, or traffic on local streets, occurs and is increasing because drivers seek to avoid congestion on the highway.

- Limited opportunities exist for pedestrians and bicyclists to safely get across Route 1 within the project corridor.

Within the Tier I project limits, in addition to the common needs identified above, there is a need to address the following corridor-wide deficiencies:

- Insufficient incentives to increase transit service in the Route 1 corridor because congestion threatens reliability and cost-effective transit service delivery.
- Inadequate facilities to support carpool and rideshare vehicles over single-occupant vehicles, reducing travel time savings and reliability.

The Tier II project, in addition to the common needs identified above, also addresses the following need:

- Improve operational safety to address accident rates in excess of the statewide average.

S.4 Proposed Action

S.4.1 Tier I Corridor Alternatives

Tier I Corridor HOV Lane Alternative

The Tier I Corridor HOV Lane Alternative would expand the existing four-lane highway to a six-lane facility by adding one HOV lane in each direction next to the median and auxiliary lanes on the outside in each direction. Expanding the highway from four lanes to six lanes would be achieved by building the new lane in the existing freeway median and widening the freeway footprint in those locations where the median is not wide enough to fit the new lane.

The Tier I Corridor HOV Lane Alternative would modify or reconstruct all nine interchanges within the project limits to improve merging operations and ramp geometry. The Bay Avenue/Porter Street and 41st Avenue interchanges would be modified to operate as one interchange, with a frontage road to connect the two halves of the interchange. Where feasible, design deficiencies on existing ramps would be corrected. Ramp metering and HOV bypass lanes and mixed-flow lanes would be added to Route 1 on-ramps within the project limits; on-ramp transit stops would also be provided. The Tier I Corridor HOV Lane Alternative would include auxiliary lanes between Freedom Boulevard and Bay Avenue/Porter Street and between 41st Avenue and Soquel Avenue/Drive. Transportation Operations System infrastructure, such as changeable message signs, highway advisory radio, microwave detection systems, and vehicle detection systems, would also be provided under the Tier I Corridor TSM Alternative. One difference between the Tier I Corridor HOV Alternative and the Tier I Corridor TSM Alternative is that the Tier I Corridor HOV Alternative would not construct a northbound auxiliary lane between State Park Drive and Park Avenue.

Bridge structures and the Capitola Avenue overcrossing would be modified or replaced to accommodate the proposed HOV lanes. New and widened highway crossing structures would include shoulder and sidewalk facilities to accommodate pedestrians and bicycles. The Tier I Corridor HOV Lane Alternative would include three new pedestrian/bicycle overcrossings over Route 1 at Mar Vista Drive, Chanticleer Avenue, and Trevethan Avenue. The proposed interchange improvement would also enhance pedestrian and bicycle facilities along local roadways within the interchange areas.

The two existing Santa Cruz Branch Line Railroad bridges over Route 1 in Aptos would be replaced with longer bridges at the same elevation, and the highway profile would be lowered to achieve standard vertical clearance under the bridge to make room for the HOV and auxiliary lanes and to minimize environmental impacts. These bridges would include improvements to pedestrian and bicycle facilities. The existing Route 1 bridge over Aptos Creek, located between the two railroad bridges, has two traffic lanes in each direction and would be widened on the outside, northbound and southbound, to accommodate the HOV and auxiliary lanes.

Tier I Corridor TSM Alternative

The Tier I Corridor TSM Alternative proposes to add auxiliary lanes along the highway between major interchange pairs from Morrissey Boulevard to Freedom Boulevard, provide ramp metering, construct HOV bypass lanes and mixed-flow lanes on on-ramps, and improve nonstandard geometric elements at various ramps. The Tier I Corridor TSM Alternative also would include Transportation Operations System electronic equipment as described for the Tier I Corridor HOV Lane Alternative. In addition, the Tier I Corridor TSM Alternative would reconstruct the north and south Aptos railroad bridges and lower Route 1 in Aptos to achieve standard vertical clearance; reconstruct the State Park Drive, Capitola Avenue, and 41st Avenue overcrossings; widen the Aptos Creek Bridge; and construct three new pedestrian/ bicycle overcrossings over Route 1 at Mar Vista Drive, Chanticleer Avenue, and Trevethan Avenue. All of the aforementioned reconstructed bridges would include improvements to pedestrian and bicycle facilities. The Tier I Corridor TSM Alternative shares many features with the Tier I Corridor HOV Lane Alternative, the major exceptions being HOV lanes would not be constructed along the mainline and, of the nine interchanges within the project limits, only the Soquel Drive/Soquel Avenue interchange would be reconfigured.

S.4.2 Tier II Auxiliary Lane Alternative

The Tier II Auxiliary Lane Alternative would add an auxiliary lane to both the northbound and southbound sides of Route 1 between the 41st Avenue and Soquel Avenue/Drive interchanges. In addition, an Americans with Disabilities Act-compliant pedestrian and

bicycle overcrossing would be constructed at Chanticleer Avenue¹. The total roadway widening would be approximately 1.4 miles along Route 1.

The new auxiliary lanes would be 12 feet wide. In the southbound direction, the width needed for the new lane would be added in the median, and the median barrier would be shifted approximately 5 feet toward the northbound side of the freeway to make room for the new lane and a standard 10-foot wide shoulder. Where the new southbound lane meets the existing ramps, outside shoulder widening would occur to achieve standard 10-foot wide shoulders. In the northbound direction, the project proposes to pave a 10-foot-wide median shoulder and widen to the outside to add the 12-foot wide auxiliary lane and a new 10-foot wide shoulder.

The pedestrian/bicycle overcrossing constructed at Chanticleer Avenue would connect to a new 360-foot long by 6-foot wide sidewalk on Chanticleer Avenue on the south side of Route 1. The sidewalk, located along the south side of Soquel Drive, would be separated from the street by a 4-foot wide park strip.

Retaining walls would be constructed as part of the roadway widening along Route 1, with a total of four separate walls: three on the north side of the roadway and one on the south side. One of the retaining walls would start after the 41st Avenue on-ramp and extend approximately 150 feet; two other retaining walls on the northbound side would be 375 and 408 feet. On the southbound side, a 350-foot-long wall would be constructed along the highway mainline and Soquel Avenue, over the Rodeo Creek Gulch culvert.

S.4.3 No Build Alternative

The No Build Alternative offers a basis for comparing the Tier I Corridor Alternatives and the Tier II Auxiliary Lane Alternative in the future analysis year of 2035. Although the Tier I Corridor Alternatives and the Tier II Auxiliary Lane Alternative are separate projects, the assumptions regarding the No Build Alternative conditions are the same. Both assume no major construction on Route 1 through the Tier I corridor project limits or Tier II project limits other than currently planned and programmed improvements and continued routine maintenance. Planned and programmed improvements that are assumed in the No Build Alternative are the following, as contained in the 2014 Regional Transportation Plan:

- Construction of auxiliary lanes between the Soquel Avenue/Soquel Drive and Morrissey Boulevard interchanges (construction completed in December 2013).
- Replacement of the La Fonda Avenue overcrossing of Route 1, included as part of the Highway 1 Soquel/Morrissey Auxiliary Lanes Project (construction completed in 2013).

