

FHWA-EIS-CA-01-07-F

U.S. DEPARTMENT OF TRANSPORTATION
Federal Highway Administration

RECORD OF DECISION

The California Department of Transportation (Caltrans), as the federal lead agency for this undertaking, has selected the Existing Alignment Alternative for the widening of State Route 76 (SR-76) to a four-lane conventional highway from Melrose Drive in Oceanside to South Mission Road, in an unincorporated area of northern San Diego County. The project would require channelization lanes at some intersection locations and all of the proposed bridges will be constructed to accommodate the channelization need. The project will construct a parallel bridge structure over the San Luis Rey River just east of East Vista Way.

Caltrans based its decision on the Final Environmental Impact Statement (EIS) and supporting studies. With the adoption of a Record of Decision (ROD) by Caltrans and the use of the Final EIS and its supporting studies, Caltrans will proceed with the knowledge that the project has been approved.

Effective July 1, 2007, Caltrans assumed all the United States Department of Transportation Secretary's responsibilities under the National Environmental Policy Act (NEPA) pursuant to Section 6005 of the Safe Accountable Flexible Efficient Transportation Equity Act - A Legacy for Users (SAFETEA-LU) codified at 23 U.S.C. 327(a)(2)(A). The environmental review, consultation and any other action required in accordance with applicable Federal laws for this project is being or has been carried out by Caltrans under its assumption of responsibility pursuant to 23 U.S.C. 327.

DECISION

Caltrans has selected an alternative for the SR-76 improvements in northern San Diego County, California. The selected alternative is the Existing Alignment Alternative, which will widen the facility to four lanes along the current SR-76 alignment. Caltrans, in cooperation with the Federal Highway Administration (FHWA) prepared a Final EIS for the subject project (FHWA-EIS-CA-07-01-F) that identified the Existing Alignment Alternative as the Preferred Alternative and also as the Least Environmentally Damaging Practicable Alternative (LEDPA).

Selected Alternative

The selected alternative consists of the following major components:

- The existing conventional highway will be expanded to four lanes. The length of the widening will be approximately 5.8 miles.
- Channelization lanes will be provided at the following locations: Melrose Drive, East Vista Way, Olive Hill Road, South Mission Road, and North River Road.

RECORD OF DECISION – SR-76 MELROSE TO SOUTH MISSION

- The existing San Luis Rey River Bridge, which is 1,328 feet long and 43.5 feet wide, will remain to accommodate westbound traffic. A new bridge will be constructed to accommodate eastbound traffic. The bridges will be separated by a gap that varies between 49 and 82 feet in width.
- The new eastbound bridge will be 1,725 feet long and approximately 60 feet wide and would have two 12-foot through lanes, one 12-foot channelization lane, one 10-foot outside shoulder, and one 10-foot inside shoulder. Additionally, its columns, which will minimize impacts to wetlands/waters, will be circular and parallel to the river flow. Two columns will be needed at each support location.
- The existing Bonsall Creek Bridge is a double cell, reinforced concrete box (RCB) culvert that is approximately 23 feet long. The existing RCB structure will be demolished and a new bridge would be constructed. The new bridge will be approximately 23 feet wide and 236 feet long and will maintain four 12-foot travel lanes, two 12-foot channelization lanes, one 12-foot westbound right-turn lane, one 12-foot westbound left-turn lane, two 10-foot outside shoulders, one 10-foot inside shoulder, one 4-foot inside shoulder, and a 2-foot median barrier.
- The existing Ostrich Farm Creek Bridge is a four cell, RCB culvert that is approximately 46 feet wide. The existing RCB structure will be demolished and a new bridge will be constructed. It will be 46 feet long and 125 feet wide and will be constructed with four 12-foot through lanes, two 12-foot channelization lanes, two 12-foot eastbound left-turn lanes, two 10-foot outside shoulders, one 3.9-foot inside shoulder, one 10-foot inside shoulder, and a 2-foot concrete median barrier.
- At-grade, signalized intersections will be constructed at Melrose Drive, East Vista Way, North River Road, Via Montellano, Olive Hill Road, Thoroughbred Lane, and South Mission Road. New signalized intersections will be installed at Via Montellano and Thoroughbred Lane, providing access directly to SR-76.
- Jeffries Ranch Road will be converted to a cul-de-sac due to the complex motorist movement necessary to access onto SR-76 and the proximity of Melrose Drive. Vehicle access to the highway will be provided via the connection from Old Ranch Road, Appaloosa Way, and Spur Avenue to Melrose Drive.
- Holly Lane will be converted to a right-in/right-out due to the complex motorist movement necessary to access SR-76 and the proximity of North River Road.
- The project design will be context-sensitive, recognizing the rural character of the adjacent communities. This will be achieved by constructing naturally appearing graded slopes, where feasible, that reflect pre-graded contours or simulate natural terrain. Where space allows, undulating contour grading will be employed to minimize the typical straight cut and fill appearance of manufactured slopes. This method will soften the visual impact of long or high slope banks and reduce visual scarring of the existing terrain. Blasting and cutting of granite rock will be sculpted, to the extent possible, to also achieve a rough, natural-appearing surface.

- Design measures will be applied to ensure that wildlife movement is not adversely affected and road mortality is minimized (Figure 3.20-6). Roadways will provide wildlife crossings that would permit movement between habitats. Wildlife crossing design will provide suitable environmental conditions (soil, vegetation, lighting, and heights/width) to encourage use. Such crossings will include directional fencing and be located where natural landscape and habitat indicate probable directional wildlife movement.
- New roadway drainage systems will be placed at appropriate locations to channel on-site drainage. Existing off-site drainage systems will be upgraded or replaced pending current condition. The project will be designed in conformance with the National Pollutant Discharge Elimination System (NPDES) requirements. Best Management Practices (BMPs) will be utilized at various stages of the project. Approved treatment BMPs such as biofiltration devices will be utilized to the maximum extent possible to reduce the discharge of pollutants from Caltrans' storm drain system.
- Between Melrose Drive and South Mission Road, the proposed alignment is primarily located along the existing roadway alignment but shifts north or south in specific locations to provide for more gradual curves to accommodate a higher design speed or to accommodate widening if required in the future.

Furthermore, in response to comments received on the Draft EIS from resource agencies, local officials and the public, design refinements as follows will be incorporated into the project:

- Jeffries Ranch Road will be converted to a cul-de-sac. Vehicle access to the highway will be provided via the connection from Old Ranch Road, Appaloosa Way, and Spur Avenue to Melrose Drive;
- The proposed new road "Singh access road" will not be signalized but will instead be a right-in/right-out access with an acceleration lane on westbound SR-76;
- Holly Lane will not be converted to a cul-de-sac, instead it will be constructed as a right-in/right-out access to SR-76 with potentially a deceleration lane between North River Road and Holly Lane;
- The downtown Bonsall design will be modified to include a signalized intersection at Thoroughbred Lane. No new access roads will be constructed to access the shopping center or behind the post office as proposed in the Draft EIS.

