

Schuyler Heim Bridge Replacement and SR-47 Expressway Project

RECORD OF DECISION



Commodore Schuyler Heim Bridge (Br. No. 53-2618) and SR-47 in the Ports of
Long Beach and Los Angeles, Los Angeles County, California

07-LA-47-KP 4.4/9.3 (PM 2.7/5.8)

EA: 238500

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

August 2009



California Department of Transportation

RECORD OF DECISION

Schuyler Heim Bridge Replacement and SR-47 Expressway Project

Commodore Schuyler Heim Bridge (Br. No. 53-2618) and SR-47 in the Ports of Long Beach and Los Angeles, Los Angeles County, California

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

Decision

The California Department of Transportation (Caltrans), as the federal lead agency for this undertaking, has selected Alternative 1 for the Schuyler Heim Bridge Replacement and SR-47 Expressway Project. Alternative 1 was identified as the preferred alternative in the Final Environmental Impact Statement (Final EIS), dated May 15, 2009, which was prepared pursuant to the National Environmental Policy Act (NEPA). The Final EIS considered potential construction and operation impacts to the natural and human environments that would result from a No Build alternative and six build alternatives (including a variation of Alternative 1-Alternative 1A). Identification of the preferred alternative was based on environmental impacts, funding availability, safety issues and community input and acceptance. Caltrans based its decision on the Final EIS and supporting studies, as well as comments received from the public and agencies. With the adoption of this Record of Decision (ROD) by Caltrans, Caltrans will proceed with the understanding that the project has been approved.

Selected Alternative

Alternative 1 would create a grade-separated expressway that would be a high-capacity alternate route between Terminal Island and Alameda Street/Pacific Coast Highway. This alternative involves replacement of the Schuyler Heim Bridge with a fixed-span bridge along and east of the existing bridge alignment; construction of a limited-access expressway that begins at Ocean Boulevard, crosses the bridge, and extends northward for a distance of approximately 2.7 km (1.7 mi); and construction of the proposed 1,550-m (5,084-ft) flyover. The flyover would divert eastbound Ocean Boulevard traffic directly onto northbound SR-47, which would provide direct access to the replacement bridge over the Cerritos Channel and enable traffic on this route to avoid the congested Ocean Boulevard/SR-47 intersection. The SR-47 Expressway would be designed to specific Caltrans geometric standards for expressways, with limited access and a posted speed limit of 80 km (50 mi) per hour. The completed expressway would relieve traffic congestion to and from Terminal Island, become part of SR-47, and be owned, operated, and maintained by Caltrans. Alternative 1 extends

from SR-47 KP 4.4 to 9.3 (PM 2.7 to 5.8). See Chapter 2.0 of the Final EIS for a detailed description of the Selected Alternative design features. After comparing and weighing the benefits and impacts of the alternatives (see Table 1 for a summary of major impacts), funding availability, and community acceptance, Alternative 1 has been identified as the Selected Alternative.

Construction of the expressway portion of the Selected Alternative would proceed in one general construction sequence. Construction of the flyover would proceed in the same manner. Construction of the Schuyler Heim Bridge replacement would occur prior to, or concurrently with, construction of the SR-47 Expressway. An overall construction period of approximately 2 to 3 years has been estimated for the bridge and expressway components of the project. The construction period was scheduled to begin in 2009 but is currently projected to begin in 2010. The estimated cost to construct the Selected Alternative is \$706.3 million in 2009 dollars.

The purpose of the proposed project is to:

- Provide a structurally and seismically safe vehicular connection along the critical north-south corridor between Terminal Island and the mainland that can remain in service following a major earthquake to ensure that ground and vessel transportation are maintained
- Improve operational and safety design features of the crossing to facilitate the movement of people, freight, and goods, while meeting current design standards to the maximum extent feasible

The purpose of the proposed project is also to provide a high-capacity alternative route for traffic between Terminal Island and I-405 that would:

- Reduce traffic congestion on local surface streets (between Terminal Island and Pacific Coast Highway), as well as on I-110 and I-710
- Improve safety by providing a limited-access route between Terminal Island and I-405 that would:
 - By-pass at-grade railroad crossings and signalized intersections
 - Connect the Schuyler Heim Bridge with an emergency service route that would facilitate movement to and from the ports following a major earthquake

This high-capacity link would allow traffic to continue northward along Alameda Street, or SR-103, and provide essential north-south connectivity with the regional freeway system (I-405 and SR-91) for the movement of people and goods to and from the ports.

The Schuyler Heim Bridge was built in 1948 and was designed and constructed based on the existing and projected needs at that time. The bridge does not meet current seismic standards and would likely not be able to provide emergency service or other ground transportation access to and from Terminal Island immediately following a major earthquake. Currently, the approaches of the bridge are being retrofitted to address seismic deficiencies. However, this is not a full seismic retrofit of the bridge; it is limited to the bridge approaches to bring the approaches to the same seismic level as the main span, reducing their chance of collapse.

Even after the approaches are retrofitted, the entire bridge would still be deficient. The existing bridge also does not meet current Caltrans roadway operational and safety design standards. It is not efficient in transporting high volumes of people, freight, and goods due to disruptions when the vertical span is lifted for marine traffic in the Cerritos Channel. It is considered to be functionally obsolete with substandard lane widths, bridge rails, and shoulder widths (although in some places there is no shoulder).

The existing transportation system within and adjacent to the ports is becoming increasingly constrained with cargo traffic and other vehicular traffic. This large, and rapid, increase in truck volume has the potential to seriously compromise essential north-south connectivity between the ports and the regional freeway system, thereby slowing and/or otherwise limiting the movement of people, freight, and goods. The use of surface streets and interference from the signalized intersections and railroad crossings lead to traffic congestion and delays.

Alternatives Considered

A full range of alternatives was considered in the course of identifying the Selected Alternative. A brief description of the project alternatives given full consideration in the Final EIS is presented below.

Alternative 1

This alternative is described above as the Selected Alternative.

Alternative 1A

Alternative 1A is a structural variation of Alternative 1. The main purpose of this alternative would be to improve the aesthetic appearance of the replacement bridge over the Cerritos Channel. This would be accomplished by increasing the span lengths over the channel and arching the superstructure soffits (the bottom of the bridge structure). Under this alternative, the new bridge would be supported by two piers (four columns) in the Cerritos Channel, compared to four piers (eight columns) under Alternative 1.

Alternative 2

Alternative 2 would involve the replacement of the existing Schuyler Heim lift bridge with a fixed-span bridge, as described in Alternative 1, and construction of a 4-lane elevated roadway extension of the SR-103 to Alameda Street in the vicinity of the intersection with 223rd Street.

Alternative 3

This alternative would provide a means of preserving the existing Schuyler Heim Bridge, a historic property, while constructing a new bridge over the Cerritos Channel. With Alternative 3, the existing bridge would be retrofitted and left in place, but would not be used. However, according to the U.S. Coast Guard, when a bridge is no longer used for its permitted purpose of providing land transportation, the bridge shall be removed from the waterway. Therefore, removal of the existing Schuyler Heim Bridge would be included as a condition of the federal permit for the replacement bridge. Nonetheless, this alternative is

presented as a means of preserving a historic resource. Alternative 3 would extend from SR-47 KP 4.4 to 9.3 (PM 2.7 to 5.8).

Alternative 4

This alternative would involve replacement of the Schuyler Heim Bridge with a fixed-span bridge, as described under Alternative 1. This alternative would include modification to the northerly and southerly approaches to the bridge to maintain connectivity to SR-103 and Ocean. Also, existing connections to Henry Ford Avenue would be maintained. However, with Alternative 4, there would be no grade-separation at the existing at-grade rail crossing south of the bridge. Also, New Dock Street would not be realigned, as would occur under Alternative 1, and the Ocean Boulevard/SR-47 flyover would not be constructed. Alternative 4 would extend from SR-47 KP 5.6 to 7.3 (PM 3.5 to 4.5).

Alternative 5

The Transportation System Management (TSM) alternative would focus on improvements to traffic routes that parallel the proposed SR-47 Expressway, and that serve the same trips, including truck trips to and from the ICTF, and trips to and from the Ports of Long Beach and Los Angeles via Alameda Street, Henry Ford Avenue, and SR-47. Trip reductions via travel demand management (TDM) techniques also would be employed as part of this TSM alternative. If feasible, TDM measures would reduce travel demand in the corridor and potentially lessen the need for further improvements. For this project, the TSM alternative would include measures to improve capacity and traffic circulation at the Ports of Long Beach and Los Angeles through policy changes and use of the latest technologies.

Alternative 6

Under the No Build alternative, replacement of the Schuyler Heim Bridge, construction of the flyover, and construction of either the SR-47 Expressway or SR-103 Extension would not occur. The Schuyler Heim Bridge would continue to be seismically inadequate and subject to damage or collapse under strong seismic conditions. Maintenance activities would continue and would include application of protective coatings, lift mechanism repairs, deck resurfacing, and similar maintenance activities. The existing bridge is expected to continue to deteriorate over time as its useful life is eroded further and as various magnitude earthquakes occur in the area. At some point in the future, it could be necessary for the bridge to be demolished and replaced solely to avoid safety hazards.

Rationale for Identification of the Selected Alternative

The main rationale for identification of Alternative 1 as the Selected Alternative is as follows:

- Project Purpose and Need

Need to Replace Bridge for Seismic Safety: The Schuyler Heim Bridge was built in 1948 (to 1946 standards) and, therefore, does not conform to current seismic criteria. In the event of a major earthquake, the bridge would be so damaged it could not remain in service. Currently, the approaches to the bridge are being retrofitted to address seismic deficiencies. This is not a full seismic retrofit of the bridge; it is limited to the bridge

approaches to bring them to the same seismic level with the main span, reducing their chance of collapsing. Since the main span itself is deficient, even after the approaches are retrofitted, the entire bridge extent would still be deficient in the event of a major earthquake. Alternatives 1, 1A, 2, 3, and 4 would replace the bridge and meet the project objective of providing a structurally and seismically safe bridge. The Transportation System Management Alternative (Alternative 5) and the No Build (Alternative 6) would reduce environmental impacts insofar as both alternatives would avoid construction of the expressway and the new bridge, and associated adverse air quality and cultural resources impacts. However, under Alternatives 5 and 6, the bridge would not be replaced and would remain a major channel crossing, but would not meet the state's seismic code. Both alternatives would result in maintaining the seismically unstable Schuyler Heim Bridge and neither would fulfill the project Purpose and Need nor provide the other benefits of the build alternatives.

Alternatives 5 and 6 would not provide a structurally and seismically safe vehicular connection along the critical north-south corridor between Terminal Island and the mainland that can remain in service following a major earthquake to ensure that ground and vessel transportation are maintained. Therefore, neither the No Build alternative nor the Transportation System Management alternative is identified as a selected alternative over Alternative 1.

Traffic Issues: Alternatives 1, 1A, 2, and 3 would have the greatest improvement in local traffic congestion. Alternative 5 would involve some roadway improvement but would not address traffic congestion on local streets and intersections, resulting in worsened air quality over the long term. Alternative 6 would reduce environmental impacts insofar as it would avoid construction of the expressway and the new bridge and associated adverse air quality and cultural resources impacts; however, it does not encompass the additional transportation improvements envisioned in Alternative 5 and would likely result in the worst long-term air quality impacts of any alternative. Alternative 4 would result in fewer and less extensive impacts than Alternative 1, as there would be no air quality, noise and visual resources impacts associated with a new expressway and flyover. However Alternative 4 would not satisfy the entire project Purpose and Need because it would not address traffic congestion on local streets and at intersections. Additionally, the failure of Alternative 4 to address traffic congestion on local streets and intersections would likely result in worsened air quality over the long term. Moreover, mitigation measures and design features that are imposed as part of Alternative 1 would substantially reduce impacts. Therefore, Alternative 4 is not identified as a selected alternative over Alternative 1.