¹ The overcrossing at Chanticleer is included in both the Tier I and Tier II Projects. The Tier I program of improvements encompasses the current Tier II Auxiliary Lane Project, which has been identified as the first phase of overall program of improvements.

- Reconstruction of bridges and addition of a merge lane in each direction between Highway 17 and the Morrissey/La Fonda area for the Highway 1/17 Merge Lanes Project (construction completed in 2008).
- Installation of median barrier on Route 1 from Freedom Boulevard to Rio Del Mar Boulevard.
- Installation of a Class 1 bicycle and pedestrian facility on Morrissey Boulevard over Highway 1.
- Implementation of single interchange improvements at 41st Avenue and Bay Avenue/Porter Avenue as detailed and expensed in the Highway 1 HOV Project (RTC 24) as a standalone project, if the RTC project does not proceed.

The No Build Alternative also includes planned improvements to roadways and roadsides on Rio Del Mar Boulevard from Esplanade to Route 1, which includes the addition of bike lanes, transit turnouts, left-turn pockets, merge lanes, and intersection improvements. Road work includes major rehabilitation and maintenance of road and roadsides.

S.5 Joint California Environmental Quality Act/National Environmental Policy Act Document

The proposed project is a joint project by the California Department of Transportation (Department) and the Federal Highway Administration and is subject to state and federal environmental review requirements. Project documentation, therefore, has been prepared in compliance with both the California Environmental Quality Act and the National Environmental Policy Act. The Federal Highway Administration is the lead agency under the National Environmental Policy Act. The Department is the lead agency under the California Environmental Quality Act.

Some impacts determined to be significant under the California Environmental Quality Act may not lead to a determination of significance under the National Environmental Policy Act. Because the National Environmental Policy Act is concerned with the significance of the project as a whole, quite often a “lower level” document is prepared for the National Environmental Policy Act. One of the most common joint document types is an Environmental Impact Report/Environmental Assessment (EIR/EA).

After receiving comments from the public and reviewing agencies, a Final EIR/EA will be prepared. The Department may prepare additional environmental and/or engineering studies to address comments. The Final EIR/EA will include responses to comments received on the Draft EIR/EA and will identify the preferred alternative. If the decision is made to approve the project, a Notice of Determination will be published for compliance with the California Environmental Quality Act, and the Federal Highway Administration will decide whether to issue a Finding of No Significant Impact (FONSI) or require an Environmental Impact

Statement (EIS) for compliance with the National Environmental Policy Act. A Notice of Availability (NOA) of the FONSI will be sent to the affected units of federal, state, and local government, and to the State Clearinghouse in compliance with Executive Order 12372.

S.6 Tiered Environmental Documents

As mentioned in the introduction of this section, tiering is a staged approach to satisfying the National Environmental Policy Act as described in the Council on Environmental Quality's *Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act* (40 Code of Federal Regulations 1500 – 1508) and in Federal Highway Administration's *Environmental Impact and Related Procedures* (23 Code of Federal Regulations 771). Similarly, the California Environmental Quality Act provides for tiered or master Environmental Impact Statements (California Environmental Quality Act Guideline Sections 15175 – 15179.5). The Master Environmental Impact Report is intended to streamline later environmental review and evaluate to the greatest extent feasible cumulative impacts, growth-inducing impacts, and irreversible significant effects on the environment of subsequent projects. Specifically, California Environmental Quality Act Guidelines Section 15175 (b) (6) provides that a state highway project or mass transit project that will be subject to multiple stages of review or approval are appropriate for a Master Environmental Impact Report.

Tiering addresses broad programs and issues related to the entire corridor in the Tier I analysis. As specific projects within the corridor are ready for implementation, impacts of that action are evaluated in subsequent Tier II studies. The tiered process supports decision-making on issues that are ripe for decision and provides a means to preserve those decisions. The Tier I portion of this document provides fact-based analyses that supports informed decision making on the 8.9-mile corridor and discloses issues associated with the selection of a Tier I Corridor HOV Lane Alternative or Tier I Corridor TSM Alternative. Identification of a Tier I Corridor Alternative will not result directly in construction; however, it will provide the basis for decision makers to select a program of transportation improvements within the corridor.

The Tier II portion of the environmental document examines a project-level Auxiliary Lane Alternative and a No Build Alternative. The Tier II corridor segment is within the project limits of the Tier I corridor and would represent the first implementation phase of transportation improvements for the 8.9-mile corridor.

S.7 Project Impacts

The Tier I Corridor HOV Lane Alternative would provide congestion relief and encourage carpooling and transit use. Vehicles in the HOV lanes would travel in free-flow conditions in 2035, while mixed-flow traffic would experience improved speeds (still below free-flow

conditions) and reductions in delay. Improved highway operations would support increased freeway-oriented bus services that would encourage new riders to use transit. The Tier I Corridor TSM Alternative is expected to produce incremental congestion relief by providing operational improvements and separating traffic movements entering and exiting the freeway from mainline traffic flow.

The project can generally be accomplished within the existing Caltrans highway right-of-way, but some additional right-of-way acquisition will be required. Widening would result in impacts both within and outside the existing right-of-way. The Project Development Team has incorporated a variety of design measures to reduce impacts in developing the preliminary design of the project, such as limiting widening to one side of the existing roadway, using retaining walls, and pursuing design exceptions for nonstandard inside shoulder and median widths.

Environmental impacts expected to occur under the Tier I Corridor Alternatives and the Tier II Auxiliary Lane Alternative would include visual changes; minor floodplain encroachments and increases in impervious surfaces and runoff; noise; impacts to natural communities that provide habitat for various species of concern; filling in wetlands and other waters of the United States under jurisdiction of the United States Army Corps of Engineers, the California Department of Fish and Wildlife, and the California Coastal Commission; and potential for impacts to Central California Coast steelhead, tidewater goby, and California red-legged frog. The Tier I Corridor HOV Lane Alternative would require displacement of businesses, residences, and parking.

Tables S-1 and S-2 summarize environmental impacts of the project to assist the reader in understanding and comparing the effects of the Tier I Corridor Alternatives and the Tier II Auxiliary Lane Alternative, respectively, on various resources. Both adverse and beneficial effects are listed, but issues for which impacts are minor or negligible are not included in the table. All impacts are addressed with avoidance, minimization, and/or mitigation measures for each potential impact in their respective sections of Chapter 2.

Coordination with Other Agencies

The proposed Tier I Corridor Alternatives will require coordination with the following agencies:

- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- National Marine Fisheries Service
- California Department of Fish and Wildlife
- California Coastal Commission
- Regional Water Quality Control Board
- California Public Utilities Commission

- County of Santa Cruz
- City of Santa Cruz
- City of Capitola

The proposed Tier II Auxiliary Lane Alternative will require coordination with the following agencies:

- National Marine Fisheries Service
- California Department of Fish and Wildlife
- Regional Water Quality Control Board
- U.S. Army Corps of Engineers
- County of Santa Cruz

Permits and approvals may be required from some of the above agencies. A list of required permits and approvals is provided in Section 1.6, Permits and Approvals Needed.