The total estimated cost of the selected alternative, including right-of-way, is approximately \$244.2 million. Construction is planned in three phases:

Phase 1: This phase includes constructing the improvements between Melrose Drive and East Vista Way. Phase 1 will also construct a new access to SR-76 from the Singh packing plant due to their current access point being closed. This phase will widen the SR-76/East Vista Way/Old River Road intersection and portions of East Vista Way and

Old River Road. There are no bridges within Phase 1, however, a wildlife crossing is proposed approximately a quarter mile west of the East Vista Way.

Phase 2: This phase includes constructing the improvements between Olive Hill Road and South Mission Road including a taper to Sweetgrass Lane. The intersections at Olive Hill Road and South Mission Road will be constructed during this phase. The Bonsall Creek and Ostrich Farms Creek bridges will be constructed during this phase.

Phase 3: This phase includes constructing the improvements between East Vista Way and Olive Hill Road. A parallel bridge structure would be constructed over the San Luis Rey River immediately east of the existing bridge structure. Signalized intersections at Via Montellano and North River Road would be constructed. Holly Lane would be converted to a right-in/right-out access to SR-76 with a deceleration lane between North River Road and Holly Lane.

Roadway facilities will remain open during construction. Night work may be necessary to perform specific construction tasks, such as utility relocations, drainage improvements, and structural section development.

See the Final EIS pages 2-1 to 2-9 Figures 2.1-2a-to 2.1-3h for additional information regarding the selected alternative.

ALTERNATIVES CONSIDERED AND REJECTED

Alternatives Considered and Rejected Prior to the Draft EIS

The EIS analyzed three alternatives, the Existing Alignment, the Southern Alignment, and the No Build Alternative. The Existing Alignment is described above as the Preferred Alternative. The following alternatives were studied during project development and environmental analysis. Refer to the Final EIS pages 2-11 to 2-14 for additional information.

Split Facility Alignment Alternative

The Split Facility Alternative would have split SR-76 and routed westbound traffic north of the San Luis Rey River and eastbound traffic south of the river. Between Melrose Drive and East Vista Way, the existing SR-76 roadway would have been expanded to four lanes with right-of-way and grading to accommodate future widening, if justified. Between East Vista Way and South Mission Road, SR-76 would have had three lanes on both sides of the river. This condition would have adversely impacted existing wildlife corridors by creating an island atmosphere around the river and possibly increasing animal fatalities as they try to access areas within the river basin. The Split Facility Alternative would have required nine bridges. Although they would have been narrower than the bridges proposed for the build alternatives, nearly double the number of bridges would have been required. These additional bridges increased the project's cost and the environmental impacts to the river and its tributary creeks. This alternative would have required out-of-direction travel and an additional structure crossing the San Luis Rey River at South Mission Road. The out-of-direction travel would possibly have increased response times for local fire, paramedics, and police depending on which side of the river they were responding. It was rejected because of the severe impacts to the San

Luis Rey River, operational deficiencies, and impacts to biological resources including coastal sage scrub, riparian woodlands, existing wildlife movement corridors and other sensitive wildlife habitats within the San Luis Rey River basin. The Split Facility Alternative would not meet the purpose and need as it would have required out-of-direction travel, it would have had substantial impacts to wildlife corridors, and it would have required many more bridges within the San Luis Rey River basin.

Wetland Avoidance Alternative

A Wetland Avoidance Alternative was initially explored, however, as explained below, it would have had substantial impacts to the social and natural environment that are otherwise minimized and/or avoided by the Existing Alignment Alternative (Preferred Alternative and LEDPA). This Alternative would have had considerable engineering and construction challenges, and it would have been extremely costly at approximately \$355 million. For these reasons, the Wetland Avoidance Alternative was not pursued further and it was withdrawn from consideration.

The Wetland Avoidance Alternative would have required an alignment further outside of the San Luis Rey River corridor, particularly in those areas along the river where the Existing Alignment Alternative impacts wetlands and at its proposed bridge crossings where piers must be placed in the river. With respect to the crossing of the San Luis Rey River, the Existing Alignment Alternative 's new eastbound bridge is designed to be roughly adjacent to the existing concrete box girder San Luis Rey River Bridge. Similar to the existing bridge, the new bridge is proposed as a curved structure to cross the river in a shorter distance by crossing at more of a right angle. This new curved bridge would require pier supports (within wetland areas) spaced approximately 130 feet apart. There would be two columns at each support. These center supports would have a small permanent impact in the wetland, as most of the work is underground and each column is only 8 to 10 feet in diameter. To avoid this wetland impact completely, a different type of bridge would have been required.

Different bridge types would have been able to span a greater distance between supports, including a cable stay, a suspension, or a metal truss structure. Each of these would have allowed for larger spans than the proposed bridge structure; however, these types of structures must be constructed on a straight alignment, unlike the current bridge and the proposed alignment. Because of the technical nature of the construction, cable stay and suspension bridges are extremely costly to design and build, and construction time would have take two to three years, as compared to 9 months with the proposed bridge structure. Also, with construction of a straight bridge structure as a new eastbound structure, the existing structure, used for westbound traffic, would remain. Visually, this would have been highly incongruent. In addition, bridges of this type require highly technical engineering practices that are not typically used for relatively small, rural crossings such as this. These bridge types require massive structures that would be out of context in this rural setting, particularly adjacent to the existing box girder structure. In contrast, such bridges are much more appropriately used in a different context such as a very large water body.

In order to accomplish a straight crossing rather than the curved structure currently proposed, the alignment would have needed to be realigned for thousands of feet in each direction to achieve safe curve radii. This would have created a structure substantially longer than what is currently proposed. The proposed bridge is

approximately 1,700 feet long; depending on the realignment, a doubling of that length could be anticipated. Also, to obtain the straight alignment required at the approaches, the road located west and east of the crossing would have needed to be realigned.

Realigning the roadway west and east of the proposed crossing would have had a number of additional impacts to resources that are currently avoided by the proposed project. Realignment of the roadway on the north side of the river would have reduced access to local intersections along the current SR-76 alignment, such as Holly Lane and North River Road, thereby increasing out-of-direction travel time for residents as they access SR-76. In addition, this scenario would have had additional adverse community impacts, as it would have required the relocation of residences at Jeffries Ranch and Mission Meadows as well as businesses along SR-76 near Via Montellano. Sensitive environmental resources that are otherwise avoided and/or minimized by the Existing Alignment Alternative would also be impacted or used, such as upland habitats (e.g., coastal sage scrub), riparian habitats (e.g., southern coast live oak woodland and southern cottonwood willow riparian forest, highly sensitive cultural sites (which are Section 4(f) resources), and threatened and endangered species, such as ambrosia, California gnatcatcher, arroyo toad and southwestern willow flycatcher. The increase in required cut slopes to realign the roadway into steep hillside areas currently avoided would have created extremely visible scars on the hillside, specifically southwest of East Vista Way, resulting in additional visual impacts to the community. These cuts would also have resulted in excess material requiring export, a project cost that is currently avoided because the project has been designed to balance cut and fill needs.