- **Bridge Maintenance**

Due to its age, the Schuyler Heim Bridge is at the end of its useful life span and requires frequent maintenance to keep it functioning. The cost of such maintenance, plus the seismic rehabilitation that would be required to keep the bridge operational, would be more than twice the cost of a fixed-span-bridge replacement. These costs would be borne under Alternatives 5 and 6. Therefore, neither the No Build alternative nor the Transportation System Management alternative is identified as a selected alternative over Alternative 1.

- **Consistency with Port Master Plans**

Port of Long Beach: Port Master Plan

- Goals include improving internal Port circulation involving roadways, providing additional highway access to Terminal Island.

Port of Los Angeles Master Plan

- Objectives include accommodating commerce to preclude need to develop new ports, providing necessary and safe access between internal and external road systems, and utilizing appropriate safety standards for new facilities.

Alternatives 4, 5, and 6 would not meet the above goals of the Port of Long Beach and Port of Los Angeles port master plans and are not identified as selected over Alternative 1.

- **Wetland Impact and U.S. Coast Guard Permit Condition**

Alternative 3 would increase biological resource impacts as compared to Alternative 1 because it would involve destruction of a wetland adjacent to the Cerritos Channel, while this destruction would be avoided and the impact minimized under Alternatives 1, 1A, and 2. Further, although Alternative 3 was originally included as an “avoidance alternative” to the demolition of an historic resource, subsequent consultation with the U.S. Coast Guard has indicated that a condition of its permit would be to demolish the old bridge. The U.S. Coast Guard has informed Caltrans that it would not permit the old bridge to remain standing if not used for transportation purposes. Therefore, Alternative 3 is not considered a feasible alternative and thus is not identified as a selected alternative over Alternative 1.

- **Hazardous Waste Impact**

Although Alternative 2 would result in similar air quality and cultural resources impacts to Alternative 1, it would increase hazardous waste impacts as compared to Alternative 1 because it would include excavation of an inactive landfill and the potential to unearth hazardous waste. Portions of the Alternative 2 alignment overlie two former landfills where uncontrolled dumping occurred. One of these, the Class II Alameda Street Landfill, is being reviewed for possible inclusion on the National Priority List. Soil excavation at this landfill could encounter hazardous waste, which would require oversight by the Department of Toxic Substances Control and other agencies to ensure safe management and disposal of the waste. Prior to construction, extensive investigation and remediation activities would be required. These activities could last years and delay completion of the project. In addition, the costs for hazardous waste mitigation and compliance and total cost (\$785.7 million) for Alternative 2 are significantly higher than those for Alternative 1 (total cost is \$706.3 million). Therefore, Alternative 2 is not identified as a selected alternative over Alternative 1.

- **ACTA’s Preference**

ACTA has determined that Alternative 1, 1A, or 3 would be preferred over Alternative 2 in light of ACTA’s health risk assessment. In comparing the alternatives, Alternative 1

would have less health impacts than Alternative 2, which would be located near several schools. Caltrans has taken ACTA's and the community's preferences into consideration in determining the Selected Alternative.

- **Cost Issues between Alternative 1 and Alternative 1A and Constructability**

Higher costs would occur under Alternative 1A compared to Alternative 1. The project cost of Alternative 1A would be \$7 million to \$12 million greater than Alternative 1. In addition to greater cost, the design of the bridge under Alternative 1A would result in constructability issues that are not present in Alternative 1. Therefore, Alternative 1A is not identified as a selected alternative over Alternative 1.

Section 4(f)

Under the Selected Alternative, the Commodore Schuyler F. Heim Bridge would be demolished following construction of a replacement bridge. Demolition would be a direct use of a Section 4(f) resource. Measures to minimize harm are presented in the "*Memorandum of Agreement (MOA) between Caltrans and the California State Historic Preservation Officer, regarding the State Route 47 (SR-47) Expressway and the Schuyler Heim Bridge Replacement Project.*" Measure C-3 through C-11 in Table 2 will be implemented. Based on the considerations in the Section 4(f) Evaluation, there is no feasible and prudent alternative to the use of the Commodore Schuyler F. Heim Bridge. Alternative 1 is identified as the alternative with the least overall harm and it includes all possible planning to minimize harm to the Commodore Schuyler F. Heim Bridge resulting from such use.

Summary of Beneficial Environmental Impacts

The Selected Alternative would provide a bridge with improved structural and seismic conditions so that it can remain in service following a major earthquake to ensure that ground and vessel transportation are maintained. It would also improve operational and safety design features of the crossing to facilitate the movement of people, freight, and goods, while meeting current design standards to the maximum extent feasible.

Implementation of the Selected Alternative would also result in beneficial impacts to local traffic congestion, public facilities and services, regional movement of goods, short-term employment and economic activity, improved safety, and reliable access for emergency services. Benefits to local traffic congestion, with some ancillary beneficial effects on access for residential neighborhoods, would result to the extent truck traffic is diverted onto the new SR-47 Expressway and away from surface roadways such as Henry Ford Avenue and Alameda Street. Traffic would also be diverted from I-110, I-710, and SR-103, the at-grade freeway close to local schools and playgrounds. Other effects from the new SR-47 Expressway include benefits to traffic circulation for public facilities and services near Henry Ford Avenue. In addition, operation of the flyover would include benefits to traffic circulation in the vicinity of the Ocean Boulevard/SR-47 intersection on Terminal Island. The Selected Alternative is consistent with the goals of the Master Plans for both ports.

Short-term employment benefits would occur during construction. Long-term maintenance costs for the new fixed span bridge would also be considerably less than the costs to maintain the existing, old lift bridge that is at the end of its useful life span.

In addition, the Selected Alternative would result in reduced exposure to MSAT and other vehicle exhaust emissions compared to the No Build alternative due to improved traffic flow and more efficient vehicle movement.

Summary of Adverse Environmental Impacts and Mitigation

The Selected Alternative incorporates all practicable measures to minimize environmental harm, which were described in the Final EIS. Table 1 below lists the construction and operational impacts and the mitigation measures to minimize the potential impacts identified. All measures listed are commitments imposed under this ROD for the Selected Alternative. This listing is provided to guide and facilitate project design and construction. This list will also facilitate the monitoring and implementation of the mitigation measures. The measures described below will either be incorporated into or implemented in conjunction with the design and/or construction for the Selected Alternative. A detailed description of impacts and mitigation measures can be found in the appropriated environmental resources section in Chapter 3.0 of the Final EIS.

**Table 1
Potential Project Effects and Avoidance, Minimization, and/or Mitigation Measures**

Environmental Resource/Impacts	Avoidance, Minimization, and Mitigation Measures*
3.1 LAND USE, RECREATION, AND COASTAL ZONE	No avoidance, minimization, and/or mitigation measures are proposed related to Land Use, Recreation, and Coastal Zone.
3.2 GROWTH	No avoidance, minimization, and/or mitigation measures are proposed related to Growth.
3.3 COMMUNITY RESOURCES	
<p><u>OPERATIONS</u></p> <p>Permanent full acquisition of six businesses located on 10 parcels, permanent highway easements of approximately 125 partial takes (aerial/highway easements), and 78 temporary construction easements. Nine boat slips would be acquired at the Leeward Bay Marina.</p>	<p>CI-1</p> <p>Provide relocation assistance or compensation to eligible persons and businesses in accordance with the federal Uniform Relocation Assistance and Property Acquisition Act of 1970, as amended (42 USC Sections 4601-4655) and the California Relocation Act (California Government Code, Section 7260 et. seq.).</p>
3.4 UTILITIES AND PUBLIC SERVICES	
<p><u>CONSTRUCTION</u></p> <p>The Selected Alternative would affect existing utilities in the project area, requiring relocation and avoidance, with the potential for some service disruption.</p> <p>Both the existing Schuyler Heim Bridge and the new bridge would be closed temporarily for up to 1 month, and the southbound SR-47 exit ramp at New Dock Street would be closed for approximately 4 months. As a result, land-based public and emergency services that rely upon the Schuyler Heim Bridge as their primary emergency route, including Port Police and LBFD, would be required to use alternative emergency response routes (primarily the Vincent Thomas and Gerald Desmond Bridges).</p>	<p>U-1</p> <p>Provide advance notification to utility users of the potential for service disruption and the anticipated time/date of the disruption.</p> <p>U-2</p> <p>Prior to bridge construction, notify watch commanders and station chiefs of all fire, police, and other land- and water-based response stations that service the port area or use the Schuyler Heim Bridge or Cerritos Channel as a travel route to respond to service calls in order to minimize delays to emergency response providers during project construction.</p>

**Table 1
Potential Project Effects and Avoidance, Minimization, and/or Mitigation Measures**

Environmental Resource/Impacts	Avoidance, Minimization, and Mitigation Measures*
<p>There would be a temporary closure of Cerritos Channel to marine vessel crossings for approximately 25 days at various times throughout the period of bridge construction.</p>	<p>This action will allow for the identification of alternate routes and the development of contingency response plans, including:</p> <ul style="list-style-type: none"> • Temporary interim policies that will identify alternative resources within the public service and emergency response organization (i.e., alternative response units located closer to the incident); and • Mutual aid agreements between bordering public service and emergency response organizations (i.e., LAFD and LBFD) that could be dispatched in the event of a response delay of the primary response provider.
	<p>U-3</p> <p>Specify in the contract that construction in the Cerritos Channel must occur in a manner that allows emergency marine vessels to pass or be carried out in such a way that barges with construction equipment will be moved quickly to allow passage of emergency vessels.</p>
	<p>U-4</p> <p>Determine where construction-related activities have the potential to disrupt response routes and coordinate with Los Angeles and Long Beach police and fire departments, as well as any local emergency medical service units.</p>
	<p>U-5</p> <p>Utilize a Transportation Management Plan that is agreeable to all emergency service providers and the project design team.</p>
	<p>U-6</p> <p>During final design, after selection of the preferred alternative, a determination will be made regarding which of the identified utilities will be relocated. Plans for the relocations will be developed in consideration of the project schedule and consultation with the utility providers which include, but are not limited to, LADWP, LBWD, SCE, SCG, GTE/Verizon, AT&T, City of Los Angeles. In addition, pipeline relocations will be planned and implemented in consultation with TOPCO, Exxon Mobil, Gulf Oil, and SCG. In further consultation with utility providers, some obsolete utilities may be removed at the request of the provider.</p>
<p><u>OPERATIONS</u></p>	<p>No avoidance, minimization, or mitigation measures related to Utilities and Public Services are proposed for project operations.</p>

**Table 1
Potential Project Effects and Avoidance, Minimization, and/or Mitigation Measures**

Environmental Resource/Impacts	Avoidance, Minimization, and Mitigation Measures*
3.5 TRAFFIC AND TRANSPORTATION	
<p><u>CONSTRUCTION</u></p> <p>Project construction is expected to have temporary effects to off-street employee parking and marine terminal equipment parking at the Port of Long Beach Pier A East and Pier S Terminals.</p> <p>Up to 820 off-street employee parking spaces and 54 marine terminal equipment spaces would be affected.</p>	<p>T-1</p> <p>Prior to construction, temporary parking spaces will be provided to replace existing parking capacity that will not be available during project construction. Caltrans will coordinate with the Port of Long Beach and Port of Los Angeles to identify replacement parking for the Pier A East and Pier S Terminals. Exact locations will be determined after consultation with responsible parties, including property owners. Considerations of feasibility will include, but not be limited to, vehicle capacity, time of availability, distance from terminal(s), and the need for employee shuttles.</p> <p>T-2</p> <p>The Transportation Management Plan (TMP) will be implemented to enhance vehicular and pedestrian traffic.</p>
<p><u>OPERATIONS</u></p> <p>Project operation is anticipated to have permanent effects to approximately 15 employee parking spaces at the Port of Long Beach Pier S Terminal.</p> <p>During project operations, up to 12 parking spaces may be taken from businesses at the southeast corner of Alameda Street and M Street, depending on final column placement. Also, 15 to 25 on-street parking spaces may be impacted along the east side of Henry Ford Avenue between Grant Street and Anaheim Street.</p>	<p>T-3</p> <p>Compensation for the permanent loss of an estimated 15 employee parking spaces at the Port of Long Beach Pier S Terminal will be provided. Compensation will be based on an agreement between Caltrans and the Port of Long Beach.</p>
3.6 MARINE VESSEL TRANSPORTATION	No avoidance, minimization, and/or mitigation measures are proposed related to Marine Vessel Transportation.

