Vincent Thomas Bridge Deck Replacement Project

LOS ANGELES, CALIFORNIA
DISTRICT 7 – LA – 47 (PM 0.4/2.0)
39020/0722000334

Draft Environmental Impact Report/Environmental Assessment

Prepared by the
State of California, Department of Transportation

The environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 USC 327 and the Memorandum of Understanding dated May 27, 2022, and executed by FHWA and Caltrans.

February 2024

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General Information About This Document

What's in This Document

The California Department of Transportation (Caltrans), as assigned by the Federal Highway Administration (FHWA), has prepared this Environmental Impact Report/Environmental Assessment (EIR/EA), which examines the potential environmental impacts of the alternatives being considered for the proposed project located in Los Angeles County, California. Caltrans is the lead agency under the National Environmental Policy Act (NEPA). Caltrans is the lead agency under the California Environmental Quality Act (CEQA). The document tells you why the project is being proposed, what alternatives we have considered for the project, how the existing environment could be affected by the project, the potential impacts of each of the alternatives, and the proposed avoidance, minimization, and/or mitigation measures.

What You Should Do

- Please read this document.
- Additional copies of this document are available for review at the following libraries:
  - Billie Jean King Main Library: 200 W. Broadway, Long Beach, CA 90802
  - San Pedro Branch Library: 931 S. Gaffey St., San Pedro, CA 90731
  - Wilmington Branch Library: 1300 N. Avalon Blvd., Wilmington, CA 90744
  - Los Angeles Harbor College Library: 1111 Figueroa Pl., Wilmington, CA 90744
  - Harbor City - Harbor Gateway Branch Library: 24000 S. Western Ave., Harbor City, CA 90710
  - Carson Library: 151 E. Carson St., Carson, CA 90745
- This document may be viewed and downloaded at the following website: www.virtualeventroom.com/caltrans/vtb/.
- Attend the public hearings:
  - Virtual Public Hearing via Zoom on May 1, 2024
  - In-Person Public Hearing on May 30, 2024, Wilmington Recreation Center, 325 N. Neptune Ave., Wilmington, CA 90744
  - In-Person Public Hearing on June 13, 2024, Peck Park Community Center, 560 N. Western Ave., San Pedro, CA 90732
- We'd like to hear what you think. If you have any comments about the proposed project, please attend the virtual public hearing or two in-person public hearings that will be announced on the project website and in mailed notices and/or send your written comments via postal mail or email to Caltrans by the deadline.
  - Send comments via postal mail to:
    Attention: Jason Roach, Senior Environmental Planner
    Division of Environmental Planning (Project EA 07-39020)
    California Department of Transportation, District 7
    100 South Main Street, MS 16A
    Los Angeles, CA 90012

  - Send comments via email to: caltransvtb@virtualeventroom.net.

- Be sure to send comments by the deadline: July 15, 2024

What Happens Next

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

Alternative Formats

For individuals with sensory disabilities, this document can be made available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please call or write to the California Department of Transportation, Attn: Alex Brown, Environmental Planning, 100 S. Main St., Los Angeles, CA 90012; (213) 310-2590 (Voice), or use the California Relay Service 1 (800) 735-2929 (TTY to Voice), 1 (800) 735-2922 (Voice to TTY), 1 (800) 855-3000 (Spanish TTY to Voice and Voice to TTY), 1-800-854-7784 (Spanish and English Speech-to-Speech) or 711.

FHWA Highway ID No.

SCH# 2023040301
07-LA-47-PM 0.4/2.0
39020
0722000334

Vincent Thomas Bridge Deck Replacement Project
(Postmile 0.4 to Postmile 2.0), in the Port of Los Angeles,
Los Angeles County, California

DRAFT ENVIRONMENTAL IMPACT REPORT/ENVIRONMENTAL ASSESSMENT

Submitted Pursuant to: (State) Division 13, California Public Resources Code
(Federal) 42 USC 4332(2)(C)]

THE STATE OF CALIFORNIA
Department of Transportation

Responsible Agency: California Transportation Commission

Kelly Ewing-Toledo

Kelly Ewing-Toledo
Deputy District Director
District 7 Division of Environmental Planning
California Department of Transportation
NEPA Lead Agency

02/12/2024
Date

The following persons may be contacted for more information about this document:

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Summary

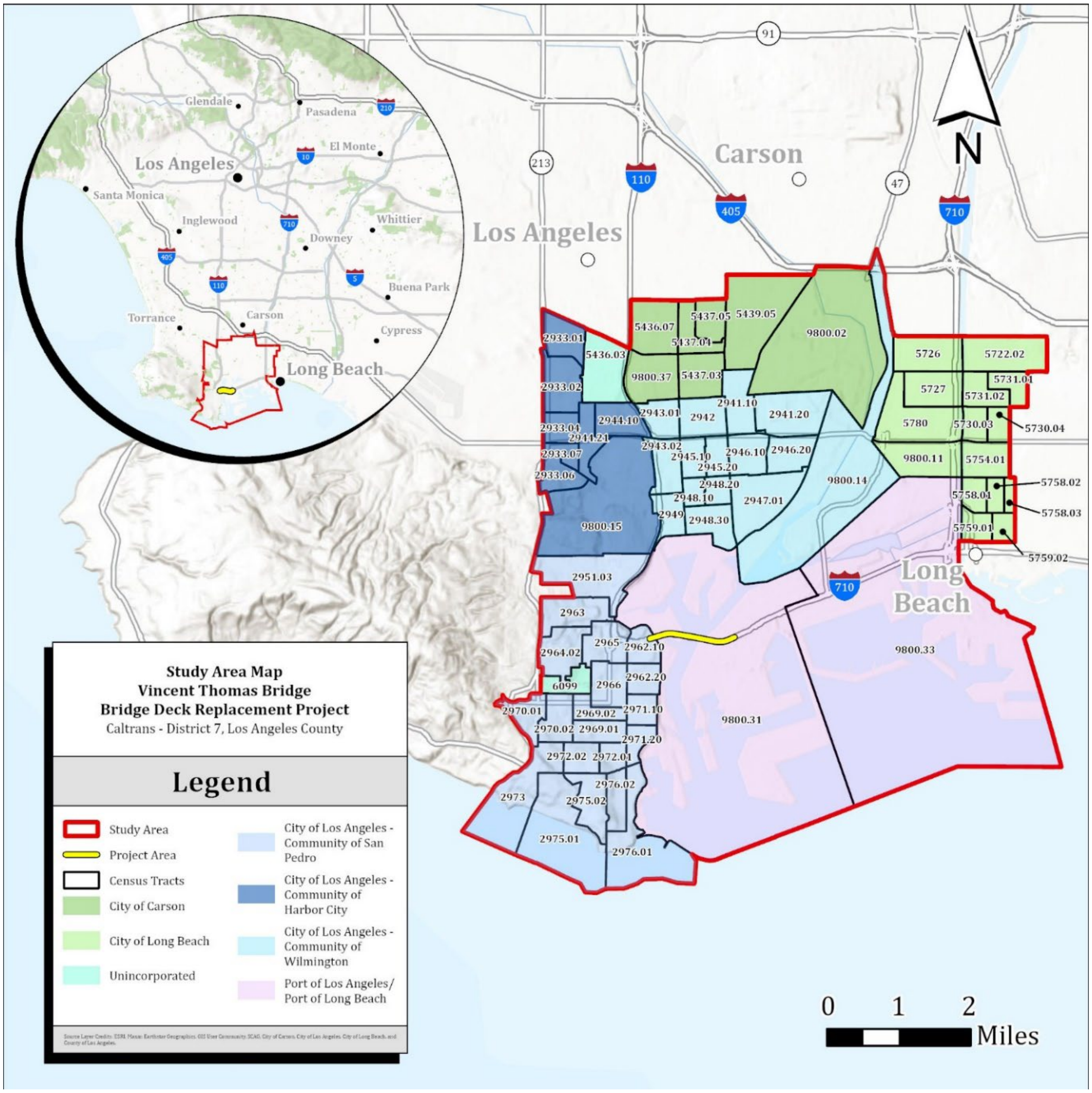
NEPA Assignment

California participated in the "Surface Transportation Project Delivery Pilot Program" (Pilot Program) pursuant to 23 United States Code (USC) 327 for more than 5 years, beginning July 1, 2007, and ending September 30, 2012. The Moving Ahead for Progress in the 21st Century Act (MAP-21) (P.L. 112-141), signed by President Obama on July 6, 2012, amended 23 USC 327 to establish a permanent Surface Transportation Project Delivery Program. As a result, Caltrans entered into a Memorandum of Understanding (MOU) pursuant to 23 USC 327 (National Environmental Policy Act [NEPA] Assignment MOU) with the Federal Highway Administration (FHWA). The NEPA Assignment MOU became effective October 1, 2012, and was renewed on May 27, 2022, for a term of 10 years. In summary, Caltrans continues to assume FHWA responsibilities under NEPA and other federal environmental laws in the same manner as was assigned under the Pilot Program, with minor changes. With the NEPA Assignment MOU, the FHWA assigned and Caltrans assumed all of the United States Department of Transportation (USDOT) Secretary's responsibilities under NEPA. This assignment includes projects on the State Highway System and Local Assistance Projects off the State Highway System within the State of California, except for certain categorical exclusions that FHWA assigned to Caltrans under the 23 USC 326 Categorical Exclusion (CE) Assignment MOU, projects excluded by definition, and specific project exclusions.

Project Description

Caltrans is proposing to replace the deteriorated bridge deck, upgrade seismic sensors, and improve the existing median barrier and railings on the Vincent Thomas Bridge (State Route 47 [SR-47]) in the Port of Los Angeles (POLA). A regional location map is included on Figure S-1. The bridge deck is deteriorating due to concrete fatigue caused by heavy truck traffic over six decades of use. In 2009, a polyester concrete overlay was applied to the bridge deck to address spalling in the bridge deck; however, in 2011, new deck spalls began to occur and have been increasing in severity with each subsequent bridge inspection.

Figure S-1: Regional Location Map



Source: Community Impact Assessment (2024)

In-depth investigation of the bridge deck has been ongoing using ground-penetrating radar equipment, rapid automated sounding equipment, and physical and chemical concrete testing. Concrete test samples showed that the deck is failing below the polyester overlay causing the subsequent spalling. According to the latest bridge inspection (2022), the deck conditions have deteriorated from ‘fair’ to ‘poor.’ As a result of the evident grade of deterioration of the deck and the results of the physical and chemical testing performed, a technical team of the Office of Structure Maintenance and Investigation determined and recommended that the best strategy to extend the life of the bridge and provide a safe operation for the traveling public was to remove and replace the deck of both the suspended and approach spans of the Vincent Thomas Bridge.

The Vincent Thomas Bridge Deck Replacement Project is located at the southern end of SR-47 in Los Angeles County at the POLA in California, spans the Main Channel, and connects Smith Island to Terminal Island.

A No Build Alternative (Alternative 1) and a Build Alternative (Alternative 2) to replace the existing bridge deck on the Vincent Thomas Bridge are being evaluated as part of the proposed project. Additionally, four construction staging options for closure of the bridge would be evaluated in the Build Alternative:

- **Single-Stage Construction:** This construction staging option consists of a full closure of the bridge that would last 16 to 41 months with detour routes and 24/7 work. The difference in construction timelines depends on the deck type chosen. Orthotropic and Pre-Cast deck types would lead to a construction timeline of approximately 16 months. A Cast-in-Place deck type would lead to a construction timeline of approximately 41 months.

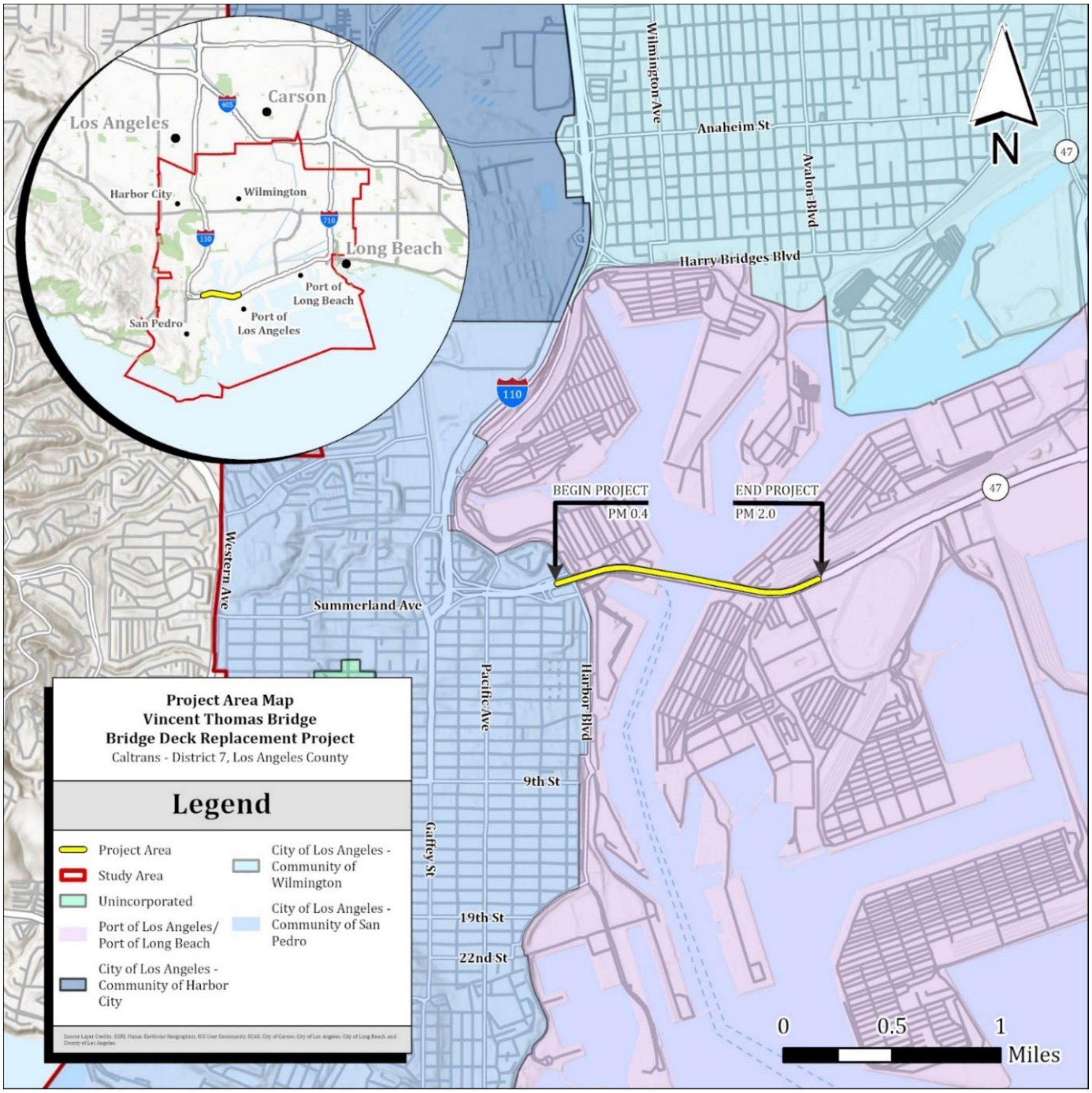
- **Two-Stage Construction:** This construction staging option would leave one lane open in each direction for each stage (two stages). The work would require the installation of a temporary support/bracing system, potentially reduced speeds of approximately 25 miles per hour (mph) due to narrowed lanes, and multiple weekend (55-hour) full closures and overnight full closures of the bridge. Construction would last approximately 25 months.

- **Three-Stage Construction:** This construction staging option would leave one lane open in each direction and would require installation of a temporary support/bracing system. One lane would be open in each direction for each stage, and multiple weekend (55-hour) full bridge closures and full overnight bridge closures would be required. Construction would last approximately 32 months.

- **Nighttime Bridge Closure:** This construction staging option would leave the bridge fully open during daytime traffic hours (6:00 a.m. to 7:00 p.m.). The work would require the installation of a temporary support/bracing system and fully close the bridge during nighttime hours (7:00 p.m. to 6:00 a.m.) every day. Construction would last approximately 48 months.

The Build Alternative would include upgrading seismic sensors and improving the existing median barrier and railings on the bridge. The project limits are illustrated on Figure S-2.

Figure S-2: Project Limits Map



Source: Community Impact Assessment (2024).

The Build Alternative is necessary to preserve the life of the Vincent Thomas Bridge deck and ensure the safety of the traveling public. The No Build Alternative would not preserve the life of the bridge deck and would likely lead to emergency repair work and unplanned closures of the bridge.

The proposed project is a joint project by Caltrans and the Federal Highway Administration (FHWA) and is subject to State and federal environmental review requirements. Project documentation, therefore, has been prepared in compliance with both the California Environmental Quality Act (CEQA) and NEPA. Caltrans is the lead agency under both NEPA and CEQA. In addition, FHWA's responsibility for environmental review, consultation, and any other actions required by applicable federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 USC Section 327 and the MOU dated May 27, 2022, and executed by the FHWA and Caltrans.

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

After receiving comments from the public and reviewing agencies, a Final EIR/EA will be prepared. Caltrans may prepare additional environmental and/or engineering studies to address comments. The Final EIR/EA will include responses to comments received on the Draft EIR/EA and will identify the Preferred Alternative. If the decision is made to approve the project, a Notice of Determination (NOD) will be published for compliance with CEQA, and Caltrans will decide whether to issue a Finding of No Significant Impact (FONSI) or require an Environmental Impact Statement (EIS) for compliance with NEPA. A Notice of Availability (NOA) of the FONSI will be sent to the affected units of federal, State, and local government, and to the State Clearinghouse in compliance with Executive Order 12372.

Project Impact

The proposed project requires closing the Vincent Thomas Bridge for a bridge deck replacement. The extent and duration of the closure will depend on the construction staging option that is chosen. In all staging options in the Build Alternative, there will be traffic impacts and the necessity for designated detour route(s), primarily through the neighborhood of Wilmington and the city of Carson, which are located north of the POLA.

The project’s primary impacts are due to construction and affect the community and traffic. All the closure options of the Vincent Thomas Bridge in the Build Alternative will require the use of detour route(s) to divert traffic to and from Terminal Island and away from the project site. The use of the detour route(s) by vehicular and port truck traffic could temporarily impact the community through increased traffic. Based on initial public engagement and the analysis of the different scenarios for construction staging, Caltrans understands and recognizes various economic impacts to the Port of Los Angeles, Port of Long Beach, local businesses, local communities along traffic detour routes and to the traveling public, with the full closure staging scenarios. A summary of anticipated project impacts for each construction staging option is shown in Table S-1.

Table S-1: Anticipated Project Impacts

<table>
<tr><th>Project Impacts for Each Construction Staging Option</th><th>Single-Stage Construction</th><th>Two-Stage Construction</th><th>Three-Stage Construction</th><th>Nighttime Bridge Closure</th></tr>
<tr><td>Traffic</td><td colspan="4">All Construction Options: Temporary impacts that are less than significant with mitigation incorporated.

The following mitigation measures and project feature will be implemented to help alleviate traffic impacts: MM-TR-1, MM-TR-2, and PF-TR-1. More information on these measures and project feature can be found in Section 2.10 Traffic and Transportation/Pedestrian and Bicycle Facilities under Avoidance, Minimization, and Mitigation Measures.</td></tr>
<tr><td>Biology</td><td colspan="4">All Construction Options: Temporary impacts that are less than significant with mitigation incorporated.

Mitigation includes MM-BIO-1 through MM-BIO-6 include exclusionary devices on the bridge for peregrine falcons, bird surveying, and the construction of artificial nesting. More information on these measures can be found in Section 2.19 Animal Species under Avoidance, Minimization, and Mitigation Measures.</td></tr>
<tr><td>Environmental Justice</td><td colspan="4">All Construction Options: Temporary impacts that are less than significant with mitigation incorporated.

Mitigation includes MM-EJ-1 and MM-EJ-2 include regular and ongoing coordination with agencies and the community to coordinate construction schedules and to address community concerns. More information on these measures can be found in Section 2.8 Environmental Justice under Avoidance, Minimization, and Mitigation Measures.</td></tr>
<tr><td>Cumulative</td><td>Single-Stage Construction: Temporary significant and unavoidable impacts to environmental justice communities for cumulatively considerable impacts to traffic and air quality.

The following mitigation measures will be implemented to help alleviate these impacts: MM-EJ-1 and MM-EJ-2, which include regular and ongoing coordination with agencies and the community to coordinate construction schedules and to address community concerns. The following mitigation measures and project feature will also be implemented: MM-TR-1, MM-TR-2, and PF-TR-1, which include potential temporary modification of project area intersections to alleviate traffic increases, repair of detour routes, and changeable message signs to alert drivers of bridge closures and detour routes.</td><td colspan="3">Two-Stage, Three-Stage, and Nighttime Closure Options: Temporary less than significant impact with mitigation incorporated to environmental justice communities for cumulatively considerable impacts to traffic and air quality.

Impacts will be less than significant with the implementation of these mitigation measures: MM-EJ-1 and MM-EJ-2, which include regular and ongoing coordination with agencies and the community to coordinate construction schedules and to address community concerns. The following mitigation measures and project feature will also be implemented: MM-TR-1, MM-TR-2, and PF-TR-1, which include potential temporary modification of project area intersections to alleviate traffic increases, repair of detour routes, and changeable message signs to alert drivers of bridge closures and detour routes. More information on these measures can be found under Avoidance, Minimization, and Mitigation Measures in Section 2.8 Environmental Justice and Section 2.10 Traffic and Transportation/ Pedestrian and Bicycle Facilities.</td></tr>
</table>

Source 1: Traffic and Operations Analysis Report (2023).
Source 2: Natural Environment Study (2023).
Source 3: Community Impact Assessment (2024).

The project will require coordination with the public and other agencies. Other agency coordination will include, but not be limited to, consultation with the California Department of Fish and Wildlife (CDFW), the United States Coast Guard, and the California Coastal

Commission (CCC). Necessary permits include a Harbor Development Permit (or Harbor Development Permit exemption) with the POLA, which will satisfy the requirements of a Coastal Development Permit with the CCC if the CCC agrees to the merits of the permitting application and decision. A full list of agency coordination and permits is available at the end of Section 1.3 Project Description.

Since the project's scoping period, Caltrans has engaged neighborhood councils, union organizations, chambers of commerce, councils of governments, other project area organizations, and the public to encourage feedback and solicit comments on the proposed project. Caltrans has also formed a Community Advisory Committee (CAC) and a Technical Advisory Committee (TAC) to facilitate feedback from interested stakeholders throughout the life of the project until the open-to-traffic date. The main concern raised by the public and project area organizations is regarding the potential detour route(s) and the impacts related to heavy truck traffic near neighborhoods. Another primary concern is the traffic impacts caused by the different construction staging options proposed on the Vincent Thomas Bridge.

The proposed project is a joint project by Caltrans and the FHWA, and is subject to State and federal environmental review requirements. Project documentation, therefore, has been prepared in compliance with both CEQA and NEPA. Caltrans is the lead agency under both NEPA and CEQA. In addition, FHWA's responsibility for environmental review, consultation, and any other actions required by applicable federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 USC Section 327 and the MOU dated May 27, 2022, and executed by FHWA and Caltrans.

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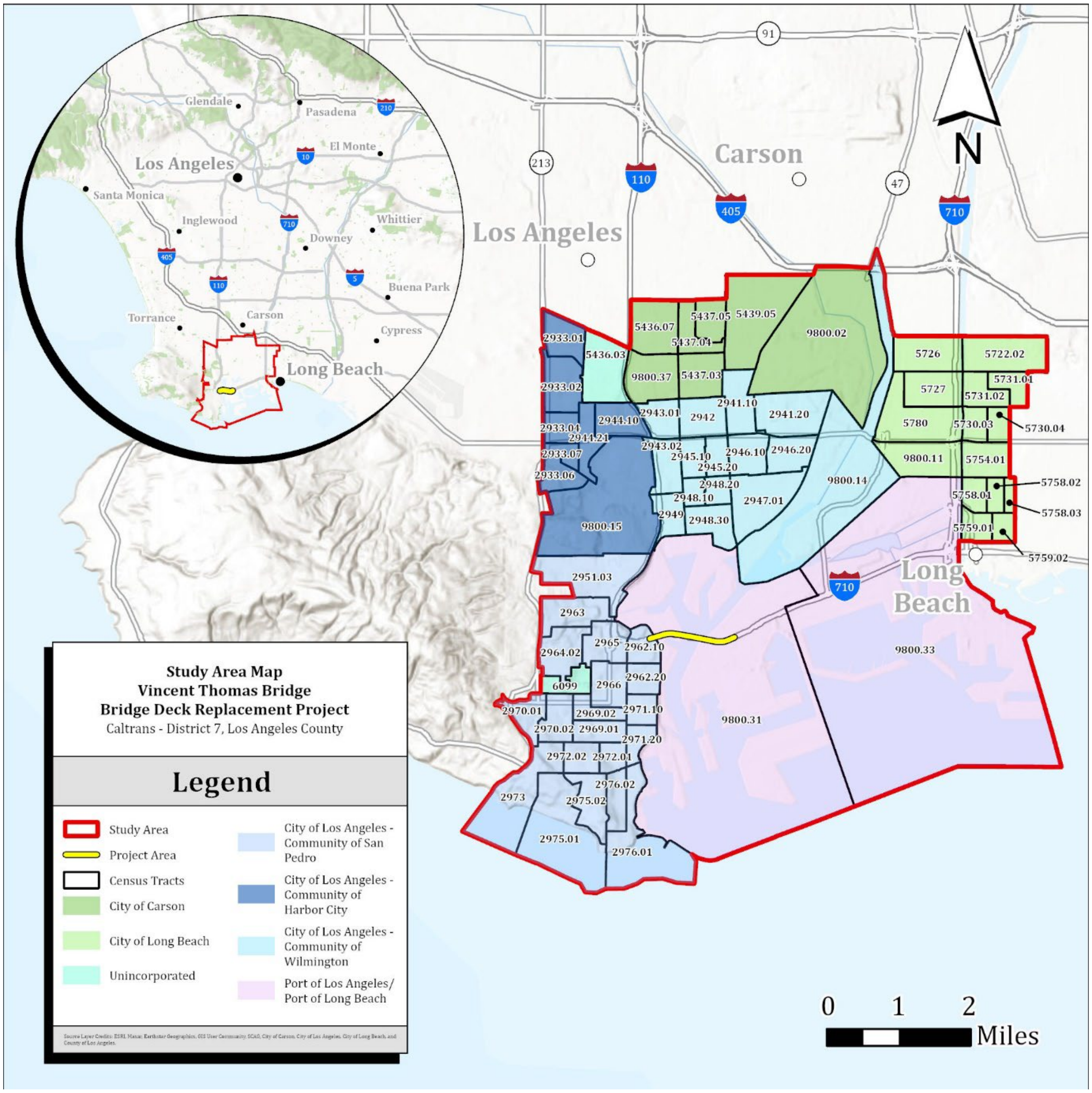
Chapter 1 – Proposed Project

1.1 Introduction

Caltrans, as assigned by the Federal Highway Administration (FHWA), is the lead agency under the National Environmental Policy Act (NEPA) in accordance with NEPA (42 United States Code [USC] 4321 et seq.) and the Council on Environmental Quality (CEQ) Regulations implementing NEPA (40 Code of Federal Regulations [CFR] 1500–1508). Caltrans is also the lead agency under the California Environmental Quality Act (CEQA).

Caltrans is proposing to replace the bridge deck, upgrade seismic sensors, and improve the existing median barrier and railings on the Vincent Thomas Bridge (State Route 47 [SR-47]) in the Port of Los Angeles (POLA). A regional locations map is included on Figure 1-1.The Vincent Thomas Bridge Deck Replacement Project (project) is a State Highway Operation and Protection Program (SHOPP) (2024) project and is located on SR-47 in POLA on the Vincent Thomas Bridge (Bridge 53-1471).

Figure 1-1: Regional Locations Map



Source: Community Impact Assessment (2024).

The proposed project is exempt from Transportation Conformity and therefore is not individually listed in the Federal Transportation Improvement Program (FTIP) or the Regional Transportation Plan (RTP). The project is, however, included in the Southern California Association of Governments (SCAG) 2023 FTIP Amendment #23-12 as a grouped exempt SHOPP project under FTIP ID LALS04 – EA 39020. This FTIP group designation applies to projects within SCAG jurisdiction that qualify under the 40 CFR Part 93.126 Exempt Table 2 category “Widening Narrow Pavements or Reconstructing Bridges (No Additional Travel Lanes).

Alternative 1 (No Build Alternative) and Alternative 2 (Build Alternative) to replace the bridge deck of the Vincent Thomas Bridge are being evaluated as part of the proposed project. There are four construction staging options being evaluated for Alternative 2:

1. **Single-Stage Construction:** This construction staging option consists of a full closure of the bridge that would last 16 to 41 months with detour routes and 24/7 work. The difference in construction timelines depends on the deck type chosen. Orthotropic and Pre-Cast deck types would lead to a construction timeline of approximately 16 months. A Cast-in-Place deck type would lead to a construction timeline of approximately 41 months.

2. **Two-Stage Construction:** This construction staging option would leave one lane open in each direction for each stage (two stages). The work would require the installation of a temporary support/bracing system, reduced speeds of approximately 25 miles per hour (mph) due to narrowed lanes, and multiple weekend (55-hour) full closures and overnight full closures of the bridge. Construction would last approximately 25 months.

3. **Three-Stage Construction:** This construction staging option would leave one lane open in each direction and would require installation of a temporary support/bracing system. One lane would be open in each direction for each stage and multiple weekend (55-hour) full bridge closures and full overnight bridge closures would be required. Construction would last approximately 32 months.

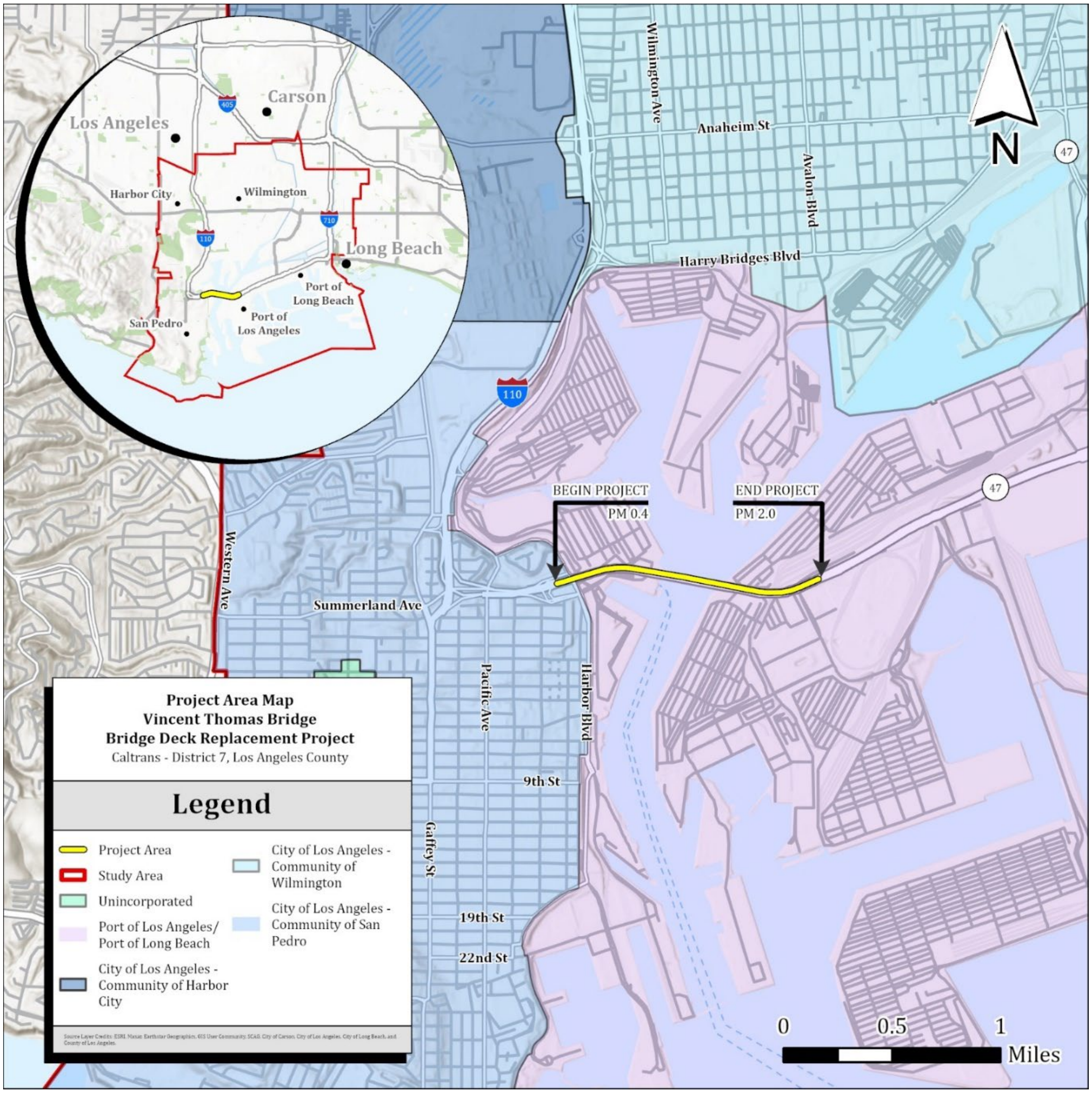
4. **Nighttime Bridge Closure:** This construction staging option would leave the bridge fully open during daytime traffic hours (6:00 a.m. through 7:00 p.m.). The work would require the installation of a temporary support/bracing system and fully close the bridge during nighttime hours (7:00 p.m. through 6:00 a.m.) every day. Construction would last approximately 48 months.

The project is under the Construction Manager/General Contractor (CMGC) Program. The CMGC Program is an innovative delivery method that allows Caltrans to engage a construction manager to provide input during the design process. Caltrans and the construction manager agree on a price for construction of the project, and the construction manager becomes the general contractor.

1.1.1 PROJECT SETTING

SR-47 is a State highway that begins at the southern terminus of Interstate 110 (I-110) in Los Angeles and travels east on the Vincent Thomas Bridge to Terminal Island at the POLA. Northeast of Navy Way, SR-47 heads north and includes a portion of Henry Ford Avenue and then a portion of Alameda Street, eventually ending at State Route 91 (SR-91) in Compton. SR-47 serves as a linkage connecting Terminal Island to the mainland in Los Angeles County. The section of SR-47 within the project limits (Figure 1-2) is a four-lane expressway incorporating the Vincent Thomas Bridge to connect I-110 in the community of San Pedro to Terminal Island.

Figure 1-2: Project Limits Map



Source: Community Impact Assessment (2024).

The Vincent Thomas Bridge is a 2,513-foot-long suspension bridge, spanning Los Angeles Harbor in Los Angeles, California, connecting San Pedro with Terminal Island (Figure 1-3). The bridge opened in 1963 and is named for California Assemblyman Vincent Thomas of San Pedro, who championed its construction. The bridge is the only suspension bridge in Los Angeles County and was the first welded suspension bridge in the United States. The bridge is now the fourth-longest suspension bridge in California and the 76th-longest span in the world. The clear height of the navigation channel underneath the bridge is approximately 185 feet, high enough to support POLA shipping traffic.

Figure 1-3: Bridge Spans Overview

Source: Caltrans (2023).

The Vincent Thomas Bridge serves as the primary corridor connecting Terminal Island to the Greater Los Angeles area approaching from the West. The communities of San Pedro, Harbor City, Wilmington, and Long Beach are near the project area and often rely on the bridge for access to surrounding areas and Terminal Island. Traffic traveling south on I-110 and Interstate 710 (I-710) often utilize the Vincent Thomas Bridge as a main corridor. Average daily traffic on the Bridge is 53,000 vehicles per day, with 8.8 percent of the daily traffic being heavy trucks based on the Caltrans 2021 Bridge Inspection Records Information Search (BIRIS) Report. Based on initial public engagement and the analysis of the different scenarios for construction staging, Caltrans understands and recognizes various economic impacts to the Port of Los Angeles, Port of Long Beach, local businesses, local communities along traffic detour routes and to the traveling public, with the full closure staging scenarios.

1.2 Purpose and Need

1.2.1 PURPOSE OF THE PROJECT

The purpose of the proposed project is to preserve the functionality and structural integrity of the Vincent Thomas Bridge deck and to enhance the bridge's overall safety.

The proposed project would replace the bridge deck of the Vincent Thomas Bridge, upgrade seismic sensors, and improve the median barrier and guardrails. The project limits are generally bounded by the west and east approach spans of the Vincent Thomas Bridge. The proposed project limits serve as logical termini, or rational end points for transportation improvements and are sufficient to evaluate environmental impacts. However, the traffic and community impacts of the different construction staging options in Alternative 2 (Build Alternative) will require evaluation outside of the project limits, particularly in the communities of Wilmington, San Pedro, Harbor City, Carson, and Long Beach.

1.2.2 NEED FOR THE PROJECT

The existing Vincent Thomas Bridge deck has structural deficiencies and a bridge deck condition rating of "poor" (Caltrans 2021a). The bridge deck rating was evaluated as "fair" until an inspection in 2021 found the deck had deteriorated to a condition rating of "poor" (Caltrans 2021a). The bridge deck of the Vincent Thomas Bridge has been in service for 60 years and is rapidly deteriorating due to concrete fatigue, primarily caused by heavy truck traffic associated with the POLA and Port of Long Beach (POLB). Pictures of the deteriorating bridge deck can be found on Figure 1-4.

Figure 1-4: Bridge Deck Concrete Spalling

Source: Caltrans (2023).

Source: Caltrans (2023).

In addition to the deteriorating bridge deck, the existing bridge median barrier and guardrails do not meet the requirements of the new Manual for Assessing Safety Hardware (MASH), which was written by the American Association of State Highway and Transportation Officials (AASHTO). AASHTO is a nonprofit association that represents highway and transportation departments across the nation and serves as a liaison between State departments of transportation and the federal government. In addition, the seismic sensors on the bridge need to be upgraded to ensure the structural integrity of the bridge during seismic events. This work would remove the existing 26 seismic sensors and replace them with an upgraded system consisting of 44 seismic sensors.

If the current bridge deck of the Vincent Thomas Bridge were to remain in place, the existing concrete fatigue would worsen, and the nonstandard median concrete barrier and guardrails would not meet updated MASH requirements. Future emergency closures of the bridge could be possible if the current concrete fatigue of the bridge deck is not addressed. The project is needed to ensure the safety of the traveling public on the Vincent Thomas Bridge and maintain an important economic corridor to POLA and POLB.

1.2.3 LEGISLATION

The Infrastructure Investment and Jobs Act, commonly known as the Bipartisan Infrastructure Bill, is a United States federal statute enacted by the 117th United States Congress and signed into law by President Joe Biden on November 15, 2021.

The act was initially a $547–$715 billion infrastructure package that included provisions related to federal-aid highway, transit, highway safety, motor carrier, research, hazardous materials, and rail programs of the United States Department of Transportation (USDOT). After congressional negotiations, it was amended and renamed to the Infrastructure Investment and Jobs Act to include funding for broadband access, clean water, and electric grid renewal in addition to the transportation and road proposals of the original House bill. This amended version included approximately $1.2 trillion in spending, with $550 billion being newly authorized spending on top of what Congress was planning to authorize regularly.

The Bridge Investment Program (BIP) is a competitive grant program part of the Infrastructure Investment and Jobs Act to replace, rehabilitate, preserve, or make resiliency improvements to bridges. Half of the $12.5 billion funding is reserved for large bridge projects, which are defined as projects that cost over $100 million. Large projects are funded at a maximum 50 percent federal share, while other projects are funded at a maximum 80 percent federal share. The Vincent Thomas Bridge Deck Replacement Project is eligible for BIP grant funding if the project is completed and open to traffic by Spring 2027.

1.3 Project Description

This section describes the proposed action and projected alternatives that were developed to meet the Purpose and Need of the project while minimizing environmental impacts. The alternatives include Alternative 1 (No Build Alternative) and Alternative 2 (Build Alternative).

As shown previously on Figure 1-2, the proposed project limits on the Vincent Thomas Bridge extend from the start of the west approach span to the end of the east approach span of the bridge (Post Miles 0.4 to 2.0). The proposed project would replace the bridge deck, median concrete barrier and guardrails, and upgrade seismic sensors on the Vincent Thomas Bridge. The purpose of the proposed project is to preserve the functionality and structural integrity of the Vincent Thomas Bridge deck and to enhance the bridge's overall safety. The bridge deck is rapidly deteriorating due to heavy truck traffic and in need of replacement. The median barrier and guardrails do not meet the current standards set by MASH and require an upgrade.

The Vincent Thomas Bridge consists of three main spans. The west approach span, the east approach span, and the main span. The west approach span is 1,841.5 feet, the east approach span is 1,705.5 feet, and the main span is 2,513 feet. The total length of the Vincent Thomas Bridge is 6,062.25 feet. The width of the bridge is 59.5 feet. The proposed project would not change the length of the bridge; however, the suspended span of the bridge would be widened by 9 inches on each side to accommodate the new guardrail barrier. The proposed project would not limit access to trails, parking lots, or any other public access components, nor would it remove any vegetation.

1.4 Alternatives

The No Build Alternative and Build Alternative are evaluated in this environmental document and are described in this section. The Build Alternative was developed by a multidisciplinary team to achieve the proposed project purpose while avoiding or minimizing environmental impacts.

Under CEQA, the baseline for environmental impact analysis consists of the existing conditions at the time of the Notice of Preparation (NOP) signed on April 12, 2023. Under NEPA, the No Build Alternative (Alternative 1) is used as the baseline for comparing environmental impacts.

The proposed project contains several standardized project features that are employed on most Caltrans projects and were not developed in response to any specific environmental impacts resulting from the proposed project. The project features that will be implemented for this project are listed in Table 1-1.

Table 1-1: List of Project Features to be Implemented for the Vincent Thomas Bridge Deck Replacement Project

Project Feature	Description
PF-UES-1	Require coordination with emergency service providers for ramp or road closures within the project area as part of the Vincent Thomas Bridge Deck Replacement Project.
PF-CR-1	If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find.
PF-CR-2	If human remains are discovered, further disturbances and activities shall stop in any area or nearby area suspected to overlie remains, and the County Coroner contacted. If the remains are thought by the coroner to be Native American, the coroner will notify the Native American Heritage Commission (NAHC), who will then notify the Most Likely Descendant (MLD). At this time, the person who discovered the remains will contact Caprice "Kip" Harper, Project PQS Principal Investigator-Prehistoric Archaeology so that they may work with the MLD on the respectful treatment and disposition of the remains.
PF-HW-1	<u>Minimal Disturbance of Material Containing Hazardous Waste Concentrations of Aerially Deposited Lead:</u> The temporary construction and permanent signs may potentially disturb soil containing aerially deposited lead (ADL) if installed on unpaved soil. Minor disturbance includes installation of any temporary or mounted construction area signposts at unpaved areas. Minimal soil disturbance work occurs when there is no ADL soil generated that requires removal from the project or displaced in areas other than the immediate area of disturbance.
PF-HW-2	<u>Material Containing Asbestos Containing Materials (ACM)</u>: ACM is a concern and may have been used in bridge shim plates, weep holes, and joint sealants. Joint sealants installed prior to the 1960s have the potential to be constructed with ACM. According to Caltrans, Standard Specification joint seals (both "Type A" and "Type B") installed after 1960 are composed of polyurethane and silicone sealant, which are classified as non-hazardous material. The United States Environmental Protection Agency (EPA) established the National Emissions Standards for Hazardous Air Pollutants (NESHAP). Any demolition, alteration, and/or modification work on a bridge, regardless of whether it contains ACM, triggers EPA NESHAP regulation that requires notification to the delegated Air Quality Management District. The delegated Air Quality Management District in Southern California is the South Coast Air Quality Management District (SCAQMD). A project-specific site investigation is recommended to evaluate and determine the extent of ACM at the proposed work area.
PF-HW-3	<u>Removal of Existing Lead-Based Paint (LBP) on Bridge Structure</u>: Replacement of seismic sensors on a bridge and repairs to bridges including removal of existing barrier railing, steel plate, and chain link fencing may require disturbance of the existing paint system on the bridge. The existing paint system on a bridge structure may contain heavy metals such as lead, zinc, or chromium. These are hazardous materials that exceed the established thresholds in 8 California Code of Regulations (CCR) Section 1532.1, and exposes workers to health hazards that must be addressed in the general contractor's Lead Compliance Plan (LCP). A project-specific site investigation is recommended to evaluate and determine the extent of ACM and lead-based paint at the proposed work area.
PF-HW-4	<u>Removal of Existing Yellow and Non-Yellow (White) Traffic Stripe and/or Pavement Marking</u>: The proposed project may require disturbance and replacement of pavement striping through saw cutting existing lightweight concrete bridge slabs and removing pavement striping along with the slabs.
PF-HW-5	This project includes disposal of seismic sensors. The disposal of seismic sensors shall conform with Caltrans Standard Specifications and all applicable laws and regulations. Standard Special Provision (SSP) 14-11.15, E-waste, will be required during Plans, Specifications, and Estimates (PS&E).
PF-AQ-1	Construction equipment and vehicles will be properly tuned and maintained. All construction equipment will use low sulfur fuel as required by Title 17, California Code of Regulations (CCR), Section 93114.

Source: Compiled by Caltrans (2023).

1.4.1 PROJECT ALTERNATIVES

1.4.1.1 Alternative 1: No Build

Under the Alternative 1 (No Build Alternative), the proposed project improvements would not be implemented, and no construction activities would occur. The existing bridge deck of the Vincent Thomas Bridge would continue to deteriorate, possibly necessitating emergency construction and closure of the bridge. The existing median concrete barrier and guardrails on the bridge would continue to not meet current MASH safety standards. The existing seismic sensors would continue to need upgrading. The safety of the traveling public on the Vincent Thomas Bridge would not be improved in the project area.

1.4.1.2 Alternative 2: Build Alternative

Alternative 2 (Build Alternative) proposes to replace the bridge deck of the Vincent Thomas Bridge, the median concrete barrier and guardrails, and upgrade the seismic sensors on the bridge. The proposed improvements would ensure the safety of the traveling public on the Vincent Thomas Bridge and provide a viable bridge deck, the design life of which is estimated to last decades. No feasible alternative locations exist for the Build Alternative due to the necessary repairs being located on the Vincent Thomas Bridge.

Bridge Deck Replacement

The existing Vincent Thomas Bridge deck has structural deficiencies and a bridge deck condition rating of “poor”. The bridge deck rating was evaluated as “fair” until an inspection in 2021 found the deck had deteriorated to a condition rating of “poor” (Caltrans 2021). The bridge deck of the Vincent Thomas Bridge has been in service for 60 years and is deteriorating due to concrete fatigue primarily caused by heavy truck traffic associated with POLA and POLB.

In 2001, an in-depth bridge deck investigation was performed on the bridge, and 60–70 percent of the deck was determined to be in various states of disrepair. A work recommendation was made to rehabilitate the bridge deck with a polyester concrete overlay. In 2009, a polyester concrete overlay was applied to address spalling in the bridge deck. In 2011, an inspection showed there were several new patches done by the bridge crew along a southbound lane of the approach span. Deck chaining revealed that deck delamination existed throughout all spans from 1 percent to up to 15 percent in some spans. A 2013 inspection reported several new deck patches along lanes in both directions, including transverse cracks up to 0.08 inch on the polyester overlay surface.

In 2015, the bridge deck was scanned with ground penetrating radar (GPR) and results showed the total possible delamination of concrete for the bridge is 90.37 cubic yards and represents 8.25 percent of the bridge deck area. The deck chaining revealed worsening delamination in some spans covering 5–10 percent of spans tested.

The deck chaining of the entire Lane #2 of the Bridge in 2017 revealed that 10 percent of the deck surface was delaminated, with most of the delamination occurring on the wheel lines in the #2 Lane. In the approach spans of southbound Lane #2, as much as 90 percent of the right wheel line had delamination on the concrete surface. The deck was scanned using a Rapid Automated Sounding (RAS) system, and results showed approximately 1.5–2 percent of the deck area had unsound concrete. Additionally, six additional core samples were taken from deck locations with unsound concrete to study the failure mechanism in the deck concrete. The cores showed all delamination had occurred near the top layer of steel reinforcement.

In a 2019 inspection, the deck condition as compared to the previous 2017 inspection results showed there was an approximate 5 percent increase in area of delamination, and additional patching had been performed by the bridge crew since the last routine inspection (15 percent of the total deck surface area). Also, several new areas of soffit spalls and efflorescence had developed along the bridge.

In 2021, the Caltrans Structure Maintenance and Inspection (SM&I) Office concluded that the deck concrete had reached the end of its design life and the deck was rapidly deteriorating due to concrete fatigue from heavy truck traffic. The SM&I Bridge Maintenance Strategy Session participants unanimously recommended that the decks for both the suspended and approaching spans be removed and replaced (Caltrans 2021).

The scope of work for the bridge deck replacement includes the following:

- The existing deck will be replaced by an orthotropic steel deck, a pre-cast/pre-stressed concrete deck, or a cast-in-place/reinforced concrete deck.
- Remove and replace the cast-in-place lightweight bridge deck at the approach and suspension spans.
- Provide weld stud connectors to the existing steel girders if a cast-in-place/reinforced concrete deck is used.
- Replace joint sealants (18) at the approach spans and (11) at suspension spans and remove (4) finger joints at suspension spans and replace them with seismic joints.

Median Concrete Barrier and Guardrail Replacement

The existing bridge median barrier and guardrails do not meet the requirements of the new MASH safety standards written by AASHTO. AASHTO is a nonprofit association that represents highway and transportation departments across the nation and serves as a liaison between State departments of transportation and the federal government.

The scope of work for median concrete barrier and guardrail replacement includes the following:

- Remove the existing metal railing/steel plate curb on the suspended spans and replace with CA ST 75 bridge rail. The approximate length of the railing barrier is 5,026 feet.
- Remove the existing 12-foot-high chain-link fence on the suspended spans (2-inch mesh) and replace it with a 12-foot-high chain-link fence (1-inch mesh). The approximate length of the replaced fencing is 5,026 feet.
- Remove the existing Type 2 concrete barrier and 6-foot-high chain-link fences on approach spans and replace them with CA ST-75 bridge railing with a 9-foot-high chain-link fence (1-inch mesh) mounted on ST-75 railing curb. The approximate length of the approach spans bridge railing is 7,106 feet.

- Remove and replace the median concrete barrier Type 50 with Type 60M. The approximate length of the median concrete barrier is 6,113 feet.

- Install and upgrade signs and pavement markings per current standards.

Upgrade Seismic Sensors

The seismic sensors on the bridge need to be upgraded to ensure the structural integrity of the bridge during seismic events. This work would remove the existing 26 seismic sensors and replace them with an upgraded system consisting of 44 seismic sensors.

Other

- Remove and replace approximately 29 barrier-mounted electroliers.
- Upgrade light fixtures of "low light system" to LED160 along suspended spans.
- Install fiber-optic conductor on existing conduit.

1.4.2 COMPARISON OF CONSTRUCTION STAGING OPTIONS

Alternative 2 (the Build Alternative) proposes four construction staging options. Table 1-2 provides a comparison of each construction staging option and includes the construction timeline and a description of work.

Table 1-2: Comparison of Construction Staging Options (Alternative 2: Build Alternative)

Construction Timeline	Description of Work
16–41 months	This construction staging option consists of a full closure of the bridge that would last 16–41 months with detour routes and 24/7 work. The difference in construction timelines depends on the deck type chosen. Orthotropic and pre-cast deck types would lead to a construction timeline of approximately 16 months. A cast-in-place deck type would lead to a construction timeline of approximately 41 months.
Construction would last approximately 25 months.	This construction staging option would leave one lane open in each direction for each stage (two stages). The work would require the installation of a temporary support/bracing system, reduced speeds of approximately 25 mph due to narrowed lanes, and multiple weekend (55-hour) full closures and overnight full closures of the bridge. Construction would last approximately 25 months.
Construction would last approximately 32 months.	This staging option construction would leave one lane open in each direction and would require installation of temporary support/bracing system. One lane would be open in each direction for each stage and multiple weekend (55-hour) full bridge closures and full overnight bridge closures would be required. Construction would last approximately 32 months.
Construction would last approximately 48 months.	This construction staging option would leave the bridge fully open during daytime traffic hours (6:00 a.m.–7:00 p.m.). The work would require the installation of a temporary support/bracing system and fully close the bridge during nighttime hours (7:00 p.m.–6:00 a.m.) every day. Construction would last approximately 48 months.

Source: Compiled by Caltrans (2023).

1.4.3 UTILITIES

There are four AT&T conduits on the underside of the bridge that are located to the side of the catwalk railing. During construction, all utilities within the freeway right-of-way and beneath or along the Vincent Thomas Bridge or adjacent properties would be protected in place or relocated. During final design, the Project Engineer would coordinate with each utility provider to finalize the exact location of that utility's facilities, assess whether the facilities can be protected in place during construction or would require relocation, and review the project plans for protection in place/relocation of the facility with the utility provider prior to construction. The utility providers around the project area are listed in Table 1-3. If needed, permanent utility easements would be identified during final design.

Table 1-3: Utility Providers

Facility Name	Utility Provider
Water and Sewer	Los Angeles Department of Water and Power, City of Long Beach Water
Stormwater	Los Angeles County Department of Public Works
Gas	Southern California Gas, Long Beach Gas and Oil
Electricity	Los Angeles Department of Water and Power, Southern California Edison
Telecom	AT&T, Time Warner Cable
Cable	Time Warner Cable, Comcast, Cox, DirectTV, Frontier, Spectrum, AT&T
Trash Service	City of Los Angeles Department of Public Works – Sanitation, City of Long Beach Department of Public Works

Source: Community Impact Assessment (2024).

1.4.4 RIGHT-OF-WAY ACQUISITIONS, EASEMENTS, AND TEMPORARY CONSTRUCTION EASEMENTS

Staging for the proposed construction work would be located within Caltrans right-of-way or in temporary construction easements (TCEs) near the project limits. Specific staging locations would be determined by the construction contractor during the Design phase. A likely staging area includes the Vincent Thomas Bridge Toll Plaza site located on Terminal Island near the southeastern approach span of the bridge. Other staging areas on Terminal Island could be required and would be determined in coordination with POLA during the Design or Construction phase. Larger staging areas off site and outside the project area and Community Impact Assessment CIA study area that are needed for construction could require TCEs and would be determined during the Design phase.

1.4.5 PROJECT COSTS

The estimated total project cost of the Build Alternative ranges from approximately $620 million to $745 million. Project cost will vary depending on the construction staging option and deck type chosen. This project is anticipated to be constructed using State funds through SHOPP and reimbursed through federal funds from the Infrastructure Investment and Jobs Act.

1.4.6 CONSTRUCTION SCHEDULE

The proposed project's construction would begin in Fall 2025, with a construction duration of 16–48 months depending on the construction staging option that is chosen within Alternative 2 (Build Alternative). Construction timelines for each construction staging option are outlined below:

- **Single-Stage Construction:** This construction staging option consists of a full closure of the bridge that would last **16-41 months** with detour routes and 24/7 work.

- **Two-Stage Construction:** This construction staging option would leave one lane open in each direction for each stage (two stages). The work would require multiple weekend (55-hour) full closures and overnight full closures of the bridge. Construction would last approximately **25 months**.

- **Three-Stage Construction:** This construction staging option construction would leave one lane open in each direction and would require multiple weekend (55-hour) full bridge closures and full overnight bridge closures. Construction would last approximately **32 months**.

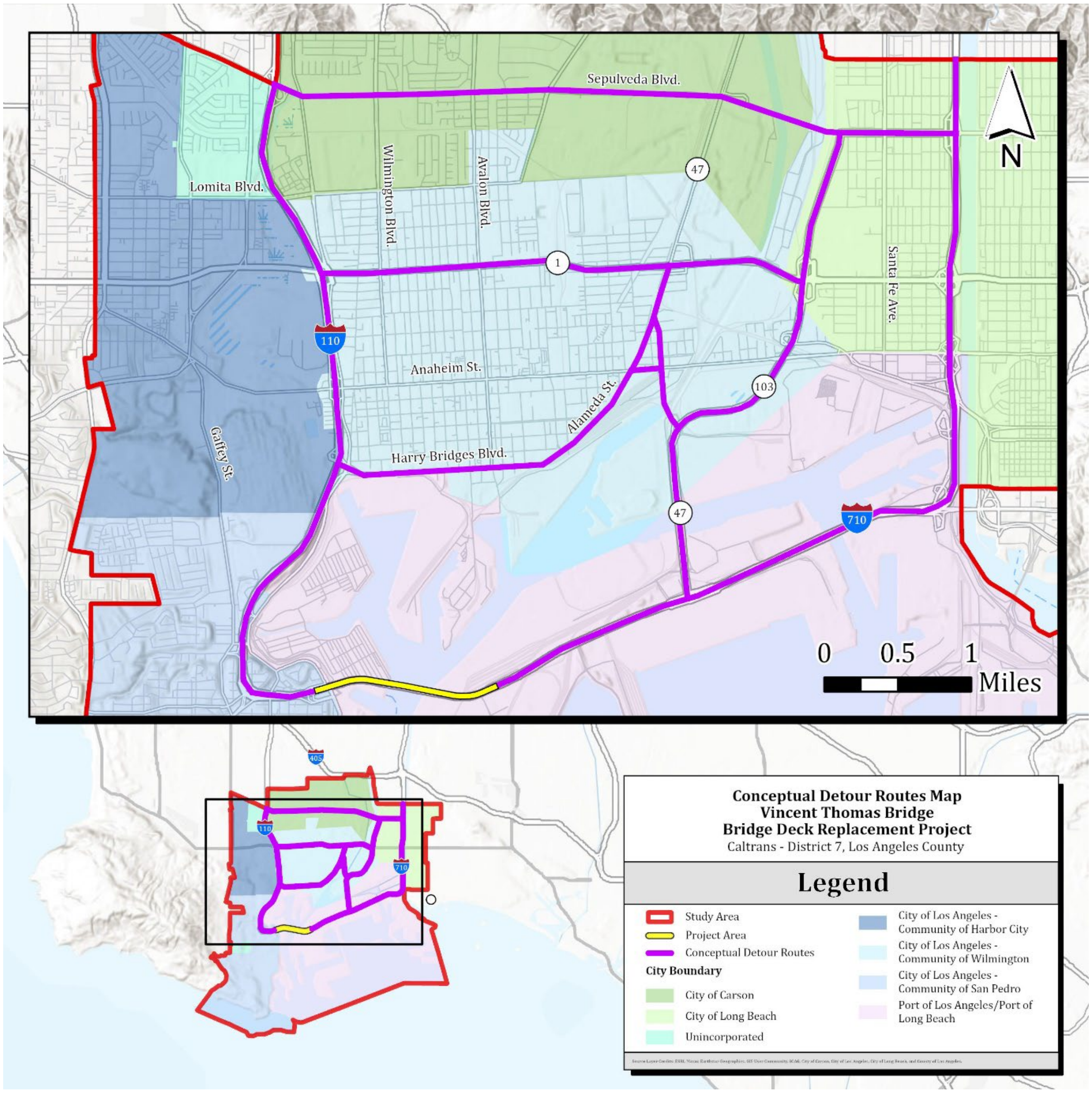
- **Nighttime Bridge Closure.** This construction staging option would leave the bridge fully open during daytime traffic hours (6:00 a.m.–7:00 p.m.). The work would fully close the bridge during nighttime hours (7:00 p.m.–6:00 a.m.) every day. Construction would last approximately **48 months**.

Overnight closures of the Vincent Thomas Bridge may be required for construction of the bridge deck replacement to meet the construction timeline. The contractor shall contact the respective Transportation Management Center for Caltrans District 7 and the City of Los Angeles regarding bridge closures and coordinate timing for construction activities.

1.4.7 DETOUR ROUTES

During construction, detour route(s) will be necessary to divert traffic from the project area and continue to provide access to Terminal Island and east/west corridors for the traveling public. Detour route(s) will potentially include Harry Bridges Boulevard/Alameda Street, Anaheim Street, Highway 1 (Pacific Coast Highway [PCH]), Sepulveda Boulevard, and Interstate 405 (I-405). A map of the potential detour routes can be found on Figure 1-5. The designated detour route(s) will be determined following evaluation from the public, local stakeholders, the Caltrans Traffic Operational Analysis Report (TOAR), and environmental analysis of community and traffic impacts. All of the construction staging options would require the use and designation of detour route(s), primarily located north of the project area in the neighborhood of Wilmington and the city of Carson.

Figure 1-5: Map of Potential Detour Routes



1.4.8 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER DISCUSSION

1.4.8.1 Construction of a Second Deck on the Bridge

A build alternative of constructing a second deck to the bridge was considered but eliminated from further discussion prior to the draft Environmental Impact Report/Environmental Assessment. The construction of a second bridge deck would still require the replacement of the original bridge deck and necessitate closures of the bridge. Constructing a second bridge deck would increase vehicle miles traveled (VMT) through induced demand and would not be a viable alternative.

1.4.8.2 Construction of a New Bridge

A build alternative of constructing a new bridge, similar to The Gerald Desmond Bridge in the Port of Long Beach, was considered but eliminated from further discussion prior to the draft Environmental Impact Report/Environmental Assessment (EIR/EA). The Vincent Thomas Bridge is still structurally sound, and with proper maintenance is anticipated to last many more decades. The only component of the current bridge that needs replacement is the bridge deck. The original Gerald Desmond Bridge did not accommodate the height of the port ships traversing the ports of Los Angeles and Long Beach, whereas the Vincent Thomas Bridge has sufficient height to accommodate current shipping heights.

1.4.8.3 Construction of a Tunnel

A build alternative of constructing a new tunnel underneath the Main Channel in POLA that would connect San Pedro with Terminal Island was considered but eliminated from further discussion prior to the draft EIR/EA. The feasibility and cost of constructing a tunnel in the project area eliminates this alternative from consideration.

1.5 Permits and Approvals Needed

Table 1-4 lists the permits, licenses, agreements, and certifications (PLACs) required for project construction.

Table 1-4: List of Project PLACs

Agency	PLAC
Federal Highway Administration (FHWA)	This project is considered a Delegated Project in accordance with the current FHWA and Caltrans Joint Stewardship and Oversight Agreement. Therefore, this project is not listed on FHWA's list of risk-based project involvement projects.
California Coastal Commission and/or Local Coastal Program	California Public Resources Code Division 20 (California Coastal Act) Coastal Development Permit or equivalent Harbor Development Permit with POLA. Anticipated to be an exemption.
California State Lands Commission	California Public Resources Code Division 6.
Local Agency	Agreements with the POLA, the POLB, the City of Long Beach, and the City of Los Angeles
Railroads	Railroad Agreement for at-grade or separated-grade crossings Agreement with Burlington Northern Santa Fe (BNSF) and Union Pacific Railroad (UPRR).
United States Coast Guard	Bridge Permit

Source: Compiled by Caltrans (2024).

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

Topics Considered but Determined to Not be Relevant

As part of the scoping and environmental analysis carried out for the project, the following environmental issues were considered but no adverse impacts were identified. As a result, there is no further discussion about these issues in this document.

- **Wild and Scenic Rivers:** There are no wild and scenic rivers within the Community Impact Assessment (CIA) Study Area. As a result, the project would not contribute to impacts to wild and scenic rivers.

- **Farmlands:** There are no farmlands within the CIA Study Area. As a result, the project would not contribute to impacts to farmlands.

- **Timberlands:** There are no timberlands within the CIA Study Area. As a result, the project would not contribute to impacts to timberlands.

- **Visual/Aesthetics:** The proposed project is not within a scenic vista, nor is it located on a State Scenic Highway. The project would not impact the surrounding aesthetic or visual resources. The project would not introduce new light sources. The Questionnaire to Determine Visual Impact Assessment (VIA) produced by Caltrans District 7 South Region Landscape Architecture has determined that visual or aesthetic impacts are not anticipated with this project. The Questionnaire to Determine Visual Impact Assessment will suffice for the project VIA.

- **Hydrology/Floodplain:** The proposed project is not located within the Federal Emergency Management Administration (FEMA) 100-year floodplain; therefore, the project would not contribute to any hydrology or floodplain impacts.

- **Water Quality and Stormwater Runoff:** The proposed project consists of a bridge deck replacement, guardrail and median barrier replacement, and seismic sensor upgrades, and is not anticipated to contribute water quality or stormwater runoff impacts. During the construction phase, Caltrans will oversee the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). Caltrans water pollution control manuals provide direction on how to prepare a SWPPP.

- **Geology/Soils/Seismic/Topography:** The proposed project is a bridge deck replacement located entirely along the approach and suspended spans of the Vincent Thomas Bridge. The Build Alternative would not contribute to impacts to geology, soils, seismology, or topography.

- **Paleontology:** The proposed project is located entirely along the approach and suspended spans of the Vincent Thomas Bridge. No paleontology impacts are anticipated.

- **Wildfire:** The proposed project is not located in a Fire Hazard Severity Zone according to the State Fire Marshall. Therefore, no wildfire impacts are anticipated.

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HUMAN ENVIRONMENT

2.1 Existing and Future Land Use

The following section provides information on existing and future land uses, relevant federal, State, and local plans, coastal zone, and parks and recreation within the Community Impact Assessment (CIA) Study Area, which includes the communities of Wilmington, Harbor City, San Pedro, and Terminal Island within the city of Los Angeles, a portion of the city of Carson, and the city of Long Beach.

2.1.1 AFFECTED ENVIRONMENT

North of the Vincent Thomas Bridge, existing land uses are predominantly transportation, communications, utilities, and industrial uses associated with the Port of Los Angeles (POLA) and Port of Long Beach (POLB). Land uses immediately adjacent to the east end of the project area include transportation, communications, utilities, and industrial POLA uses. West of State Route 47 (SR-47), the existing land uses are multi- and single-family residential, mixed residential and commercial, transportation, communications, utilities, and education.

2.1.1.1 San Pedro

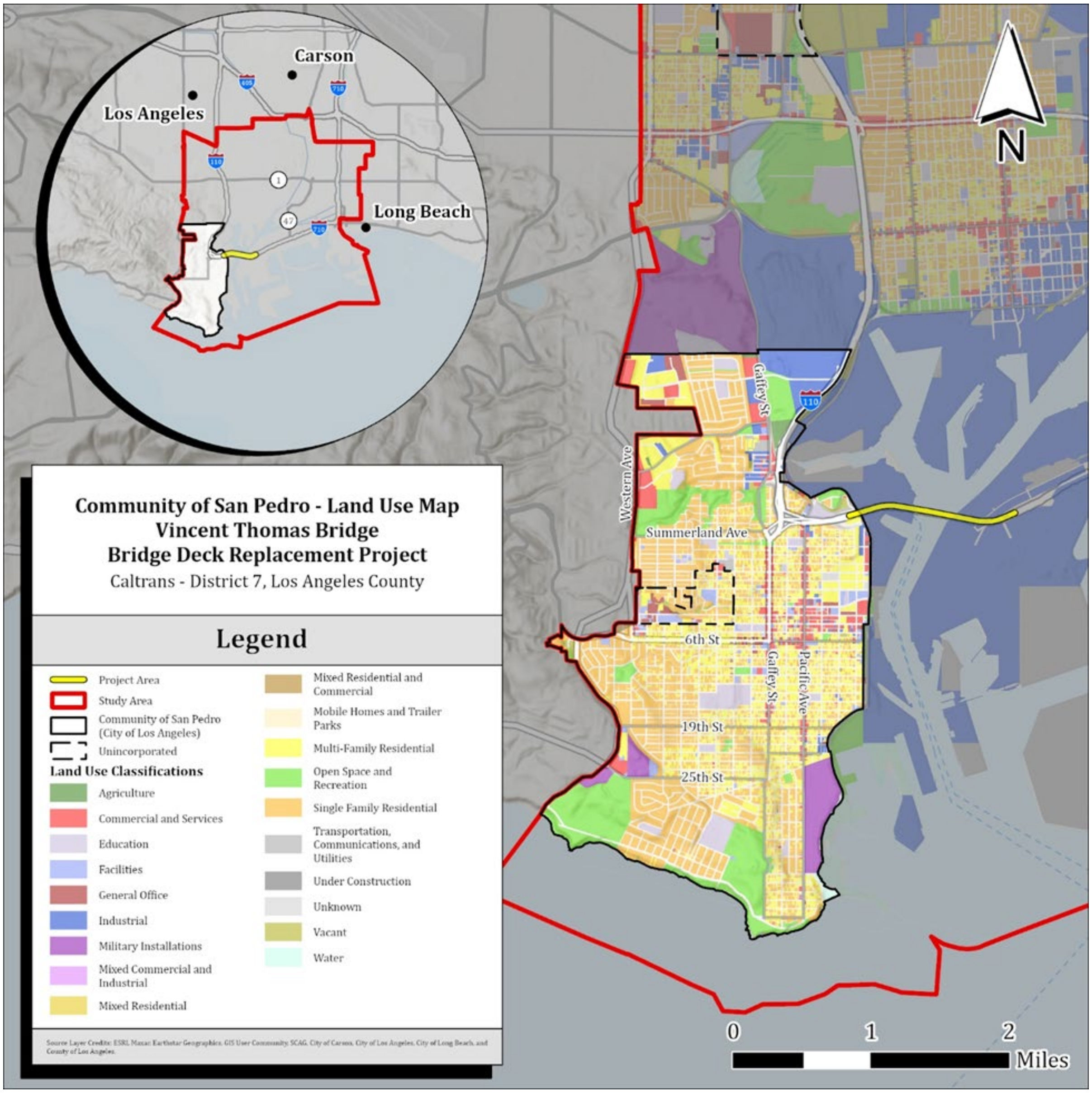
According to the San Pedro Community Plan (City of Los Angeles 2017), San Pedro has a unique physical setting with many natural, cultural, and economic resources that have influenced the type and form of land uses within the community. Single-family residential is primarily located in the southern and western portions of the community, while multi-family residential is concentrated in the central and eastern portions. One mobile home park is located in the southwest corner of San Pedro and is a gated senior community.