In summary, the Wetland Avoidance Alternative would have increased the project footprint, increased project impacts, and substantially increased the project costs by approximately \$130 million, and extended the design and construction schedules. Therefore, although a Wetland Avoidance Alternative is available, it was withdrawn from further consideration as it is not practicable, because it impacts a number of highly sensitive resources that are avoided by the viable build alternatives, and, it is not less environmentally damaging.

Groves Variation

In response to an April 2005 request from the U.S. Fish and Wildlife Service (USFWS) to move the Existing Alignment Alternative (near Olive Hill Road) further west of the San Luis Rey River, Caltrans investigated a variation to the Existing Alignment Alternative between Via Montellano and South Mission Road. Two options to this variation were examined: the Bridge Option and the At-Grade Option.

➤ *Bridge Option*

Under the Bridge Option, the Existing Alignment Alternative would have traveled up and over the large hill (Groves Hill) adjacent to SR-76 and southwest of Olive Hill Road and bridged Olive Hill Road. In order for this option to function, a standard urban diamond interchange would have been required to tie into the bridge over Olive Hill Road. This option was eliminated from further study based upon engineering and environmental factors. The Bridge Option could not have been built to Caltrans and FHWA geometric standards unless the Thoroughbred Lane intersection and direct access to the Bonsall Village Center were eliminated and an alternative to provide access was incorporated into this option. In addition to adding to the project's schedule, the additional bridgework, earthwork and commercial property acquisition would have substantially

increased project costs. This option would have dramatically alternated the community nature of downtown Bonsall, would have had impacts to biological resources beyond those of the Existing Alignment Alternative and it would have impacted historic properties and used Section 4(f) resources avoided by the Existing Alignment Alternative.

➤ *At-Grade Option*

Under the At-Grade Option, the Existing Alignment Alternative would have cut through Groves Hill and constructed at-grade intersections at Via Montellano, Olive Hill Road and South Mission Road. This option was eliminated from further study and withdrawn from consideration based upon engineering and environmental factors. Cutting through the Groves Hill would have generated 3.0 million-cubic yards of excess fill materials, the excavation of which would have added approximately \$41.5 million to the project's budget. The cut slopes produced by cutting into the Groves Hill would have created an adverse visual impact. In addition, this option would have impacted historic properties and used Section 4(f) resources avoided by the Existing Alignment Alternative.

RATIONAL FOR IDENTIFICATION OF THE SELECTED ALTERNATIVE

Environmentally Preferred Alternative

In compliance with implementing regulations for NEPA, 40 CFR 1505.2, consideration must be given to the alternative determined to be environmentally preferred.

As discussed above, the Existing Alignment Alternative is the Environmentally Preferred Alternative and is also the LEDPA. It will have fewer impacts to biological resources, the San Luis Rey River floodplain and to the surrounding community.

The Southern Alignment alternative would have substantial adverse impacts to the privately owned San Luis Rey Downs Golf Course, directly impacting the clubhouse facilities, which are important community and recreational points. This impact could result in reconfiguration or relocation of the golf course and potentially the displacement of employees.

While relocations of homes and businesses are approximately the same, right-of-way requirements vary. The Southern Alignment Alternative would require 279 more acres than the Existing Alignment since it would be on a new alignment south of the San Luis Rey River.

The Southern Alignment Alternative is considered to have a significant floodplain encroachment due to an increase in the water surface elevation of the river up to 3 feet and at Moosa Canyon Creek of 2.62 feet. The Southern Alignment would impact 19.25 more floodplain acres than the Existing Alignment Alternative, and the increased flooding risk would be considered high.

The Southern Alignment would have greater impacts to wetlands, riparian vegetation communities, and related species than the Existing Alternative Alignment. Impacts to Waters of the U.S. are approximately 6.48 acres with the Southern Alignment Alternative compared to 1.83 acres with the Existing Alignment Alternative.

Other Considerations

SR-76 is recognized in local planning documents on the current alignment, which is consistent with the Existing Alignment Alternative. The Southern Alignment Alternative is inconsistent with local planning documents and in some areas adds an additional transportation element south of the San Luis Rey River that is not currently recognized on plans.

Currently, Old River Road, a local rural two-lane road with low average daily traffic (ADT) volumes of approximately 4,000 would be replaced by the Southern Alignment Alternative, a four lane facility with greater traffic volumes of approximately 32,000 ADT. This condition would present a greater constraint to wildlife movements in the area due to a wider barrier and due to the fact the current SR-76 would stay in place and be converted to a local roadway.

The Southern Alignment Alternative would require 146,000 cubic yards more cut and 1,197,000 cubic yard more fill than the Existing Alignment Alternative.

The Existing Alignment Alternative is estimated to cost \$150.8 million less than the Southern Alignment Alternative.

After evaluating the project alternatives, Caltrans determined that the No Build alternative was not acceptable because it would not meet the goals of 1) maintaining or improving future traffic levels of service in 2030; 2) maintaining or improving travel times within the corridor; 3) providing a facility that is compatible with future transit and other modal options; 4) providing consistency with the 2030 San Diego Regional Transportation Plan; 5) maintaining the facility as an effective link in the intraregional and interregional movement of people and goods; and 6) protecting and/or enhancing the human and natural environment along the SR-76 corridor.

SUMMARY OF BENEFICIAL ENVIRONMENTAL IMPACTS

The project will constitute the widening of SR-76 between Melrose Drive and South Mission Road, in order to maintain or improve the existing and future traffic operations in the SR-76 corridor to improve the safe and efficient local and regional movement of people and goods; and to minimize environmental and community impacts for the planning design year of 2030.

The Preferred Alternative is recognized in local planning documents and is the most consistent with land use planning documents. The Preferred Alternative would accommodate Bonsall's Community Trails Master Plan, and the County of San Diego's San Luis Rey River Park Master Plan, for which the Environmental Impact Report was recently approved on September 24, 2008 by County of San Diego Board of Supervisors.

The project is needed to improve safety on SR-76. The project would accomplish this by installing a median barrier that will separate the opposing flows of traffic. Openings will be located only at signalized intersections, and most other spot locations accessing the roads will be limited to right turns onto and off the facility. Installation of the barrier will limit the ability to cross the median, therefore reducing the likelihood of head-on

accidents by errant vehicles. Additionally, signalized at-grade intersections within the project limits will reduce traffic conflicts, increase capacity, and improve safety. These upgrades will also accommodate planned and approved development in the project area.