**Table 1
Potential Project Effects and Avoidance, Minimization, and/or Mitigation Measures**

Environmental Resource/Impacts	Avoidance, Minimization, and Mitigation Measures*
3.7 VISUAL RESOURCES	
<p><u>CONSTRUCTION</u></p> <p>Construction of a new bridge, flyover, and/or expressway would result in specific impacts to the visual environment of those portions of the project area in view of the new facility(ies).</p>	<p>VR-1</p> <p>The surfaces of columns, roadway barriers, soundwalls, and gore points will receive surface color treatments at specified locations, as determined by a Caltrans Licensed Landscape Architect.</p> <p>VR-2</p> <p>Elements of the design of the proposed bridge and expressways, such as color, line, texture, and style, would be aesthetically pleasing and as unobtrusive as possible. During final design, particular attention would be paid to the vertical columns, bridge fencing, and soundwalls.</p> <p>VR-3</p> <p>All visual design elements, including landscaping, would be designed and implemented with the concurrence of a Caltrans Licensed Landscape Architect and in compliance with local policies and guidelines. Additionally, input from interested parties, including the public, will be solicited and considered.</p> <p>VR-4</p> <p>Trees and vines will be planted along soundwalls and other walls at specified locations, as determined by a Caltrans Licensed Landscape Architect.</p> <p>VR-5</p> <p>Design of the elevated expressway would be compatible (scale and massing) with the existing Schuyler Heim Bridge or future bridge and the Badger Avenue/Henry Ford Railroad bridge.</p>
<p>Construction-related activities would be temporary in nature and impact. Construction activities at night have the potential to have greater effects because additional lighting that would be required to conduct the work could have temporary localized adverse effects.</p>	<p>VR-6</p> <p>Night lighting would be used when required for safety for temporary construction activities. The lights would be directed downward and shielded to reduce light-spill outside of the area required for construction activities.</p>

**Table 1
Potential Project Effects and Avoidance, Minimization, and/or Mitigation Measures**

Environmental Resource/Impacts	Avoidance, Minimization, and Mitigation Measures*
<u>OPERATIONS</u>	No avoidance, minimization, and/or mitigation measures related to Visual Resources are proposed for project operations.
3.8 CULTURAL RESOURCES	
<p><u>CONSTRUCTION</u></p> <p>No archaeological resources were identified, and no archaeological sites are known to exist within the APE. If, during construction, unknown cultural materials are found, appropriate avoidance and minimization measures will be taken.</p>	<p>CR-1 Measures for Unknown Archaeological Resources</p> <p>If any archaeological properties are discovered during construction, FHWA and SHPO shall be consulted, in accordance with 36 CFR 800.13(b).</p> <p>CR-2 Discovery of Human Remains</p> <p>If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall cease in any area or nearby area suspected to overlie remains, and the County Coroner contacted. Pursuant to Public Resources Code Section 5097.98, if the remains are thought to be Native American, the coroner will notify the Native American Heritage Commission (NAHC), who will then notify the Most Likely Descendent (MLD). At this time, the person who discovered the remains will contact Mr. Gary Iverson, District Heritage Resource Coordinator, Caltrans District 7, so that they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed, as applicable.</p>
<p>Demolition and replacement of the existing Schuyler Heim Bridge would constitute an Adverse Effect on the bridge, under Adverse Effect Criterion 2(i), 36 CFR 800.5(a).</p> <p>In addition, demolition of the Schuyler Heim Bridge would be considered an adverse effect under significance Criterion 2(A), Section 15064.5 of the CEQA Guidelines.</p>	<p>CR-3</p> <p>The bridge shall be offered for sale for reuse in an alternate location to interested public agencies and non-profits. A marketing plan shall be prepared for the sale of the bridge including: a notification letter, fact sheet, list of intended recipients, as well as provisions for the salvage of smaller components in the case that there is no interest in re-use of the bridge. Advertisements shall be placed in appropriate newspapers of record. The offer shall run for 6 months. If no acceptable bids are received after 6 months this stipulation shall be deemed to have been met.</p> <p>The above shall be done in accordance with the U.S. Department of Transportation Historic Bridge Program 23USC144(o)(4)(A) and (B).</p>

**Table 1
Potential Project Effects and Avoidance, Minimization, and/or Mitigation Measures**

Environmental Resource/Impacts	Avoidance, Minimization, and Mitigation Measures*
	<p>CR-4</p> <p>Informative permanent metal plaques shall be installed at both ends of the new bridge at public locations that provide a brief history of the original bridge, its engineering features and characteristics, the reasons for its demolition, and a statement of the characteristics of the replacement structure.</p>
	<p>CR-5</p> <p>Pursuant to Section 110(b) of the NHPA, before the Bridge is demolished, the Historic American Buildings Survey/Historic American Engineering Record (HABS/HAER) shall be contacted to determine what level and kind of recordation is required for the property. All documentation shall be completed and accepted by HABS/HAER before the Bridge is demolished.</p>
	<p>CR-6</p> <p>Copies of the HABS/HAER report shall be disseminated to the City of Los Angeles Public Library and the City of Long Beach Public Library.</p>
	<p>CR-7</p> <p>Information from the HABS/HAER report shall be available to the public for 10 years on an appropriate internet website.</p>
	<p>CR-8</p> <p>A documentary (motion picture or video) shall be produced and shall address the history of the Bridge, its importance and use within the history of the Port of Long Beach and Port of Los Angeles, and demonstrate its operation and function. The motion picture or video will be of broadcast quality, of sufficient length for a standard 30-minute time period and will be made available for local broadcast stations to public access channels in local cable systems and to schools/libraries.</p>
	<p>CR-9</p> <p>Traveling museum exhibits shall be prepared and shall address the history of the Bridge, its importance and use within the history of the Port of Long Beach and the Port of Los Angeles, and demonstrate its operation and function, appropriate for display in small museums, or for use in schools.</p>

**Table 1
Potential Project Effects and Avoidance, Minimization, and/or Mitigation Measures**

Environmental Resource/Impacts	Avoidance, Minimization, and Mitigation Measures*
	<p>CR-10 Artifacts removed from the Bridge during preliminary stages of the demolition process shall be offered to local museums, and provide for their delivery to accepting institutions. Examples of such artifacts may include, but not be limited to, control panels, instruments, structural members, railings, signage, plaques or other identifying ornamentation, street lights, navigation lights, etc.</p> <p>CR-11 Measures CR-3, CR-5, CR-8, and CR-10, above, shall be completed prior to demolition of the Bridge. All stipulations shall be completed within 1 year of demolition, unless an extension of time is agreed upon.</p>
<u>OPERATIONS</u>	No avoidance, minimization, and/or mitigation measures related to Cultural Resources are proposed for project operations.
3.9 HYDROLOGY, FLOODPLAINS, AND OCEANOGRAPHY	
<p><u>CONSTRUCTION</u></p> <p>Construction of the new fixed-span bridge would require excavation and other soil disturbance activities and introduce additional impervious surfaces to the project area, which would promote surface runoff of construction pollutants (i.e. trash and petroleum compounds from construction equipment) and erosion of channel banks. The pollutants would be collected by surface runoff and discharged into the Cerritos Channel.</p> <p>Degradation to Cerritos Channel and/or Consolidated Slip/Dominguez Channel water quality could be attributed to construction activities associated with pile placement that would disturb sediment, causing resuspension and dispersal into the water column.</p>	<p>HY-1</p> <p>The following are BMPs for protection of water quality of the receiving water during construction:</p> <ul style="list-style-type: none"> • Tires on construction equipment that leaves a contaminated work site will be washed before the equipment leaves the site. • Within a contaminated work area, construction equipment will be cleaned only as necessary (e.g. moved to a non-contaminated area) to minimize the volume of decontamination wash water and prevent transport of contaminants from work site areas. • Designated locations will be provided for servicing, washing, and refueling equipment, away from temporary channels or swales that would quickly convey runoff to the drainage system and into the Cerritos Channel or Consolidated Slip/Dominguez Channel. • Contaminated material (e.g. oil, lubricants) will be kept at a safe distance, a minimum of 30.5 m (100 ft), from an entry into a receiving water body. Temporary barriers and containers will be used to confine any contaminated materials. Upon completion of construction, all contaminated material on the construction site will be removed and disposed of in accordance with federal, regional, and local regulations. • Use of marine construction equipment will not involve fuel transfers onsite.

**Table 1
Potential Project Effects and Avoidance, Minimization, and/or Mitigation Measures**

Environmental Resource/Impacts	Avoidance, Minimization, and Mitigation Measures*
	<ul style="list-style-type: none"> • A temporary spill containment system will be installed and maintained on either side of a water crossing. The contractor will be responsible for the containment plan and the execution of spill containment during the course of construction. The containment plan will be reviewed and approved by a resident engineer. • To prevent potential introduction of any lead-based paint into receiving waters, the contractor(s) will take appropriate measures to eliminate lead-based paint from reaching the receiving waters. If paint removal is necessary during the bridge dismantling process, the contractor will comply with all applicable laws and regulations relative to this process to ensure protection of receiving waters. • At project construction sites, as appropriate, the contractor will: <ul style="list-style-type: none"> – Provide stabilized entrances and exits – Regularly water the non-paved surfaces – Regularly sweep and vacuum paved surfaces – Install silt fences at the toe of excavation and embankment slopes – Install sand or gravel bag berms along the top of slopes – Install slope protection such as geotextiles, plastic covers, soil binders and erosion control blankets/mats – Install slope interruption devices such as fiber rolls and slope drains – Install permanent erosion control seeding, landscape planting or slope/rock paving – Protect storm drain inlets with inserts or linear interrupters such as gravel bag and/or sand bag berms – Manage stockpiles against wind and water erosion • Monitor and report BMP performance and conditions before and immediately after the completion of work, in accordance with SWPPP specifications.
	<p>HY-2</p> <p>Construction activities that would produce sediment transport of pollutants through the Cerritos Channel or Consolidated Slip/Dominguez Channel will be minimized through strict adherence to construction BMPs which include, but are not limited to, the following:</p> <ul style="list-style-type: none"> • Channel bank work will include bank protection (riprap, concrete walls, and sheet piling) to eliminate the possibility of enhanced bank erosion.