Commercial land uses are mostly found in and near the downtown and along the commercial corridors of Gaffey Street and Pacific Avenue. The larger commercial centers are found along Gaffey Street, Western Avenue, and at the intersection of 25th Street and Western Avenue. The uses located along these corridors contain a mix of retail, office, services, and other commercial uses, along with apartment and condominium buildings. Many small medical and professional offices are situated in proximity to the Little Company of Mary Hospital on 7th Street in the unincorporated Los Angeles County area known as “La Rambla.”

Industrial uses are primarily concentrated in the northern portion of the community between North Gaffey Street and Interstate 110 (I-110). A major distribution facility, a business park, construction, and home repair businesses are also located there. A smaller collection of industrial-zoned properties can be found downtown, which are currently used for gallery and retail spaces, and as far south as 22nd Street, with maritime and auto-related uses among the most common in these areas.

As shown on Figure 2.1-1, existing land uses in San Pedro within the CIA Study Area primarily consist of single-family residential, multi-family residential, and mixed residential, with some commercial services, parks, open space, and recreation uses. Land uses closest to the project area include mainly single-family residential and multi-family residential.

Figure 2.1-1: Community of San Pedro Land Use



Sources: ESRI, Maxar, Earthstar Geographics, GIS User Community, Southern California Association of Governments, City of Carson, City of Los Angeles, City of Long Beach, and County of Los Angeles.

2.1.1.2 Port of Los Angeles

Within the CIA Study Area, POLA land uses are primarily industrial and transportation, communications, and utilities (see Figure 2.1-2). Land uses closest to the project area are mainly industrial uses. The POLA Port Master Plan (Los Angeles Harbor Department 2018) separates POLA into five different planning areas: Planning Area 1 – San Pedro, Planning Area 2 – West Basin/Wilmington, Planning Area 3 – Terminal Island, Planning Area 4 – Fish Harbor, and Planning Area 5 – Waterways, all of which are further described below.

- **Planning Area 1 – San Pedro:** Planning Area 1 encompasses the San Pedro Waterfront from the breakwater to the Vincent Thomas Bridge and along the western boundary of POLA. The area extends from Berths 19 through 95 and includes cruise operations, institutional uses, and recreational activities. Planning Area 1 primarily includes land uses focused on public access to the waterfront, but also has limited cargo operations and commercial fishing activities. Planning Area 1 emphasizes waterfront access through a waterfront promenade, parks, museums, academic uses, and visitor-serving commercial uses and attractions.

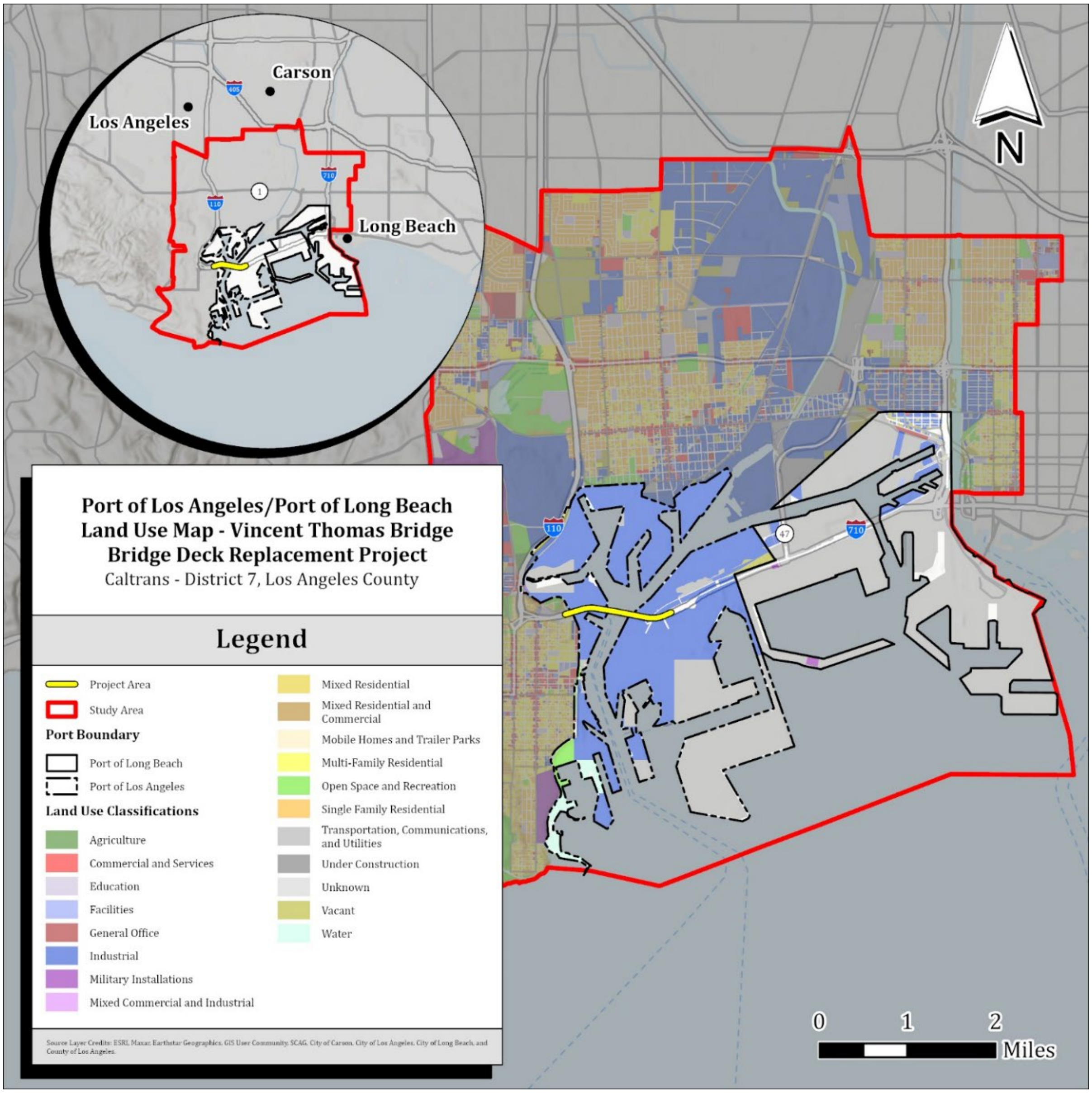
- **Planning Area 2 – West Basin/Wilmington:** Planning Area 2 encompasses the West Basin and Wilmington areas and includes Berths 96 through 204. The West Basin consists of container terminals, while the remaining Wilmington areas consist of a variety of uses ranging from liquid bulk at Berths 148 through 150, and liquid and dry bulk uses on Mormon Island, to recreational boating and open space along Anchorage Road. The Wilmington Waterfront land uses provide public access to the waterfront at Berths 183 through 186.

- **Planning Area 3 – Terminal Island:** Planning Area 3, located on Terminal Island, is the largest planning area, consisting of approximately 1,940 acres and more than 9.5 miles of usable waterfront (excluding Seaplane Lagoon). It consists of all of Terminal Island with the exception of the Fish Harbor. Of POLA's nine container terminals, six are located in Planning Area 3. This planning area focuses on container operations. Maritime support uses are anticipated at the Navy Reserve site in association with a planned trucking facility, which could include a restaurant. Limited open space is located along the southern tip of Pier 400 as an environmentally protected area for least terns, and at the urban forest area north of the existing rail loop.

- **Planning Area 4 – Fish Harbor:** Planning Area 4 includes Fish Harbor and focuses on commercial fishing and maritime support uses. Commercial fishing is focused in the northern and eastern portions of Fish Harbor, while maritime support and other institutional uses are located along the western portion of Fish Harbor. Break bulk cargo and/or maritime support uses are anticipated at Berths 240 and 241 and the backland area.

- **Planning Area 5 – Waterways:** Planning Area 5 consists of the water areas of POLA, including the Main Channel and other navigable channels and turning basins as well as the Outer Harbor water area. Water uses allowed in Planning Area 5 include general navigation, areas designated for environmental mitigation, recreational boating use, and berthing.

Figure 2.1-2: POLA and POLB Land Use



Sources: ESRI, Maxar, Earthstar Geographics, GIS User Community, Southern California Association of Governments, City of Carson, City of Los Angeles, City of Long Beach, and County of Los Angeles.

2.1.1.3 Port of Long Beach

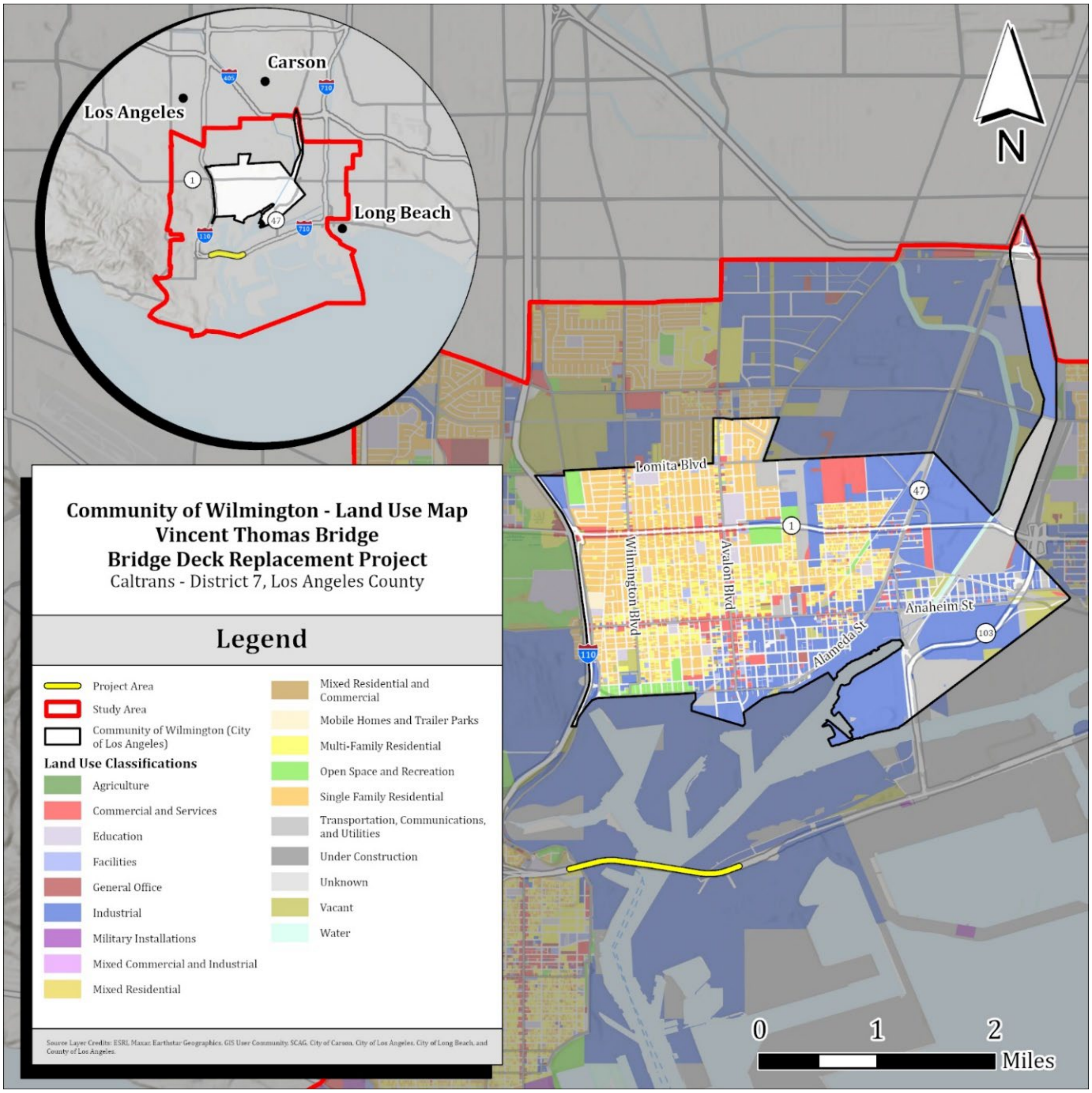
The POLB Draft Revised Master Plan Update (Port of Long Beach 2022) states that the POLB comprises 3,020 acres of land and 4,559 acres of water area, with 10 designated piers and 62 vessel berths supporting 22 shipping terminals. Much of the land area is devoted to the six container terminals, but POLB includes bulk terminals for dry products such as petroleum coke, cement, salt, coal, and gypsum; break bulk terminals for automobiles, lumber, steel, and other non-containerized, non-bulk cargos; and liquid bulk terminals for petroleum products and chemicals. As shown on Figure 2.1-2, existing POLB land uses within the CIA Study Area consist mainly of transportation, communications, and utilities.

2.1.1.4 Wilmington

According to the Wilmington-Harbor City Community Plan (City of Los Angeles 1999), Wilmington contains a varied mixture of land uses, including single-family and low-medium density multiple residential. A large portion of the southeast quadrant of the community is industrial. Commercial uses are primarily located along Avalon Boulevard, especially in the Community Center near the intersection with Anaheim Street, and along Pacific Coast Highway (PCH). The established “downtown” center of Wilmington is the commercial district, which surrounds the intersection of Avalon Boulevard and Anaheim Street, bounded approximately by I Street on the north, Broad Avenue on the east, E Street on the south, and Fries Avenue on the west. This area features intensive commercial development that includes many different types of retail establishments and services, and some portions have developed into lively pedestrian areas.

As shown on Figure 2.1-3, existing land uses within the CIA Study Area primarily consist of single-family residential, multi-family residential, and industrial. Land uses adjacent to the proposed detour routes within the community of Wilmington are mainly industrial along Harry Bridges Boulevard/Alameda Street, Anaheim Street (between SR-47 and Henry Ford Avenue), Henry Ford Avenue, and State Route 103 (SR-103). Commercial services are the primary land use adjacent to PCH.

Figure 2.1-3: Community of Wilmington Land Use



Sources: ESRI, Maxar, Earthstar Geographics, GIS User Community, Southern California Association of Governments, City of Carson, City of Los Angeles, City of Long Beach, and County of Los Angeles.

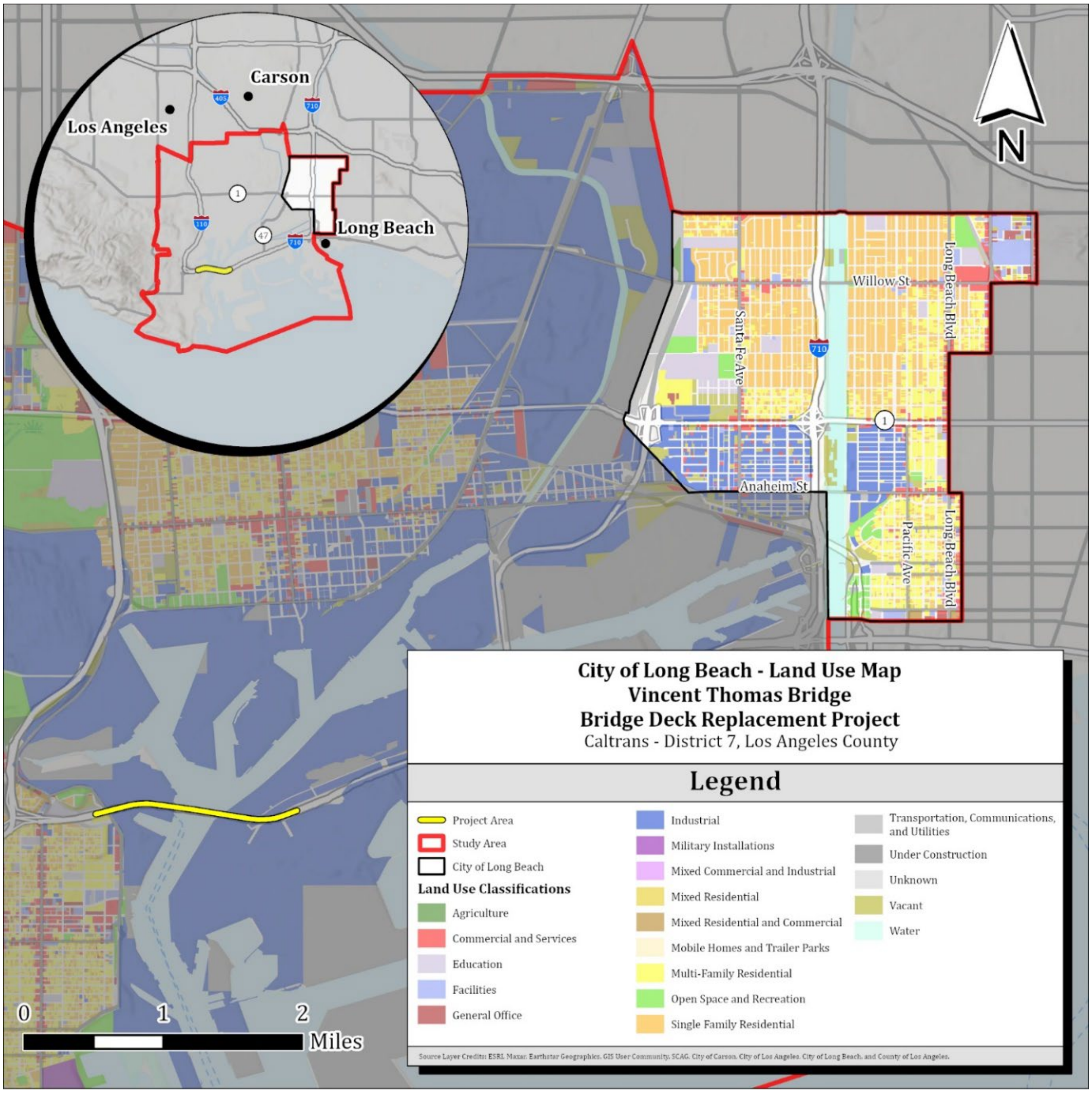
2.1.1.5 City of Long Beach

According to the City of Long Beach General Plan Land Use Element (City of Long Beach 2019), residential uses represent the predominant land use in Long Beach and occupy over 44 percent of the land area in the city. Neighborhoods vary widely by residential types and densities (dwelling units per acre) based on location and the time in which the buildings were constructed. Commercial uses consist of major commercial corridors, traditional retail strip commercial, pedestrian-oriented neighborhood retail areas, and auto-oriented shopping centers. Commercial uses represented 8 percent of the total land uses in Long Beach as of 2016. Small office uses can be found throughout the city’s commercial corridors and centers. Larger office buildings, including Class A offices, are primarily located in downtown, the Long Beach Airport area (Kilroy Airport Center and Douglas Park) and Bixby Knolls (at Long Beach Boulevard and San Antonio Drive).

Industrial uses occupy about 13 percent of the land area in the city with varied districts established, particularly near the port, rail lines, and freeways. Long Beach contains a mix of open space and recreation uses, from small mini parks to large special use areas. Major open space areas in Long Beach include El Dorado Regional Park, the Los Angeles and San Gabriel Rivers, 8 miles of beaches and shoreline, transmission power line right-of-way, cemeteries, golf courses, marinas, bays, and wetlands. Long Beach supports a wide variety of public facilities and institutional uses, including civic uses, schools, museums, colleges and universities, medical facilities, libraries, utility and infrastructure support facilities, and community centers. Institutional uses occupy about 7 percent of the land in Long Beach.

As shown on Figure 2.1-4, land use in Long Beach within the CIA Study Area primarily includes single-family residential, multi-family residential, and industrial uses.

Figure 2.1-4: City of Long Beach Land Use



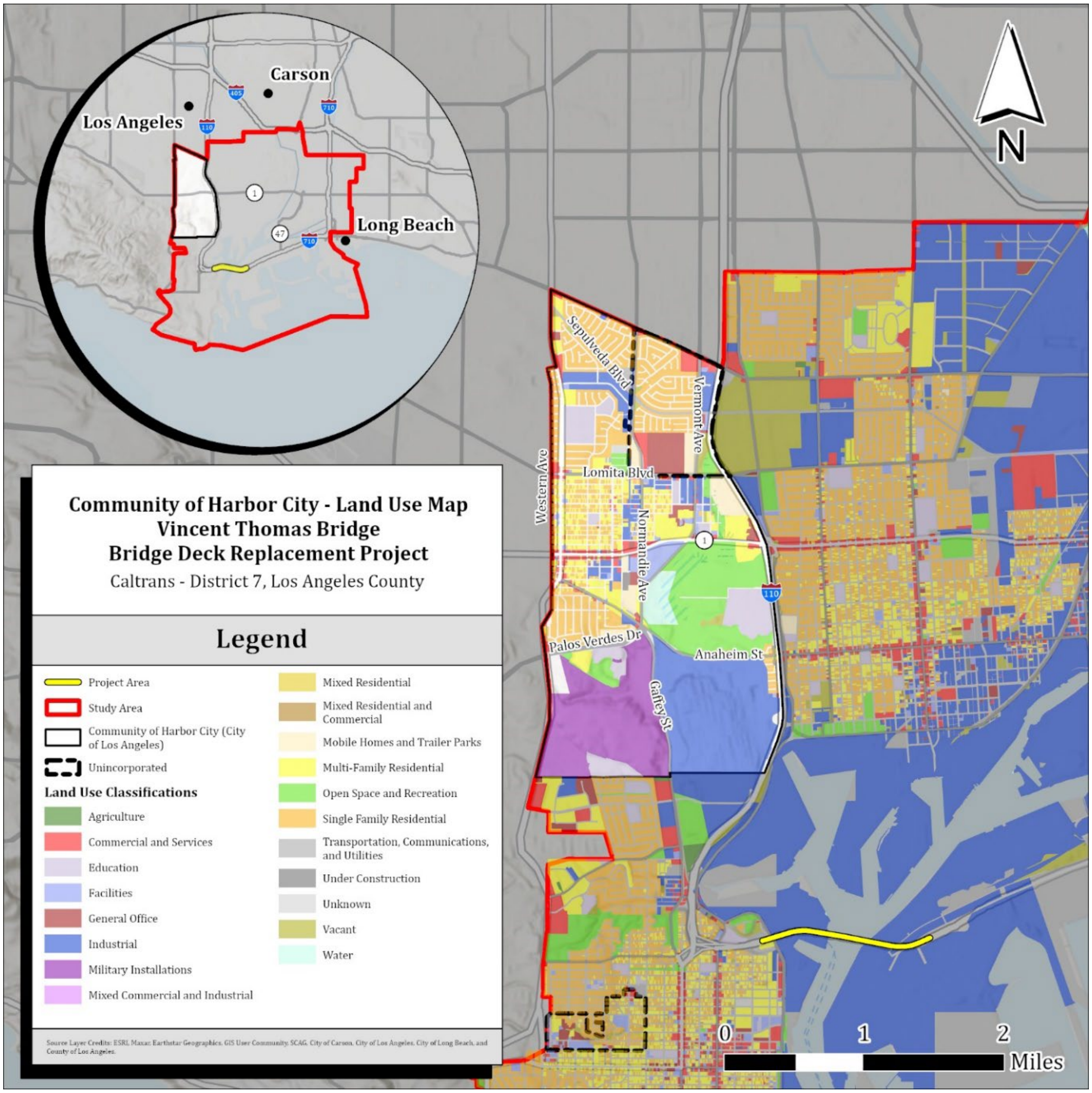
Sources: ESRI, Maxar, Earthstar Geographics, GIS User Community, Southern California Association of Governments, City of Carson, City of Los Angeles, City of Long Beach, and County of Los Angeles.

2.1.1.6 Harbor City

As described in the Wilmington-Harbor City Community Plan (City of Los Angeles 1999), Harbor City contains a significant amount of multi-family residential housing in the area bounded by Lomita Boulevard, Anaheim Street, and Normandie Avenue, and Western Avenue. The commercial areas along PCH between Normandie Avenue and Western Avenue are the primary retail/commercial areas serving Harbor City. It is centrally located within the community, in walking distance from many residential areas, including the Normont Terrace development. A Kaiser Hospital is located at the intersection of Normandie Avenue and PCH. Limited industrial areas, consisting mostly of warehouses and light manufacturing, are located near PCH, Normandie Avenue, and Lomita Boulevard. Open space areas serving the Harbor City area include Harbor Regional Park, a significant ecological resource and recreational area, the Harbor City Recreation Center on Lomita Boulevard, and recreational fields and open space on the Navy Fuel Depot property in the southwest part of the community. Public facilities nearby include two major hospitals and Los Angeles Harbor College.

As shown on Figure 2.1-5, land use in Harbor City and within the CIA Study Area primarily consists of single-family residential, multi-family residential, and some industrial uses.

Figure 2.1-5: Community of Harbor City Land Use



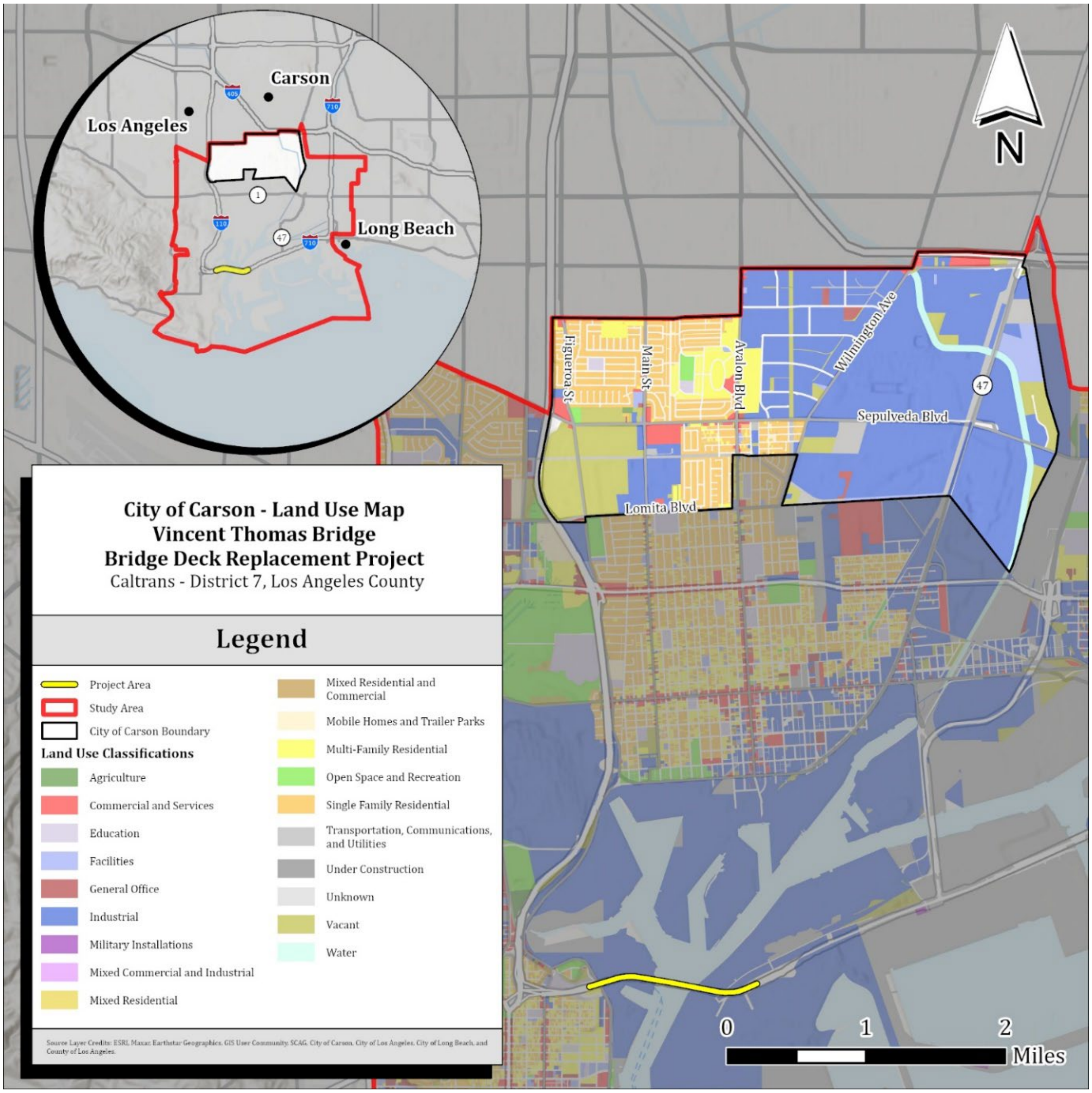
Sources: ESRI, Maxar, Earthstar Geographics, GIS User Community, Southern California Association of Governments, City of Carson, City of Los Angeles, City of Long Beach, and County of Los Angeles.

2.1.1.7 City of Carson

As described in the City of Carson 2040 General Plan (Dyett & Bhatia 2023), industrial uses (including warehousing, manufacturing, refineries, and storage) are the dominant existing land uses (47.2 percent) within the city of Carson. Residential is the second largest land use (25.6 percent), with the majority being single-family residential. Most commercial uses, including retail and office, are located along major corridors, such as Carson Street, Avalon Boulevard, and Sepulveda Boulevard. Several large retail centers are located in Carson, including the South Bay Pavilion near Del Amo Boulevard and Avalon Boulevard that contains IKEA, Target, and several chain restaurants. The Porsche Experience Center, which opened in 2016, occupies approximately 49 acres of land bordered by Interstate 405 (I-405), Del Amo Boulevard, and South Main Street. The city of Carson includes many public facilities, including recreation facilities, schools, and sports arenas, which account for 11.8 percent of the total land uses.

Land uses within the CIA Study Area include primarily single-family residential, multi-family residential, and industrial uses (see Figure 2.1-6). The only proposed detour route within the city of Carson is Sepulveda Boulevard. Adjacent land uses to Sepulveda Boulevard primarily include single-family residential and industrial uses.

Figure 2.1-6: City of Carson Land Use

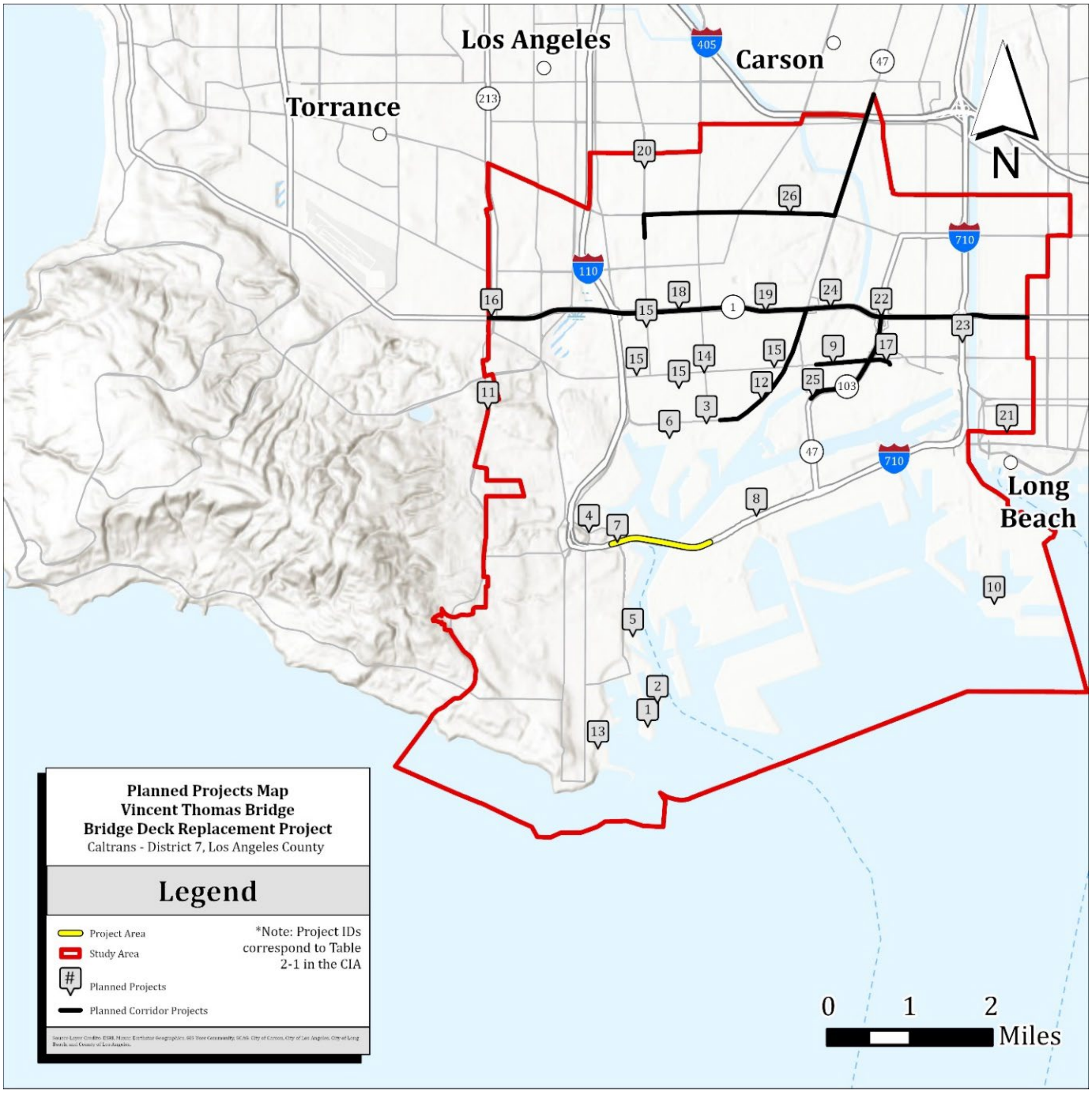


Sources: ESRI, Maxar, Earthstar Geographics, GIS User Community, Southern California Association of Governments, City of Carson, City of Los Angeles, City of Long Beach, and County of Los Angeles.

2.1.1.8 Planned Projects in CIA Study Area

Within the CIA Study Area, there are numerous projects planned or under construction, including transportation facilities, residential development, and commercial development (see Figure 2.1-7). Table 2.1-1 provides a status of planned or recently completed projects within the CIA Study Area, and the locations of these projects are shown on Figure 2.1-7.

Figure 2.1-7: Planned Projects Within the CIA Study Area



Sources: ESRI, Maxar, Earthstar Geographics, GIS User Community, Southern California Association of Governments, Caltrans, City of Carson, City of Los Angeles, City of Long Beach, and County of Los Angeles.

Table 2.1-1: Planned Projects in the Project Vicinity

No.	Name	Proposed Use(s)	Status
Port of Los Angeles			
1	Outer Harbor Cruise Terminal (3011 Miner Street, San Pedro)	State-of-the-art cruise terminal	Request For Proposals
2	AltaSea at the Port of Los Angeles (2451 South Signal Street, San Pedro)	35-acre campus	Under construction (first structure to be completed in 2023)
3[1]	Avalon Promenade and Gateway Project (401 S. Avalon Boulevard, Wilmington, CA 90744)	1,300-foot-long pedestrian walkway along Avalon Boulevard to provide access to the future Wilmington Waterfront Promenade	Under construction (November 2024 through May 2027)
4	Front Street Beautification Project (northeast corner of Front Street and Pacific Avenue, just north of the Vincent Thomas Bridge)	Enhances connectivity and public access to the LA Waterfront for both the communities of Wilmington and San Pedro	Under Construction (anticipated completion in 2024)
5	West Harbor (project will be built at the location of existing Pier 73 in San Pedro)	42 acres of restaurants, shopping, fresh markets, office space, and a waterfront promenade with ample outdoor space and an open-air amphitheater for live entertainment	Under Construction (anticipated completion in 2024)
6	Wilmington Waterfront Promenade (401 S. Avalon Boulevard, Wilmington)	Waterfront promenade, pedestrian plaza, parking lot, street improvements, and parking on an 8-acre site	Under Construction (completion in 2023)
7[1]	SR-47/Harbor Boulevard-Interchange Project	Construction, removal, and modification of existing off-ramps to provide improved safety and traffic operations	Construction February 2024 to November 2026
8[1]	SR-47/Navy Way Interchange Project	Augments an existing partial interchange at SR-47/Seaside Avenue/Navy Way	Construction to begin December 2025 and last until June 2028
Port of Long Beach			
9	Heavy Haul Route	Improvements at Anaheim Street and Farragut Avenue	Construction from June 2024 to June 2025
10	Pier Wind Project (Navy Way)	400-acre offshore wind turbine assembly terminal	Construction to begin early 2027
City of Los Angeles			
11	Ponte Vista at San Pedro (entrance to the community is the intersection of S. Western Avenue and Horizon Way)	700 residential units, including a combination of single-family homes, townhomes, and flats. The development also includes recreational facilities, parks, open space, and a trail.	Began construction on homes in 2020.
12[1]	Alameda Street South Improvement Project (widening from Harry Bridges Boulevard to Anaheim Street)*	Street widening	Construction to begin February 2025 and last until mid-2027
13	Cabrillo Marine Aquarium Life Support Replacement System	Replaces the existing Life Support System, which was built in 1981 and is in poor condition. All current equipment and structures will be replaced with modern, energy-efficient equipment with upgraded security features.	Construction scheduled to begin in summer of 2023 and complete in less than a year
14	Anaheim Street Safety Improvements	Improvements of Anaheim Street (between I-110 and Alameda Street) supporting safer walking and bicycling	Construction completed 2022
15	Wilmington Safe Streets Project	Street Improvements in Wilmington: 1. L Street from I-110 to Eubank Avenue 2. Frigate Avenue from PCH to Anaheim Street 3. Wilmington Boulevard from Anaheim Street to E Street 4. Neptune Avenue from PCH to Wilmington Waterfront Park. 5. Eubank Avenue from PCH to Anaheim Street	Construction to begin July 2027 and last until mid-2030
16	Western Landing Apartments (25820 South Western Avenue)	80-unit supportive housing complex	Approved by Los Angeles City Council April 2023
17[1]	Westbound Anaheim Street Widening Project	Anaheim Street widening from Dominguez Channel to Farragut Avenue.	Construction scheduled to begin in July 2024 and end in July 2026

Table 2.1-1: Planned Projects in the Project Vicinity

No.	Name	Proposed Use(s)	Status
18	Starbucks (219 W. Pacific Coast Highway, Wilmington)	New Starbucks coffee shop	Under Construction (estimated completion late 2023)
19	Pacific Coast Highway (SR-1) Capital Preventive Maintenance (CAPM) and ADA Improvement Project	Preventative maintenance and ADA improvements	Under Construction (anticipated completion in 2025)
City of Carson			
20	Figueroa Street Business Park (20601 Main Street, Carson)	Development of a business park campus that can accommodate a range of uses	Under Review (NOA to adopt an IS/MND released May 2023)
City of Long Beach			
21	Residential Street Improvements (W. Ocean Boulevard from W. Shoreline Drive to Pacific Avenue)	Street Improvements	Under Construction
Caltrans			
22	Union Pacific Overhead Bridge Deck Replacement Project	Bridge deck replacement on SR-103 (Bridge #53-2626)	Construction scheduled to begin in April 2024 and end in October 2025
23	Anaheim Street Overhead Bridge Rails Upgrade	Anaheim Street Overhead Bridge (Bridge #53-2627)	Construction scheduled to begin July 2024 and end in May 2025
24[1]	CAPM and ADA Improvement Project	ADA improvements along PCH (SR-1) from Studebaker Road to Paseo De Las Delicias	Construction began in November 2023 lasting until December 2025
25[1]	SR-103 Pavement Preservation Project	Pavement preservation along SR-103 from SR-47 to 0.2 mile north of SR-1	Construction scheduled to begin July 2024 and end in October 2026
Metropolitan Water District			
26	Reach 1 Conveyance Pipeline on Alameda Street	Conveyance pipeline system in Carson on Sepulveda Boulevard and Alameda Street (between I-110 and I-710)	Construction on Sepulveda Boulevard scheduled to start after March 2027

Sources: Caltrans, Metropolitan Water District, City of Carson, City of Los Angeles, City of Long Beach, and County of Los Angeles.

[1] Projects anticipated to overlap with the Vincent Thomas Bridge construction period.

2.1.2 ENVIRONMENTAL CONSEQUENCES

2.1.2.1 No Build Alternative

Under the No Build Alternative, the bridge deck would continue to deteriorate and emergency or long-term closures for repairs may be needed, closing off a critical transportation link and economic corridor. No construction activities would occur, and there would be no changes to existing land uses or planned projects. Therefore, the No Build Alternative would result in no impacts to land uses under the California Environmental Quality Act (CEQA) with no effects under the National Environmental Policy Act (NEPA).

2.1.2.2 Build Alternative

Temporary Impacts

Construction of the Build Alternative would require a temporary easement for storage of equipment and materials within the CIA Study Area. The final location of the temporary easement would be determined prior to the start of construction on a site that would be compatible for the temporary storage of equipment and materials. Construction activities would occur within the footprint of the Vincent Thomas Bridge and would not affect surrounding land uses. Therefore, the Build Alternative would result in no impact to existing and planned land uses under CEQA with no effect under NEPA.

Permanent Impacts

The Build Alternative would replace the bridge deck, median barriers, guardrails, fence, and seismic sensors of the Vincent Thomas Bridge. All proposed improvements would occur within the footprint of the existing bridge and Caltrans right-of-way. The bridge improvements would not alter or impact existing or planned land uses in the CIA Study Area. Therefore, the Build Alternative would result in no impact to land uses under CEQA with no effect under NEPA.

2.1.3 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

No impacts to land use are anticipated; therefore, no avoidance, minimization, and/or mitigation measures are required under the Build Alternative.

2.2 Consistency with State, Regional, and Local Plans and Programs

2.2.1 AFFECTED ENVIRONMENT

There are numerous community and regional plans that apply to the Community Impact Assessment (CIA) Study Area. The specific transportation plans/programs, general plans, and port specific plans assessed include the following:

- Los Angeles County General Plan 2035 is a comprehensive update to the County's 1980 General Plan and provides the policy framework, establishes the long-range vision for how and where the unincorporated areas will grow, and establishes goals, policies, and programs to foster healthy, livable, and sustainable communities.

- City of Los Angeles Mobility Plan 2035 (adopted 2016) identifies the policy foundation and goals for the evolving development of the City's transportation system to balance the needs of all road users and achieve the identified goals.

- Wilmington-Harbor City Community Plan (adopted 1999) covers an approximately 6,481-acre area comprised of the communities of Wilmington and Harbor City located north of the Port of Los Angeles (POLA). As part of the City of Los Angeles General Plan, the community plan sets forth the goals, objectives, policies, and programs guiding the development and growth of the Wilmington-Harbor City community.

- Harbor Gateway Community Plan (adopted 1995) covers the approximately 3,229-acre corridor that links the city of Los Angeles harbor and communities of San Pedro, Wilmington, and Harbor City to the main body of Los Angeles. As part of the City of Los Angeles General Plan, it sets forth the goals, objectives, policies, and programs guiding the development and growth of the Harbor Gateway Community.

- San Pedro Community Plan (adopted 2017) covers the distinct community of San Pedro, which is located adjacent to POLA. As part of the City of Los Angeles General Plan, the community plan sets forth the goals, objectives, policies, and programs guiding the development and growth of the community of San Pedro.

- Pacific Corridor Redevelopment Plan (adopted 2002) outlines the proposed redevelopment activities for the eastern portion of San Pedro generally bounded by Gaffey Street on the west, Harbor Boulevard on the east, Pacific Avenue on the north, and the Pacific Ocean on the south.

- City of Carson 2040 General Plan (adopted 2023) sets forth the goals, objectives, policies, and programs guiding the development and growth for the city of Carson, which is located in the northern half of the CIA Study Area.

- City of Long Beach General Plan is the policy document that establishes the goals, policies, and directions the city of Long Beach will take to achieve the vision of the community and guide the future development of the city.

- Port of Long Beach Revised Draft Master Plan (released 2022) guides the development and land uses within the Port of Long Beach along with the strategic and operational goals. Ports are required to prepare port master plans by the California Coastal Act of 1976. The Revised Draft Master Plan is an update to the 1990 Master Plan.

- Port of Los Angeles Port Master Plan (2018) guides the future development of POLA and establishes policies and guidelines to direct the development.

- The California Air Resources Board (CARB) 2022 Scoping Plan for Achieving Carbon Neutrality lays out a path to achieve targets for carbon neutrality and reduce anthropogenic greenhouse gas (GHG) emissions by 85 percent below 1990 levels no later than 2045, as directed by Assembly Bill (AB) 1279. The actions and outcomes in the plan will achieve significant reductions in fossil fuel combustion by deploying clean technologies and fuels, further reductions in short-lived climate pollutants, support for sustainable development, increased action on natural and working lands to reduce emissions and sequester carbon, and the capture and storage of carbon.

Table 2.2-1 provides a summary of the applicable policies or goals of each plan and a determination of consistency with those policies and goals for the No Build and Build Alternatives.

The project is exempt from Transportation Conformity and therefore is not individually listed in the Federal Transportation Improvement Program (FTIP) or the Regional Transportation Plan (RTP). The project is, however, included in the Southern California Association of Governments (SCAG) 2023 FTIP Amendment #23-12 as a grouped exempt State Highway Operation and Protection Program (SHOPP) project under FTIP ID LALS04 – EA 39020. This FTIP group designation applies to projects within SCAG jurisdiction that qualify under the 40 Code of Federal Regulations (CFR) Part 93.126 Exempt Table 2 category “Widening Narrow Pavements or Reconstructing Bridges (No Additional Travel Lanes)”.

2.2.2 ENVIRONMENTAL CONSEQUENCES

2.2.2.1 No Build Alternative

The No Build Alternative would be inconsistent with a majority of the identified goals and policies (see Table 2.2-1). Under the No Build Alternative, there would be no bridge improvements and the Vincent Thomas Bridge condition would continue to deteriorate, leading to potential emergency and long-term closures of this critical transportation link. Therefore, the No Build Alternative would be inconsistent with State/regional or local plans, policies, and goals.

2.2.2.2 Build Alternative

The Build Alternative is consistent with the identified goals and policies (see Table 2.2-1). The existing Vincent Thomas Bridge deck, railings, fencing, median concrete barrier, and seismic sensors need to be replaced. The Build Alternative would replace the deteriorating bridge deck to improve reliability and longevity of the bridge deck and to maintain a critical link in the local and regional transportation network. With implementation of the Build Alternative, the bridge deck would last many decades, and the bridge would continue to provide local and regional access to the ports and surrounding areas while maintaining the transportation and circulation outlined in the various planning documents. Therefore, the Build Alternative would be consistent with the State, regional, and local plans.

Table 2.2-1: Consistency with State, Regional, and Local Plans/Programs

<table>
<tr><th>Plan Objective/Policy</th><th>Consistency</th></tr>
<tr><td colspan="2">Los Angeles County General Plan 2035</td></tr>
<tr><td>Transportation Element Objectives:
2. Ensure community services and infrastructure are sufficient to accommodate growth: Coordinate an equitable sharing of public and private costs associated with providing appropriate community services and infrastructure to meet growth needs.
3. Provide the foundation for a strong and diverse economy: Protect areas that generate employment and promote programs that support a stable and well-educated workforce. This will provide a foundation for a jobs-housing balance and a vital and competitive economy in the unincorporated areas.

Policy Statements:
Policy M 3.1: Facilitate safe roadway designs that protect users, preserve state and federal funding, and provide reasonable protection from liability.
Policy M 4.9: Ensure the participation of all potentially affected communities in the transportation planning and decision-making process.
Policy M 4.14: Coordinate with Caltrans on mobility and land use decisions that may affect state transportation facilities.
Policy M 5.4: Support and pursue funding for the construction, maintenance and improvement of roadway, public transit, and equestrian, pedestrian and bicycle transportation systems.
Policy M 6.5: Support infrastructure improvements and the use of emerging technologies that facilitate the clearance, timely movement, and security of trade.</td><td>Build Alternative: Consistent
The Build Alternative is consistent with the objectives and policies of the Transportation Element of the Los Angeles County General Plan (1980), which includes responsiveness to economic, environmental, and social needs by providing a safer transportation system. The Build Alternative would extend the life of the Vincent Thomas Bridge by replacing the existing deck while maintaining the historic character. The Build Alternative would improve safety for motorists and maintain an importation component in the local and regional transportation network for the movement of people and goods. The project includes an extensive public engagement and community outreach effort involving all the surrounding communities, providing the opportunity for potentially affected communities to participate in the transportation planning and decision-making process.

No Build Alternative: Not Consistent
The No Build Alternative is not consistent with the objectives and policies of the Transportation Element of the Los Angeles County General Plan. Under the No Build Alternative, there would be no improvement of the existing facility, and the bridge deck would continue to deteriorate. Emergency or long-term closures for repairs may be needed, therefore closing off a critical transportation link and economic corridor.</td></tr>
<tr><td colspan="2">City of Los Angeles Mobility Plan 2035</td></tr>
<tr><td>Policy 1.7 Regularly Maintained Streets: Enhance roadway safety by maintaining the street, alley, tunnel, and bridge system in good to excellent condition.
Policy 1.8 Goods Movement Safety: Ensure that the goods movement sector is integrated with the rest of the transportation system in such a way that does not endanger the health and safety of residents and other roadway users.</td><td>Build Alternative: Consistent
The Build Alternative is consistent with the City of Los Angeles General Plan. The Vincent Thomas Bridge deck has been in service for 60 years and is rapidly deteriorating due to concrete fatigue that is primarily caused by heavy truck traffic. The existing bridge railings and median concrete barrier do not meet updated requirements for the Manual for Assessing Safety Hardware (MASH). The Build Alternative</td></tr>
</table>

Table 2.2-1: Consistency with State, Regional, and Local Plans/Programs

Plan Objective/Policy	Consistency
Policy 2.7 Vehicle Network: Provide vehicular access to the regional freeway system. **Policy 2.8 Goods Movement**: Implement projects that would provide regionally significant transportation improvements for goods movement. **Policy 2.13 Highway Preservation and Enhancement**: Support the preservation and enhancement of the state highways consistent with the RTP/SCS and the goals/policies of the General Plan.	would replace the existing deteriorating bridge deck with a new bridge deck, seismic sensors, median barrier, fencing, and guardrails to maintain the functionality of the Vincent Thomas Bridge as an important economic corridor and critical link in the transportation network. **No Build Alternative: Not Consistent** The No Build Alternative is not consistent with the City of Los Angeles General Plan because the current bridge condition is rated poor by a 2022 Caltrans bridge inspection, and no improvements would be made to keep the bridge in good to excellent condition. The No Build Alternative would not support the preservation and enhancement of the State highways consistent with the RTP/SCS and the goals and policies in the General Plan.
Wilmington-Harbor City Community Plan	
Transportation: **Policy 12-1.3**: Provide additional funds for maintenance and rehabilitation of roadways. **Policy 16-1.1**: Discourage non-residential traffic flow for streets designated to serve residential areas only by use of traffic control measures. **Coastal Resources:** **Policy 19-1.5:** Provide public access and viewing areas for the public enjoyment and education of the Coastal Zone environment, including access to and viewing of recreational and industrial activities in the Port of Los Angeles consistent with public safety, efficient Port operation and the California Coastal Act.	**Build Alternative: Consistent** The Build Alternative is consistent with the Wilmington-Harbor City Community Plan. The Build Alternative would replace the existing deteriorating bridge deck to improve reliability of the bridge and maintain an important connection in the local and regional transportation network for the movement of people and goods. The Build Alternative would maintain efficient port operations and the existing access and connectivity to the Coastal Zone provided by the Vincent Thomas Bridge. **No Build Alternative: Not Consistent** The No Build Alternative is not consistent with the Wilmington-Harbor City Community Plan because there would be no improvement of the existing bridge facility. The bridge deck would continue to deteriorate, and emergency or long-term closures for repairs would be needed thereby closing off a critical transportation link and economic corridor for the ports.

Table 2.2-1: Consistency with State, Regional, and Local Plans/Programs

Plan Objective/Policy	Consistency
Harbor Gateway Community Plan	
Environmental Justice (EJ): **EJ Goal 1:** A community where all persons have the opportunity to participate in the decision-making process that affects their environment. **EJ 1.2:** Proactively and meaningfully engage the community in planning decisions that affect their health and wellbeing. **EJ 1.4:** Assist in connecting and supporting tribal relationships among other partner agencies, non-profits and community groups to increase coordination and collaboration with tribes. Pursuant to Assembly Bill 52, ensure consultation with tribes occurs early in project development and throughout project implementation to help support a respectful process. Promote capacity-building and educational efforts to train planning staff to "meet people where they are" by collaborating with community-based organizations, community centers and traditionally underrepresented populations to ensure authentic and meaningful participation in the land us decision-making process. **EJ 1.5**: Coordinate pragmatic outreach efforts between City departments and agencies to capitalize on existing communication methods, such as utility bill mailers and public schools' parent notification systems in order to reach as many community members as possible. **EJ 1.6:** Partner with local community-based organizations and other local groups, such as block clubs, parent centers, interfaith groups or recreation centers to help increase public awareness and engagement in the planning process, particularly in communities with low public participation. Prioritize the health, safety and needs of residents over special interests. **EJ Goal 2:** City provided improvements and programs are prioritized for low-income and environmental justice communities.	**Build Alternative: Consistent** The Build Alternative is consistent with the Harbor Gateway Community Plan. The project includes an extensive public involvement and community outreach effort involving all the surrounding communities, thereby providing the opportunity for potentially affected communities to participate in the transportation planning and decision-making process. This outreach included measures taken to ensure materials were accessible to environmental justice populations. Community outreach documents were available in English and Spanish, and a Spanish interpreter was present during all public meetings and pop-up events. A Virtual Meeting Room was created during the scoping period to allow the public 24/7 to access information in English and Spanish about the project. Please refer to Chapter 7 of the CIA for an in-depth analysis on public outreach and involvement. **No Build Alternative: Not Consistent** The public involvement and outreach efforts for the No Build Alternative are limited to the release of the environmental document. The comprehensive public engagement effort for the project is focused on the Build Alternative with input sought on the bridge deck replacement and associated detours. Therefore, the No Build Alternative is inconsistent with the environmental justice elements of the Harbor Gateway Community Plan.

Table 2.2-1: Consistency with State, Regional, and Local Plans/Programs

Plan Objective/Policy	Consistency
San Pedro Community Plan	
Land Use Element: **Goal LU13:** A safer, greener port neighbor for San Pedro that provides jobs, commerce, and coastal recreational access for residents, and together with Downtown San Pedro, provides a regional destination. **Mobility Element:** **M7.2:** Priority motorized vehicle routes. Support the identification of motorized vehicle streets for arterials with the highest traffic volumes and demonstrated congestion to establish motorized vehicle circulation as paramount to alternative roadway user needs and to encourage investment in congestion relief programs and/or truck safety improvements for the identified routes. **M7.6:** Coordinated evacuation routes. Maintain a network of routes that facilitate orderly evacuation of the community in an emergency, consistent with the Emergency Management Department adopted Evacuation Plan. **M10.2:** Efficient truck movement. Provide appropriately designed and maintained roadways to safely accommodate truck travel.	**Build Alternative: Consistent** The Build Alternative is consistent with the San Pedro Community Plan. The Build Alternative would replace the existing deteriorating bridge deck to maintain an important component in the local and regional transportation network for the movement of people and goods. The proposed bridge improvements would allow for the continued circulation patterns and evacuation routes in San Pedro and connectivity to the ports and communities to the east. **No Build Alternative: Not Consistent** The No Build Alternative is not consistent with the San Pedro Community Plan because it would not replace the bridge deck. The existing deck would continue to deteriorate and emergency or long-term closures would be needed for repairs, which may disrupt evacuation routes and may not safely accommodate continued truck travel.
Pacific Corridor Redevelopment Plan	
Objective 1: Community Image and Vision. To maintain the Downtown San Pedro and the surrounding area as an aesthetically pleasing community reflecting its past and reinforcing its status as an international port city, with waterfront access. **Objective 9:** Public Improvements and Amenities. To install, repair and maintain public improvements and amenities.	**Build Alternative: Consistent** The Build Alternative is consistent with the Pacific Corridor Redevelopment Plan. The Build Alternative would replace the existing deteriorating bridge deck with a new bridge deck to maintain the functionality of the Vincent Thomas Bridge as a critical link in the transportation network. The new bridge deck, median barrier, and railings would not change the overall aesthetics of the Vincent Thomas Bridge. **No Build Alternative: Not Consistent** The No Build Alternative is not consistent with the Pacific Corridor Redevelopment Plan. The No Build Alternative would not replace the deteriorating Vincent Thomas Bridge, which may lead to the emergency closures for repair or potential failure of this critical transportation link.

Table 2.2-1: Consistency with State, Regional, and Local Plans/Programs

Plan Objective/Policy	Consistency
City of Carson 2040 General Plan	
Circulation Element: **CIR-G-1:** Provide a balanced transportation system of multimodal networks providing a broad range of travel options to make transportation convenient, comfortable, and safe for people of all abilities. **CIR-G-4:** Encourage the development of a multimodal freight transportation system that balances the need for effective and efficient transportation of goods with the health and wellbeing of the community. **CIR-P-15:** Coordinate with metro and Caltrans to seek funding and implementation solutions to improve congestion from regional traffic. **CIR-P-29:** Focus truck traffic onto appropriate arterial corridors in the City by clearly marking truck routes and posting appropriate signage to provide for the effective transport of goods while minimizing negative impacts on local circulation and noise-sensitive land uses. While the City has identified truck routes, the designation of truck routes does not prevent trucks from sing other roads or streets to make deliveries to individual addresses. Seeking community input around the issue and general observation of traffic patterns as online shopping and associated deliveries increase in the future will help in developing strategies to reduce use of non-designated corridors and limit disruption and potentially regulate truck movement.	**Build Alternative: Consistent** The Build Alternative is consistent with the City of Carson 2040 General Plan. The Build Alternative would replace the existing deteriorating bridge deck to improve safety for all motorists and maintain an important component in the local and regional transportation network for the movement of people and goods. **No Build Alternative: Consistent** The No Build is consistent with the City of Carson 2040 General Plan. The No Build Alternative would not replace the Vincent Thomas Bridge deck and would not require detour routes through the City of Carson. Traffic patterns throughout the city would remain similar to existing levels.
City of Long Beach General Plan	
Mobility Element: **MOG Policy 12-3:** Coordinate with Caltrans to ensure that regional highway improvements aid in the movement of goods from the Ports of Long Beach and Los Angeles, while also mitigating impacts to Long Beach neighborhoods and the environment. **MOG Policy 13-1:** Identify street improvements along designated truck routes that enhance freight mobility on major truck corridors and reduce impacts of freight on the community.	**Build Alternative: Consistent** The Build Alternative is consistent with the City of Long Beach General Plan because it would replace the existing deteriorating deck and extend the life of the Vincent Thomas Bridge while maintaining the historic character. The Build Alternative would improve safety for all motorists and maintain an importation component in the local and regional transportation network for the movement of people and goods. The project includes an extensive public involvement and community outreach effort involving all the surrounding communities, providing the

Table 2.2-1: Consistency with State, Regional, and Local Plans/Programs

Plan Objective/Policy	Consistency
MOG Policy 13-8: Support infrastructure improvements and use of emerging technologies that will facilitate the clearance, timely movement, and security of domestic and international trade. This includes facilities for the efficient intermodal transfer of goods between truck, rail, marine, and air transportation modes. **MOG Policy 13-9:** Provide for the efficient circulation of truck and rail traffic within the Port and on the regional transportation network. **Land Use Element:** **LU Policy 15-1:** Inform and involve residents and facilitate neighborhood participation in implementing development and infrastructure projects and other planning programs or tasks. **LU Policy 15-3:** Consult with California Native American tribes early in the planning process to ensure their concerns are appropriately reflected in planning initiatives and projects. **LU Policy 16-2:** Improve the environmental conditions of low-income and minority populations experiencing disproportionate environmental burdens by improving the physical conditions, safety, health, livability and prosperity of their neighborhoods. **LU Policy 16-6:** Work with regional agencies, residents and businesses to preserve established homes, businesses and open spaces. Limit the exposure of residents and employees to toxic pollutants and vehicle noise. Minimize traffic issues impacting residential neighborhoods resulting from freeway expansion and other similar large-scale projects. **LU Policy 17-2:** Maintain adequate and sustainable infrastructure systems to protect the health and safety of all Long Beach residents, businesses, institutions and regional-serving facilities. **LU Policy 17-3:** Prioritize improvements in underserved neighborhoods to remedy deficiencies in infrastructure, public facilities and services. **Public Safety Element:** **Development Goal 6.** Encourage transportation systems, utilities, industries, and similar uses to locate and operate in a manner consistent with public safety goals.	opportunity for potentially affected communities to participate in the transportation planning and decision-making process. **No Build Alternative: Not Consistent** The No Build Alternative is not consistent with the City of Long Beach General Plan. Under the No Build, there would be no improvements to the existing facility, and the bridge deck would continue to deteriorate. Emergency or long-term closures for repairs may be needed, resulting in the closing of a critical transportation link and economic corridor. The No Build would not improve roadway safety and would not maintain adequate and sustainable infrastructure systems to protect the health and safety of Long Beach.

Table 2.2-1: Consistency with State, Regional, and Local Plans/Programs

Plan Objective/Policy	Consistency
Development Goal 7. Assure continued safe accessibility to all urban land uses throughout the city.	
Port of Long Beach Revised Draft Master Plan	
Public Access and Recreation Element: **Goal 2:** Provide safe and secure access to the Port to the public, including offering recreational activities. **Transportation Element:** **Goal 1:** Reduce the impacts of Port-related truck traffic on local roadways. **Goal 2:** Manage truck traffic to and from the Port. **Goal 3:** Improve the circulation of people and goods within the Port to support safe, efficient operations. **Goal 4:** Coordinate Port development and operations with regional transportation projects. **Goal 5:** Provide safe and convenient access to Queensway Bay visitors. **Environmental Justice and Tribal Resources:** **Goal 1:** Consistent with the Environment and Sustainability Element, promote equitable access to clean, healthy, and accessible coastal environments through various methods including, but not limited to, the pursuit of zero-emissions technologies for Port-related operations. **Goal 2:** Consider environmental justice in all HDPs; for projects requiring an EIR under CEQA, evaluate environmental impacts, including air quality and health risk, to communities near the project site and goods movement routes impacted by the project, including disadvantaged communities, and incorporate community input in analyzing impacts, project alternatives, and options for feasible mitigation of significant environmental and health impacts. **Goal 3:** Engage regularly and consistently with local communities, environmental justice leaders, and groups surrounding the Harbor District to encourage community members to participate in the Port's planning and development process to provide input and feedback regarding potential impacts to their communities, project	**Build Alternative: Consistent** The Build Alternative is consistent with the Port of Long Beach Revised Draft Master Plan because it would replace the existing bridge deck to ensure longevity and reliable access of the Vincent Thomas Bridge. The new bridge deck would accommodate truck and vehicle traffic from the Port and would not interfere with existing Port operations and recreational activities. **No Build Alternative: Not Consistent** The No Build is not consistent with the Port of Long Beach Draft Master Plan because the existing bridge deck and would not sustainably accommodate truck traffic to and from the Port in the long term. Under the No Build Alterative, there would be no improvements to the existing facility, and the bridge deck would continue to deteriorate. Emergency or long-term closures for repairs may be needed, resulting in the closing of a critical transportation link and economic corridor, therefore eliminating a key access point to the Port.

Table 2.2-1: Consistency with State, Regional, and Local Plans/Programs

Plan Objective/Policy	Consistency
alternatives, and options for feasible mitigation of significant environmental and health impacts. **Goal 4:** Utilize best practices to maximize public engagement and facilitate community participation, such as advance notice of public meetings, evening meetings and workshops in local neighborhoods, translation services, and informational materials in multiple languages, and options for oral and/or written comments. **Goal 5:** Give meaningful consideration of recommendations from disadvantaged communities (as defined in Section 5.9.1, Environmental Justice) impacted by Port development and operations into environmental and land use decisions consistent with the CCC's environmental justice policy and consistent with the policies of this PMP Update. **Goal 6:** Coordinate with local Native American tribes early in the Port's planning and development review process to obtain a better understanding of local and regional cultural resources within the Harbor District and protect such resources.	
Port of Los Angeles Port Master Plan	
Policy 2.1: Locate, design, and construct port-related projects to (1) minimize substantial adverse impacts, (2) minimize potential traffic conflicts between vessels, (3) prioritize the use of existing land space for port purposes, including, but not limited to, navigational facilities, shipping industries, and necessary support and access facilities, (4) provide for other beneficial uses including, but not limited to, recreation and wildlife habitat uses, to the extent feasible, and (5) encourage rail service to port areas and multicompany use of facilities. (California Coastal Act Section 30708)	**Build Alternative: Consistent** The Build Alternative is consistent with the Port of Los Angeles Port Master Plan because it would address existing bridge deck deterioration to ensure long-term safety of the bridge and local and regional connectivity provided by the Vincent Thomas Bridge. The new bridge deck would safely accommodate truck traffic to and from the Port. **No Build Alternative: Not Consistent** The No Build is not consistent with the Port of Los Angeles Port Master Plan because the existing bridge deck would not sustainably accommodate truck traffic to and from the Port in the long term.

Table 2.2-1: Consistency with State, Regional, and Local Plans/Programs

Plan Objective/Policy	Consistency
California Air Resources Board Scoping Plan (2022)	
The 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan) lays out a path to achieve targets for carbon neutrality and reduce anthropogenic greenhouse gas emissions by 85 percent below 1990 levels no later than 2045, as directed by Assembly Bill 1279.	**Build Alternative: Consistent** The Build Alternative is consistent with the California Air Resources Board Scoping Plan (2022). The Build Alternative is not a capacity-increasing project and would not result in increased greenhouse gas emissions. The Build Alternative would replace the existing Vincent Thomas Bridge deck to maintain existing travel patterns and provide a safer system for those vehicles using the facility. **No Build Alternative: Not Consistent** The No Build is inconsistent with the California Air Resources Board Scoping Plan 2022. Under the No Build Alternative, the existing bridge deck would remain which, due to the deteriorating condition of the deck, would not sustainably accommodate truck traffic to and from the Port in the long term. It is likely that the bridge would require full or partial closure resulting in increased travel distances and associated greenhouse gases as trucks and vehicles find alternate routes between I-110, Terminal Island, and I-710

Source: Community Impact Assessment (2024).

2.2.3 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

The proposed project is consistent with the adopted State, regional, and local plans. No avoidance, minimization, and/or mitigation measures are required.

2.3 Coastal Zone

The Coastal Zone Management Act of 1972 (CZMA) is a federal law which governs the land use and development within coastal zones to preserve and protect coastal resources, ensure coastal accessibility, and maintain the overall environmental quality within the coastal zones. The CZMA establishes a program under which coastal states are encouraged to develop coastal management programs. States with an approved coastal management plan have the authority to review federal permits and activities to determine if they are consistent with the state's management plan.