The project will provide 8-foot wide outside shoulders to provide for bicycle and pedestrians. Curb ramps compliant with the Americans with Disabilities Act will be provided at all designated crossing locations, and pedestrian crossings would be provided at all signalized intersections.

The Preferred Alternative will not support incompatible floodplain development. Access to the facility will be controlled, and the highway will cross the river on structures above the floodplain elevation.

The Preferred Alternative will add less paved surface area, and will treat 65 to 70 percent of storm water runoff from the newly paved surface. Therefore, the treated area will approximately equal the net increase in paved areas, and no net increase in untreated water runoff from current conditions is anticipated.

The Preferred Alternative will commit fewer acres of currently undeveloped land to transportation related uses, and will have fewer impacts to jurisdictional Waters of the U.S. and the State.

The Preferred Alternative provides new wildlife crossings and larger diameter culverts to improve wildlife movement and reduce road kill within the project limits.

The Preferred Alternative will require a minimum of new right-of-way when compared to the Southern Alignment Alternative. Additionally, it will require less earthwork and is estimated to cost \$150 million less to construct than the Southern Alignment Alternative.

The Preferred Alternative is estimated to reduce regional carbon dioxide (CO₂) emissions by approximately 1,460 tons per day by 2015, and by 1,450 tons per day by 2030.

SUMMARY OF ADVERSE ENVIRONMENTAL IMPACTS AND MITIGATION

Implementation of the project includes construction and operational impacts. Chapter 3 of the Final EIS provides a detailed discussion of potential impacts resulting from the project, and identifies specific measures to avoid, minimize and mitigate impacts. Adverse impacts and mitigation measures are summarized below:

Jurisdictional Waters of the U.S.

Impacts

Although the Existing Alignment Alternative will include river crossings, it has been designed to completely avoid other highly sensitive resources, adjacent to the river. Some impacts to wetland and riparian communities and to Waters of the U.S. will be unavoidable.

The Existing Alignment Alternative will permanently impact 1.83 acres of jurisdictional Waters of the U.S. Permanent impacts from the Existing Alignment Alternative will result in the loss of jurisdictional waters where the new permanent expanded road would be located within exiting wetland habitats. Temporary, short-term, direct loss of resources will occur during construction activities, including the use of haul routes, borrow areas, and construction staging areas that will be necessary to complete the project. Restoration of these areas will follow construction. Temporary impacts consist of 4.31 acres of Waters of the U.S.

Mitigation Measures

Throughout the project development process, several design iterations served to reduce project effects on jurisdictional Waters of the U.S. and other biological resources. Compensatory mitigation consists of the creation of 4.94 acres of wetlands at the Pilgrim Creek mitigation site, offsetting permanent impacts to Waters of the U.S.

In addition to the compensatory mitigation described above, specific measures have been included to reduce impacts to Waters of the U.S. by controlling the limits of construction and disturbance and by reducing adverse effects of runoff on the physical and chemical properties of those waters. These measures will also protect biological functions and values in areas adjacent to and near the construction limits and completed project. In addition, compensatory mitigation, also described below, will serve to restore functions and values associated with project's unavoidable impacts on functions and values through restoration, creation, and preservation of habitat similar to the functions and values of the areas impacted.

Riparian Communities

Impacts

The Existing Alignment Alternative will permanently impact 22.66 acres of riparian and wetland communities from the short-term loss of resources during construction activities. The Existing Alignment Alternative will also temporarily impact 15.87 acres of riparian and wetland communities.

Mitigation Measures

Compensatory mitigation will consist of a combination of creation and restoration of various habitat types at the Morrison, Zwierstra, and Pilgrim Creek sites, as shown in the table below:

Table 1. Mitigation for Impacts to Riparian Communities

Habitat Type	Permanent Impacts (acres)	Mitigation Ratio and Location
Mulefat scrub	1.11	5:1 at Morrison
Southern Willow Scrub	0.13	5:1 at Morrison
Disturbed Wetland	0.003	1:1 at Morrison
Southern Cottonwood Willow Riparian Forest (for USACE* jurisdictional impacts)	4.94	1:1 at Pilgrim Creek
Southern Cottonwood Willow Riparian Forest (non-jurisdictional)	16.48	1:1 creation at Zweirstra 2:1 restoration at Zweirstra 2:1 restoration at Morrison 5:1 restoration at Morrison
Southern Coast Live Oak Riparian Forest	1.11	5:1 restoration at Morrison

USACE – U.S. Army Corps of Engineers

In addition, specific measures to reduce impacts to riparian and wetland habitat will be implemented.

On October 1, 2008, Caltrans received a Biological Opinion (BO) from the USFWS on the Existing Alignment Alternative (FWS-SDG-08B0136-08F0900). In the BO, the USFWS determined that the activities associated with the Existing Alignment Alternative, with mitigation incorporated into the project, will not be likely to jeopardize the continued existence of arroyo toad, least Bell’s vireo, southwestern willow flycatcher, or coastal California gnatcatcher, nor will the project destroy or adversely modify gnatcatcher, flycatcher, or vireo critical habitat. Mitigation measures are described below.

Arroyo Toad

Impacts

Existing Alignment Alternative will result in permanent, direct impacts to three locations in the central and southwestern portions of the proposed alignment where arroyo toad breeding populations have been documented. The Existing Alignment Alternative will permanently impact 22.45 acres and temporarily impact 16.08 acres of riparian and wetland types, potential breeding for the arroyo toad. Indirect effects may occur to approximately 75.63 acres of riparian and wetland habitat. These effects may include changes in water quality or hydrology, dust, and human intrusion. Upland habitats, which may be used for toad aestivation, include coastal sage scrub, nonnative grasslands, and agricultural lands. Permanent impacts to potential aestivation areas within 3,000 feet of known toad populations include 0.005 acre of coastal sage scrub, 30.72 acres of nonnative grasslands, and 37.52 acres of agricultural land. Temporary impacts could occur to 2.61 acres of coastal sage scrub, 11.75 acres of nonnative grasslands, and 2.3 acres of agricultural land.

The Existing Alignment Alternative is likely to adversely affect the arroyo toad. The direct removal of habitat could potentially contribute to the harm/harassment of individuals or populations. Additionally, indirect disturbance resulting from traffic noise and activities associated with the roadway could cause the loss of functioning habitat or potential “take” of the arroyo toad. Though impacts to the arroyo toad populations appear to be greater with the Existing Alignment, fewer permanent impacts to breeding habitat and aestivating habitat would occur than with the Southern Alignment Alternative.