**Table 1
Potential Project Effects and Avoidance, Minimization, and/or Mitigation Measures**

Environmental Resource/Impacts	Avoidance, Minimization, and Mitigation Measures*
	<p>HY-3</p> <p>Groundwater encountered during construction will be temporarily stored onsite, tested, transported, treated, and disposed offsite. A dewatering permit will be obtained from the Los Angeles RWQCB.</p> <p>Based on results of the groundwater assessment and recommendations from the RWQCB, one of the following will be utilized for disposal of groundwater from the proposed dewatering operation:</p> <ul style="list-style-type: none"> • Onsite treatment. This would entail designing and constructing a temporary water treatment plant for treating water generated from dewatering operations to reduce the concentrations of pollutants of concern below NPDES limits. • Treatment and disposal offsite. This would entail temporary storage of water on the project site, waste profiling, and then transporting the water to a regulated facility for treatment and disposal. • Disposal into local sewer system. This would entail disposal of the groundwater into the City of Los Angeles sewage treatment system, which is connected to the Terminal Island Treatment Plant. <p>To dispose of groundwater into the City of Los Angeles sewer system, an Industrial Wastewater Discharge Permit is required, which is issued by the City of Los Angeles Department of Public Works, Bureau of Sanitation, Industrial Waste Management Division. To satisfy permit conditions, treatment of discharge water could be required.</p>
<u>OPERATIONS</u>	No avoidance, minimization, and/or mitigation measures related to Hydrology, Floodplains, and Oceanography are proposed for project operations.
3.10 WATER QUALITY AND STORMWATER RUNOFF	
<p>Soil erosion from nearby bridge construction areas might allow surface runoff into the channel, resulting in solids transport and elevated levels of phosphates, TSS and TDS. Demolition of the existing Schuyler Heim Bridge could result in paint, rust debris, and particulate matter being deposited into the Cerritos Channel.</p> <p>Certain constituents, including copper, zinc, and a number of the organic compounds (PAHs), would be suspended in concentrations in excess of the WQC for a short time before being diluted.</p> <p>With the CIDH construction method for bridge support structures, holes for the support structures would be passively filled with groundwater, which would be removed prior to filling with slurry and concrete. The removed groundwater would then be disposed of properly.</p>	See HY-1 , HY-2 , and HY-3 , above.

**Table 1
Potential Project Effects and Avoidance, Minimization, and/or Mitigation Measures**

Environmental Resource/Impacts	Avoidance, Minimization, and Mitigation Measures*
<p><u>OPERATIONS</u></p> <p>Surface runoff effects from replacement bridge on the water quality of the Cerritos Channel are expected to vary depending on:</p> <ul style="list-style-type: none"> • Incidental drippings from vehicles and accidental spills that introduce contaminant material, or waste discharge from the bridge and its approach structures • Bridge maintenance activities • Potential redirection of stormwater runoff • Surface runoff would flow into the Cerritos Channel and may include: • Particulates from pavement wear and vehicles • Metals such as zinc, lead, iron, copper, cadmium, chromium, nickel, and manganese • Bromide (from leaded gasoline exhaust) • Diesel fuel • Tire wear • Auto body rusting • Metal plating • Break lining wear • Greases and lubricating oils from automobiles and trucks • Trash discarded from vehicles • Pathogenic bacteria (indicators) from soil, litter, bird droppings, and stockyard waste hauled by vehicles on the new bridge 	<p>WQ-1</p> <p>BMPs for surface runoff include construction of barriers at entry points to receiving waters to prevent large debris from entering the receiving water, and continuous monitoring of the new bridge structures for excessive buildup of debris that could be discharged in a precipitation event.</p>
<p>3.11 GEOLOGY/SOILS/SEISMICITY/ PALEONTOLOGY/ TOPOGRAPHY/MINERAL RESOURCES</p>	
<p><u>CONSTRUCTION</u></p> <p>Geology and Geologic Resources</p> <p>The project is located in an area of active faulting and historic ground shaking resulting from fault movement. Earthquakes could occur from movement on seven active, historically active, or potentially active faults ranging in distance of 85 km (53 mi) to 0.3 km (0.2 mi) from the project site.</p>	<p>The following avoidance and minimization measures would be incorporated into final project design:</p> <p>GEO-1</p> <p>Design criteria, standards, and procedures contained in state and local jurisdiction standards and specifications (e.g., Uniform Building Code) would be applied during final design of the project, including earthquake-resistant standards to reduce potential effects from a major earthquake.</p>

**Table 1
Potential Project Effects and Avoidance, Minimization, and/or Mitigation Measures**

Environmental Resource/Impacts	Avoidance, Minimization, and Mitigation Measures*
<p>In addition, more than 80 percent of the project site is located in an area where historic occurrences of liquefaction, subsidence, and/or geological, geotechnical, and groundwater conditions indicate a potential for permanent ground displacement.</p>	<p>GEO-2</p> <p>A geotechnical study would be completed for all areas associated with load-bearing features, and areas with potential for slope failure (e.g., trenches) and soil subsidence, and a geotechnical report would be prepared. The geotechnical report would include project-specific recommendations consistent with standards established by state and local jurisdictions. Geotechnical report recommendations would be incorporated into final project design.</p>
	<p>GEO-3</p> <p>Monitoring during construction would be performed by a licensed geologist or engineer to verify construction occurs in compliance with features, standards, and practices included in final design to reduce potential effects from earthquake damage; slope and/or foundation instability; erosion, sedimentation, and flooding; land subsidence; and volcanic hazards.</p>
<p>Paleontology</p> <p>Excavation for bridge column footings and, at depths greater than 1.5 m (5 ft) below the current ground surface, any footing for elevated roadways, including on-ramps, off-ramps, and bridge approaches, would have a high potential for encountering fossil remains at previously unrecorded fossil sites and, therefore, could affect paleontologic resources if any such resources were encountered during construction.</p>	<p>PALEO-1</p> <p>Implement Paleontological Resource Impact Mitigation Program which includes, but is not limited to, the tasks shown below. Additional detail is provided in the Paleontological Resources EIS/EIR Technical Section (Jones & Stokes, 2005).</p> <ul style="list-style-type: none"> • Program will be directed by a paleontologist or paleontological consulting firm approved by Caltrans. • Conduct program in compliance with lead agency and professional society guidelines. • Develop and obtain museum storage agreement • Coordinate with construction contractor to provide information regarding lead agency requirements for the protection of Paleontological resources. • Conduct paleontological monitoring, as appropriate. • Treat any specimens collected in accordance with museum repository requirements. • Transfer any collected fossils to museum repository. • Maintain daily monitoring logs. • Prepare final report.
<p><u>OPERATIONS</u></p>	<p>No avoidance, minimization, and/or mitigation measures related to Geology/Soils/Seismicity/ Paleontology/Topography/Mineral Resources are proposed for project operations.</p>

**Table 1
Potential Project Effects and Avoidance, Minimization, and/or Mitigation Measures**

Environmental Resource/Impacts	Avoidance, Minimization, and Mitigation Measures*
3.12 HAZARDOUS WASTE/HAZARDOUS MATERIALS	
<p><u>CONSTRUCTION</u></p> <p>Construction activities could encounter hazardous materials (and thereby have the potential for release of such materials) as a result of excavating subsurface soil, disturbing groundwater, or removing aboveground structures.</p>	<p>HAZ-1</p> <p>Conduct a soil investigation prior to any soil excavation for the build alternatives (1 through 4). The investigation would assess the potential presence of hazardous contaminants and determine disposal options if necessary for the contaminated soil. The soil investigation could consist of an ADL investigation and investigation for other contaminants of concern due to effects from adjoining properties. Coordination with regulatory agencies will be made for soil investigation, sampling, and/or remediation.</p> <p>HAZ-2</p> <p>Evaluate soil and groundwater information for the adjoining Sunshine Truck Stop, LA Refining Company, Texaco Refining, Texaco (1222 Anaheim Street), TCL (Pier S), Dow Chemical, and former Long Beach Naval Shipyard property to assess potential effects. If the review indicates evidence of contamination or a lack of sufficient data, a soil and groundwater investigation will be conducted, and further measures will be implemented, as necessary.</p>
<p>Demolition of the existing bridge, which has the potential to contain regulated and/or potentially hazardous materials, including lead-based paint and asbestos, could result in the release of asbestos into the surrounding environment, where it could then enter the Cerritos Channel and adversely affect surface water quality.</p>	<p>HAZ-3</p> <p>Inform demolition contractors of the potential presence of LBP in structures subject to demolition, and applicable Occupational Safety and Health Administration (OSHA) and other regulatory measures shall be adhered to in the demolition of such structures. If contamination is encountered during the construction process, implement appropriate health and safety measures to protect workers and the general public. Such measures may include engineering controls, requiring appropriate personal protective equipment, worker monitoring, and site-specific health and safety plans.</p>
	<p>HAZ-4</p> <p>A licensed professional will conduct a predemolition survey of the Schuyler Heim Bridge ACM and LBP. The purpose of the survey would be to determine the presence of regulated and/or potentially hazardous construction materials on the bridge. Any demolition activities that would remove or disturb these materials would implement measures in accordance with applicable regulations. As required by law, the abatement contractor shall be a licensed professional.</p>

**Table 1
Potential Project Effects and Avoidance, Minimization, and/or Mitigation Measures**

Environmental Resource/Impacts	Avoidance, Minimization, and Mitigation Measures*
	<p>HAZ-5</p> <p>Conduct asbestos removal in conformance with Rule 1403 of the South Coast Air Quality Management District (AQMD) and EPA’s National Emissions Standards for Hazardous Air Pollutants regulation.</p>
	<p>HAZ-6</p> <p>Paint from the dismantled bridge sections would be chemically removed at a suitable offsite location in an upland area. This will be done to avoid the introduction of lead-based paint into the receiving waters. If paint removal is necessary during the dismantling process, the contractor would comply with all applicable laws and regulations relative to this process to ensure protection of receiving waters.</p>
3.13 AIR QUALITY	
<p><u>CONSTRUCTION</u></p> <p>The direct sources of construction emissions would be from construction equipment exhaust or fugitive dust. Direct emissions of CO, NO_x, ROG, PM_{2.5}, and PM₁₀ are predicted to exceed daily significance thresholds during construction.</p> <p>Impacts to sensitive receptors near construction areas would be inversely proportional to distance and would decrease with distance from the source. Construction laydown areas would be located as far from sensitive receptors as the project would allow.</p>	<p>The proposed action would be required to comply with control measures specified in SCAQMD Rule 403, Table 1.</p> <p><u>Measures for Fugitive PM₁₀/PM_{2.5}</u></p> <p>AQ-1</p> <p>Apply nontoxic soil stabilizers to all inactive construction areas (previously graded areas inactive for 10 days), and areas anticipated to be inactive for 10 days.</p>
	<p>AQ-2</p> <p>Replace ground cover in disturbed areas as quickly as possible.</p>
	<p>AQ-3</p> <p>Reduce traffic speed on all unpaved roads to 15 mph or less.</p>
<p>Total emissions (direct plus indirect) of CO, NO_x, ROG, PM_{2.5} and PM₁₀ are predicted to exceed AQMD daily significance thresholds during project construction.</p>	<p><u>Measures for Exhaust Emissions of CO, ROG, NO_x and PM₁₀/PM_{2.5}</u></p> <p>AQ-4</p> <p>Develop and implement a trip reduction plan to achieve a 1.5 average vehicle ridership for construction employees.</p>