California developed a Coastal Zone Management Plan and enacted the California Coastal Act of 1976 (CCA) to protect coastal zones. The California Coastal Commission (CCC) is responsible for the implementation and oversight of the CCA. Just as the CZMA delegates power to coastal states to develop their own coastal management plans, the CCC delegates the authority to carry out policies of the CCA at the local level following an approved Local Coastal Program (LCP). LCPs are land use planning documents that lay out a framework for development and coastal resource protection within a local jurisdiction (county or city) coastal zone area. LCPs are prepared by the local jurisdiction and submitted to the CCC for certification. The purpose of the LCP is to outline specific land use policies and regulations that will guide development and land use decisions within the coastal zone under the jurisdiction of that particular local government. The LCP takes into account the unique characteristics and needs of the local area while also adhering to the broader goals and principles of the CCA. After the CCC has certified an LCP, most coastal development permit authority is delegated to the LCP, including the administration of coastal development permits.

2.3.1 REGULATORY SETTING

This project has the potential to affect resources protected by the CZMA of 1972. The CZMA is the primary federal law enacted to preserve and protect coastal resources. The CZMA sets up a program under which coastal states are encouraged to develop coastal management programs. States with an approved coastal management plan are able to review federal permits and activities to determine if they are consistent with the State's management plan.

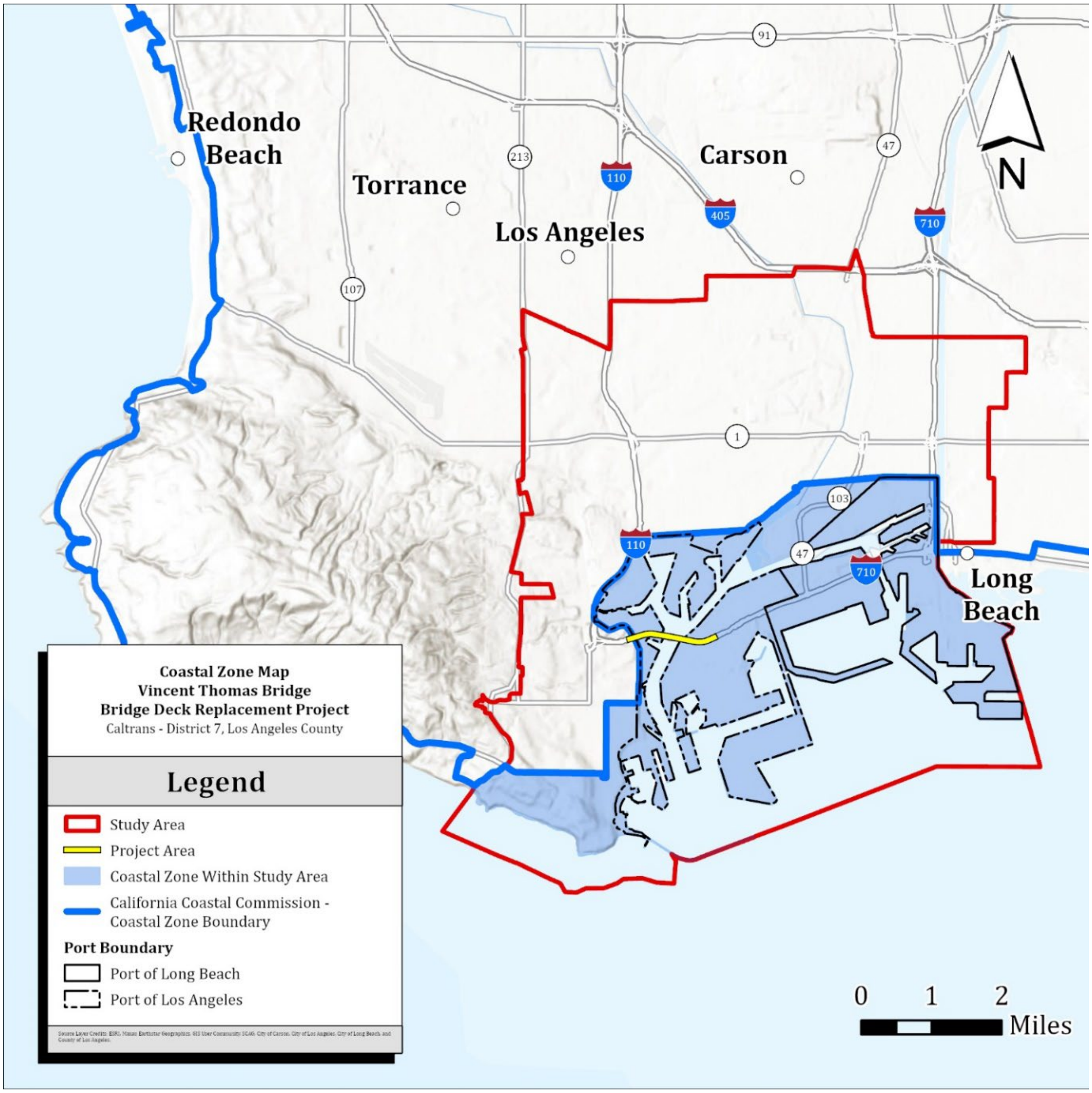
California has developed a Coastal Zone Management Plan and has enacted its own law (i.e., CCA) to protect the coastline. The policies established by the CCA are similar to those for the CZMA in that they include the protection and expansion of public access and recreation; the protection, enhancement, and restoration of environmentally sensitive areas; the protection of agricultural lands; the protection of scenic beauty; and the protection of property and life from coastal hazards. The CCC is responsible for implementation and oversight under the CCA.

Just as the federal CZMA delegates power to coastal states to develop their own coastal management plans, the CCA delegates power to local governments to enact their own LCPs. This project is subject to the Port of Los Angeles (POLA) local coastal program (i.e., Port Master Plan). LCPs contain the ground rules for development and protection of coastal resources in their jurisdiction consistent with the CCA goals. A Federal Consistency Certification will be needed as well. The Federal Consistency Certification process will be initiated prior to the Final Environmental Document and will be completed to the maximum extent possible during the National Environmental Policy Act (NEPA) compliance process.

2.3.2 AFFECTED ENVIRONMENT

The CCA identifies the POLA and Port of Long Beach (POLB) as two port locations in the State's coastal zone approved for the purposes of international maritime commerce. Within the POLA and POLB, the port governing bodies exercise similar authority as local governments via a certified Port Master Plan (PMP) by the CCC. PMPs are long-range planning documents that guide development and define allowable land and water uses for port jurisdictions; PMPs also ensure consistency with CCA requirements related to water-dependent and water-related activities, public access to coastal resources, and protection of coastal environmental resources. The PMPs for POLA and POLB were most recently updated in 2018 and 2022, respectively. Figure 2.3-1 shows the limits of the coastal zone within the CIA Study Area and the jurisdictional boundary of POLA and POLB.

Figure 2.3-1: Coastal Zone Map



Sources: ESRI, Maxar, Earthstar Geographics, GIS User Community, Southern California Association of Governments, City of Carson, City of Los Angeles, City of Long Beach, California Coastal Commission, and County of Los Angeles.

As required by the CCA, a development permit would be required from the LCP for implementation of the proposed project. Because all project activities would occur within the jurisdictional boundary of POLA, a coastal development permit (or exemption) would be required through the City of Los Angeles Harbor Commission prior to construction.

Several recreational coastal zone resources, including scenic coastal views, are located adjacent to the project area. The Knoll Hill Park is located immediately north of the State Route 47 (SR-47) and Harbor Boulevard interchange. Other recreational facilities, including the Harbor Boulevard Parkway Promenade, Los Angeles Cruise Ship Terminal, and Cruise Ship Promenade, are located south of SR-47 and east of Harbor Boulevard. Additionally, a segment of the California Coastal Trail is present within the Harbor Boulevard Parkway

Promenade where it continues north before crossing beneath SR-47 and the Vincent Thomas Bridge western approach along Front Street. This portion of the California Coastal Trail is a secondary segment that utilizes local sidewalks, existing bicycle lanes, and signage to maintain the trail. Although the project area intersects with the California Coastal Trail, construction activities would occur on the top of the bridge and no construction activities would occur beneath the bridge at the location of the trail. Local access to adjacent coastal resources would be maintained during construction.

2.3.3 ENVIRONMENTAL CONSEQUENCES

2.3.3.1 No Build Alternative

Under the No Build Alternative, the bridge deck would continue to deteriorate and emergency or long-term closures for repairs may be needed, thereby closing off a critical transportation link and economic corridor; however, during repairs, access to coastal resources would be maintained through local street access. No construction activities would occur; therefore, there would be no changes to existing land uses or restrictions to coastal zone resource access, including scenic coastal views. Therefore, there would be no impacts to coastal zone resources. There would be no impact to plan consistency under the California Environmental Quality Act (CEQA) with no effect under the National Environmental Policy Act (NEPA).

2.3.3.2 Build Alternative

Temporary Impacts

During construction, a partial or full closure of the Vincent Thomas Bridge would be required for bridge deck replacement work. Temporary traffic detours may be required for a duration of 16 to 48 months, depending on the construction staging option and implementation of night and weekend closures. During the construction period, regardless of the staging option implemented, coastal views and access to the harbor and coastal areas within San Pedro, including coastal parks, the California Coastal Trail, beaches, and other coastal recreational facilities, would be maintained through local street access. Construction equipment and materials would be stored within the CIA Study Area but would not affect or limit access to coastal parks, the California Coastal Trail, beaches, and other coastal resources during construction. Therefore, the Build Alternative would result in no impacts to the coastal zone under CEQA with no effect under NEPA.

Permanent Impacts

The Build Alternative would not permanently alter coastal views, access, or recreational opportunities to an existing coastal resource. Therefore, the Build Alternative would result in no permanent impacts under CEQA with no effects to coastal resources within the coastal zone.

2.3.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

No impacts to coastal resources are anticipated; therefore, no avoidance, minimization, and/or mitigation measures are required under the Build Alternative.

2.4 Parks and Recreational Facilities

2.4.1 REGULATORY SETTING

The Park Preservation Act (California Public Resources Code [PRC] Sections 5400-5409) prohibits local and State agencies from acquiring any property that is in use as a public park at the time of acquisition unless the acquiring agency pays sufficient compensation or land, or both, to enable the operator of the park to replace the park land and any park facilities on that land.

2.4.2 AFFECTED ENVIRONMENT

The parks or recreation facilities closest (less than 0.5 mile) to the project area and construction boundary are the Knoll Hill Park (approximately 0.3 mile), California Coastal Trail (passes underneath the bridge), Harbor Boulevard Parkway Promenade (approximately 0.39 mile), and Cruise Ship Promenade (approximately 0.05 mile).

2.4.3 ENVIRONMENTAL CONSEQUENCES

2.4.3.1 No Build Alternative

Under the No Build Alternative, the bridge deck would not be replaced and would continue to deteriorate. No construction activities would occur; therefore, the No Build Alternative would result in no impacts to parks and recreational facilities under the California Environmental Quality Act (CEQA) with no effects under the National Environmental Policy Act (NEPA).

2.4.3.2 Build Alternative

Temporary Impacts

During construction, bridge deck replacement work activities would occur completely within the footprint of Vincent Thomas Bridge and Caltrans right-of-way and would not affect or impair the use, features, activities, or attributes of parks or recreational facilities in the CIA Study Area. Therefore, the Build Alternative would result in no impacts to parks and recreation under CEQA with no effects under NEPA.

Permanent Impacts

The Build Alternative would maintain the configuration of the existing Vincent Thomas Bridge, and proposed improvements would occur within the existing right-of-way of the Vincent Thomas Bridge. Therefore, the Build Alternative would result in no permanent impacts to parks and recreation under CEQA with no effects under NEPA.

2.4.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

No impacts to parks or recreation facilities are anticipated; therefore, no avoidance, minimization, and/or mitigation measures are required under the Build Alternative.

Table 2.4-1: Parks and Recreation Facilities in CIA Study Area

ID	Park/Recreation Facility	Address	Amenities	Distance (miles)
Community of San Pedro, City of Los Angeles				
1	Bandini Canyon Park	West Sepulveda Street Between Bandini Street and Marshall Court	Short trail surrounded by greenery.	0.61
2	John S. Gibson Park	550 S. Harbor Boulevard	Small pocket park displaying the history of the area.	0.55
3	San Pedro Plaza Park	7000 S. Beacon Street	Benches and a pedestrian walkway equipped with dog walking amenities.	0.80
4	Ralph C. Daniels Field Sports Center	845 W. 12th Street	Football field (lighted), soccer field (lighted), tennis courts (lighted), batting cages, golf cage, basketball court, and a picnic area.	1.37
5	Averill Park	1300 S. Dodson Avenue	Walkways through a scenic park with a pond and gazebo.	1.90
6	Alma Park	W. 21st Street and Meyler Street	Children's play areas and restrooms.	1.83
7	Peck Park	560 N. Western Avenue	A swimming pool, a baseball diamond, indoor and outdoor basketball courts, extensive hiking trails, skate park, and a childcare center.	0.85
8	Rena Park	510 N. Leland Avenue	Playground and picnic benches.	1.01
9	Leland Park	863 S. Herbert Avenue	Community spot with a ball field, basketball and volleyball courts, kids' playground and picnic tables.	0.60
10	Field of Dreams	501 Westmont Drive	Unlit soccer, rugby, and football fields.	0.94
11	Harbor Highlands Park	825 W. Capitol Drive	Open green space and playground.	0.92
12	Knoll Hill Park	766 N. Center Street	The 24-acre park includes three Little League baseball diamonds.	0.11
13	Joan Milke Flores Park	3601 S. Gaffey Street	Hiking trails, ocean views, picnic tables, open green space, and shaded space.	2.81
14	Point Fermin Park	807 W. Paseo Del Mar	Park atop rugged coastal bluffs featuring a playground, amphitheater, trails and picnic areas.	2.81
15	Cabrillo Beach Youth Waterfront Sports Center	3000 Shoshonean Road	Facility that is used for conferences, camping, day camps, field trips, retreats, banquets, receptions, and Boy Scout, Cub Scout, and Girl Scout badge classes.	2.14
16	Lookout Point Park	3400 N. Gaffey Street	Lookout area with scenic views of the ocean.	2.54
17	White Point Nature Preserve	1600 W. Paseo Del Mar	102 acres of coastal habitat and hiking trails, plus a center housing maps and interpretive information.	2.53
18	Angels Gate Park	3601 S. Gaffey Street	Hiking trails, ocean views, walking paths, picnic tables, open space, Hey Rookie Pool, the Korean Friendship Bell, Angeles Gate Cultural Center, and Fort MacArthur Museum.	2.38
19	Bloch Field	1500 S. Harbor Boulevard	Community-focused nonprofit established in 1844 with recreational programs and services for all ages.	1.36
20	Harbor Boulevard Parkway Promenade	Runs parallel to Harbor Boulevard from Swinford Street to 5th Street	A multi-use parkway is lined with trees that provide oxygen, cooling, and sound dampening. There is a bike lane, pedestrian walkway, pocket parks, lighting, landscaping irrigation, signage, and public art.	0.39
21	San Pedro Welcome Park	415 N. Gaffey Street	Features a grassy area with urban landscape.	0.62
22	California Coastal Trail	Section crossing underneath the project area via Harbor Boulevard/Front Street, San Pedro (see Figure 2.4-1)	The California Coastal Trail is an interconnected public trail system managed by multiple jurisdictions along the California coastline that will span over 1,230 miles from Oregon to Mexico. The trail is designed to make the coast more accessible, foster appreciation and stewardship of the scenic and natural resources of the coast, provide recreational opportunities, and encourage non-motorized transportation.	N/A

Table 2.4-1: Parks and Recreation Facilities in CIA Study Area

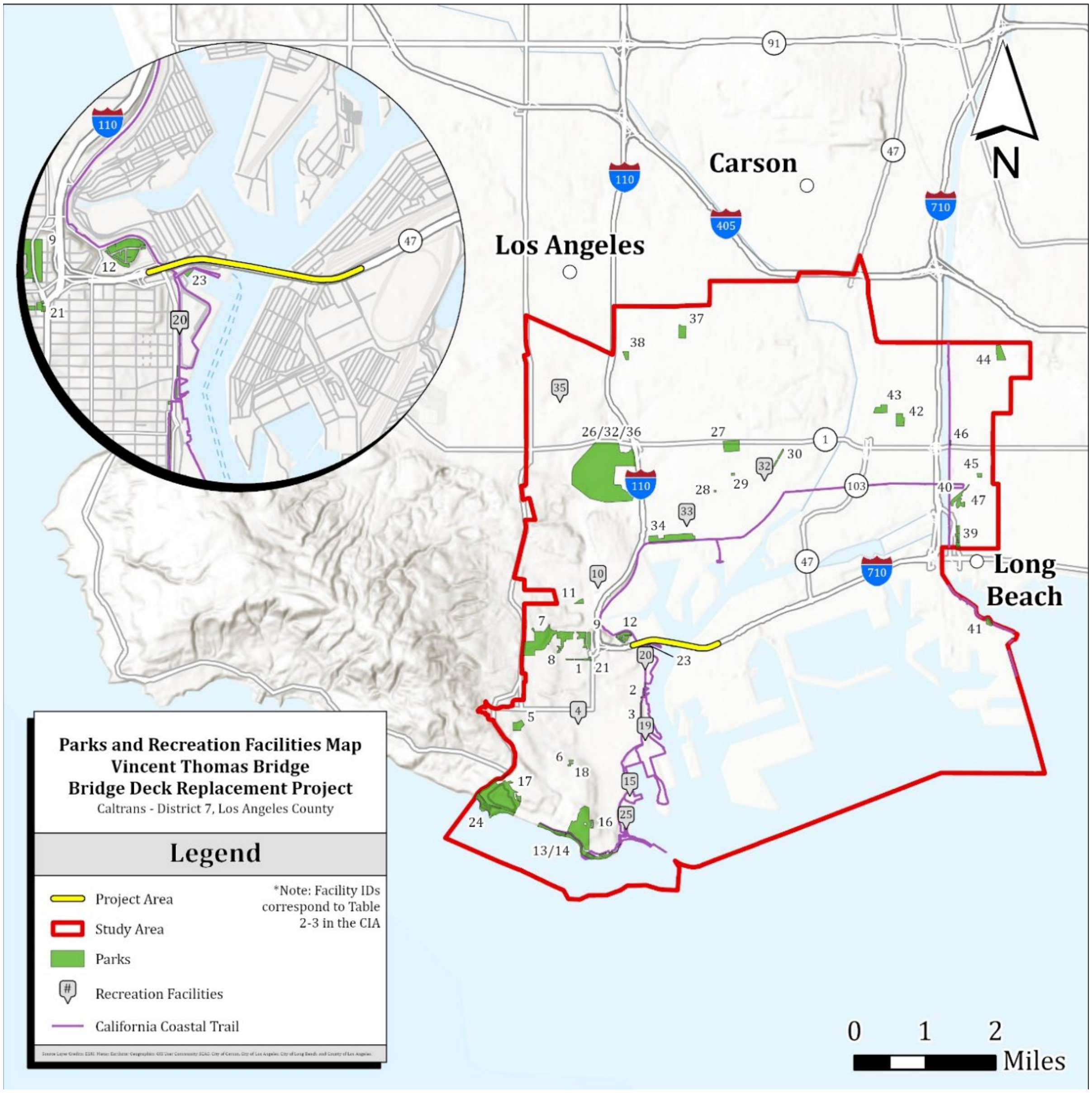
ID	Park/Recreation Facility	Address	Amenities	Distance (miles)
23	Cruise Ship Promenade	100 Swinford Street	4-acre open area along the waterfront that consists of a promenade, benches, chairs, a bocce ball court, and chess tables. In addition, the promenade includes a public art kinetic wind and sound array called "Telltales Wind Ensemble".	0.05
24	White Point Park	1600 W. Paseo del Mar	The White Point Park includes both the White Point Beach and the Royal Palms Beach. The park has metered parking, restrooms, children's play area, picnic tables, and views of the Catalina Island. The area is great for fishing, surfing, and scuba diving.	3.15
25	Cabrillo Beach	3720 Stephen M. White Drive	A mile-long beach popular for swimming, surfing, scuba diving, and volleyball. The beach features picnic tables, a snack bar, and playground.	2.60
Community of Wilmington, City of Los Angeles				
26	Harbor Park Golf Course	1235 Figueroa Place	9-hole, par-36 golf course featuring a clubhouse, rental clubs, and practice facilities.	1.99
27	The Banning Park	401 E. M Street	The Banning Museum is a landmark 19th-century estate that provides living history tours, education programs and community events. The house is surrounded by 20-acre parkland that includes the Banning Recreation Center with a lighted baseball diamond, indoor and outdoor basketball courts, children's play area, picnic tables, lighted tennis courts, horseshoe pits, and pedestrian pathways around the museum.	2.72
28	Wilmington Town Square Park	836 N. Avalon Boulevard	Community gathering place with landscape planters, picnic benches, and bike racks.	2.15
29	Drum Barracks Park	1058 N. Banning Boulevard	Playground and open green space.	2.39
30	East Wilmington Greenbelt Park	918 North Sanford Avenue	Basketball courts, picnic tables, and children's play areas.	2.59
31	East Wilmington Greenbelt Community Center	918 Sanford Avenue	Community center with basketball courts (lighted/indoor) and classrooms.	2.40
32	Wilmington Athletic Complex	1221 North Figueroa Place	Park with sporting facilities.	1.99
33	Wilmington Recreation Center	325 N. Neptune Avenue	This park includes baseball diamond, basketball courts, children's play area, community room, picnic tables, horseshoe pits, skate plaza, and teen center.	1.65
34	Wilmington Waterfront Park	W. C Street	Features soccer fields, children's play areas, splash pads, and restrooms.	1.39
Community of Harbor City, City of Los Angeles				
35	Harbor City Recreation Center	24901 Frampton Avenue	Baseball diamond (lighted), basketball courts (lighted/indoor), basketball courts (lighted/ outdoor), children's play area, community room, picnic tables, soccer field (unlighted), kitchen, and a stage.	3.59
36	Ken Malloy Harbor Regional Park	25820 Vermont Avenue	Lakeside Park offering nature trails, picnic spots with BBQs, lighted sports fields, and a playground.	1.99
City of Carson				
37	Foisia Park (formerly Scott Park)	23410 Catskill Avenue	Includes basketball courts, a gym, a boxing center, baseball fields, tennis courts, a recreation room, and picnic areas.	4.29
38	Carriage Crest Park	23800 S. Figueroa Street	Simple recreation area with a lighted baseball diamond, basketball court, and a playground.	3.99

Table 2.4-1: Parks and Recreation Facilities in CIA Study Area

ID	Park/Recreation Facility	Address	Amenities	Distance (miles)
City of Long Beach				
39	Cesar E. Chavez Park	2760 N. Studebaker Road	Contains a basketball court, community center, playground, restrooms, and a picnic area.	3.64
40	Drake Park	951 Maine Avenue	Contains a basketball court, community center, handball/racquetball court, picnic area, playground, soccer field, softball field, tennis court, volleyball court, and restrooms.	3.84
41	Harry Bridges Memorial Park	1126 Queens Highway	4-acre green space near the Queen Mary offers an open turf area and downtown views across the water.	3.79
42	Admiral Kidd Park	2125 Santa Fe Avenue	Park offering sports fields and courts, as well as a recreation center with youth programs and playground.	3.99
43	Hudson Park	2335 Webster Avenue	13.06-acre park featuring two softball fields and a community gardens project.	3.94
44	Veterans Park (Long Beach)	101 E. 28th Street	Contains basketball courts, baseball field, community center, picnic areas, playground, soccer field, tennis court, volleyball/soccer court, and restrooms.	5.64
45	Seaside Park	1401 Chestnut Avenue	Contains beaches, shade structure, soccer field, staff office, play equipment, and restrooms.	4.37
46	Cressa Park	1835 De Forest Avenue	0.94-acre park featuring a passive area with native plants and a walking trail.	4.33
47	Loma Vista Park	1173 N. Loma Vista Drive	0.14-acre park designed as a passive recreation area with a lawn area, trees, and a custom bench with artistic elements.	4.12

Sources: Southern California Association of Governments, City of Carson, City of Los Angeles, City of Long Beach, and County of Los Angeles.

Figure 2.4-1: Parks and Recreational Facilities in the CIA Study Area



Sources: ESRI, Maxar, Earthstar Geographics, GIS User Community, Southern California Association of Governments, City of Carson, City of Los Angeles, City of Long Beach, and County of Los Angeles.

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2.5 Growth

2.5.1 REGULATORY SETTING

The Council on Environmental Quality (CEQ) regulations, which established the steps necessary to comply with the National Environmental Policy Act (NEPA) of 1969, require evaluation of the potential environmental effects of all proposed federal activities and programs. This provision includes a requirement to examine indirect effects, which may occur in areas beyond the immediate influence of a proposed action and at some time in the future. The CEQ regulations (40 Code of Federal Regulations [CFR] 1508.8) refer to these consequences as indirect impacts. Indirect impacts may include changes in land use, economic vitality, and population density, which are all elements of growth.

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

2.5.2 AFFECTED ENVIRONMENT

The growth impacts assessment examines the relationship of the proposed project to future economic and population growth. Growth can lead to the need for additional housing and supporting infrastructure and services in a CIA Study Area that includes the communities of Wilmington, Harbor City, San Pedro, and Terminal Island within the city of Los Angeles, a portion of the city of Carson, and the city of Long Beach. The assessment focuses on the potential for a project to facilitate or accelerate growth beyond those contemplated in local development plans or identify if growth shifts from elsewhere in a region.

2.5.2.1 First Cut Screening

The first-cut screening process presented in the Caltrans Standard Environmental Reference (SER) outlines a step-by-step procedure to determine whether a transportation project has the potential for growth-related impacts. The initial step of the screening process is to determine whether the project has the potential to change accessibility. If the project has such potential, then further analysis is warranted. The succeeding step calls for an analysis of factors, including project type, project location, and growth pressures in the CIA Study Area. Based on this information, it is determined whether project-related growth is reasonably foreseeable. If growth is reasonably foreseeable, further analysis is conducted to determine the effect of this additional growth on resources of concern.

2.5.2.2 Accessibility

The Build Alternative does not include any change to accessibility that would affect additional growth resources of concern. Under the Build Alternative, the deck of the Vincent Thomas Bridge would be replaced, and the railings and the median barrier would be upgraded. No additional capacity would be added, or changes made to the existing transportation patterns in the CIA Study Area.

2.5.2.3 Project Type, Project Location, and Growth-Pressure

The Build Alternative would replace the deck of the Vincent Thomas Bridge and would not increase capacity. All construction would occur within the existing State Route 47 (SR-47) right-of-way. Whether developable vacant lands within the CIA Study Area are developed or not would not be because of the project. The pattern and rate of population and housing growth is expected to remain consistent with the growth anticipated by existing general plans for the area. Utilities, land use, and community facilities, and traffic would not be affected by implementation of the Build Alternative as it is not capacity increasing and would not influence growth. No growth-related impacts would occur.

2.5.2.4 "Reasonably Foreseeable" Project-Related Growth

The Build Alternative is located in an industrial area with a lack of growth pressures. Pressure for growth is a result of a combination of factors, including restrictive land use controls such as commercial/residential zoning, and economic and market conditions such as development of residential, retail, academic, or sports facilities. The Build Alternative would not alter projected growth patterns within Los Angeles County or affected jurisdictions, and it would not provide new access to or encourage growth on undeveloped and unplanned land. Since the bridge deck replacement is not capacity increasing, the project would not attract new development to areas not already proposed or to modify the type, location, or timing of developments in the CIA Study Area. Therefore, it can be determined that project-related growth is not reasonably foreseeable, and further growth analysis is not warranted as the project is not expected to result in unplanned growth in the CIA Study Area.

2.5.3 ENVIRONMENTAL CONSEQUENCES

2.5.3.1 No Build Alternative

Under the No Build Alternative, the bridge deck would continue to deteriorate, which may lead to emergency or long-term closures for this critical transportation link and economic corridor. Although the potential bridge closures may temporarily alter traffic patterns within the area, it would not influence the projected pattern and rate of population and housing growth in the highly urbanized environment. Therefore, the No Build Alternative would result in no impacts to growth under CEQA with no effects under NEPA.

2.5.3.2 Build Alternative

As determined in the first cut screening, the Build Alternative proposes to replace an existing bridge deck and does not propose changes to access or capacity; therefore, project-related growth is not reasonably foreseeable. Implementation of the Build Alternative would not impact undeveloped or underdeveloped areas within the CIA Study Area, nor would it influence existing growth patterns. No growth-related impacts are anticipated, and further growth analysis is not warranted. Therefore, the Build Alternative would result in no impacts to growth under CEQA with no effects under NEPA.

2.5.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

Because growth impacts are not anticipated, no avoidance, minimization, and/or mitigation measures are required under the Build Alternative.

2.6 Community Character and Cohesion

2.6.1 REGULATORY SETTING

The National Environmental Policy Act (NEPA) of 1969, as amended, established that the federal government use all practicable means to ensure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings (42 United States Code [USC] 4331[b][2]). The Federal Highway Administration (FHWA), in its implementation of NEPA (23 USC 109[h]), directs that final decisions on projects are to be made in the best overall public interest. This requires considering adverse environmental impacts, such as destruction or disruption of human-made resources, community cohesion, and the availability of public facilities and services.

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

The following sections provide information on community characteristics of the Community Impact Assessment (CIA) Study Area, including population and housing, economic conditions, and community facilities and services. The CIA Study Area includes the communities of Wilmington, Harbor City, San Pedro, and Terminal Island within the city of Los Angeles; a portion of the city of Carson; and the city of Long Beach. Community character and cohesion is effectively determined by comparing the local community to an appropriate larger area such as a city, county, or state, depending on the size and nature of the project and affected community. This comparison will provide insight into social and economic trends within the CIA Study Area.

The demographic characteristics, changes, and information on growth trends provided within this assessment were obtained from the United States Census Bureau American Community Survey (ACS) 5-Year Estimates for 2017–2021 at the census tract level, as well as the Southern California Association of Governments (SCAG) Connect SoCal 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) *Demographics and Growth Forecast Technical Report* (SCAG 2020b). Demographic summary tables are provided under each community character and cohesion topic of this chapter. Each table includes data for the Reference Community (Los Angeles County).

2.6.2 AFFECTED ENVIRONMENT

2.6.2.1 Population and Housing

Regional Population Characteristics

Based on SCAG's Connect SoCal 2020-2045 RTP/SCS *Demographics and Growth Forecast Technical Report* (SCAG 2020b), the total population and total number of households in Los Angeles County are expected to grow by 15 percent and 24 percent between 2016 and 2045, respectively. The city of Los Angeles and unincorporated areas within Los Angeles County are forecasted to exceed the population and household growth rate of Los Angeles County between 2016 and 2045. Table 2.6-1 depicts the most current population and household forecasts from SCAG's Connect SoCal 2020-2045 RTP/SCS *Demographics and Growth Forecast Technical Report* (SCAG 2020b) for each city within the CIA Study Area.

Table 2.6-1: Population and Projected Population Growth

	Population			Households		
	2016[1]	2045	Percent Increase 2016–2045	2016[1]	2045	Percent Increase 2016–2045
County						
Los Angeles	10,110,000	11,674,000	15%	3,319,000	4,119,000	24%
CIA Study Area Cities[2]						
Los Angeles	3,933,800	4,771,300	21%	1,367,000	1,793,000	31%
Carson	93,600	105,200	12%	25,500	30,700	20%
Long Beach	470,900	489,600	4%	168,600	198,200	18%
Los Angeles County – Unincorporated	1,044,500	1,258,000	20%	294,800	419,300	42%

Source: Community Impact Assessment (2024).

1 The year 2016 was used as the baseline forecast year in the 2020–2045 RTP/SCS Demographics and Growth Forecast Technical Report (SCAG 2020b) since the forecast development was the first milestone completed in the production of the report in 2016.

2 Population and household growth forecast data are representative of the entire municipal jurisdiction and are not limited to the portion of the municipality within the CIA Study Area.

Neighborhoods/Communities/Community Character

Community cohesion is defined as the degree to which residents have a sense of belonging to their neighborhood, a level of commitment to the community, or a strong attachment to neighbors, groups, and institutions, typically because of continued association over time. Elements of community cohesion can be found in demographic data used to profile communities from the ACS 5-Year Estimates (2017–2021) data. Some indicators of community cohesion include age, ethnicity, household size, length of residency, housing units, and parks and recreational facilities.

Median Age and Age Distribution

The median age and age distribution patterns of the population in Los Angeles County and the cities and communities within the CIA Study Area are provided in Table 2.6-2. As shown in Table 2.6-2, the City of Long Beach (38.4 years), the Ports of Los Angeles and Long Beach (POLA and POLB, respectively) (44.4 years), and the communities of Harbor City (39.5 years) and San Pedro (40.2 years) reported higher median ages than the County of Los Angeles (37.8 years). The age distribution of cities and communities within the CIA Study Area includes a higher population under the age of 18 than Los Angeles County. However, populations over the age of 64 and between the ages of 18 and 64 are generally consistent between Los Angeles County and the cities and communities within the CIA Study Area.

Table 2.6-2: Age Distribution

	Median Age	Percent (%)		
		Population Age <18	**Population Age 18–64**	**Population Age >64**
County				
Los Angeles	37.8	21%	64%	15%
CIA Study Area – Cities and Communities[1]				
City of Los Angeles (Wilmington)	34.0	**29%**	61%	10%
City of Los Angeles (Harbor City)	**39.5**	**23%**	62%	15%
City of Los Angeles (San Pedro)	**40.2**	**22%**	63%	15%
City of Long Beach	**38.4**	**24%**	66%	10%
City of Carson	33.0	**22%**	64%	14%
Port of Los Angeles/Port of Long Beach	44.4	<1%	89%	10%

Source: Community Impact Assessment (2024).
Note: **Bolding** indicates the value is higher than the Los Angeles County average.
[1] Data presented are representative of the portion of the city or community within the CIA Study Area.

Race and Ethnicity

Ethnically homogenous communities are generally more cohesive as people of the same race share the same culture and traditional values. Families and individuals who share cultural values with one another are more likely to create and maintain relationships among themselves with a community. As shown in Table 2.6-3, race and ethnicity distribution within CIA Study Area cities or communities exhibits high variance depending on geographical location. In general, cities or communities within the CIA Study Area have lower percentages of white populations and larger populations of various minority communities than Los Angeles County. Specifically, the community of Wilmington has a significantly larger Hispanic population (91 percent) than Los Angeles County (49 percent).

Table 2.6-3: Race and Ethnicity

	White	Black/ African American	American Indian/Alaska Native	Asian	Hawaiian/ Pacific Islander	Other/Two or More Races	Hispanic
County							
Los Angeles	25%	7%	<1%	15%	<1%	3%	49%
CIA Study Area – Cities and Communities[1]							
City of Los Angeles (Wilmington)	3%	2%	<1%	3%	<1%	1%	**91%**
City of Los Angeles (Harbor City)	17%	**12%**	<1%	**22%**	1%	3%	45%
City of Los Angeles (San Pedro)	**30%**	5%	<1%	7%	<1%	3%	**54%**
City of Long Beach	12%	**13%**	<1%	14%	**1%**	3%	**56%**
City of Carson	6%	6%	<1%	**29%**	**1%**	**4%**	**54%**
Port of Los Angeles/Port of Long Beach	**36%**	**17%**	**4%**	4%	**1%**	3%	34%

Source: Community Impact Assessment (2024).
Note: **Bolding** indicates the value is higher than the Los Angeles County average.
[1] Data presented are representative of the portion of the city or community within the CIA Study Area.

Housing

Average household size and composition for Los Angeles County and the cities and communities within the CIA Study Area are provided in Table 2.6-4. The average household size in Los Angeles County is 2.86 persons per household. The average household size within the city of Long Beach (3.11 persons), city of Carson (3.87 persons), and communities of Wilmington (3.94 persons) and Harbor City (2.88 persons) exceeds the average household size of Los Angeles County. Based on the data presented in Table 2.6-4, the higher average household sizes of the identified cities or communities within the CIA Study Area correspond to higher percentages of households with one or more people below the age of 18. The household ownership status for cities or communities within the CIA Study Area is variable, with the city of Carson (70 percent) and the community of Harbor City (51 percent) exhibiting larger home ownership rates than Los Angeles County (46 percent).

Table 2.6-4: Household Size and Composition

	Total Households	Average Household Size	Owner Occupied Housing (%)	Renter Occupied Housing (%)	Households with One or More People <18 (%)	Households with One or More People >65 (%)
County						
Los Angeles	3,375,587	2.86	46%	54%	31%	30%
CIA Study Area – Cities and Communities[1]						
City of Los Angeles (Wilmington)	14,159	**3.94**	36%	**64%**	**51%**	28%
City of Los Angeles (Harbor City)	10367	**2.88**	**51%**	49%	**32%**	**33%**
City of Los Angeles (San Pedro)	28,832	2.62	40%	**60%**	30%	29%
City of Long Beach	19,526	**3.11**	31%	**69%**	**33%**	22%
City of Carson	5,256	**3.87**	**70%**	30%	**42%**	**36%**
Port of Los Angeles/Port of Long Beach	23	1.50	0%	**100%**	22%	**57%**

Source: Community Impact Assessment (2024).
Note: **Bolding** indicate the value is higher than the Los Angeles County average.
[1] Data presented are representative of the portion of the city or community within the CIA Study Area.

2.6.2.2 Economic Conditions

Assessing economic conditions within the CIA Study Area provides an evaluation of the impacts a project would have on the overall economic well-being of the community. Potential impacts to a community's economic condition are characterized in terms of changes to a communities personal and business income profile, employment opportunities, property values, and tax revenues. Assessing impacts within an economic context helps to determine how a project may affect the regional economic environment and identify potential social equity issues. This section provides an economic overview of the business activities, employment, and fiscal conditions within the CIA Study Area.

Regional Economy

Based on SCAG's Connect SoCal 2020-2045 RTP/SCS *Demographics and Growth Forecast Technical Report* (SCAG 2020b), the total population and total number of employed residents in Los Angeles County are expected to grow by 15 percent and 13 percent between the years 2016 and 2045, respectively. The City of Los Angeles and unincorporated areas within Los Angeles County are forecasted to exceed the population and employment growth rate of Los Angeles County between the years of 2016 and 2045. In addition, the City of Long Beach is forecasted to exceed the employment growth rate of Los Angeles County within the same timeframe. Table 2.6-5 depicts the most current population and employment forecasts from the SCAG's Connect SoCal 2020-2045 RTP/SCS *Demographics and Growth Forecast Technical Report* (SCAG 2020b) for each city within the CIA Study Area.

Table 2.6-5: Existing and Projected Employment

	Population			Employment		
	2016[1]	**2045**	**Percent Increase 2016–2045**	**2016**[1]	**2045**	**Percent Increase 2016–2045**
County						
Los Angeles	10,110,000	11,674,000	15%	4,743,000	5,382,000	13%
CIA Study Area Cities[1]						
Los Angeles	3,933,800	4,771,300	21%	1,848,300	2,135,900	16%
Carson	93,600	105,200	12%	63,400	70,000	10%
Long Beach	470,900	489,600	4%	155,900	185,400	19%
Los Angeles County – Unincorporated	1,044,500	1,258,000	20%	269,100	320,100	19%

Source: Community Impact Assessment (2024).

1 The year 2016 was used as the baseline forecast year in the 2020-2045 RTP/SCS *Demographics and Growth Forecast Technical Report* (SCAG 2020b) since the forecast development was the first milestone completed in the production of the report in 2016.

2 Population and household growth forecast data are representative of the entire municipal jurisdiction and is not limited to the portion of the municipality located within the CIA Study Area.

Table 2.6-6 summarizes the employment by economic sector represented as a percentage of the total population within Los Angeles County and the CIA Study Area cities and communities. Based on the regional employment data obtained from the ACS 5-Year Estimates (2017–2021), the Educational Services/Health Care and Social Assistance sector and the Professional, Scientific, Management, Administrative, and Waste Management Services sector are the largest and second-largest industry sectors, respectively, within Los Angeles County. Comparatively, the cities and communities within the CIA Study Area exhibit more variance in employment sector distribution, as a large portion of residents within the CIA Study Area are employed in various sectors associated with the regional port industry.

Table 2.6-6: Employment by Sector

Industry	Los Angeles County	City of Los Angeles			City of Long Beach	City of Carson	Port of Los Angeles/Port of Long Beach
		Wilmington[1]	Harbor City[1]	San Pedro[1]			
Agriculture, Forestry, Fishing, Hunting, and Mining	0.50%	**0.51%**	**0.59%**	**0.75%**	0.48%	**0.64%**	0%
Construction	6.40%	**11.16%**	**7.30%**	**7.05%**	**9.39%**	**6.69%**	0%
Manufacturing	8.50%	**11.11%**	**8.91%**	2.86%	**10.61%**	**37.99%**	0%
Wholesale Trade	3.10%	**3.67%**	**3.62%**	**3.16%**	2.50%	**4.05%**	0%
Retail Trade	10.10%	**13.03%**	9.00%	9.53%	9.10%	**12.61%**	0%
Transportation, Warehousing, and Utilities	6.70%	**11.91%**	**8.59%**	**12.94%**	3.86%	**13.81%**	0%
Information	4.30%	0.79%	1.76%	2.27%	1.23%	2.54%	0%
Finance, Insurance, and Real Estate	5.80%	2.53%	5.73%	4.75%	3.51%	3.21%	0%
Scientific, Management, Administrative, and Waste Management	13.9%	10.35%	12.87%	12.09%	12.35%	13.53%	50%
Educational Services, Health Care, and Social Assistance	22.2%	15.03%	21.25%	19.88%	21.99%	**34.71%**	50%
Entertainment, Recreation, Accommodation, and Food Services	9.6%	**10.43%**	9.11%	8.82%	**11.83%**	**11.02%**	0%
Other Services, except Public Administration	5.1%	**7.87%**	**7.41%**	**7.25%**	**6.54%**	**6.56%**	0%
Public Administration	3.7%	1.63%	**3.88%**	3.58%	3.21%	**5.23%**	0%

Source: Community Impact Assessment (2024).

Note: **Bolding** indicate the value is higher than the Los Angeles County average.

[1] Data presented are representative of the portion of the city or community within the CIA Study Area.

Employment and Income

Employment profiles for Los Angeles County and the cities and communities within the CIA Study Area are provided in Table 2.6-7. Based on Table 2.6-7, the portions of the city of Long Beach (8.87 percent) and the communities of Wilmington (7.74 percent) and Harbor City (7.53 percent) within the CIA Study Area exhibit higher unemployment rates than Los Angeles County (6.95 percent).

Table 2.6-7: Labor Force Characteristics

	Civilian Labor Force (16+)	Employed	Unemployed	Unemployment Rate
County				
Los Angeles	5,227,846	4,864,267	363,579	6.95%
CIA Study Area – Cities and Communities[1]				
City of Los Angeles (Wilmington)	25,787	23,791	1,996	**7.74%**
City of Los Angeles (Harbor City)	15,647	14,468	1,179	**7.53%**
City of Los Angeles (San Pedro)	39,911	37,431	2,480	6.21%
City of Long Beach	30,845	28,110	2,735	**8.87%**
City of Carson	10,813	10,072	741	6.85%
Port of Los Angeles/Port of Long Beach	10	10	0	0%

Source: Community Impact Assessment (2024).
Note: **Bolding** indicates the value is higher than the Los Angeles County average.
[1] Data presented are representative of the portion of the city or community within the CIA Study Area.

Table 2.6-8 provides a profile of median household income levels and poverty rates within Los Angeles County and the CIA Study Area cities and communities. As depicted in Table 2.6-8, the community of Wilmington ($55,898), the community of Harbor City ($72,363), and the City of Long Beach ($60,100) reported a lower median household income than the County of Los Angeles ($77,456). The community of Wilmington (20 percent) and the City of Long Beach (20.3 percent) reported a larger percent of the total population living below the federal poverty level than the County of Los Angeles (14.2 percent). Median household income data were not available in the ACS 5-Year Estimates (2017–2021) for the population within POLA/POLB; however, 46.4 percent of the population reported living below the federal poverty level.

Table 2.6-8: Income and Poverty

	Total Population for Whom Poverty Status is Determined	Median Household Income ($)	Persons Living Below the Federal Poverty Level (%)
County			
Los Angeles	9,661,802	77,456	14.2%
CIA Study Area – Cities and Communities[1]			
City of Los Angeles (Wilmington)	14,159	**55,898**	**20.0%**
City of Los Angeles (Harbor City)	10,367	**72,363**	12.7%
City of Los Angeles (San Pedro)	28,832	79,646	14.0%
City of Long Beach	19,526	**60,100**	**20.3%**
City of Carson	5,256	103,389	9.3%
Port of Los Angeles/Port of Long Beach	23	N/A	**46.4%**

Source: Community Impact Assessment (2024).
Note: **Bolding** indicates the value is higher (poverty level) or lower (median household income) than the Los Angeles County average.
[1] Data presented are representative of the portion of the city or community within the CIA Study Area.

Business Activity

The CIA Study Area is heavily developed and contains POLA and POLB as well as many businesses that conduct commercial and industrial business activity. Within the CIA Study Area, there is a wide range of commercial and industrial businesses, including, but not limited to, large-scale and small-scale retail, production/manufacturing, restaurants, grocery stores, and recreational businesses.

Fiscal Conditions

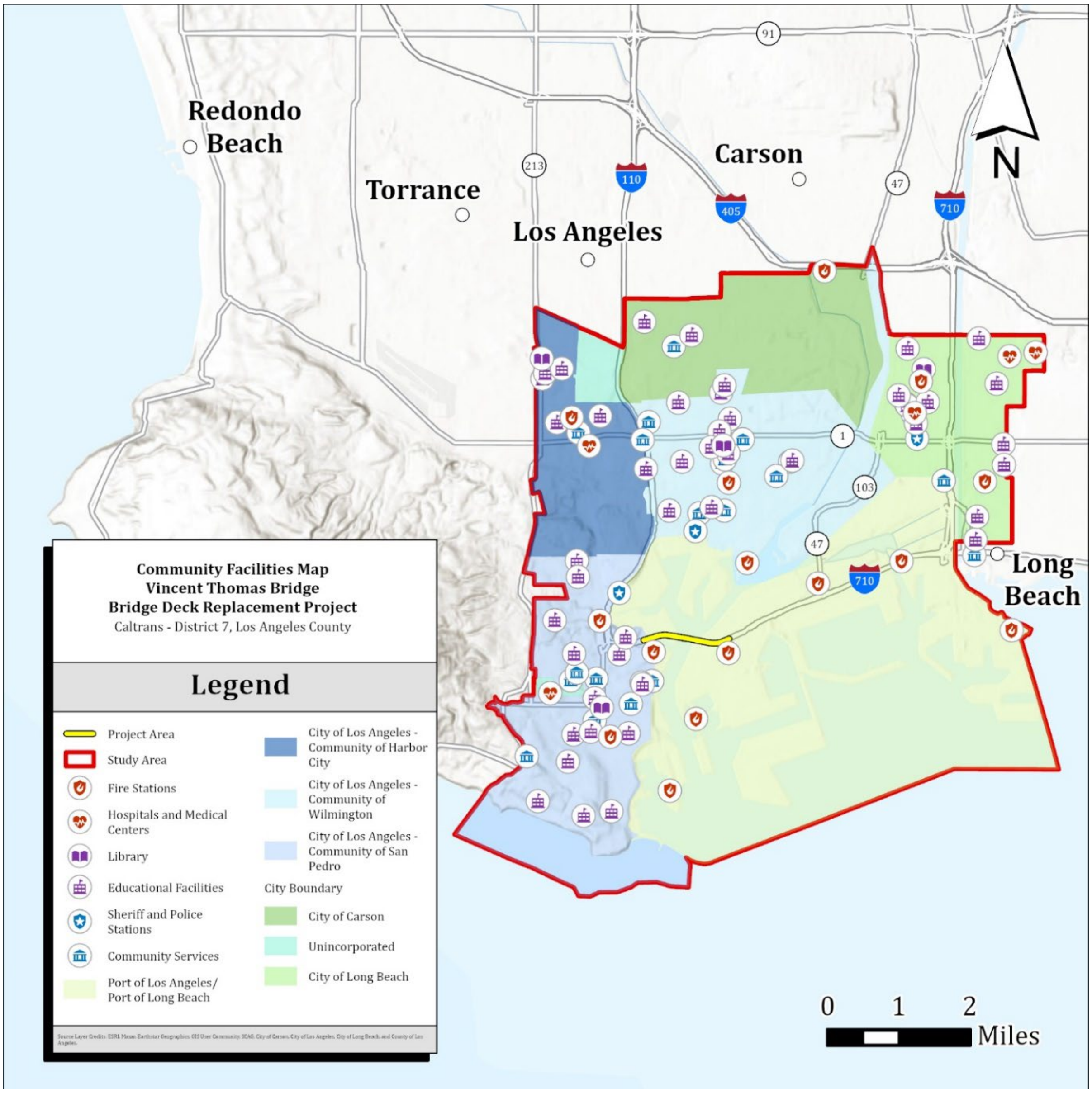
Property taxes are levied on the assessed property value of privately owned property. The Los Angeles County Assessor's Office establishes the assessed value of properties within the county by appraising the value of each property. The Los Angeles County Treasurer and Tax Collector's Office collect property taxes and apportion the funds to the incorporated cities within the county. Additional funds for jurisdictional services are generated from sales taxes. The 2023 sales tax rate within Los Angeles County in 9.5 percent, while the sales tax rates for the cities within the CIA Study Area are 10.25 percent (California Department of Tax and Fee Administration 2023).

2.6.2.3 Community Facilities and Services

Community facilities are those services and institutions that the local population relies on for their health and welfare and to interact with other members of the community. Community facilities include schools, libraries, health providers, emergency services, community centers, senior centers, and other similar institutions. The discussion of public recreational facilities is provided in Section 2.4, Parks and Recreational Facilities.

Accessibility of community facilities and services enhances the quality of life in the community, which contributes to an overall sense of community cohesion. Below is a discussion regarding the community facilities and services within the CIA Study Area. Figure 2.6-1 shows the locations of the different facilities within the CIA Study Area, including libraries, hospitals, educational facilities, and emergency service providers. Tables summarizing the different facilities are presented below.

Figure 2.6-1: Community Facilities Map



Source: Community Impact Assessment (2024).

Community Facilities

Community and senior centers within the CIA Study Area are listed in Table 2.6-9, below. Most of the facilities are located over 2 miles from the Project Area. The closest facility to the Project Area is the POLA Boys and Girls Club, located at 100 W. 5th Street, approximately 0.71 mile south of the bridge.

Table 2.6-9: Community and Senior Centers Within the CIA Study Area

Facility Name	Address	Distance from Project Area (miles)
City of Los Angeles – Wilmington		
Mahar House Community Center	1115 Mahar Avenue, Los Angeles	3.18
Wilmington YMCA	1127 N. Avalon Boulevard, Los Angeles	2.99
East Wilmington Greenbelt Community Center	918 Sanford Avenue, Los Angeles	2.87
Boys and Girls Club of Wilmington	1444 W. Q Street, Los Angeles	3.63
Wilmington Senior Citizen Center	1371 Eubank Avenue, Los Angeles	3.39
Team AMVETS Post 33	121 W. E Street, Los Angeles	2.18
Harbor Community Teen Center	612 W. E Street, Wilmington, Los Angeles	2.13
Wilmington Jaycee Foundation	1148 N. Avalon Boulevard, Los Angeles	3.04
City of Los Angeles – Harbor City		
Boys and Girls Club of South Bay	1220 256th Street W., Los Angeles	3.69
Harbor City Community Job Center	1352 Figueroa Place, Los Angeles	3.34
City of Los Angeles – San Pedro		
San Pedro Neighborhood Center	769 W. Third Street, Los Angeles	1.03
San Pedro YMCA	301 S. Bandini Street, Los Angeles	1.41
Boys and Girls Club of San Pedro	1200 S. Cabrillo Avenue, Los Angeles	1.59
Anderson Memorial Senior Citizen Center	828 S. Mesa Street, Los Angeles	1.10
Port of Los Angeles Boys and Girls Club	100 W. 5th Street, Los Angeles	0.71
Little Sisters of the Poor – Jeanne Jugan Residence	2100 S. Western Avenue, Los Angeles	2.79
Salvation Army Sage House	138 S. Bandini Street, Los Angeles	1.26
City of Long Beach		
Freeman E. Fairfield/Westside Boys and Girls Club of Long Beach	1835 W. Willard Street, Long Beach	4.92
Long Beach Community Foundation	400 Oceangate #800, Long Beach	4.38
Long Beach Multi-Service Center	1301 W. 12th Street, Long Beach	4.51
City of Carson		
Samoan American Senior Citizen Center	23742 S. Main Street, Carson	4.90

Source: Community Impact Assessment (2024).

Libraries

Libraries within the CIA Study Area are listed in Table 2.6-10, below.

Table 2.6-10: Libraries Within the CIA Study Area

Facility Name	Street Address	Distance from Project Area
City of Los Angeles – Wilmington		
Los Angeles Public Library – Wilmington Branch	1300 N. Avalon Boulevard, Los Angeles	2.72 miles
City of Los Angeles – Harbor City		
Los Angeles Public Library – Harbor City – Harbor Gateway Branch	24000 S. Western Avenue, Los Angeles	4.19 miles
City of Los Angeles – San Pedro		
Los Angeles Public Library – San Pedro Regional Branch	931 S. Gaffey Street, Los Angeles	1.11 miles
City of Long Beach		
Long Beach Public Library – Bret Harte Neighborhood Library	1595 W. Willow Street, Long Beach	4.64 miles

Source: Community Impact Assessment (2024).

Hospitals and Medical Centers

Hospitals and medical centers within the CIA Study Area are listed in Table 2.6-11, below.

Table 2.6-11: Hospitals and Medical Centers Within the CIA Study Area

Facility Name	Address	Distance from Project Area (miles)
City of Los Angeles – Harbor City		
Kaiser Permanente – South Bay Medical Center	25825 S. Vermont Street, Los Angeles	2.81
City of Los Angeles – San Pedro		
Providence Little Company of Mary Hospital	1300 W. 7th Street, Los Angeles	1.53
City of Long Beach		
Long Beach Memorial Medical Center and Miller Children's Hospital	2801 Atlantic Avenue, Long Beach	5.82
City of Long Beach Department of Health and Human Services – The Children's Clinic	2125 Santa Fe Avenue, Long Beach	4.11
College Medical Center	2776 Pacific Avenue, Long Beach	5.53

Source: Community Impact Assessment (2024).

Educational Facilities

Educational facilities within the CIA Study Area are listed in Table 2.6-12, below.

Table 2.6-12: Educational Facilities Within the CIA Study Area

Facility Name	Facility Type	Address	Distance from Project Area (miles)
City of Los Angeles – Wilmington			
Scholarship Preparatory – South Bay	Charter School	24910 S. Avalon Boulevard, Los Angeles	3.46
George De La Torre Jr. Elementary	Public School	500 N. Island Avenue, Los Angeles	1.86
Harry Bridges Span School	Public School	1235 Broad Avenue, Los Angeles	2.61
Phineas Banning Senior High School	Public School	1527 Lakme Avenue, Los Angeles	3.09
Dan M. Issacs Avalon High School	Public School	1425 N. Avalon Boulevard, Los Angeles	2.92
Broad Avenue Elementary School	Public School	24815 Broad Avenue, Los Angeles	3.57
Fries Avenue Elementary School	Public School	1301 Fries Avenue, Los Angeles	2.71
Gulf Avenue Elementary School	Public School	828 W. L Street, Los Angeles	2.45
Hawaiian Avenue Elementary School	Public School	540 Hawaiian Avenue, Los Angeles	1.75
Wilmington Park Elementary School	Public School	1140 Mahar Avenue, Los Angeles	2.66
Wilmington Middle Science, Technology, Engineering, Arts, Mathematics Magnet	Public School	1700 Gulf Avenue, Los Angeles	3.28
City of Los Angeles – Harbor City			
Los Angeles Harbor College	Junior College	1111 Figueroa Place, Los Angeles	2.35
Humanities and Arts Academy of Los Angeles	Public School	24300 S. Western Avenue, Los Angeles	4.00
George S. Patton Continuation School	Public School	24514 S. Western Avenue, Los Angeles	3.94
Nathaniel Narbonne Senior High School	Public School	24300 Western Avenue, Los Angeles	4.00
Harbor City Elementary School	Public School	1508 W. 254th Street, Los Angeles	3.29
Normont Elementary School	Public School	1001 W. 253rd Street, Los Angeles	3.19
President Avenue Elementary School	Public School	1465 W. 243rd Street, Los Angeles	3.99
City of Los Angeles – San Pedro			
Harbor Occupational Center	Adult Education	740 N. Pacific Avenue, Los Angeles	0.26
Port of Los Angeles High School	Charter School	250 W. Fifth Street, Los Angeles	0.62
William J. Johnston Community Day School	Public School	2210 Taper Avenue, Los Angeles	1.46
Angel's Gate Continuation School	Public School	3607 S. Gaffey Street, Los Angeles	2.61
San Pedro Senior High School	Public School	1001 W. 15th Street, Los Angeles	1.65
Bandini Street Elementary School	Public School	425 N. Bandini Street, Los Angeles	0.99
Barton Hill Elementary School	Public School	423 N. Pacific Avenue, Los Angeles	0.39
Cabrillo Avenue Elementary School	Public School	732 S. Cabrillo Avenue, Los Angeles	1.06
Fifteenth Street Elementary School	Public School	1527 S. Mesa Street, Los Angeles	1.33
Leland Street Elementary School	Public School	2120 S. Leland Street, Los Angeles	2.01
Park Western Place Elementary School	Public School	1214 Park Western Pl., Los Angeles	1.28
Point Fermin Elementary School	Public School	3333 Kerckhoff Avenue, Los Angeles	2.45
Taper Avenue Elementary School	Public School	1824 Taper Avenue, Los Angeles	1.28
White Point Elementary School	Public School	1410 Silvius Avenue, Los Angeles	2.71
Richard Henry Dana Middle School	Public School	1501 S. Cabrillo Avenue, Los Angeles	1.48
City of Long Beach			
Chavez Elementary School	Public School	730 W. 3rd Street, Long Beach	3.73
Edison Elementary School	Public School	625 Maine Avenue, Long Beach	3.89
Washington Middle School	Public School	1450 Cedar Avenue, Long Beach	4.57
Educational Partnership High School	Public School	1794 Cedar Avenue, Long Beach	4.73
Lafayette Elementary School	Public School	2445 Chestnut Avenue, Long Beach	5.20
Birney Elementary School	Public School	710 W. Spring Street, Long Beach	5.49
Garfield Elementary School	Public School	2240 Baltic Avenue, Long Beach	4.34
Cabrillo High School	Public School	2001 Santa Fe Avenue, Long Beach	4.01
Beach K-12 Independent Study School	Public School	2153 W. Hill Street, Long Beach	4.13
Hudson Elementary School	Public School	2335 Webster Avenue, Long Beach	4.17
Stephens Middle School	Public School	1830 W. Columbia Street, Long Beach	4.79
Reid High School	Public School	2153 W. Hill Street, Long Beach	4.12
City of Carson			
Catskill Avenue Elementary School	Public School	23536 Catskill Avenue, Carson	4.23
232nd Place School and Science, Technology, Engineering, Mathematics, and Music Magnet	Public School	23240 Archibald Avenue, Carson	4.41

Source: Community Impact Assessment (2024).

Emergency Services

Emergency services, including police, fire, and emergency medical services (EMS), are provided by numerous agencies within the CIA Study Area as noted in Table 2.6-13. Fire and EMS services are provided by the City of Los Angeles Fire Department, County of Los Angeles Fire Department, and Long Beach Fire Department. Law enforcement is provided by the Los Angeles Police Department, Los Angeles Port Police, and City of Long Beach Police Department, while the California Highway Patrol provides traffic law enforcement on the State highways, including Interstate 110 (I-110) and Interstate 710 (I-710).

Table 2.6-13: Emergency Services Within the CIA Study Area

Facility Name	Address	Distance from Project Area (miles)
City of Los Angeles – Wilmington		
Los Angeles Fire Department – Station No. 38	124 I Street, Los Angeles	2.22
Los Angeles Fire Department – Station No. 49	400 Yacht Street, Los Angeles	1.09
City of Los Angeles – Harbor City		
Los Angeles Fire Department – Station No. 85	1331 W. 253rd Street, Los Angeles	3.28
City of Los Angeles – San Pedro		
Los Angeles Fire Department – Station No. 36	1005 N. Gaffey Street, Los Angeles	0.67
Los Angeles Fire Department – Station No. 48	1601 S. Grand Avenue, Los Angeles	1.44
Los Angeles Fire Department – Station No. 112	444 S. Harbor Boulevard, Los Angeles	0.21
Los Angeles Port Police Department	330 S. Centre Street	0.59
Los Angeles Police Department – Harbor Community Police Station	2175 John S. Gibson Boulevard	0.75
City of Los Angeles – Port of Los Angeles/Port of Long Beach		
Los Angeles Fire Department – Station No. 110	2945 Miner Street, Los Angeles	2.17
Los Angeles Fire Department – Station No. 111	1444 S. Seaside Avenue, Los Angeles	1.07
Los Angeles Fire Department – Station No. 40	330 Ferry Street, Los Angeles	0.18
Long Beach Fire Department – Station No. 24	111 Pier S Avenue, Los Angeles	1.43
Long Beach Fire Department – Station No. 20	1900 Pier D Street, Los Angeles	2.61
Long Beach Fire Department – Station No. 6	330 Windsor Way, Los Angeles	3.93
City of Long Beach		
Long Beach Fire Department – Station No. 13	2475 Adriatic Avenue, Long Beach	4.51
Long Beach Fire Department – Station No. 3	1222 Daisy Avenue, Long Beach	4.18
Long Beach Police Department – West Patrol Division	1835 Santa Fe Avenue, Long Beach	3.83
City of Carson		
Los Angeles County Fire Department – Station No. 127	2049 E. 223rd Street, Carson	5.27

Source: Community Impact Assessment (2024).

Utilities

Utility Service providers within the CIA Study Area are summarized in Table 2.6-14. Additionally, four AT&T electrical conduits are present within the Project Area. Each of the electrical conduits are attached to the side of the catwalk on the bridge.

Table 2.6-14: Utility Providers

Facility Name	Utility Provider
Water and Sewer	Los Angeles Department of Water and Power, City of Long Beach Water
Stormwater	Los Angeles County Department of Public Works
Gas	Southern California Gas Company, Long Beach Gas and Oil
Electricity	Los Angeles Department of Water and Power, Southern California Edison
Telecom	AT&T, Time Warner Cable
Cable	Time Warner Cable, Comcast, Cox, DirectTV, Frontier, Spectrum, AT&T
Trash Service	City of Los Angeles Department of Public Works – Sanitation, City of Long Beach Department of Public Works

Source: Community Impact Assessment (2024).

2.6.3 ENVIRONMENTAL CONSEQUENCES

2.6.3.1 Population and Housing

Regional Population Characteristics

No Build Alternative
No construction activities would occur; therefore, the No Build Alternative would result in no impacts to regional population characteristics under CEQA, with no effect under NEPA.

Build Alternative
The Build Alternative proposes to replace an existing bridge deck and does not propose changes to access or capacity; therefore, project-related population or housing growth is not reasonably foreseeable. Implementation of the Build Alternative would not influence changes in regional population characteristics. The Build Alternative would result in no temporary or permanent impacts to regional population characteristics under CEQA, with no effects under NEPA.

Neighborhoods/Communities/Community Character

No Build Alternative
Under the No Build Alternative, the bridge deck would continue to deteriorate and emergency closures for repairs may be needed, thereby closing off a critical transportation link and economic corridor. The changes to travel patterns resulting from emergency and long-term closures may lead to increased traffic volumes in local communities. However, increased traffic volumes along local streets would not divide established communities or impact their character or cohesion. Therefore, the No Build Alternative would result in no impacts to community character and cohesion under CEQA, with no effect under NEPA.

Build Alternative
During construction, a full or partial closure of the Vincent Thomas Bridge and temporary detours would be required for bridge deck replacement work that may temporarily impact neighborhoods, communities, and community character. The duration of temporary traffic detours required for a full bridge closure is approximately 16 to 41 months. The duration of a partial bridge closure (two-stage construction and three-stage construction) would be approximately 25 to 32 months. With the nighttime bridge closure option, wherein the bridge would be open from 6:00 a.m. to 7:00 p.m. and closed for construction from 7:00 p.m. to 6:00 a.m., the duration of traffic detours required would be 48 months. A full closure of the bridge would result in all bridge traffic being diverted into neighboring communities. Partial closure would potentially result in less traffic being diverted into neighboring communities as traffic would maintain the ability to cross the bridge. Temporary detours may result in changes to travel patterns, increases in traffic volumes along detour routes, and travel distance and time within the CIA Study Area.

Although construction activities and detours may also result in intermittent increases in construction-related dust and noise to residential areas adjacent to the Project Area or along detour routes; the construction-related impacts would be temporary and would not divide established neighborhoods and communities or affect community character, and project features and best management practices (BMPs) would be incorporated to minimize construction-related impacts.

Therefore, the Build Alternative would result in less than significant impacts to neighborhoods, communities, and community character under CEQA with no adverse effects under NEPA.

Under the Build Alternative, no permanent regional or community-level impacts would occur as the Vincent Thomas Bridge deck would be replaced, allowing for continued use of this critical transportation facility. With all improvements occurring on the existing bridge, no residents or businesses would be displaced, no neighborhoods would be divided, and the population characteristics and distribution within the CIA Study Area would not change. Therefore, the Build Alternative would result in no permanent impacts to neighborhoods, communities, and community character under CEQA, with no effects under NEPA.

Housing

No Build Alternative
No construction activities would occur; therefore, the No Build Alternative would result in no impacts to housing under CEQA, with no effects under NEPA.

Build Alternative
The Build Alternative would maintain the existing configuration of the Vincent Thomas Bridge and does not include any changes to access or capacity. All improvements would occur within the footprint of the existing bridge and Caltrans right-of-way, and would not require any residential acquisitions, relocations, or construction of new housing units. Therefore, the Build Alternative would result in no impacts to housing under CEQA, with no effects under NEPA.

2.6.3.2 Economic Conditions

Regional Economy

No Build Alternative
Under the No Build Alternative, there would be no bridge improvements and the Vincent Thomas Bridge deck would continue to deteriorate, which may lead to emergency and long-term closures of this critical transportation link and economic corridor. Although bridge closures may temporarily modify travel patterns in the CIA Study Area, alternative routes are available and there would be no effect to regional economic characteristics or employment sectors. Therefore, the No Build Alternative would result in no impacts to the regional economy under CEQA, with no effect under NEPA.

Build Alternative
During construction, a full or partial closure of the Vincent Thomas Bridge and temporary detours would be required for bridge deck replacement work and would not affect the regional economy. The duration of temporary traffic detours required for a full bridge closure is approximately 16 to 41 months. The duration of a partial bridge closure (two-stage construction and three-stage construction) would be approximately 25 to 32 months. With the nighttime bridge closure option, wherein the bridge would be open from 6:00 a.m. to 7:00 p.m. and closed for construction from 7:00 p.m. to 6:00 a.m., the duration of traffic detours required would be 48 months. A full closure of the bridge would result in all bridge traffic being diverted into neighboring communities. Partial closure would potentially result in less traffic being diverted as traffic would maintain the ability to cross the bridge.

Temporary detours may result in changes to travel patterns and increases in traffic volumes along detour routes. Travel distances and time may increase for vehicles, transit, or trucks that typically use the Vincent Thomas Bridge. However, access to the ports and other regional employment centers within the CIA Study Area would remain, and the movement of people and goods would be maintained with visible advance construction signage and traffic control. Therefore, the Build Alternative would result in less than significant impacts to the regional economy under CEQA, with no adverse effects under NEPA.

Under the Build Alternative, replacement of the Vincent Thomas Bridge deck would extend the service life of the bridge deck and allow for regional business patterns to be maintained similar to existing patterns. There would be no changes to the regional economic characteristics or sectors; therefore, the Build Alternative would result in no permanent impacts to the regional economy under CEQA, with no effects under NEPA.