Mitigation Measures

To mitigate for impacts to arroyo toad, the following compensatory measures, as required by the BO, will be implemented:

1. Compensation for permanent direct impacts to riparian and wetland habitats will occur at either a 3:1 or 5:1 ratio, depending on which option is chosen. Permanent impacts to upland habitat would be offset at 2:1 for coastal sage scrub (including disturbed) and 3:1 for coast live oak woodland. Where non-native grassland provides potential habitat for arroyo toad aestivation, impacts will be offset at a 1:1 ratio. Non-toad grassland impacts will be offset at a 0.5:1 ratio.
2. To avoid and minimize direct effects to the arroyo toad, exclusionary fencing will be installed. The area within the barrier fence would be surveyed by a USFWS-approved biologist prior to construction. If climatic conditions are not appropriate for arroyo toad movement during the clearance surveys, the biologist will attempt to elicit a response from the arroyo toad by irrigating the area to simulate a rain event. Any arroyo toads detected within the barrier fencing will be picked up by a biologist and placed on the outside of the barrier fence within the nearest suitable habitat. All fencing materials will be removed following construction. Ingress and egress of construction equipment and personnel will be kept to a minimum, but when necessary, equipment and personnel will use a single access point to the site. This access point would be as narrow as possible and will be closed off by exclusionary fencing when personnel are not on the project site.
3. Directional fencing and a wildlife undercrossing placed at the south side of the San Luis Rey River near the Oceanside/Bonsall boundary will enhance connectivity for wildlife species and limit incidences of roadkill; and at the Bonsall Preserve/Ostrich Farms Creek crossing a bridge is planned to provide wildlife movement where none currently exists. In addition, strategically placed wildlife crossings from the San Luis Rey River to drainages at the Groves property will provide additional wildlife movement opportunities. Therefore, the widening of SR-76 is not anticipated to preclude connectivity between arroyo toad breeding areas and suitable upland habitat or result in the fragmentation of suitable arroyo toad upland habitat. To minimize road mortality, a permanent arroyo toad barrier fence will be installed between the San Luis Rey River and SR-76 to prevent arroyo toads from attempting to cross where movement into the upland is not possible or beneficial.
4. Temporary disturbance to potential arroyo toad habitat will be offset through native revegetation of the impacted area (1:1 ratio) upon completion of the project. Indirect impacts will be offset at 1:1 for all potential arroyo toad habitats except disturbed wetland/giant reed that will be offset at a 0.5:1 ratio. Other measures to avoid/reduce adverse effects on the arroyo toad will involve restricting vegetation clearing from occurring during the breeding season (working from July 1 through March 1), except for a minimal amount of cutting vegetation to increase detection during the clearance surveys, having a USFWS-approved restoration plan, as well as other measures designed to avoid or minimize impacts.

In addition to the compensatory mitigation measures described above, specific measures to minimize impacts to the arroyo toad during construction will be employed.

Least Bell's Vireo and Critical Habitat

Impacts

The Existing Alignment Alternative will result in temporary, direct impacts to a total of four pairs and five individual least Bell's vireo, and one location where species reproductive status could not be determined. Temporary, direct impacts may occur to approximately seven pairs and six individual vireos. Indirect impacts will affect 12 pairs and 12 individuals of this species. The proposed project will result in permanent, direct impacts to 22.45 acres and temporary impacts to 16.08 acres of least Bell's vireo habitat.

The Existing Alternative Alignment is likely to adversely affect the least Bell's vireo. The direct removal of federally designated critical habitat could potentially contribute to the harm/harassment of individuals or populations. Additionally, indirect disturbance resulting from traffic noise and activities associated with the roadway could cause the loss of functioning habitat or potential "take" of the vireo. Impacts to the vireo individuals appear to be greater with the Existing Alignment. However, fewer permanent impacts to least Bell's vireo critical habitat will occur.

Mitigation

Since least Bell's vireo and southwestern willow flycatcher require similar habitat, the following compensatory mitigation measures, as required by the BO, will be implemented for both species:

1. Disturbance to riparian and wetland habitats would be offset through restoration/enhancement of riparian and wetland habitat at the Morrison parcel, creation at the Zwierstra property. Compensation will occur at a 5:1 for riparian and wetland vegetation. Impacts to 4.94 acres of cottonwood willow riparian forest will be offset at a 1:1 ratio through the purchase of credits at Pilgrim Creek, 3.4 acres will be offset at a 3:1 ratio through the 1:1 creation (3.4 acres) of habitat at Zwierstra, and 2:1 (6.8 acres) restoration/enhancement at Zwierstra (3.3 acres) and Morrison (3.5 acres). Impacts to 1.11 acres of mulefat, 0.13 acre of southern willow scrub, and 3.09 acres of coast live oak riparian forest will be offset through restoration/enhancement at Morrison. An additional 9.9 acres of permanent direct impacts will be offset at a 5:1 ratio through restoration/enhancement of 49.95 acres of riparian habitat at Morrison. Permanent direct impacts to 0.003 acre of disturbed wetland/giant cane will be offset at a 1:1 ratio through the restoration/enhancement of native habitat species at Morrison.
2. Potential indirect impacts to 16.72 acres of vireo and flycatcher habitat will be compensated at a 1:1 ratio. Temporary disturbance to 15.87 acres of vireo and flycatcher habitat would be offset through native revegetation of the impacted area (1:1 ratio) upon completion of the project. Temporary disturbance to cottonwood willow riparian forest, where this habitat contains the primary constituent elements for vireo, flycatcher and arroyo toad, will be offset through native revegetation of the area, as above, and will include restoration of similar habitat at the Morrison property at an additional 0.5:1 ratio, for a total 1.5:1 ratio. All seeding/planting will occur on-site and involve replacement with in-kind/similar, native species. Any graded habitat (e.g., slopes, right-of-way) adjacent to the wildlife corridor would be revegetated with an appropriate, native plant mix. The proposed seed mix will be reviewed and approved by a qualified biologist prior to application in the field. The best methods of

revegetation will be determined during design and could include hydroseeding, cuttings, planting, and possibly temporary irrigation. Riparian vegetation will require irrigation. Other measures to avoid/reduce project effects upon the vireo and flycatcher will involve restricting vegetation clearing from occurring during the breeding season.

3. All vegetation within the construction limits will be cleared outside the vireo/flycatcher breeding season (March 15 to September 15) to avoid/minimize impacts to breeding birds. If activities occur during the breeding season, then a pre-construction survey will be conducted to ensure that no nesting birds are present within the proposed work area. Should a bird nest site be located, then appropriate measures may include (but are not limited to) monitoring during grading and construction to ensure no impacts to the occupied site, designation of the location as an ESA, and delaying/restricting project activities until nesting and fledging are complete. Pile driving will only be conducted between October 1 and February 14 to reduce noise affects to nesting/breeding birds within the project vicinity. During night construction, all project lighting will be directed onto the roadway or construction site and away from sensitive habitat. Light glare shield may also be used to reduce the extent of illumination into adjoining areas. Other direct and indirect impacts to flycatchers and/or vireos will be avoided and/or minimized through the implementation of conservation measures in the BO.
4. To avoid and minimize impacts to vireo currently using portions of the Morrison property, no grading is proposed during restoration. Exotic plant species will be removed from the entire site outside the vireo and flycatcher breeding seasons and natives will be replanted to enhance the habitat on site for both vireo and flycatcher.