**Table 1
Potential Project Effects and Avoidance, Minimization, and/or Mitigation Measures**

Environmental Resource/Impacts	Avoidance, Minimization, and Mitigation Measures*
	<p>AQ-5</p> <p>Implement a shuttle service for construction workers to and from retail services and food establishments during lunch hours.</p>
	<p>AQ-6</p> <p>Prohibit truck idling in excess of 2 minutes. Employ periodic, unscheduled inspections to limit unnecessary idling. The SCAQMD has not quantified the efficiency of this mitigation measure.</p>
	<p>AQ-7</p> <p>Suspend use of all construction equipment operations during second-stage smog alerts.</p>
	<p>AQ-8</p> <p>Use electricity, if feasible, from power poles rather than temporary diesel- or gasoline-powered generators.</p>
	<p>AQ-9 Heavy Duty Truck Buyback Program</p> <p>The purpose of the buyback program would be to accelerate the modernizing of the heavy duty engine fleet operating in the South Coast Air Basin. By removing the older engines in the fleet and requiring replacement with newer, cleaner vehicles, a net reduction of NO_x emissions (and other combustion pollutants) would occur. This reduction would help offset marine vessel detour emissions.</p> <p>The protocols to be used would be consistent with the Carl Moyer Program, which is already being administered by the SCAQMD. However, this program is not available to projects such as Schuyler Heim Bridge Replacement and could not be used to actually implement this project's buy-back program. The Gateway Cities Diesel Fleet Modernization Program would be an example of a buyback program with similar reduction goals. Also, the POLA/POLB Clean Air Action Plan has a heavy duty truck buy back component. While participating in already existing programs might be preferable (and possible), it would not be necessary in order to accomplish heavy duty truck buy back. The heavy duty truck buy back could be done independently, though it would have to adhere to already accepted protocols (SCAQMD).</p> <p>A heavy duty truck buyback program would consist of three steps 1) identify target vehicles based on year of make; 2) provide incentives for operators to participate 3) establish a means to ensure that replacements meet the net improvement forecasted.</p>

**Table 1
Potential Project Effects and Avoidance, Minimization, and/or Mitigation Measures**

Environmental Resource/Impacts	Avoidance, Minimization, and Mitigation Measures*
	<p>The construction phase of this project is where the greatest impact of increased emission levels occurs. Therefore, the buyback program would be designed to mitigate the NO_x emissions during that time. Based on recent buyback programs, the program for the proposed project would cost from \$25,000 to \$50,000 /ton of NO_x reduced. This cost can vary significantly and will increase as time passes. The number of tons mitigated would be based on marine vessel detour NO_x emissions during construction. The rerouting of shipping vessels during project construction would amount to 132.8 lbs NO_x per day, which is equivalent to 24.2 tons NO_x per year. The indirect marine vessel emissions would be mitigated to a level that is below the SCAQMD significance threshold for construction emissions.</p> <p>It is estimated that each truck replacement would reduce an average of 0.55 tons per year of NO_x and 0.12 tons per year of PM. This is based on emission factors representative of current buyback programs such as the Gateway Cities Diesel Fleet Modernization Program.</p> <p>These emission reductions would continue for 3 to 5 years, depending on the year of the truck updated. This timeframe would exceed the duration of the project construction phase.</p>
	<p>AQ-10</p> <p>To the extent feasible, utilize construction equipment equipped with Tier 2 or new engines.</p>
	<p>AQ-11</p> <p>Maintain and tune engines per manufacturer's specifications to perform at EPA certification levels and to perform at verified standards applicable to retrofit technologies. Employ periodic, unscheduled inspections to ensure that construction equipment is properly maintained, tuned, and modified to established specifications.</p>
	<p>AQ-12</p> <p>Prohibit tampering with engines, and require continuing adherence to manufacturer's recommendations.</p>

**Table 1
Potential Project Effects and Avoidance, Minimization, and/or Mitigation Measures**

Environmental Resource/Impacts	Avoidance, Minimization, and Mitigation Measures*
<p>The indirect source of construction emissions would be from marine vessels having to detour during construction. Emissions from marine vessels would exceed the SCAQMD NO_x threshold.</p>	<p>See AQ-9.</p>
<p><u>OPERATIONS</u></p> <p>Indirect emissions would result from marine vessel detours around Terminal Island during operation of the new bridge. Daily emissions of NO_x would exceed the SCAQMD threshold. Operation of the new bridge would result in a net increase in emissions greater than the SCAQMD thresholds for NO_x.</p>	<p>The increase in NO_x emissions due to marine vessel detours during project operation would be offset by the emissions reductions achieved by the truck buyback program implemented during project construction.</p> <p>See AQ-9.</p> <p>No additional avoidance, minimization, and/or mitigation measures are proposed for project operations.</p>
<p><u>ACTA's Finding as a result of the HRA</u></p> <p><u>ACTA finds that for Alternative 1, or 1A the project would have a significant impact on a number of residential receptors in the project vicinity.</u></p>	<p><u>Based on its conclusions as a Responsible Agency, ACTA will adopt AQ-13 as a condition of its approval for the proposed project.</u></p> <p><u>AQ-13</u></p> <p><u>Retrofits of heating, ventilating and air conditioning (HVAC) units. New heating, ventilating, and air conditioning (HVAC) units, or retrofit of existing HVAC units, will be installed in schools and residences that have a significant increase in cancer risk as demonstrated by the HRA.</u></p>
<p>3.14 NOISE</p>	
<p><u>CONSTRUCTION</u></p> <p>Both the Anchorage Way Marinas and Leeward Bay Marina would be subject to substantial noise effects from pile driving construction activities. Pile driving activities for the Cerritos Channel are expected to last approximately 2 weeks (10 days) for each of the two stages of falsework pile driving. Falsework pile driving for the Consolidated Slip is expected to last less than 2 weeks (10 days).</p>	<p>N-1</p> <p>Construction noise monitoring and control plans consistent with local noise ordinances will be prepared by a qualified acoustical engineer who is a current member of the Institute of Noise Control Engineering (INCE), and has 5 years of experience performing construction noise analyses. If mitigation is warranted, potential measures, such as screening, noise blankets, etc., would be evaluated for their effectiveness, and appropriate measures would be implemented.</p>
	<p>N-2</p> <p>During project construction, pile driving will occur during daylight hours only.</p>

**Table 1
Potential Project Effects and Avoidance, Minimization, and/or Mitigation Measures**

Environmental Resource/Impacts	Avoidance, Minimization, and Mitigation Measures*
	<p>N-3</p> <p>Residents identified as being impacted by noise from pile driving in Cerritos Channel or Consolidated Slip may obtain hotel vouchers for a local hotel so they can temporarily move. This mitigation measure would apply only during the time that pile driving is being conducted in the Cerritos Channel or Consolidated Slip. Some residents may, however, choose to stay and tolerate the noise. No other mitigation or compensation measure would be provided to residents.</p>
<p><u>OPERATIONS</u></p> <p><u>Leeward Bay Marina</u></p> <p>The peak-hour traffic noise levels would increase by between 1 and 10 dBA over existing conditions. Without abatement, the predicted loudest hourly noise levels would range from 61 to 67 dBA Leq(h). This alternative would result in noise levels at some locations that would approach the applicable Noise Abatement Criteria (NAC) for residential areas.</p>	<p>N-4 <u>Leeward Bay Marina</u></p> <p>Caltrans and FHWA will incorporate noise abatement in the form of a barrier along the SR-47 Expressway, with an approximate length of 239 m (785 ft) and an average height of 2.44 m (8 ft). The barrier will abate future traffic noise levels by 5 to 7 dBA at 65 benefited noise-sensitive receivers. Preliminary reasonableness calculations indicate the estimated barrier cost would be approximately \$23,400 per benefited residence, which is within the allowance per residence of \$50,000 to \$54,000.</p>
<p><u>Wilmington Neighborhood</u></p> <p>The peak-hour traffic noise levels would increase from 5 to 13 dBA over existing conditions. Without abatement, the predicted loudest hourly noise levels would range from 61 to 69 dBA Leq(h). This alternative would result in noise levels at some locations that would exceed the applicable NAC for residential areas.</p>	<p>N-5 <u>Wilmington Neighborhood</u></p> <p>For the Wilmington neighborhood, a barrier along the SR-47 Expressway and another on ground level along Alameda Street, with an approximate combined length of 1,405 m (4,610 ft) and height of 3.66 m (12 ft) to 5.49 m (18 ft) would be constructed to abate future traffic noise levels by 5 to 7 dBA at 56 benefited noise sensitive receivers. Preliminary reasonableness calculations indicate that the estimated barrier cost would be approximately \$37,500 per benefited residence, which is within the allowance per residence of \$48,000.</p>
<p>3.15 ENERGY</p>	<p>No avoidance, minimization, and/or mitigation measures related to Energy are proposed.</p>
<p>3.16 BIOLOGICAL RESOURCES</p>	
<p><u>CONSTRUCTION</u></p> <p>Wetlands east of the Schuyler Heim Bridge and along SR-103 could be affected by construction activities.</p>	<p>B-1 Wetland Avoidance</p> <p>To avoid the wetlands present to the east of the Schuyler Heim Bridge along the low tidal terrace on Cerritos Channel, and along SR-103 near Gabriel Street, construction staging, traffic, and vehicle access would be excluded from these areas to the extent feasible.</p> <p>Caution fencing would be installed to protect the small wetlands, and construction activities would be modified to avoid the areas.</p>

**Table 1
Potential Project Effects and Avoidance, Minimization, and/or Mitigation Measures**

Environmental Resource/Impacts	Avoidance, Minimization, and Mitigation Measures*
	This measure also will be implemented, as necessary, to avoid adverse effects to jurisdictional waters.
<p>Resuspension of fine-grained bottom sediments would occur during the replacement, including demolition (and retrofit under Alternative 3) of the Schuyler Heim Bridge in the Cerritos Channel, placement of bridge footings in the Consolidated Slip/Dominguez Channel, and other construction activities at either site.</p> <p>The harbor sediments in the area of the bridges are primarily silt and finer-sized fractions and, if resuspended, are expected to stay in suspension for days, resulting in exceedances of water quality standards that may last at least a few days. This relatively limited time of resuspended constituents in the water column indicates the potential for acute toxicity to invertebrates or fish but not chronic bioaccumulation or food-chain effects to birds or mammals.</p> <p>The Schuyler Heim Bridge is assumed to contain lead compounds, which could cause a significant adverse effect to the channel water quality during paint removal activities or demolition.</p> <p>Bridge pile-driving and related activities can be expected to result in elevated underwater sound levels on aquatic habitats and Essential Fish Habitat (EFH). Pile-driving may also potentially affect pinnipeds that may be within the vicinity during operations.</p>	<p>B-2 Protecting Aquatic Communities (including Essential Fish Habitat, Coastal Pelagic Species, Groundfish)</p> <p>Sediment resuspension would be minimized by adherence to the CIDH or CISS design of all in-water piles, whereby the outer shell would act as a coffer dam during construction and contain resuspended sediment onsite until it is removed from within the shell prior to concrete pile installation.</p> <p>Measures that would be implemented during construction (including retrofit [Alternative 3 only], demolition, and/or new bridge installation) to minimize sediment resuspension effects include:</p> <ul style="list-style-type: none"> • Channel bank work would include bank protection (riprap, concrete walls) to eliminate the possibility of enhanced bank erosion. <p>To reduce effects to channel water quality from lead compounds in paint during removal or during bridge demolition, the following measures in some combination would be implemented:</p> <ul style="list-style-type: none"> • Erect shrouds around working areas and suspending nets and tarps below bridges to catch debris from abrasive removal of old paint, where wind conditions permit. • Anchor tarps to barges below and enclose the bridge above to confine debris, where the bridge deck is not too far above water level. • Use barges and booms to capture fugitive floating paint chips and custom-built enclosures to confine and capture the abrasives, old paint chips, and paint. • Use vacuum or suction shrouds on blast heads to capture grit and old paint. • Perform lead-based paint removal offsite following demolition of steel members. <p>To reduce the effects of elevated underwater and terrestrial sound levels on aquatic habitats and EFH during construction from bridge pile driving and related activities, the following measures would be implemented:</p> <ul style="list-style-type: none"> • Attenuation of pile driving sound would be developed during the PS&E stage; this is likely to include a contained air bubble curtain on larger pile installations and dewatering casings for smaller piles. Performance criteria for sound attenuation would be developed to achieve maximum practicable reductions in underwater sound levels. • A hydroacoustic monitoring plan would be developed, which would include appropriate sampling point locations, frequency, and methodology to be implemented during pile