Table S-1: Summary of Environmental Impacts Tier I Corridor Alternatives

Potential Impact	Tier I Corridor TSM Alternative	Tier I Corridor HOV Lane Alternative	No Build Alternative
Permanent Impacts			
Land Use	Would convert 1.8 acres from a range of land uses to transportation use.	Would convert 11.59 acres from a variety of land uses to transportation use.	No Impacts.
Consistency with State, Regional, and Local Plans	Project would be consistent with local planning goals and policies. This alternative would be less effective than the Tier I Corridor HOV Lane Alternative in encouraging use of alternative modes, and reducing through traffic on local streets.	Project would be consistent with local planning goals and policies. This alternative would be more effective than the Tier I Corridor TSM Alternative in encouraging use of alternative modes and reducing through traffic on local streets.	Implementation of the No Build Alternative would not support achievement of the local and regional goals aimed at improving the transportation system.
Coastal Zone	Tier I Corridor TSM Alternative is generally consistent with policies from the Santa Cruz County and City of Santa Cruz Local Coastal Programs. This alternative would preserve park and recreational land uses as stated in the Local Coastal Programs, and they would improve access to these resources by decreasing congestion and delay along Route 1. However, this alternative could result in policy inconsistencies related to the topics of scenic and visual resources, biological resources, wetland and creek protection, and historical resources.	Tier I Corridor HOV Lane Alternative is consistent with policies from the Santa Cruz County and City of Santa Cruz Local Coastal Programs. This alternative would preserve park and recreational land uses as stated in the Local Coastal Programs, and they would improve access to these resources by decreasing congestion and delay along Route 1. However, this alternative could result in policy inconsistencies related to the topics of scenic and visual resources, biological resources, wetland and creek protection, and historical resources.	The No Build Alternative would not be consistent with some coastal zone policies. Under this alternative, traffic conditions would continue to worsen along Route 1, which would not improve access to beaches or recreational land uses, as outline in the Local Coastal Programs.

Table S-1: Summary of Environmental Impacts Tier I Corridor Alternatives

Potential Impact		Tier I Corridor TSM Alternative	Tier I Corridor HOV Lane Alternative	No Build Alternative
Growth		Proposed project would serve existing growth already planned and projected for the corridor and is not likely to stimulate unplanned residential or related commercial growth.	Proposed project would serve existing growth already planned and projected for the corridor and is not likely to stimulate unplanned residential or related commercial growth.	No Impacts.
Community Character and Cohesion		The Tier I Corridor TSM Alternative would not cause adverse impacts on community character or cohesion. The communities and neighborhoods along Route 1 are already divided by a multi-lane highway. The addition of soundwalls and relocations that would be necessary would not further divide existing communities.	The Tier I Corridor HOV Lane Alternative would not cause adverse impacts on community character or cohesion. The communities and neighborhoods along Route 1 are already divided by a multi-lane highway. The addition of soundwalls and relocations that would be necessary would not further divide existing communities.	No Impacts.
Environmental Justice		Tier I Corridor TSM Alternative would not cause disproportionately high and adverse effects on any minority or low-income populations per Executive Order 12898 regarding Environmental Justice.	Tier I Corridor HOV Lane Alternative would not cause disproportionately high and adverse effects on any minority or low-income populations per Executive Order 12898 regarding Environmental Justice.	No Impacts.
Relocations	Business	No commercial establishments would be displaced.	12 business units displaced.	No Impacts.
	Residential	No residential units would be displaced.	8 residential units displaced.	
Utilities		110 utility lines would likely require relocation. Utility relocations may require short-term, limited interruptions of service. Coordination with providers would avoid unscheduled interruptions in service.	142 utility lines would likely require relocation. Utility relocations may require short-term, limited interruptions of service. Coordination with providers would avoid unscheduled interruptions in service.	No Impacts.
Emergency Services		Project would have potential for emergency service delays during construction. Tier I Corridor TSM Alternative would provide minimal benefits due to planned operational improvements on Route 1. Implementation of the Transportation	Project would have potential for emergency service delays during construction only. Tier I Corridor HOV Lane Alternative would increase the capacity of Route 1, allowing emergency services to better respond to emergencies while using Route 1.	No Impacts.

Table S-1: Summary of Environmental Impacts Tier I Corridor Alternatives

Potential Impact	Tier I Corridor TSM Alternative	Tier I Corridor HOV Lane Alternative	No Build Alternative
	Management Plan in compliance with Caltrans and local policies would involve planning with emergency service providers throughout the project construction to avoid emergency service delays.	Implementation of the Transportation Management Plan in compliance with Caltrans and local policies would involve planning with emergency service providers throughout the project construction to avoid emergency service delays.	
Traffic and Transportation	<p>Congestion and stop-and-go conditions would continue, but ramp metering and auxiliary lanes would enable Route 1 to serve more peak-period travel demand than under no-build conditions.</p> <p>Reduction in delay to 22 minutes northbound in the morning and 50 minutes southbound in the evening.</p> <p>During the morning peak hour, northbound travel time would be reduced by 42 percent, while southbound travel time would be reduced by 59 percent. During the evening peak hour, southbound travel time would increase by 2 percent, while the average travel speed would decrease by 9 percent. Densities in the traffic study area would improve slightly.</p>	<p>Adding HOV lanes, as well as ramp metering and auxiliary lanes, is expected to improve the ability of Route 1 to meet future travel demand within the study area.</p> <p>Reduction in delay to 6 minutes northbound in the morning and 9 minutes southbound in the evening.</p> <p>During the morning peak hour, northbound travel time would be reduced by 73 percent, while southbound travel time would be reduced by 59 percent. During the evening peak hour, southbound travel time would decrease by 69 percent, while the average travel speed would increase by 200 percent. Densities in the traffic study area would improve, reducing by more than 50 percent the average peak hour densities of mixed flow lanes in the dominant commute directions (northbound in the morning and southbound in the evening).</p>	<p>Heavily congested stop-and-go conditions with peak-direction delays of 48 to 49 minutes during peak periods with average speeds of 11 to 12 miles per hour in 2035.</p> <p>Congestion would extend beyond freeway onto ramps and local streets.</p>

Table S-1: Summary of Environmental Impacts Tier I Corridor Alternatives

Potential Impact	Tier I Corridor TSM Alternative	Tier I Corridor HOV Lane Alternative	No Build Alternative
Pedestrian and Bicycle Facilities	New pedestrian/bicycle overcrossings at Trevethan, Chanticleer, and Mar Vista. Interchange improvements would make conditions more pedestrian and bicycle friendly.	New pedestrian/bicycle overcrossings at Trevethan Avenue, Chanticleer Avenue, and Mar Vista Drive. Interchange improvements would make conditions more pedestrian and bicycle friendly.	Some new bicycle facilities planned, but would have impacts to pedestrian and bicycle circulation from traffic congestion on local streets.
Transit	Capacity improvements and the deployment of Intelligent Transportation Systems technologies would provide slightly improved highway conditions that would benefit transit operations on Route 1 when compared to the No Build Alternative.	Project would have the potential to capture an additional 40 percent of latent express bus ridership. Long-term impacts on bus travel would generally be positive because of reduced traffic delay and travel times along Route 1 and at surrounding project area intersections and on parallel local streets.	All study intersections would operate at unacceptable levels of service. Travel conditions would depress transit ridership.
Parking	No parking impacts.	171 parking spaces removed from businesses that would remain.	No Impacts.
Visual/Aesthetics	Substantial visual changes would occur from the highway from the addition of auxiliary lanes; bridge widening; installation of pedestrian/bicycle overcrossings and reconstruction of existing ramps; new soundwalls and retaining walls; and removal of trees and mature vegetation.	Substantial visual changes from the highway would occur from the addition of HOV and auxiliary lanes; bridge widening; installation of pedestrian/bicycle overcrossings and reconstruction of existing ramps and interchange modifications; new soundwalls and retaining walls; and removal of trees and mature vegetation.	No Impacts.
Cultural Resources	The Tier I Corridor TSM Alternative may adversely affect portions of the three unevaluated archaeological sites and their potential buried archaeological deposits within the archaeological Area of Potential Effects.	The Tier I Corridor HOV Lane Alternative may adversely affect portions of the three unevaluated archaeological sites and their potential buried archaeological deposits within the archaeological Area of Potential Effects.	No Impacts.