Southwestern Willow Flycatcher and Critical Habitat

Impacts

The Existing Alignment Alternative will not result in temporary or permanent, direct impacts to the southwestern willow flycatcher. Permanent impacts could occur to 18.33 acres of southern cottonwood willow riparian forest and 0.13 acres of southern willow scrub, potential nesting habitat for the flycatcher. Temporary impacts could result to 14.32 acres of habitats known to support the presence of the southwestern willow flycatcher. Indirect impacts could affect one migrant flycatcher.

The Existing Alternative Alignment is likely to adversely affect the southwestern willow flycatcher due to the potential impacts to its nesting habitat. The direct removal of habitat could potentially contribute to the harm/harassment of individuals or populations. Additionally, indirect disturbance resulting from traffic noise and activities associated with the roadway could cause the loss of functioning habitat or potential “take” of the flycatcher. Fewer impacts to flycatcher individuals, and fewer permanent impacts to federally designated southwestern willow flycatcher critical habitat, will occur with the Existing Alignment Alternative.

Mitigation Measures

Since southwestern willow flycatcher and least Bell’s vireo and require similar habitat, compensatory mitigation measures, as required by the BO, is discussed in the mitigation measures above for least Bell’s vireo.

Coastal California Gnatcatcher and Critical Habitat

Impacts

The Existing Alignment Alternative would permanently impact three pairs of gnatcatchers and 37.64 acres of critical gnatcatcher habitat. It would temporarily impact 7.86 acres and no known occurrences of individuals.

The Existing Alternative Alignment is likely to adversely affect the gnatcatcher. The direct removal of federally designated critical habitat could potentially contribute to the harm/harassment of individuals or populations. Additionally, indirect disturbance resulting from traffic noise and activities associated with the roadway could cause the loss of functioning habitat or potential “take” of the species. Greater impacts to gnatcatcher individuals and to critical habitat will occur with the Existing Alignment Alternative.

On October 1, 2008, Caltrans received a Biological Opinion (BO) from the USFWS on the Existing Alignment Alternative (FWS-SDG-08B0136-08F0900). In the BO, the USFWS determined that the activities associated with the Existing Alignment Alternative, with mitigation incorporated into the project, will not be likely to jeopardize the continued existence of arroyo toad, least Bell’s vireo, southwestern willow flycatcher, or coastal California gnatcatcher, nor will the project destroy or adversely modify gnatcatcher, flycatcher, or vireo critical habitat. Mitigation measures are described below.

Mitigation Measures

Impacts to California gnatcatcher habitat will be mitigated at the Groves mitigation site and include the following:

1. Mitigation for permanent direct impacts to 24.36 acres of coastal sage scrub and 13.28 acres of disturbed coastal sage scrub would occur at a 2:1 ratio through preservation of 75.28 acres of coastal sage scrub.
2. Permanent direct impacts to other native vegetation types (e.g., coast live oak woodland) within designated gnatcatcher critical habitat will be offset at a 3:1 ratio.
3. Permanent direct impacts to non-native grassland vegetation within designated gnatcatcher critical habitat will be offset at a 0.5:1 ratio, except when this habitat overlaps arroyo toad habitat, and then it will be offset at a 1:1 ratio.
4. Potential indirect impacts to gnatcatcher habitat will be compensated at a 1:1 ratio through preservation of an additional 48.82 acres of coastal sage scrub. A total of approximately 124.10 acres of the approximately 180 acres of coastal sage scrub habitat at the Groves property will be preserved for this portion of the SR-76 realignment. The remaining approximately 55.9 acres of coastal sage on the Groves property will be available to offset impacts resulting from future projects (e.g., the proposed SR-76 South Mission Road to I-15).
5. Temporary disturbance to potential gnatcatcher habitat will be offset through native revegetation of the area (1:1 ratio) upon completion of the project. All seeding/planting will occur on-site and involve replacement with in-kind/similar, native species, to the maximum extent practicable. Any graded habitat (e.g., slopes, right-of-way) adjacent to the wildlife corridor will be revegetated with an appropriate,

native plant mix. The proposed seed mix will be reviewed and approved by a qualified biologist prior to application in the field. The best methods of revegetation will be determined during design and could include duff, hydroseeding, planting, and/or possibly irrigation.

6. All vegetation within the construction limits will be cleared outside the gnatcatcher breeding season (February 15 to August 31) to avoid/minimize impacts to breeding birds. If activities occur during the breeding season, then a pre-construction survey will be conducted to ensure that no nesting birds are present within the proposed work area. Should a bird nest site be located, then appropriate measures may include (but are not limited to) monitoring during grading and construction to ensure no impacts to the occupied site, designation of the location as an ESA, and delaying/restricting project activities until nesting and fledging is complete. Pile driving will only be conducted between October 1 and February 14 to reduce noise affects to nesting/breeding birds within the project vicinity. During night construction, all project lighting will be directed onto the roadway or construction site and away from sensitive habitat. Light glare shield may also be used to reduce the extent of illumination into adjoining areas. Other direct and indirect impacts to gnatcatchers will be avoided and/or minimized through the implementation of conservation measures in the BO.

Cumulative Impacts

The EIS for the project considered 27 other past, present, and reasonably foreseeable projects within the San Luis Rey River basin in the length likely to be affected by the SR-76 project. Refer to the Cumulative Impacts discussion in Section 3.29, pages 3-361 through 3-370 for further information.

The EIS conclusions regarding adverse cumulative impacts for the Existing Alignment Alternative are summarized briefly below:

Riparian and Wetland Communities

Cumulative Effects

The existing health of habitat within the San Luis Rey River corridor has been evaluated and documented in report prepared independent of this project. This report assessed the existing health of wildlife corridors throughout California and identified the San Luis Rey River habitat linkage as a Connectivity Choke Point, which is defined as a narrow, impacted, or otherwise tenuous habitat linkage that connects two or more habitat blocks. Choke-points are essential to maintain landscape-level connectivity but are particularly in danger of losing connectivity function. The document assigned medium priority for protecting and/or restoring habitat connectivity of the San Luis Rey River habitat linkage. Based on an analysis of the San Luis Rey River habitat linkage is in good health, but in need of preservation and enhancement.