**Table 1
Potential Project Effects and Avoidance, Minimization, and/or Mitigation Measures**

Environmental Resource/Impacts	Avoidance, Minimization, and Mitigation Measures*
	<p>driving. The results of the hydroacoustic monitoring would be analyzed real time to identify appropriate safety isopleths and monitoring zones for sensitive resources.</p> <ul style="list-style-type: none"> • Evaluate potential to modify pile driving operational procedures to reduce noise effects, such as ramping up of pile driving energy levels to allow mobile organisms to exit the area; evaluating potential use of vibratory versus impact hammers under certain conditions; using less force of the hydraulic impact hammer; and limiting pile driving to no more than 2 piles a day, with a minimum 12 hours interval between daily driving, to minimize cumulative exposure levels (SEL). • Evaluate potential for seasonal or daily time constraints, such as pile driving during a time of year when larval and juvenile stages of fish species with designated EFH are not present, driving piles during low tide periods when located in intertidal and shallow subtidal areas, and driving piles when the current is reduced (i.e., centered around slack current) in areas of strong current. <p>To reduce and/or avoid potential impacts of elevated underwater sound levels on marine mammals during construction from pile driving the following additional measures would be implemented:</p> <ul style="list-style-type: none"> • A detailed marine mammal monitoring/protection plan would be developed in coordination with NMFS; this would include use of biological monitors with authority to suspend pile driving activities should sensitive organisms be present or enter the area. Details of the plan would be developed, and would include methods to identify safety zone limits, numbers and locations of monitors, and conditions when pile driving would be suspended to protect resources.
<p>Construction could result in the removal of southern tarplant and other special-status species, if present on the project site.</p>	<p>B-3 Protecting Special-Status Plant Species</p> <p>Preconstruction surveys for southern tarplant would be conducted prior to construction. Surveys would be conducted during the blooming period for this plant, between June and October. If identified on site:</p> <ul style="list-style-type: none"> • The feasibility of avoiding areas that support the species would be evaluated and, if feasible, the area would be avoided during construction. • If avoidance is infeasible, then mitigation would be required (see Mitigation Measure B-13).
<p>The loss of active roosts of bat species (pallid bat; long-legged myotis; long-eared myotis; Yuma myotis; western mastiff bat; pocketed free-tailed bat; and big free-tailed bat) as a result of bridge removal would represent an adverse effect.</p>	<p>B-4 Protecting Special-Status Bat Species</p> <p>Avoidance and minimization measures apply to the following species: pallid bat; long-legged myotis; long-eared myotis; Yuma myotis; western mastiff bat; pocketed free-tailed bat; big free-tailed bat.</p>

**Table 1
Potential Project Effects and Avoidance, Minimization, and/or Mitigation Measures**

Environmental Resource/Impacts	Avoidance, Minimization, and Mitigation Measures*
	<p>To avoid or minimize effects to these species, the following measures would be employed by ACTA (or their designee) relative to bridge or highway deconstruction or, under Alternative 3, seismic retrofit:</p> <ul style="list-style-type: none"> • Four quarterly bat surveys would be conducted in the 12 months prior to start of construction to determine the presence or absence of the species, as determined appropriate by a qualified biologist. Surveys may include, but are not limited to the following: <ul style="list-style-type: none"> – Exit surveys of potential roost sites conducted by survey biologists stationed around the bridge or highway with binoculars and echolocation meters at nightfall – Surveys of all accessible potential roost sites on the bridge conducted by biologists permitted by CDFG for bat survey and handling • In the event any of the above special-status bat species are identified during field surveys, the following would be conducted: <ul style="list-style-type: none"> – Exclusion of active roost sites by appropriate barriers, installed during the nonbreeding season from September to March – Taking appropriate steps to exclude roosts when vacant during nighttime foraging periods when identified during construction – If the exclusion measures above fail, delay of construction where maternity roosts are encountered, until after the young have weaned and are in flight • Education of construction workers to identify potential roost sites, to avoid activity when identified, and to advise biological monitors when roosts are encountered.

**Table 1
Potential Project Effects and Avoidance, Minimization, and/or Mitigation Measures**

Environmental Resource/Impacts	Avoidance, Minimization, and Mitigation Measures*
Some noise and construction activity may affect bird nests within 456 m (1,500 ft) of the project site.	<p>B-5 Protecting Bird Nests and Eggs</p> <p>Preconstruction surveys to identify potential nest sites for birds will be conducted by ACTA (or their designee) within all construction areas on the bridge prior to the nesting season. Potential nest sites will be passively excluded with bird spikes, plywood, or other means, as necessary. An onsite biological monitor will be present during construction activities to ensure that nests are not established within the construction zone, and to implement passive exclusion as necessary.</p>
Some noise and construction activity may affect least tern nesting colonies within 456 m (1,500 ft) of the project site. The breeding activities of California least tern, if present, also could be disrupted.	<p>B-6 Protecting California Least Tern</p> <p>Preconstruction survey of potential California least tern breeding site (which may include any area of bare ground in the vicinity of the proposed project) will be conducted within 456 meters (m) (1,500 feet) of construction activities. If breeding special status birds are present then construction activities within 456m (1500 ft.) of the nest sites will be delayed until after the February to July breeding season.</p>
Removal and replacement of the Schuyler Heim Bridge with a concrete fixed bridge would result in the loss of a known nest site for a breeding pair of peregrine falcons.	<p>B-7 Protecting American Peregrine Falcon</p> <ul style="list-style-type: none"> • Historical nesting sites on the Schuyler Heim Bridge would be made unsuitable prior to the nesting season (January 15 to July 30) to avoid direct effects to individuals or an active nest site during construction. This may include positioning exclusion materials, such as plywood, on these nest sites prior to the nesting season to render the sites unsuitable. • Site monitoring during the construction period would be conducted to observe the pair's movements and document its activities. This may assist in identifying nesting attempts by the pair on adjacent structures or within the construction zone. If this occurs, and the nest site is at risk or could be at risk during the nesting season, the site can be excluded. This includes risk from egg loss which may occur on a less than optimal nest site. If the nesting attempt site is not anticipated to be at direct risk from construction disturbance during the upcoming nesting season, then the pair will be allowed to nest, and nesting success will be monitored. • Efforts will be made to coordinate the construction schedule of the Schuyler Heim Bridge with the construction schedule of the future Gerald Desmond Bridge replacement project. If these two schedules do not overlap, then the Gerald Desmond Bridge may provide a nesting location for one peregrine pair to breed at the Schuyler Heim/Desmond bridge complex, which has generally been the case in past years. Coordination meetings with the Gerald Desmond Bridge project team are ongoing.

**Table 1
Potential Project Effects and Avoidance, Minimization, and/or Mitigation Measures**

Environmental Resource/Impacts	Avoidance, Minimization, and Mitigation Measures*
<p>Some noise may occur during construction that could affect areas within 152 m (500 ft) of the project site; this may disrupt breeding activities for burrowing owl, if present.</p>	<p>B-8 Protecting Burrowing Owl</p> <p>To avoid effects on burrowing owls, preconstruction surveys of potential breeding sites would be conducted onsite within 152 m (500 ft) of construction activities. Burrowing owl individuals present within the construction area would be flushed from active burrows during the non-nesting season (August to January) and burrows excluded. These activities would be conducted in a manner consistent with the <i>Burrowing Owl Survey Protocol and Mitigation Guidelines</i>, prepared by The California Burrowing Owl Consortium in 1997.</p> <p>Exclusions would require maintenance and monitoring to assure that individuals do not return. If breeding birds are present, then mitigation would be implemented (see Mitigation Measure B-14).</p>
<p>Construction trucks and heavy equipment may introduce or transport seeds from non-native terrestrial vegetation, resulting in colonization of existing or newly created vacant spaces with exotic vegetation.</p>	<p>B-9 Protecting Against Invasive Species</p> <p>Caltrans and/or its contractors will implement the following measures to avoid the introduction or spread of noxious weeds into previously uninfested areas:</p> <ul style="list-style-type: none"> • Educate construction supervisors and managers on weed identification and the importance of controlling and preventing the spread of noxious weed infestations. • Clean construction equipment at designated wash stations before entering the construction area. • Landscaping and erosion control included in the project would not use species listed as noxious weeds. • Seed all disturbed areas with certified weed-free native mixes. Use only certified weed-free straw or rice mulch in uplands only. • Conduct a follow-up inventory of the construction area during the first spring following the completion of construction to verify that construction activities have not resulted in the introduction of new noxious weed infestations. • If new noxious weed infestations are located during the follow-up inventory, the appropriate resource agency will be contacted to determine the appropriate species-specific treatment methods.

**Table 1
Potential Project Effects and Avoidance, Minimization, and/or Mitigation Measures**

Environmental Resource/Impacts	Avoidance, Minimization, and Mitigation Measures*
<p><u>OPERATIONS</u></p> <p>Birds could be injured by coming into contact with transmission lines or energized parts of the transmission lines/towers.</p>	<p>B-10 Protecting Avian Species at Transmission Towers</p> <p>To protect against operational impacts to birds moving about or utilizing new transmission towers, construction design standards for avian protection will be followed, including use of visual line enhancers and adequate spacing between energized parts. No lighting will be associated with new transmission towers. Design standards for avian protection will be developed from the Edison Electric Institute’s Avian Power Line Interaction Committee (APLIC) and USFWS <i>Avian Protection Plan Guidelines</i> (APLIC and USFWS, 2005), APLIC’s <i>Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 1996</i> (APLIC, 1996), or APLIC’s <i>Mitigating Bird Collisions with Power Lines: The State of the Art in 1994</i> (APLIC, 1994).</p>
<p>The project would result in the removal of one known peregrine falcon nesting location on the Schuyler Heim Bridge, in a territory that typically supports one pair but contains two alternate nesting locations.</p>	<p>B-12 Mitigating for Loss of Peregrine Falcon Nest</p> <p>This measure may include the following, as appropriate, pending coordination with CDFG:</p> <ul style="list-style-type: none"> • Create a new nest site by placing a nesting box (and potential additional support material) on a tower of the Badger Avenue Bridge or other elevated structure, as determined by a qualified biologist. Because the Badger Avenue Bridge is located adjacent to the Schuyler Heim Bridge, and is approximately the same height, there is the potential that it could provide a suitable vantage point and nesting location to peregrine falcons. The peregrine pair has never nested on this bridge in the past but this may be due to an absence of suitable nesting platforms and substrate. Further evaluation of any design changes or nesting ledge installations by a qualified peregrine expert would be conducted. • Offsite mitigation. The goal of the offsite mitigation would be to augment existing peregrine populations. This could be accomplished by purchasing approximately 10 nestling peregrines from a captive breeding facility and have those young released (hacked) in an area of California where, when they disperse, they will possibly create a new nesting pair. • The local peregrine falcon population (approximately five pairs) would be monitored for 2 years. The pair located on the Schuyler Heim Bridge would be monitored to determine if they nest on the Badger Bridge, or if they integrate into other territories by filling a vacancy in another pair, or by usurping existing individuals in a pair. If offsite mitigation is conducted, hacked peregrine falcons would be monitored to determine their fate and if a new nesting pair is established. An experienced peregrine falcon biologist would conduct monitoring of the hacked peregrine falcons.