Table S-1: Summary of Environmental Impacts Tier I Corridor Alternatives

Potential Impact	Tier I Corridor TSM Alternative	Tier I Corridor HOV Lane Alternative	No Build Alternative
Hydrology and Floodplain	Portions of the project site are located within the fringe of the 100-year floodplain into which the project would have a minor encroachment. A minor increase in impervious surface areas from the widened pavement areas would occur, resulting in minor increases to the peak amount of stormwater runoff. The TSM Alternative would have a lesser effect than the HOV Alternative on the natural and beneficial floodplain values at locations in which project elements encroach upon the 100-year floodplain.	Portions of the project site are located within the fringe of the 100-year floodplain into which the project would have an encroachment. The project would increase the amount of impervious surface, resulting in minor increases to the peak amount of stormwater runoff. The HOV Lane Alternative would have a greater effect than the TSM Alternative on the natural and beneficial floodplain values at locations in which project elements encroach upon the 100-year floodplain.	No Impacts.
Water Quality and Stormwater Runoff	For the Tier I Corridor TSM Alternative, the total proposed increase in impervious area throughout the entire project area is 22 total acres. Construction of future Tier II projects has a potential for temporary water quality impacts due to grading activities and removal of existing vegetation, and the potential for stormwater runoff to transport pollutants from the construction site to nearby creeks and storm drains if Best Management Practices are not properly implemented.	For the Tier I Corridor HOV Lane Alternative, the total proposed increase throughout the entire project area in impervious area is 64 total acres. Construction of future Tier II projects has a potential for temporary water quality impacts due to grading activities and removal of existing vegetation, and the potential for stormwater runoff to transport pollutants from the construction site to nearby creeks and storm drains if Best Management Practices are not properly implemented.	Permanent water quality impacts from roadway runoff due to worsening congestion, greater deposition of particulates from exhaust and heavy metals from braking.
Geology/Soils/Seismic/ Topography	There is low erosion potential, no new embankments are anticipated, and the project area is not expected to have any significant amounts of expansive soils. The primary seismic hazard is the potential for moderate to severe ground shaking from earthquakes, and the liquefaction and lateral spreading that could occur after an earthquake.	There is low erosion potential, no new embankments are anticipated, and the project area is not expected to have any significant amounts of expansive soils. The primary seismic hazard is the potential for moderate to severe ground shaking from earthquakes, and the liquefaction and lateral spreading that could occur after an earthquake.	No Impacts.

Table S-1: Summary of Environmental Impacts Tier I Corridor Alternatives

Potential Impact	Tier I Corridor TSM Alternative	Tier I Corridor HOV Lane Alternative	No Build Alternative
Hazardous Materials	Wooden utility poles along the roadside may be coated with creosote. Soils in these areas may contain aurally deposited lead generated by motor vehicle exhaust. Existing or acquired structures may have joint compound materials made of asbestos-containing materials. They may also contain lead-based paint or other hazardous materials and may exceed hazardous water criteria. These hazardous materials have the potential to result in the accidental release of hazardous waste and/or hazardous materials during construction of the project.	Wooden utility poles along the roadside may be coated with creosote. Soils in these areas may contain aurally deposited lead generated by motor vehicle exhaust. Existing or acquired structures may have joint compound materials made of asbestos-containing materials. They may also contain lead-based paint or other hazardous materials and may exceed hazardous water criteria. These hazardous materials have the potential to result in the accidental release of hazardous waste and/or hazardous materials during construction of the project.	No Impacts.
Air Quality	When 2035 conditions are compared with the 2003 baseline, the Tier I Corridor TSM Alternative would reduce emissions of the criteria pollutants other than sulfur oxides during peak hours, although it would have higher emissions of criteria pollutants than the No Build Alternative. In 2035 annual emissions would decrease under the Tier I TSM Alternative in comparison to baseline conditions (2003), but would increase when compared with the No-Build Alternative. Because the study area has not recently exceeded ambient air quality standards, it is unlikely that the standards would be exceeded in the future when total emissions are lower.	The Tier I Corridor HOV Lane Alternative would generally reduce emissions. In 2035, concentrations of all criteria pollutants would be substantially reduced in comparison with the 2003 baseline conditions. In comparison with the No-Build Alternative, annual emissions of all criteria pollutants would be reduced, although there would be a minor increase in peak emissions for certain criteria pollutants. Because the study area has not recently exceeded ambient air quality standards, it is unlikely that the standards would be exceeded in the future when total emissions are lower.	No Impacts.
Noise	108 noise receptors approach or exceed noise abatement criteria.	130 noise receptors approach or exceed noise abatement criteria.	No Impacts.

Table S-1: Summary of Environmental Impacts Tier I Corridor Alternatives

Potential Impact	Tier I Corridor TSM Alternative	Tier I Corridor HOV Lane Alternative	No Build Alternative
Energy	The Tier I Corridor TSM Alternative would have a minimal effect in reducing energy consumption.	Improvements in traffic operations under the Tier I Corridor HOV Lane Alternative would reduce operating energy use, whether in the form of petroleum fuels or alternative sources.	No Impacts.
Natural Communities	Permanent and temporary effects on the following natural communities located adjacent to proposed highway features are anticipated: Riverine/ Freshwater Marsh (0.30 acre), Riparian Forest (4.58 acres), Coast Live Oak Woodland (4.89 acres), Mixed Conifer Woodland (2.03 acres), Eucalyptus Woodland (0.28 acre) Coastal Scrub (0.87 acre), Annual Grassland (0.58 acre), Ruderal/Disturbed (3.61 acres), and Landscaped/Developed (43.64 acres).	Impacts to the same communities, but impact greater due to larger footprint: Riverine/Freshwater Marsh (1.08 acres), Riparian Forest (8.88 acres), Coast Live Oak Woodland (9.45 acres), Mixed Conifer Woodland (6.08 acres), Eucalyptus Woodland (1.02 acre) Coastal Scrub (2.76 acres), Annual Grassland (4.53 acres), Ruderal/Disturbed (13.31 acres), and Landscaped/Developed (104.67 acres).	No Impacts.
Wetlands and other Waters	Project would permanently impact 0.23 acre of U.S. Army Corps of Engineers wetlands, 0.10 acre of U.S. Army Corps of Engineers other waters, 2.20 acres under the jurisdiction of a Local Coastal Plan approved by the Coastal Commission, and 3.58 acres of California Department of Fish and Wildlife jurisdiction wetland area. Permanent impacts would result from changes in bank configuration, loss of riparian habitat associated with road widening and culvert extensions, realignment of existing roadways, and construction of new road sections.	Project would permanently impact 0.78 acre of U.S. Army Corps of Engineers wetlands, 0.15 acre of U.S. Army Corps of Engineers other waters, 3.22 acres under the jurisdiction of a Local Coastal Plan approved by the Coastal Commission, and 8.98 acres of California Department of Fish and Wildlife jurisdiction wetland area. Permanent impacts would result from similar activities and elements as described for the Tier I Corridor TSM Alternative.	No Impacts.