The Existing Alignment Alternative will result in impacts to sensitive riparian and wetland communities. Table 3.29-1 of the EIS lists other current or foreseeable projects within the natural community Resource Study Area (RSA) that would impact the same types of sensitive natural community in the future. These future projects viewed collectively clearly constitute a cumulative adverse impact to riparian and wetland communities. The

acreage of impacts that will occur with the Existing Alignment Alternative will result in a cumulatively considerable contribution to this impact prior to mitigation.

Mitigation Measures

In addition to the compensatory mitigation measures for impacts to riparian and wetland habitat communities described above, specific measures will also be implemented to reduce impacts by controlling the limits of construction and disturbance and reducing adverse effects of runoff on the physical and chemical properties of those waters. Those measures will also protect biological functions and values in areas adjacent to and near the construction limits and completed project.

The impacts will not be cumulatively considerable, as the above-described mitigation measures will offset any substantial biological impacts; therefore, there is no contribution to cumulative impacts.

Jurisdictional Wetlands and Other Waters

Cumulative Effects

Development throughout the region over time has reduced the amount of wetlands of all kinds. Although the San Luis Rey River is largely unchannelized upstream of the western project terminus, it has been subject to loss of wetlands over time. The single most important cause of wetland loss has been the conversion of wetlands to farmland. Sand mining has been a major cause upstream of I-15. Infrastructure improvements, such as the existing SR-76 and a series of major bridges, have also displaced wetlands.

Approximately 55 acres of jurisdictional Wetlands and Waters of the U.S. and State are projected to be impacted by future projects. A delineation of wetlands in the SR-76 South Mission Road to I-15 corridor, or projected impacts to jurisdictional Wetlands and Waters of the U.S., is not available at this time. The future proposed SR-76 South Mission Road to I-15 project would undoubtedly impact additional jurisdictional Wetlands and Waters of the U.S. It is likely that impacts to Wetlands and Waters of the U.S. associated with the projects described the EIS will be greater than listed, as approximations of impacts were not provided for all projects, and the environmental analysis has not been completed for many of the projects. While the federal policy of “no net loss” would suggest that there would ultimately be no net loss in the acreage of wetlands within the RSA, there is no way to comprehensively assess the success of project-specific mitigation efforts in terms of wetland acreage created or restoration of wetland function. The impacts to jurisdictional Wetlands and Waters of the U.S. resulting from the Existing Alignment Alternative will have a cumulatively considerable contribution to these impacts prior to mitigation.

Mitigation Measures

In addition to the compensatory mitigation measures for impacts to jurisdictional waters described above, specific measures will also be implemented to reduce impacts by controlling the limits of construction and disturbance and reducing adverse effects of runoff on the physical and chemical properties of those waters. Those measures will also protect biological functions and values in areas adjacent to and near the construction limits and completed project.

The impacts will not be cumulatively considerable, as the above-described mitigation measures will offset any substantial biological impacts; therefore, there is no contribution to cumulative impacts.

Species Afforded Protection under the Federal Endangered Species Act

Cumulative Effects

The EIS concludes that virtually every project listed in Table 3.29-1 for which data are available impacts species protected under the federal Endangered Species Act (FESA). Current and foreseeable projects within the RSA would result in adverse cumulative impacts to species afforded protection under FESA. The contribution of other projects on SR-76 will be cumulatively considerable prior to mitigation.

Mitigation Measures

The mitigation measures discussed above offset any adverse biological impacts of the proposed project, as determined by the Final EIS and BO; therefore, there is no contribution to cumulative impacts.

MONITORING OR ENFORCEMENT PROGRAM

In accordance with the October 1, 2008 BO issued by the USFWS, a reporting requirement will be implemented, and will consist of a monthly report and a project completion report of the estimated take that may have occurred in relation to the amount of take that is identified in the BO. Annual reports will be provided prior to March 1st of each year for the duration of the project.

A Wetland Mitigation Plan will require approval by the USACE prior to impacts. The Plan will contain but is not limited to the following conditions:

1. Monitoring of the Morrison and Zwierstra Mitigation Sites will be completed by Caltrans biology and stewardship personnel. Caltrans landscape inspectors and landscape Resident Engineer will oversee the contractor; and Caltrans biology/stewardship personnel will be onsite frequently throughout the life of the site to ensure that the site is moving toward and achieving its goals. In addition to monitoring the work during construction, grading, irrigation installation, and planting, monitoring of vegetation transects, photo stations, wildlife monitoring, and overall status of the site will be completed regularly by biology/stewardship personnel.
2. Vegetation and wildlife monitoring at the mitigation site will be completed through a combination of methods. Wildlife monitoring will be completed quarterly and will consist of identifying all species through direct observation or through identifying tracks, scat, or vocalizations. A list of wildlife species and numbers of individuals identified will be completed. The quarterly wildlife monitoring will be included in the annual mitigation site reports. Protocol least Bell's vireo surveys will be completed onsite the spring after the plants have been in the ground one full year.
3. Vegetation will be monitored using three methods, 1) detailed aerial photograph vegetation mapping; 2) permanent photo locations; and 3) collection of permanent transect data.

Sites will be monitored for maintenance monthly in the first three years and at least quarterly in years 4 and 5. Wildlife monitoring will be completed quarterly with eight protocol vireo surveys between April 10 and July 31 during years 2 through 5. Additional wildlife surveys may be done to establish presence of sensitive and endangered species. Vegetation transect monitoring will be completed annually in late summer after a full growing season. Photo stations will be taken at the time of transect monitoring and additional photos will be taken during the rainy season to show flow patterns through the site.

The first annual reports will be submitted by January 1st after the plants have been in the ground for an entire spring and summer. The site shall be maintained and monitored for a minimum of five years or longer as needed to meet the success criteria. Annual reports will be submitted to the USACE, the California Department of Fish and Game, the Regional Water Quality Control Board, and USFWS for five years and will follow the USACE format.

An Environmental Commitment Record (ECR) for the project has been completed. The ECR summarizes the commitments made during the environmental process and is used to ensure that all mitigation measures identified in the Final EIS are executed during the appropriate stage(s) of the project. Refer to Appendix D of the Final EIS for a copy of the ECR.

RESPONSE TO COMMENTS ON THE FINAL EIS

The availability of the Final EIS was published in the Federal Register on December 12, 2008. The 30 day review period on the document closed on January 16, 2009.

The U.S. Environmental Protection Agency (EPA) provided comments in a letter dated January 13, 2009, and these comments are summarized below. Responses to each comment are also provided:

General Remarks: The EPA has coordinated with the USACE and USFWS to provide early regulatory input for this project pursuant to the NEPA/Clean Water Act Section 404 Integration Process Memorandum of Understanding. EPA noted that this coordination process allowed for multiple, detailed discussion regarding specific alignment options, avoidance of sensitive resources, and the potential for advanced mitigation for future transportation-related impacts.