**Table 1
Potential Project Effects and Avoidance, Minimization, and/or Mitigation Measures**

Environmental Resource/Impacts	Avoidance, Minimization, and Mitigation Measures*
<p>Construction could result in the removal of southern tarplant and other special-status species, if present on the project site.</p>	<p>B-13 Mitigating Loss of Special Status Plant Species</p> <p>Surveys for special-status plant species shall be conducted during flowering season prior to construction, at the PS&E stage. If special-status plant species are found and cannot be avoided during project construction, then seed and/or propagules of the species would be collected and replanted at an alternative location. These activities will be conducted in coordination with the resource agencies.</p> <ul style="list-style-type: none"> - Mitigation measures would be refined in coordination with the resource agencies and standard practices for this species. Measures may include the following: Areas determined to have appropriate hydrology and soil chemistry (salinity) shall be reseeded with seed collected from populations of southern tarplant. Southern tarplant is restricted to saline, vernal mesic areas, often along the margins of estuaries or areas of high salinity. - Prior to construction, southern tarplant and/or other special-status plant seed shall be collected by personnel experienced in collection of native seeds. Seed collection shall be conducted during successive years from September through December. One-half of the first year's collected seed shall be hand-broadcast at the reintroduction site with the remaining one-half stored in appropriate conditions for introduction the following year. Seed collected during the second season shall be stored for potential later use in the event that success standards are not met following the seeding during years one and two. - Because southern tarplant is an annual species, population numbers are expected to naturally fluctuate from year to year depending upon environmental conditions. Reseeded areas shall be monitored for three years following the initial seeding. Establishment shall be considered successful if plant densities during any of the three years of monitoring are comparable to densities of the impacted populations based on sampling quadrants. If established populations do not achieve comparable densities of impacted populations, additional reintroduction sites shall be identified and stored seed, obtained during the collection period, shall be introduced into additional sites over a two-year period (as in the initial reintroduction program described above).

Table 1
Potential Project Effects and Avoidance, Minimization, and/or Mitigation Measures

Environmental Resource/Impacts	Avoidance, Minimization, and Mitigation Measures*
Some noise may occur during construction that could affect areas within 152 m (500 ft) of the project site; this may disrupt breeding activities for burrowing owl, if present.	<p>B-14 Mitigating for Burrowing Owl</p> <p>If flushing of individual birds and exclusions of burrows fail, construction activities would be delayed within 152 m (500 ft) of nest sites until after the breeding season for these species (February to July).</p>
	<p>B-16 Minimization for Impact to Migratory Birds</p> <p>To avoid and minimize vehicle caused bird mortality, a fence will be incorporated on both sides of the new Schuyler Heim Bridge with a height of 4.27m (14 ft.).</p>
<u>OPERATIONS</u>	No avoidance, minimization, and/or mitigation measures related to Biological Resources are proposed for project operations.

Mitigation Monitoring or Enforcement Program

An Environmental Commitment Record (ECR) has been prepared for the Selected Alternative in accordance with 23 CFR 635.309(j). The ECR identifies responsible parties and provides guidelines for implementation and reporting for all mitigation measures described in Chapter 3.0 of the Final EIS. The ECR is located in Appendix H of the Final EIS.

Caltrans will be responsible for implementing and reporting the status of the mitigation measures in the ECR. Caltrans will also be responsible for construction management and oversight, and assuring that mitigation measures are fully implemented by designated and qualified personnel, which may include specialty contractors.

All mitigation monitoring report forms will be completed by those responsible for implementation, and verified by those responsible for monitoring and approval. Duplicate copies of certified forms will also be retained in the State archives with the 'as-built' drawings for this project.

Response to Comments on the Final EIS

The EPA Region IX, South Coast Air Quality Management District (SCQAMD), and the Natural Resources Defense Council (NRDC) submitted letters with comments on the Final EIS/EIR. Response to comments and recommendations are listed below.

From letter dated June 29, 2009, signatory Kathleen M. Goforth, U.S. Environmental Protection Agency, Region IX.

EPA-1. EPA recommends reassessing whether significant impacts of the project on the affected community are also disproportionately high and adverse impacts to minority and low-income populations. EPA recommends that Caltrans identify additional mitigation to address any environmental justice impacts and commit to these mitigation measures in the Record of Decision (ROD).

Response: Caltrans appreciates the comment and has taken it into consideration during the decision making process. As indicated in Final EIS/EIR Response to Comment AJ7-3, Caltrans has carefully considered EPA concerns regarding environmental justice and particularly impacts to minority and low-income populations in the vicinity of the project. Potential impacts, particularly potential air quality impacts to the affected community have been thoroughly analyzed in the Final EIS/EIR and all feasible mitigation measures have been proposed.

EPA-2. EPA recommends reassessing impacts to the affected community by considering the long-term air quality impacts associated with increases in truck throughput and VMT.

Response: Caltrans has considered that the proposed operational capacity improvements of the project will accommodate the anticipated doubling of port-related truck traffic between 2010 and 2020. In addition to the emissions decreases expected to result from relieving associated existing congestion, Caltrans has considered the significant emission decreases that will result from implementation of federal, state, and local air quality rules, policies, and agreements, including the San Pedro Bay Ports Clean Air Action Plan and its associated Clean Truck Program. Please see Final EIS/EIR Response to Comment AJ17-2 for further discussion. All of the aforementioned rules, policies and agreements apply to motor vehicles, including on-

road trucks, and support the conclusion that Port trucks in the years 2015 and 2030 will have model year 2007 or newer engines and will have far fewer emissions than existing trucks. That being said, all potential impacts have been thoroughly analyzed in the Final EIS/EIR and all feasible mitigation measures have been proposed. Accordingly, no reassessment of impacts associated with increases in truck throughput and VMT need be analyzed.

EPA-3. EPA continues to recommend that the discussion of project-wide emissions, found on page 3.13-26, under “Results” which is outdated and confusing, be removed from the FEIS. Local impacts for this project are clearly the primary concern, so consideration of project-wide emissions could be misleading. EPA also recommends that the section entitled “Limitations of MSAT Analysis” (pages 3.13-27 through 28), which is incorrect and is no longer relevant to the analysis in this document, and other similar references to limitations of MSAT analysis in the document be removed from the FEIS. The section describes why emissions, dispersion, and exposure tools are not available for a quantitative MSAT analysis, but Caltrans has disproved this assertion by including that exact analysis in the expanded HRA.

Response: Please see FEIR Response to Comments AJ17-3 and AJ17-4. While Caltrans appreciates EPA’s comments, it disagrees with EPA conclusions about the necessity of the “Results” and “Limitations of MSAT Analysis” discussions currently contained in the Final EIS/EIR.

Caltrans continues to support the use of the FHWA interim guidance for NEPA evaluation of MSATs and, particularly, the use of MSAT analysis to compare project-wide emissions by alternative rather than to analyze localized impacts. Therefore, the MSAT analysis will not be removed from the Final EIS/EIR. Similarly, Caltrans continues to believe that the “Limitations of the MSAT Analysis” discussion is helpful in clarifying its position on the use of an HRA. Accordingly, that discussion will not be removed from the Final EIS/EIR.

EPA-4. The project proposes the placement of bridge footings in the Consolidated Slip/Dominguez Channel. Consolidated Slip is part of Operable Unit 2 (OU2) of the Montrose Superfund Site. Any activities that could potentially disturb sediments within the Site must be coordinated through the EPA Superfund program process. EPA Requests to be on the distribution list for the draft work plan for the crossing of the Dominguez Channel.

Response: The comment is noted. Caltrans will coordinate with EPA and will include EPA on the distribution list for the draft work plan for the crossing of the Dominguez Channel. A copy will be sent to Michael Work, Remedial Project Manager, U.S. EPA Region 9 (SFD-8), 75 Hawthorne Street, San Francisco, CA 94105 (415-972-3024) or work.michael@epa.gov.

From letter dated June 12, 2009, signatory Susan Nakamura, SCAQMD.

SCAQMD-1. With regard to Mitigation Measure for On-Road Trucks, the SCAQMD recommends that the lead agency use on-road trucks meeting the 2007 emission standards during the 2009 – 2011 construction phase, and on-road trucks meeting the 2010 emissions standards during the post-2011 construction phase. Caltrans could award contracts preferentially to those contractors with a higher percentage of compliant trucks in their fleet.

Response: Caltrans appreciates SCAQMD’s concerns about construction emissions and has taken its comments into consideration in reaching its decision on the project. However, Caltrans does not believe that the mitigation proposed by SCAQMD is legally, practically, or

economically feasible. Requiring contractors bidding on the project to replace all on-road trucks with 2007 compliant trucks for work performed in 2009-2011 and then to again replace those trucks with 2010 compliant trucks for work performed during the post-2011 construction phase would be impractical and economically infeasible. Also, there are legal constraints to such actions, for example, Disadvantaged Small Business regulations. There is no present legal requirement that contractors meet requirements beyond those contained in applicable laws and regulations including the CARB In-Use On-Road Heavy-Duty Vehicle Regulation. Accordingly, compliance with applicable laws and regulations is all that Caltrans and ACTA can legally require.

CARB regulations have called for accelerated turnover of on-road vehicle fleets, and Caltrans and ACTA believe that their regulations represent best efforts to accelerate fleet turnover and improve air quality in the state. Therefore, ACTA and Caltrans believe that imposition of the mitigation measure as currently written will result in the greatest emission reductions feasible. The existing mitigation measure will require contractors bidding on the project to incorporate compliant on-road trucks at the earliest point both practically and economically feasible, thereby increasing the likelihood that compliant trucks will be utilized during construction of the project. To this end, Caltrans may offer financial incentive clauses in the contract bid packages that reward the 95 to 100 percent use of 2007 or 2010 compliant trucks.

SCAQMD-2. With regards to Mitigation Measure for Off-Road Construction Equipment, the SCAQMD urges the lead agency to consider all available means to reduce the air quality impacts from construction equipment. Caltrans should require use of equipment meeting Tier 3 standards and equipped with the highest level of CARB Verified Diesel Emission Control System (VDECS) available. In addition, during any construction occurring after 2014, construction equipment should meet U.S. EPA Tier 4 emissions standards. Caltrans could award contracts preferentially to those contractors with a higher percentage of Tier 3 equipment in their fleet.

Response: Similar to the response to SCAQMD-1, Caltrans does not believe that it is legally, practically, or economically feasible to require that all off-road construction equipment used for construction meet Tier 3 or Tier 4 standards. As discussed in the previous response, ACTA and Caltrans can only require that contractors comply with applicable laws and regulations. However, ACTA and Caltrans are confident that compliance with applicable laws and regulations will result in the greatest emission reductions feasible.

SCAQMD-3. Caltrans cites an evaluation by UC Davis to support the conclusion that significance cannot be determined due to the inherent uncertainties associated with health risk assessments. The SCAQMD believes that the UC Davis evaluation is not relevant, that there is sufficient guidance by OEHHA and SCAQMD to conduct health risk assessments on mobile sources. In addition, SCAQMD staff contend that the final conclusion should be based on the ACTA analysis, which uses accepted OEHHA methodology. Further, it is a misrepresentation to imply in the response to SCAQMD's comment on the SDEIS/RDEIR that OEHHA's intent is to suggest that health risk should not be estimated, or that a significance determination cannot be made using the methodology presented in the Air Toxic Hotspots Program Guidance Manual for Preparation of Health Risk Assessments.