Employment and Income

No Build Alternative
Under the No Build Alternative, there would be no bridge improvements, and the Vincent Thomas Bridge's condition would continue to deteriorate, potentially leading to long-term closures of this critical transportation link. Although bridge closures may modify travel patterns in the CIA Study Area, alternative routes are available, so access to all employment destinations would be maintained. Therefore, the No Build Alternative would result in no impacts to employment and income under CEQA, with no effects under NEPA.

Build Alternative
During construction, short-term construction jobs would be created to support the bridge deck replacement. The jobs would be temporary and would be specific to the different activities involved in the construction. The construction employment associated with the Build Alternative would spur additional economic activities, including increased fuel sales at local gas stations, dining at local restaurants, and potential business at local motels and hotels. For local businesses, the bridge closure and detours may temporarily impact travel times for employees commuting to their workplace within the CIA Study Area, but would not affect employment levels or income. Therefore, the Build Alternative would result in no impacts to employment and income under CEQA, with no effects under NEPA.

The Build Alternative would maintain the existing configuration of the Vincent Thomas Bridge and proposed improvements would occur within the footprint of the existing bridge and Caltrans right-of-way; there would be no displacements or relocation of businesses. Therefore, the Build Alternative would result in no permanent impacts to employment and income under CEQA, with no effects under NEPA.

Business Activity

No Build Alternative
Under the No Build Alternative, there would be no construction activities or bridge improvements and the Vincent Thomas Bridge's condition would continue to deteriorate, potentially leading to long-term closures of this critical transportation link. Although there is a potential for long-term closures of the bridge and changes in travel patterns, access to existing businesses within the CIA Study Area would remain. Therefore, the No Build Alternative would result in no impacts to business activity under CEQA, with no effects under NEPA.

Build Alternative

During construction, access to businesses within the CIA Study Area would remain; however, bridge closures and temporary detours would result in changes to traffic patterns and increases in traffic volumes along detour routes that may affect businesses within the CIA Study Area. Although bridge closures and detour routes may temporarily affect business activity within the CIA Study Area, project features generally applied to most or all Caltrans projects, such as the Standard Plans and Specifications or construction BMPs for traffic, control, noise, and dust control, would be implemented to minimize construction-related impacts. Therefore, the Build Alternative would result in less than significant impacts to business activity under CEQA, with no adverse effects under NEPA.

The Build Alternative would replace the Vincent Thomas Bridge deck and other components and does not include any changes to access or capacity. The Build Alternative would not permanently alter business visibility or accessibility. Therefore, the Build Alternative would result in no permanent impacts to business activity under CEQA, with no effects under NEPA.

Fiscal Conditions

No Build Alternative

Under the No Build Alternative, there would be no bridge improvements or construction activities and the Vincent Thomas Bridge's condition would continue to deteriorate, potentially leading to emergency or long-term closures of this critical transportation link. There would be no changes to the tax base revenues under this alternative. Therefore, the No Build Alternative would result in no impacts to fiscal conditions under CEQA, with no effects under NEPA.

Build Alternative

Under the Build Alternative, the bridge deck replacement activities would occur completely within the footprint of the Vincent Thomas Bridge and Caltrans right-of-way. The temporary construction period would not result in changes to the tax-based revenues. Therefore, the Build Alternative would result in no temporary impacts to fiscal conditions under CEQA, with no effects under NEPA.

Under the Build Alternative, there would be no property acquisitions or relocations associated with bridge deck replacement. There would be no change to property values or sales tax revenues. Therefore, the Build Alternative would result in no permanent impacts to fiscal conditions under CEQA, with no effects under NEPA.

2.6.3.3 Community Facilities and Services

Community Facilities

No Build Alternative

Under the No Build Alternative, the bridge deck would continue to deteriorate, which may lead to emergency or long-term closures of this critical transportation link and economic corridor. Long-term closures of the bridge may lead to changes in travel patterns; however, access to community facilities and services would remain. Therefore, the No Build Alternative would result in no impacts to community facilities and services under CEQA, with no effects under NEPA.

Build Alternative
During construction, there would be no impacts to community facilities due to their distance from the Project Area construction activities and access to community facilities would be maintained. Therefore, the Build Alternative would result in no impacts to community facilities under CEQA, with no effects under NEPA.

The Build Alternative would replace the Vincent Thomas Bridge deck and other bridge components. Proposed bridge improvements would occur within the footprint of the existing bridge and Caltrans right-of-way and would not permanently displace or restrict access to an existing community facility. Therefore, the Build Alternative would result in no permanent impacts to community facilities and services under CEQA, with no effects under NEPA.

Emergency Services

No Build Alternative
Under the No Build Alternative, the bridge deck would continue to deteriorate, which may lead to emergency or long-term closures of this critical transportation link and economic corridor. Closure of the bridge may result in changes to travel patterns as motorists find alternate travel routes within the CIA Study Area. The changes to travel patterns may lead to increased traffic volumes in local communities, resulting in minor changes to emergency response times. Therefore, the No Build Alternative may result in potential impacts to emergency services.

Build Alternative
During construction, a full or partial closure of the Vincent Thomas Bridge and detours would be required for bridge deck replacement work that may affect emergency response times. The duration of temporary traffic detours required for a full bridge closure is approximately 16 to 41 months. The duration of a partial bridge closure (two-stage construction and three-stage construction) would be approximately 25 to 32 months. With the nighttime bridge closure option, wherein the bridge would be open from 6:00 a.m. to 7:00 p.m. and closed for construction from 7:00 p.m. to 6:00 a.m., the duration of traffic detours required would be 48 months. A full closure of the bridge would result in all bridge traffic being diverted into neighboring communities. Partial closure would potentially result in less traffic being diverted into neighboring communities, as traffic would maintain the ability to cross the bridge. Temporary detours may result in changes to travel patterns, increases in traffic volumes along detour routes, and increases in travel distance and time, and emergency response may be affected within the CIA Study Area. However, access to emergency service facilities would be maintained and coordination with emergency service providers would occur prior to and during construction, with construction signage and traffic control to maintain emergency services throughout the CIA Study Area. Therefore, the Build Alternative would result in less than significant impacts to emergency services under CEQA, with no adverse effects under NEPA.

The Build Alternative would replace the Vincent Thomas Bridge deck and other bridge components and does not include any changes to access or capacity. All proposed improvements would occur within the footprint of the existing bridge and Caltrans right-of-way and would not permanently alter emergency service routes or affect access to surrounding communities. Therefore, the Build Alternative would result in no permanent impacts to emergency services under CEQA, with no effects under NEPA.

Utilities

No Build Alternative
No construction activities would occur; therefore, the No Build Alternative would result in no impacts to utilities under CEQA, with no effects under NEPA.

Build Alternative
During construction, a full or partial closure of the Vincent Thomas Bridge and temporary detours would be required for bridge deck replacement work. There are four AT&T electrical conduits in the Project Area located on the side of the bridge catwalk that would be protected-in-place during construction, and utilities located along detour routes and within the CIA Study Area would not be affected. Coordination with utility providers would occur prior to construction to avoid service disruptions. Therefore, the Build Alternative would result in no impacts to utilities under CEQA, with no effects under NEPA.

The Build Alternative would replace the Vincent Thomas Bridge deck and other bridge components and does not include any changes to access or capacity. All proposed improvements would occur within the footprint of the existing bridge and Caltrans right-of-way and would not result in the relocation of an existing utility. Therefore, the Build Alternative would result in no permanent impacts to utilities under CEQA, with no effects under NEPA.

2.6.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

No impacts to population/housing, economic conditions, or community facilities and services are anticipated; therefore, no avoidance, minimization, and/or mitigation measures are required under the Build Alternative.

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2.7 Relocations and Real Property Acquisition

2.7.1 REGULATORY SETTING

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

All relocation services and benefits are administered without regard to race, color, national origin, persons with disabilities, religion, age, or sex. Please see Appendix B for a copy of Caltrans' Title VI Policy Statement.

2.7.2 AFFECTED ENVIRONMENT

See Section 2.6, Community Character and Cohesion, for information on housing and businesses within the CIA Study Area.

2.7.3 ENVIRONMENTAL CONSEQUENCES

2.7.3.1 No Build Alternative

Under the No Build Alternative, the bridge deck would continue to deteriorate, which may lead to emergency or long-term closures for this critical transportation link and economic corridor. No construction activities, property acquisitions, or relocations would occur under this alternative. Therefore, the No Build Alternative would result in no impacts associated with relocations or property acquisition under the California Environmental Quality Act (CEQA) with no effects under the National Environmental Policy Act (NEPA).

2.7.3.2 Build Alternative

Construction of the Build Alternative would require a temporary easement for storage of equipment and materials on an approximately 15-acre site. The final location of the temporary easement would be determined during final design prior to the start of construction and would be located on a vacant site within the CIA Study Area. The temporary easement would be located on a site compatible with the use of equipment and material storage and would not require the relocation of any residences, businesses, or community facilities. Therefore, the Build Alternative would result in no impacts associated with relocations or property acquisition under CEQA with no effects under NEPA.

The Build Alternative would maintain the existing configuration of the Vincent Thomas Bridge and does not include any changes to access or capacity. All proposed improvements would occur within the footprint of the existing bridge and Caltrans right-of-way. Therefore, the Build Alternative would result in no permanent impacts associated with relocations or property acquisition under CEQA with no effects under NEPA.

2.7.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

No property acquisitions or relocations would be required; therefore, no avoidance, minimization, and/or mitigation measures are required under the Build Alternative.

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2.8 Environmental Justice

2.8.1 REGULATORY SETTING

All projects involving a federal action (funding, permit, or land) must comply with Executive Order (EO) 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, signed by President William J. Clinton on February 11, 1994. This EO directs federal agencies to take the appropriate and necessary steps to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. Low income is defined based on the Department of Health and Human Services poverty guidelines. For 2024, this was $31,200/year for a family of four.

EO 14096, Revitalizing Our Nation's Commitment to Environmental Justice for All, was enacted on April 21, 2023. EO 14096 on environmental justice does not rescind EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which has been in effect since February 11, 1994, and is currently implemented through United States Department of Transportation (USDOT) Order 5610.2C. This implementation will continue until further guidance is provided regarding the implementation of the new EO 14096 on environmental justice.

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

2.8.2 AFFECTED ENVIRONMENT

The Council on Environmental Quality (CEQ), an advisory body that has oversight of the federal government's compliance with EO 12898 and the National Environmental Policy Act (NEPA), has developed guidance for implementing environmental justice under NEPA (CEQ 1997). The CEQ guidance recommends identifying minority populations where either (a) the minority population of the affected area exceeds 50 percent, or (b) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis. The CEQ guidance also recommends identifying low-income populations in an affected area by applying the annual statistical poverty thresholds from the United States Census Bureau Current Population Reports.

In January 2003, Caltrans published the Desk Guide, Environmental Justice in Transportation Planning and Investments (Desk Guide), which provides information and examples of ways to promote environmental justice to those involved in making decisions about California's transportation system (Caltrans 2003). The Desk Guide notes that transportation agencies, particularly those in a state as diverse as California, may need to adapt the regulatory definitions of low-income and minority populations to conduct a meaningful analysis. In regions with high minority and low-income populations, for example, use of the standard definitions to define such populations could result in selection of most of the region. Because Los Angeles County contains substantial minority and low-income populations (75 percent minority population and 14.2 percent living below the poverty threshold established by the U.S. Census Bureau), a different standard is required to identify those census tracts in the CIA Study Area where minority and low-income populations are present in meaningfully greater percentages than the general population of the larger community (this report uses the County as the “Reference Community” against which local demographics are compared to identify “meaningfully greater” environmental justice populations).

The Desk Guide also notes that the low-income or minority threshold may also be adapted to make use of available data. For example, the United States Census Bureau (Census Bureau) determines the number of persons living below poverty based on its poverty thresholds, which differ slightly from the poverty guidelines defined by the United States Department of Health and Human Services (HHS). For 2021, the Census Bureau’s preliminary weighted average federal poverty threshold for a family of four was $27,479 (Census Bureau 2021). Comparatively, the HHS established a poverty guideline of $26,500 for a family of four in 2021 (HHS 2021). Since the available census data related to persons living below the poverty level are based on the Census Bureau’s poverty thresholds, as recommended in the CEQ guidance, this analysis identifies low-income populations that are meaningfully greater than the general population by applying the Census Bureau’s poverty thresholds rather than the HHS poverty guidelines.

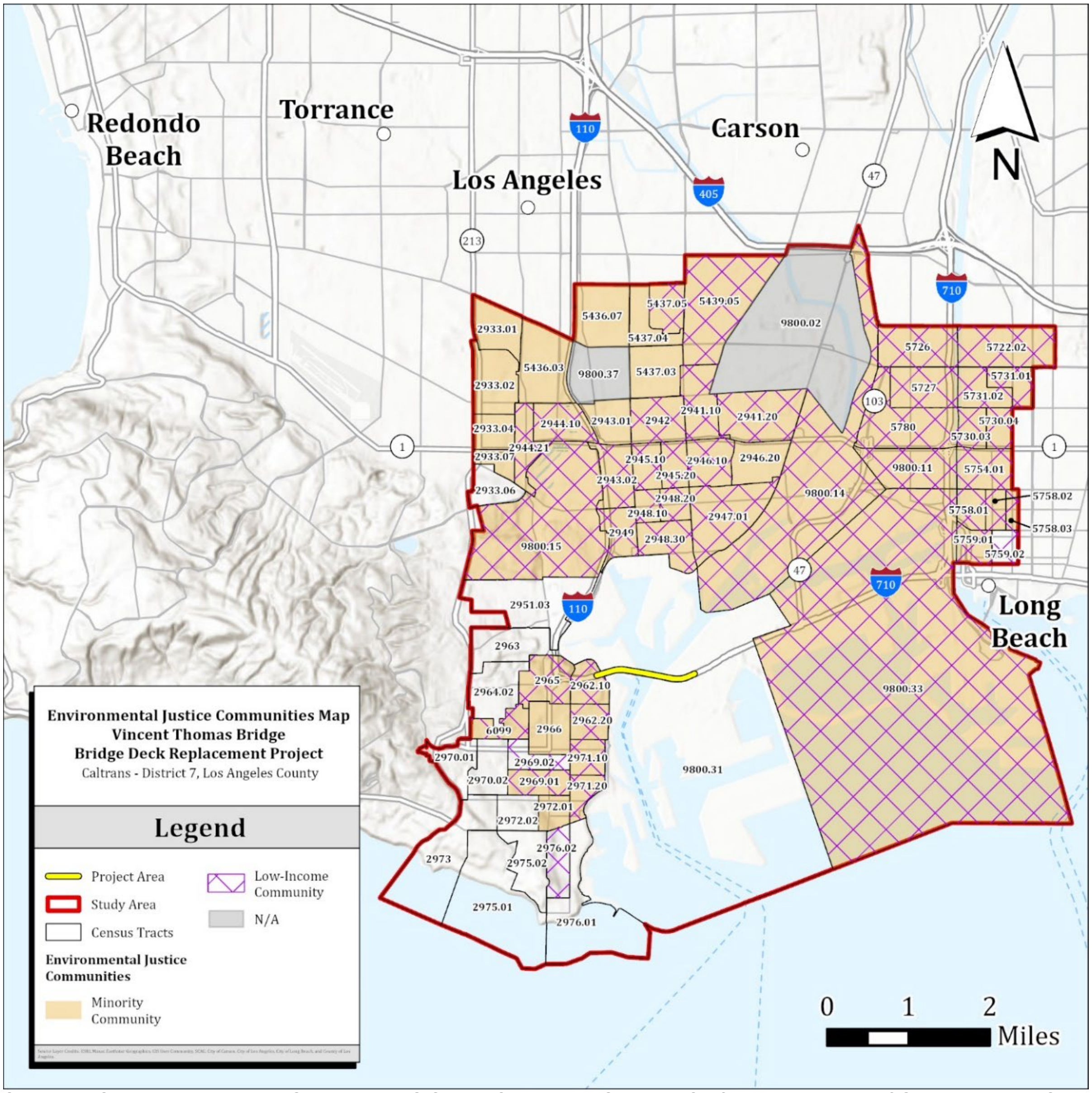
The environmental justice analysis was conducted using demographic information from the American Community Survey (ACS) 5-Year Estimates (2017–2021). The following populations were considered in assessing whether the project would result in disproportionately high and adverse effects to environmental justice communities and whether those alternatives and design variations would result in benefits for those populations:

- **Minority Population:** Defined as individuals who identify themselves as Black/African American, Asian, Native Hawaiian/Pacific Islander, Native American/Native Alaskan, Some Other Race, Two or More Races, or of Hispanic origin regardless of their race. As described in the methodology set forth above, a census tract is considered to have a meaningfully greater minority population than the Reference Community if the percentage of minority residents within the census tract is more than the Reference Community as a whole percent. Therefore, census tracts with a minority population 76 percent or higher are determined to be environmental justice communities.

- **Low-Income Population:** Pursuant to the methodology outlined above, low-income populations are those persons living below the poverty level as defined by the Census Bureau’s poverty threshold (Census Bureau 2021). The Census Bureau’s preliminary weighted average poverty threshold for a family of four was $27,479 for 2021. A census tract is considered to have meaningfully greater low-income population than the Reference Community if the percentage of residents living below the Census Bureau’s defined poverty threshold is greater than the Reference Community rounded to a tenth of a percent. Therefore, census tracts with a low-income population 14.3 percent or higher are determined to be environmental justice communities.

Minority and low-income population statistics for the Reference Community, the portions of cities or communities within the CIA Study Area, and each individual census tract within the CIA Study Area are provided in Table 2.8-1. Additionally, the geographical location of each identified minority or low-income population is illustrated on Figure 2.8-1. Based on the assessment methodology, either a minority or a low-income population was identified in 55 of the 69 census tracts that compose the CIA Study Area. Of the 55 census tracts where a minority or low-income population was identified, 36 census tracts include both a minority and low-income population.

Figure 2.8-1: Environmental Justice Communities Map



Sources: ESRI, Maxar, Earthstar Geographics, GIS User Community, Southern California Association of Governments, U.S Census Bureau, City of Carson, City of Los Angeles, City of Long Beach, and County of Los Angeles.

Table 2.8-1: Minority and Low-Income Demographics

Jurisdiction	Minority		Low-Income	
	Total Population	Minority Population (%)	Median Household Income ($)	Below Poverty Level (%)
County				
Los Angeles	9,829,544	75%	$77,456	14.2%
CIA Study Area – Cities and Communities[1]				
Wilmington (City of Los Angeles)	55,162	**93%**	$55,898	**20.0%**
Harbor City (City of Los Angeles)	30,921	70%	$72,363	12.7%
San Pedro (City of Los Angeles)	76,337	**80%**	$79,646	14.0%
City of Long Beach	20,616	73%	$60,100	**20.3%**
City of Carson	58,497	4%	$103,389	9.3%
Port of Los Angeles/ Port of Long Beach	1,173	1%	N/A	**46.4%**
Census Tracts				
2933.01	2,821	**78%**	$107,935	5.7%
2933.02	5,103	**79%**	$93,861	11.0%
2933.04	5,250	**83%**	$65,522	10.6%
2933.06	2,262	66%	$104,750	5.4%
2933.07	2,683	**90%**	$51,031	13.5%
2941.10	3,923	**87%**	$58,952	**16.5%**
2941.20	2,780	**100%**	$61,979	**19.2%**
2942.00	4,873	**96%**	$69,082	**14.7%**
2943.01	2,615	**94%**	$94,643	3.6%
2943.02	4,747	**97%**	$57,012	**15.0%**
2944.10	5,079	**88%**	$64,149	**21.5%**
2944.21	2,781	**91%**	$46,903	**18.3%**
2945.10	5,051	**98%**	$62,871	**21.4%**
2945.20	3,747	**97%**	$51,923	**15.9%**
2946.10	4,434	**97%**	$63,348	**17.8%**
2946.20	4,471	**98%**	$54,083	12.4%
2947.01	2,979	**96%**	$32,282	**28.2%**
2948.10	4,071	**98%**	$48,250	**27.2%**
2948.20	3,407	**99%**	$36,750	**36.2%**
2948.30	4,243	**96%**	$54,258	**21.9%**
2949.00	3,777	**98%**	$37,139	**31.2%**
2951.03	5,370	54%	$117,953	2.9%
2962.10	3,878	**96%**	$48,085	**21.1%**
2962.20	3,920	**88%**	$34,894	**32.9%**
2963.00	4,563	60%	$86,576	7.7%
2964.02	3,147	64%	$137,379	3.9%
2965.00	3,488	**84%**	$48,708	**22.3%**
2966.00	5,264	**83%**	$43,621	13.2%
2969.01	4,493	**84%**	$52,045	**24.2%**
2969.02	4,415	75%	$59,145	**16.2%**
2970.01	1,527	47%	$149,833	7.0%
2970.02	4,420	59%	$120,000	5.0%
2971.10	4,625	**86%**	$47,176	**26.7%**
2971.20	3,243	**83%**	$54,628	**18.8%**
2972.01	4,421	**77%**	$52,612	11.9%
2972.02	3,971	55%	$78,667	11.0%
2973.00	2,096	51%	$111,607	2.3%
2975.01	2,663	43%	$121,984	14.0%
2975.02	2,275	47%	$63,438	1.1%
2976.01	3,120	59%	$84,922	2.3%
2976.02	3,474	58%	$80,066	**20.1%**
5436.03	3,914	**83%**	$71,339	4.2%
5436.07	5,415	**93%**	$131,474	8.0%
5437.03	3,864	**91%**	$105,266	6.0%
5437.04	3,018	**92%**	$112,957	7.8%
5437.05	3,440	**95%**	$93,500	**17.0%**

Table 2.8-1: Minority and Low-Income Demographics

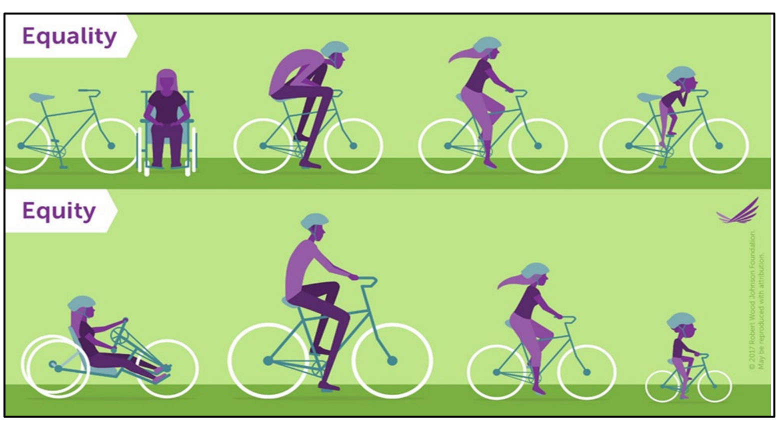
Jurisdiction	Minority		Low-Income	
	Total Population	**Minority Population (%)**	**Median Household Income ($)**	**Below Poverty Level (%)**
5439.05	4,879	**98%**	$73,750	8.8%
5722.02	3,375	**81%**	$103,990	8.7%
5726.00	4,923	**96%**	$72,188	11.0%
5727.00	5,361	**98%**	$79,115	8.6%
5730.03	1,813	**77%**	$82,891	9.8%
5730.04	4,977	**92%**	$50,192	**16.0%**
5731.01	4,583	**93%**	$53,611	**16.4%**
5731.02	2,795	**85%**	$80,762	**28.6%**
5754.01	4,714	**93%**	$37,583	**26.4%**
5758.01	2,270	**90%**	$39,350	**29.3%**
5758.02	5,171	**93%**	$46,747	**26.0%**
5758.03	3,175	**78%**	$26,413	**38.6%**
5759.01	3,675	**84%**	$55,367	**27.1%**
5759.02	4,953	61%	$55,855	**14.7%**
5780.00	6,647	**94%**	$57,337	**27.1%**
6099.00	1,964	**80%**	$79,219	**14.6%**
9800.02[2]	0	0%	$0	–
9800.11	65	**100%**	$0	**80.0%**
9800.14	44	**91%**	$0	**81.8%**
9800.15	1,028	**96%**	$45,781	**37.7%**
9800.31	1,160	64%	$0	0.0%
9800.33	13	**100%**	$0	**100.0%**
9800.37[2]	0	0%	$0	–

Sources: Community Impact Assessment (2024).
Note: **Bolding** indicates the value is meaningfully greater than the Los Angeles County average and an environmental justice community is present.
[1] Data presented is representative of the portion of the city or community within the CIA Study Area.
[2] The entirety of Census Tracts 9800.02 and 9800.37 are industrial land uses that do not include residential populations.

2.8.2.1 Equity

In transportation projects, community equity focuses on fair resource distribution, catering to the unique needs of underserved, overburdened, and disadvantaged communities. It aims for a balanced and inclusive system by addressing historical disparities. Community equality, however, involves equal resource distribution regardless of individual community needs, potentially overlooking challenges faced by marginalized groups. Equity seeks a just system by considering specific needs, while equality focuses on uniform treatment as illustrated on Figure 2.8-2.

Figure 2.8-2: Equality vs. Equity



Robert Wood Johnson Foundation (2017).

2.8.2.2 Transportation Facility History

The Vincent Thomas Bridge was originally constructed in 1963 to connect shipyard workers in San Pedro to the Port of Los Angeles (POLA) on Terminal Island. Prior to the construction of the bridge, private and municipal ferry services were the only means of transportation between the community of San Pedro and Terminal Island. Port officials determined that connecting Interstate 110 (I-110) and State Route 47 (SR-47) via the Vincent Thomas Bridge was crucial for the success of the ports as containerized cargo became more popular. Following construction of the bridge, a toll of $0.25 was assessed for use of the bridge, with the toll rate increasing to $0.50 in 1983. The toll was officially repealed in 2000.

Since the construction of the bridge in 1963, the Vincent Thomas Bridge has provided underserved communities in the region with a reliable and affordable transportation option to connect adjacent communities to employment opportunities on Terminal Island.

2.8.2.3 Underserved Communities

Per EO 13985 (2021), Advancing Racial Equity for Underserved Communities through the Federal Government, federal agencies are required to conduct an equity assessment to determine whether underserved communities and their members face systemic barriers in accessing the benefits and opportunities available pursuant to applicable policies and programs. The Caltrans Equity Statement acknowledges that communities of color and underserved communities experience fewer benefits and a greater share of negative impacts associated with the State’s transportation system (Caltrans 2020).

Definitions per EO 13985 include the following:

- The term “equity” means the consistent and systematic fair, just, and impartial treatment of all individuals, including individuals who belong to underserved communities that have been denied such treatment, such as Black, Latino, and Indigenous and Native American persons, Asian Americans and Pacific Islanders and other persons of color; members of religious minorities; lesbian, gay, bisexual, transgender, and queer (LGBTQ+) persons; persons with disabilities; persons who live in rural areas; and persons otherwise adversely affected by persistent poverty or inequality.

- The term “underserved communities” refers to populations sharing a particular characteristic, as well as geographic communities, that have been systematically denied a full opportunity to participate in aspects of economic, social, and civic life, as exemplified by the list in the preceding definition of “equity”.

The CIA Study Area contains meaningfully greater minority and low-income populations than Los Angeles County.

2.8.2.4 Disadvantaged Communities

Senate Bill (SB) 535 was adopted in 2012 to provide targeted investments aimed at improving public health, quality of life, and economic opportunity in California’s most burdened communities, and at the same time, reduce pollution contributing to climate change. The adoption of SB 535 directed the California Environmental Protection Agency (CalEPA) to create CalEnviroScreen to identify disadvantaged communities. Per SB 535, disadvantaged communities are defined as: (a) areas disproportionately affected by environmental pollution and other hazards that can lead to negative public health effects exposure, or environmental degradation or; (b) areas with concentrations of people that are of low income, high unemployment, low levels of homeownership, high rent burden, sensitive populations, or low levels of educational attainment.

The CalEnviroScreen 4.0 model, produced by the California Office of Environmental Health Hazard Assessment (OEHHA) within CalEPA, is a science-based mapping tool that helps identify California communities that are most affected by many sources of pollution and that are often especially vulnerable to pollution's effects. The model uses environmental, health, and socioeconomic information to produce a numerical score for each census tract in the State. There are a total of 13 pollution burden indicators and 8 population characteristics indicators, as defined below. Each census tract receives a score for as many of the indicators as applicable; however, not all census tracts will have a score for every indicator. A census tract is determined to be a disadvantaged community if the CalEnviroScreen 4.0 total score percentile is within the highest 25 percent of overall scores. Table 2.8-2 identifies the CalEnviroScreen model results for the portions of cities and communities within the CIA Study Area. The results are also shown geographically on Figures 2.8-3 through 2.8-5.

Table 2.8-2: CIA Study Area CalEnviroScreen 4.0 Results

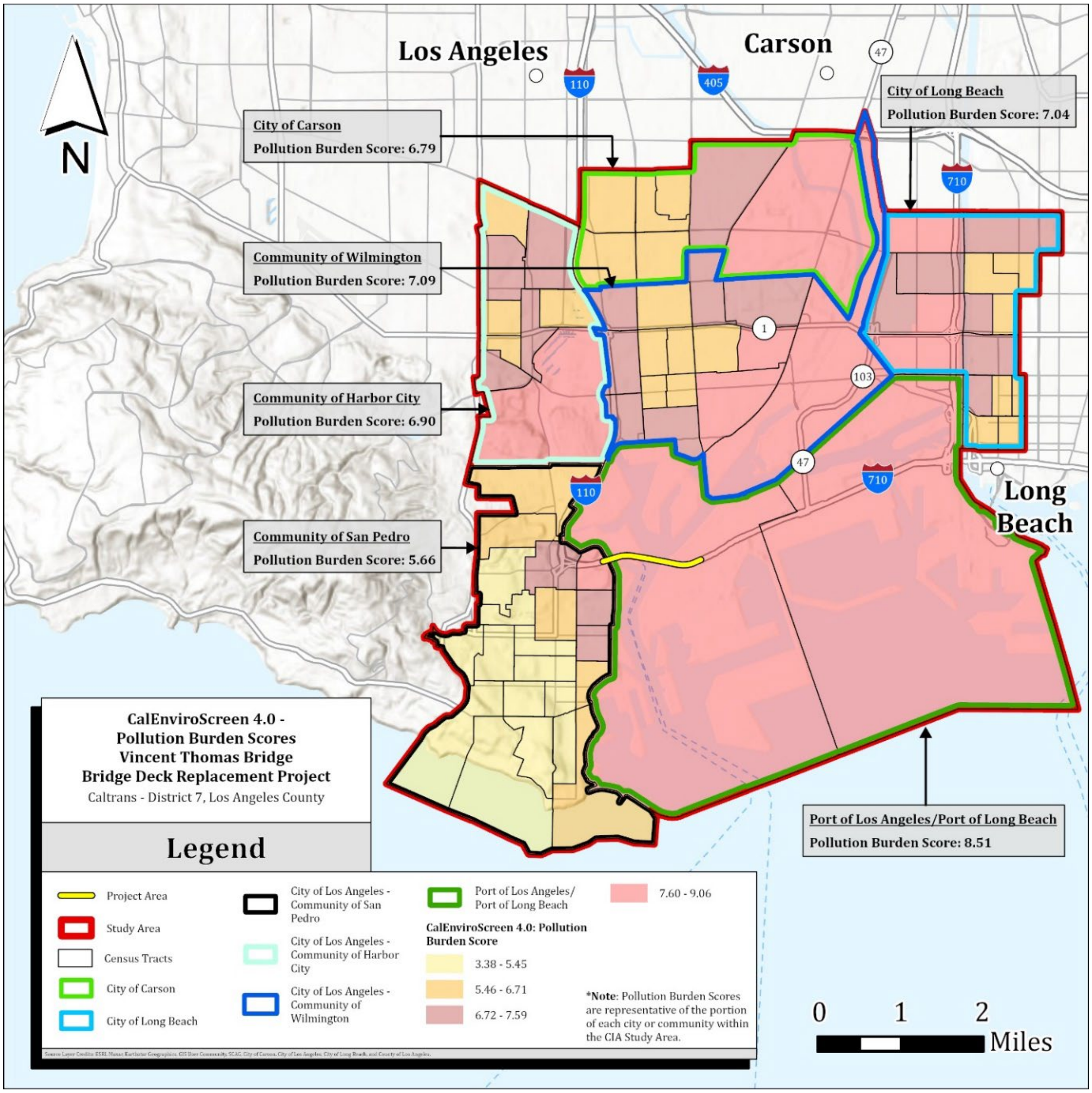
	Pollution Burden Score	Population Character Score	CalEnviroScreen 4.0	
			Total Score	Total Score Percentile
Los Angeles County				
Los Angeles	6.33	5.81	37.71	66
CIA Study Area – Cities and Communities[1]				
Wilmington (City of Los Angeles)	7.09	7.72	54.73	**90**
Harbor City (City of Los Angeles)	6.90	5.49	37.90	69.64
San Pedro (City of Los Angeles)	5.66	6.03	34.15	62.70
City of Long Beach	7.04	7.70	54.20	**89.07**
City of Carson	6.79	6.63	45.01	**77.63**
Port of Los Angeles/Port of Long Beach	8.51	N/A	N/A	N/A

Source: Community Impact Assessment (2024).

Note: **Bolding** indicates the census tracts that make up the portions of each city or community within the CIA Study Area is within the top 25% of overall CalEnviroScreen 4.0 scores; therefore, these cities or communities within the CIA Study Area are underserved or disadvantaged communities.

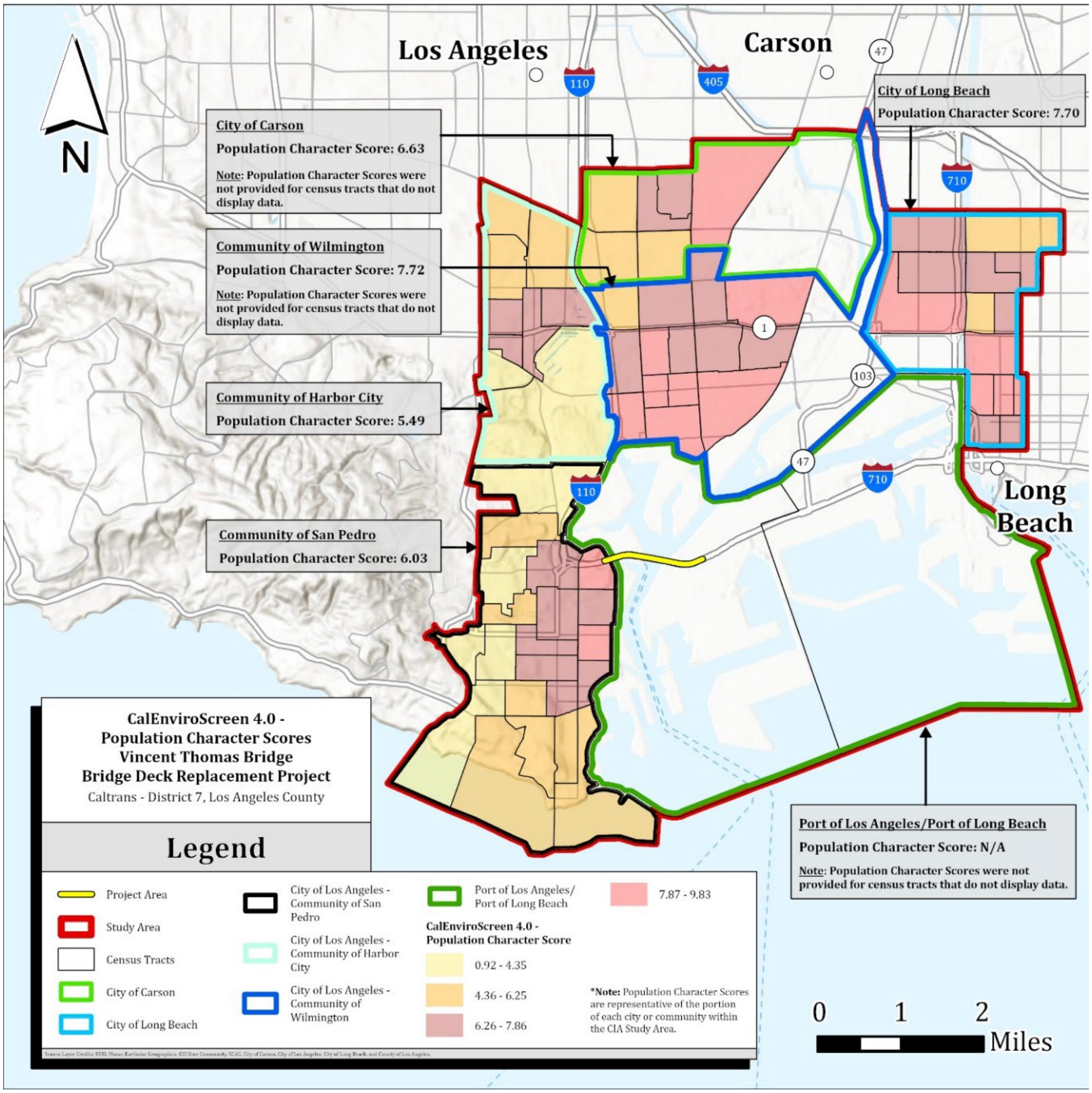
[1] Data presented is representative of the portion of the city or community within the CIA Study Area. CalEnviroScreen 4.0 scores for each city or community were developed by averaging the scores of all census tracts in the city or community jurisdiction located within the CIA Study Area.

Figure 2.8-3: CalEnviroScreen 4.0 Pollution Burden Scores



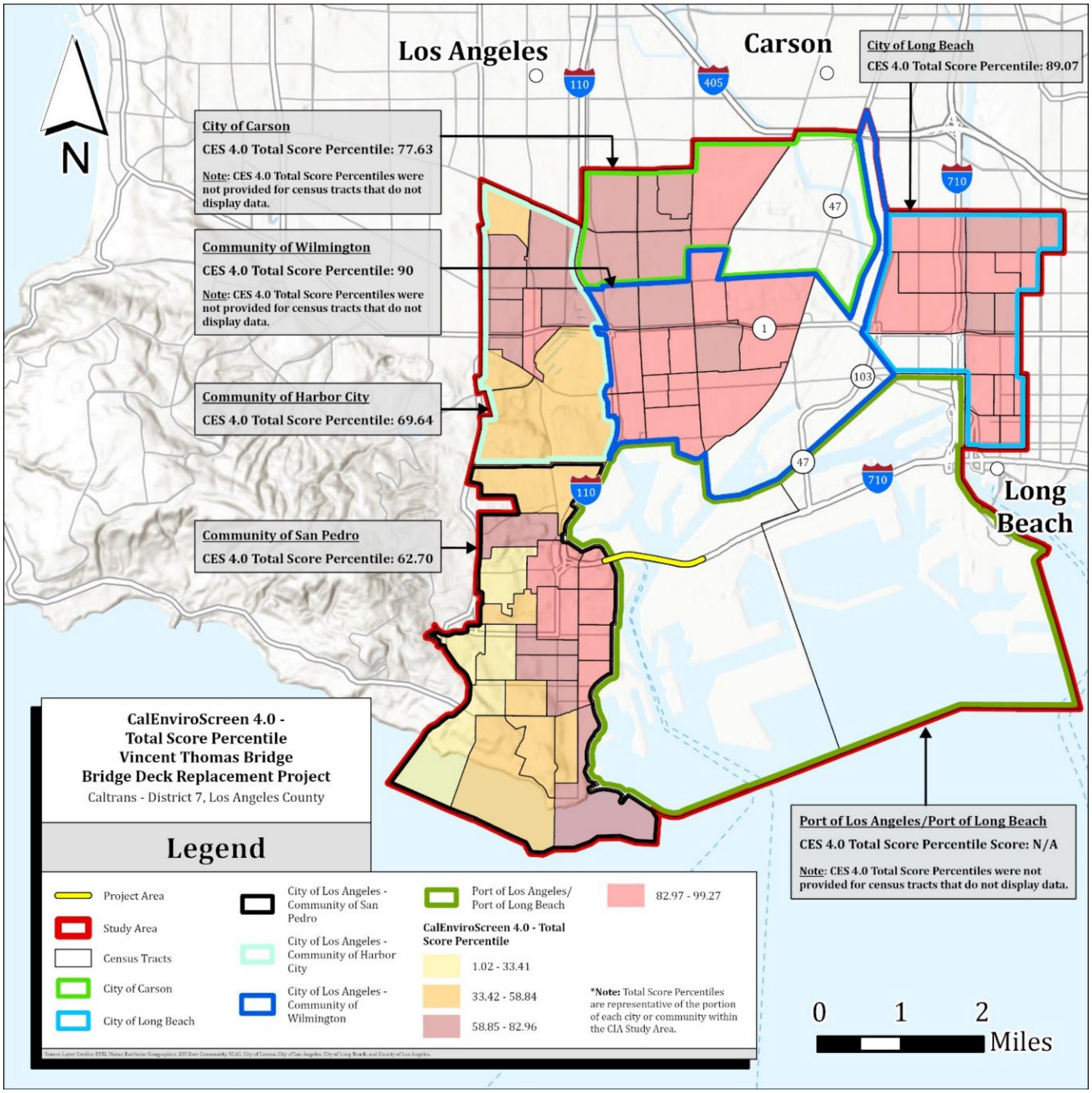
Sources: ESRI, Maxar, Earthstar Geographics, GIS User Community, Southern California Association of Governments, City of Carson, City of Los Angeles, City of Long Beach, and County of Los Angeles, California OEHHA.

Figure 2.8-4: CalEnviroScreen 4.0 Population Characteristic Scores



Sources: ESRI, Maxar, Earthstar Geographics, GIS User Community, Southern California Association of Governments, City of Carson, City of Los Angeles, City of Long Beach, and County of Los Angeles, California OEHHA.

Figure 2.8-5: CalEnviroScreen 4.0 Total Score Percentile



Sources: ESRI, Maxar, Earthstar Geographics, GIS User Community, Southern California Association of Governments, City of Carson, City of Los Angeles, City of Long Beach, and County of Los Angeles, California OEHHA.

Descriptions of each CalEnviroScreen scoring criteria included in Table 2.8-2 are provided below.

- **Pollution Burden Score:** A variable scaled value ranging from 1 to 10 derived from the Pollution Burden value. The Pollution Burden value is calculated by averaging the percentile values of the pollution burden indicators, which include ozone (O_3), particulate matter less than 2.5 microns in size ($PM_{2.5}$), diesel exhaust particulate matter (DPM), drinking water, lead, pesticides, toxic releases, traffic density, cleanup sites, groundwater threats, hazardous waste, impaired water bodies, and solid waste. Each pollution burden indicator is evaluated at the census tract level.

- **Population Character Score:** A variable scaled value ranging from 1 to 10 derived from the Population Character value. The Population Character value is calculated by averaging the percentile values of all pollution burden indicators, which include asthma, birth rates, cardiovascular disease, education, linguistic isolation, poverty, unemployment, and housing burden. Each population character indicator is evaluated at the census tract level.

- **CalEnviroScreen Total Score:** Pollution Burden Score multiplied by the Population Character Score.

- **CalEnviroScreen Total Score Percentile:** A percentile score ranging from 1 to 100 derived from the comparison of the CalEnviroScreen total score of individual census tracts against the CalEnviroScreen total score of all census tracts within the State of California.

CalEPA generally defines communities in terms of census tracts and identifies four types of geographic areas that are determined to be disadvantaged communities: (1) census tracts receiving the highest 25 percent of overall scores in CalEnviroScreen 4.0; (2) census tracts lacking overall scores in CalEnviroScreen 4.0 due to data gaps, but receiving the highest 5 percent of CalEnviroScreen 4.0 cumulative Pollution Burden scores; (3) census tracts identified in the 2017 disadvantaged communities designation as disadvantaged, regardless of their scores in CalEnviroScreen 4.0; (4) and areas under the control of federally recognized Tribes. Note that environmental justice communities and underserved, overburdened, or disadvantaged communities can overlap or exist independently of each other. Table 2.8-2 provides CalEnviroScreen 4.0 results for Los Angeles County and the portions of the cities and communities within the CIA Study Area. Additionally, disadvantaged communities are identified in Table 2.8-2 based on the Total Score Percentile.

Based on the CalEnviroScreen 4.0 model results and OEHHA methodology for identifying disadvantaged communities, the portions of the community of Wilmington, the city of Carson, and the city of Long Beach within the CIA Study Area are determined to be disadvantaged.

2.8.3 ENVIRONMENTAL CONSEQUENCES

Consistent with applicable SER guidance, the environmental justice analysis for the project describes: (1) the existing population in the CIA Study Area and the presence of environmental justice communities; (2) potential adverse effects and measures to avoid or minimize those effects for all population groups, including environmental justice communities within the CIA Study Area; (3) potential disproportionately high and adverse effects on environmental justice communities; and (4) community outreach and public involvement efforts.

Potential impacts to environmental justice communities from transportation projects may include, but are not limited to, topical areas such as air, noise, water pollution, hazardous waste, aesthetic values, community cohesion, economic vitality, employment effects, displacement of persons or businesses accessibility, traffic congestion, relocation impacts, safety, and construction/temporary impacts discussed in the various project-specific technical studies and reports. An adverse effect under NEPA is determined if the project would result in a negative effect after all avoidance, minimization, and/or mitigation measures have been applied.

The duration of temporary traffic detours required for a full bridge closure is approximately 16 to 41 months. For a partial bridge closure (two-stage construction and three-stage construction) approximately 25 to 32 months. For the nighttime bridge closure option where the bridge would be open from 6:00 a.m. to 7:00 p.m. and closed for construction from 7:00 p.m. to 6:00 a.m., the duration of traffic detours required would be 48 months. A full closure of the bridge would result in all bridge traffic being diverted into neighboring communities, and a partial closure would potentially result in less traffic being diverted into neighboring communities because traffic would maintain the ability to cross the bridge. Additionally, the proposed bridge deck replacement work may result in intermittent increases in construction-related dust and noise resulting in temporary impacts to the residential areas adjacent to the project area or increased traffic and associated emissions and noise along detour routes. However, the potential increased traffic volumes and noise along local streets would not divide established communities or impact their character or cohesion.

Although these impacts would be temporary it would affect those near construction activities and detour routes. Construction impacts would affect both environmental justice and non-environmental justice communities equally. Heavy construction, which could generate noise, vibration, and air pollution, is spread across both communities. Given the demographics of the project study area, information about construction activities would be provided in English and Spanish. Because construction would impact all nearby populations to the same degree, the temporary impacts are not greater in magnitude for environmental justice populations compared to non-environmental justice populations, and it would not result in disproportionately high and adverse impacts. However, populations that live near detour routes would experience greater air quality and traffic congestion impacts from diverted Vincent Thomas Bridge traffic, particularly from the single-stage (full bridge closure) construction staging option. Therefore, temporary impacts to environmental justice populations from project detour routes would be greater in magnitude compared to non-environmental justice populations and would result in a disproportionately high and adverse effect.

2.8.3.1 No Build Alternative

Under the No Build Alternative, there would be no construction activities or bridge improvements, and the Vincent Thomas Bridge condition would continue to deteriorate, which may lead to long-term closures of this critical transportation link and economic corridor. Potential long-term closure of the bridge may lead to extended traffic pattern alterations if the condition of the bridge continues to deteriorate. However, since no construction activities would occur under the No Build Alternative, there would be no adverse effects to the overall population, including environmental justice communities.

2.8.3.2 Build Alternative

During construction, full or partial closure of the Vincent Thomas Bridge and temporary detours would be required for bridge deck replacement work. The Build Alternative would result in a temporary increase in traffic volumes along the proposed detour routes and within communities where environmental justice communities have been identified. Specifically, the proposed detour routes are primarily located within the community of Wilmington, which is identified as an environmental justice community on Figure 2.8-1. Temporary closures of the bridge may result in changes to traffic patterns, increased traffic volumes along detour routes, and increased travel distances and times. A full closure of the bridge would result in all bridge traffic being diverted into neighboring communities, resulting in temporary disproportionately high and adverse effects to minority or low-income populations for cumulative air quality and traffic impacts. Land uses fronting detour routes are primarily industrial with areas of commercial development and with some residential depending on the detour route chosen.

Additionally, the proposed bridge deck replacement work may result in intermittent increases in construction-related dust and noise resulting in temporary impacts to the residential areas adjacent to the project area or increased traffic and associated emissions along detour routes.

Temporary impacts associated with construction activities and detour routes would be mitigated through implementation of MM-EJ-1, MM-EJ-2, project features, and best management practices (BMPs) to minimize construction-related impacts. In addition, traffic mitigation measures, MM-TR-1 and MM-TR-2 would improve conditions along detour routes to minimize potential air quality and traffic impacts.

Under the Build Alternative, the replacement of the bridge deck and associated construction activities would improve the condition of the bridge and extend the service life of the structure. Improvements to the bridge would maintain a reliable connection between the city of Long Beach, the community of San Pedro, and the ports. The improved condition of the structure will maintain consistent employment access and mobility opportunity for all communities within the CIA Study Area. Therefore, the Build Alternative is not expected to result in permanent adverse effects to the overall population, including environmental justice communities, and no permanent disproportionately high and adverse effects to environmental justice communities.

Federal Highway Administration (FHWA) Order 6640.23A defines an adverse effect as one that: (1) is predominantly borne by a minority population and/or a low-income population; or (2) will be suffered by the minority population and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the non-minority population and/or non-low-income population.

Based on the characteristics used to evaluate the presence of environmental justice communities, the CIA Study Area contains 55 census tracts where a meaningfully greater minority and/or low-income populations were identified.

Implementation of the Build Alternative would benefit all populations equally because it would improve and maintain a reliable connection between the city of Long Beach and the community of San Pedro. The Build Alternative would allow for the continued movement of people and goods and maintenance of business and employment activities within the CIA Study Area.

2.8.4 ENVIRONMENTAL JUSTICE DETERMINATION

2.8.4.1 No Build Alternative

Under the No Build Alternative, the Vincent Thomas Bridge would maintain the existing condition of the bridge and is not expected to result in any adverse effects to the overall population, regardless of environmental justice status, within the CIA Study Area. Therefore, no further environmental justice analysis is required.

2.8.4.2 Build Alternative

During construction, temporary effects to the overall population, including environmental justice communities may occur due to construction activities and the associated bridge closures and traffic detours. Although proposed detour routes are located within environmental justice populations in the CIA Study Area, land uses fronting detour routes are primarily industrial with areas of commercial development with some residential depending on the detour route chosen, the full bridge closure option requiring all bridge traffic being diverted into neighboring communities would result in temporary disproportionately high and adverse cumulative air quality and traffic effects on minority or low-income populations. However, the Build Alternative will incorporate mitigation measures MM-EJ-1, MM-EJ-2, MM-TR-1, MM-TR-2, project features, and BMPs to minimize potential construction-related impacts. The Build Alternative would replace the existing bridge deck, and upgrade the bridge railing, median barrier, fencing, and seismic sensors, so after construction is complete, there would be no permanent impacts to environmental justice communities.

According to the FHWA Guidance on Environmental Justice and the National Environmental Policy Act (2011), if there is a disproportionately high and adverse effect on an environmental justice population, after taking benefits and mitigation into account, the NEPA document must evaluate whether there is a further practicable mitigation measure or practicable alternative that would avoid or reduce the disproportionately high and adverse effect(s). The proposed action will be approved only if it is determined that no such practicable measures exist.

In addition, the FHWA Guidance on Environmental Justice and National Environmental Policy Act states that if the affected population is a minority population protected under Title VI, the proposed action will not be approved unless:

1. There is a substantial need for the project based on the overall public interest; and
2. Alternatives that would have less adverse effects on protected populations have either:
   a. Adverse social, economic, environmental, or human health impacts that are more severe; or
   b. Would involve increased costs of an extraordinary magnitude.

The Project Development Team (PDT) has determined that there is substantial need for the project based on the overall project interest to preserve the functionality and structural integrity of the Vincent Thomas Bridge deck. Alternatives that would have less adverse effects have been determined to be infeasible (either more severe adverse impacts or project costs of extraordinary magnitude). The project has been developed in partnership with multiple public agencies, city governments, and interested stakeholders at every stage of the project schedule. For a comprehensive summary of project engagement and coordination, see Chapter 4 (Comments and Coordination) in this document.

2.8.5 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

Based on the above discussion and analysis, the Build Alternative (single-stage construction/full bridge closure option) would cause a temporary disproportionately high and adverse effect on minority or low-income populations in accordance with EO 12898 for cumulative traffic impact.

The following mitigation measures would be implemented as part of the Build Alternative to minimize potential impacts to environmental justice, underserved, overburdened, and disadvantaged communities:

MM-EJ-1 Regular and ongoing coordination with agencies will occur for projects within the CIA Study Area to coordinate projects with overlapping construction to avoid and minimize schedule conflicts.

MM-EJ-2 Regular and ongoing community engagement will occur to address key concerns and develop strategies to reduce potential impacts to the community.

In addition to MM-EJ-1 and MM-EJ-2, air quality and traffic avoidance/mitigation measures and project features AM-AQ-1, AM-AQ-2, MM-TR-1, MM-TR-2, PF-AQ-1, and PF-TR-1 will be incorporated to lessen the cumulative temporary air quality and traffic impacts on environmental justice, underserved, overburdened, and disadvantaged communities. These measures are described in detail in the Avoidance, Minimization, and Mitigation Measures sections of Section 2.10, Traffic and Transportation/Pedestrian and Bicycle Facilities, and Section 2.13, Air Quality. Further discussion of cumulative air quality, environmental justice, and traffic impacts is in Section 2.23, Cumulative Impacts.

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2.9 Utilities/Emergency Services

2.9.1 AFFECTED ENVIRONMENT

This section includes information from the Community Impact Assessment (CIA) completed January 2024.

Utility Service providers within the CIA Study Area are summarized in Table 2.9-1. Additionally, four AT&T electrical conduits are present within the project area. Each of the electrical conduits are attached to the side of the catwalk on the bridge.

Table 2.9-1: Utility Providers

Facility Name	Utility Provider
Water and Sewer	Los Angeles Department of Water and Power, City of Long Beach Water
Stormwater	Los Angeles County Department of Public Works
Gas	Southern California Gas, Long Beach Gas and Oil
Electricity	Los Angeles Department of Water and Power, Southern California Edison
Telecom	AT&T, Time Warner Cable
Cable	Time Warner Cable, Comcast, Cox, DirectTV, Frontier, Spectrum, AT&T
Trash Service	City of Los Angeles Department of Public Works – Sanitation, City of Long Beach Department of Public Works

Emergency services, including police, fire, and emergency medical services (EMS) are provided by numerous agencies within the CIA Study Area as noted in Table 2.9-2. Fire and EMS services are provided by the City of Los Angeles Fire Department, County of Los Angeles Fire Department, and Long Beach Fire Department. Law enforcement is provided by the Los Angeles Police Department, Los Angeles Port Police, and City of Long Beach Police Department, while the California Highway Patrol provides traffic law enforcement on the State highways, including Interstate 110 (I-110) and Interstate 710 (I-710).

Table 2.9-2: Emergency Services Within the CIA Study Area

Facility Name	Address	Distance from Project Area (miles)
Wilmington (City of Los Angeles)		
Los Angeles Fire Department - Station No. 38	124 I Street, Los Angeles	2.22
Los Angeles Fire Department - Station No. 49	400 Yacht Street, Los Angeles	1.09
Harbor City (City of Los Angeles)		
Los Angeles Fire Department - Station No. 85	1331 W. 253rd Street, Los Angeles	3.28
San Pedro (City of Los Angeles)		
Los Angeles Fire Department – Station No. 36	1005 N. Gaffey Street, Los Angeles	0.67
Los Angeles Fire Department – Station No. 48	1601 S. Grand Avenue, Los Angeles	1.44
Los Angeles Fire Department – Station No. 112	444 S. Harbor Boulevard, Los Angeles	0.21
Los Angeles Port Police Department	330 S. Centre Street	0.59
Los Angeles Police Department - Harbor Community Police Station	2175 John S. Gibson Boulevard	0.75
Port of Los Angeles/Port of Long Beach (City of Los Angeles)		
Los Angeles Fire Department – Station No. 110	2945 Miner Street, Los Angeles	2.17
Los Angeles Fire Department – Station No. 111	1444 S. Seaside Avenue, Los Angeles	1.07
Los Angeles Fire Department – Station No. 40	330 Ferry Street, Los Angeles	0.18
Long Beach Fire Department – Station No. 24	111 Pier S Avenue, Los Angeles	1.43
Long Beach Fire Department – Station No. 20	1900 Pier D Street, Los Angeles	2.61
Long Beach Fire Department – Station No. 6	330 Windsor Way, Los Angeles	3.93
City of Long Beach		
Long Beach Fire Department – Station No. 13	2475 Adriatic Avenue, Long Beach	4.51
Long Beach Fire Department – Station No. 3	1222 Daisy Avenue, Long Beach	4.18
Long Beach Police Department – West Patrol Division	1835 Santa Fe Avenue, Long Beach	3.83
City of Carson		
Los Angeles County Fire Department – Station No. 127	2049 E. 223rd Street, Carson	5.27

2.9.2 ENVIRONMENTAL CONSEQUENCES

2.9.2.1 Utilities

No Build Alternative

No construction activities would occur; therefore, the No Build Alternative would result in no impacts to utilities under the California Environmental Quality Act (CEQA) with no effects under the National Environmental Policy Act (NEPA).

Build Alternative

During construction, a full or partial closure of the Vincent Thomas Bridge and temporary detours would be required for bridge deck replacement work. There are four AT&T electrical conduits in the project area located on the side of the bridge catwalk that would be protected in-place during construction, and utilities located along detour routes and within the CIA Study Area would not be affected. Coordination with utility providers would occur prior to construction to avoid service disruptions. Therefore, the Build Alternative would result in no impacts to utilities under CEQA with no effects under NEPA.

The Build Alternative would replace the Vincent Thomas Bridge deck and other bridge components and does not include any changes to access or capacity. All proposed improvements would occur within the footprint of the existing bridge and Caltrans right-of-way and would not result in the relocation of an existing utility. Therefore, the Build Alternative would result in no permanent impacts to utilities under CEQA with no effects under NEPA.

2.9.2.2 Emergency Services

No Build Alternative

Under the No Build Alternative, the bridge deck would continue to deteriorate, which may lead to emergency or long-term closures for this critical transportation link and economic corridor. Closure of the bridge may result in changes to travel patterns as motorists find alternate travel routes within the CIA Study Area. The changes to travel patterns may lead to increased traffic volumes in local communities, resulting in minor changes to emergency response times. Therefore, the No Build Alternative may result in potential impacts to emergency services.

Build Alternative

During construction, a full or partial closure of the Vincent Thomas Bridge and detours would be required for bridge deck replacement work that may affect emergency response times. The duration of temporary traffic detours required for a full bridge closure is approximately 16 to 41 months. The duration of a partial bridge closure (two-stage construction and three-stage construction) is approximately 25 to 32 months. The duration of traffic detours required for the nighttime bridge closure option (where the bridge would be open from 6:00 a.m. to 7:00 p.m. and closed for construction from 7:00 p.m. to 6:00 a.m.) would be 48 months. A full closure of the bridge would result in all bridge traffic being diverted into neighboring communities, and partial closure would potentially result in less traffic being diverted into neighboring communities because traffic would maintain the ability to cross the bridge. Temporary detours may result in changes to travel patterns, increases in traffic volumes along detour routes, and increases in travel distance and time, and emergency response may be affected within the CIA Study Area. However, access to emergency service facilities would be maintained and coordination with emergency service providers would occur prior to and during construction, with construction signage and traffic control to maintain emergency services throughout the CIA Study Area. Therefore, the Build Alternative would result in less than significant impacts to emergency services under CEQA with no adverse effects under NEPA.

The Build Alternative would replace the Vincent Thomas Bridge deck and other bridge components and does not include any changes to access or capacity. All proposed improvements would occur within the footprint of the existing bridge and Caltrans right-of-way and would not permanently alter emergency service routes or affect access to surrounding communities. Therefore, the Build Alternative would result in no permanent impacts to emergency services under CEQA with no effects under NEPA.

2.9.3 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

No impacts to utilities are anticipated; therefore, no avoidance, minimization, and/or mitigation measures are required under the Build Alternative for utilities. PF-UES-1 will require coordination with emergency service providers for ramp or road closures within the project area as part of the Vincent Thomas Bridge Deck Replacement Project.

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2.10 Traffic and Transportation/Pedestrian and Bicycle Facilities

2.10.1 REGULATORY SETTING

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

In July 1999, the United States Department of Transportation (USDOT) issued an Accessibility Policy Statement pledging a fully accessible multimodal transportation system. Accessibility in federally assisted programs is governed by the USDOT regulations (49 CFR 27) implementing Section 504 of the Rehabilitation Act (29 United States Code [USC] 794). The FHWA has enacted regulations for the implementation of the 1990 Americans with Disabilities Act (ADA), including a commitment to build transportation facilities that provide equal access for all persons. These regulations require application of the ADA requirements to Federal-aid projects, including transportation enhancement activities.

2.10.2 AFFECTED ENVIRONMENT

This section is based on the *Traffic and Operations Analysis Report* (TOAR) (2024) and the Community Impact Assessment (CIA) chapters on Transportation, Bicycle, and Pedestrian access (2024).

The purpose of the TOAR is to study the traffic impacts of construction staging for the Vincent Thomas Bridge (Bridge No. 53-1471) Deck Replacement Project on State Route 47 (SR-47). This chapter documents the findings and recommendations of the TOAR and the CIA to compare the proposed construction staging alternatives' impacts on traffic, transportation, bicycle, and pedestrian access in the TOAR and CIA study areas.

The TOAR analyzed traffic impacts utilizing six construction scenarios:

1. **No Construction**
2. **Construction Alternative A:** Full closure of the bridge.
3. **Construction Alternative B:** Closure of the bridge to traffic in the eastbound direction, while one lane is maintained open for traffic in the westbound direction.
4. **Construction Alternative C:** Closure of the bridge to traffic in the westbound direction, while one lane is maintained open for traffic in the eastbound direction.
5. **Construction Alternative D:** One lane open in each direction
6. **Nighttime Closure:** One or two open lanes in each direction are maintained open for traffic during the day (from 6:00 a.m. to 7:00 p.m.), and full closure of the bridge overnight (7:00 p.m. to 6:00 a.m.). The nighttime closure is only considered for noise and

air quality studies, which were conducted by the Caltrans Environmental team. No traffic operational analysis was conducted for it because the turning volumes during the nighttime period are lower than during the peak periods.

The TOAR was initialized prior to the finalizing of the construction staging options and timelines. Therefore, Alternatives B and C in the TOAR are not applicable or relevant to the project and its impacts. Analysis and results of Alternatives A and D are applicable to all of the project's construction staging options and are outlined in this chapter.

2.10.2.1 Methodology

The main objectives of the traffic study are: (1) documenting existing traffic volumes and future "no construction" and construction alternative traffic forecasts, (2) conducting operational analyses and presenting the output comparing proposed construction alternatives with the no construction alternative within the study area, and (3) recommending focused intersection improvements to reduce operational deficiencies on specific intersections during the construction alternative.

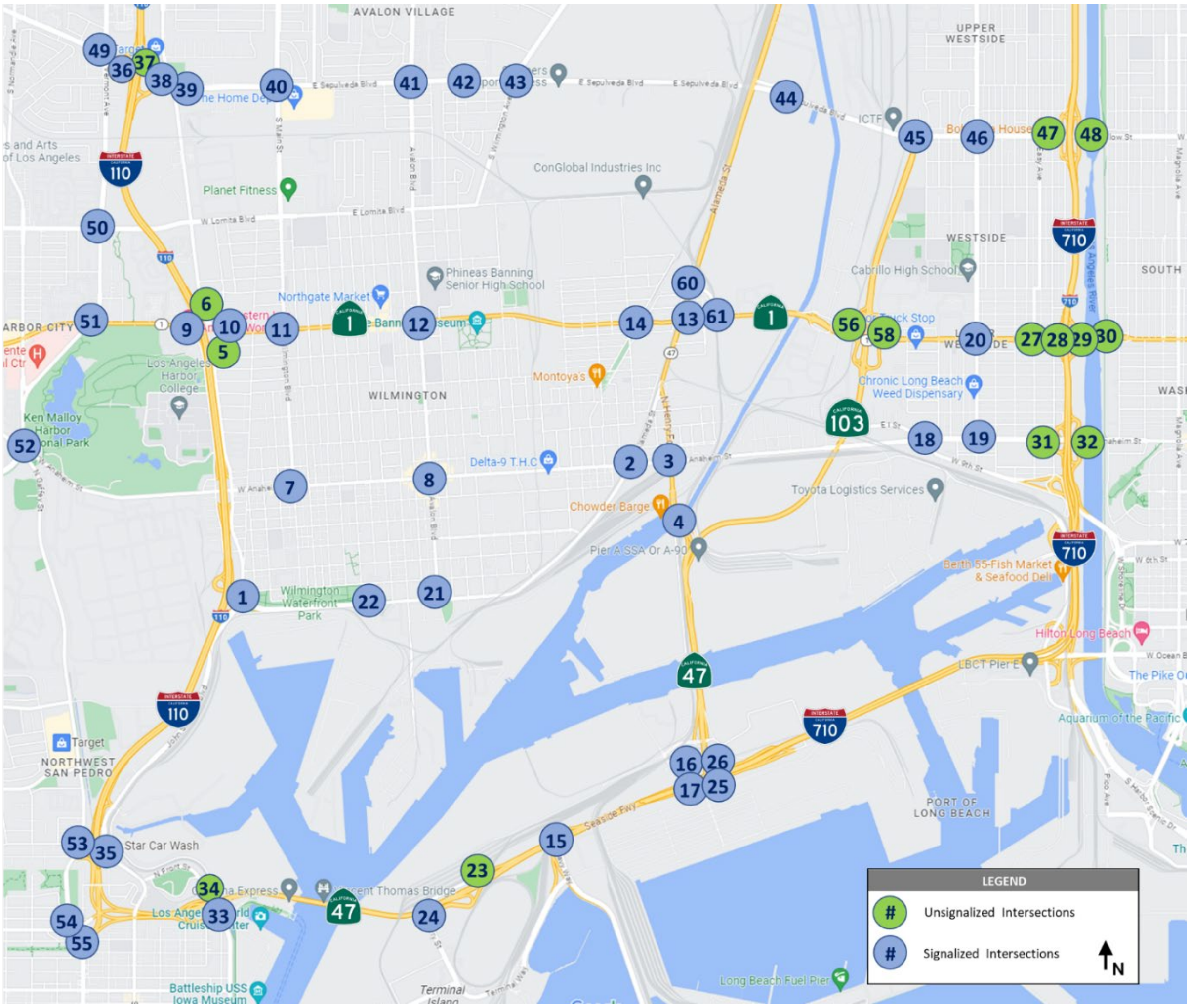
The traffic analysis is focused on the study area, including intersections and highway segments. Study intersections are listed in Table 2.10-1 and Figure 2.10-1. As shown in Table 2.10-1 and Figure 2.10-1, intersections #57 and #59 are missing. Those numbers were used for the purpose of conducting field counts to make sure the ramp flows on either side of Pacific Coast Highway (PCH) are captured. For this traffic analysis, intersections #56 and #57 are combined and intersections #58 and #59 are also combined. Study segments are listed in Table 2.10-2 and illustrated on Figure 2.10-2. In total, the study area comprises 59 intersections and 21 segments.