Table S-1: Summary of Environmental Impacts Tier I Corridor Alternatives

Potential Impact	Tier I Corridor TSM Alternative	Tier I Corridor HOV Lane Alternative	No Build Alternative
Special-Status Species	<p>No permanent impacts on special-status plant species are anticipated; however, due to the long project timeframe, and despite the primarily urban or disturbed conditions present, there is a potential that special-status plant species could become established before project construction and additional floristic surveys will be required.</p> <p>The following special-status animal species could potentially be affected through streambed disturbance, encroachment upon suitable habitat, and tree removal: foothill yellow-legged frog, California red-legged frog, Santa Cruz long-toed salamander, California tiger salamander, western pond turtle, tidewater goby, central California coast steelhead, monarch butterfly, California linderiella, Cooper's hawk, tricolored blackbird, great blue heron, short-eared owl, burrowing owl, white-tailed kite, least Bell's vireo, pallid bat, hoary bat, roosting bats, American badger, and nesting birds protected under the Migratory Bird Treaty Act.</p>	<p>No permanent impacts on special-status plant species are anticipated; however, due to the long project timeframe and despite the primarily urban or disturbed conditions present, there is a potential that special-status plant species could become established before project construction and additional floristic surveys will be required.</p> <p>The same special-status animal species that may be affected by the Tier I Corridor TSM Alternative have the potential to be affected by the Tier I Corridor HOV Lane Alternative; however, in general, the HOV Lane Alternative would encroach upon a larger area of suitable habitat than the TSM Alternative.</p>	No Impacts.

Table S-1: Summary of Environmental Impacts Tier I Corridor Alternatives

Potential Impact	Tier I Corridor TSM Alternative	Tier I Corridor HOV Lane Alternative	No Build Alternative
Threatened and Endangered Species	<p>Permanent impacts to waters of the United States would result in permanent loss of habitat for tidewater goby, central California coast steelhead, and California red-legged frog. Section 7 consultation with the United States Fish and Wildlife Service and the National Marine Fisheries Service will be required.</p> <p>The project may affect, but is not likely to adversely affect California tiger salamander; however, Valencia Lagoon may provide marginal habitat for the species; additional surveys may be required if the project activities occur in this area.</p> <p>The project may affect, and is likely to adversely affect, Santa Cruz long-toed salamander. Consultation with the United States Fish and Wildlife Service would be required.</p> <p>Least Bell's vireo, marsh sandwort, Monterey spineflower, robust spineflower, seaside bird's beak, San Francisco popcorn flower, and Santa Cruz tarplant are unlikely to be affected by the project. Impacts to fully-protected white tail kite will be avoided.</p>	<p>Impacts could occur to the same threatened and endangered species as identified for the Tier I Corridor TSM Alternative; however, the Tier I Corridor HOV Lane Alternative project footprint is larger, and therefore would encroach upon a greater area of suitable habitat and has greater potential for impact to these species.</p>	No Impacts.
Nesting Birds	<p>Suitable habitat is present for several special-status bird species and nesting birds protected under the Migratory Bird Treaty Act. The removal of vegetation could affect nesting birds and their habitat.</p>	<p>Impacts could affect the same nesting bird species as identified for the Tier I Corridor TSM Alternative; however, the Tier I Corridor HOV Lane Alternative project footprint is larger, and therefore would encroach upon a greater area of suitable habitat than the TSM Alternative and has greater potential impacts on these species.</p>	No Impacts.

Table S-1: Summary of Environmental Impacts Tier I Corridor Alternatives

Potential Impact	Tier I Corridor TSM Alternative	Tier I Corridor HOV Lane Alternative	No Build Alternative
Temporary, Construction Phase Impacts			
<p>Traffic and Transportation/ Pedestrian and Bicycle Facilities</p>	<p>Short-term traffic disruptions in vicinity of Route 1 interchanges and traffic on the highway may be disrupted by trucks hauling materials and debris. Each construction stage would maintain both of the existing two lanes of traffic on Route 1 in each direction during daytime construction. Striping operations, traffic control set-up, installation of a storm drain crossing, asphalt pavement overlay, and short-term overcrossing falsework erection would occur at night using lane and mainline closures, as allowed on the closure charts that would be developed during the design phase.</p> <p>It is anticipated that future tiered projects under either of the Tier I Corridor Alternatives may require temporary closure of existing bicycle, transit, or pedestrian facilities at times, and may require temporary rerouting of transit service due to interchange work and ramp closures.</p> <p>Minor detours during short-term closures. During construction of ramp conforms, traffic would be diverted to next interchange. Some nighttime work would be required.</p>	<p>Similar impacts to Tier I TSM Alternative, but the impacts would occur for a greater duration due to the greater complexity of the HOV Lane Alternative.</p>	<p>No Impacts.</p>
<p>Utilities</p>	<p>The potential exists for construction activities to encounter unexpected utilities within the area of roadway improvements. In addition, utility relocations may require short-term, limited interruptions of service.</p>	<p>The potential exists for construction activities to encounter unexpected utilities within the area of roadway improvements. In addition, utility relocations may require short-term, limited interruptions of service.</p>	<p>No Impact.</p>

Table S-1: Summary of Environmental Impacts Tier I Corridor Alternatives

Potential Impact	Tier I Corridor TSM Alternative	Tier I Corridor HOV Lane Alternative	No Build Alternative
Community Impacts	Construction impacts, including noise and fugitive dust from construction activities and short-term roadway closures requiring alternative traffic routing, would have greater effects on residents of the immediate project area than upon other Route 1 users. These effects would be experienced by ethnic minority and low-income individuals only to the extent that these populations are concentrated in the immediate project area. However, these effects would not fall disproportionately on ethnic minority and low-income individuals because all residents of the immediate project area would experience the same effects.	Construction impacts, including noise and fugitive dust from construction activities and short-term roadway closures requiring alternative traffic routing, would have greater effects on residents of the immediate project area than upon other Route 1 users. These effects would be experienced by ethnic minority and low-income individuals only to the extent that these populations are concentrated in the immediate project area. However, these effects would not fall disproportionately on ethnic minority and low-income individuals because all residents of the immediate project area would experience the same effects.	No Impact.
Visual/Aesthetics	Construction activities would involve use of equipment, stockpiling of soils and materials, and other visual signs of construction. Approximately 61 acres of existing vegetation would be cleared for construction, with 23 acres of that available for replanting.	Construction activities would involve use of equipment, stockpiling of soils and materials, and other visual signs of construction. Approximately 109 acres of existing vegetation would be cleared for construction and paving operations. Of the area cleared, approximately 65 acres would be available for replanting.	No Impacts.
Cultural Resources	No adverse effect to historic resources within the architectural Area of Potential Effects. Potential to adversely affect portions of the three unevaluated archaeological sites.	No adverse effect to historic resources within the architectural Area of Potential Effects. Potential to adversely affect portions of the three unevaluated archaeological sites.	No Impacts.
Hydrology, Water Quality, and Stormwater Runoff	Construction activities could result in temporary changes in water volume or flow and increased siltation, sedimentation, erosion, and water turbidity. There is a potential for temporary water quality impacts due to grading activities and removal of existing vegetation, which can cause	Construction activities could result in temporary changes in water volume or flow and increased siltation, sedimentation, erosion, and water turbidity. There is a potential for temporary water quality impacts due to grading activities and removal of existing vegetation, which can cause increased erosion.	No Impacts.