Inclusion of the requested additional information into the Final EIS regarding indirect and cumulative impacts to biological and aquatic resources was noted. Many concerns regarding indirect and cumulative impacts, including the future SR-76 Mission Road to I-15, and mitigation were resolved in the Final EIS. Remaining concerns are summarized below.

Comment #1

Mobile Source Air Toxics

Previous recommendations regarding Mobile Source Air Toxics (MSATs) were not incorporated into the Final EIS. EPA continues to recommend performing the assessment described in the March 2007 report entitled “*Analyzing, Documenting, and*

Communicating the Impacts of Mobile Source Air Toxic Emissions in the NEPA process,” prepared for the American Association of State Highway and Transportation Officials (AASHTO). The March 2007 report identifies CALINE4 as the “Best Available Air Quality Modeling Tool for use in Analyzing MSATs under NEPA” for purposes of both roadway widening and high occupancy vehicle (HOV) lane addition. The analysis of potential MSAT impacts is especially important in California, where the awareness of the air toxics impacts, the knowledge of background conditions, and the familiarity with tools to assess potential impacts are very high.

Response to Comment #1

The MSAT assessment follows the screening process outlined in Exhibit 1-1 of the aforementioned AASHTO report. Based on the design level activity, a Level 2 Assessment is appropriate. Level 2 projects are those which improve operations or safety without substantially adding new capacity and therefore are anticipated to have very low potential impact. The health-based screening thresholds were developed on a one-in-a-million threshold risk level (see pages 7-9 of *Analyzing, Documenting, and Communicating the Impacts of Mobile Source Air Toxic Emission in the NEPA Process,*” prepared for AASHTO, March 2007.

EPA has documented that the primary health concern for acrolein is not cancer, but a respiratory endpoint (nasal lesions, <http://www.epa.gov/iris/subst/0364.htm#refinhal>). Similarly, benzene (decreased lymphocyte count, <http://www.epa.gov/iris/subst/276.htm#refinhal>), acetaldehyde (degeneration of the olfactory epithelium, <http://www.epa.gov/iris/subst/0290.htm#refinhal>), formaldehyde (respiratory, <http://www.atsdr.cdc.gov/toxprofiles/tp111-c2.pdf>), and 1,3 –butadiene (ovarian atrophy, <http://www.epa.gov/IRIS/subst/0139.htm#refinhal>) all have non-cancer health endpoints of potential concern.

Comment #2

Greenhouse Gas Emissions

EPA appreciates the discussion on greenhouse gas (GHG) emissions, but notes that the GHG discussion was only included in the CEQA portion of the document. EPA recommends the Record of Decision (ROD) include a summary of the GHG analysis, and further recommends the ROD include a discussion of any potential impacts of climate change on the project.

Response to Comment #2

The issue of global climate change is an important national and global concern that is being addressed in several ways by the Federal government. In February 2002, the Administration committed the U.S. to a comprehensive strategy to reduce the greenhouse gas (GHG) intensity of the American economy by 18 percent over the next 10 years through voluntary measures. However, it is important to recognize that no national regulatory thresholds for greenhouse gas emissions or concentrations have been established through law or regulation.

Transportation is a significant source of greenhouse gases, particularly of carbon dioxide (CO₂) emissions – the predominant GHG. The principal anthropogenic (human-made) source of carbon emissions is the combustion of fossil fuels, which account for

approximately 80 percent of anthropogenic emissions of carbon worldwide. Almost all of transportation sector emissions result from the consumption of petroleum products such as motor gasoline, diesel fuel, jet fuel, and residential fuel.

Recognizing this concern, FHWA is working with other modal administrations through the U.S. Department of Transportation’s Center for Climate Change and Environmental Forecasting to develop strategies to reduce transportation’s contribution to greenhouse gases – particularly CO₂ emissions – and to assess the risks to transportation systems and services from climate changes. In these efforts, FHWA has been working with other Federal agencies, including EPA and the U.S. Department of Energy, to evaluate effective approaches consistent with national goals.

Accurate modeling of GHG emissions levels at the project level, including CO₂, is not currently possible. No federal, state, or regional regulatory agency has provided methodology or criteria for GHG emissions and climate change impact analysis, although FHWA is in the process of drafting guidance for GHG analysis and looks forward to coordinating this effort with the EPA. Until this guidance is forthcoming, Caltrans is unable to provide a scientific or regulatory-based conclusion regarding whether the project’s contribution to climate change is cumulatively considerable.

However, a model was developed and used to estimate regional GHG emissions levels, and any beneficial or negative effects the project might have on CO₂ emissions for the San Diego metropolitan area. As recommended, a summary of this analysis is provided below:

The model used a regional GHG emissions estimation method. The San Diego Association of Governments’ (SANDAG) “Reasonably Expected” Series 10 2015 and 2030 regional travel demand models were utilized for the land use and local street network assumptions for the two build and No Build scenarios. The travel demand models were run on Transcad version 4.7/Build268 travel demand modeling software, and model outputs were post-processed using SANDAG’s “postlodm3v48” program to generate annual-basis “burden.wis” input files for the EMFAC2007 v2.3 program. The CARB EMFAC2007 program was then used to generate regional fuel consumption and CO₂ emissions for each time horizon.

Regional fuel consumption estimates for the Existing Alignment Alternative incorporated travel along the improved SR-76 roadway. The results of the regional fuel consumption and CO₂ emissions models are shown below in Table 2.

Table 2. Average Difference in Regional CO₂ Emissions

Alternative	Model Year	Fuel Consumption (gal)	Efficiency/ Fuel Savings (gal/day)	Regional CO₂ Annual Emission (average tons/day)	Difference in Regional Emissions (vs. No Build) (tons/day)
Existing Alignment	2015	4,984,020	162,660	49,030	1,460
Existing Alignment	2030	5,918,740	148,340	58,410	1,450

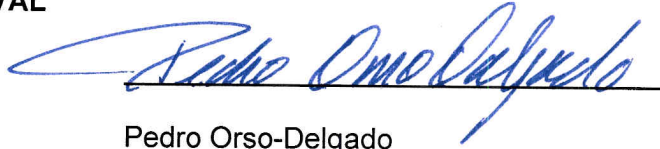
The Existing Alignment Alternative is estimated to reduce 2030 CO₂ emissions in the San Diego region by up to 1,450 tons per day. In 2015, the interim estimated CO₂ emissions reductions are estimated to be 1,460 for the Existing Alignment Alternative. This decrease is due to the decreased congestion along the corridor, decreased

diversions of vehicle trips to alternate routes, and improved travel times along the corridor and the local street network. Therefore, despite the localized increase in traffic levels along the proposed alignment, regional transportation efficiency will be increased and overall CO₂ emissions will be reduced.

RECORD OF DECISION APPROVAL

3/2/09

Date



Pedro Orso-Delgado
District Director
California Department of Transportation