Response: SCAQMD's position on this issue is noted. While Caltrans disagrees with SCAQMD about the utility of HRAs, an HRA consistent with OEHHA methodology was

conducted for the project by ACTA. Moreover, the HRA is included in the Final EIS/EIR and was utilized by ACTA to determine the significance of health risk impacts under CEQA, as well as ACTA's consideration of its preferred alternative. Caltrans also considered the entire document, including the HRA and public comments on the HRA, in its alternative selection process.

From letter dated June 1, 2009, Signatory, David Pettit, Senior Attorney, NRDC.

NRDC-1. The NRDC requests a public hearing on the Final EIS/EIR, stating that the FEIR contains significant new information. In particular, the Final EIS/EIR contains a "sensitivity analysis" that purports to show that consideration of the expanded ICTF and SCIG railyard projects will not change the traffic analysis or the related HRA in the Final EIR/EIS. It is unclear from the very brief passage in the Final EIS/EIR how this analysis was conducted and exactly what the inputs were in connection with the inherently unbelievable conclusion. This needs public exposure and explanation and recirculation of the Final EIR/EIS if Caltrans believes that this information is indeed significant.

Response: Caltrans appreciates the commenter's interest in the process, and has taken its comments into consideration in reaching its decision on the project. Neither CEQA nor NEPA requires a public hearing on a Final EIS/EIR (See CEQA Guidelines § 15000 et seq.; 40 CFR § 1500 et seq.) CEQA does require recirculation of an EIR prior to certification where "significant new information" is added (See CEQA Guidelines § 15088.5). The "sensitivity analysis" contained in the Final EIS/FEIR was performed in response to comments on the Draft EIR/EIS and SDEIS/RDEIR and does not constitute such new information. New information is not "significant" unless it deprives the public of meaningful comment on a new significant environmental impact of the project or a feasible way to mitigate any such significant impact (Id.). The "sensitivity analysis" contained in the Final EIS/EIR does not disclose the potential for any new significant impacts resulting from the project. On the contrary, it confirms that when routing assumptions for the proposed expanded ICTF and proposed SCIG rail yard projects are included in the Final EIS/FEIR traffic model, there are no new traffic and/or health risk impacts that were not disclosed or analyzed in the Final EIS/EIR. For these reasons, neither a public hearing nor recirculation is required.

NRDC-2. Caltrans takes two inconsistent positions throughout the Final EIR/EIS with regard to the HRA. At times the Final EIS/EIR relies on the HRA to show that the project will have a less than significant impact for CEQA and NEPA purposes. At other times, Caltrans asserts that the HRA is not scientifically valid. This needs public exposure and explanation.

Response: As discussed above, there is no requirement that a public hearing be held on a Final EIS/EIR. Furthermore, Caltrans' position on the HRA has been subject to public exposure and explanation. Caltrans' position on the use of the HRA for purposes of determining whether the project has the potential to result in significant impacts for CEQA purposes is explained in Section 3.13.3.6.1, of the Final EIS/EIR. Moreover, Caltrans' position was contained in the SDEIS/RDEIR that was circulated for public review and comment; accordingly, it has been subject to public exposure (See SDEIS/RDEIR, p. 3.13-50). Finally, in Response to Comments AJ18-4, AJ15-4, AJ17-4 and TR2-16 in the Final EIS/EIR, Caltrans provides further explanation of its position, as the commenter suggests is necessary. While Caltrans questions the use of an HRA for determining health impacts resulting from transportation projects, we do see the possible use of an HRA for comparing alternatives.

Despite Caltrans position on the use of air models to determine health impacts from transportation projects, ACTA decided to conduct an HRA to determine significance levels for CEQA purposes. The HRA determined that there is the potential for significant impacts at a small number of homes, and ACTA has proposed mitigation to reduce those impacts to a less than significant level.

NRDC-3. The Final EIS/EIR requires reconsideration and recirculation because it contains significant violations of CEQA, NEPA, and the Clean Air Act with regard to the following:

- Failing to quantify greenhouse gas emissions. Proponents of large projects, such as the Ports of Los Angeles and Long Beach, now regularly conduct exactly this type of quantification. There is no technical impediment to this type of analysis and no legitimate reason for not conducting one.

Response: Please see Response to Comment AJ11-32 in the Final EIS/EIR. While the Final EIS/EIR does not quantify GHG emissions, it concludes that transportation projects such as the proposed project, that will relieve congestion by enhancing operations and improving travel times in high congestion travel corridors, will lead to an overall reduction in CO₂ emissions (Final EIS/EIR, p. 3.13-12). By relieving congestion and improving travel times, the project is anticipated to reduce GHG emissions from the mobile sources that will travel on the proposed bridge and expressway (Id.). Furthermore, the project includes several measures that are anticipated to further reduce GHG emissions.

NRDC-4. The Final EIS/EIR requires reconsideration and recirculation because it contains significant violations of CEQA, NEPA, and the Clean Air Act with regard to the following:

- Methodology for the traffic analysis has changed once again in a significant way but one that is opaque to the readers of the Final EIS/EIR. This calls into serious question the legitimacy of the traffic analysis, on which the HRA is also based.

Response: The methodology for the traffic analysis has not “changed” in the Final EIS/EIR. Please see Response to Comment OB14-6 in the Final EIS/EIR, which further explains the Final EIS/EIR’s traffic methodology and addresses other traffic-related concerns.

However, in response to NRDC comments received during the Draft EIS/EIR and SDEIS/RDEIR public comment periods, a further sensitivity analysis was conducted and included in the response to comments section of the Final EIS/EIR. The sensitivity analysis is not intended to replace the traffic analysis that was contained in the Draft EIS/EIR and relied upon for the SDEIS/RDEIR released for public review and comment. As discussed in Response to Comment NRDC-1, it is intended to confirm that if routing assumptions for the proposed SCIG and expanded ICTF projects were included in the Draft EIS/EIR traffic model, there would have been no greater traffic and/or health risk impacts than those disclosed and analyzed in the Draft EIS/EIR and the SDEIS/RDEIR.

NRDC-5. The Final EIS/EIR requires reconsideration and recirculation because it contains significant violations of CEQA, NEPA, and the Clean Air Act with regard to the following:

- Failure to include the expanded ICTF and the SCIG railyard projects in the traffic analysis makes the traffic analysis and the cumulative impacts analysis fundamentally invalid.

Response: Please see Response to Comment OB14-6 contained in the Final EIS/EIR. Additionally, a sensitivity analysis completed in response to comments on the SDEIS/RDEIR

confirms that when likely routing assumptions for the SCIG and proposed ICTF expansion projects are programmed into the Final EIS/EIR traffic model, impacts remain less than significant and are in fact lower than those projected in the Draft EIS/EIR.

NRDC-6. The Final EIS/EIR requires reconsideration and recirculation because it contains significant violations of CEQA, NEPA, and the Clean Air Act with regard to the following:

- The FEIR does not meaningfully consider all feasible mitigation, including the use of advanced container moving technology to move containers from the ports to the nearby intermodal facilities.

Response: Please see Response to Comment OB17-18 in the Final EIS/EIR. The implementation of large-scale modern container transportation systems are not feasible alternatives to the project because Caltrans has no jurisdiction or control over the Ports or the region as a whole. Subsequent to the circulation of the Final EIS/EIR, the Long Beach Harbor Commissioners voted to seek out ideas for a pollution-free cargo moving system that could one day replace some trucks that travel between Port marine terminals and local rail yards. On Wednesday June 3, 2009, the Port of Long Beach issued a "Request for Concepts and Solutions" (RFCS) outlining the goals and requirements of the project. The RFCS states that responses will be "evaluated to determine the viability of the Project using the technology proposed and whether the proposed system is constructible, financially self-supporting and operationally reliable over the long term. If one or more systems meet(s) these criteria, the response(s) setting forth such systems, their capabilities and prospects for financing will shape a possible future Request for Proposals for the Project". This future experimental effort is independent of the project, nonetheless it is being considered by the Port, a party better equipped to implement this type of technology. Only time will tell if this future study will lead to any meaningful technological solution.

NRDC-7. The Final EIS/EIR requires reconsideration and recirculation because it contains significant violations of CEQA, NEPA, and the Clean Air Act with regard to the following:

- Failure to consider health effects of ultrafine particles emitted from diesel trucks using the projects renders the HRA invalid.

Response: Please see Response to Comment AJ15-5 in the Final EIS/EIR. The HRA relied on the currently available, accepted regulatory guidelines. Although sub-chronic health effects from ultrafine particles are an emerging issue of public concern, there are no reliable tools or agency approved guidelines available that specifically address the issue. Cancer and chronic health risks due to diesel particulate matter from vehicle exhaust were evaluated in the HRA using OEHHA-approved risk factors. The HRA results provided reasonable indications of health risk impacts of the project.

NRDC-8. The Final EIS/EIR requires reconsideration and recirculation because it contains significant violations of CEQA, NEPA, and the Clean Air Act with regard to the following:

- The hot spot analysis violates NEPA because the wrong standard for PM_{2.5} was used.

Response: Please see Response to Comments OB17-1 through OB17-17 in the Final EIS/EIR, which explain in detail why the PM_{2.5} analysis contained in the Final EIS/EIR conforms to the standards contained in applicable statutes and regulations.

NRDC-9. The Final EIS/EIR requires reconsideration and recirculation because it contains significant violations of CEQA, NEPA, and the Clean Air Act with regard to the following:

- The assumption that the HRA can distinguish cancer risks as between one house and the adjoining house is completely without foundation or merit—particularly given Caltrans’ expressed skepticism about HRAs in general.

Response: Please see Response to Comment OB14-7 in the Final EIS/EIR. Given the conservative nature of the OEHHA methodology utilized to conduct the HRA, it is highly unlikely that even the residents of the small number of homes predicted by the HRA as having a potential health risk greater than 10 in a million will have an actual increase in cancer risk greater than 10 in a million. Accordingly, other residents, even in close proximity to those houses will have even less risk.

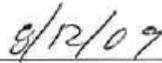
Also, the HRA was based on a traffic study that predicted future port traffic based on the San Pedro Bay Cargo Forecast prepared in December 2007. The 2007 forecast predicted much higher levels of cargo going through the two ports than is currently projected. The 2007 forecast is currently under revision, but presentations to the harbor commissioners of Los Angeles and Long Beach during the week of June 29, 2009, contained the following projection. The 2007 forecast predicted 2015 cargo levels at 27.6 million TEUs. Current projections are that the number of TEUs in 2015 will be 17 million. This is over 38 percent less than predicted in 2007. Since the 2015 HRA was based on the 2007 growth projections that now appear to be significantly overstated, the predicted risk at receptors in the vicinity of the project is likely to be much lower than projected.

Record of Decision Approval

Alternative 1 of the Schuyler Heim Bridge Replacement and SR-47 Expressway Project has been determined to be the environmentally preferable alternative that would best replace the vehicular connection along the north-south corridor between Terminal Island and the mainland with a seismically safe bridge, and provide a high-capacity alternative route to and from Terminal Island to improve safety, traffic movement, and reduce traffic delays. This selection was based on minimizing environmental impacts, engineering and operational advantages, lower cost, and public and agency comments received during the environmental process. All practical measures to minimize and mitigate environmental harm have been adopted and will be incorporated into this decision.



DOUGLAS R. FAILING
District Director
California Department of Transportation



Date