Table S-1: Summary of Environmental Impacts Tier I Corridor Alternatives

Potential Impact	Tier I Corridor TSM Alternative	Tier I Corridor HOV Lane Alternative	No Build Alternative
	increased erosion. Stormwater runoff from the project site may transport pollutants to nearby creeks and storm drains if Best Management Practices are not properly implemented.	Stormwater runoff from the project site may transport pollutants to nearby creeks and storm drains if Best Management Practices are not properly implemented.	
Paleontology	High potential for fossil remains that could be scientifically important to be uncovered by excavations during project construction.	High potential for fossil remains that could be scientifically important to be uncovered by excavations during project construction. The potential for paleontological impacts is greater under this alternative.	No Impacts.
Hazardous Waste/ Materials	Wooden utility poles along the roadside may be coated with creosote. Soils in these areas may contain aurally deposited lead generated by motor vehicle exhaust. Existing or acquired structures may have joint compound materials made of asbestos-containing materials. They may also contain lead-based paint or other hazardous materials and may exceed hazardous water criteria. These hazardous materials have the potential to result in the accidental release of hazardous waste and/or hazardous materials during construction of the project.	Wooden utility poles along the roadside may be coated with creosote. Soils in these areas may contain aurally deposited lead generated by motor vehicle exhaust. Existing or acquired structures may have joint compound materials made of asbestos-containing materials. They may also contain lead-based paint or other hazardous materials and may exceed hazardous water criteria. These hazardous materials have the potential to result in the accidental release of hazardous waste and/or hazardous materials during construction of the project.	No Impacts.
Air Quality	Short-term degradation of air quality may occur due to the release of particulate emissions (i.e., airborne dust) generated by excavation, grading, hauling, and various other activities related to construction. Emissions from construction equipment are also anticipated and would include carbon monoxide, nitrogen oxides, volatile organic compounds, directly emitted particulate matter (PM ₁₀ and PM _{2.5}), and toxic air contaminants such as diesel	Same as Tier I Corridor TSM Alternative.	No Impacts

Table S-1: Summary of Environmental Impacts Tier I Corridor Alternatives

Potential Impact	Tier I Corridor TSM Alternative	Tier I Corridor HOV Lane Alternative	No Build Alternative
	exhaust particulate matter.		
Noise	No adverse noise impacts because construction would be conducted in accordance with Caltrans Standard Specifications, would be short-term and intermittent, and would be dominated by local traffic noise.	No adverse noise impacts because construction would be conducted in accordance with Caltrans Standard Specifications, would be short-term and intermittent, and would be dominated by local traffic noise.	No Impacts.
Natural Communities	Permanent and temporary effects on the following natural communities located adjacent to proposed highway features are anticipated: Riverine/ Freshwater Marsh (0.30 acre), Riparian Forest (4.58 acres), Coast Live Oak Woodland (4.89 acres), Mixed Conifer Woodland (2.03 acres), Eucalyptus Woodland (0.28 acre) Coastal Scrub (0.87 acre), Annual Grassland (0.58 acre), Ruderal/Disturbed (3.61 acres), and Landscaped/Developed (43.64 acres).	Impacts to the same communities, but impact greater due to larger footprint: Riverine/Freshwater Marsh (1.08 acres), Riparian Forest (8.88 acres), Coast Live Oak Woodland (9.45 acres), Mixed Conifer Woodland (6.08 acres), Eucalyptus Woodland (1.02 acres) Coastal Scrub (2.76 acres), Annual Grassland (4.53 acres), Ruderal/Disturbed (13.31 acres), and Landscaped/Developed (104.67 acres).	No Impacts.
Wetlands and other Waters	Project would temporarily impact 0.03 acre of U.S. Army Corps of Engineers wetlands, 0.02 acre of U.S. Army Corps of Engineers other waters, 0.33 acre under the jurisdiction of a Local Coastal Plan approved by the Coastal Commission, and 0.95 acre of California Department of Fish and Wildlife jurisdiction wetland area. Temporary impacts would result from stream diversion installation and removal, streambed disturbance during culvert removal and replacement, removal and reconstruction of roadside ditches, vegetation removal, and road construction.	Project would temporarily impact 0.22 acre of U.S. Army Corps of Engineers wetlands, 0.10 acre of U.S. Army Corps of Engineers other waters, 0.46 acre under the jurisdiction of a Local Coastal Plan approved by the Coastal Commission, and 1.41 acres of California Department of Fish and Wildlife jurisdiction wetland area. Temporary impacts would result from similar activities and elements as described for the Tier I Corridor TSM Alternative.	No Impacts.

Table S-1: Summary of Environmental Impacts Tier I Corridor Alternatives

Potential Impact	Tier I Corridor TSM Alternative	Tier I Corridor HOV Lane Alternative	No Build Alternative
Special-Status Species	<p>The following special-status species could be affected by the aforementioned construction impacts: foothill yellow-legged frog, California red-legged frog, Santa Cruz long-toed salamander, California tiger salamander, western pond turtle, tidewater goby, Central California Coast steelhead, monarch butterfly, California linderiella, Cooper’s hawk, Tricolored blackbird, great blue heron, short-eared owl, burrowing owl, white-tailed kite, Least Bell’s vireo, pallid bat, hoary bat, roosting bats, American badger, and nesting birds.</p>	<p>The same construction period impacts to special-status species identified for the Tier I Corridor TSM Alternative would result, although the project footprint is larger and there could be a greater area of impacted habitat and potentially greater impacts on these species.</p>	<p>No Impacts.</p>
Threatened and Endangered Species	<p>Construction noise and movements of workers could disturb bird nesting or bat roosting. Temporary dewatering/diversion of streams could interrupt passage for fish and amphibians. Removal of mature trees could affect nesting birds.</p> <p>The following special-status species could potentially be affected by the aforementioned construction impacts: tidewater goby, Central California Coast steelhead, and California red-legged frog. Section 7 consultation with the United States Fish and Wildlife Service and the National Marine Fisheries Service will be required.</p> <p>The project may affect, and is likely to adversely affect, the Santa Cruz long-toed salamander. Consultation with the U.S. Fish and Wildlife Service would be required.</p> <p>The removal of vegetation and/or the removal of nests could directly impact the white-tailed</p>	<p>The same construction period impacts to special-status species identified for the Tier I Corridor TSM Alternative would result, although the project footprint is larger and there could be a greater area of impacted habitat and potentially greater impacts on these species.</p>	<p>No Impacts.</p>

Table S-1: Summary of Environmental Impacts Tier I Corridor Alternatives

Potential Impact	Tier I Corridor TSM Alternative	Tier I Corridor HOV Lane Alternative	No Build Alternative
	kite. Least Bell's vireo, marsh sandwort, Monterey spineflower, robust spineflower, seaside bird's beak, San Francisco popcorn flower, and Santa Cruz tarplant are unlikely to be affected by the project.		
Nesting Birds	The removal of vegetation and/or the removal of nests could directly affect nests and any eggs or young residing in nests of birds protected under the Migratory Bird Treaty Act. Because birds can be sensitive to noise disturbance, indirect impacts could also result from noise and disturbance associated with construction, which could alter perching, foraging, and/or nesting behaviors.	The same construction period impacts to nesting bird species identified for the Tier I Corridor TSM Alternative would result, although the project footprint is larger and there could be a greater area of impacted habitat and potentially greater impacts on these species.	No Impacts.