Table 2.10-1: Study Intersections

No.	Intersection Name	Control Type
1	John S Gibson Boulevard/W Harry Bridges Boulevard/I-110 Ramps	Traffic Signal
2	Alameda Street/E Anaheim Street	Traffic Signal
3	N Henry Ford Avenue (SR-47)/E Anaheim Street	Traffic Signal
4	N Henry Ford Avenue (SR-47)/Pier A Way/ Pier A Plaza	Traffic Signal
5	Figueroa Street/W Mauretania St/I-110 NB Off-Ramp	Cross-Street Stop Control
6	Figueroa Street/I-110 NB On-Ramp	Cross-Street Stop Control
7	Wilmington Boulevard/Anaheim Street	Traffic Signal
8	Avalon Boulevard/Anaheim Street	Traffic Signal
9	I-110 SB Off-Ramp/PCH	Traffic Signal
10	Figueroa Street/PCH	Traffic Signal
11	Wilmington Boulevard/PCH	Traffic Signal
12	Avalon Boulevard/PCH	Traffic Signal
13	Alameda Street/Lower PCH	Traffic Signal
14	Drumm Avenue/PCH	Cross-Street Stop Control
15	Navy Way/Seaside Avenue	Traffic Signal
16	Pier S Avenue/WB Ocean Boulevard frontage road	Traffic Signal
17	Pier S Avenue/EB Ocean Boulevard frontage road	Traffic Signal
18	9th Street/I Street/Anaheim Street	Traffic Signal
19	Santa Fe Avenue/Anaheim Street	Traffic Signal
20	PCH/Santa Fe Avenue	Traffic Signal
21	Avalon Boulevard/Harry Bridges Boulevard	Traffic Signal
22	N Access Road/Harry Bridges Boulevard	Traffic Signal
23	SR-47 WB off-ramp/on-ramp	Uncontrolled (free)
24	Ferry Street/ SR-47 EB ramps	Traffic Signal
25	SR-47/SR-103 EB off-ramp	Traffic Signal
26	SR-47/Pier S Avenue WB on-ramp	Traffic Signal
27	PCH/I-710 SB WB PCH off-ramp	Uncontrolled (free)
28	PCH/I-710 EB PCH off-ramp	Uncontrolled (free)
29	PCH/I-710 WB PCH off-ramp	Uncontrolled (free)
30	PCH/I-710 EB PCH off-ramp	Cross-Street Stop Control
31	Anaheim Street/I-710 WB Anaheim Street on/off-ramps	Uncontrolled (free)
32	Anaheim Street/I-710 EB Anaheim Street ramps	Cross-Street Stop Control
33	Harbor Boulevard/SR 47 ramp	Traffic Signal
34	Harbor Boulevard/Front Street/SR-47 on-ramp	Uncontrolled (free)
35	John S Gibson Boulevard/Pacific Avenue/Channel Street	Traffic Signal
36	Sepulveda Boulevard/I-110 SB off-ramp	Traffic Signal
37	Sepulveda Boulevard/I-110 NB on-ramp	Uncontrolled (free)
38	Sepulveda Boulevard/I-110 NB off-ramp/driveway	Traffic Signal
39	Sepulveda Boulevard/Figueroa Street	Traffic Signal
40	Sepulveda Boulevard/Main Street	Traffic Signal
41	Sepulveda Boulevard/Avalon Boulevard	Traffic Signal
42	Sepulveda Boulevard/Banning Boulevard	Traffic Signal
43	Sepulveda Boulevard/Wilmington Avenue	Traffic Signal
44	Entry Gate/Alameda On-Ramp/Sepulveda Boulevard/Willow Street	Traffic Signal
45	SR 103/Driveway/Willow Street	Traffic Signal
46	Willow Street/Sante Fe Avenue	Traffic Signal
47	Willow Street/I-710 SB on/off-ramps	Cross-Street Stop Control
48	Willow Street/I-710 NB on/off-ramps	Cross-Street Stop Control
49	Vermont Avenue/Sepulveda Boulevard	Traffic Signal
50	Vermont Avenue/Lomita Boulevard	Traffic Signal
51	Vermont Avenue/PCH	Traffic Signal
52	Gaffey Street/Vermont Avenue/Anaheim Street/Palos Verdes Drive	Traffic Signal
53	Gaffey Street/Channel Street	Traffic Signal
54	Gaffey Street/Summerland Avenue	Traffic Signal
55	Gaffey Street/I-110/SR-47 ramps	Traffic Signal
56	PCH/SR-103 SB on/off-ramps	Uncontrolled (free)
58	PCH/SR-103 NB on/off-ramps	Uncontrolled (free)
60	Alameda Street/O Street	Traffic Signal
61	PCH/O Street	Traffic Signal

Source: Traffic and Operations Analysis Report (2023).

Figure 2.10-1: Study Intersections Location Map



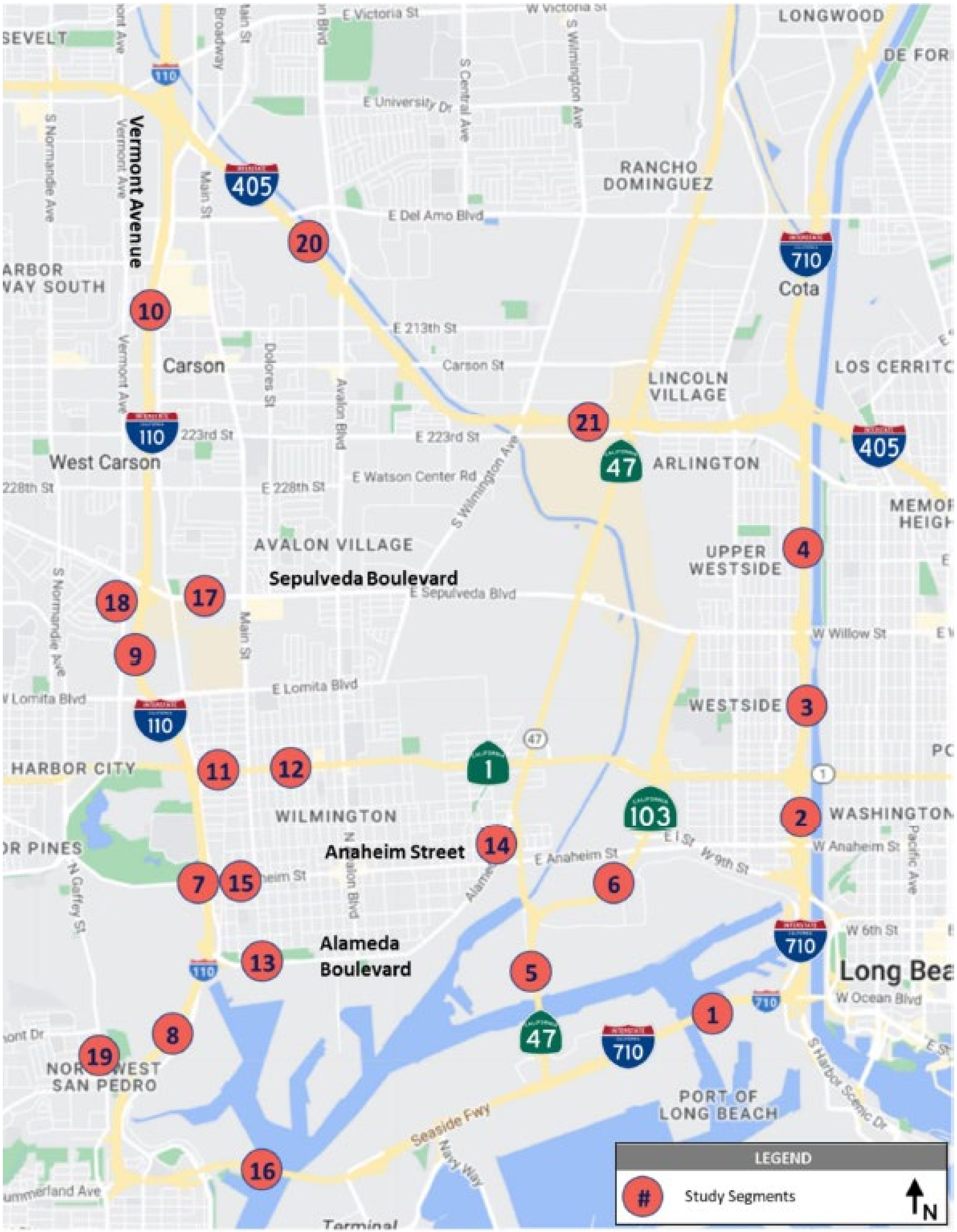
Source: Traffic and Operations Analysis Report (2023).

Table 2.10-2: Study Segment Locations

No.	Roadway Segment Location	No.	Roadway Segment Location
1	I-710 between SR-47 and Ocean Blvd	12	PCH between Neptune Ave and Ravenna Ave
2	I-710 between PCH and Anaheim St	13	Harry Bridge between King Ave and Fries Ave
3	I-710 between PCH and Willow St	14	Alameda St. between Anaheim St and E I St
4	I-710 between Willow St and Wardlow Rd	15	Anaheim St between Frigate Ave and Hawaiian Ave
5	SR-47 between New Dock St and SR-103	16	Vincent Thomas Bridge
6	SR-103 between SR-7 and I St	17	Sepulveda Blvd between Figueroa St. and Main St.
7	I-110 Between Figueroa Interchange Ramps	18	Vermont Ave. between Sepulveda Blvd and 245th St
8	I-110 between Harry Bridge and Channel St	19	Gaffey St between Westmont Dr and Capitol Dr
9	I-110 between Lomita Blvd and Sepulveda Blvd	20	I-405 between Del Amo Blvd and Avalon Blvd
10	I-110 between Carson St and Torrance Blvd	21	I-405 between Wilmington Ave and Alameda St
11	PCH between Figueroa St and Frigate Ave		

Source: Traffic and Operations Analysis Report (2023).

Figure 2.10-2: Study Segment Locations



Source: Traffic and Operations Analysis Report (2023).

2.10.2.2 Alternatives Studied

The traffic analysis was conducted for existing (2023) and future 2027 construction year during the weekday AM, mid-day (MD), and PM peak periods. The specific analysis alternatives were:

- Existing Conditions (2023)

- Future 2027 Alternatives:
  - **No Construction**
  - **Construction Alternative A:** Full closure of the bridge.
  - **Construction Alternative D:** One lane open per direction.
  - **Nighttime Closure:** One or two open lanes in each direction are maintained open for traffic during the day (from 6:00 a.m. to 7:00 p.m.) and full closure of the bridge overnight (7:00 p.m. to 6:00 a.m.). The nighttime closure is only considered for noise and air quality studies, which were conducted by the Caltrans Environmental team. No traffic operational analysis was conducted for it because the turning volumes during the nighttime period are lower than during the peak periods.

The following infrastructure improvements were assumed to be completed by 2027 and are included as baseline conditions for all 2027 alternatives:

- **SR-47/Vincent Thomas Bridge and Front Street/Harbor Boulevard Interchange Reconfiguration Project:** This project reconfigures the interchange, especially the westbound SR-47 ramps to Front Street, in addition to relevant modifications along Harbor Boulevard, Front Street, and Knoll Drive.

- **Temporary Traffic Control along Alameda Street and Anaheim Street (Phase 1):** Lane reductions along Alameda Street between Harry Bridges Boulevard and PCH, and at Anaheim Street.

2.10.2.3 Traffic Volume Development and Data Collection

The existing volumes and future traffic forecasts are presented in this section. Traffic forecast volumes were developed for all analysis alternatives. To develop existing and future traffic volumes, data collection efforts were performed using two sources:

- Field turning movement counts (TMCs) were collected at Intersections #1 through #26 on a weekday in April 2023 during the typical morning peak period from 7 to 9 AM, mid-day period from 1 to 3 PM, and afternoon peak period from 4 to 6 PM. Intersection TMCs included vehicle classification and pedestrian and bicycle counts.

- StreetLight InSight is a big data platform with comprehensive traffic data that was used to obtain averaged weekday TMCs at Intersections #27 through #61. Similar to field counts, average volumes were collected for typical weekdays during the morning peak period from 7 to 9 AM, mid-day period from 1 to 3 PM, and afternoon peak period from 4 to 6 PM. In addition, StreetLight was used to obtain existing traffic volumes and travel times at the study segments discussed in Table 2.10-2. Field TMCs were later collected at Intersections #27 through #61 and compared to the StreetLight data.

2.10.2.4 Existing Traffic Volumes

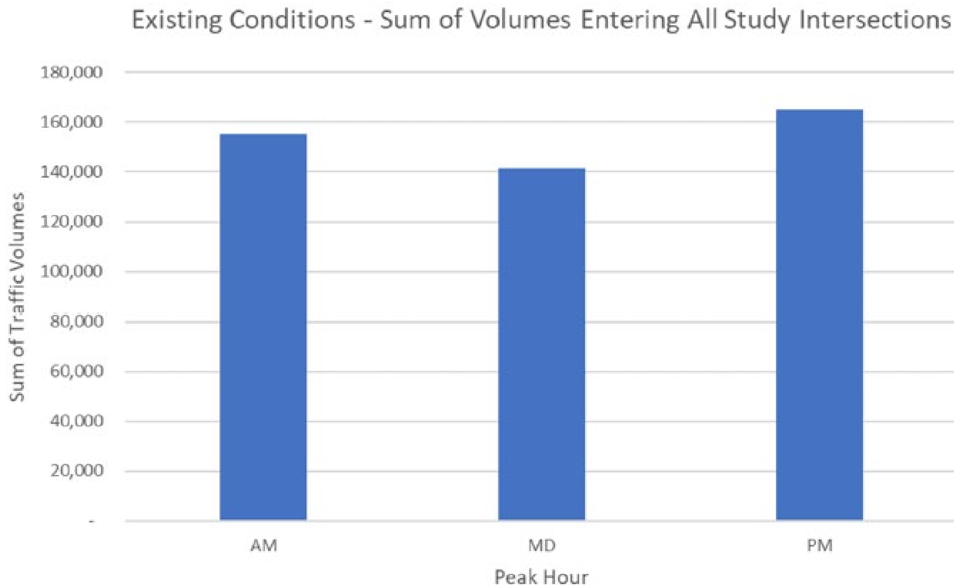
For Intersections #1 through #26, existing traffic volumes were collected via field counts during the AM, MD, and PM peak periods. Peak hours were determined based on the highest volumes observed during a 1-hour period. The peak-hour traffic volumes were post-processed to balance the flows between adjacent intersections. All turning volumes were rounded up to the nearest 5.

Intersections #27 through #61 were identified after the start of the traffic analysis, so existing traffic counts were obtained from StreetLight. The new intersections were identified in the summer of 2023, which is not an ideal time to conduct counts. Therefore, the Project Development Team (PDT) decided to use StreetLight to obtain TMCs at those intersections. Using StreetLight, the turning volumes at the intersections were averaged for weekdays during April 2022, which was the latest available data from StreetLight at the time of the analysis. These volumes required adjustments to the existing year 2023. To do so, six intersections were selected from Intersections #1 through #26 (where field counts were collected in April 2023). For those intersections, TMCs were obtained using StreetLight for April 2022. The field TMCs were compared to the StreetLight TMCs, and an average growth factor was derived for each peak period (AM, MD, and PM). The growth factors were applied to the StreetLight volumes derived for Intersections #27 through #61 to bring those volumes to the existing 2023 year.

In September 2023, field TMCs were collected at Intersections #27 through #61 to validate the adjusted StreetLight volumes. A comparative analysis was conducted that indicated the adjusted StreetLight volumes were slightly higher than field counts (by 6 percent in the AM peak period, 8 percent in the MD period, and 1 percent in the PM peak period). In addition to comparing the total volumes, a focused comparison of turning movements at the intersections was conducted. For those turning movements where the volume was different by more than 10 percent, the field count data were used instead of the adjusted StreetLight data. Then the flows between nearby intersections were rebalanced and the volumes were re-imported into the Synchro models for final analysis. The final set of volumes was compared to the field counts, and the results showed that the two volume sets were within 1 to 2 percent.

The average hourly volumes at the study segments were obtained from StreetLight for typical weekdays (Tuesday through Thursday) in April 2022. Similar to the intersection TMC development, a comparison was conducted between existing field counts along segments between Intersections #1 through #26 and StreetLight data for those same locations. The comparison provided adjustment factors that were applied to the StreetLight segment volumes to bring those volumes to the existing 2023 year. Truck volumes associated with the segment volumes were obtained via StreetLight and adjusted in the same fashion. Adjusted segment volumes were used as base volumes in the Port Transportation Analysis Model (PortTAM) to forecast segment volumes for the 2027 no construction and construction alternatives. Figure 2.10-3 shows the sum of all entering volumes to the study intersections for existing conditions during the AM, MD, and PM peak periods. The PM peak period has the highest sum of TMCs at the study intersections.

Figure 2.10-3: Existing Conditions Peak-Hour Volumes Comparison



Source: Traffic and Operations Analysis Report (2023).

2.10.2.5 Future Traffic Volumes

Future traffic forecasts were developed using PortTAM.

2.10.2.6 Future No Construction Traffic Volumes

The year 2027 PortTAM no construction model was developed using port and non-port trip demand estimation. Trip demands for port and non-port travel were developed separately and then consolidated before performing the model runs for each alternative.

Port Demand Assumptions

Port origin-destination (O-D) trips were developed by coordinating with the Port of Long Beach (POLB) and Port of Los Angeles (POLA) to obtain their latest terminal-specific throughputs and on-dock maximum practical capacities.

The latest base year for the PortTAM is Year 2022. Per the POLA/POLB forecasts, the port-wide twenty-foot equivalent (TEU) units throughput for Year 2022 is 19.044 million TEUs. For the Year 2027, per the POLA/POLB forecasts, the port-wide throughput was 22.667 million TEUs, and the on-dock maximum practical capacity (MPC) was 4.767 million TEUs. The Year 2027 throughput when compared to Year 2022 shows a 19 percent growth rate for the 5-year period.

Non-Port Demand Assumptions

Non-port O-D trips for Year 2027 were developed by interpolating Year 2020 Southern California Association of Governments (SCAG) Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) model trip O-D tables for Year 2020 and Year 2030.The port and non-port trip tables were consolidated to form one set of trip O-D tables. These consolidated O-D tables were used in the traffic assignments for all alternatives. The same set of O-D tables were used for all the alternatives for consistency.

Model Network Assumptions

The Alameda Street North and Alameda Street South projects were assumed to be under construction for all Year 2027 alternative analysis. Alameda Street was assumed to be reduced to one lane in each direction from just south of PCH to Harry Bridges Boulevard. In addition, the SR-47/Vincent Thomas Bridge and Front Street Project was assumed to be completed by Year 2027.

2.10.2.7 Future Construction Alternatives Traffic Volumes

Future construction alternative traffic volumes were developed by using the model to assign the trip demands from the no construction alternative onto different roadway segments, given the reduced capacity or closure of the Vincent Thomas Bridge, based on the respective construction alternative. The model uses capacity-constrained traffic assignment. As such, it is sensitive to the reduced capacities and will re-assign traffic to alternative routes.

2.10.2.8 Synchro

Synchro (version 11) software was used for the traffic analysis. Level of service (LOS) results were obtained using the Highway Capacity Manual (HCM) 6th Edition methodologies for signalized, unsignalized, and roundabout intersection analyses in the Synchro software. The companion SimTraffic microsimulation tool was used at select intersections where Synchro (HCM methodology) did not provide the LOS output. Synchro was used to determine Measures of Effectiveness (MOEs), including peak-hour intersection delay, LOS, and 95th percentile queues.

The key assumptions and parameters that were used in the Synchro models are as follows:

- Lane configurations for existing conditions were based on the 2023 lane geometry and intersection control. Future alternatives' lane configurations included interchange improvements at Interstate 110 (I-110)/SR-47 and Harbor Boulevard, and lane reductions along Alameda Street and Anaheim Street.
- Speed limits were consistent with the posted signs.
- Existing traffic signal phasing was based on field review through Google Streetview, local area knowledge, and professional judgement.
- The existing conditions and future alternatives' traffic signal phasing/timings were optimized using Synchro.
- The default saturation flow rate of 1,900 vehicles per hour was used.
- Peak-hour factors (PHFs) used were as follows:
    - For Intersections #1 through #26, an average PHF based on field traffic counts of 0.92 for AM and MD peak periods, and 0.93 for the PM peak period.
    - For Intersections #27 to #61, the Synchro default value of 0.92 was used for all peak hours.

The following key assumptions and parameters were used for SimTraffic:

- Results were averaged over five runs, each having different random seeds.
- A 5-minute seeding period and a 60-minute recording period were used.

2.10.2.9 PortTAM

PortTAM was used to generate the traffic forecasts for this project. PortTAM builds on the SCAG RTP/SCS model by providing increased roadway network and traffic analysis zone (TAZ) data detail within the Gateway Cities' area, ports' properties, and surrounding areas. The SCAG model has 4,192 zones at traffic assignment level, and PortTAM has 4,417 TAZs for the six-county SCAG model region, which is 225 more zones in the ports and the greater Gateway area. Out of 225 additional zones, 90 zones represent the ports' marine terminals and surrounding areas.

In addition to the greater port and Gateway Cities area detail, PortTAM also provides the capability to track port-related trips and non-port-related trips by different vehicle classes. The SCAG model has 8 vehicle classes and PortTAM has up to 23 vehicle classes in the traffic assignment procedure.

PortTAM has two components:

1. A spreadsheet component includes customized trip generation, trip distribution, and mode split modules for the ports' area zones. In this spreadsheet, the key port statistics are entered, along with other inputs necessary for the model system. Marine terminal throughputs, on-dock maximum practical capacities (MPCs), port-wide control totals, and transload inputs are examples of such inputs.

2. The forecast model runs on a TransCAD software platform like the SCAG model system.

The underlying demand and supply sides of PortTAM are based on the SCAG 2020/2045 RTP/SCS model. The PortTAM traffic assignment module uses the available network capacities for each alternative to assign demand to the alternative routes. PortTAM has a multi-modal multi-class traffic assignment (MMA) procedure which performs the capacity-constrained traffic route assignments. The model uses roadway network attribute information such as number of lanes, functional classification, and intersecting roadways' attributes and calculates pea- hour and peak-period capacities. The model then uses the resulting capacities to perform the MMA procedure, which uses a path-based user-equilibrium traffic assignment algorithm.

For this project, the model networks were carefully reviewed, and edits were made to make sure the model represented current network conditions within the project area. Key inputs to the model are the roadway network, including the zonal details, and the trip O-D demand tables. The project team coordinated with both ports to obtain the latest cargo inputs for each of the marine terminals to update the port-related trip growth in the model.

Raw PortTAM results were post-processed to develop more accurate intersection and roadway segment forecasts. While PortTAM includes many sophisticated procedures and tools based on high-level statistics, the forecasting process still requires specialized adjustments and analysis procedures. Specific port methodologies, in combination with the regional or national guidelines, were used to develop travel forecasts.

PortTAM has two components: a port trip component and a non-port trip component. The port trip component is based on the special trip generation, trip distribution, mode-split, and assignment models that the ports maintain and update on a time-to-time basis. This component is calibrated and validated every year.

The non-port trip component is based on the Year 2020 SCAG RTP/SCS model. This is updated once every 4 years by SCAG. Since the 2020 SCAG RTP/SCS travel demand model was developed with data that were collected before the COVID-19 pandemic, the model showed high trips for the non-port trip component.

As part of the post-processing, the non-port trips from the model were adjusted for the differences between the ground counts and the travel demand model. Port trips from the model were used directly without further adjustments because the port component of the model is calibrated and validated every year.

This post-processing technique was applied to develop both the intersection turning movements and the roadway segment volumes. A simple example calculation of the post-processing logic is as follows:

- If there are 100 vehicles on a roadway segment from the ground counts, and the base year model showed 150 vehicles, and future year model showed 200 vehicles, then the model growth is 50 vehicles (200 minus 150).

- The post-processed forecast = Ground Count + Model Growth (i.e., 100 + 50 = 150 vehicles).

2.10.2.10 Methodologies and Measures of Effectiveness

The following measures of effectiveness were reported for the analysis:

- **HCM Delay and LOS:** Intersection LOS was based on the methodologies described in the HCM 6th edition using Synchro version 11. The LOS criteria for signalized and unsignalized intersections are summarized in Table 2.10-3.

Table 2.10-3: Level of Service Criteria for Signalized, All-Way Stop, and Two-Way Stop Intersection

LOS	All Way Stop or Two-Way Stop Intersection Delay (seconds/vehicle)	Signalized Intersection Delay (seconds/vehicle)
A	≤ 10	≤ 10
B	> 10-15	> 10-20
C	> 15-25	> 20-35
D	> 25-35	> 35-55
E	> 35-50	> 55-80
F	> 50	> 80

Source: Traffic and Operations Analysis Report (2023).

- 95th percentile vehicle queue was based on Synchro output for each approach movement at the intersection. Vehicle queue lengths vary with each signal cycle, but 95th percentile queues are among the longest—those queues are expected in only 1 out of 20 cycles.

- Segment-based forecasted noise and air quality data for the nighttime closure were based on PortTAM demand model outputs.
- Roadway segment forecasted peak-hour volumes and speed were based on PortTAM demand model outputs.
- Forecasted daily vehicle miles traveled (VMT) and vehicle hours of delay (VHD) in the study area were based on PortTAM demand model outputs.
- Forecasted travel time and alternate route comparisons for select O-D pairs were based on PortTAM demand model outputs.

2.10.2.11 Intersection Delay and LOS Analysis

The 59 intersections in the study area were analyzed for each alternative. The HCM 6th edition methodology was used for all intersections analysis, except for the following:

- **Intersection #6 (Figueroa Street at the Northbound I-110 On-Ramp):** SimTraffic is used because of the special geometry and control type at this intersection.
- **Intersections #16 and #17 (Pier S Avenue at the Westbound/Eastbound Ocean Boulevard Frontage Roads):** These adjacent intersections are controlled by one controller located at Intersection #16. These intersections were modeled in Synchro as clustered intersections. Because the HCM 6th edition does not support analysis for clustered intersections, HCM2000 was used instead.
- **Intersections #25 and #26 (SR-47 at the State Route 103 [SR-103] Eastbound Off-Ramp and the Pier S Avenue Westbound On-Ramp):** These adjacent intersections are controlled by one controller located at Intersection #26. Like intersections #16 and #17, HCM2000 was used for the analysis.
- **Intersections #36 and #38 (Sepulveda Boulevard at the I-110 Northbound and Southbound Off-Ramps):** The phase numbering at these intersections do not follow the numbering conventions associated with the National Electrical Manufacturing Association (NEMA). Because the HCM 6th Edition methodology does not support non-NEMA phasing, HCM2000 was used instead.
- **Intersection #52 (Vermont Avenue/Anaheim Street/Gaffey Street/Palos Verdes Drive):** This intersection has five legs. Because HCM 6th Edition does not support intersections with more than four approaches, HCM2000 was used instead.

2.10.2.12 Existing Conditions

Figures 2.10-4 through 2.10-7 show the existing intersection traffic control and lane configurations in the study area. For existing conditions, 50 out of the 59 study intersections are controlled either with traffic signals or stop controls. The other nine intersections are uncontrolled (i.e., with free movements). Existing year AM, MD, and PM peak-hour operating conditions for the study intersections are summarized in Table 2.10-4. There are 10 out of 50 intersections currently operating at LOS E/F during the AM peak hour. There are 7 LOS E/F intersections during the MD peak hour, and 12 LOS E/F during the PM peak hour. All other intersections operate at LOS D or better during the peak hours.

Figure 2.10-4: Existing Study Intersections 1 through 15 Traffic Control and Lane Configurations

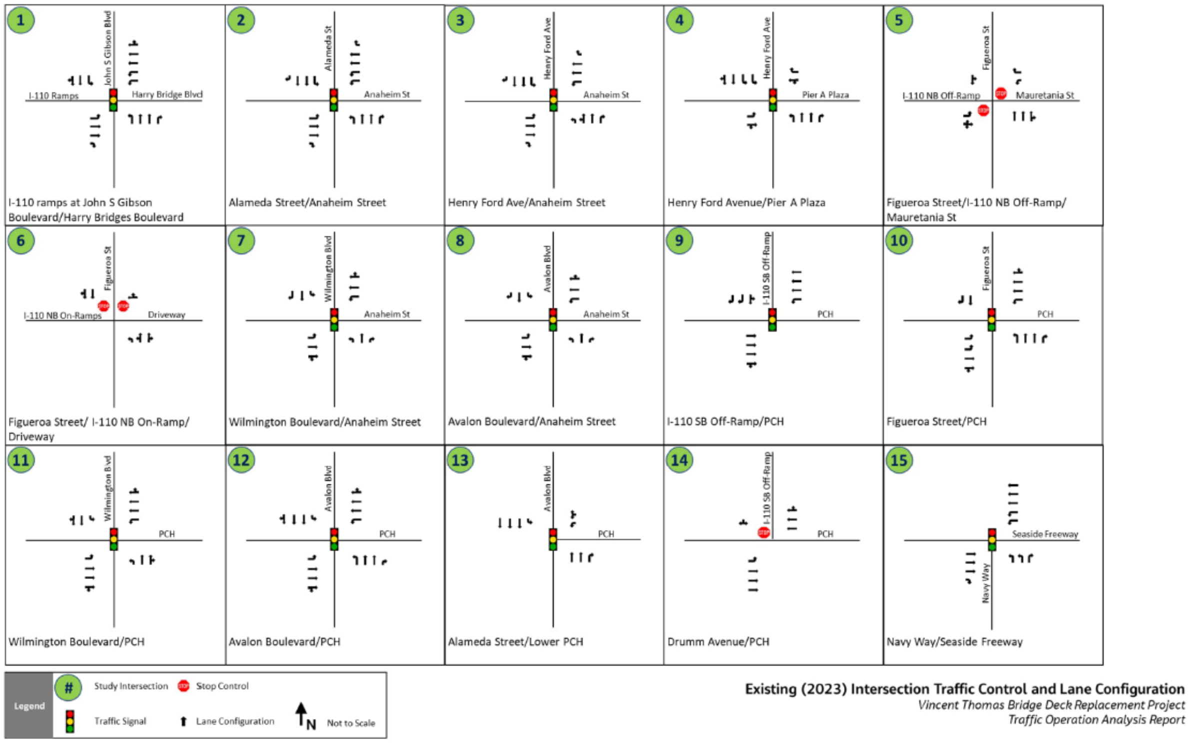


Figure 2.10-5: Existing Study Intersections 16 through 30 Traffic Control and Lane Configurations

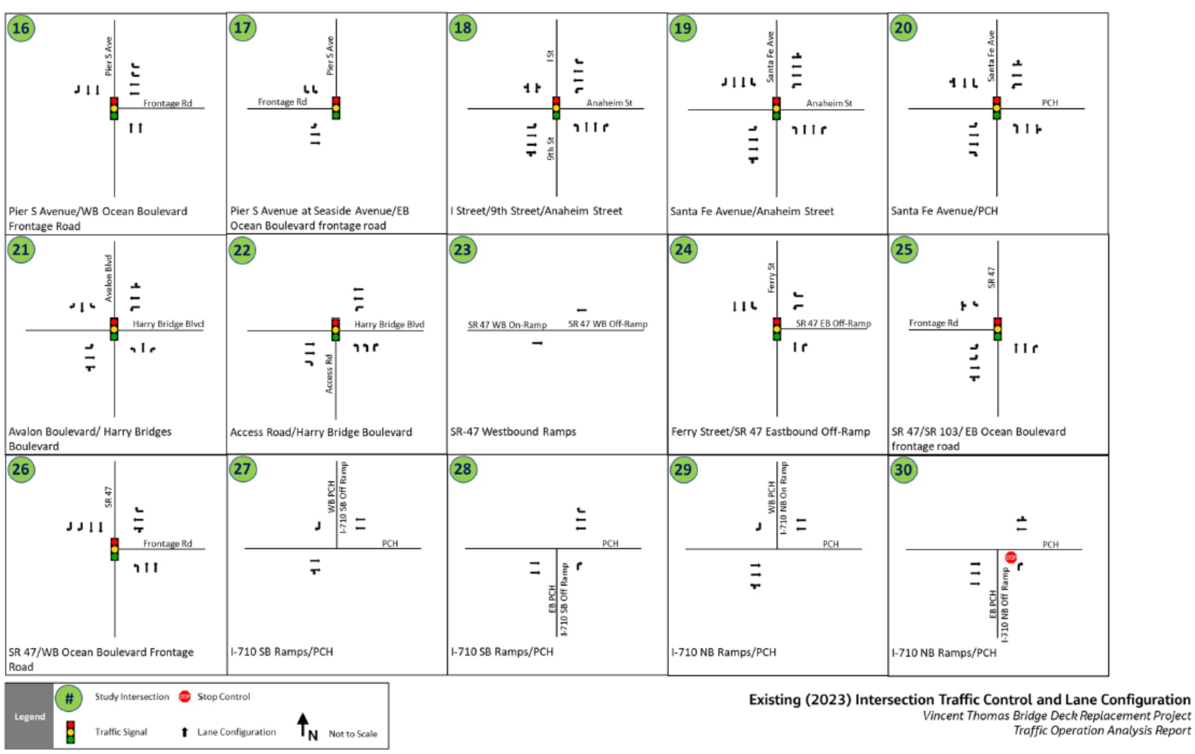


Figure 2.10-6: Existing Study Intersections 31 through 45
Traffic Control and Lane Configurations

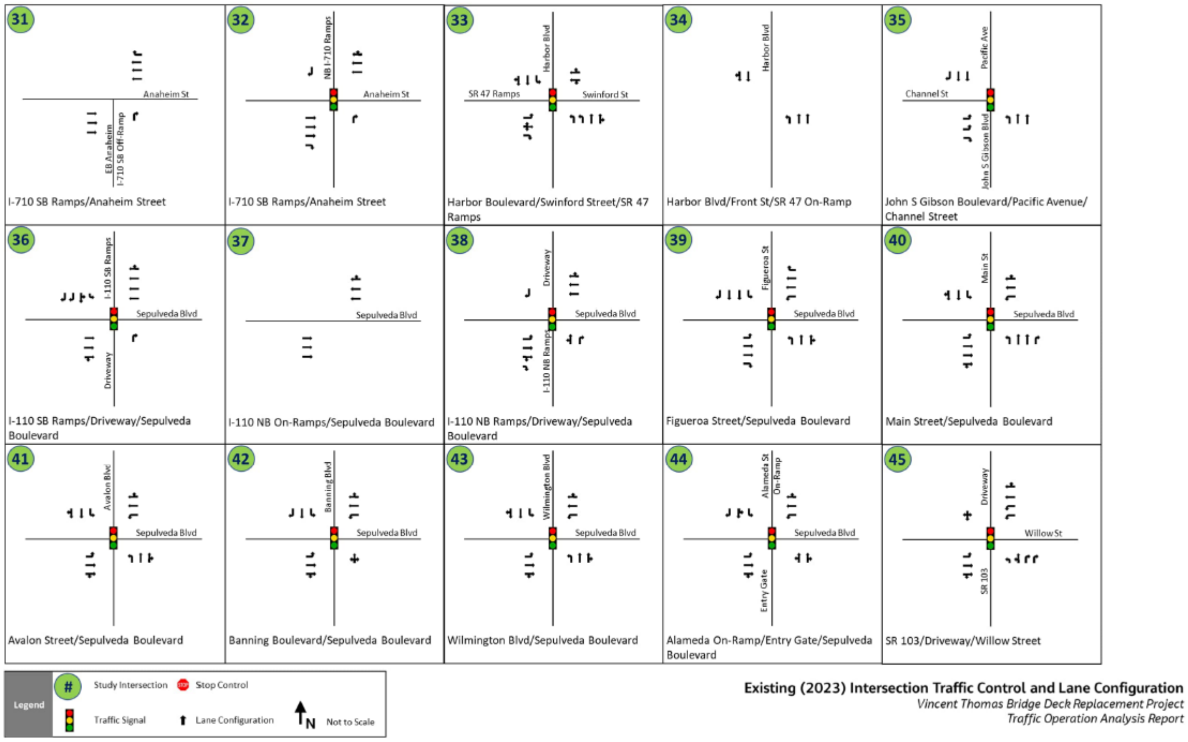


Figure 2.10-7: Existing Study Intersections 46 through 56, 58, 60, and 61
Traffic Control and Lane Configurations

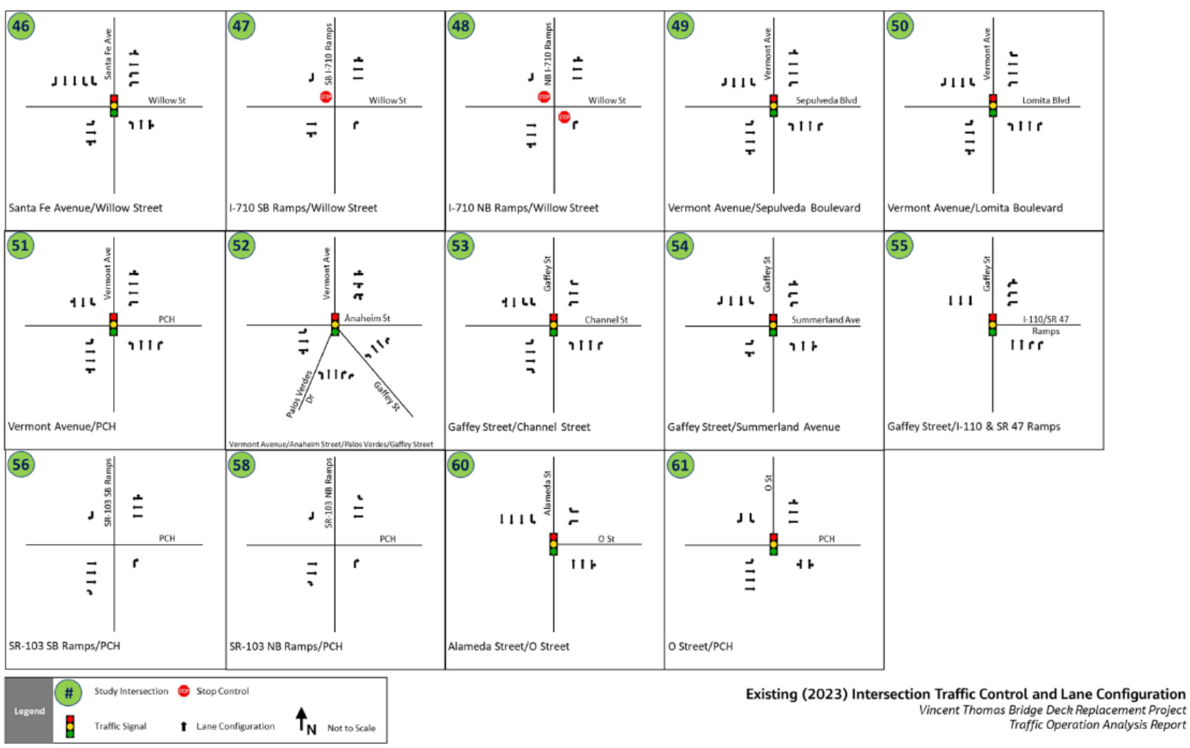


Table 2.10-4: Existing Intersection AM/Mid-Day/PM Peak-Hour Delay/LOS (IDs 1–56, 58, 60 and 61)

ID	Intersection	Traffic Control	AM Peak Hour		MD Peak Hour		PM Peak Hour	
			Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	John S. Gibson Blvd/W Harry Bridges Blvd/I-110 Ramps	Traffic Signal	25.9	C	25.0	C	25.1	C
2	Alameda St/E Anaheim St	Traffic Signal	47.4	D	34.7	C	111.7	F
3	N Henry Ford Ave (SR-47)/E Anaheim St	Traffic Signal	43.0	D	23.0	C	41.5	D
4	N Henry Ford Ave (SR-47)/Pier A Way/Pier A Plaza	Traffic Signal	17.4	B	21.4	C	20.1	C
5	Figueroa St/W Mauretania St/I-110 NB Off-Ramp	Stop Control	1.6	A	1.0	A	0.9	A
6	Figueroa St/I-110 NB On-Ramp	Stop Control	51.6	F	43.7	E	59.7	F
7	Wilmington Blvd/Anaheim St	Traffic Signal	14.6	B	15.0	B	15.8	B
8	Avalon Blvd/Anaheim St	Traffic Signal	26.1	C	26.2	C	27.6	C
9	I-110 SB Off-Ramp/PCH	Traffic Signal	38.2	D	29.7	C	31.5	C
10	Figueroa St/PCH	Traffic Signal	56.7	E	35.9	D	34.0	C
11	Wilmington Blvd/PCH	Traffic Signal	33.3	C	30.3	C	27.7	C
12	Avalon Blvd/PCH	Traffic Signal	49.1	D	34.8	C	45.4	D
13	Alameda St/Lower PCH	Traffic Signal	8.9	A	8.8	A	5.4	A
14	Drumm Ave/PCH	Stop Control	13.2	B	15.6	C	24.8	C
15	Navy Way/Seaside Ave	Traffic Signal	12.1	B	13.7	B	16.4	B
16	Pier S Avenue/SB Ocean Blvd Frontage Road	Traffic Signal	17.8	B	15.6	B	16.5	B
17	Pier S Ave/EB Ocean Blvd Frontage Road	Traffic Signal	13.3	B	17.1	B	16.9	B
18	9th St/I St/Anaheim St	Traffic Signal	24.0	C	33.0	C	38.9	D
19	Santa Fe Ave/Anaheim St	Traffic Signal	39.5	D	38.7	D	54.2	D
20	PCH/Santa Fe Ave	Traffic Signal	32.1	C	26.9	C	31.2	C
21	Avalon Blvd/Harry Bridges Blvd	Traffic Signal	34.8	C	32.7	C	56.0	E
22	N Access Road/Harry Bridges Blvd	Traffic Signal	15.7	B	19.7	B	14.4	B
23	SR-47 WB Off-Ramp/On-Ramp	Free	–	–	–	–	–	–
24	Ferry St/SR-47 EB Ramps	Traffic Signal	10.9	B	12.3	B	9.5	A
25	SR-47/SR-103 EB Off-Ramp	Traffic Signal	16.3	B	21.7	C	18.5	B
26	SR-47/Pier S Ave WB On-Ramp	Traffic Signal	18.9	B	25.0	C	26.4	C
27	PCH/I-710 SB WB PCH Off-Ramp	Free	–	–	–	–	–	–
28	PCH/I-710 EB PCH Off-Ramp	Free	–	–	–	–	–	–
29	PCH/I-710 WB PCH Off-Ramp	Free	–	–	–	–	–	–
30	PCH/I-710 EB PCH Off-Ramp	Stop Control	0.7	A	3.8	A	3.8	A
31	Anaheim St/I-710 WB Anaheim St On-/Off-Ramps	Free	–	–	–	–	–	–
32	Anaheim St/I-710 EB Anaheim St Ramps	Stop Control	3.6	A	5.5	A	71.4	F
33	Harbor Blvd/SR-47 Ramp	Traffic Signal	76.9	E	55.9	E	179.5	F
34	Harbor Blvd/Front St/SR-47 On-Ramp	Traffic Signal	–	–	–	–	–	–
35	John S Gibson Blvd/Pacific Ave/Channel St	Traffic Signal	45.4	D	31.5	C	72.2	E
36	Sepulveda Blvd/I-110 SB Off-Ramp	Traffic Signal	22.9	C	18.0	B	21.2	C
37	Sepulveda Blvd/I-110 NB On-Ramp	Free	–	–	–	–	–	–
38	Sepulveda Blvd/I-110 NB Off-Ramp/Driveway	Traffic Signal	11.5	B	9.7	A	19.7	B
39	Sepulveda Blvd/Figueroa St	Traffic Signal	36.6	D	28.6	C	36.9	D
40	Sepulveda Blvd/Main St	Traffic Signal	84.7	F	48.2	D	53.0	D
41	Sepulveda Blvd/Avalon Blvd	Traffic Signal	44.7	D	40.7	D	51.6	D

Table 2.10-4: Existing Intersection AM/Mid-Day/PM Peak-Hour Delay/LOS (IDs 1–56, 58, 60 and 61)

ID	Intersection	Traffic Control	AM Peak Hour		MD Peak Hour		PM Peak Hour	
			Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
42	Sepulveda Blvd/Banning Blvd	Traffic Signal	11.0	B	12.4	B	10.6	B
43	Sepulveda Blvd/Wilmington Ave	Traffic Signal	38.4	D	34.1	C	57.4	**E**
44	Entry Gate/Alameda On-Ramp/Sepulveda Blvd/Willow St	Traffic Signal	22.2	C	24.1	C	23.7	C
45	SR-103/Driveway/Willow St	Traffic Signal	21.7	C	25.2	C	30.1	C
46	Willow St/Santa Fe Ave	Traffic Signal	36.1	D	112.9	**F**	84.2	**F**
47	Willow St/I-710 SB On-/Off-Ramps	Stop Control	33.0	D	8.1	A	11.0	B
48	Willow St/I-710 NB On-Off-Ramps	Stop Control	4.9	A	2.5	A	2.2	A
49	Vermont Ave/Sepulveda Blvd	Traffic Signal	72.6	**E**	53.6	D	67.0	**E**
50	Vermont Ave/Lomita Blvd	Traffic Signal	122.1	**F**	100.1	**F**	128.7	**F**
51	Vermont Ave/PCH	Traffic Signal	96.2	**F**	37.3	D	53.8	D
52	Gaffey St/Vermont Ave/Anaheim St/Palos Verdes Dr	Traffic Signal	119.9	**F**	249.4	**F**	414.8	**F**
53	Gaffey St/Channel St	Traffic Signal	96.8	**E**	70.0	**E**	58.9	**E**
54	Gaffey St/Summerland Ave	Traffic Signal	75.3	**E**	26.7	C	49.7	D
55	Gaffey St/I-110/SR-47 Ramps	Traffic Signal	18.8	B	446.2	**F**	13.3	B
56	PCH/SR-103 SB On-/Off-Ramps	Free	–	–	–	–	–	–
58	PCH/SR-103 NB ON-Off-Ramps	Free	–	–	–	–	–	–
60	Alameda St/O St	Traffic Signal	10.6	B	13.7	B	24.0	C
61	PCH/O St	Traffic Signal	11.6	B	12.4	B	15.5	B

Source: Traffic and Operations Analysis Report (2023).

2.10.2.13 Year 2027 Alternatives

All future year 2027 alternative analyses incorporated the roadway improvements from the SR-47/Vincent Thomas Bridge and Front Street/Harbor Boulevard Interchange Reconfiguration Project, Temporary Traffic Control on Alameda Street and Anaheim Street (Phase 1), and the recent road diet along Anaheim Street (one lane per direction from Sanford Street to Figueroa Street). The westbound SR-47 off-ramp to Harbor Boulevard at Intersection #33 would be reconfigured to replace the current intersection of Front Street and Knoll Drive, which is a signalized intersection.

At Intersection #34 (Harbor Boulevard/Front Street/I-110 on-ramp), the current on-ramp to northbound I-110 would be moved north to the current intersection of Front Street and Knoll Drive. At Intersection #2 (Alameda Street/Anaheim Street), temporary lane reductions would occur at all approaches. Along Alameda Street, the northbound and southbound approaches will have one full lane per direction with a left-turn pocket. Along Anaheim Street, the westbound and eastbound approaches will have two full lanes with left-turn pockets. The geometry of Anaheim Street will be reduced to one lane per direction west of Intersection #2 due to the road diet and allocating one of the through lanes for a bicycle lane. At Intersection #13, temporary lane reductions would occur along Alameda Street.

For all the other study intersections, the existing lane configuration was assumed. For all future alternatives, 51 out of the 59 study intersections will be controlled either with traffic signals or stop controls. Intersection #34, which is currently uncontrolled, is proposed to be signalized in future conditions. The other eight intersections are uncontrolled (i.e., with free movements). The intersection delay and LOS for future year 2027 no construction and construction Alternatives A and D for the AM, MD, and PM peak hours are summarized in Tables 2.10-5 through 2.10-7.

Table 2.10-5: Year 2027 Intersection Delay and LOS Comparison for No Construction vs Construction Alternatives A and D (AM Peak Hour) (IDs 1–56, 58, 60, and 61)

ID	Intersection	Traffic Control	No Construction		Construction Alternative A (Full Closure)		Construction Alternative D (one lane open in each direction)	
			Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	John S Gibson Blvd/W Harry Bridges Blvd/I-110 Ramps	Traffic Signal	28.2	C	34.7	C	27.5	C
2	Alameda St/E Anaheim St	Traffic Signal	66.0	E	331.6	F	141.8	F
3	N Henry Ford Ave (SR-47)/E Anaheim St	Traffic Signal	81.2	F	209.8	F	95.2	F
4	N Henry Ford Ave (SR-47)/Pier A Way/Pier A Plaza	Traffic Signal	19.8	B	31.1	C	23.1	C
5	Figueroa St/W Mauretania St/I-110 NB Off-Ramp	Stop Control	1.4	A	1.2	A	1.4	A
6	Figueroa St/I-110 NB On-Ramp	Stop Control	63.2	F	70.1	F	79.7	F
7	Wilmington Blvd/Anaheim St	Traffic Signal	16.3	B	17.6	B	18.3	B
8	Avalon Blvd/Anaheim St	Traffic Signal	26.0	C	33.5	C	31.2	C
9	I-110 SB Off-Ramp/PCH	Traffic Signal	48.4	D	97.9	F	45.0	D
10	Figueroa St/PCH	Traffic Signal	100.5	F	112.3	F	109.5	F
11	Wilmington Blvd/PCH	Traffic Signal	36.9	D	38.9	D	35.5	D
12	Avalon Blvd/PCH	Traffic Signal	45.1	D	47.5	D	55.2	E
13	Alameda St/Lower PCH	Traffic Signal	11.9	B	11.7	B	11.2	B
14	Drumm Ave/PCH	Stop Control	44.9	E	164.5	F	75.9	F
15	Navy Way/Seaside Ave	Traffic Signal	10.8	B	12.7	B	12.2	B
16	Pier S Ave/WB Ocean Blvd Frontage Road	Traffic Signal	15.3	B	10.8	B	15.8	B
17	Pier S Ave/EB Ocean Blvd Frontage Road	Traffic Signal	16.0	B	11.6	B	12.6	B
18	9th St/I St/Anaheim St	Traffic Signal	23.4	C	20.7	C	27.8	C
19	Santa Fe Ave/Anaheim St	Traffic Signal	42.3	D	53.7	D	46.0	D
20	PCH/Santa Fe Ave	Traffic Signal	32.8	C	42.7	D	34.8	C
21	Avalon Blvd/Harry Bridges Blvd	Traffic Signal	28.9	C	39.8	D	29.3	C
22	N Access Road/Harry Bridges Blvd	Traffic Signal	19.7	B	18.2	B	17.1	B
23	SR-47 WB Off-Ramp/On-Ramp	Free	–	–	–	–	–	–
24	Ferry St/SR-47 EB Ramps	Traffic Signal	20.1	C	9.6	A	14.8	B
25	SR-47/SR-103 EB Off-Ramp	Traffic Signal	22.0	C	85.9	F	22.1	C
26	SR-47/Pier S Ave WB On-Ramp	Traffic Signal	65.7	E	203.4	F	36.5	D
27	PCH/I-710 SB WB PCH Off-Ramp	Free	–	–	–	–	–	–
28	PCH/I-710 EB PCH Off-Ramp	Free	–	–	–	–	–	–
29	PCH/I-710 WB PCH Off-Ramp	Free	–	–	–	–	–	–
30	PCH/I-710 EB PCH Off-Ramp	Stop Control	1.3	A	1.2	A	2.4	A
31	Anaheim St/I-710 WB Anaheim St On-/Off-Ramps	Free	–	–	–	–	–	–
32	Anaheim St/I-710 EB Anaheim St Ramps	Stop Control	4.1	A	4.4	A	4.2	A
33	Harbor Blvd/SR-47 Ramp	Traffic Signal	47.4	D	157.4	F	50.6	D
34	Harbor Blvd/Front St/SR-47 On-ramp	Traffic Signal	150.9	F	204.9	F	142.8	F
35	John S Gibson Blvd/Pacific Ave/Channel St	Traffic Signal	77.5	E	98.5	F	93.0	F
36	Sepulveda Blvd/I-110 SB Off-Ramp	Traffic Signal	24.6	C	21.9	C	24.7	C
37	Sepulveda Blvd/I-110 NB On-Ramp	Free	–	–	–	–	–	–

Table 2.10-5: Year 2027 Intersection Delay and LOS Comparison for No Construction vs Construction Alternatives A and D (AM Peak Hour) (IDs 1–56, 58, 60, and 61)

ID	Intersection	Traffic Control	No Construction		Construction Alternative A (Full Closure)		Construction Alternative D (one lane open in each direction)	
			Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
38	Sepulveda Blvd/I-110 NB Off-Ramp/Driveway	Traffic Signal	24.6	C	21.9	C	24.7	C
39	Sepulveda Blvd/Figueroa St	Traffic Signal	28.1	C	27.8	C	34.4	C
40	Sepulveda Blvd/Main St	Traffic Signal	97.9	**F**	126.4	**F**	103.8	**F**
41	Sepulveda Blvd/Avalon Blvd	Traffic Signal	56.4	**E**	74.6	**E**	60.4	**E**
42	Sepulveda Blvd/Banning Blvd	Traffic Signal	10.4	B	10.1	B	11.5	B
43	Sepulveda Blvd/Wilmington Ave	Traffic Signal	45.5	D	50.5	D	48.0	D
44	Entry Gate/Alameda On-Ramp/Sepulveda Blvd/Willow St	Traffic Signal	24.9	C	23.2	C	22.3	C
45	SR-103/Driveway/Willow St	Traffic Signal	28.3	C	47.5	D	30.9	C
46	Willow St/Sante Fe Ave	Traffic Signal	40.7	D	36.0	D	45.6	D
47	Willow St/I-710 SB On-/Off-Ramps	Stop Control	41.2	**E**	40.3	**E**	51.7	**F**
48	Willow St/I-710 NB On-/Off-Ramps	Stop Control	4.3	A	5.6	A	3.9	A
49	Vermont Ave/Sepulveda Blvd	Traffic Signal	56.6	**E**	54.7	D	64.0	**E**
50	Vermont Ave/Lomita Blvd	Traffic Signal	132.9	**F**	140.5	**F**	136.7	**F**
51	Vermont Ave/PCH	Traffic Signal	112.9	**F**	117.6	**F**	122.4	**F**
52	Gaffey St/Vermont Ave/Anaheim St/Palos Verdes Dr	Traffic Signal	144.6	**F**	293.1	**F**	226.2	**F**
53	Gaffey St/Channel St	Traffic Signal	68.1	**E**	56.7	D	65.5	**E**
54	Gaffey St/Summerland Ave	Traffic Signal	75.5	**E**	60.1	D	46.5	D
55	Gaffey St/I-110/SR-47 Ramps	Traffic Signal	22.0	C	29.0	C	25.5	C
56	PCH/SR-103 SB On-/Off-Ramps	Free	–	–	–	–	–	–
58	PCH/SR-103 NB On/Off-Ramps	Free	–	–	–	–	–	–
60	Alameda St/O St	Traffic Signal	30.1	C	26.1	C	36.7	D
61	PCH/O St	Traffic Signal	23.0	C	37.6	D	32.9	C

Source: Traffic and Operations Analysis Report (2023).

Table 2.10-6: Year 2027 Intersection Delay and LOS Comparison for No Construction vs Construction Alternatives A and D (Mid-Day Peak Hour) (IDs 1–56, 58, 60, and 61)

ID	Intersection	Traffic Control	No Construction		Construction Alternative A (Full Closure)		Construction Alternative D (one lane open in each direction)	
			Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	John S Gibson Blvd/W Harry Bridges Blvd/I-110 Ramps	Traffic Signal	29.7	C	33.7	C	24.6	C
2	Alameda St/E Anaheim St	Traffic Signal	110.9	F	390.6	F	170.9	F
3	N Henry Ford Ave (SR-47)/E Anaheim St	Traffic Signal	129.8	F	226	F	110.7	F
4	N Henry Ford Ave (SR-47)/Pier A Way/Pier A Plaza	Traffic Signal	31.2	C	65.5	E	47.9	D
5	Figueroa St/W Mauretania St/I-110 NB Off-Ramp	Stop Control	0.8	A	0.7	A	0.7	A
6	Figueroa St/I-110 NB On-Ramp	Stop Control	72.9	F	71.1	F	69.1	F
7	Wilmington Blvd/Anaheim St	Traffic Signal	16.0	B	20.4	C	18.4	B
8	Avalon Blvd/Anaheim St	Traffic Signal	30.0	C	43.0	D	34.1	C
9	I-110 SB Off-Ramp/PCH	Traffic Signal	27.4	C	36.0	D	27.6	C
10	Figueroa St/PCH	Traffic Signal	54.1	D	46.2	D	56.9	E
11	Wilmington Blvd/PCH	Traffic Signal	31.4	C	35.2	D	32.7	C
12	Avalon Blvd/PCH	Traffic Signal	35.4	D	25.8	C	24.3	C
13	Alameda St/Lower PCH	Traffic Signal	15.6	B	14.4	B	13.2	B
14	Drumm Ave/PCH	Stop Control	19.5	C	91.8	F	54.8	F
15	Navy Way/Seaside Ave	Traffic Signal	14.2	B	11.4	B	11.0	B
16	Pier S Ave/WB Ocean Blvd Frontage Road	Traffic Signal	15.2	B	8.2	A	9.4	A
17	Pier S Ave/EB Ocean Blvd Frontage Road	Traffic Signal	17.9	B	13.7	B	13.0	B
18	9th St/I St/Anaheim St	Traffic Signal	30.0	C	30.2	C	32.9	C
19	Santa Fe Ave/Anaheim St	Traffic Signal	46.9	D	37.4	D	41.9	D
20	PCH/Santa Fe Ave	Traffic Signal	29.3	C	29.8	C	29.3	C
21	Avalon Blvd/Harry Bridges Blvd	Traffic Signal	28.8	C	45.1	D	29.5	C
22	N Access Road/Harry Bridges Blvd	Traffic Signal	18.1	B	26.2	C	19.9	B
23	SR-47 WB Off-Ramp/On-Ramp	Free	–	–	–	–	–	–
24	Ferry St/SR-47 EB Ramps	Traffic Signal	16.4	B	158.0	F	26.8	C
25	SR-47/SR-103 EB Off-Ramp	Traffic Signal	126.6	F	194.1	F	133.8	F
26	SR-47/Pier S Ave WB On-Ramp	Traffic Signal	89.1	F	150.4	F	82.6	F
27	PCH/I-710 SB WB PCH Off-Ramp	Free	–	–	–	–	–	–
28	PCH/I-710 EB PCH Off-Ramp	Free	–	–	–	–	–	–
29	PCH/I-710 WB PCH Off-Ramp	Free	–	–	–	–	–	–
30	PCH/I-710 EB PCH Off-Ramp	Stop Control	4.3	A	3.6	A	3.9	A
31	Anaheim St/I-710 WB Anaheim St On-/Off-Ramps	Free	–	–	–	–	–	–
32	Anaheim St/I-710 EB Anaheim St Ramps	Stop Control	5.6	A	6.6	A	6.0	A
33	Harbor Blvd/SR-47 Ramp	Traffic Signal	161.8	F	261.6	F	181.6	F
34	Harbor Blvd/Front St/SR-47 On-ramp	Traffic Signal	420.3	F	254.0	F	255.8	F
35	John S Gibson Blvd/Pacific Ave/Channel St	Traffic Signal	77.3	E	42.5	D	72.9	E
36	Sepulveda Blvd/I-110 SB Off-Ramp	Traffic Signal	28.6	C	30.5	C	39.3	D
37	Sepulveda Blvd/I-110 NB On-Ramp	Free	–	–	–	–	–	–

Table 2.10-6: Year 2027 Intersection Delay and LOS Comparison for No Construction vs Construction Alternatives A and D (Mid-Day Peak Hour) (IDs 1–56, 58, 60, and 61)

ID	Intersection	Traffic Control	No Construction		Construction Alternative A (Full Closure)		Construction Alternative D (one lane open in each direction)	
			Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
38	Sepulveda Blvd/I-110 NB Off-Ramp/Driveway	Traffic Signal	28.3	C	28.4	C	19.5	B
39	Sepulveda Blvd/Figueroa St	Traffic Signal	41.9	D	46.0	D	39.8	D
40	Sepulveda Blvd/Main St	Traffic Signal	112.8	F	97.2	F	115.6	F
41	Sepulveda Blvd/Avalon Blvd	Traffic Signal	57.3	E	67.8	E	58.3	E
42	Sepulveda Blvd/Banning Blvd	Traffic Signal	11.1	B	10.7	B	11.4	B
43	Sepulveda Blvd/Wilmington Ave	Traffic Signal	56.0	E	57.6	E	53.3	D
44	Entry Gate/Alameda On-Ramp/Sepulveda Blvd/Willow St	Traffic Signal	22.8	C	28.0	C	24.3	C
45	SR-103/Driveway/Willow St	Traffic Signal	85.1	F	43.3	D	54.7	D
46	Willow St/Sante Fe Ave	Traffic Signal	126.8	F	105.0	F	120.8	F
47	Willow St/I-710 SB On-/Off-Ramps	Stop Control	15.8	C	12.6	B	12.5	B
48	Willow St/I-710 NB On-/Off-Ramps	Stop Control	1.9	A	3.4	A	2.5	A
49	Vermont Ave/Sepulveda Blvd	Traffic Signal	50.0	D	51.2	D	54.1	D
50	Vermont Ave/Lomita Blvd	Traffic Signal	104.4	F	136.0	F	119.3	F
51	Vermont Ave/PCH	Traffic Signal	28.1	C	61.2	E	41.1	D
52	Gaffey St/Vermont Ave/Anaheim St/Palos Verdes Dr	Traffic Signal	171.0	F	345.3	F	265.4	F
53	Gaffey St/Channel St	Traffic Signal	76.2	E	60.2	E	69.0	E
54	Gaffey St/Summerland Ave	Traffic Signal	25.9	C	56.9	E	44.8	D
55	Gaffey St/I-110/SR-47 Ramps	Traffic Signal	15.7	B	16.7	B	16.4	B
56	PCH/SR-103 SB On-/Off-Ramps	Free	–	–	–	–	–	–
58	PCH/SR-103 NB On/Off-Ramps	Free	–	–	–	–	–	–
60	Alameda St/O St	Traffic Signal	46.6	D	52.0	D	40.2	D
61	PCH/O St	Traffic Signal	24.8	C	34.8	C	21.4	C

Source: Traffic and Operations Analysis Report (2023).

Table 2.10-7: Year 2027 Intersection Delay and LOS Comparison for No Construction vs Construction Alternatives A and D (PM Peak Hour) (IDs 1–56, 58, 60, and 61)

ID	Intersection	Traffic Control	No Construction		Construction Alternative A (Full Closure)		Construction Alternative D (one lane open in each direction)	
			Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	John S Gibson Blvd/W Harry Bridges Blvd/I-110 Ramps	Traffic Signal	30.7	C	46.6	D	39.1	D
2	Alameda St/E Anaheim St	Traffic Signal	373.4	F	682.7	F	422.3	F
3	N Henry Ford Ave (SR-47)/E Anaheim St	Traffic Signal	104.2	F	282.9	F	120.2	F
4	N Henry Ford Ave (SR-47)/Pier A Way/Pier A Plaza	Traffic Signal	32.6	C	206.6	F	35.4	D
5	Figueroa St/W Mauretania St/I-110 NB Off-Ramp	Stop Control	0.7	A	0.7	A	0.8	A
6	Figueroa St/I-110 NB On-Ramp	Stop Control	77.3	F	72.6	F	70.9	F
7	Wilmington Blvd/Anaheim St	Traffic Signal	16.4	B	22.8	C	19.6	B
8	Avalon Blvd/Anaheim St	Traffic Signal	40.1	D	42.3	D	47.1	D
9	I-110 SB Off-Ramp/PCH	Traffic Signal	25.8	C	44.7	D	25.1	C
10	Figueroa St/PCH	Traffic Signal	64.2	E	68.6	E	58.7	E
11	Wilmington Blvd/PCH	Traffic Signal	26.4	C	27.5	C	27.8	C
12	Avalon Blvd/PCH	Traffic Signal	72.5	E	85.5	F	91.7	F
13	Alameda St/Lower PCH	Traffic Signal	10.9	B	12.3	B	10.6	B
14	Drumm Ave/PCH	Stop Control	8.7	A	25.4	D	14.2	B
15	Navy Way/Seaside Ave	Traffic Signal	22.5	C	13.5	B	10.3	B
16	Pier S Ave/WB Ocean Blvd Frontage Road	Traffic Signal	18.3	B	17.3	B	16.6	B
17	Pier S Ave/EB Ocean Blvd Frontage Road	Traffic Signal	17.8	B	14.7	B	23.6	C
18	9th St/I St/Anaheim St	Traffic Signal	29.4	C	35.2	D	31.7	C
19	Santa Fe Ave/Anaheim St	Traffic Signal	47.0	D	35.2	D	46.4	D
20	PCH/Santa Fe Ave	Traffic Signal	34.5	C	34.6	C	33.7	C
21	Avalon Blvd/Harry Bridges Blvd	Traffic Signal	32.1	C	49.9	D	40.4	D
22	N Access Road/Harry Bridges Blvd	Traffic Signal	19.2	B	35.4	C	26.5	C
23	SR-47 WB Off-Ramp/On-Ramp	Free	–	–	–	–	–	–
24	Ferry St/SR-47 EB Ramps	Traffic Signal	18.4	B	145.1	F	24.8	C
25	SR-47/SR-103 EB Off-Ramp	Traffic Signal	83.9	F	310.5	F	59.8	E
26	SR-47/Pier S Ave WB On-Ramp	Traffic Signal	63.9	E	230.9	F	58.4	E
27	PCH/I-710 SB WB PCH Off-Ramp	Free	–	–	–	–	–	–
28	PCH/I-710 EB PCH Off-Ramp	Free	–	–	–	–	–	–
29	PCH/I-710 WB PCH Off-Ramp	Free	–	–	–	–	–	–
30	PCH/I-710 EB PCH Off-Ramp	Stop Control	8.0	A	8.2	A	8.3	A
31	Anaheim St/I-710 WB Anaheim St On-/Off-Ramps	Free	–	–	–	–	–	–
32	Anaheim St/I-710 EB Anaheim St Ramps	Stop Control	120.7	F	127.2	F	124.3	F
33	Harbor Blvd/SR-47 Ramp	Traffic Signal	78.1	E	109.0	F	78.1	E
34	Harbor Blvd/Front St/SR-47 On-ramp	Traffic Signal	399.3	F	231.7	F	340.5	F
35	John S Gibson Blvd/Pacific Ave/Channel St	Traffic Signal	123.0	F	94.5	F	108.2	F
36	Sepulveda Blvd/I-110 SB Off-Ramp	Traffic Signal	22.6	C	23.5	C	22.4	C
37	Sepulveda Blvd/I-110 NB On-Ramp	Free	–	–	–	–	–	–

Table 2.10-7: Year 2027 Intersection Delay and LOS Comparison for No Construction vs Construction Alternatives A and D (PM Peak Hour) (IDs 1–56, 58, 60, and 61)

ID	Intersection	Traffic Control	No Construction		Construction Alternative A (Full Closure)		Construction Alternative D (one lane open in each direction)	
			Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
38	Sepulveda Blvd/I-110 NB Off-Ramp/Driveway	Traffic Signal	27.5	C	20.7	C	24.2	C
39	Sepulveda Blvd/Figueroa St	Traffic Signal	31.8	C	30.4	C	37.3	D
40	Sepulveda Blvd/Main St	Traffic Signal	73.6	**E**	77.3	**E**	72.6	**E**
41	Sepulveda Blvd/Avalon Blvd	Traffic Signal	76.9	**E**	79.5	**E**	76.8	**E**
42	Sepulveda Blvd/Banning Blvd	Traffic Signal	11.3	B	12.3	B	12.2	B
43	Sepulveda Blvd/Wilmington Ave	Traffic Signal	67.6	**E**	83.4	**F**	71.8	**E**
44	Entry Gate/Alameda On-Ramp/Sepulveda Blvd/Willow St	Traffic Signal	24.0	C	28.6	C	21.9	C
45	SR-103/Driveway/Willow St	Traffic Signal	85.2	**F**	37.8	D	36.3	D
46	Willow St/Sante Fe Ave	Traffic Signal	75.2	**E**	124.0	**F**	89.0	**F**
47	Willow St/I-710 SB On-/Off-Ramps	Stop Control	23.0	C	28.5	D	24.4	C
48	Willow St/I-710 NB On-/Off-Ramps	Stop Control	2.1	A	3.3	A	2.8	A
49	Vermont Ave/Sepulveda Blvd	Traffic Signal	52.5	D	59.7	**E**	54.7	D
50	Vermont Ave/Lomita Blvd	Traffic Signal	118.3	**F**	141.0	**F**	129.0	**F**
51	Vermont Ave/PCH	Traffic Signal	47.8	D	109.4	**F**	68.5	**E**
52	Gaffey St/Vermont Ave/Anaheim St/Palos Verdes Dr	Traffic Signal	513.5	**F**	330.8	**F**	462.3	**F**
53	Gaffey St/Channel St	Traffic Signal	60.5	**E**	94.5	**F**	69.2	**E**
54	Gaffey St/Summerland Ave	Traffic Signal	66.8	**E**	77.7	**E**	105.6	**F**
55	Gaffey St/I-110/SR-47 Ramps	Traffic Signal	27.9	C	22.8	C	22.3	C
56	PCH/SR-103 SB On-/Off-Ramps	Free	–	–	–	–	–	–
58	PCH/SR-103 NB On/Off-Ramps	Free	–	–	–	–	–	–
60	Alameda St/O St	Traffic Signal	100.2	**F**	108.3	**F**	102.4	**F**
61	PCH/O St	Traffic Signal	25.6	C	33.1	C	30.2	C

Source: Traffic and Operations Analysis Report (2023).