Table S-2: Summary of Environmental Impacts Tier II Auxiliary Lane Alternative

Potential Impact		Tier II Auxiliary Lane Alternative	No Build Alternative
Permanent Impacts			
Land Use		Would convert 0.33 acre of land to transportation use.	No Impacts.
Consistency with State, Regional, and Local Plans		Project would be consistent with local planning goals and policies.	Implementation of the No Build Alternative would not support achievement of the local and regional goals aimed at improving the transportation system.
Coastal Zone		The Tier II project is located outside of coastal zone jurisdiction; no coastal zone determinations will be required.	Project area is outside of Coastal Zone. No Impacts.
Growth		The growth impacts under the Tier II Auxiliary Lane Alternative would be less than significant because there are fewer benefits under this alternative as compared to the Tier I Corridor Alternatives.	No Impacts.
Community Character and Cohesion		The Tier II project would not causes adverse impacts on community character or cohesion. The communities and neighborhoods along Route 1 are already divided by a multi-lane highway. The addition of a soundwall would not further divide existing communities.	No Impacts.
Environmental Justice		Tier II Auxiliary Lane Alternative would not cause disproportionately high and adverse effects on any minority or low-income populations per Executive Order 12898 regarding Environmental Justice.	No Impacts.
Relocations	Business	No relocations.	No Impacts.
	Residential	No relocations.	No Impacts.
Utilities		Fifteen utility lines would likely require relocation. Utility relocations may require short-term, limited interruptions of service. Potential for emergency service delays during construction. Coordination with providers would avoid unscheduled interruptions in service.	No Impacts.

Table S-2: Summary of Environmental Impacts Tier II Auxiliary Lane Alternative

Potential Impact	Tier II Auxiliary Lane Alternative	No Build Alternative
Emergency Services	Would improve the functionality of Route 1 within this segment, allowing emergency service providers to improve response times.	No Impacts.
Traffic and Transportation	The addition of auxiliary lanes on Route 1 between Soquel Avenue and 41 st Avenue would improve the ability of Route 1 to meet future demand within the traffic study area. When compared to the No Build Alternative, traffic conditions would improve substantially in the northbound direction during the morning peak hour and marginally in the reverse commute directions (southbound in the morning peak hour and northbound in the evening peak hour); however, additional traffic along with the already-congested conditions in the southbound direction during the evening peak hour would lead to a slight decline in traffic operating condition.	No improvements would occur on the facility, resulting in worsening traffic conditions.
Pedestrian and Bicycle Facilities	The new pedestrian and bicycle overcrossing at Chanticleer Avenue would have a positive impact on multimodal connectivity by providing a new dedicated crossing of the freeway between Soquel Avenue and 41 st Avenue.	No improvements would occur on the facility, resulting in worsening traffic conditions.
Parking	No parking impacts.	No Impacts.
Transit	Incremental relief would be provided for transit due to improvement of highway operations under the Tier II Auxiliary Lane Alternative.	Travel conditions would continue to deteriorate on Route 1, which could negatively affect transit ridership.
Visual/Aesthetics	Substantial visual changes from highway widening/addition of lanes and removal of trees and mature vegetation, as well as increase in hardscape such as pavement, overcrossing structure and walls.	No Impacts.
Cultural Resources	No anticipated adverse effect to historic or archaeological resources.	No Impacts.
Hydrology and Floodplain	Increases in the amount of impervious surface would occur, resulting in a corresponding increase in the amount of stormwater runoff. The Tier II Auxiliary Lane Alternative would not result in any encroachment into any area of 100-year floodplain and therefore would not affect natural and beneficial floodplain values.	No Impacts.

Table S-2: Summary of Environmental Impacts Tier II Auxiliary Lane Alternative

Potential Impact	Tier II Auxiliary Lane Alternative	No Build Alternative
Water Quality and Stormwater Runoff	The Tier II Auxiliary Lane Alternative would increase the impervious area by 4.89 acres. This additional impervious surface would increase the volume of highway runoff that enters the storm drain system and local creeks.	No new impervious surface would be added; however the worsening of highway congestion could result in greater deposition of particulates from exhaust and heavy metals from braking, which would be transported by runoff into receiving water bodies.
Geology/Soils/Seismic/ Topography	There is low erosion potential, low potential for landslides, no new embankments are anticipated, and the project area is not expected to have any significant amounts of expansive soils.	No Impacts.
Hazardous Materials	See construction impact for Tier II Auxiliary Lane Alternative below.	No Impacts.
Air Quality	Because the relationship between emissions factors and speeds varies for each pollutant, the reductions in congestion that would occur under the Tier II Auxiliary Lane Alternative, described above under Traffic and Transportation, may correspond to reduced emissions for some criteria pollutants and increases for other criteria pollutants. Reduced congestion corresponds to reductions in the amount of acceleration and deceleration associated with “stop-and-go” traffic conditions,	No Impacts.
Noise	Seven receivers approach noise abatement criteria for which it has been determined that abatement in the form of soundwalls is feasible but not reasonable and is therefore not recommended. Abatement in the form of noise insulation is recommended for the one residence that will realize a severe noise increase.	No Impacts.
Energy	The Tier II Auxiliary Lane Alternative would have a minimal effect in reducing energy consumption because improvements proposed under this alternative would not entirely relieve traffic congestion.	No Impacts.