2.10.2.14 Nighttime Closure

The nighttime closure alternative focused on roadway segments listed in Table 2.10-2. The alternative was evaluated for construction staging for the nighttime hours between 7:00 p.m. and 6:00 a.m.. The nighttime hourly volumes obtained for this alternative were used for the noise and air quality technical studies.

The hourly traffic flows were divided by the weekday average daily traffic volumes collected via StreetLight and post-processed to obtain hourly “K” values. The K value represents the percent volume for every hour of the nighttime period between 7:00 p.m. and 6:00 a.m. compared to the total daily volume. The nighttime peak hour was identified using the highest K value in the 11-hour period. Table 2.10-8 presents the K value distribution during the nighttime period. The hour from 7:00 to 8:00 p.m. was identified as the peak hour for the nighttime period.

Table 2.10-8: K Value Distribution During Nighttime

Nighttime Hour	K (Percent of Average Daily Traffic)	Percent of Nighttime Period
7:00 PM–8:00 PM	4.64%	20.96%
8:00 PM–9:00 PM	3.86%	17.45%
9:00 PM–10:00 PM	3.21%	14.48%
10:00 PM–11:00 PM	2.29%	10.32%
11:00 PM–12:00 AM	1.50%	6.77%
12:00 AM–1:00 AM	1.06%	4.80%
1:00 AM–2:00 AM	0.92%	4.13%
2:00 AM–3:00 AM	0.76%	3.44%
3:00 AM–4:00 AM	0.60%	2.73%
4:00 AM–5:00 AM	0.92%	4.15%
5:00 AM–6:00 AM	2.38%	10.76%
Sum	**22.15%**	**100.00%**

Source: Traffic and Operations Analysis Report (2023).

2.10.2.15 Pedestrian and Bicycle Facilities

City of Los Angeles

The Mobility Plan 2035 (City of Los Angeles 2016) is an element of the General Plan for the City of Los Angeles. It updates the City’s 1999 Transportation Element and integrates the 2010 Bicycle Plan. The Mobility Plan 2035 is the policy foundation necessary for the City of Los Angeles to plan, design, and operate streets that accommodate all users, including pedestrians, bicyclists, transit riders, and motorists. The City of Los Angeles jurisdiction within the CIA Study Area includes the communities of Wilmington, San Pedro, and Harbor City.

Pedestrian Facilities

According to Mobility Plan 2035, there are 10,750 miles of sidewalks in Los Angeles, and 42 percent of those sidewalks is in disrepair. It is estimated that 64,000 people walk or bike to work every day.

The plan also assessed Pedestrian Enhanced Districts (PEDs), which are areas where pedestrian improvements on arterial streets could be prioritized to provide better walking connections to and from the major destinations within communities. Wilmington, San Pedro, and Harbor City all contain PEDs, with San Pedro having a higher density of PEDs east of

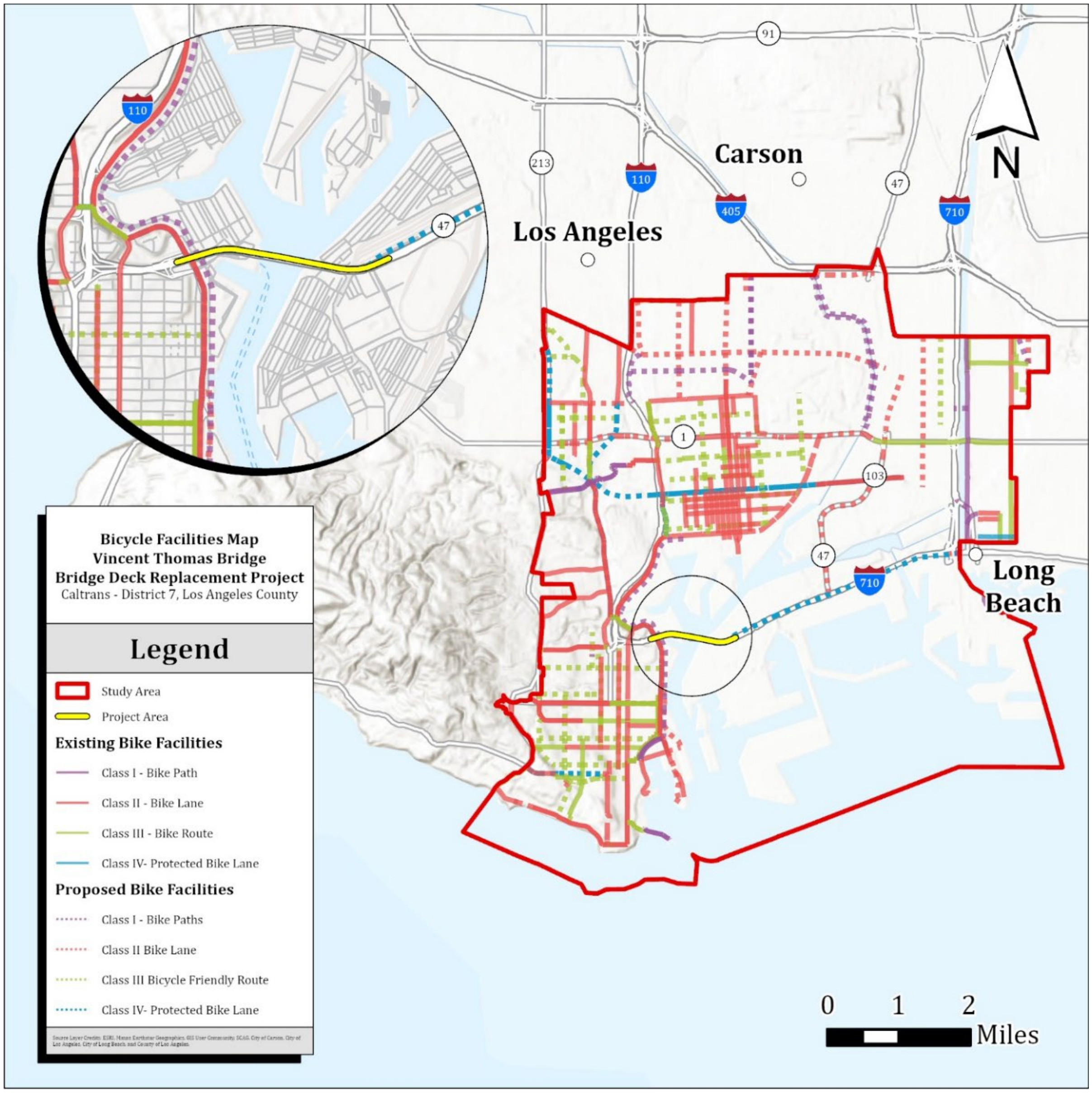
Gaffey Street and along the harbor. The Enhanced Neighborhood Network (ENN) serves as a system of local streets that are slow moving and safe enough to connect neighborhoods through active transportation. Wilmington, San Pedro, and Harbor City all contain streets that are considered a part of the ENN.

Bicycle Facilities

The City of Los Angeles follows the federal and State transportation system bikeway facilities classifications: Bicycle Paths (Class I), Bicycle Lanes (Class II), and Bicycle Routes (Class III). The 2010 Bicycle Plan states that Class I Bicycle Paths are exclusive, car-free facilities that are typically not located within a roadway area. Class II Bicycle Lanes are part of the street design that is dedicated only for bicycles and identified by a striped lane separating vehicle lanes from bicycle lanes. Class III Bicycle Routes are in-road bikeways where bicycles and motor vehicles share the roadway. Class IV Bicycle Lanes are intended for the exclusive use of bicycles and include a separation required between the separated bikeway and the through vehicular traffic. Notable bicycle routes (located close to the project area or along proposed detour routes) are described below.

The closest bicycle facility to the project area is a Class II Bicycle Lane that runs along Harbor Boulevard/Front Street, beneath the SR-47. There is a Class II Bicycle Lane located along Anaheim Street from Gaffey Street to I Street/9th Street. The Anaheim Street Safety Improvements Project recently upgraded a section of this existing Class II Bicycle Lane to a Class IV Bicycle Lane from I-110 to Henry Ford Avenue. A Class III Bicycle Route runs along PCH from SR-103 to Pacific Avenue. Refer to Figure 2.10-8 for all bicycle facilities mapped within the CIA Study Area.

Figure 2.10-8: Bicycle Facilities Map



Source: Community Impact Assessment (2024).

SR-47 is classified as a State highway with two travel lanes in each direction. Currently, there are no pedestrian or bicycle facilities on the bridge.

City of Carson

Pedestrian Facilities
According to the City of Carson 2040 General Plan (Dyett & Bhatia 2023), pedestrian circulation and access is primarily provided through sidewalks. Sidewalks are found on most streets throughout the city except for some neighborhoods and industrial areas. Pedestrian crosswalks are provided at signalized and unsignalized intersections.

Bicycle Facilities
The City of Carson 2040 General Plan describes Carson's existing bicycle facilities, which make up a network that is 13.3 miles long. Class I bikeways are facilities with exclusive right-of-way for bicyclists and pedestrians, are away from the roadway, and with minimized cross flows by motor traffic. The Dominguez Channel Bikeway, the Los Angeles River Bicycle Path, and the Compton Creek Bikeway are the Class I bikeways in Carson. Class II bike lanes are established along streets and are defined by pavement striping and signage to delineate a portion of a roadway for bicycle travel. Several key arterials within the city include Class II bike lanes, (e.g., segments of University Drive, Del Amo Boulevard, Central Avenue, Lomita Boulevard, Leapwood Avenue, and Chico Street). Class III bike routes are shared routes between motor traffic and bicycles. Class III bike routes are found on segments of Carson Street, Dolores Street, and Turmont Street.

City of Long Beach

Pedestrian Facilities
According to the City of Long Beach General Plan Mobility Element (City of Long Beach 2013), sidewalks in Long Beach are designed to provide safe pedestrian facilities that separate the pedestrian from vehicles traveling at higher rates of speed. Due to predominantly being developed as a streetcar community, Central and West Long Beach have sidewalks flanking most streets, creating walkable environments. Missing sidewalks on thoroughfares crossing the Los Angeles River and Interstate 710 (I-710), and throughout some of the industrial areas, pose an impediment to connectivity. Narrow sidewalks on Alamitos Avenue and Pacific Avenue can make these corridors inaccessible where sloping driveways and infrastructure encroach on pedestrian paths of travel. PCH, Anaheim Street, and 7th Street are major vehicle thoroughfares with significant levels of pedestrian activity. The majority of Long Beach's pedestrian-involved collisions takes place along these three corridors.

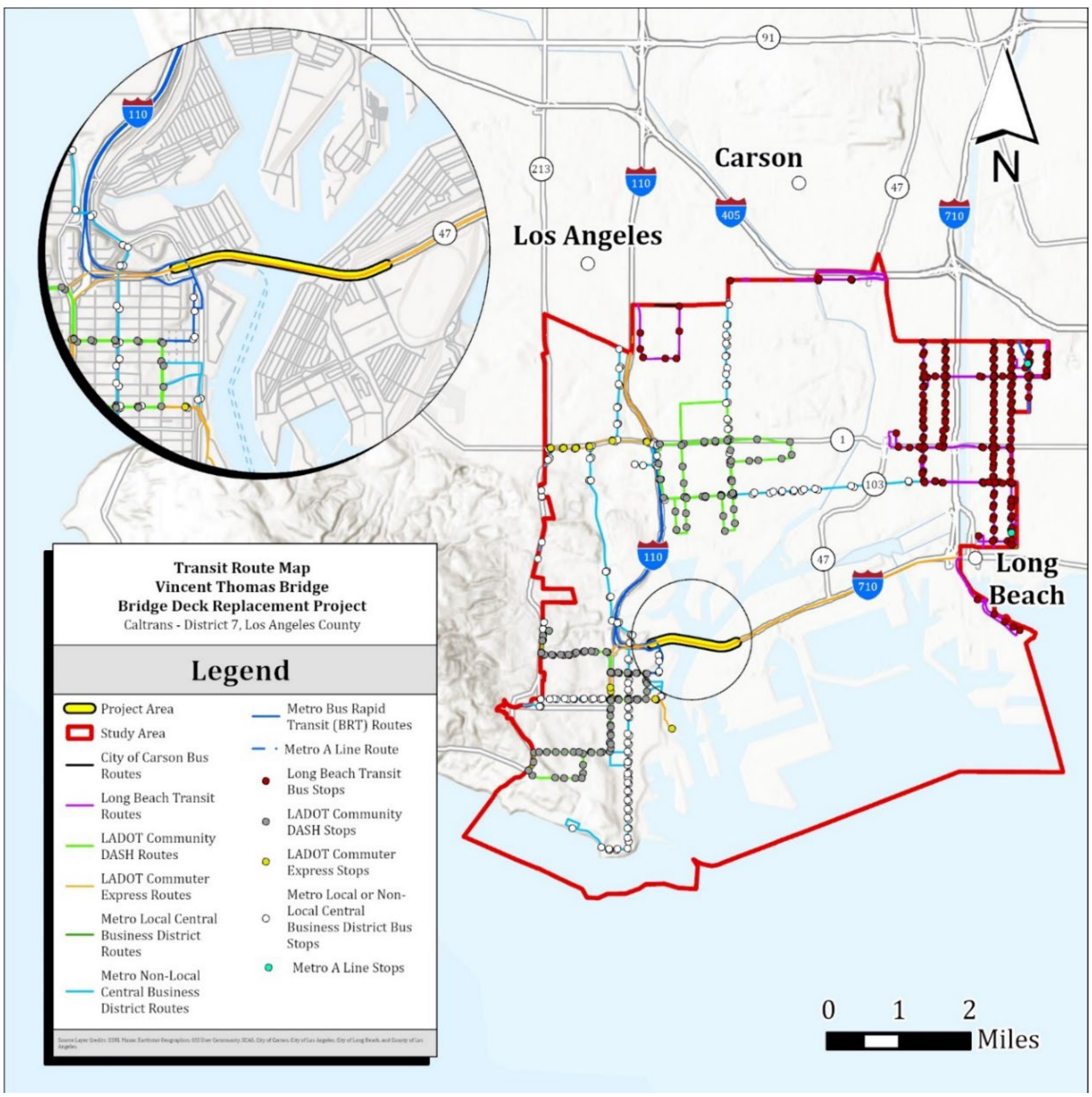
Bicycle Facilities
According to Chapter 3 of the City of Long Beach Bicycle Master Plan (City of Long Beach 2016), Long Beach follows the Caltrans guidelines for classification of bicycle lanes, with additional classifications within Class III. Shared-use paths or paved trails are designated as Class I, which provide completely separated, exclusive right-of-way for bicycling, walking, and other non-motorized uses. Class II bicycle lanes are striped, preferential lanes on roadways for one-way bicycle travel. There are 37.6 miles of Class I bicycle facilities and 59 miles of roads with Class II bicycle lanes in Long Beach.

The City of Long Beach expands on the Caltrans description of a Class III bicycle facility by splitting the class into the following subsections: Class III-A, Class III-B, and Class III-C. Class III-A bicycle facilities are on-street along low-speed roadways. These routes have been optimized for bicycle travel through signage, shared-lane markings, and engineering tools to slow traffic, reduce cut-through vehicle trips, and assist bicyclist and pedestrians in crossing busier roadways. Long Beach currently has 1.5 miles of Class III-A bicycle facilities. Class III-B and Class III-C are mixed-flow facilities appropriate for low-volume streets with slow travel speeds. Some routes are designated only by Caltrans-compliant Bike Route signs (Class III-C), while others are designated by signs and painted shared lane markings to indicate a shared lane environment for bicycle riders and motorists (Class III-B). Long Beach has 26.9 miles of designated bicycle routes. A Class IV bicycle facility is separated from motor vehicle traffic by a vertical element or barrier, such as a curb, bollards, or vehicle parking aisle. Long Beach has 3.3 miles of Class IV bikeways.

2.10.2.16 Public Transportation

Public transportation service within the CIA Study Area is provided by several different agencies, see Figure 2.10-9. Specific services and routes within each study area community are discussed below.

Figure 2.10-9: Transit Route Map



Source: Community Impact Assessment (2024).

Wilmington

Wilmington is served by the Los Angeles Department of Transportation (LADOT) DASH bus service on PCH, Watson Avenue, L Street, Avalon Boulevard, Anaheim Street, and Figueroa Street. The DASH bus service operates every day of the year, including holidays. LA Metro bus routes 232 and 246 provide service along Avalon Boulevard, Anaheim Street, and Figueroa Street. The LA Metro J Line (Silver) is a 38-mile bus rapid transit route that runs between El Monte, Downtown Los Angeles, and the Harbor Gateway, with some trips continuing to San Pedro. The J Line runs on I-110 and SR-47, where it exits onto Harbor Boulevard just west of the Vincent Thomas Bridge. The J Line provides service to Wilmington via a stop at I-110 and PCH. Torrance Transit Line 3 provides service along Wilmington Boulevard and PCH.

San Pedro

San Pedro is served by the LADOT DASH bus service with service along Western Avenue, 1st Street, Pacific Avenue, Gaffey Street, 19th Street, Alma Street, and 25th Street. LADOT Commuter Express Route 142 provides service between the San Pedro waterfront and downtown Long Beach with service provided every day of the year, including holidays. The route connects the two destinations via the Vincent Thomas Bridge. The LA Metro J Line follows I-110 to SR-47, exiting at Harbor Boulevard to 1st Street, Pacific Avenue, 22nd Street, Gaffey Street, and 19th Street, and includes 11 stops. LA Metro service to San Pedro is also provided by Lines 246 and 205, traveling on Gaffey Street, Pacific Avenue, Shepard Street, Western Avenue, and 7th Street.

City of Long Beach

Bus service in Long Beach is provided by Long Beach Transit, with 38 routes throughout the city. Routes 2, 4, and 8 operate Monday through Saturday only while Routes 92, 93, 102, 175, and 405 operate weekdays only. LADOT Commuter Express Route 142 provides service between downtown Long Beach and the San Pedro waterfront, with service provided every day of the year, including holidays. In addition, LA Metro provides light-rail service to downtown Long Beach via the A Line, which connects to Downtown Los Angeles and east to Azusa.

Harbor City

The City of Gardena GTrans Line 2 provides service through Harbor City with a loop running along Normandie Avenue, PCH, and Western Avenue. In addition, LA Metro provides service in Harbor City with bus lines 205 along Vermont Avenue, PCH, and Western Avenue; 232 on PCH; and 246 on Vermont Avenue and PCH. A Metro J Line stop is located at I-110 and PCH.

City of Carson

Within the CIA Study Area, the Carson Circuit Route B operates bus service along Avalon Boulevard, 213th Street, and Main Street. Long Beach Transit Line 2 operates on Avalon Boulevard, 223rd Street, Main Street, Sepulveda Boulevard, and Figueroa Street, while Line 8 traverses 223rd Street. The Torrance Transit System bus service, Line 3, runs south on Main Street through Sepulveda Boulevard and east on PCH until Pacific Avenue. The Torrance Transit System Line 7 runs east on Sepulveda Boulevard until the last stop at Avalon Boulevard.

2.10.3 ENVIRONMENTAL CONSEQUENCES

2.10.3.1 Traffic Alternatives Comparison

The following sections provide a summary of the findings and comparisons between construction alternatives.

Intersection LOS and Delay Analysis

Intersection Congestion Change Factor
To better compare traffic operations at the intersections for the different construction alternatives versus the no construction alternative, a project-specific congestion change factor was developed and is defined as follows:

Intersection congestion change factor = (Δ Delay)(Δ LOS+1)*

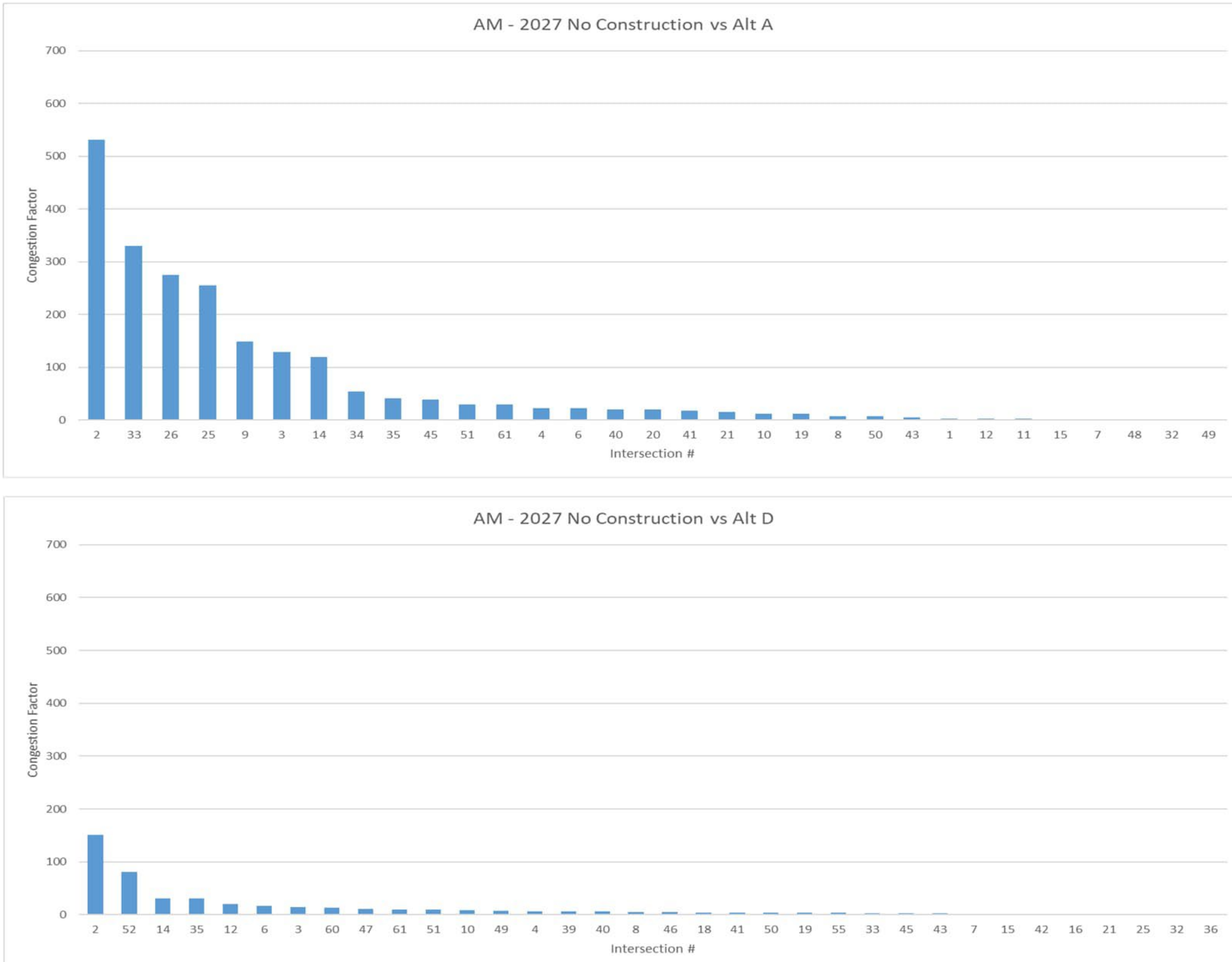
where: Δ Delay = the delay difference in seconds at individual intersections between each construction alternative and the no construction alternative.

Δ LOS = the LOS difference at individual intersections between each construction alternative and the no construction alternative (e.g., at intersection #1, Δ LOS for Alternative C during the AM peak hour is D – C = 1).

Based on the congestion change factor results, Alternative A (Full Closure) would have the highest congestion increase compared to the no construction alternative for all peak periods. The results clearly indicate that Alternative D (one lane open in each direction) would have the least congestion for all three peak periods in the study area.

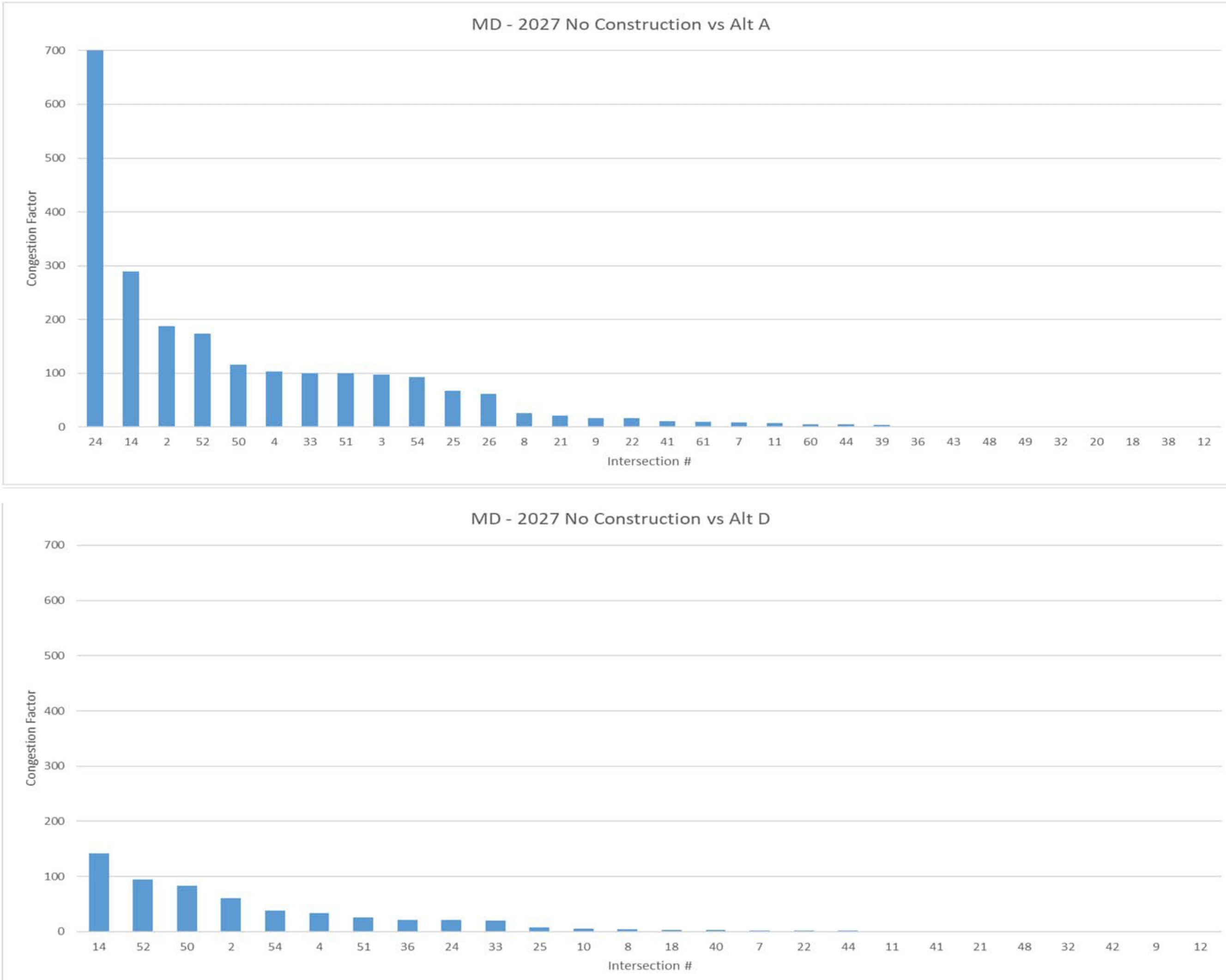
Figures 2.10-10 through 2.10-12 present the congestion change factor at all intersections for all alternatives during the AM, MD, and PM peak hours. The graphs do not include intersections that experienced improved delay and/or LOS. The graphs present the intersections ranked from the highest to the lowest congestion change factors. In general, intersections in Alternative A (Full Closure) have the highest congestion change factors. Intersections in Alternative D (one lane open in each direction) have the least congestion change factors among the construction alternatives.

Figure 2.10-10: Intersection Congestion Change Factors During AM Peak Hour for Alternatives A (Full Closure) and D (One Lane Open in Each Direction)



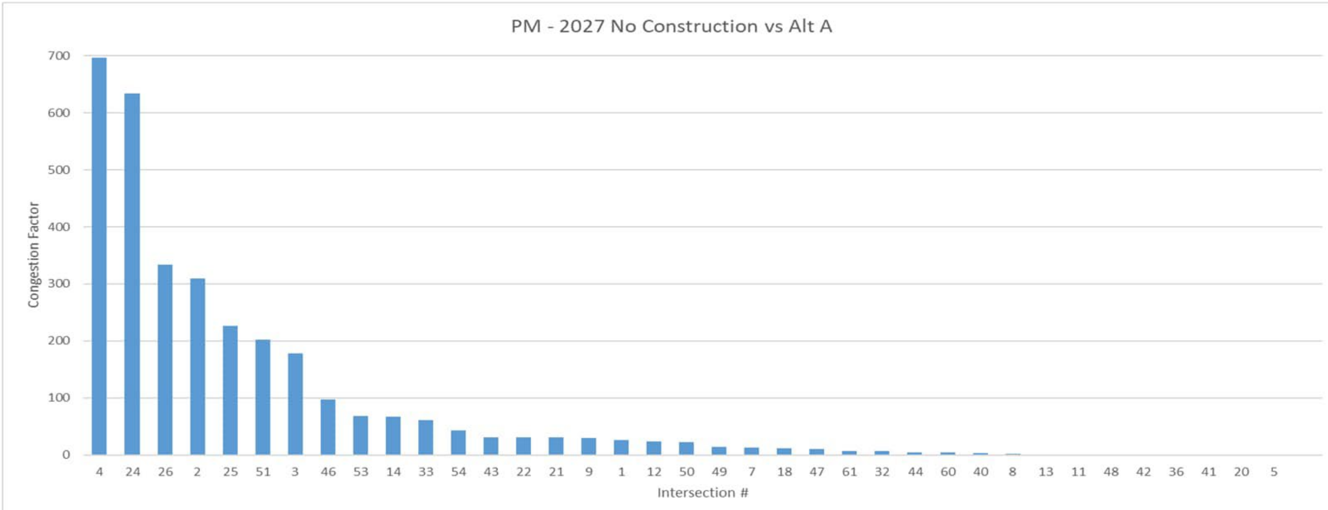
Source: Traffic and Operations Analysis Report (2023).

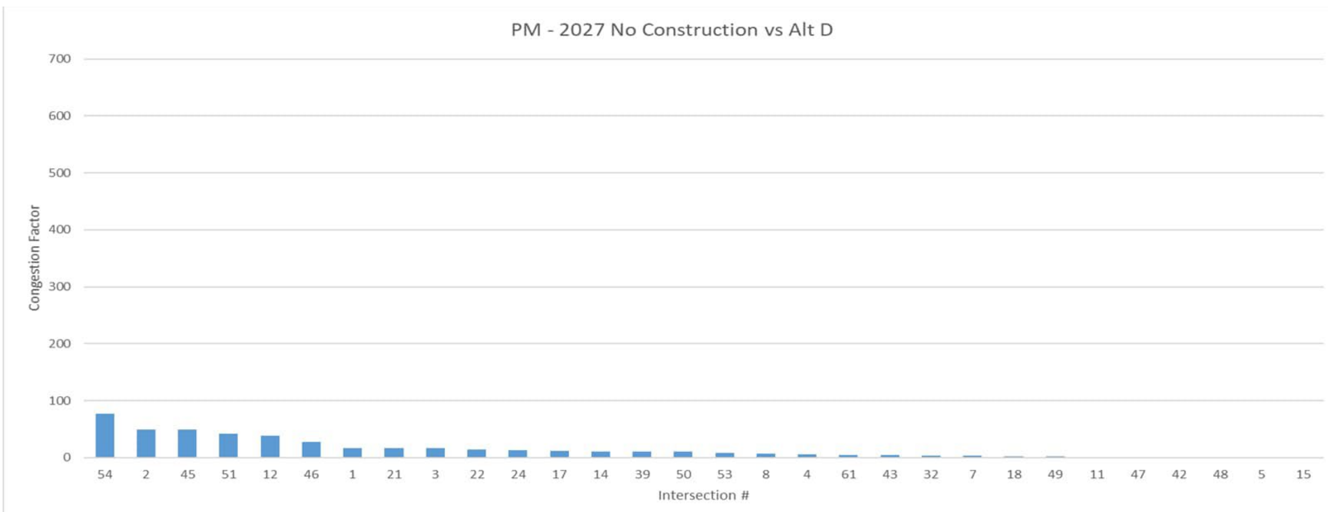
Figure 2.10-11: Intersection Congestion Change Factors During Mid-Day Peak Hour for Alternatives A (Full Closure) and D (One Lane Open in Each Direction)



Source: Traffic and Operations Analysis Report (2023).

Figure 2.10-12: Intersection Congestion Change Factors During PM Peak Hour for Alternatives A (Full Closure) and D (One Lane Open in Each Direction)





Source: Traffic and Operations Analysis Report (2023).

Intersection Delay
Drivers are expected to experience higher delays within the study area with the proposed construction alternatives. Table 2.10-9 summarizes the percentage increase in delay (summed for all intersections within the study area) for construction alternatives versus the no construction alternative during all three peak hours. Alternative A (Full Closure) is expected to result in the highest delay increase.

Table 2.10-9: Summary of Delay Increase Comparison at Study Intersections

	AM Peak Hour	Mid-Day Peak Hour	PM Peak Hour	Average for All Peak Hours
Alternative A (Full Closure) vs No Construction	55%	28%	29%	37%
Alternative D (one lane open in each direction) vs No Construction	12%	1%	0.5%	5%

Source: Traffic and Operations Analysis Report (2023).

Roadway Segment Volume and Speed Analysis

Segment analysis, including volumes and speeds, was conducted using PortTAM for the segments listed in Table 2.10-2. The existing average hourly volumes and peak period travel time were collected via StreetLight on the study segments. Table 2.10-10 is a summary of the average roadway segment speed for each construction alternative during the peak hours. In general, there is little variation in the average speed between construction alternatives.

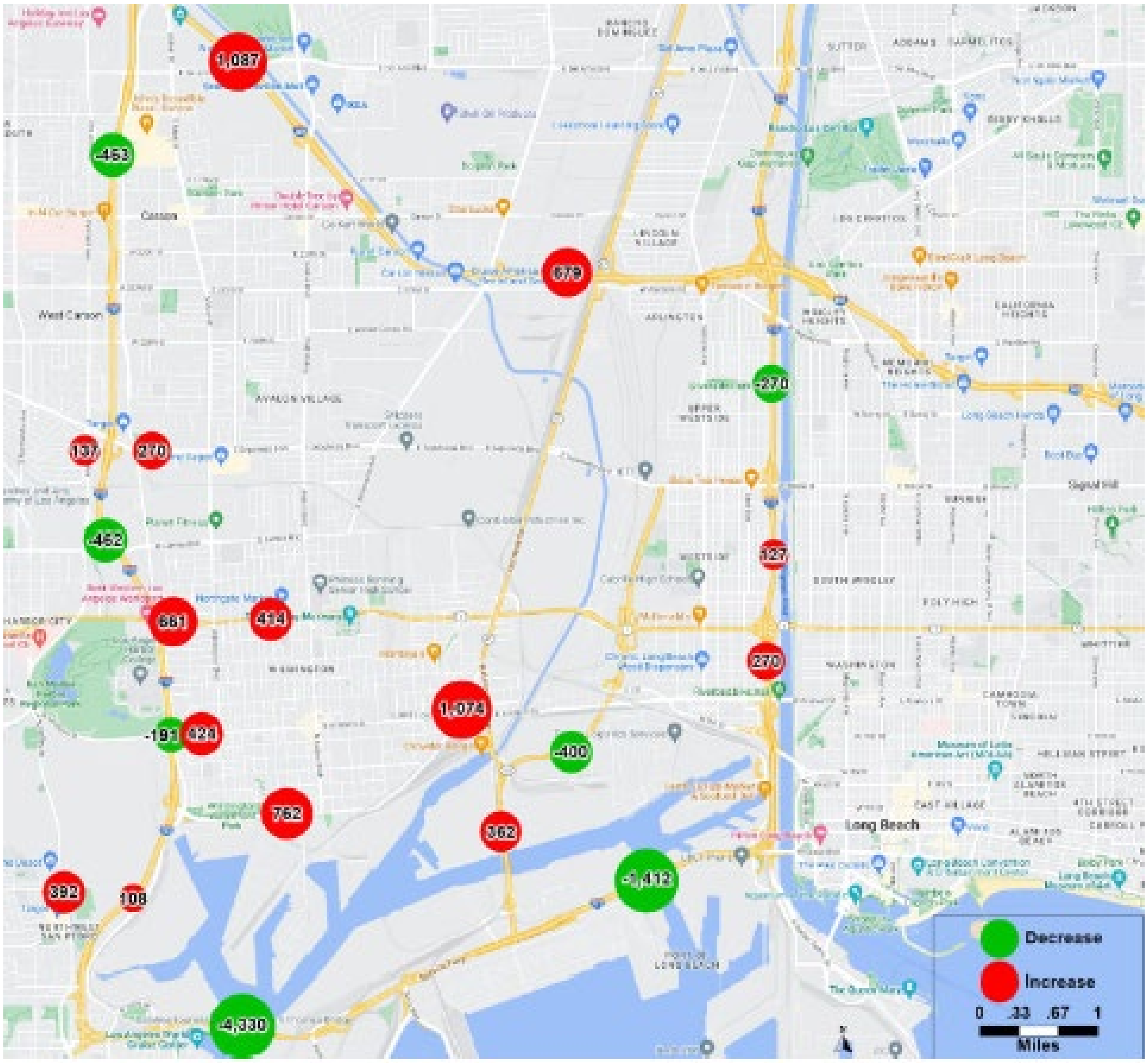
Table 2.10-10: Roadway Segment Average Peak Hour Speed

Peak Hour	2027 No Construction (mph)	2027 Alternative A (Full Closure) (mph)	2027 Alternative D (One Lane Open in Each Direction) (mph)
AM	31.3	28.9	30.3
Mid-Day	34.1	31.4	33.0
PM	29.6	26.8	28.3

Source: Traffic and Operations Analysis Report (2023).

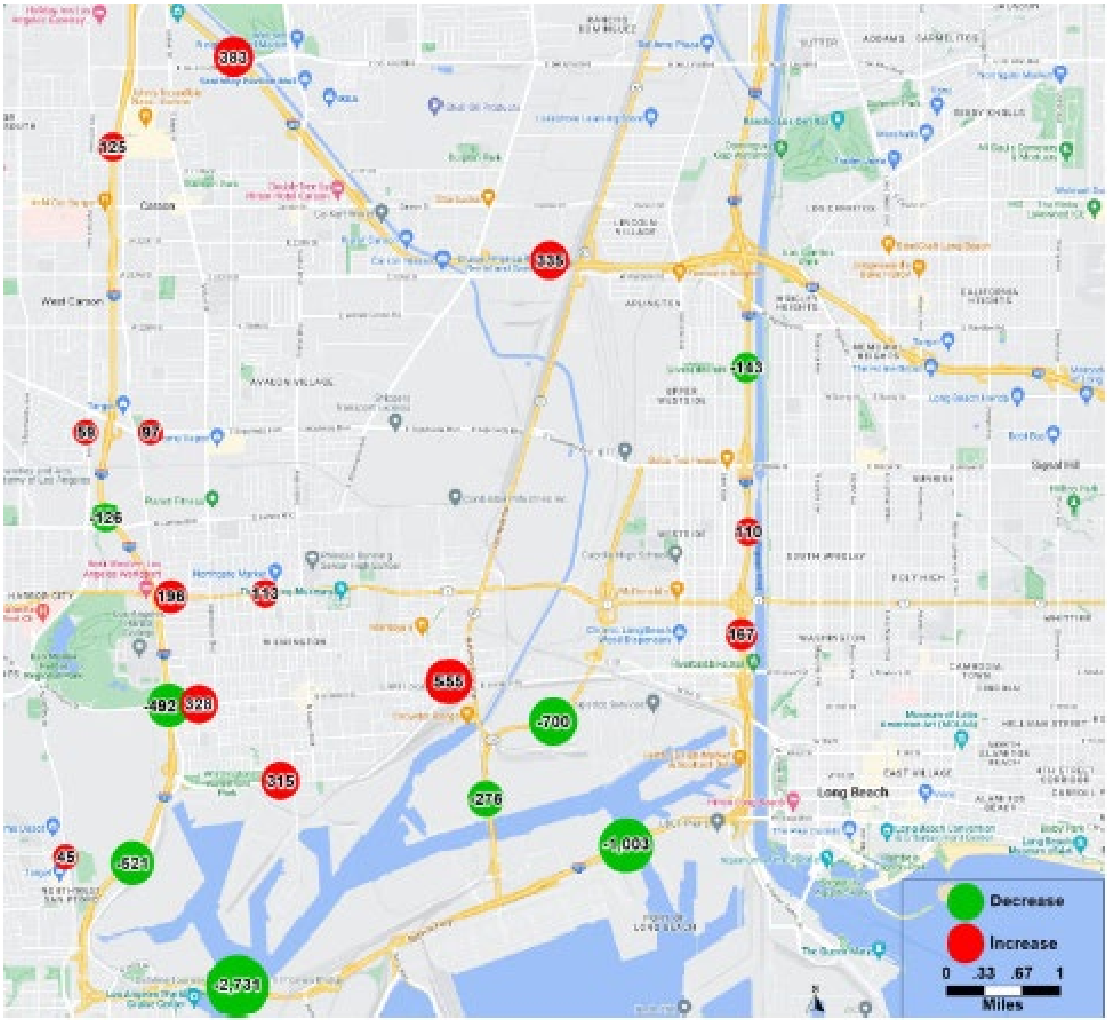
Segment Volume Comparison
The PortTAM output was used to assess how drivers' routes changed for each construction alternative. Figures 2.10-13 and 2.10-14 show PM peak-hour traffic changes for all construction alternatives.

Figure 2.10-13: PM Peak-Hour Traffic Difference: Alternative A (Full Closure)



Source: Traffic and Operations Analysis Report (2023).

Figure 2.10-14: PM Peak-Hour Traffic Difference: Alternative D (One Lane Open in Each Direction)



Source: Traffic and Operations Analysis Report (2023).

The travel patterns in the study area are complex and there are shifts in traffic patterns due to each of the construction alternatives. For example:

- Traffic on I-110 to/from Terminal Island shifted more to the Terminal Island Freeway/ Ocean Boulevard route and avoided I-110.
- Some trips that have one trip end in San Pedro and would have used the bridge in the no construction alternative shifted onto I-110.
- Traffic that uses the Vincent Thomas Bridge from the China Shipping terminal during no construction is expected to shift to the John S Gibson Boulevard and Harry Bridges Boulevard route.

During PM peak hour, the following routes showed an increase in traffic during construction closures (vehicle increase/alternative):

- Harry Bridges Boulevard (315/Alternative D – One Lane Open in Each Direction; 762/Alternative A – Full Closure)

- Alameda Street (555/Alternative D – one lane open in each direction; 1074/Alternative A – Full Closure)
- PCH (113/Alternative D – One Lane Open in Each Direction; 414/Alternative A – Full Closure)
- Sepulveda Boulevard (97/Alternative D – One Lane Open in Each Direction; 270/Alternative A – Full Closure)
- Vermont Avenue (59/Alternative D – One Lane Open in Each Direction; 137/Alternative A)
- Gaffey Street (45/Alternative D – One Lane Open in Each Direction; 392/Alternative A)
- I-405 from Avalon Boulevard to Del Amo Boulevard (383/Alternative A – Full Closure; 1087/Alternative D – One Lane Open in Each Direction)
- I-405 from Wilmington Avenue to Alameda Street (679/Alternative A – Full Closure)

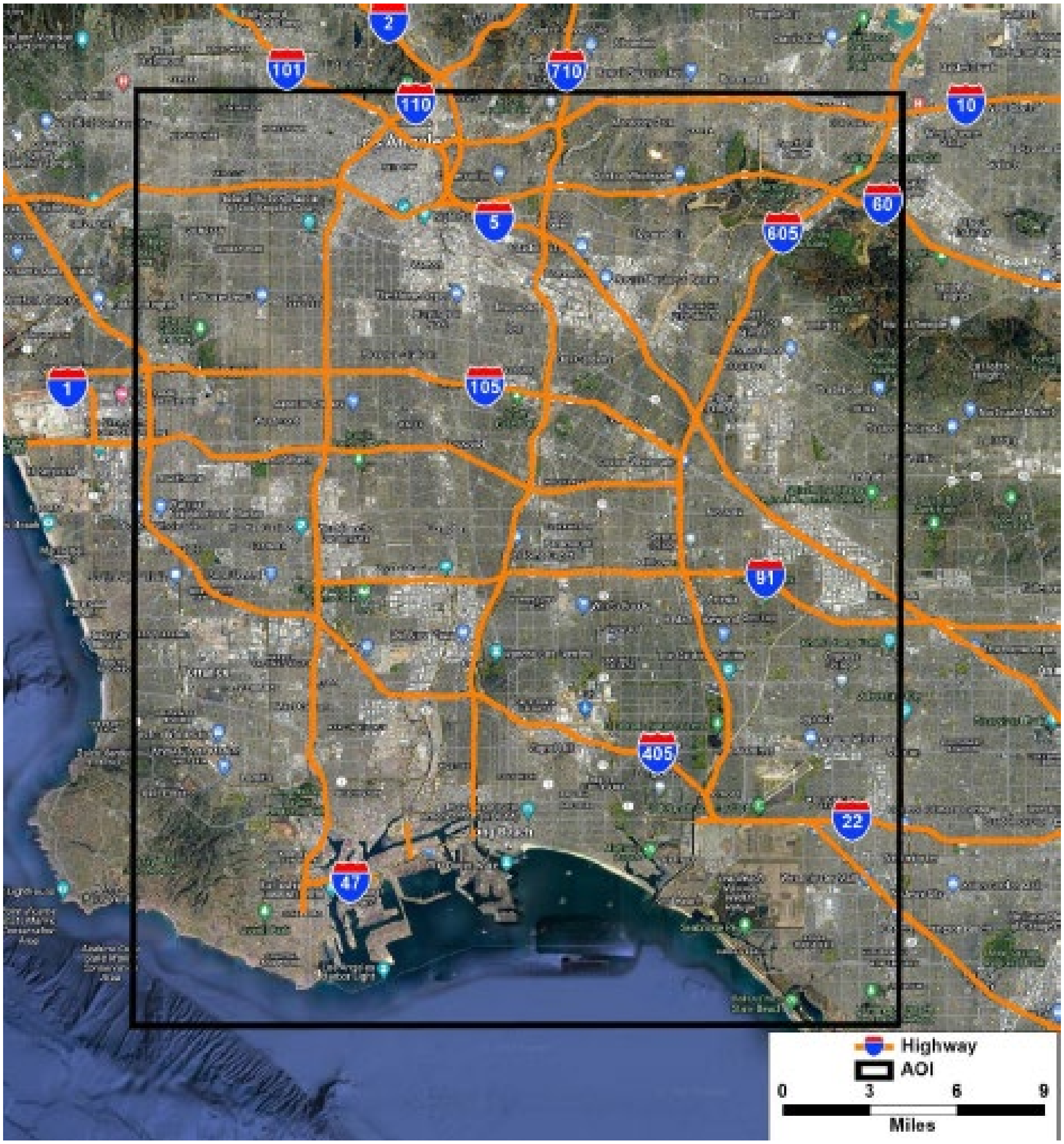
Traffic volumes were lower, or roughly the same, for the following routes (vehicle decrease/alternative):

- Seaside Freeway (more than 1,000 vehicles for all alternatives)
- Gerald Desmond Bridge (more than 1,000 vehicles for all alternatives)
- I-710 north of Willow Street (143/Alternative D – One Lane Open in Each Direction; 270/Alternative A – Full Closure)
- I-110 projected to have different traffic patterns depending on the alternative

Daily Vehicle Miles Traveled and Vehicle Hours of Delay

To compare VMT and VHD, an area of interest (AOI) was defined (Figure 2.10-15) from about 5 miles west of I-110 to about 5 miles east of Interstate 605 (I-605), to Interstate 10 (I-10) to the north, and to the ports to the south. For this AOI, VMT and VHD were summarized for all alternatives, including the no construction alternative.

Figure 2.10-15: Area of Interest for VMT and VHD



Source: Traffic and Operations Analysis Report (2023).

All alternatives showed an increase in daily VMT. Table 2.10-11 summarizes daily VMT for all future alternatives on a typical weekday in the study area. The percentage changes are small, but Alternative A (Full Closure) has the largest net change in VMT.

Table 2.10-11: VMT Comparison

Alternatives	VMT	Alternatives vs No Construction	
		Delta VMT	% VMT Difference
No Construction	102,671,000	–	–
Alternative A (Full Closure)	102,793,000	122,000	0.12%
Alternative D (One Lane Open in Each Direction)	102,678,000	7,000	0.01%

Source: Traffic and Operations Analysis Report (2023).

Table 2.10-12 is a summary of daily VHD for all future alternatives on a typical weekday for the study area. Delay followed a similar pattern to VMT when comparing the alternatives.

Table 2.10-12: VHD Comparison

Alternatives	VHD	Alternatives vs No Construction	
		Delta VHD	% VHD Difference
No Construction	1,079,100	–	–
Alternative A (Full Closure)	1,101,100	22,000	2.04%
Alternative D (One Lane Open in Each Direction)	1,085,500	6,400	0.59%

Source: Traffic and Operations Analysis Report (2023).

Travel Time and Alternate Route Comparisons

The Vincent Thomas Bridge provides a direct connection between the west side (traffic coming from I-110 and San Pedro) and Terminal Island and Long Beach. With some or all the bridge lanes closed, traffic will have to use available alternative routes.

Eight representative O-D pairs were selected to identify the travel time differences between the construction and the no construction alternatives. These O-D pairs are:

1. San Pedro to/from Pier T
2. Palos Verdes Shores to/from Queen Mary
3. Harbor-UCLA Medical Center (Carson) to/from the Fenix Marine Services Terminal
4. San Pedro to/from Cabrillo High School
5. San Pedro to/from Long Beach Museum of Art
6. Rolling Hills Plaza (Torrance) to/from Long Beach Polytech
7. Torrance Park to/from Kinder Morgan Terminal
8. Ken Malloy Harbor Regional Park to/from Long Beach Rescue Mission

The relative differences of travel times and the expected routes for these O-D pairs for the no construction and various construction alternatives provide a comparative analysis between the construction alternatives.

Table 2.10-13 summarizes the increase in travel time for the first five O-D pairs, with the range depending on the alternative, peak period, and the direction of travel. The main route for these O-D pairs in the no construction alternative is via Vincent Thomas Bridge/Seaside Freeway.

Table 2.10-13: Origin-Destination Pairs #1 through #5 Travel Time Increase

No.	O-D Pair	Most Likely Route for No Construction/Alternative D (One Lane Open in Each Direction)	Most Likely Route for Construction Alternative A	Increase in Travel Time
1	San Pedro to/from Pier T	Gaffey Street/Vincent Thomas Bridge/Pier T Access Road	Gaffey Street/I-110/Harry Bridges Boulevard/Pier T Access Road	2 to 15 minutes
2	Palos Verdes Shores to/from Queen Mary	San Pedro Streets/Vincent Thomas Bridge/Seaside Freeway/ Ocean Boulevard/Harbor Scenic Drive/Queens Highway	San Pedro Streets/I-110/Harry Bridges Boulevard/Alameda Street/Anaheim Street/I-710/Harbor Scenic Drive/ Queens Highway	1 to 13 minutes
3	Harbor-UCLA Medical Center (Carson) to/from FMS Terminal	I-110/Vincent Thomas Bridge/Ferry Street	Vermont Avenue/Sepulveda Boulevard/ TIF/Seaside Freeway/Terminal Way	2 to 9 minutes
4	San Pedro to/from Cabrillo High School	Gaffey Street/Vincent Thomas Bridge/TIF/PCH	Gaffey Street/I-110/PCH	2 to 9 minutes
5	San Pedro to/from Long Beach Museum of Art	Gaffey Street/Vincent Thomas Bridge/Ocean Boulevard	Gaffey Street/I-110/Harry Bridges/ Alameda Street/Anaheim Street/Shoreline Drive/Ocean Boulevard	1 to 13 minutes

Source: Traffic and Operations Analysis Report (2023).

O-D pairs #6 to #8 were selected to capture the effects of the construction alternatives and the resulting traffic rerouting on nearby arterials. The main routes for the other three O-D pairs are PCH, Sepulveda Boulevard, and Anaheim Street. Table 2.10-14 summarizes the increase in travel time along PCH, Sepulveda Boulevard, and Anaheim Street, with the range depending on the alternative, the peak period, and the direction of travel.

Table 2.10-14: Origin-Destination Pairs #6 through #8 Travel Time Increase

No.	O-D Pair	Route for All Alternatives	Increase in Travel Time
6	Rolling Hills Plaza (Torrance) to/from Long Beach Polytech	PCH	0 to 3 minutes
7	Torrance Park to/from Kinder Morgan Terminal	Sepulveda Blvd	0 to 2 minutes
8	Ken Malloy Harbor Regional Park to/from Long Beach Rescue Mission	Anaheim Street	0 to 3 minutes

Source: Traffic and Operations Analysis Report (2023).

The travel time comparisons for each O-D pair are presented in Tables 2.10-15 and 2.10-16. Figures 2.10-16 through 2.10-20 illustrate the AM peak-hour travel times for one direction for O-D pairs #1 through #5, and visually present the base route for no construction/Alternative D (One Lane Open in Each Direction) versus the most likely route for construction Alternative A (Full Closure).

Table 2.10-15: AM Peak-Hour Travel Times for Origin-Destination Pairs

No.	Origin/Destination X	Origin/Destination Y	Direction	No Construction Travel Time (min)	Alternative A (Full Closure) Travel Time (min)	Alternative A (Full Closure) % Increase	Alternative D (One Lane Open in Each Direction) Travel Time (min)	Alternative D (One Lane Open in Each Direction) % Increase
1	San Pedro	Pier T	X → Y	11	22	100%	15	36%
			Y → X	9	20	122%	12	33%
2	West San Pedro	Queen Mary	X → Y	22	32	45%	25	14%
			Y → X	21	30	43%	23	10%
3	Harbor-UCLA Medical Center	FMS Terminal	X → Y	12	19	58%	16	33%
			Y → X	14	21	50%	17	21%
4	7th/Gaffey in San Pedro	Cabrillo High School	X → Y	15	21	40%	18	20%
			Y → X	14	19	36%	16	14%
5	7th/Gaffey in San Pedro	Long Beach Museum of Art	X → Y	18	27	50%	21	17%
			Y → X	18	27	50%	20	11%
6	Rolling Hills Plaza	Long Beach Poly	X → Y	19	21	11%	19	0%
			Y → X	23	25	9%	24	4%
7	Torrance Park	Kinder Morgan Terminal (east of Alameda Street)	X → Y	12	13	8%	12	0%
			Y → X	14	16	14%	15	7%
8	Ken Malloy Harbor Regional Park	Long Beach Rescue Mission	X → Y	12	15	25%	13	8%
			Y → X	15	18	20%	16	7%
			Average	16	22	43%	18	15%
			Total	**249**	**346**	**39%**	**282**	**13%**

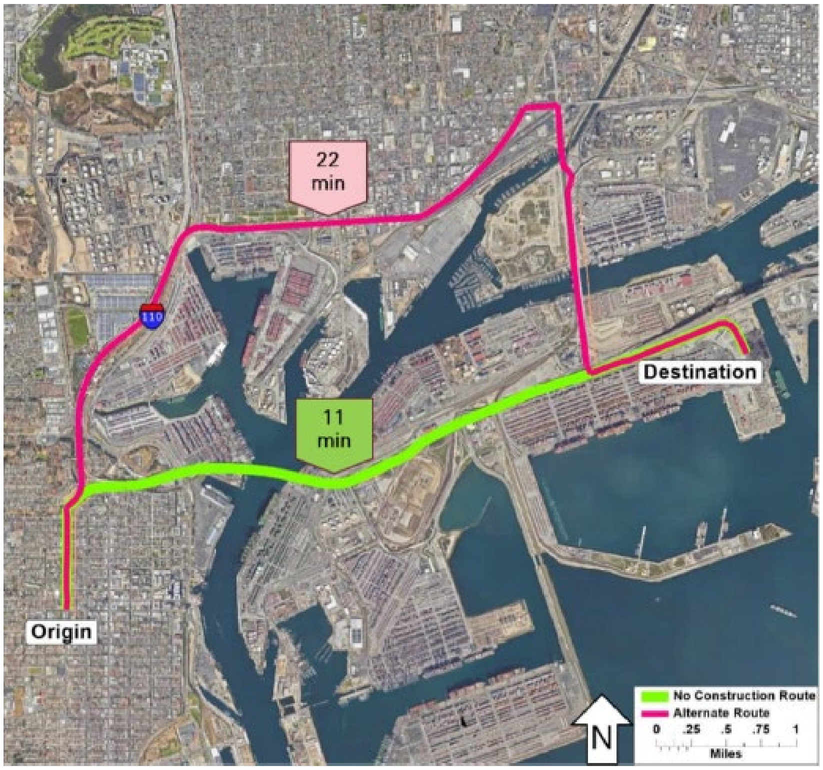
Source: Traffic and Operations Analysis Report (2023).

Table 2.10-16: PM Peak-Hour Travel Times for Origin-Destination Pairs

No.	Origin/Destination X	Origin/Destination Y	Direction	No Construction Travel Time (minutes)	Alternative A (Full Closure) Travel Time (minutes)	Alternative A (Full Closure) % Increase	Alternative D (One Lane Open in Each Direction) Travel Time (minutes)	Alternative D (One Lane Open in Each Direction) % Increase
1	San Pedro	Pier T	X → Y	10	21	110%	14	40%
			Y → X	12	27	125%	17	42%
2	West San Pedro	Queen Mary	X → Y	21	31	48%	24	14%
			Y → X	24	37	54%	28	17%
3	Harbor-UCLA Medical Center	FMS Terminal	X → Y	15	22	47%	18	20%
			Y → X	13	21	62%	19	46%
4	7th/Gaffey in San Pedro	Cabrillo High School	X → Y	14	20	43%	17	21%
			Y → X	17	26	53%	21	24%
5	7th/Gaffey in San Pedro	Long Beach Museum of Art	X → Y	18	27	50%	21	17%
			Y → X	20	33	65%	24	20%
6	Rolling Hills Plaza	Long Beach Poly	X → Y	23	25	9%	23	0%
			Y → X	22	25	14%	23	5%
7	Torrance Park	Kinder Morgan Terminal (east of Alameda Street)	X → Y	15	17	13%	16	7%
			Y → X	13	15	15%	14	8%
8	Ken Malloy Harbor Regional Park	Long Beach Rescue Mission	X → Y	15	18	20%	16	7%
			Y → X	15	18	20%	16	7%
			Average	17	24	47%	19	18%
			Total	**267**	**383**	**54%**	**311**	**25%**

Source: Traffic and Operations Analysis Report (2023).

Figure 2.10-16: Origin-Destination Pair #1: San Pedro to Pier T

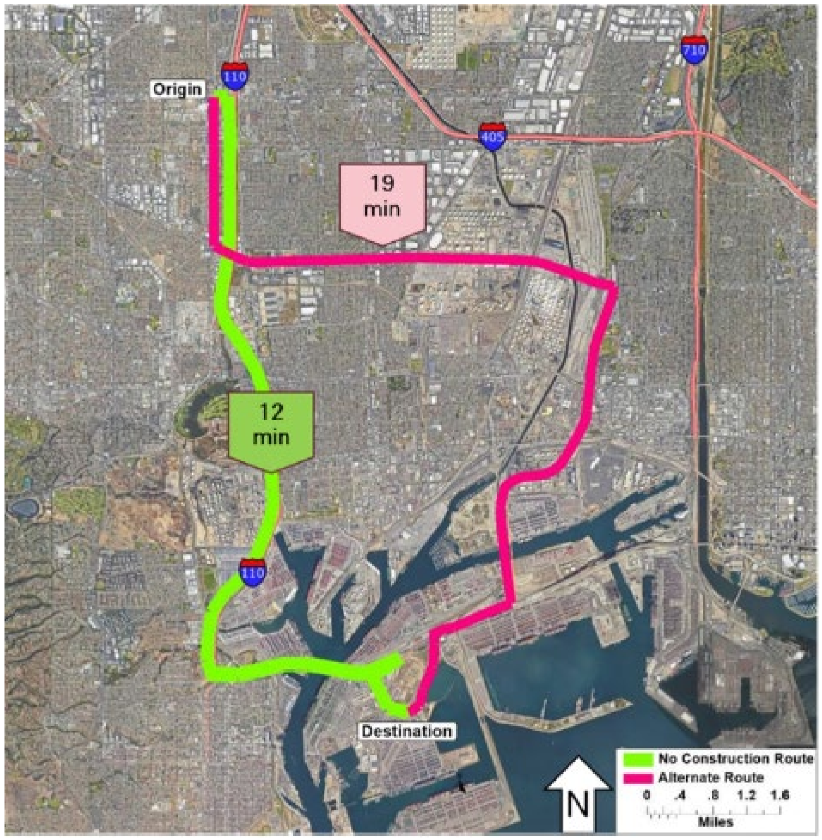


Source: Traffic and Operations Analysis Report (2023).

Figure 2.10-17: Origin-Destination Pair #2: Palos Verdes Shores to Queen Mary

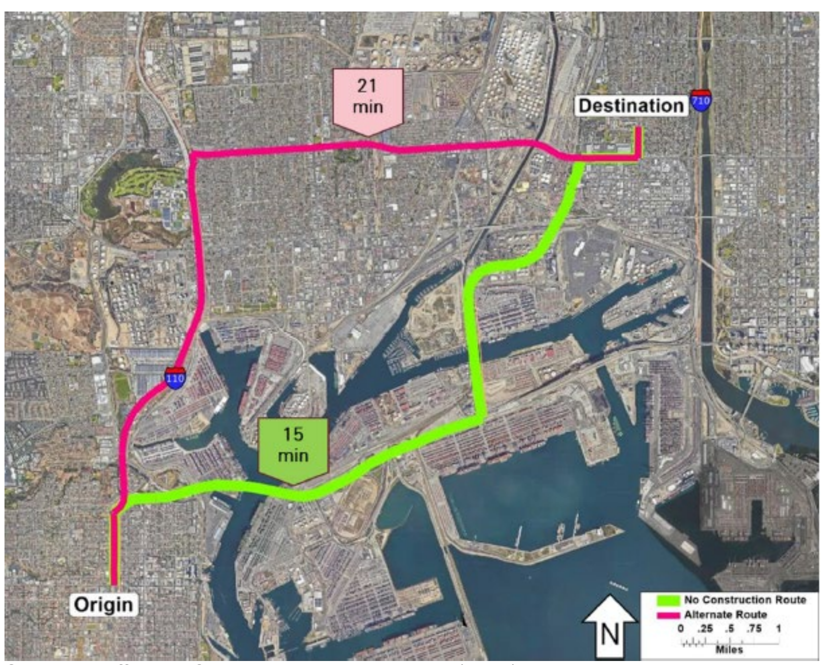
Source: Traffic and Operations Analysis Report (2023).

Figure 2.10-18: Origin-Destination Pair #3: UCLA Medical Center to FMS Terminal



Source: Traffic and Operations Analysis Report (2023).

Figure 2.10-19: Origin-Destination Pair #4: San Pedro to Cabrillo High School



Source: Traffic and Operations Analysis Report (2023).

Figure 2.10-20: Origin-Destination Pair #5: San Pedro to Long Beach Museum of Art

Source: Traffic and Operations Analysis Report (2023).

Access, Circulation, and Parking

No Build Alternative

Under the No Build Alternative, the existing bridge deck would continue to deteriorate, which may lead to emergency or long-term closures for this critical transportation link and economic corridor. Closure of the bridge may result in changes to travel patterns as motorists find alternate travel routes within the CIA Study Area. The changes to travel patterns may lead to increased traffic volumes; however, existing access and parking within the CIA Study Area would remain. Therefore, the No Build Alternative may result in potential impacts to access, circulation, and parking.

Build Alternative

During construction, a full or partial closure of the Vincent Thomas Bridge and temporary detours would be required for bridge deck replacement work. Please refer to Section 1.4.6 for a detailed description of the construction schedule and staging options. A full closure of the bridge would result in all bridge traffic being diverted into neighboring communities, and a partial closure would potentially result in less traffic being diverted into neighboring communities because traffic would maintain its ability to cross the bridge.

Proposed detour routes include Sepulveda Boulevard between SR-103 and I-110, PCH between SR-47 and I-110, Harry Bridges Boulevard/Alameda Street/Anaheim Street between SR-47 and I-110, and portions of SR-103, SR-47, I-110, and I-710 through the surrounding areas. During construction, existing access and parking would be maintained; however, there may be changes in traffic patterns and circulation due to increased traffic volumes along detour routes and travel distances, and times may increase for travelers within the CIA Study Area. Project features and best management practices (BMPs) such as the use of signage (including changeable message signs) to alert travelers of full or partial bridge closures, to provide time frames or durations for construction activities, and to direct traffic to the detour routes to minimize construction-related impacts. Therefore, the Build Alternative would result in less than significant impacts to access, circulation, and parking under the California Environmental Quality Act (CEQA) and no adverse effects under the National Environmental Policy Act (NEPA).

The Build Alternative would replace the Vincent Thomas Bridge deck and other components and does not include any changes to access or capacity. All proposed improvements would occur within the footprint of the existing bridge and Caltrans right-of-way. The Build Alternative would not alter existing access, circulation, or parking within the CIA Study Area. Therefore, the Build Alternative would result in no permanent impacts to access, circulation, or parking under CEQA and no effects under NEPA.

Pedestrian and Bicycle Facilities

No Build Alternative

Under the No Build Alternative, the existing bridge deck would continue to deteriorate, which may lead to emergency or long-term closures for this critical transportation link and economic corridor. The No Build Alternative would not impact pedestrian or bicycle facilities or access within the CIA Study Area. Therefore, the No Build Alternative would result in no impacts to pedestrian or bicycle facilities under CEQA and no effects under NEPA.

Build Alternative

During construction, a full or partial closure of the Vincent Thomas Bridge and temporary detours would be required for bridge deck replacement work. The nearest pedestrian and bicycle facilities to the project area include the existing sidewalks and adjacent bicycle lane along Harbor Boulevard (which pass underneath the western end of the bridge) and the sidewalks along Ferry Street (which pass underneath the eastern end of the bridge). Both streets would remain open for the duration of construction. Access to pedestrian and bicycle facilities along detour routes and within the CIA Study Area would be maintained. Therefore, the Build Alternative would result in no impact to pedestrian or bicycle facilities under CEQA and no effects under NEPA.

The Build Alternative would maintain the existing configuration of the Vincent Thomas Bridge. Pedestrian and/or bicycle access is not allowed on the bridge, so there would be no change to the existing condition. All proposed improvements would occur within the footprint of the existing bridge and Caltrans right-of-way and would not affect existing bicycle or pedestrian facilities within the CIA Study Area. Therefore, the Build Alternative would result in no permanent impacts to pedestrian or bicycle facilities under CEQA and no effects under NEPA.

Public Transportation

No Build Alternative

Under the No Build Alternative, the bridge deck would continue to deteriorate and emergency closures for repairs would be needed, thereby closing off a critical transportation link and economic corridor. Emergency closure of the bridge may impact service of the LADOT Commuter Express Line 142, which uses the bridge to provide service between San Pedro and Long Beach. During bridge closures, the Commuter Express Line 142 would be required to reroute around the bridge and may have to relocate bus stops to maintain operations. Therefore, the No Build Alternative may result in potential impacts to public transportation.

Build Alternative

During construction, a full or partial bridge closure and temporary detours would be required for bridge deck replacement work. Two bus systems would be temporarily impacted during construction: the LADOT Commuter Express 142 and LA Metro J Line. LADOT Commuter Express 142 runs to and from Long Beach and San Pedro on I-710 and SR-47 (across the Vincent Thomas Bridge). Temporary closure of the bridge would require this service to be rerouted to one of the proposed detour routes, which may result in longer distances, travel times, and potential service delays.

The LA Metro J Line runs on I-110 and SR-47, where it exits onto Harbor Boulevard just west of the Vincent Thomas Bridge. Temporary closure of the bridge may require the service to be rerouted depending on where the closures occur (on I-110 before or after the Harbor Boulevard interchange) and travel distances and times may increase. Additional traffic volumes at the terminus of I-110 and the SR-47/Harbor Boulevard interchange are anticipated as motorists' detour around the bridge closure.

During construction, access to public transportation along detour routes would be maintained; however, changes in traffic patterns, increased traffic volumes, travel distances, and time along the proposed detour routes may result in service delays. The bus lines providing service on proposed detour routes are identified below:

- Sepulveda Boulevard
  - Torrance Transit Line 7

- Pacific Coast Highway
  - LA Metro Line 205
  - LADOT DASH
  - Torrance Transit Line 3
  - Long Beach Transit Lines 171 and 175

- I-110
  - LA Metro J Line

Project features and construction BMPs including coordination with public transportation service providers would occur prior to and during construction to avoid disruptions to bus service and to minimize delay. Therefore, the Build Alternative would result in less than significant impacts to public transportation under CEQA and no adverse effects under NEPA.

The Build Alternative would maintain the existing configuration of the Vincent Thomas Bridge and does not include any changes to access or capacity. All proposed improvements would occur within the footprint of the existing bridge and Caltrans right-of-way. The Build Alternative would not reduce transit service or alter access to transit stops. Therefore, the Build Alternative would result in no permanent impacts to public transportation under CEQA and no effects under NEPA.

2.10.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

The project is not anticipated to significantly impact transportation, pedestrian, or bicycle facilities; therefore, no avoidance, minimization, or mitigation is required. The following mitigation measures and project feature are proposed to address direct temporary impacts on traffic flow in the CIA Study Area as a result of Alternative 2 (Build Alternative):

MM-TR-1 **Temporary Restriping and Signal Synchronization of Identified Intersections.** The Traffic Operations Analysis Report (TOAR) (2024) outlines potential improvements that can been developed at 13 intersections within the Community Impact Assessment (CIA) Study Area. The potential temporary improvements involve restriping, minimal geometric reconfigurations, and signal phasing modifications. A detailed analysis of restriping at the identified 13 intersections can be found in the TOAR (2024) and is available upon request.

The temporary modification of intersections outside of Caltrans right-of-way would be dependent on approval by all respective local jurisdictional agencies. Caltrans will coordinate with local jurisdictional agencies regarding this measure.

MM-TR-2 **Repairing Detour Routes.** Caltrans will partner with the City of Los Angeles to seek opportunities to repair detour routes prior to and after the construction of the project.

The repair of detour routes outside of Caltrans right-of-way would be dependent on approval by all respective local jurisdictional agencies. Caltrans will coordinate with local jurisdictional agencies regarding this measure.

PF-TR-1 **Transportation Management Plan**

a. **Changeable Message Signs (CMS).** Permanent overhead message signs are placed along roadways approaching the project area to notify road users of lane and road closures on the bridge, work activities, traffic incidents, potential work zone hazards, traffic queues (backups), travel times, or delay information, as well as alternate routes in or around the work zone.

b. **Portable Changeable Message Signs (PCMS).** PCMS will be placed at key locations to notify motorists of lane closures, alternate routes, expected delay, and upcoming road closures on the bridge. These signs will be used to inform drivers of speed limit reductions and enforcement activities in a work zone, as well as projected delay or road opening times.

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2.11 Cultural Resources

2.11.1 REGULATORY SETTING

The term "cultural resources," as used in this document, refers to the "built environment" (e.g., structures, bridges, railroads, water conveyance systems), places of traditional or cultural importance, and archaeological sites (both prehistoric and historic) regardless of significance. Under federal and State laws, cultural resources that meet certain criteria of significance are referred to by various terms, including "historic properties," "historic sites," "historical resources," and "tribal cultural resources." Laws and regulations dealing with cultural resources include:

- The **National Historic Preservation Act (NHPA) of 1966,** as amended, which sets forth national policy and procedures for historic properties, defined as districts, sites, buildings, structures, and objects included in or eligible for listing in the National Register of Historic Places (NRHP). Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on historic properties and to allow the Advisory Council on Historic Preservation (ACHP) the opportunity to comment on those undertakings following regulations issued by the ACHP (36 Code of Federal Regulations [CFR] 800). On January 1, 2014, the First Amended Section 106 Programmatic Agreement (PA) among the Federal Highway Administration (FHWA), the ACHP, the California State Historic Preservation Officer (SHPO), and Caltrans went into effect for Caltrans projects, both State and local, with FHWA involvement. The PA implements the ACHP's regulations, 36 CFR 800, streamlining the Section 106 process and delegating certain responsibilities to Caltrans. The FHWA's responsibilities under the PA have been assigned to Caltrans as part of the Surface Transportation Project Delivery Program (23 United States Code [USC] 327).

- The **California Environmental Quality Act (CEQA)**, which requires the consideration of cultural resources that are historical resources and tribal cultural resources, as well as "unique" archaeological resources. California Public Resources Code (PRC) Section 5024.1 established the California Register of Historical Resources (CRHR) and outlined the necessary criteria for a cultural resource to be considered eligible for listing in the CRHR and, therefore, a historical resource. Historical resources are defined in PRC Section 5020.1(j). In 2014, Assembly Bill 52 (AB 52) added the term "tribal cultural resources" to CEQA, and AB 52 is commonly referenced instead of CEQA when discussing the process to identify tribal cultural resources (as well as identifying measures to avoid, preserve, or mitigate effects to them). Defined in PRC Section 21074(a), a tribal cultural resource is a CRHR- or local register-eligible site, feature, place, cultural landscape, or object that has a cultural value to a California Native American tribe. Tribal cultural resources must also meet the definition of a historical resource. Unique archaeological resources are referenced in PRC Section 21083.2.

- **PRC Section 5024**, which requires State agencies to identify and protect State-owned historical resources that meet the NRHP listing criteria. It further requires Caltrans to inventory State-owned structures in its rights-of-way. Sections 5024(f) and 5024.5 require State agencies to provide notice to and consult with the SHPO before altering, transferring, relocating, or demolishing State-owned historical resources that are listed on or eligible for inclusion in the NRHP or are registered or eligible for registration as California Historical Landmarks. Procedures for compliance with PRC Section 5024 are outlined in a Memorandum of Understanding (MOU)[1] between Caltrans and the SHPO, effective January 1, 2015. For most federal-aid projects on the State Highway System, compliance with the Section 106 PA will satisfy the requirements of PRC Section 5024.

2.11.2 AFFECTED ENVIRONMENT

This section summarizes information from the Historic Property Survey Report (HPSR) (Caltrans, July 2023). The section also compiles information from technical studies that accompany the HPSR, including the Finding of No Adverse Effect (Caltrans, July 2023). The SHPO concurred with the Finding of No Effect on August 7, 2023. The Vincent Thomas Bridge was previously determined eligible for the NRHP as part of the 2010 update of the Caltrans Statewide Historic Bridge Inventory and is listed in the CRHR.

The studies for this undertaking were carried out in a manner consistent with Caltrans regulatory responsibilities under Section 106 of the NHPA (36 CFR 800) and pursuant to the *January 2014 First Amended Programmatic Agreement Among the Federal Highway Administration, the Advisory Council On Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it Pertains to the Administration of the Federal-Aid Highways Program in California* (Section 106 PA) and California PRC Section 5024 as implemented in accordance with the January 2015 *Memorandum of Understanding Between the California Department of Transportation and the California State Historic Preservation Officer Regarding Compliance with Public Resources Code Section 5024 and Governor's Executive Order W-26-92,* and in accordance with Section 15064.5(a)(2)-(3) of CEQA.

In accordance with Section 106 PA Stipulation VIII.A, the Area of Potential Effects (APE) for the project was established in consultation with Jeff Carr, Caltrans Professionally Qualified Staff (PQS) Principal Architectural Historian, and Rimma Tebeleva, Project Manager, on May 30, 2023. The APE was established as the bridge structure itself, as all work would take place on the bridge and would have no potential to affect historic properties beyond or below the bridge (see map on Figure A-1, Section 4(f) Study Area and Protected Properties, in Appendix A). There is no potential to affect historic properties directly below the bridge as the project would include temporary features to ensure that no debris or equipment would fall from the structure during project implementation.

A search of records at the South Central Coastal Information Center, the Caltrans Historic Highway Bridge Inventory, and the Caltrans Cultural Resources Database resulted in the identification of one historic property within the APE: Caltrans Bridge #53 1471 (Vincent Thomas Bridge), a double-cable steel suspension bridge constructed in 1963 that carries State Route 47 (SR-47) over Los Angeles Harbor. The bridge was previously determined eligible for listing in the NRHP as part of the 2010 Update of the Caltrans Statewide Historic Bridge Inventory and is listed in the CRHR. It is designated as a Category 2 bridge (eligible for listing in the NRHP) in the Caltrans Historic Bridge Inventory. The bridge is a Caltrans-owned property and is on the Master List of Historical Resources. No other properties were identified within the APE of the proposed project. The first suspension highway bridge constructed in Southern California, the Vincent Thomas Bridge was built to improve mobility of vehicular traffic between the community of San Pedro and Terminal Island at the Port of

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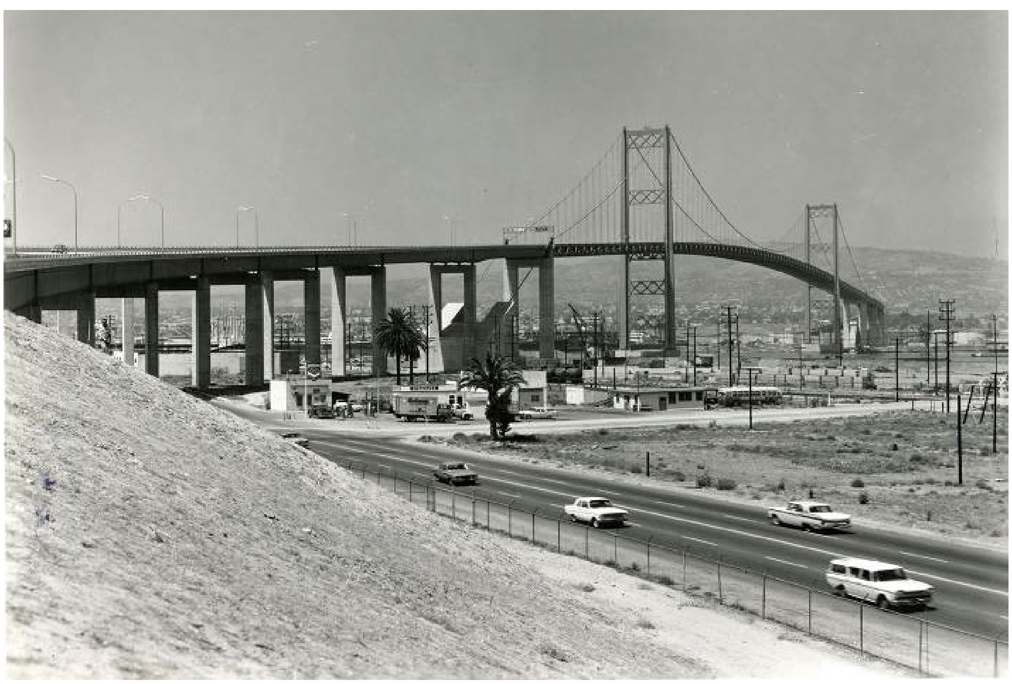
1 The MOU is located on the Caltrans Standard Environmental Reference (SER) at https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/5024mou-15-a11y.pdf.

Los Angeles (POLA). Prior to the construction of the Vincent Thomas Bridge, the only connection between San Pedro and Terminal Island was ferry service, which became inadequate as the use of the port grew with increased shipbuilding due to World War II, greater need for crude oil and gasoline storage, and changes in shipping technology to cargo containers. To keep up with vehicular traffic, a high-level suspension bridge that could carry four lanes of traffic was chosen as the crossing rather than a tube or tunnel under POLA, which could only carry two lanes. The bridge was named after California Assemblymember Vincent Thomas, a San Pedro resident who worked to pass legislation that enabled the construction of the bridge. Once completed, the Vincent Thomas Bridge was the longest post-World War II suspension bridge in California, had the third longest main span in the State, and was the first suspension bridge in the United States to not use rivets in its construction.

The Vincent Thomas Bridge was determined NHRP-eligible under Criterion A at the local level of significance for its important association with the growth and development of POLA and its role as a monumental entry bridge for the City of Los Angeles. It is also eligible under Criterion C at the State level of significance in the area of engineering for its exceptional span length, monumental scale, and design complexity. Moreover, it is a rare example of its bridge type and is a distinctive example of its type and period. The period of significance for the Vincent Thomas Bridge is 1963, the date construction was completed (Figure 2.11-1). The NRHP-eligible boundaries of the bridge correspond to the bridge structure itself, including its superstructure and substructure elements. The 2010 update to Department of Parks and Recreation Series 523 forms for the bridge (P-19-189468) also mentions the former toll plaza administration building to the east of the bridge as being within the boundaries but not contributing to the significance of the property.

Figure 2.11-1: Vincent Thomas Bridge in 1964



Source: Finding of No Adverse Effect for Vincent Thomas Bridge Rehabilitation Project (Caltrans 2023a).

Character-defining features of the Vincent Thomas Bridge include its suspension spans, H-shaped steel towers, main suspension cables, support mechanisms for suspension cables at each final approach pier, vertical suspenders, stiffening trusses, suspension cable anchorages, deck support system (open longitudinal truss system), and approach spans (skewed, welded steel girders and reinforced concrete column piers). Since its construction, the Vincent Thomas Bridge has been subject to many alterations, upgrades, and maintenance activities, as documented in as-built construction plans on file at Caltrans. Summarized below are the alterations and other work that have been performed on the bridge. Where available, project contract numbers, plan approval dates, and as-built plan approval dates are provided.

- **August 2, 1967:** Install travelers on suspension spans and new inspection walkway on approach spans.
- **January 19, 1968:** Install new fence around bridge anchorage (Terminal Island side).
- **April 2, 1969:** Maintenance facilities improvements. Main tower modifications (install ladders, platforms, rails, grab bars, and raised aircraft beacon), walkway modifications (new midrail and toeboards), and anchorage modifications (install new grab bars and new platform).
- **May 14, 1969 (as-built July 31, 1974):** Install overhanging protective net screens.
- **February 4, 1970:** Raised pavement markers.
- **October 31, 1972 (as-built August 14, 1974):** New suspension cable hand lines, new traveler cage, air brake, and safety hanger.
- **August 30, 1976 (as-built May 5/9/1977):** 04-024304—Removal of overhanging protective screening, installation of protective fencing, and installation of protective netting.
- **February 28, 1977 (as-built February 9, 1979):** 07-020004/1—Main tower scaffold supports.
- **March 27, 1978 (as-built May 6, 1980):** 07-377234—Earthquake upgrades (attach cable beams to existing exterior girder stiffener; vertical restrainers).
- **May 31, 1979:** 07-394804—Install median barrier and glare screen.
- **April 17, 1978 (as-built April 1980):** 07-029004—Suspension span navigation light replacement.
- **February 2, 1981—07-397234:** Install earthquake restrainers.
- **December 21, 1981 (as-built January 20, 1983):** 07-014764—Maintenance access improvements: install access platforms and walkways at anchorages, stairs and railing at tower footing; revised sidewalk door at main towers; scaffold access at bents; and revised pipe supports.
- **September 28, 1992:** 07-113424—Elevator and air compressor upgrades.

- **July 28, 1994:** 07-402591/4—Joint seal replacement.
- **July 3, 1995 (as-built November 15, 1996 [December 1, 1997]):** 07-422401/4—Traveler modifications.
- **January 27, 1997 (as-built April 3, 2000):** 07-1381U1/4—Seismic retrofit project: strengthening of hinges, restrainers, column reinforcement, and footing reinforcement. 07-1381U1—Traveler Phase 2. 07-138104—Seismic monitoring system installation.
- **November 7, 2001:** 07-4G8704—Installation of improved/strengthened locking systems, reinforced steel security doors, and alarm and video monitoring systems.
- **January 24, 2005:** 07-1Y7101/4—Traveler rail realignment, access modification, deflector installation, and shear connector repair.
- **May 4, 2006:** 07-224804/1—Bridge deck resurfacing, traveler modification, mechanical room repairs/upgrades, air and water distribution modifications, and electrical/mechanical/wastewater modifications (add conduit to catwalk).
- **June 20, 2005 (as-built July 17, 2007):** 07-129954—Install fiber-optic communication system/cameras.
- **June 30, 2010:** Rail extension at cable bents.
- **August 3, 2011:** 07-3Y5504—Removal and replacement of cable railing and beam support bracket rehabilitation.
- **March 3, 2014:** 07-1W6104—Deck rehabilitation: spall repair, deck surface treatment (methacrylate), epoxy crack filling, joint seal cleaning/replacement, and column repair.
- **June 29, 2015 (as-built 2016/2019):** 07-290704—Seismic retrofit: replace dampers, buckling-restrained braces, deck shear connector repair/retrofit, and traveler rail support replacement.
- **August 2, 2018:** 07-4Y5004—Paint.

While the Vincent Thomas Bridge has undergone many alterations since its period of significance, none of the changes have diminished the integrity of the historic property to the degree it is no longer eligible for listing in the NRHP or CRHR. Given the monumental scale of the bridge, many alterations are relatively small and unnoticeable and have not affected the bridge’s ability to convey significance as a monumental entry bridge or significant engineered structure. Moreover, none of the changes have acquired historic significance in their own right. Changes that have occurred since the period of significance include alterations to provide maintenance access, increase safety, minimize the potential harm from seismic events, and maintain the bridge. These alterations are typical for bridges of this age and type and do not help illustrate the historic property’s significant association with the growth and development of the area, role as a monumental entry bridge, exceptional span length, monumental scale, design complexity, or rarity.

2.11.3 ENVIRONMENTAL CONSEQUENCES

36 CFR § 800.5 addresses the assessment of adverse effects, and, more importantly, 36 CFR § 800.5(a)(1) defines the criteria of adverse effect as: "An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or by cumulative."

Examples of adverse effects are identified in 36 CFR § 800.5(2) and include, but are not limited to, the following:

1. Physical destruction of or damage to all or part of a property;

2. Alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation, and provision of handicapped access, that is not consistent with the Secretary's Standards for the Treatment of Historic Properties (36 CFR Part 68) and applicable guidelines;

3. Removal of the property from its historic location;

4. Change of the character of use or of physical features within the property's setting that contribute to its historic significance;

5. Introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features;

6. Neglect of a property which causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to an Indian tribe or Native Hawaiian organization; and

7. Transfer, lease, or sale of property out of federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historical significance.

These Criteria of Adverse Effect are discussed below as they pertain to the proposed undertaking.

(i) Physical destruction of or damage to all or part of a property: The undertaking would not cause physical destruction of or damage any character-defining parts of the Vincent Thomas Bridge. The features proposed for replacement as part of this project (deck, barriers, electroliers, fence mesh, seismic sensors) do not contribute to the significance of the historic property. Therefore, their replacement would not result in damage to the historic property.

(ii) Alteration of a property including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation, and provision of handicapped

access, that is not consistent with the Secretary's Standards for the Treatment of Historic Properties (36 CFR Part 68) and applicable guidelines:

The proposed work on the Vincent Thomas Bridge as currently planned would be consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties (SOIS). Under the SOIS, this undertaking can be classified as a rehabilitation project, which is defined as the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, or architectural values. Developed by the Secretary of the Interior, the Standards for Rehabilitation can be used by agencies to determine the appropriateness of rehabilitation projects. The Rehabilitation Standards acknowledge the need to alter or add to a historic property to meet continuing or new uses while retaining the property's historic character.

- ***Standard 1.*** *A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces and spatial relationships.*

  The intent of the project is to rehabilitate the bridge so that it will continue to be used as it was historically. All character-defining features would remain intact. Therefore, the project aligns with Standard 1.

- ***Standard 2.*** *The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces and spatial relationships that characterize a property will be avoided.*

  The project complies with Standard 2 because the historic character of the Vincent Thomas Bridge will be retained and preserved. Features that will be removed or altered are not character-defining or contributing to the significance of the historic property. Therefore, the removal or alteration of these features will not impact the overall historic character of the bridge.

- ***Standard 3.*** *Each property will be recognized as a physical record of its time, place and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.*

  No features that would be replaced or introduced on the bridge would create a false sense of history or be misconstrued as historic features. The new deck, electroliers, and center median barrier would appear to be in-kind replacements and, as such, would not introduce new design elements that create a false sense of history. The proposed replacement railings are a contemporary design element that is distinguishable from the original railing design while also being compatible in terms of size, materials, and shape. The addition of safety fencing along the eastern approach spans would extend an existing nonhistoric feature that already exists on approximately 80 percent of the bridge, a feature that is already distinguishable from the original historic components of the bridge.

- ***Standard 4.*** *Changes to a property that have acquired historic significance in their own right will be retained and preserved.*

  While there have been many changes to the bridge in the time since its period of significance, none of the changes have acquired historic significance in their own right.

Changes include alterations to provide maintenance access, increase safety, minimize potential harm from seismic events, and maintain the bridge. These alterations are typical for bridges of this age and type and do not help convey the historic property's significant association with the growth and development of the area, role as a monumental entry bridge, exceptional span length, monumental scale, design complexity, or rarity. Therefore, the project conforms to Standard 4.

- ***Standard 5.*** *Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.*

  Character-defining features of the historic property will be preserved. The replacement of the deck, barriers, fencing, and electroliers and the installation of additional seismic sensors and fencing would not result in the removal of any of the features that contribute to the significance of the bridge, which include the suspension spans, H-shaped steel towers, main suspension cables, support mechanisms for suspension cables at each final approach pier, vertical suspenders, stiffening trusses, suspension cable anchorages, deck support system (open longitudinal truss system), and approach spans (skewed, welded steel girders and reinforced concrete column piers). Therefore, the project complies with Standard 5.

- ***Standard 6.*** *Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.*

  The project aligns with Standard 6. As noted above, none of the character-defining features of the historic property would be removed or altered. Features to be repaired include features that do not contribute to the significance of the bridge, including the deck, barriers, and electroliers. Moreover, the new materials/features would be compatible as they would be the same or similar design, materials, size, and color as the features to be replaced.

- ***Standard 7.*** *Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.*

  Standard 7 is not applicable to this project since no chemical or physical treatments are proposed as part of this undertaking.

- ***Standard 8.*** *Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.*

  The project would not require ground disturbance, so no archaeological resources would be affected by the undertaking, and Standard 8 would not be applicable.

- ***Standard 9.*** *New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work will be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.*

New additions or alterations would include the replacement of existing bridge barriers, extension of the noncontributing safety fence along the east approach spans of the bridge, and replacement of noncontributing 2-inch mesh safety fencing with 1-inch mesh safety fencing. These new additions would not destroy historic materials, features, or spatial relationships since the new fence support structure and mesh would be installed on the new bridge deck and the new rails would replace rails that do not contribute to the significance of the historic property.

The fencing is compatible in terms of materials because it would be constructed of steel, like many of the existing components of the bridge. It would be differentiated because this type of feature is not typically original to this type and age of structure. Moreover, it is compatible in terms of scale because given the monumental scale of the bridge, the additional fencing on the east approach spans is relatively small in comparison and would not obscure or visually overwhelm views of the bridge, which is confirmed by photo simulations of views of the bridge from a distance (Figures 2.11-2 and 2.11-3).

Figure 2.11-2: Existing Conditions of Vincent Thomas Bridge

Source: Finding of No Adverse Effect for Vincent Thomas Bridge Rehabilitation Project (Caltrans 2023a).

Figure 2.11-3: Future Conditions of Vincent Thomas Bridge After Project Completion

Source: Finding of No Adverse Effect for Vincent Thomas Bridge Rehabilitation Project (Caltrans 2023a).

The project would install Type ST-75 bridge rails on both the bridge approaches and main spans (Figure 2.11-4). While not an in-kind replacement of the existing rails, which are standard Type 2 barrier railings on the approaches and steel plate/concrete curb on the suspension (Figures 2.11-5 and 2.11-6), the replacement rail would be a compatible design element because it would be similar to the existing rails in terms of materials (concrete and steel), size and scale (approximately 3.5 feet tall), and configuration (concrete curb at the base with steel rail above), as demonstrated in the photo simulations below (Figures 2.11-7 through 2.11-10). The project, therefore, complies with Standard 9.

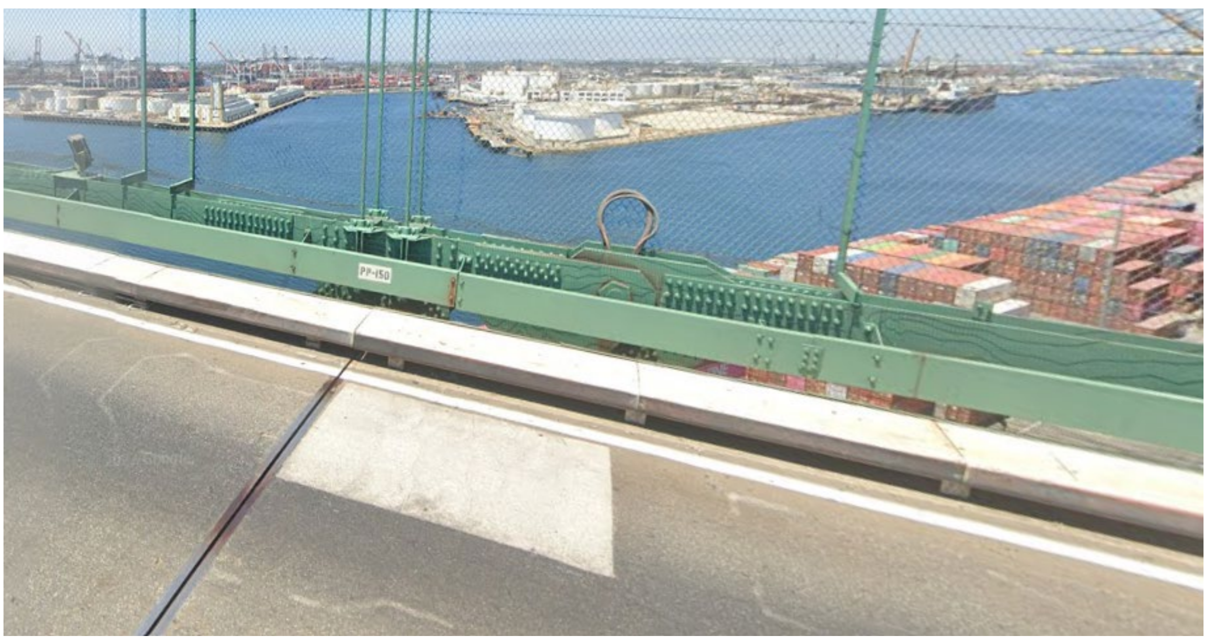
Figure 2.11-4: Image of Proposed Type ST-75 Rail

Source: Finding of No Adverse Effect for Vincent Thomas Bridge Rehabilitation Project (Caltrans 2023a).

Figure 2.11-5: Existing Type 2 Rail on Approach Spans

Source: Finding of No Adverse Effect for Vincent Thomas Bridge Rehabilitation Project (Caltrans 2023a).

Figure 2.11-6: Existing Steel Plate/Concrete Curb



Source: Finding of No Adverse Effect for Vincent Thomas Bridge Rehabilitation Project (Caltrans 2023a).

Figure 2.11-7: Existing Bridge Rail (Suspended Span)

Source: Finding of No Adverse Effect for Vincent Thomas Bridge Rehabilitation Project (Caltrans 2023a).

Figure 2.11-8: Photo Simulation of Proposed Bridge Rail (Suspended Span)

Source: Finding of No Adverse Effect for Vincent Thomas Bridge Rehabilitation Project (Caltrans 2023a).

Figure 2.11-9: Existing Bridge Rail (Approach Span)

Source: Finding of No Adverse Effect for Vincent Thomas Bridge Rehabilitation Project (Caltrans 2023a).

Figure 2.11-10: Photo Simulation or Proposed Bridge Rail/Fence (Approach Span)

Source: Finding of No Adverse Effect for Vincent Thomas Bridge Rehabilitation Project (Caltrans 2023a).

- ***Standard 10.*** *New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.*

  The newly installed fence mesh and additional fencing on the east approach span could be removed without damaging or diminishing the integrity of the historic property. The fencing would be bolted to the new deck and removed relatively easily by unbolting the fence structure from the new deck. Likewise, the additional seismic sensors planned for the bridge could be replaced or removed relatively easily by unbolting them. As such, the project complies with Standard 10.

(iii) Removal of the property from its historic location:

The historic property would remain in its historic location. The bridge would remain in its original location connecting Terminal Island and the community of San Pedro.

(iv) Change of the character of use or of physical features within the property's setting that contribute to its historic significance:

As mentioned above, the purpose of the project is to rehabilitate the bridge so that it will continue to be used as it was historically. Additionally, none of the physical features that contribute to the historic significance of the Vincent Thomas Bridge would be altered. All features that would be replaced are noncontributing/noncharacter-defining.

(v) Introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features:

The project would not introduce visual, atmospheric, or audible elements that would diminish the integrity of the Vincent Thomas Bridge's significant historic features. No atmospheric or audible elements would be introduced. The project would introduce new visual elements through the replacement of the existing bridge rails with ST-75 rails, the extension of safety fencing along the east approach spans of the bridge, and the replacement of existing 2-inch mesh safety fencing with 1-inch mesh safety fencing. Additionally, the new bridge deck on the main suspension spans would be 9 inches wider than the current deck on each side to accommodate the new bridge rails. However, considering the proportion, massing, and monumental scale of the bridge, these new visual elements would not diminish the Vincent Thomas Bridge's significant historic features, as demonstrated by photographic simulations depicting the bridge with the new elements installed (Figures 2.11-3, 2.11-8, and 2.11-10).

The project would install Manual for Assessing Safety Hardware (MASH) compliant, Type ST-75 bridge rails on both the approach and suspension spans. While not an in-kind replacement of the existing rails, which are standard Type 2 barrier railings on the approaches and steel plate/concrete curb on the suspension (Figure 2.11-10), the proposed ST-75 rails are compatible with the historic character of the bridge because they are approximately the same height, materials, and configuration (i.e., concrete curb below with steel rail above). The visual experience of travelers on the bridge may be somewhat different than what it was historically; however, they will continue to experience a standard concrete and steel bridge rail of the same materials and approximate height. Moreover, the new railings would not diminish the integrity of the property's significant historic features, which include suspension spans, H-shaped steel towers, main suspension cables, support mechanisms for suspension cables at each final approach pier, vertical suspenders, stiffening trusses, suspension cable anchorages, deck support system (open longitudinal truss system), and approach spans (skewed, welded steel girders and reinforced concrete column piers).

Likewise, the replacement of 2-inch mesh safety fencing (originally installed in 1976/1977) with 1-inch mesh and the extension of the safety fencing along the east approach would not obstruct from view any of the property's significant historic features identified above. Safety fencing currently exists on approximately 80 percent of the bridge, including all the suspension spans, all of the west approach, and a portion of the east approach. The project would install new fencing on the remaining 20 percent of the bridge and increase the height of the fence on the approach spans from approximately 8.33 feet to approximately 9.5 feet above the deck. Neither the new 1-inch mesh, the extended fencing, nor the 1.17-foot increase in fence height on the approach spans would obscure from view any of the property's significant historic features when viewed from a vehicle on the bridge or from a distance (see Figures 2.11-3, 2.11-8, and 2.11-10).

(vi) Neglect of a property which causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to an Indian tribe or Native Hawaiian organization:

The purpose of the project is to make repairs and improvements to the bridge that would halt its deterioration and ensure its continued use and preservation.

(vii) Transfer, lease, or sale of property out of federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historical significance:

The historic property is not under federal ownership or control, so this criterion does not apply.

2.11.3.1 Conclusions

The proposed undertaking would not alter any of the characteristics of the Vincent Thomas Bridge that qualify it for inclusion in the NRHP or diminish the integrity of the historic property. Therefore, the project would not cause an adverse effect to the historic property.

In applying the Criteria of Adverse Effect, Caltrans has determined a Finding of No Adverse Effect (without Standard Conditions) is appropriate for this undertaking and is seeking the SHPO's concurrence in the finding, pursuant to 36 CFR § 800.5(c) and Section 106 PA Stipulation X.B.2, as well as 5024 MOU Stipulation X.B.2.

If cultural materials are discovered during construction, all earthmoving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find (PF-CR-1).

If human remains are discovered, California Health and Safety Code (H&SC) Section 7050.5 states that further disturbances and activities shall stop in any area or nearby area suspected to overlie remains and the County Coroner shall be contacted. If the remains are thought by the coroner to be Native American, the coroner will notify the Native American Heritage Commission (NAHC), who, pursuant to PRC Section 5097.98, will then notify the Most Likely Descendant (MLD). At this time, the person who discovered the remains will contact Caprice "Kip" Harper, Project PQS Principal Investigator-Prehistoric Archaeology, 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 (PF-CR-2).

Caltrans identified one historic property, the Vincent Thomas Bridge, that was determined eligible for the NRHP. Caltrans applied the Criteria of Adverse Effect as defined in 36 CFR 800.5(a)(1) and found that the project will have no adverse effect on historic properties. None of the proposed work would alter the characteristics of the Vincent Thomas Bridge that qualify it for the NRHP or diminish the integrity of the historic property. Based on SHPO's review of the submitted documentation, SHPO does not object to Caltrans' finding of no adverse effect for the undertaking.

The Vincent Thomas Bridge is the only historic property protected by Section 4(f) of the Department of Transportation Act of 1966 within the project vicinity. However, this project will not "use" the property as defined by Section 4(f). Please see Appendix A under the heading "Resources Evaluated Relative to the Requirements of Section 4(f)" for additional details.

The improvements associated with the Build Alternative are consistent with the applicable policies and objectives contained in the POLA Port Master Plan. Specifically, the project is consistent with the policies and objectives to increase public access to the waterfront and protect historic resources. Additionally, the proposed project would require a consolidated Coastal Development Permit from the California Coastal Commission or equivalent Harbor Development Permit from POLA (anticipated to be an exemption). Coastal Development Permits ensure compliance with the policies of Chapter 3 of the California Coastal Act, which protect Coastal Zone resources. Therefore, the proposed project would not contribute to cumulative adverse impacts to coastal zones.

2.11.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

As previously discussed in this section, Alternative 2 (Build Alternative) would not adversely affect cultural resources. Therefore, no avoidance, minimization, and/or mitigation measures are proposed. Project features PF-CR-1 and PF-CR-2 (outlined above in the Environmental Consequences section of Section 2.2.11) will be implemented.

PHYSICAL ENVIRONMENT

2.12 Hazardous Waste/Materials

2.12.1 REGULATORY SETTING

Hazardous materials, including hazardous substances and wastes, are regulated by many State and federal laws. Statutes govern the generation, treatment, storage, and disposal of hazardous materials, substances, and waste, and also the investigation and mitigation of waste releases, air and water quality, human health, and land use.

The primary federal laws regulating hazardous wastes/materials are the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, and the Resource Conservation and Recovery Act (RCRA) of 1976. The purpose of CERCLA, often referred to as “Superfund”, is to identify and clean up abandoned contaminated sites so that public health and welfare are not compromised. The RCRA provides for “cradle to grave” regulation of hazardous waste generated by operating entities. Other federal laws include:

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

In addition to the acts listed above, Executive Order (EO) 12088, Federal Compliance with Pollution Control Standards, mandates that necessary actions be taken to prevent and control environmental pollution when federal activities or federal facilities are involved.

California regulates hazardous materials, waste, and substances under the authority of the California Health and Safety Code and is also authorized by the federal government to implement RCRA in the State. California law also addresses specific handling, storage, transportation, disposal, treatment, reduction, clean up, and emergency planning of hazardous waste. The Porter-Cologne Water Quality Control Act also restricts disposal of wastes and requires cleanup of wastes that are below hazardous waste concentrations but could impact ground and surface water quality. California regulations that address waste management and prevention and cleanup of contamination include Title 22 Division 4.5 Environmental Health Standards for the Management of Hazardous Waste, Title 23 Waters, and Title 27 Environmental Protection.

Worker and public health and safety are key issues when addressing hazardous materials that may affect human health and the environment. Proper management and disposal of hazardous material is vital if it is found, disturbed, or generated during project construction.

2.12.2 AFFECTED ENVIRONMENT

This section is based on the Preliminary Hazardous Waste Reassessment ([revised] July 2023), the Preliminary Hazardous Waste Re-Assessment (November 2022), and the Preliminary Hazardous Waste Assessment (July 2022).

The Office of Environmental Engineering (OEE) reviewed the State Water Resources Control Board (SWRCB) GEOTRACKER and the California Department of Toxic Substances Control (DTSC) ENVIROSTOR environmental databases to identify potential Recognized Environmental Conditions (RECs) with respect to potential soil, soil vapor, and groundwater related to planned improvements when more detailed scope of work with project limit and boundaries is provided. The objective of the environmental research is to evaluate and determine if there are reported REC sites that exist that may impact the proposed improvements. To accurately assess these potential additional hazardous waste impacts to the project, further evaluation of these sites is recommended during the Design phase to determine if additional soil investigation is necessary.

A limited database search revealed three potential REC sites:

1. **Former Union Oil Harbor Pipelines (T10000003711) located on Front Street, San Pedro, CA 90731 (Open Assessment & Interim Remedial Action):** The site is located 163 feet north of the project site. The potential contaminants of concern include crude oil, diesel, gasoline, lead, naphthalene, and total petroleum. The potential media of concern include other groundwater (other than drinking water) and soil. This REC may be of potential concern to the project.

2. **PHL Derailment (T10000016805) located at the Northeast Corner of Harbor Boulevard and Regan Street, San Pedro, CA 90731 (Open Site Assessment):** The site is located 40 feet south of the project site. The potential contaminant of concern includes diesel. The potential media of concern include other groundwater (other than drinking water) and soil. This REC may be of potential concern to the project.

3. **Former Chevron Marine Terminal (SL0603707909) located at 1510 Swinford Street, San Pedro, CA 90731 (Open Assessment & Interim Remedial Action):** The site is located 60 feet south of the project site. The potential contaminants of concern include diesel, heating oil/fuel oil, other petroleum, and waste oil/motor/hydraulic/lubricant. The potential media of concern include soil, soil vapor, and surface water. This REC may be of potential concern to the project.

2.12.3 ENVIRONMENTAL CONSEQUENCES

2.12.3.1 Alternative 1 (No Build)

Alternative 1 (No Build) would not involve ground or structure disturbance. Therefore, Alternative 1 (No Build) would not result in potential health and environmental risks associated with any hazardous materials present within the project limits.

2.12.3.2 Alternative 2 (Build)

Hazardous waste impacts are possible during the construction of the Build Alternative. Implementation of the project features listed below would minimize any potential impacts:

PF-HW-1 **Minimal Disturbance of Material Containing Hazardous Waste Concentrations of Aerially Deposited Lead (ADL).** The temporary construction and permanent signs may potentially disturb soil containing ADL if installed on unpaved soil. Minor disturbance includes installation of any temporary or mounted construction area signposts at unpaved areas. Minimal soil disturbance work occurs when there is no ADL soil generated that requires removal from the project or displaced in areas other than the immediate area of disturbance.

PF-HW-2 **Material Containing Asbestos Containing Materials (ACM).** ACM is a concern and may have been used in bridge shim plates, weep holes, and joint sealants. Joint sealants installed prior to the 1960s have the potential to be constructed with ACM. According to Caltrans, Standard Specification joint seals (both “Type A” and “Type B”) installed after 1960 are composed of polyurethane and silicone sealant, which are classified as non-hazardous material. The United States Environmental Protection Agency (EPA) established the National Emissions Standards for Hazardous Air Pollutants (NESHAP).

Any demolition, alteration, and/or modification work on a bridge, regardless of whether it contains ACM, triggers an EPA NESHAP regulation that requires notification to the delegated Air Quality Management District. The delegated Air Quality Management District in Southern California is the South Coast Air Quality Management District (SCAQMD). A project-specific site investigation is recommended to evaluate and determine the extent of ACM at the proposed work area.

PF-HW-3 **Removal of Existing Lead-Based Paint (LBP) on Bridge Structure.** The replacement of seismic sensors on the bridge, repairs to bridges including removal of existing barrier railing, steel plate, and chain link fencing may require disturbance of the existing paint system on the bridge. The existing paint system on the bridge structure may contain heavy metals such as lead, zinc, or chromium. These are hazardous materials that exceed the established thresholds in Title 8 California Code of Regulations (CCR) and exposes workers to health hazards that must be addressed in the general contractor’s Lead Compliance Plan (LCP). A project-specific site investigation is recommended to evaluate and determine the extent of ACM and lead-based paint at the proposed work area.

PF-HW-4 **Removal of Existing Yellow and Non-Yellow (White) Traffic Stripe and/or Pavement Marking.** The proposed project may require disturbance and replacement of pavement striping through saw cutting existing lightweight concrete bridge slabs and removing pavement striping along with the slabs.

PF-HW-5 **Electrical Waste.** This project includes the disposal of seismic sensors. The disposal of seismic sensors shall conform with Caltrans Standard Specifications and all applicable laws and regulations. Standard Special Provision (SSP) 14-11.15 E-waste will be required during Plans, Specifications, and Estimates (PS&E).

2.12.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

Because the proposed project would incorporate the project features outlined above and in the latest Preliminary Hazardous Waste Assessment dated July 10, 2023, no adverse impacts related to hazardous waste would occur. Therefore, no avoidance, minimization, and/or mitigation measures are required. Project features PF-HW-1, PF-HW-2, PF-HW-3, PF-HW-4, and PF-HW-5 (outlined above in 2.12.3, Environmental Consequences) will be implemented.

2.13 Air Quality

2.13.1 REGULATORY SETTING

The federal Clean Air Act (CAA), as amended, is the primary federal law that governs air quality, while the California Clean Air Act (CCAA) is its companion state law. These laws, and related regulations by the United States Environmental Protection Agency (EPA) and the California Air Resources Board (CARB), set standards for the concentration of pollutants in the air. At the federal level, these standards are called National Ambient Air Quality Standards (NAAQS). NAAQS and State ambient air quality standards have been established for six criteria pollutants that have been linked to potential health concerns: carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM)—which is broken down for regulatory purposes into particles of 10 microns or smaller (PM_{10}) and particles of 2.5 microns and smaller ($PM_{2.5}$), lead (Pb), and sulfur dioxide (SO_2). In addition, State standards exist for visibility reducing particles, sulfates, hydrogen sulfide (H_2S), and vinyl chloride. The NAAQS and State standards are set at levels that protect public health with a margin of safety and are subject to periodic review and revision. Both State and federal regulatory schemes also cover toxic air contaminants (air toxics); some criteria pollutants are also air toxics or may include certain air toxics in their general definition.

Federal air quality standards and regulations provide the basic scheme for project-level air quality analysis under the National Environmental Policy Act (NEPA). In addition to this environmental analysis, a parallel “Conformity” requirement under the CAA also applies.

2.13.1.1 Conformity

The conformity requirement is based on CAA Section 176(c), which prohibits the United States Department of Transportation (USDOT) and other federal agencies from funding, authorizing, or approving plans, programs, or projects that do not conform to the State Implementation Plan (SIP) for attaining the NAAQS. “Transportation Conformity” applies to highway and transit projects and takes place on two levels: the regional (or planning and programming) level and the project level. The proposed project must conform at both levels to be approved.

Conformity requirements apply only in nonattainment and “maintenance” (former nonattainment) areas for the NAAQS, and only for the specific NAAQS that are or were violated. EPA regulations at 40 Code of Federal Regulations (CFR) 93 govern the conformity process. Conformity requirements do not apply in unclassifiable/attainment areas for NAAQS and do not apply at all for State standards regardless of the status of the area.

Regional conformity is concerned with how well the regional transportation system supports plans for attaining the NAAQS for CO, NO_2, O_3, PM_{10}, and $PM_{2.5}$, and in some areas (although not in California) SO_2. California has nonattainment or maintenance areas for all of these transportation-related “criteria pollutants” except SO_2, and also has a nonattainment area for lead; however, lead is not currently required by the CAA to be covered in transportation conformity analysis. Regional conformity is based on emission analysis of Regional Transportation Plans (RTPs) and Federal Transportation Improvement Programs (FTIPs) that include all transportation projects planned for a region over a period of at least 20 years (for the RTP) and 4 years (for the FTIP). RTP and FTIP conformity uses travel demand and emission models to determine whether or not the implementation of those projects would conform to emission budgets or other tests at various analysis years showing that requirements of the CAA and the SIP are met. If the conformity analysis is successful, the Metropolitan Planning Organization (MPO), Federal Highway Administration (FHWA), and Federal Transit Administration (FTA) make the determinations that the RTP and FTIP are in conformity with the SIP for achieving the goals of the CAA. Otherwise, the projects in the RTP and/or FTIP must be modified until conformity is attained. If the design concept and scope and the “open-to-traffic” schedule of a proposed transportation project are the same as described in the RTP and FTIP, then the proposed project meets the regional conformity requirements for purposes of project-level analysis.

Project-level conformity is achieved by demonstrating that: (a) the project comes from a conforming RTP and TIP; (b) the project has a design concept and scope[1] that have not changed significantly from those in the RTP and TIP; (c) project analyses have used the latest planning assumptions and EPA-approved emissions models; and (d) in PM areas, the project complies with any control measures in the SIP. Furthermore, additional analyses (known as hot-spot analyses) may be required for projects located in CO and PM nonattainment or maintenance areas to examine localized air quality impacts.

2.13.2 AFFECTED ENVIRONMENT

This section is based on the *Air Quality Analysis Report* (2024) prepared for the project.

The topography of a region can substantially impact air flow and resulting pollutant concentrations from nearby emissions sources. California is divided into 15 air basins with similar topography and meteorology to better manage air quality throughout the State. Each air basin has a local air district that is responsible for identifying and implementing air quality strategies to comply with ambient air quality standards.

The Vincent Thomas Bridge Deck Replacement Project is located in the city of Los Angeles in Los Angeles County and connects San Pedro on the west to Terminal Island on the east. The Vincent Thomas Bridge is surrounded by the communities of San Pedro, Wilmington, and the city of Long Beach. The project area is within the South Coast Air Basin (Basin), which includes Orange County and portions of Los Angeles, Riverside, and San Bernardino Counties. Air quality regulation in the Basin is administered by the South Coast Air Quality Management District (SCAQMD). The 2020 population for Los Angeles County is 10,407,000 and is forecasted to grow to 11,674,000 by 2045. The Los Angeles County’s economy is largely driven by professional, scientific, and technical services, health care, social assistance, and retail trade (SCAG 2020).

2.13.2.1 Climate, Meteorology, and Topography

Meteorology (weather) and terrain can influence air quality. Certain weather parameters are highly correlated to air quality, including temperature, the amount of sunlight, and the type of winds at the surface and above the surface. Winds can transport ozone and ozone precursors from one region to another, contributing to air quality problems downwind of source regions. Furthermore, mountains can act as a barrier that prevents ozone from dispersing.

[1] "Design concept" means the type of facility that is proposed, such as a freeway or arterial highway. "Design scope" refers to those aspects of the project that would clearly affect capacity and thus any regional emissions analysis (e.g., the number of lanes and the length of the project).

The Long Beach Airport Climatological Station, maintained by the National Oceanic and Atmospheric Administration (NOAA), is representative of meteorological conditions near the proposed project. The climate is generally Mediterranean in character, with cool winters (which average 65.2 degrees Fahrenheit [°F] in January) and warm, dry summers (which average 79.7°F in July). Temperature inversions are common, affecting localized pollutant concentrations in the winter and enhancing ozone formation in the summer. Annual average rainfall is 12.72 inches (at Long Beach Airport), mainly falling during the winter months.

2.13.2.2 Existing Air Quality

This section summarizes existing air quality conditions near the proposed project area. It includes attainment statuses for criteria pollutants, describes local ambient concentrations of criteria pollutants for the past 5 years, and discusses Mobile Source Air Toxins (MSAT) and greenhouse gas (GHG) emissions. The Port of Los Angeles (POLA) maintains an air pollutant monitoring station network in the project area. Figure 2.13-1 shows the location of the San Pedro Community Station (O_3, CO, and NO_2) and the Wilmington Community Station (PM_{10} and $PM_{2.5}$). The San Pedro Community Station is located approximately 0.7 mile to the southwest of the Vincent Thomas Bridge, and the Wilmington Community Station is located approximately 2 miles to the north of the Vincent Thomas Bridge.

Figure 2.13-1: Map of Air Quality Monitoring Stations Located Near the Project

Source: ESRI, POLA Air Quality Monitoring Stations.

2.13.2.3 Criteria Pollutants and Attainment Status

Table 2.13-1 lists the State and federal attainment status for all regulated pollutants. Under the federal standards, Los Angeles County is currently designated Nonattainment (Extreme) for 8-hour average O_3 concentrations and Nonattainment (Serious) for 24-hour average $PM_{2.5}$ concentrations. A portion of Los Angeles County is also designated Nonattainment for lead (Pb). Los Angeles County is designated Attainment-Maintenance for PM_{10}, CO, and NO_2 under the NAAQS. For the more stringent California Ambient Air Quality Standards (CAAQS), Los Angeles County is designated Nonattainment for O_3, PM_{10}, and $PM_{2.5}$, and is in attainment of all other State standards.

Table 2.13-1: State and Federal Attainment Status

Pollutant	State Attainment Status	Federal Attainment Status
Ozone (O_3)	Nonattainment	Nonattainment (Extreme – 2015)
Respirable Particulate Matter (PM_{10})	Nonattainment	Attainment – Maintenance (Serious)
Fine Particulate Matter ($PM_{2.5}$)	Nonattainment	Nonattainment (Serious – 2012)
Carbon Monoxide (CO)	Attainment	Attainment – Maintenance (Serious)
Nitrogen Dioxide (NO_2)	Attainment	Attainment – Maintenance (Primary)
Sulfur Dioxide (SO_2)	Attainment	Attainment – Unclassified
Lead (Pb)	Attainment	Partial Nonattainment (Los Angeles County)
Visibility-Reducing Particles	Attainment	N/A
Sulfates	Attainment	N/A
Hydrogen Sulfide	Unclassified	N/A
Vinyl Chloride	N/A	N/A

Source: Ambient Air Quality Standards Designation Tool (CARB 2023).

Table 2.13-2 lists O_3, CO, and NO_2 air quality trends in data collected at the San Pedro Community Station for the past 5 years. Table 2.13-3 lists PM_{10} and $PM_{2.5}$ air quality trends in data collected at the Wilmington Community Station for the past 5 years. The monitoring stations are maintained by the POLA, and annual information is from May to April for each year. PM_{10} and $PM_{2.5}$ standards were exceeded multiple times over the 5-year period, and the 1-hour O_3 standard was exceeded one time in the 2020/2021 monitoring year.

Table 2.13-2: Air Quality Concentrations for the Past 5 Years Measured at the San Pedro Community Station

Pollutant	Standard	2018/2019	2019/2020	2020/2021	2021/2022	2022/2023
Ozone						
Maximum 1-hour concentration		0.074	0.073	0.101	0.065	0.090
No. of days exceeded: State	0.09 ppm	0	0	1	0	0
Maximum 8-hour concentration		0.059	0.057	0.067	0.060	0.071
No. of days exceeded: State	0.070 ppm	0	0	0	0	1
Federal	0.070 ppm	0	0	0	0	1
Carbon Monoxide						
Maximum 1-hour concentration		1.9	1.9	1.7	6.9	2.7
No. of days exceeded: State	20 ppm	0	0	0	0	0
Federal	35 ppm	0	0	0	0	0
Maximum 8-hour concentration		1.3	1.4	1.4	1.2	2.2
No. of days exceeded: State	9.0 ppm	0	0	0	0	0
Federal	9 ppm	0	0	0	0	0
Nitrogen Dioxide						
Maximum 1-hour concentration		0.080	0.073	0.073	0.059	0.061
No. of days exceeded: State	0.18 ppm	0	0	0	0	0
Federal	100 ppb	0	0	0	0	0
Maximum annual concentration		0.010	0.012	0.016	0.012	0.011
Exceeded: State	0.030 ppm	No	No	No	No	No
Federal	53 ppb	No	No	No	No	No

Source: Air Quality Monitoring Program at the Port of Los Angeles Year Eighteen Data Summary, May 2022–April 2023 (POLA 2023).

Table 2.13-3: Air Quality Concentrations for the Past 5 Years Measured at the Wilmington Community Station

Pollutant	Standard	2018/2019	2019/2020	2020/2021	2021/2022	2022/2023
PM_{10}						
Maximum 24-hour concentration		54.5	54.3	70.6	–	60.8
No. of days exceeded: State	50 µg/m^3	1	2	3	–	2
Federal	150 µg/m^3	0	0	0	–	0
Maximum annual concentration		23.0	22.4	27.2	–	22.5
Exceeded: State	20 µg/m^3	Yes	Yes	Yes	–	Yes
$PM_{2.5}$						
Maximum 24-hour concentration		35.1	15.1	35.6	15.1	35.1
No. of days exceeded: Federal	35 µg/m^3	1	0	2	0	2
Maximum annual concentration		7.96	6.41	7.80	6.15	7.04
Exceeded: State	12 µg/m^3	No	No	No	No	No
Federal	12.0 µg/m^3	No	No	No	No	No

Source: Air Quality Monitoring Program at the Port of Los Angeles Year Eighteen Data Summary, May 2022–April 2023 (POLA 2023).

Table 2.13-4 presents the federal air quality standards attainment designations for the Basin. Under the CAAQS, the region is currently designated nonattainment for O_3 and $PM_{2.5}$.

Table 2.13-4: Status of SIPs Relevant to the Project Area

Name/Description	Status
Carbon Monoxide	Maintenance (Serious): Meets NAAQS since 2007
Lead	Nonattainment (Partial): Does not meet NAAQS
Nitrogen Dioxide	Maintenance: Meets NAAQS since 1998
Ozone (2015 Standard)	Nonattainment (Extreme): Attainment Deadline 2037
PM_{10}	Maintenance (Serious): Meets NAAQS since 2013
$PM_{2.5}$ (2012 Standard)	Nonattainment (Serious): Attainment Deadline 2025

Source: Status of California Designated Areas (EPA 2023c).

2.13.2.4 Greenhouse Gas and Climate Change

California's annual statewide GHG emission inventory is an important tool for establishing historical emission trends and tracking California's progress in reducing GHGs. In concert with data collected through various California Global Warming Solutions Act (Assembly Bill [AB] 32) programs, the GHG inventory is a critical piece in demonstrating the State’s progress in achieving the statewide GHG target. The inventory provides estimates of anthropogenic GHG emissions within California, as well as emissions associated with imported electricity.

Natural sources are not included in the inventory. CO_2, as part of the carbon cycle, is an important compound for plant and animal life, but also accounted for 80 percent of California’s total GHG emissions in 2020 (CARB 2022). Transportation, primarily on-road travel, is the single largest source of CO_2 emissions in the State at 38 percent of emissions.

The SCAG Connect SoCal 2020–2045 RTP/SCS is the applicable regional transportation planning document for Los Angeles County and the Vincent Thomas Bridge project. Existing transportation emissions were assessed for a 2019 baseline year and were determined to be 84.33 metric tons of carbon dioxide equivalent (MT CO_2e) for the SCAG region, of which approximately 37.57 MT CO_2e were attributable to Los Angeles County. Emission sources included passenger vehicles, trucks, buses, and other vehicles.

The San Pedro Bay Ports Clean Air Action Plan is a landmark air quality plan that establishes the most comprehensive, far-reaching strategy for reducing port-related air pollution and related health risks, while allowing port development, job creation and economic activity associated with that development to continue. The plan, a collaboration of the POLA and Port of Long Beach (POLB), ushered in a slew of anti-air pollution strategies, including the Clean Truck Program, vessel pollution reduction programs, and advanced new technology (e.g., the world's first hybrid tugboat). The plan was originally adopted in 2006, with updates in 2010 and 2017. Since 2018, the San Pedro Bay Ports Clean Trucks Program has required that new trucks registered in the Port Drayage Truck Registry must be model year 2014 or newer. The San Pedro Bay Ports 2017 Clean Air Action Plan also calls for the San Pedro Bay Ports drayage[1] truck fleet to be exclusively zero-emission vehicles by 2035.

2.13.2.5 Sensitive Receptors

Based on research showing that the zone of greatest concern near roadways is within 500 feet (or 150 meters), sensitive receptors within 500 feet (or 150 meters) of the bridge construction site have been identified and are documented in Table 2.13-5. Figure 2.13-2 shows the locations of sensitive receptors relative to the project site. In addition, the anticipated detour routes include roadways with various sensitive receptors within 500 feet of the roadways, some of which were identified as Environmental Justice communities using census data as defined by AB 617.

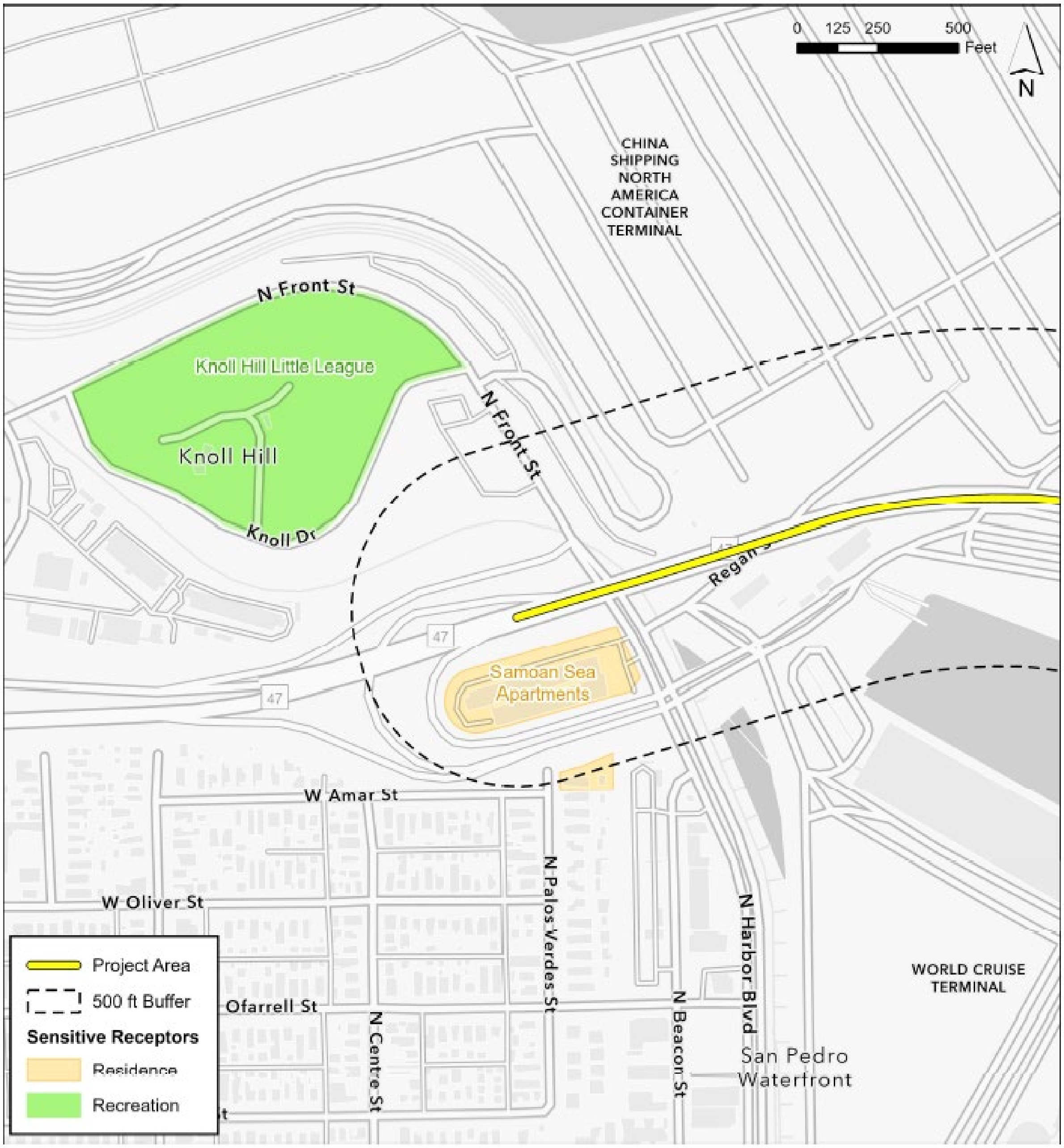
Table 2.13-5: Sensitive Receptors Located Within 500 Feet of the Project Site

Receptor	Description	Distance Between Receptor and Project (feet)
Samoan Sea Apartments	Multi-Family Residence	125
Various Residences	Single- and Multi-Family Residences	400–500
Knoll Hill Little League Facilities	Three Little League Fields	500

Source: Air Quality Report, Vincent Thomas Bridge Deck Replacement Project (TAHA 2023).

[1] Drayage is the transportation of shipping containers by truck to the destination.

Figure 2.13-2: Sensitive Receptors Located Near the Proposed Project



Source: Air Quality Report, Vincent Thomas Bridge Deck Replacement Project (TAHA 2023).

2.13.2.6 Impact Criteria

Project-related emissions will have an adverse environmental impact if they result in pollutant emissions levels that either create or worsen a violation of an ambient air quality standard (identified in Table 2.13-6) or contribute to an existing air quality violation. Table 2.13-7 summarizes the sources and health effects of the six criteria pollutants and pollutants regulated in the state of California.

Table 2.13-6: Table of State and Federal Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards [1]		National Standards [2]		
		Concentration [3]	**Method [4]**	**Primary [3,5]**	**Secondary [3,6]**	**Method [7]**
Ozone (O_3) [8]	1 Hour	0.09 ppm (180 $\mu g/m^3$)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 $\mu g/m^3$)		0.070 ppm (137 $\mu g/m^3$)		
Respirable Particulate Matter (PM_{10}) [9]	24 Hour	50 $\mu g/m^3$	Gravimetric or Beta Attenuation	150 $\mu g/m^3$	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 $\mu g/m^3$		—		
Fine Particulate Matter ($PM_{2.5}$) [9]	24 Hour	—	—	35 $\mu g/m^3$	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 $\mu g/m^3$	Gravimetric or Beta Attenuation	12.0 $\mu g/m^3$	15 $\mu g/m^3$	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m^3)	—	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m^3)		9 ppm (10 mg/m^3)	—	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	
Nitrogen Dioxide (NO_2) [10]	1 Hour	0.18 ppm (339 $\mu g/m^3$)	Gas Phase Chemi-luminescence	100 ppb (188 $\mu g/m^3$)	—	Gas Phase Chemi-luminescence
	Annual Arithmetic Mean	0.030 ppm (57 $\mu g/m^3$)		0.053 ppm (100 $\mu g/m^3$)	Same as Primary Standard	
Sulfur Dioxide (SO_2) [11]	1 Hour	0.25 ppm (655 $\mu g/m^3$)	Ultraviolet Fluorescence	75 ppb (196 $\mu g/m^3$)	—	Ultraviolet Fluorescence; Spectro-photometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1,300 $\mu g/m^3$)	
	24 Hour	0.04 ppm (105 $\mu g/m^3$)		0.14 ppm (for certain areas) [11]	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas) [11]	—	
Lead [12,13]	30 Day Average	1.5 $\mu g/m^3$	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 $\mu g/m^3$ (for certain areas) [12]	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 $\mu g/m^3$		
Visibility Reducing Particles [14]	8 Hour	See footnote 14.	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 $\mu g/m^3$	Ion Chroma-tography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 $\mu g/m^3$)	Ultraviolet Fluorescence			
Vinyl Chloride [12]	24 Hour	0.01 ppm (26 $\mu g/m^3$)	Gas Chroma-tography			

Source: California Air Resources Board (May 4, 2016).

See footnotes on next page …

[1] California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[2] National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than 1. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact the United States EPA for further clarification and current national policies.

[3] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

[4] Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.

[5] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

[6] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[7] Reference method as described by the United States EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the United States EPA.

[8] On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

[9] On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 $\mu g/m^3$ to 12.0 $\mu g/m^3$. The existing national 24- hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 $\mu g/m^3$, as was the annual secondary standard of 15 $\mu g/m^3$. The existing 24-hour PM_{10} standards (primary and secondary) of 150 $\mu g/m^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

[10] To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

[11] On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

[12] The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

[13] The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 $\mu g/m^3$ as a quarterly average) remains in effect until 1 year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

[14] In 1989, the CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

For more information please call ARB-PIO at (916) 322-2990.

Table 2.13-7: Air Pollutant Effects and Sources

Pollutant	Principal Health and Atmospheric Effects	Typical Sources
Ozone (O_3)	High concentrations irritate lungs. Long-term exposure may cause lung tissue damage and cancer. Long-term exposure damages plant materials and reduces crop productivity. Precursor organic compounds include many known toxic air contaminants. Biogenic VOC may also contribute.	Low-altitude ozone is almost entirely formed from reactive organic gases (ROGs)/volatile organic compounds (VOCs) and nitrogen oxides (NO_X) in the presence of sunlight and heat. Common precursor emitters include motor vehicles and other internal combustion engines, solvent evaporation, boilers, furnaces, and industrial processes.
Carbon Monoxide (CO)	CO interferes with the transfer of oxygen to the blood and deprives sensitive tissues of oxygen. CO also is a minor precursor for photochemical ozone. Colorless, odorless.	Combustion sources, especially gasoline-powered engines and motor vehicles. CO is the traditional signature pollutant for on-road mobile sources at the local and neighborhood scale.
Respirable Particulate Matter (PM_{10})	Irritates eyes and respiratory tract. Decreases lung capacity. Associated with increased cancer and mortality. Contributes to haze and reduced visibility. Includes some toxic air contaminants. Many toxic and other aerosol and solid compounds are part of PM_{10}.	Dust- and fume-producing industrial and agricultural operations; combustion smoke and vehicle exhaust; atmospheric chemical reactions; construction and other dust-producing activities; unpaved road dust and re-entrained paved road dust; and natural sources.
Fine Particulate Matter ($PM_{2.5}$)	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and produces surface soiling. Most diesel exhaust particulate matter – a toxic air contaminant – is in the $PM_{2.5}$ size range. Many toxic and other aerosol and solid compounds are part of $PM_{2.5}$	Combustion including motor vehicles, other mobile sources, and industrial activities; residential and agricultural burning; also formed through atmospheric chemical and photochemical reactions involving other pollutants including NO_X, sulfur oxides (SO_X), ammonia, and ROGs.
Nitrogen Dioxide (NO_2)	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown. Contributes to acid rain and nitrate contamination of stormwater. Part of the "NO_X" group of ozone precursors.	Motor vehicles and other mobile or portable engines, especially diesel; refineries; industrial operations.
Sulfur Dioxide (SO_2)	Irritates respiratory tract; injures lung tissue. Can yellow plant leaves. Destructive to marble, iron, steel. Contributes to acid rain. Limits visibility.	Fuel combustion (especially coal and high-sulfur oil), chemical plants, sulfur recovery plants, metal processing; some natural sources like active volcanoes. Limited contribution possible from heavy-duty diesel vehicles if ultra-low sulfur fuel not used.
Lead (Pb)	Disturbs gastrointestinal system. Causes anemia, kidney disease, and neuromuscular and neurological dysfunction. Also, a toxic air contaminant and water pollutant.	Lead-based industrial processes like battery production and smelters. Lead paint, leaded gasoline. Aerially deposited lead from older gasoline use may exist in soils along major roads.
Sulfates	Premature mortality and respiratory effects. Contributes to acid rain. Some toxic air contaminants attach to sulfate aerosol particles.	Industrial processes, refineries and oil fields, mines, natural sources like volcanic areas, salt-covered dry lakes, and large sulfide rock areas.
Hydrogen Sulfide (H_2S)	Colorless, flammable, poisonous. Respiratory irritant. Neurological damage and premature death. Headache, nausea. Strong odor.	Industrial processes such as: refineries and oil fields, asphalt plants, livestock operations, sewage treatment plants, and mines. Some natural sources like volcanic areas and hot springs.
Visibility Reducing Particles (VRP)	Reduces visibility. Produces haze. NOTE: Not directly related to the Regional Haze program under the federal Clean Air Act, which is oriented primarily toward visibility issues in National Parks and other "Class I" areas. However, some issues and measurement methods are similar.	See particulate matter above. May be related more to aerosols than to solid particles.
Vinyl Chloride	Neurological effects, liver damage, cancer. Also considered a toxic air contaminant.	Industrial processes.