Table S-2: Summary of Environmental Impacts Tier II Auxiliary Lane Alternative

Potential Impact	Tier II Auxiliary Lane Alternative	No Build Alternative
Natural Communities	Permanent effects to the following natural communities would occur: Riverine/Freshwater Marsh (0.02 acre), Riparian Forest (0.13 acre), Coast Live Oak Woodland (0.001 acre), Ruderal/Disturbed (0.19 acre) and Landscaped/Developed communities (5.55 acres).	No Impacts.
Wetlands and other Waters	Project would permanently impact 0.02 acre of U.S. Army Corps of Engineers other waters at the ditch adjacent to the Soquel Drive-In, and 0.15 acre of California Department of Fish and Wildlife jurisdiction wetland area at Rodeo Creek Gulch and the ditch adjacent to the Soquel Drive-In. Proposed permanent and temporary impact areas at the ditch adjacent to the Soquel Drive-In consist of roadway widening and retaining wall construction that would encroach into the active channel of this seasonal roadside ditch. Proposed permanent and temporary impact areas at the Rodeo Creek Gulch consist of roadway widening and retaining wall construction on existing road berm areas directly above and draining into the channel of Rodeo Creek Gulch. No project work is proposed in the active channel.	No Impacts.
Special-Status Species	No impacts on special-status plant species are anticipated; however, there is a potential that special-status species could become established before project construction and additional surveys will be conducted prior to the final environmental document to confirm presence or absence of special-status plant species. Potential impacts to California red-legged frog and tidewater goby could result, as discussed under Threatened and Endangered Species. This alternative also has the potential to affect foothill yellow-legged frog, western pond turtle, roosting bats and nesting birds.	No Impacts.
Threatened and Endangered Species	Permanent impacts to California red-legged frog could occur due to habitat loss at Rodeo Creek Gulch and the ditch adjacent to the Soquel Drive-In. Potential impacts to tidewater goby would occur due to habitat loss at Rodeo Creek Gulch. Section 7 consultation with the United States Fish and Wildlife Service will be required for these species. The riparian forest habitat associated with Rodeo Creek Gulch also provides potential nesting habitat for a variety of bird species protected under the Migratory Bird Treaty Act.	No Impacts.

Table S-2: Summary of Environmental Impacts Tier II Auxiliary Lane Alternative

Potential Impact	Tier II Auxiliary Lane Alternative	No Build Alternative
Nesting Birds	Suitable habitat is present for several special-status bird species. The removal of vegetation could affect nesting birds and their habitat.	No Impacts.
Temporary, Construction Phase Impacts		
Traffic and Transportation/ Pedestrian and Bicycle Facilities	Short term and intermittent delays in traffic due to construction. Bicycle and pedestrian access to be maintained.	No Impacts.
Utilities	The potential exists for construction activities to encounter unexpected utilities within the area of roadway improvements. In addition, utility relocations may require short-term, limited interruptions of service.	No Impacts.
Community Impacts	Construction impacts, including noise and fugitive dust from construction activities and short-term roadway closures requiring alternative traffic routing, would have greater effects on residents of the immediate project area than upon other Route 1 users. These effects would be experienced by ethnic minority and low-income individuals only to the extent that these populations are concentrated in the immediate project area. However, these effects would not fall disproportionately on ethnic minority and low-income individuals because all residents of the immediate project area would experience the same effects.	No Impacts.
Visual/Aesthetics	Construction activities would involve use of equipment, stockpiling of soils and materials, and other visual signs of construction. Approximately 9.3 acres of existing vegetation within the highway corridor would be removed by construction activities. Of these, approximately 3 acres would be available for replanting.	No Impacts.
Hydrology, Water Quality and Stormwater Runoff	Construction activities under the Tier II Auxiliary Lane Alternative could result in temporary changes in water volume or flow and increased siltation, sedimentation, erosion, and water turbidity from bankside activities and construction access. There is a potential for temporary water quality impacts due to grading activities and removal of existing vegetation, which can cause increased erosion. Stormwater runoff from the project site may transport pollutants to nearby creeks and storm drains if Best Management Practices are not properly implemented.	No Impacts.

Table S-2: Summary of Environmental Impacts Tier II Auxiliary Lane Alternative

Potential Impact	Tier II Auxiliary Lane Alternative	No Build Alternative
Paleontology	High potential for fossil remains that could be scientifically important to be uncovered by excavations during project construction.	No Impacts.
Hazardous Waste/ Materials	Wooden utility poles along the roadside may be coated with creosote. Soils in these areas may contain aerially deposited lead generated by motor vehicle exhaust. Existing or acquired structures may have joint compound materials made of asbestos-containing materials. They may also contain lead-based paint or other hazardous materials and may exceed hazardous water criteria. These hazardous materials have the potential to result in the accidental release of hazardous waste and/or hazardous materials during construction of the project. In addition, there are 14 Recognized Environmental Conditions sites.	No Impacts.
Air Quality	Short-term degradation of air quality may occur due to the release of particulate emissions (i.e., airborne dust) generated by excavation, grading, hauling, and various other activities related to construction. Emissions from construction equipment are also anticipated and would include carbon monoxide, nitrogen oxides, volatile organic compounds, directly emitted particulate matter (PM ₁₀ and PM _{2.5}), and toxic air contaminants such as diesel exhaust particulate matter.	No Impacts.
Emergency Services	Project would have the potential for emergency service delays during construction. Implementation of the Traffic Management Plan in compliance with Caltrans and local policies would involve planning with emergency service providers throughout the project construction to avoid emergency service delays.	No Impacts.
Noise	There would be short-term and intermittent increases in noise levels due to construction activities.	No Impacts.
Natural Communities	Temporary effects to the following natural communities would occur: Riverine/Freshwater Marsh (0.06 acre), Riparian Forest (0.09 acre), Coast Live Oak Woodland (0.12 acre), Ruderal/Disturbed (0.07 acre) and Landscaped/Developed communities (5.22 acres).	No Impacts.

Table S-2: Summary of Environmental Impacts Tier II Auxiliary Lane Alternative

Potential Impact	Tier II Auxiliary Lane Alternative	No Build Alternative
Wetlands and other Waters	<p>Project would temporarily impact 0.06 acre of United States Army Corps of Engineers other waters at the ditch adjacent to the Soquel Drive-In, and 0.15 acre of California Department of Fish and Wildlife jurisdiction wetland area at Rodeo Creek Gulch and the ditch adjacent to the Soquel Drive-In.</p> <p>Proposed permanent and temporary impact areas at the ditch adjacent to the Soquel Drive-In consist of roadway widening and retaining wall construction that would encroach into the active channel of this seasonal roadside ditch. Proposed permanent and temporary impact areas at the Rodeo Creek Gulch consist of roadway widening and retaining wall construction on existing road berm areas directly above and draining into the channel of Rodeo Creek Gulch. No construction work is proposed in the active channel.</p>	No Impacts.
Special-Status Species	<p>Construction noise, movement of workers, and tree/vegetation removal could disturb nesting birds. Construction activities at the ditch adjacent to the Soquel Drive-In and Rodeo Creek Gulch have the potential to affect tidewater goby and California red-legged frog. This alternative also has the potential to affect foothill yellow-legged frog, western pond turtle, roosting bats, and nesting birds.</p>	No Impacts.
Threatened and Endangered Species	<p>Construction noise, movement of workers, and tree/vegetation removal could disturb nesting birds. Construction activities at the ditch adjacent to the Soquel Drive-In and Rodeo Creek Gulch have the potential to affect tidewater goby and California red-legged frog. Potential Impacts to the California red legged frog and tidewater goby will require consultation with the United States Fish and Wildlife Service. The riparian forest habitat associated with Rodeo Creek Gulch also provides potential nesting habitat for a variety of bird species protected under the Migratory Bird Treaty Act.</p>	No Impacts.
Nesting Birds	<p>The removal of vegetation and/or the removal of nests could directly affect nests and any eggs or young residing in nests of birds protected under the Migratory Bird Treaty Act. As birds can be sensitive to noise disturbance, indirect impacts could also result from noise and disturbance associated with construction, which could alter perching, foraging, and/or nesting behaviors.</p>	No Impacts.