Source: Annotated Outline for an Air Quality Report, Standard Environmental Reference (Caltrans 2023).

2.13.3 ENVIRONMENTAL CONSEQUENCES

This section describes the methods and results of air quality analyses of the proposed project. Analyses in this report were conducted using methodology and assumptions that are consistent with the requirements of NEPA, CEQA, the Clean Air Act Amendments

(CAAAs) of 1990, and the CCAA of 1988. The analyses also use guidelines and procedures provided in applicable air quality analysis protocols, such as the FHWA Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents (FHWA January 2023).

2.13.3.1 Conformity Status

Transportation Conformity applies in areas that are "nonattainment" or "attainment maintenance" for the NAAQS, and only for the standards that are or previously were violated. Conformity analysis and determinations are done at regional and project-level scales. From a practical viewpoint, the pollutant analyses addressed by project-level conformity focus on CO and PM hot-spots; regional conformity pollutant analyses can involve CO, PM, and ozone precursor emissions (volatile organic compounds [VOCs] and nitrogen oxides [NO_X]).

Regional Conformity

This project is exempt from regional (40 CFR 93.126) conformity requirements because it is categorized as "widening narrow pavements or reconstructing bridges (no additional travel lanes)." Separate listing of the project in the Regional Transportation Plan and Transportation Improvement Program and their regional conformity analyses is not necessary. The project will not interfere with timely implementation of Transportation Control Measures identified in the applicable SIP and regional conformity analysis.

Project-Level Conformity

The proposed project is exempt from all project-level conformity requirements (40 CFR 93.126) because it qualifies under the exemption category of "widening narrow pavements or reconstructing bridges (no additional travel lanes)."

Interagency Consultation

Since the proposed project is exempt from all project-level conformity requirements—including PM hot-spot analyses—it is not subject to Interagency Consultation and does not need to be presented to the SCAG Transportation Conformity Working Group as part of the environmental clearance process.

NEPA Analysis Requirement

NEPA applies to all projects that receive federal funding or involve a federal action. NEPA requires that all reasonable alternatives for the project are rigorously explored and objectively evaluated. Several closure scenarios are being considered to complete improvements on the Vincent Thomas Bridge, with the longest potential construction scenarios lasting up to 5 years (including time for installation and removal of temporary protective shield barriers, which would not affect bridge traffic). During the bridge closures—which may range from 16 to 48 months—traffic would be diverted along alternative routes throughout the project area. The analysis of proposed project effects on air quality included an evaluation of maximum incremental increases in PM concentrations in five nearby communities resulting from diverted traffic along primary detour routes that would experience the greatest changes in traffic volumes during construction. No appreciable difference is anticipated in long-term operational emissions between the Build Alternative and No Build Alternative because the project is not expected to alter traffic patterns or induce vehicle miles traveled (VMT) upon completion of construction.

CEQA Analysis Requirement

CEQA applies to most California transportation projects (certain projects are statutorily exempt). CEQA requires that a range of reasonable alternatives to the project are explored that would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project. Construction of the proposed project would last between 16 to 48 months. Therefore, the analysis of the proposed project effects on air quality included an evaluation of maximum incremental PM concentrations in five nearby communities as a result of diverting traffic along the primary detour routes that are most likely to be used. Since no appreciable difference is anticipated in long-term operational emissions between the Build Alternative and No Build Alternative because the project is not expected to alter traffic patterns or induce VMT upon completion of construction, the analyses focused on temporary effects during the bridge closure periods for the alternatives being considered.

Lead

Construction activities would disturb the existing paint system on the bridge. Non-yellow paint does not typically include lead. It is typically classified as non-hazardous and disposed of at a permitted California non-hazardous waste disposal facility (Class II or Class III). However, yellow paint may contain heavy metals such as lead. Caltrans requires the general contractor to implement Standard Special Provision 14-11.13 (Disturbance of Existing Paint Systems on Bridge) and a Lead Compliance Plan. In addition, Caltrans requires a Health and Safety Plan per California Occupational Safety and Health Administration (Cal/OSHA) regulation CCR (California Code of Regulations) §1532.1 to protect workers from lead exposure.

Asbestos

The proposed project would not involve substantial earthwork, and there is no potential to encounter naturally-occurring asbestos (NOA). Construction activities will be predominantly conducted from the top of the bridge. Minimal ground disturbance would occur during renovation of the approaches on either side of the Vincent Thomas Bridge and widening the bridge by 9 inches in both directions.

Any demolition/alteration and/or modification work on a bridge triggers the federal National Emissions Standards for Hazardous Air Pollutants (NESHAP) regulation that requires notification to the delegated Air Quality Management District. Demolition activities would be subject to SCAQMD Rule 1403 (Asbestos Emissions from Demolition/Renovation Activities). Rule 1403 is intended to limit asbestos emissions and the associated disturbance of asbestos-containing waste material generated or handled during these activities. The rule addresses the national emissions standards for asbestos along with some additional requirements. The rule requires a survey for asbestos-containing material (ACM) to be conducted prior to any renovation or demolition activity and that the lead agency and its contractors notify SCAQMD of any identified ACM. This notification includes a description of structures and methods utilized to determine whether ACM are potentially present. All ACM found on the site must be removed prior to demolition or renovation activity in accordance with SCAQMD Rule 1403, including specific requirements for surveying, notification, removal, and disposal of material containing asbestos. Therefore, projects that comply with Rule 1403 would ensure that ACM would be disposed of appropriately and safely.

Caltrans requires the general contractor to implement Standard Special Provision 14-11.16 (ACM in Bridges). In addition, Caltrans requires a Health and Safety Plan per Cal/OSHA regulation CCR §1532.1 to protect workers from asbestos exposure.

Construction Emissions (Short-Term)

As summarized in below in Table 2.13-8, there are eight different construction scenarios being considered to implement the proposed project (four staging options and eight scenarios depending on deck type). The scenarios vary in terms of duration of activities, duration of bridge closure, and construction methods of replacing the bridge deck. Using the CAL-CET2021 construction emissions tool, daily and total emissions of VOCs, NO_X, CO, SO_X, PM_{10}, $PM_{2.5}$, and GHGs were estimated for each phase of activity involved in constructing all eight scenarios. Based on the nature of the proposed project, construction activities would involve minimal disturbance of unpaved ground surface areas and would not require substantial amounts of excavation and export of bulk materials to accommodate the new bridge facilities. Therefore, construction of the proposed project under all scenarios is anticipated to generate less fugitive dust emissions than typical roadway construction projects that involve substantial excavation and grading. Nevertheless, all construction activities would be required to comply with the provisions of SCAQMD Rule 403 and implement all applicable best management practices (BMPs) for fugitive dust control.

Table 2.13-8: Bridge Closure Options and Construction Scenarios

Bridge Closure Alternative	Construction Design Scenarios	Deck Replacement Duration (months)	Cost (million $)
Full Closure	Scenario 1: Pre-Cast & Orthotropic	16	$555
	Scenario 2: Pre-Cast Only	16	$503
	Scenario 3: Cast-in-Place Only	41	$521
Partial Closure	Scenario 4: 1/2 Closure (2-Stage), Pre-Cast & Orthotropic	26	$565
	Scenario 5: 1/2 Closure (2-Stage), Pre-Cast Only	26	$512
	Scenario 6: 1/3 Closure (3-Stage), Pre-Cast & Orthotropic	31	$575
	Scenario 7: 1/3 Closure (3-Stage), Pre-Cast Only	31	$522
Nighttime Closure (7 PM to 6 PM)	Scenario 8: Full Overnight Closure, Pre-Cast Only	48	$571

Source: Air Quality Report, Vincent Thomas Bridge Deck Replacement Project (TAHA 2024).
Note: Air quality modeling uses the total capital construction costs for inputs. Total capital construction costs exclude support costs; therefore, the range is smaller than the total project cost outlined in Section 1.4.5 of this document.

Site preparation and bridge deck replacement will generally involve the following phases:

- Installation of temporary access points and a protective barrier shield to separate traffic lanes from active construction areas
- Temporary reinforcement of the suspension span (full closure scenarios)
- Preparation of the replacement load-bearing suspension span (single- and two-stage construction scenarios)
- Replacement of the bridge deck in single-, dual-, or tri-stage increments

- Removal of temporary access points and the protective barrier shield, which will be completed while the bridge is open to traffic following the bridge deck replacement

During construction, emissions from construction equipment powered by gasoline and diesel engines would include CO, NO_X, VOCs, minimal amounts of SO_X, directly emitted PM_{10} and $PM_{2.5}$, and toxic air contaminants (TACs) such as diesel exhaust particulate matter (DPM). These emissions would be temporary and limited to the immediate area surrounding the construction site. Short-term degradation of air quality may also occur from the release of particulate emissions (airborne dust) generated by excavation, hauling, and other activities related to construction; however, these emissions would be very low due to construction occurring predominantly within the existing bridge structure footprint.

Ozone-precursor, criteria pollutant, and GHG emissions were estimated for the eight proposed project construction scenarios using detailed equipment inventories and project construction scheduling information provided by Caltrans and Construction Manager General Contractor in conjunction with emissions factors from the EMFAC2021 and OFFROAD models, which are implemented into the CAL-CET2021 database.

Table 2.13-8, above, provides a summary of the construction design scenarios grouped by the corresponding bridge closure option and includes the duration of the deck replacement activities as well as the total construction cost. Three of the scenarios (Scenarios 1 through 3) would involve single-stage construction and full closure of the bridge for up to approximately 16 or 41 months depending on the deck design. Four scenarios (Scenarios 4 through 7) would involve partial closure of the bridge ranging from 25 months to 32 months, with construction being completed in either two or three stages. One scenario (Scenario 8) would involve only overnight closure of the bridge between 7:00 p.m. and 6:00 a.m. daily, and the bridge closure would last for approximately 48 months (4 years).

Uncontrolled construction-related emissions for construction Scenarios 1 through 8, which were prepared assuming the default regional fleet of construction equipment, are presented in the *Air Quality Analysis Report*. Scenarios 1 through 8 include the four construction staging options (single-stage/full closure, two-stage construction, three-stage construction, and full nighttime closure) with different potential deck types. The results of the construction emission calculations are included in Appendix B of the *Air Quality Analysis Report*. The emissions presented are based on the best information available at the time of calculations. The emissions represent the peak daily construction emissions that would be generated by each scenario, as well as the total emissions throughout the duration of construction. Tables showing the uncontrolled construction-related emissions for Scenarios 1 through 8 are available in the *Air Quality Analysis Report* and are available upon request.

As noted in the *Air Quality Analysis Report*, uncontrolled construction-related emissions are estimated for all eight scenarios to generate temporary NO_X emissions in excess of the applicable SCAQMD regional mass daily screening threshold using the default equipment fleet.

Under the Transportation Conformity regulations (40 CFR 93.123(c)(5)), construction-related activities that cause temporary increases in emissions are not required in a hot-spot analysis. These temporary increases in emissions are those that occur only during the construction phase and last 5 years or less at any individual site. They typically fall into two main categories:

- **Fugitive Dust:** A major emission from construction due to ground disturbance. All air districts and the California Health and Safety Code (Sections 41700-41701) prohibit "visible emissions" exceeding 3 minutes in 1 hour. This applies not only to dust but also to engine exhaust. In general, this is interpreted as visible emissions crossing the right-of-way line.

  Sources of fugitive dust include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site may deposit mud on local streets, which could be an additional source of airborne dust after it dries. PM_{10} emissions may vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM_{10} emissions depend on soil moisture, silt content of soil, wind speed, and the amount of equipment operating. Larger dust particles would settle near the source, while fine particles would be dispersed over greater distances from the construction site.

  Construction of the proposed project will involve minimal ground disturbance to implement the design renovations as activities will be predominantly focused on the Vincent Thomas Bridge deck replacement. Equipment known to generate the greatest amount of fugitive dust emissions (e.g., graders, scrapers, and bulldozers) would not be required because work will almost exclusively occur in the existing roadway footprint.

- **Construction Equipment Emissions:** Diesel exhaust particulate matter is a California-identified TAC, and localized issues may exist if diesel-powered construction equipment is operated near sensitive receptors.

Implementation of the following measures, some of which may also be required for other purposes (e.g., storm water pollution control) will reduce air quality impacts resulting from construction activities. Please note that although these measures are anticipated to reduce construction-related emissions, these reductions cannot be quantified at this time.

- The construction contractor must comply with the Caltrans' Standard Specifications in Section 14-9 (2023).
  - Section 14-9.02 specifically requires compliance by the contractor with all applicable laws and regulations related to air quality, including Air Pollution Control District and Air Quality Management District regulations and local ordinances.
  - Additionally, Non-Standard Special Provision (NSSP) 14-9.05 specifically requires compliance with SCAQMD rules and adherence to SCAQMD guidance in assessing potential environmental impacts.
- Construction equipment and vehicles will be properly tuned and maintained. All construction equipment will use low sulfur fuel as required by CCR Title 17, Section 93114.
- The construction contractor must comply with SCAQMD rules, including Rule 401 (Visible Emissions), Rule 402 (Nuisance), Rule 403 (Fugitive Dust), and Rule 1403 (Asbestos Emissions from Demolition/Renovation Activities).
- Diesel-powered off-road equipment shall limit idling in accordance with the CARB "Regulation for In-Use Off-Road Diesel-Fueled Fleets" (Title 13, CCR, Section 2449).

- Diesel-powered on-road vehicles and trucks shall limit idling in accordance with the CARB “Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling” (Title 13, CCR, Section 2485).”

In addition, AB 617 directed the CARB to establish a program to reduce exposure in communities most impacted by air pollution. The proposed project is located in part within one of the identified AB 617 communities (Wilmington/Long Beach/Carson). In order to help address public health disparities in those communities, Caltrans requires construction equipment to have engines that comply with EPA Tier 4 emission standards for off-road diesel-fueled vehicles. The proposed project will incorporate two NSSPs to ensure that contractors use equipment outfitted with Tier 4 engines during construction (7-1.02C) and that all appropriate certification documentation is provided for use authorization (5-1.33).

Tier 4 equipment construction-related emissions for construction Scenarios 1 through 8 are presented in the *Air Quality Analysis Report*. The emissions represent the peak daily construction emissions that would be generated by each scenario as well as the total emissions throughout the duration of construction. Scenarios 1 through 8 include the four construction staging options (single-stage/full closure, two-stage construction, three-stage construction, and full nighttime closure) with different potential deck types. Tables showing the Tier 4 equipment construction-related emissions for Scenarios 1 through 8 are available in the *Air Quality Analysis Report* and are available upon request.

Based on the Tier 4 equipment construction-related emissions estimates presented in the *Air Quality Analysis Report*, construction of the proposed project with control measures implemented would not generate emissions exceeding any regional SCAQMD threshold for mass daily emissions of O_3 precursors or criteria pollutants except for Scenario 8.

Construction activities will not last for more than 5 years at one general location, so construction-related emissions do not need to be included in regional and project-level conformity analysis (40 CFR 93.123(c)(5)).

Diverted Traffic Emissions

During construction, full or partial closure of the bridge would cause traffic to be diverted along alternative routes, some of which would pass through residential communities and other areas characterized as sensitive receptors, such as schools and long-term healthcare facilities. As shown in Table 2.13-8, the eight construction scenarios for the project can be grouped into single-stage (full closure of the bridge), partial closure of the bridge (two-stage and three-stage construction options), and overnight closure options. To address the possibility of near-road concentrations to create public health concerns, dispersion modeling was performed for these three bridge closure options using AERMOD (Version 12.0.0-23132) to estimate the maximum incremental increase in 24-hour-average concentrations of PM_{10} along the anticipated traffic diversion corridors. AERMOD is the preferred Gaussian plume dispersion model for regulatory applications to estimate ground-level pollutant concentrations resulting from various types of emission sources. This analysis focused on communities identified under AB 617 protocol to be especially susceptible to exacerbations of existing air pollution.

Using the regional transportation model, data sets were produced containing estimates of the incremental increase in passenger vehicle and truck volumes that would be diverted throughout the surrounding communities during the full, partial, and nighttime Vincent Thomas Bridge closure options. This traffic data were evaluated to identify areas where the maximum incremental change in mobile source emissions would occur in the proximity of nearby sensitive receptors (i.e., adjacent to residential and educational land uses). Five community areas were identified for the dispersion modeling analysis: East Wilmington, North San Pedro, Harbor City, West Long Beach, and Carson. Within each community, the traffic datasets were used to identify the roadway corridors that would experience the greatest temporary incremental increase in PM_{10} emissions associated with the additional vehicles being rerouted away from the Vincent Thomas Bridge.

The analysis involved quantifying the variable PM_{10} emissions that would be generated by diverted traffic along the most affected corridors during the morning (AM) peak period (6 AM to 9 AM), the mid-day off-peak period (9 AM to 3 PM), the evening (PM) peak period (3 PM to 7 PM), and the evening and overnight off-peak period (7 PM to 6 AM) for the three closure options being considered: full bridge closure, partial bridge closure (two-stage and three-stage), and overnight bridge closure. The roadway segments were characterized as line-volume sources within AERMOD, which is the appropriate type of emissions source for analyzing emissions from on-road vehicle travel. The analyses focused on PM_{10} emissions because the area is presently designated as nonattainment for the PM_{10} CAAQS, making it the primary pollutant of concern. Table 2.13-9 presents a summary of the results of the air dispersion modeling in the five community areas identified as experiencing the greatest incremental increase in traffic volumes as a result of the four bridge closure options (2-stage and 3-stage options combined into “partial closure” in Table 2.13-9) and includes the SCAQMD localized significance threshold (LST) for project-related incremental change in a 24-hour average PM_{10} concentration.

Table 2.13-9: Diverted Traffic Emissions Dispersion Modeling Results

Community Area	Closure Scenario and Maximum 24-hour PM_{10} Concentration (µg/m^3)		
	Full Closure	Partial Closure	Overnight Closure
East Wilmington	1.08	1.07	0.93
North San Pedro	0.56	0.52	0.48
Harbor City	0.32	0.32	0.29
West Long Beach	0.96	0.95	0.87
Carson	0.79	0.68	0.56
SCAQMD LST Concentration	10.4	10.4	10.4

Source 1: Air Quality Report, Vincent Thomas Bridge Deck Replacement Project (TAHA 2023).
Source 2: EMFAC2021 (v1.0.2) Emission Rates (CARB 2022).

As shown above, the greatest incremental increase in 24-hour average PM_{10} concentrations was predicted to occur in the East Wilmington neighborhood, reaching a maximum of 1.08 µg/m^3. All other locations were modeled to experience an incremental PM_{10} increase of less than 1 µg/m^3. Given the context that the region is currently designated as nonattainment of the 24-hour average PM_{10} CAAQS, the SCAQMD established a localized incremental PM_{10} concentration threshold of 10.4 µg/m^3 in the interest of protecting public health. Based on the analyses presented above, diverted traffic during construction of the proposed project would not result in incremental increases in ground-level 24-hour average PM_{10} concentrations greater than the SCAQMD LST at sensitive receptor locations, with the greatest incremental increase constituting less than 11 percent of the threshold concentration.

Mobile Source Air Toxics

Sources of MSAT emissions in the project area primarily include mobile source emissions from trucks, ships, trains, and related activities associated with POLA and POLB. MSATs have not been monitored near the project area for more than 10 years.

The FHWA released updated guidance in January 2023 (FHWA 2023) for determining when and how to address MSAT impacts in the NEPA process for transportation projects. FHWA identified three levels of analysis:

- No analysis for exempt projects or projects with no potential for meaningful MSAT effects;
- Qualitative analysis for projects with low potential MSAT effects; and
- Quantitative analysis to differentiate alternatives for projects with higher potential MSAT effects.

Projects with no impacts generally include those that (a) qualify as a Categorical Exclusion under 23 CFR 771.117, (b) qualify as exempt under the CAA conformity rule under 40 CFR 93.126, and (c) are not exempt, but have no meaningful impacts on traffic volumes or vehicle mix.

Projects that have low potential MSAT effects are those that serve to improve highway, transit, or freight operations or movement without adding substantial new capacity or creating a facility that is likely to substantially increase emissions. The large majority of projects fall into this category.

Projects with high potential MSAT effects include those that:

- Create or significantly alter a major intermodal freight facility that has the potential to concentrate high levels of DPM in a single location; or

- Create new or add significant capacity to urban highways such as interstates, urban arterials, or urban collector-distributor routes with traffic volumes where the annual average daily traffic (AADT) is projected to be in the range of 140,000 to 150,000, or greater, by the design year; and/or

- Are proposed to be located in proximity to populated areas or, in rural areas, in proximity to concentrations of vulnerable populations (i.e., schools, nursing homes, hospitals).

MSAT emissions were quantified for the incremental increase in traffic that would be diverted throughout the community during the full, partial, and nighttime closure options. Summaries for the incremental MSAT emissions increase along major segments of Sepulveda Boulevard, Pacific Coast Highway (PCH), Anaheim Street, and Harry Bridges Boulevard/Alameda Street are provided in Tables 2.13-10 through 2.13-13 below.

Table 2.13-10: Summary of Incremental MSAT Emissions Increase Along Sepulveda Boulevard (SR-110 to I-710) (lbs/day)

MSATs	Full Closure	Partial Closure	Nighttime Closure
1,3-butadiene	0.0064	0.0030	0.0016
Acetaldehyde	0.0574	0.0189	0.0043
Acrolein	0.0012	0.0006	0.0004
Benzene	0.0369	0.0159	0.0076

Table 2.13-10: Summary of Incremental MSAT Emissions Increase Along Sepulveda Boulevard (SR-110 to I-710) (lbs/day)

MSATs	Full Closure	Partial Closure	Nighttime Closure
Diesel Particulate Matter	0.1238	0.0503	0.0146
Ethylbenzene	0.0119	0.0056	0.0031
Formaldehyde	0.1235	0.0421	0.0112
Naphthalene	0.0018	0.0007	0.0003
Polycyclic Organic Matter	0.0021	0.0008	0.0003

Source 1: Air Quality Report, Vincent Thomas Bridge Deck Replacement Project (TAHA 2023).
Source 2: CT-EMFAC2017 (Version 1.0.2) (Caltrans 2019).

Table 2.13-11: Summary of Incremental MSAT Emissions Increase Along Pacific Coast Hwy (SR-110 to I-710) (lbs/day)

MSATs (lbs/day)	Full Closure	Partial Closure	Nighttime Closure
1,3-butadiene	0.0129	0.0041	0.0008
Acetaldehyde	0.0241	0.0053	0.0019
Acrolein	0.0029	0.0009	0.0002
Benzene	0.0589	0.0183	0.0037
Diesel PM	0.0469	0.0151	0.0060
Ethylbenzene	0.0246	0.0078	0.0015
Formaldehyde	0.0689	0.0173	0.0051
Naphthalene	0.0021	0.0007	0.0001
Polycyclic Organic Matter	0.0023	0.0007	0.0002

Source 1: Air Quality Report, Vincent Thomas Bridge Deck Replacement Project (TAHA 2023).
Source 2: CT-EMFAC2017 (Version 1.0.2) (Caltrans 2019).

Table 2.13-12: Summary of MSAT Emissions Increase Along Anaheim Street (SR-110 to Henry Ford Avenue) (lbs/day)

MSATs (lbs/day)	Full Closure	Partial Closure	Nighttime Closure
1,3-butadiene	0.0092	0.0030	0.0013
Acetaldehyde	0.0139	0.0050	0.0019
Acrolein	0.0021	0.0007	0.0003
Benzene	0.0411	0.0136	0.0056
Diesel PM	0.0120	0.0059	0.0049
Ethylbenzene	0.0174	0.0057	0.0024
Formaldehyde	0.0425	0.0148	0.0058
Naphthalene	0.0014	0.0005	0.0002
Polycyclic Organic Matter	0.0016	0.0005	0.0002

Source 1: Air Quality Report, Vincent Thomas Bridge Deck Replacement Project (TAHA 2023).
Source 2: CT-EMFAC2017 (Version 1.0.2) (Caltrans 2019).

Table 2.13-13: Summary of MSAT Emissions Increase Along Harry Bridges Boulevard/Alameda Street (SR-110 to Anaheim Street) (lbs/day)

MSATs	Full Closure	Partial Closure	Nighttime Closure
1,3-butadiene	0.0119	0.0026	0.0026
Acetaldehyde	0.0192	0.0221	0.0134
Acrolein	0.0027	0.0005	0.0005
Benzene	0.0538	0.0148	0.0131

Table 2.13-13: Summary of MSAT Emissions Increase Along Harry Bridges Boulevard/Alameda Street (SR-110 to Anaheim Street) (lbs/day)

MSATs	Full Closure	Partial Closure	Nighttime Closure
Diesel PM	0.0542	0.0598	0.0441
Ethylbenzene	0.0227	0.0049	0.0048
Formaldehyde	0.0576	0.0477	0.0305
Naphthalene	0.0019	0.0007	0.0006
Polycyclic Organic Matter	0.0021	0.0008	0.0006

Source 1: Air Quality Report, Vincent Thomas Bridge Deck Replacement Project (TAHA 2023).
Source 2: CT-EMFAC2017 (Version 1.0.2) (Caltrans 2019).

MSAT emissions are anticipated to decrease as cleaner fuels and engines are adopted as required by regulations. CARB's Advanced Clean Trucks Regulation, approved on March 15, 2021, includes a manufacturer sales requirement and reporting requirement for zero-emission truck sales and operations. CARB's Advanced Clean Fleets Regulation, approved on April 28, 2023, requires targeted fleets well suited for electrification to reduce emissions by phasing in zero-emission vehicles. Benefits of these regulations are not captured in the currently available emissions modeling tools, but are in development for future versions of the tools.

The purpose of the proposed project is to preserve the structural integrity of the Vincent Thomas Bridge deck. The proposed project would not permanently change the vehicle capacity or traffic patterns and has been determined to generate minimal air quality impacts for CAA criteria pollutants. The proposed project has not been linked with any special MSAT concerns. As such, the proposed project would not result in changes in traffic volumes, vehicle mix, basic project location, or any other factor that would cause a meaningful increase in MSAT emissions.

Moreover, EPA regulations for vehicle engines and fuels will cause overall MSAT emissions to decline significantly over the next several decades. Based on regulations now in effect, an analysis of national trends with the EPA MOVES3 model forecasts a combined reduction of over 76 percent in the total annual emissions rate for the priority MSAT from 2020 to 2060 while VMT are projected to increase by 31 percent (FHWA 2023). This will both reduce the background level of MSAT as well as the possibility of even minor MSAT emissions from the proposed project.

2.13.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

Based on the construction scenarios being considered, construction of the project would generate temporary increases in emissions from on-site activities and on-road vehicles, as well as from diverted traffic caused by partial or full bridge closure. The temporary increases in emissions and incremental changes in PM_{10} concentrations along detour routes would remain below applicable regulatory thresholds for all construction scenarios with the exception of NO_X increases for Scenario 8 (nighttime closure with pre-cast deck type), which would exceed SCAQMD regional mass daily screening thresholds.

Implementation of the following avoidance measures and project feature would minimize project air quality impacts related to construction emissions:

AM-AQ-1 The construction contractor must comply with the Caltrans' Standard Specifications in Section 14-9 (2023).

- Section 14-9.02 specifically requires compliance by the contractor with all applicable laws and regulations related to air quality, including Air Pollution Control District and Air Quality Management District regulations and local ordinances.
- Non-Standard Special Provision (NSSP) 14-9.05 requires identification of the local air quality jurisdiction (i.e., South Coast Air Quality Management District [SCAQMD]) and for the contract to comply with all applicable rules and best management practices (BMPs).

AM-AQ-2 The construction contractor must also comply with Caltrans project-specific NSSPs 5-1.33 and 7-1.02C, which require that off-road construction equipment be outfitted with engines meeting Tier 4 emissions standards and that all certification and maintenance documentation be provided prior to equipment use. Implementation of these NSSPs would reduce emissions of ozone precursors and criteria pollutants (primarily particulate matter [PM] and nitrogen oxides [NO_X]) during construction activities.

PF-AQ-1 Construction equipment and vehicles will be properly tuned and maintained. All construction equipment will use low sulfur fuel as required by California Code of Regulations (CCR) Title 17, Section 93114.

- The construction contractor must comply with SCAQMD rules, including Rule 401 (Visible Emissions), Rule 402 (Nuisance), Rule 403 (Fugitive Dust), and Rule 1403 (Asbestos Emissions from Demolition/Renovation Activities).
- Diesel-powered, off-road equipment shall limit idling in accordance with the California Air Resources Board (CARB) "Regulation for In-Use Off-Road Diesel-Fueled Fleets" (Title 13, CCR, Section 2449).
- Diesel-powered, on-road vehicles and trucks shall limit idling in accordance with the CARB "Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling" (Title 13, CCR, Section 2485).

2.13.4.1 Climate Change

Neither the EPA nor the FHWA has issued explicit guidance or methods to conduct project-level GHG analysis. The FHWA emphasizes concepts of resilience and sustainability in highway planning, project development, design, operations, and maintenance. Because there have been requirements set forth in California legislation and executive orders on climate change, the issue is addressed in the California Environmental Quality Act (CEQA) chapter of this document. The CEQA analysis may be used to inform the National Environmental Policy Act (NEPA) determination for the project.

2.14 Noise

2.14.1 REGULATORY SETTING

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

2.14.1.1 California Environmental Quality Act

CEQA requires a strictly baseline versus build analysis to assess whether a proposed project will have a noise impact. If a proposed project is determined to have a significant noise impact under CEQA, then CEQA dictates that mitigation measures must be incorporated into the project unless those measures are not feasible. The rest of this section will focus on the NEPA/Title 23 Code of Federal Regulations (CFR) Part 772 noise analysis; please see Chapter 3 of this document for further information on noise analysis under CEQA.

2.14.1.2 National Environmental Policy Act and 23 CFR 772

For highway transportation projects with Federal Highway Administration (FHWA) involvement (and Caltrans, as assigned), the Federal-Aid Highway Act of 1970 and its implementing regulations (23 CFR 772) govern the analysis and abatement of traffic noise impacts. The regulations require that potential noise impacts in areas of frequent human use be identified during the planning and design of a highway project. The regulations include Noise Abatement Criteria (NAC) that are used to determine when a noise impact would occur. The NAC differ depending on the type of land use under analysis. For example, the NAC for residences (67 A-weighted decibels [dBA]) is lower than the NAC for commercial areas (72 dBA). Table 2.14-1 lists the noise abatement criteria for use in the NEPA/23 CFR 772 analysis.

Table 2.14-1: Noise Abatement Criteria

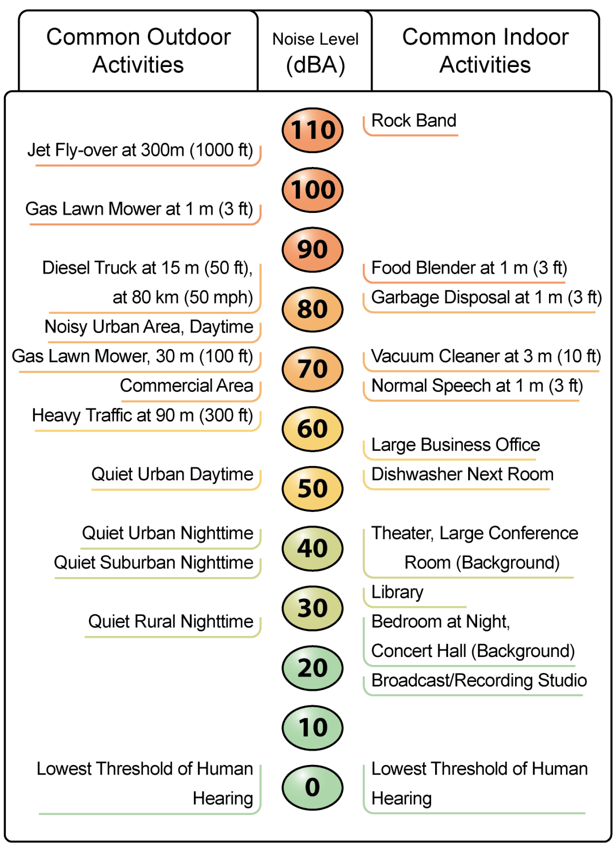
Activity Category	NAC, Hourly A-Weighted Noise Level, L_{eq}(h)	Description of Activity Category
A	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B[1]	67 (Exterior)	Residential.
C[1]	67 (Exterior)	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	52 (Interior)	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E	72 (Exterior)	Hotels, motels, offices, restaurants/bars, and other developed lands, properties, or activities not included in A–D or F.
F	No NAC—reporting only	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical, etc.), and warehousing.
G	No NAC—reporting only	Undeveloped lands that are not permitted.

Source: Noise Study Report (2023).

[1] Includes undeveloped lands permitted for this activity category.

Figure 2.14-1 lists the noise levels of common activities to enable readers to compare the actual and predicted highway noise levels discussed in this section with common activities.

Figure 2.14-1: Noise Levels of Common Activities



Source: Noise Study Report (2023).

According to Caltrans' Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects (Traffic Noise Analysis Protocol) (April 2020), a noise impact occurs when the predicted future noise level with the project substantially exceeds the existing noise level (defined as 12 dBA or more) or when the future noise level with the project approaches or exceeds the NAC. A noise level is considered to approach the NAC if it is within 1 dBA of the NAC.

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

The Caltrans Traffic Noise Analysis Protocol sets forth the criteria for determining when an abatement measure is reasonable and feasible. Feasibility of noise abatement is basically an engineering concern. Noise abatement must be predicted to reduce noise by at least 5 decibels (dB) at an impacted receptor to be considered feasible from an acoustical perspective. It must also be possible to design and construct the noise abatement measure for it to be considered feasible. Factors that affect the design and constructability of noise abatement include, but are not limited to, safety, barrier height, topography, drainage, access requirements for driveways, presence of local cross streets, underground utilities, other noise sources in the area, and maintenance of the abatement measure. The overall reasonableness of noise abatement is determined by the following three factors: (1) the noise reduction design goal of 7 dB at one or more impacted receptors; (2) the cost of noise abatement; and (3) the viewpoints of benefited receptors (including property owners and residents of the benefited receptors).

2.14.2 AFFECTED ENVIRONMENT

This section is based on the Noise Study Report (Caltrans 2023) prepared for the project. The Noise Study Report modeled and evaluated traffic noise levels in noise-sensitive areas within the boundaries of the proposed project.

2.14.2.1 Existing Land Uses

A field investigation was conducted to identify land uses that could be subject to traffic and construction noise impacts from the proposed project. Single-family residences and multi-family residences were identified as Activity Category B while parks and playgrounds were identified as Activity Category C land uses along the detour routes. Also, one restaurant and several hotels/motels were identified under Activity Category E.

The following are various noise-sensitive activity categories along the detour routes where potential operational traffic noise impact during construction is considered:

- **Activity Category A:** There are no land use activities under this activity category.
- **Activity Category B:** Most of the noise-sensitive land uses are residences (single and multi-family) along all three detour routes (i.e., Harry Bridges Boulevard/Alameda Avenue, Pacific Coast Highway [PCH], and Sepulveda Boulevard).
- **Activity Category C:** This activity category includes several parks. Wilmington Waterfront Park is located along westbound Harry Bridges Boulevard from Figueroa

Street to Lagoon Avenue. The Banning Museum Park is located along eastbound PCH between Broad Avenue and Eubank Avenue. Carriage Crest Park is located along westbound Sepulveda Boulevard at Figueroa Street, just east of Interstate 110 (I-110).

- **Activity Category D:** There are no land use activities under this activity category.
- **Activity Category E:** This activity category includes a restaurant with an outside eating area and several hotels/motels along the various detour routes:
  - Taqueria El Taco Loco is located along eastbound PCH between Avalon Boulevard and Broad Avenue with an outside eating area.
  - Hotel Portlight is located along northbound Alameda Street between Grant Street and Denni Street.
  - West Coast Inn is located along westbound PCH between Frigate Avenue and Wilmington Boulevard.
  - Comet Motel is also located along westbound PCH between Frigate Avenue and Wilmington Boulevard.
  - Crest Inn is located along eastbound PCH between Frigate Avenue and Wilmington Boulevard.
  - Eagle Inn Motel is located along eastbound PCH between Fries Avenue and Marine Avenue.
  - Hiland Motel is located along westbound PCH between Caspian Avenue and Harbor Boulevard.
  - Eagle Inn Long Beach Motel is located along eastbound PCH between Seabright Avenue and Cota Avenue.
- **Activity Category G:** There are no vacant lands that are permitted for development within the project limits.

Based on research, a change in 3 dBA is considered barely perceptible to average healthy human ears, and a 5 dBA change in noise levels is considered a readily perceptible change while a 10 dBA change is considered doubling or halving of the noise.

As required by the Caltrans Traffic Noise Analysis Protocol, all developed land uses are evaluated in this analysis. However, noise abatement is only considered for areas of frequent human use that would benefit from a lowered noise level. Accordingly, this impact analysis focuses on locations with defined outdoor activity at the residential area within the project limits.

Existing Traffic Noise

A field noise investigation was conducted to determine existing noise levels and gather information to develop and calibrate the traffic noise model that was used for predicting future noise levels. Existing noise levels were recorded at 76 locations that were acoustically representative of the entire area within the limits of the project. The existing ambient noise levels measured were between 48 and 73 dB (equivalent continuous sound level per hour measured in A-weighted decibels [dBA L_{eq}(h)]). Eleven (11) long-term (48-hour) noise level readings were conducted to determine the noisiest hour within the project limits. There are no existing sound walls located within any of the detour routes. However, at many site locations, there were 5- to 6-feet-high property walls separating the residences from the roadway.

Noise Measurement Results

The existing noise levels in the project area consist of short-term and long-term noise monitoring at representative noise sensitive locations within the project limits.

Short-Term Monitoring

Short-term monitoring was conducted at 65 locations, using Larson Davis 831 sound level meters. Measurements were taken over a 30-minute period at each site simultaneously with corresponding long-term measurements to adjust all sites to noisiest hour levels.

Long-Term Monitoring

Long-term monitoring was conducted at 11 locations using Larson Davis 831 Type 1 sound level meters. The purpose of these measurements was to capture variations in traffic noise levels throughout the day, rather than absolute noise levels at a specific receptor of concern. The long-term sound level data were collected over 288 consecutive 10-minute intervals over a 48-hour period.

2.14.3 ENVIRONMENTAL CONSEQUENCES

Under 23 CFR 772.7, projects are categorized as Type I, Type II, or Type III projects. The FHWA defines a Type I project as a proposed federal or federal-aid highway project for the construction of a highway on a new location, or the physical alteration of an existing highway that significantly changes either the horizontal or vertical alignment or increases the number of through-traffic lanes. Based on the description of the alternatives, even though this project has been deemed to be a Type III project under the Build Alternative (i.e., a detailed traffic noise study is not required), a traffic noise analysis has been conducted along the detour routes to be used during the construction phase of this project to determine potential temporary construction operational noise impacts to the adjacent communities. This analysis will focus on identifying any increase in noise levels during daytime and nighttime along the detour routes that will experience additional traffic during the closure of the bridge lane(s).

Since there are no criteria or threshold for temporary operational traffic noise during construction for any land uses, a substantial increase in the traffic noise levels (assumed to be a 5 dBA noise increase) and future absolute noise levels (above the threshold of 67 dBA) during daytime and nighttime along the detour routes are used to evaluate potential noise impacts.

Predicted construction-year traffic noise levels with the project are compared to existing conditions. Each of the three detour routes are described separately below for an assessment of potential temporary operational noise impacts to primarily the residential areas during construction of the Vincent Thomas Bridge Deck Replacement Project. Each detour route has been analyzed separately for daytime and nighttime existing and future worst-hour noise levels under each traffic study alternative that is applicable to the project

(A [full closure] and D [one lane open in each direction]). Existing daytime peak-hour noise levels have been determined from the 48-hour noise sites in order to establish a baseline.

The baseline has been used to compare with the modeled noise levels using the forecast traffic volumes (provided in the Draft Traffic Operations Analysis Report [TOAR]) along each detour route for each alternative. Existing nighttime noise levels have been derived from the existing daytime worst-hour noise level in order to establish a baseline for comparison with the modeled nighttime traffic volumes under each alternative. Therefore, the accuracy of nighttime noise levels depends upon the uncontaminated daytime worst-hour noise levels derived from the 48-hour monitored data. The noisiest hour for the analysis during the nighttime hours from 9:00 p.m. to 6:00 a.m. has been assumed to be between 9:00 p.m. and 10:00 p.m.

2.14.3.1 Harry Bridges Boulevard/Alameda Street

Daytime

The daytime noise increase range for the detour route along the Harry Bridges Boulevard/ Alameda Street from I-110 to PCH for Alternative A (full closure) is from 0 to 3 dBA; however, the overall noise increase is approximately 2 dBA. For Alternative D (one lane open in each direction), the range is from 0 to 1 dBA, and the overall noise increase is about 1 dBA.

Nighttime

The nighttime noise increase range for this same detour route for Alternative A (full closure) is from -4 dBA to 3 dBA. However, for the area along Harry Bridges Boulevard between I-110 and Avalon Boulevard, there is a drop in noise levels of 3 dBA. On the other hand, there is an overall noise increase of 3 dBA along Alameda Street between Avalon Boulevard and PCH. Specifically, for the area along Harry Bridges Boulevard between I-110 and Avalon Boulevard, there is a drop in noise levels of 3 dBA. On the other hand, there is an overall noise increase of 1 dBA along Alameda Street between Avalon Boulevard and PCH. The nighttime noise increase range for this same detour route for Alternative D (one lane open in each direction) is from -6 dBA to 1 dBA. However, for the area along Harry Bridges Boulevard between I-110 and Avalon Boulevard, there is a drop in noise levels of 3 dBA. On the other hand, there is an overall noise increase of 1 dBA along Alameda Street between Avalon Boulevard and PCH.

2.14.3.2 Pacific Coast Highway (SR-1)

Daytime

The daytime noise increase range for the detour route along PCH from I-110 to Interstate 710 (I-710) for Alternative A (full closure) is from 0 to 3 dBA; however, in general, the overall noise increase is approximately 1 dBA. For Alternative D (one lane open in each direction), the range is from 0 to 2 dBA, and the overall noise increase is about 1 dBA.

Nighttime

While the nighttime noise increase range along PCH for Alternative A (full closure) is from -3 dBA to 3 dBA, there is generally an overall drop of 1 dBA in noise level. For Alternative D (one lane open in each direction), the nighttime noise increase range is from -3 dBA to 2 dBA, but there is generally an overall drop in noise levels of 1 dBA.

2.14.3.3 Sepulveda Boulevard/Willow Street

Daytime

The daytime noise increase range for the detour route along PCH from I-110 to I-710 for Alternative A (full closure) is from 0 to 3 dBA; however, in general, the overall noise increase is approximately 1 dBA. For Alternative D (one lane open in each direction), the range is from 0 to 2 dBA, and the overall noise increase is about 1 dBA.

Nighttime

The nighttime noise increase range along Sepulveda Boulevard for all alternatives (A and D) is from -7 dBA to 5 dBA. While some of the residential areas located along Sepulveda Boulevard between I-110 and State Route 103 (SR-103) would experience a 2–3 dBA noise increase during nighttime, the area along Willow Street between SR-103 and Santa Fe Avenue would experience a noise increase of up to 5 dBA. However, while this noise increase is considered readily noticeable, it must be noted that the future absolute noise levels of 60–65 dBA in this area is still below the threshold of 67 dBA to be identified as having impact. It must also be noted that these detour routes are temporary in nature, lasting from 2 to 3 years in duration.

2.14.3.4 Preliminary Noise Abatement Analysis

In accordance with 23 CFR 772, noise abatement is considered where noise impacts are predicted in areas of frequent human use that would benefit from a lowered noise level. Even though there are no temporary operational traffic noise impacts identified along the potential detour routes (meaning no noise abatement measures would need to be considered) during the construction of the Vincent Thomas Bridge, the following are standard potential noise abatement measures identified in the Caltrans Traffic Noise Analysis Protocol:

- Avoiding the impact by using design alternatives, such as altering the horizontal and vertical alignment of the project
- Constructing noise barriers
- Acquiring property to serve as a buffer zone
- Using traffic management measures to regulate types of vehicles and speeds
- Acoustically insulating public-use or nonprofit institutional structures.

Due to the presence of driveways that limit access, noise barriers are considered not practical since sound barriers need to be continuous in order to provide sufficient/noticeable noise reduction. In addition, even though quieter pavement can reduce noise levels by a perceptible amount to the nearby residents, it is only effective for higher speeds (over 40 miles per hour [mph]). All detour traffic routes have a posted speed limit of 35–40 mph; therefore, quieter pavement would also not be a beneficial option. Therefore, because of the configuration and location of the residences in relation to the detour routes along the local streets, there is no noise abatement that is feasible, reasonable, and practical.

Based on the results of the analysis, most of the residential areas along all three detour routes during daytime and nighttime resulted in less than 3 dBA increase in noise levels. There’s only one area along Willow Street between SR-103 and Santa Fe Avenue that would experience a noise increase of up to 5 dBA during the nighttime hours. However, while this noise increase is considered readily noticeable, it must be noted that the future absolute noise levels of 60–65 dBA in this area did not exceed the threshold of 67 dBA to be identified as having impact.

In conclusion, based on the results, under any alternative, the study determined there are no substantial noise increases during daytime or nighttime along any of the detour routes to cause significant temporary operational traffic noise impacts to the noise-sensitive land uses due to the construction of the Vincent Thomas Bridge Deck Replacement Project.

2.14.3.5 Construction Noise

23 CFR 772 requires that construction noise impacts be identified but does not specify specific methods or abatement criteria for evaluating construction noise. However, the FHWA Roadway Construction Noise Model (FHWA 2006) can be used to determine if construction would result in adverse construction noise impacts on land uses or activities in the project area.

During the construction phases of the project, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. Construction noise is regulated by Caltrans Standard Specifications Section 14-8.02, Noise Control. These requirements state that noise levels generated during construction shall comply with applicable local, State, and federal regulations.

As indicated, equipment involved in construction is expected to generate noise levels ranging from 70 to 90 dBA at a distance of 50 feet. Noise produced by construction equipment would be reduced over distance at a rate of about 6 dBA per doubling of distance. Normally, construction noise levels should not exceed 86 dBA (maximum instantaneous noise level [L_{max}]) at a distance of 50 feet. No adverse noise impacts from construction are anticipated because construction would be conducted in accordance with Caltrans Standard Specifications and would be short term, intermittent, and dominated by local traffic noise. Implementing the following measures would minimize temporary construction noise impacts:

1. Equipment noise control should be applied to revising old equipment and designing new equipment to meet specified noise levels.

2. In-use noise control should be implemented where existing equipment is not permitted to produce noise levels in excess of specified limits.

3. Site restrictions is an attempt to achieve noise reduction through modifying the time, place, or method of operation of a particular source.

4. Personal training of operators and supervisors is needed to become more aware of the construction site noise problems.

Equipment Noise Control

Equipment noise control is needed to reduce the noise emissions from construction sites by mandating specified noise levels for the design of new equipment, and updating old equipment with new noise control devices and the techniques presented below:

- Mufflers are very effective devices that reduce the noise emanating from the intake or exhaust of an engine, compressor, or pump. The fitting of effective mufflers on all new equipment and retrofitting of mufflers on existing equipment is necessary to yield an immediate noise reduction at all types of road construction sites.

- Sealed and lubricated tracks for crawler-mounted equipment will lessen the sound radiated from the track assembly resulting from metal to soil and metal to metal contact.

- Contractors, site engineers, and inspectors should ensure that the tracks are kept in excellent condition by periodic maintenance and lubrication.

- Lowering exhaust pipe exit height closer to the ground can result in an off-site noise reduction. Barriers are more effective in attenuating noise when the noise source is closer to ground level.

- General noise control technology can have substantially quieter construction equipment when manufacturers apply state-of-the-art technology to new equipment or repair old equipment to maintain original equipment noise levels.

In-Use Noise Control

In-use noise control is necessary to prevent existing equipment from producing noise levels in excess of specified limits. Any equipment that produces noise levels less than the specified limits would not be affected. However, those exceeding the limit would be required to meet compliance by repair, retrofit, or replacement. New equipment with the latest noise-sensitive components and noise control devices are generally quieter than older equipment if properly maintained and inspected regularly. They should be repaired or replaced, if necessary, to maintain the in-use noise limit. All equipment applying the in-use noise limit would achieve an immediate noise reduction if properly enforced.

Site Restrictions

Site restrictions should be applied to achieve noise reduction through different methods, resulting in an immediate reduction of noise emitted to the community without requiring any modification to the source noise emissions. The methods include shielding with barriers for equipment and site, truck rerouting and traffic control, time scheduling, and equipment relocation. The effectiveness of each method depends on the type of construction involved and the site characteristics.

- Shielding with barriers should be implemented at an early stage of a project to reduce construction equipment noise. The placement of barriers must be carefully considered to reduce limitation of site access. Barriers may be natural or man-made, such as excess land fill used as a temporary berm strategically placed to act as a barrier.

- Efficient rerouting of trucks and control of traffic activity on a construction site will reduce noise due to vehicle idling, gear shifting and accelerating under load. Planning proper traffic control will result in efficient workflow and reduce noise levels. In addition, rerouting trucks does not reduce noise levels but transfers noise to other areas that are less sensitive to noise.

- Time scheduling of activities should be implemented to minimize noise impacts on exposed areas. Local activity patterns and surrounding land uses must be considered in establishing site curfews. However, limiting working hours can decrease productivity. Sequencing the use of equipment with relatively low noise levels versus equipment with relatively high noise levels during noise-sensitive periods is an effective noise control measure.

- Equipment location should be as far from noise-sensitive land use areas as possible. The contractor should substitute quieter equipment or use quieter construction processes at or near noise sensitive areas.

Personal Training

Educating contractors and their employees to be sensitive to noise impact problems and noise control methods may be one of the most cost-effective ways to help operators and supervisors become more aware of the construction site noise problem and to implement various methods of improving the conditions. A training program for equipment operators is recommended to instruct them in methods of operating their equipment to minimize environmental noise. Many training programs are presently given regarding job safety. This can be extended to include the impact due to noise and methods of abatement.

2.14.4 AVOIDANCE, MINIMIZATION, AND/OR ABATEMENT MEASURES

There are no substantial noise increases during daytime or nighttime along any of the detour routes to cause significant temporary operational traffic noise impacts to noise-sensitive land uses. No adverse noise impacts from construction are anticipated because construction would be conducted in accordance with Caltrans Standard Specifications and would be short-term, intermittent, and dominated by local traffic noise. Therefore, no avoidance, minimization, and/or mitigation measures are necessary.

2.15 Energy

2.15.1 REGULATORY SETTING

The National Environmental Policy Act (NEPA) (42 United States Code [USC] Part 4332) requires the identification of all potentially significant impacts to the environment, including energy impacts.

The California Environmental Quality Act (CEQA) Guidelines Section 15126.2(b) and Appendix F, Energy Conservation, require an analysis of a project's energy use to determine if the project may result in significant environmental effects due to wasteful, inefficient, or unnecessary use of energy, or wasteful use of energy resources.

2.15.1.1 Federal

NEPA (42 USC Part 4332) requires the identification of all potentially significant impacts on the environment, including impacts on energy resources. Guidance for evaluating energy impacts of transportation projects subject to NEPA is outlined in the Federal Highway Administration (FHWA) Technical Advisory 6640.8A (Technical Advisory). The Technical Advisory energy analysis requirement applies to projects for which an Environmental Impact Statement (EIS) is prepared, although it may also be applied to Environmental Assessments (EAs). The Technical Advisory indicates that documentation should discuss energy requirements for construction and operation, and the overall conservation potential for project alternatives. The relationship of the project alternatives to applicable State or regional energy plan should also be documented. Additional conservation measures, such as use of high-occupancy vehicle (HOV) incentives and other measures to improve traffic flow should also be identified.

Other measures to improve energy efficiency in the transportation sector have been implemented at the federal level. In recent years, the United States Environmental Protection Agency (EPA) and the National Highway Traffic Safety Administration (NHTSA) issued Final Rules governing Corporate Average Fuel Economy (CAFE) standards and other improvements to fuel economy for new vehicles. The Energy Independence and Security Act consists of provisions designed to increase energy efficiency and the availability of renewable energy. Key provisions of the Energy Independence and Security Act include:

- The CAFE, which sets a target of 54.5 miles per gallon (mpg) for the combined fleet of cars and light trucks by model year 2025.

- The Renewable Fuels Standard, which sets a modified standard that starts at 9.0 billion gallons in 2008 and rises to 36 billion gallons by 2022.

- The Energy Efficiency Equipment Standards, which includes a variety of new standards for lighting and for residential and commercial appliance equipment.

- The Repeal of Oil and Gas Tax Incentives, which includes repeal of two tax subsidies in order to offset the estimated cost to implement the CAFE provision.

2.15.1.2 State

On December 28, 2018, the Governor's Office of Planning and Research and the California Natural Resources Agency updated the *State CEQA Guidelines* to require that an Environmental Impact Report (EIR) include an analysis of a project's potential for significant environmental effects resulting from wasteful, inefficient, or unnecessary use of energy; or wasteful use of energy resources (*State CEQA Guidelines* Section 15126.2(b)). Appendix F, Energy Conservation, of the *State CEQA Guidelines* outlines requirements for evaluating energy impacts of projects subject to CEQA. The appendix outlines criteria to consider in reviewing potential impacts, and places particular emphasis on avoiding the "inefficient, wasteful, and unnecessary consumption of energy."

The State has passed several bills directing State agencies and entities such as the California Energy Commission (CEC) and the California Public Utilities Commission (CPUC) to implement renewable energy portfolio targets and energy efficiency measures to reduce energy consumption and greenhouse gas (GHG) emissions. The CEC is the State's primary energy policy and planning agency. Created by legislature in 1974, the CEC has five major responsibilities: (1) forecasting future energy needs and keeping historical energy data, (2) licensing thermal power plants 50 megawatts (MW) or larger, (3) promoting energy efficiency through appliance and building standards, (4) developing energy technologies and supporting renewable energy, and (5) planning for and directing the State's response to energy emergencies. Senate Bill (SB) 1389 (Chapter 568, Statutes of 2002) requires the CEC to prepare a biennial integrated energy policy report assessing major energy trends and issues facing the State's electricity, natural gas, and transportation fuel sectors. The report also provides policy recommendations to conserve resources, protect the environment, and ensure reliable, secure, and diverse energy supplies.

The California Transportation Plan is a statewide, long-range transportation plan to meet future mobility needs. It defines performance-based goals, policies, and strategies to achieve an integrated, multimodal transportation system. The California Transportation Plan addresses how the State will achieve maximum feasible emissions reductions, taking into consideration the use of alternative fuels, new vehicle technology, and tailpipe emissions reductions. Caltrans must consult and coordinate with related State agencies, air quality management districts, public transit operators, and regional transportation planning agencies.

Title 13 of the CCR includes vehicle requirements for public transit agencies (i.e., Sections 1956.1, 2020, 2023, 2023.1, and 2023.4). The Fleet Rule for Transit Agencies includes stringent exhaust emission standards for new urban bus engines and vehicles. The regulation also promotes advanced technologies by providing for zero-emission bus demonstration projects and requiring zero emission bus acquisitions applicable to larger transit agencies.

2.15.1.3 Regional

The Southern California Association of Governments (SCAG) requires a Sustainable Communities Strategy (SCS) in the Regional Transportation Plan (RTP). The SCS outlines a development pattern for the region, which, when integrated with the transportation network and other transportation measures and policies, would reduce vehicle miles traveled (VMT) by automobiles and light duty trucks, thereby reducing emissions from these sources. For the SCAG region, the 2020-2045 RTP/SCS was adopted on September 3, 2020.

The 2020-2045 RTP/SCS focuses on an integrated approach in transportation and land use strategies in development of the SCAG region through horizon year 2045. The 2020-2045 RTP/SCS projects that the SCAG region will meet the Greenhouse Gas (GHG) per capita reduction targets established for the SCAG region of 8 percent by 2020 and 19 percent by 2035. Additionally, its implementation is projected to reduce VMT per capita for the year 2045 by 4.1 percent compared to baseline conditions for the year. The 2020-2045 RTP/SCS includes "Core Vision" that centers on maintaining and better managing the transportation network for moving people and goods while expanding mobility choices by location, housing, jobs, and transit closer together, and increasing investments in transit and complete streets.

2.15.1.4 Local

The Citywide General Plan Framework Element establishes the broad overall policy and direction for the City of Los Angeles General Plan.[1] It provides a citywide context and a comprehensive long-range strategy to guide the comprehensive update of the General Plan's other elements. The Framework Element's infrastructure policies seek to ensure that the Los Angeles Department of Water and Power (LADWP) would be able to adequately provide electric power transmission following regional development patterns. The General Plan Framework Element's infrastructure policies will continue to ensure that the city's transmission and distribution system is able to accommodate future peak electric demand for its customers.

State law requires that municipal general plans must contain seven mandatory elements: land use, transportation, housing, conservation, open space, noise, and safety. The City of Los Angeles has 12 elements within its General Plan to better address the specific local planning challenges it faces. Adopted by the City Council in September 2016, Mobility Plan 2035 represents the transportation element of the City of Los Angeles General Plan, and is dedicated to improving multimodal connectivity throughout the city.[2] Mobility Plan 2035 includes goal-oriented policies to decrease VMT per capita by 5 percent every 5 years, to 20 percent by 2035, and to reduce transportation-related energy use by 95 percent.

On May 15, 2007, Los Angeles Mayor Antonio Villaraigosa released Green LA – An Action Plan to Lead the Nation in Fighting Global Warming (Green LA Plan) that has an overall goal of reducing the City of Los Angeles's greenhouse gas (GHG) emissions by 2030 to 35 percent below the 1990 levels.[3] This goal exceeds the targets set by both California and the Kyoto Protocol and is the greatest reduction target of any large United States city.

On April 8, 2015, Mayor Eric Garcetti released the pLAn, a roadmap to achieve back to basics short-term results while setting the path to strengthen and transform the city.[4] The pLAn is made up of short-term (by 2017) and longer-term (by 2025 and 2035) targets in 14 categories to advance the city's environment, economy, and equity. The pLAn provides strategies to create a more sustainable and livable city by improving land use planning to promote neighborhood quality of life, conserving energy and water, mitigating and adapting to climate change, building transit options for an accessible future, promoting affordability and environmental justice, and restoring and reinventing the Los Angeles River. In 2019,

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1 City of Los Angeles. 2001. Citywide General Plan Framework Element. August 8.
2 City of Los Angeles. 2016. Mobility Plan 2035: An Element of the General Plan. September 7.
3 City of Los Angeles. 2007. Green LA: An Action Plan to Lead the Nation in Fighting Global Warming. May.
4 City of Los Angeles. 2020. L.A.'s Green New Deal – Sustainable City pLAn 2019.

Mayor Eric Garcetti released an update to the pLAn that accelerates previous sustainability targets.

The San Pedro Bay Ports Clean Air Action Plan is an air quality plan that also includes policies to reduce energy use.[5] It establishes a strategy for reducing port-related air pollution and related health risks, while allowing port development, job creation, and economic activity associated with that development to continue. The Plan, a collaboration between the Port of Los Angeles (POLA) and Port of Long Beach (POLB), ushered in a slew of anti-air pollution strategies including the Clean Truck Program, vessel pollution reduction programs, and advanced new technology such as the world's first hybrid tugboat. Since 2018, the San Pedro Bay Ports Clean Trucks Program has required that new trucks registered in the Port Drayage Truck Registry must be model year 2014 or newer. The San Pedro Bay Ports Clean Air Action Plan also calls for the San Pedro Bay Ports drayage truck fleet to be exclusively zero-emission vehicles by 2035.[6]

The 2017 LADWP Power Strategic Long-Term Resource Plan (SLTRP) is a 20-year roadmap that guides the LADWP power system in its efforts to supply reliable electricity in an environmentally responsible and cost-effective manner.[7] One of the main focuses of the SLTRP is to reduce GHG emissions, while maintaining cost competitive rates and reliable electric service. The SLTRP examines multiple strategies to reduce GHG emissions, including early coal replacement, accelerated renewable portfolio standard, energy efficiency, local solar, energy storage, and transportation electrification. As LADWP starts the process to investigate, study, and determine the investments needed for a 100 percent clean energy portfolio, the 2017 SLTRP provides a path towards this goal with a combination of GHG reduction strategies, including early coal replacement 2 years ahead of schedule by 2025, accelerating renewable portfolio standard to 50 percent by 2025, 55 percent by 2030, and 65 percent by 2036, doubling of energy efficiency from 2017 through 2027, repowering coastal in-basin generating units with new, highly efficient potential clean energy projects by 2029 to provide grid reliability and critical ramping capability, accelerating electric transportation to absorb GHG emissions from the transportation sector, and investing in the Power System Reliability Program to maintain a robust and reliable Power System.

2.15.2 AFFECTED ENVIRONMENT

2.15.2.1 Regional

Southern California's energy consumption differs from the State as a whole in that a greater proportion of the energy consumed in the region is for the purposes of transportation in relation to the high proportion of the population that relies on freeways and local roads for mobility, two major ports that serve as a hub for the movement of goods, and three large airports. Transportation accounts for approximately 45.1 percent of all energy use followed by commercial energy consumption at 25.8, and then residential energy consumption at 15.8 percent.

Transportation energy use is related to the number of VMT within the region. According to SCAG, approximately 23.2 daily miles per capita were driven daily under the 2016 base

5 Port of Los Angeles and Port of Long Beach. 2017. San Pedro Bay Ports Clean Air Action Plan.
6 Drayage is the transportation of shipping containers by truck to the destination.
7 Los Angeles Department of Water and Power (LADWP). 2017. 2017 Power Strategic Long-Term Resource Plan. December 31.

year, approximately 21.8 daily miles per capita would be driven under 2045 baseline conditions, and approximately 20.7 daily miles per capita are expected to be traveled under the 2045 plan conditions, resulting in a 5 percent reduction compared to the baseline 2045 condition. A reduction in VMT due to the implementation of alternative modes of transportation could reduce VMT and therefore energy use within the region. The SCAG region is expected to add approximately 3.7 million more people by 2045 relative to the base year, which is expected to pose serious transportation challenges for the region, as travel demand in California will likely increase.[8]

2.15.2.2 Project Site

The Vincent Thomas Bridge on State Route 47 (SR-47) has been in service for 60 years. The bridge deck is deteriorating due to concrete fatigue primarily caused by heavy truck traffic. The current condition of the pavement contributes to higher energy consumption (e.g., shorter intervals between maintenance trips). There are various roadside signs, light poles, and luminaries along the Vincent Thomas Bridge that require electricity.

2.15.3 ENVIRONMENTAL CONSEQUENCES

2.15.3.1 Direct Energy

Mobile Sources

The bridge deck replacement would not change the operational vehicle capacity on the Vincent Thomas Bridge. Therefore, there would be no appreciable difference in energy consumption anticipated between the Build Alternative and the No Build Alternative because the project is not expected to alter traffic patterns or induce VMT upon completion of construction. There is no potential for the proposed project to permanently change transportation fuel consumption.

Construction

The one-time energy expenditure involved in constructing a project is also considered direct energy. The procedure for analyzing direct energy consumption from construction activities is to obtain fuel consumption projections in gallons and electricity consumption in kilowatt-hours (kWh). It is preferable to break out construction fuel consumption by diesel and gasoline sources because the carbon content differs between the two types of fuels. Typical gasoline sources are employee commute vehicles (e.g., light duty automobiles and trucks) and smaller construction equipment pieces (e.g., tampers). Typical diesel sources are off-road construction equipment (e.g., front end loaders). Electricity would be required to power the signal boards for traffic control, lighting fixtures, and small handheld equipment.

The Air Quality Analysis Report prepared for the draft environmental document included analysis utilizing the Caltrans CAL-CET2021 (v1.0.2) model to estimate emissions that would be generated during construction activities to implement the project. In addition to air pollutant emissions, the CAL-CET2021 model produces estimates of gasoline, diesel fuel, and electricity consumption that would occur during ongoing construction activities. Estimated emissions that would be generated during construction of the project are outlined in Section 2.13 of this document.

[8] Southern California Association of Governments (SCAG). 2020. 2020-2045 RTP/SCS.

Table 2.15-1 provides a summary of the construction design scenarios grouped by the corresponding bridge closure option and includes the duration of the deck replacement activities as well as the total construction cost. Three of the scenarios (Scenarios 1 through 3) would involve single-stage construction and full closure of the bridge for up to approximately 16 or 41 months, depending on the deck design. Four scenarios (Scenarios 4 through 7) would involve partial closure of the bridge ranging from 25 months to 32 months, with construction being completed in either two or three stages. One scenario (Scenario 8) would involve only overnight closure of the bridge between 7:00 p.m. and 6:00 a.m. daily, and the bridge closure would last for approximately 48 months (4 years).

Table 2.15-1: Bridge Closure Options and Construction Scenarios

Bridge Closure Alternative	Construction Design Scenarios	Deck Replacement Duration (Months)	Cost (Millions $)
Full Closure	Scenario 1: Pre-Cast & Orthotropic	16	$555
	Scenario 2: Pre-Cast Only	16	$503
	Scenario 3: Cast-in-Place Only	41	$521
Partial Closure	Scenario 4: ½ Closure (2-Stage), Pre-Cast & Orthotropic	26	$565
	Scenario 5: ½ Closure (2-Stage), Pre-Cast Only	26	$512
	Scenario 6: ⅓ Closure (3-Stage), Pre-Cast & Orthotropic	31	$575
	Scenario 7: ⅓ Closure (3-Stage), Pre-Cast Only	31	$522
Nighttime Closure (7:00 PM to 6:00 AM)	Scenario 8: Full Overnight Closure, Pre-Cast Only	48	$571

Source: Compiled by Caltrans (2023).

Table 2.15-2 presents the direct, one-time expenditure of energy consumption associated with construction activities for design Scenario 1. Construction of design Scenario 1 would require approximately 490,624 gallons of diesel, 30,414 gallons of gasoline, and 7,723 kWh of electricity over a 26-month period between January 2025 and March 2027. The combined energy consumption would be the equivalent of 71,878 million British thermal units (MMBTU). Annual average consumption of energy resources during construction activities would be approximately 226,442 gallons of diesel fuel, 14,037 gallons of gasoline, and 3,565 kWh of electricity per year, equivalent to 33,175 MMBTU per year.

Table 2.15-2: Construction Energy Consumption – Scenario 1

Construction Phase	Duration (Months)	Fuel Consumption (gal)		Electricity Consumption (kWh)
		Diesel	Gasoline	
Install Shield and Platform	9	66,867	5,917	869
Eastbound Approaches	9	41,989	4,277	1,103
Eastbound Suspension	8	156,548	7,731	1,853
Westbound Approaches	9	42,407	4,435	1,631
Westbound Suspension	9	154,313	6,538	1,894
Site Cleanup	4	28,501	1,515	373
Total	**26**[1]	**490,624**	**30,414**	**7,723**
Conversion Factor to Btu		138,700 Btu/gal	125,000 Btu/gal	3,412 Btu/kWh
Energy Consumption (MMBtu)		**68,050**	**3,802**	**26**
Total Energy Consumption (MMBtu)		**71,878**		

Source 1: Caltrans (2023)
Source 2: Energy Analysis Report (TAHA 2024)
Source 3: Construction Emissions Tool 2021 (CAL-CET2021 (version 1.0.2) (Caltrans 2023).
Source 4 : Energy Consumption by Mode of Transportation (BTS 2023).
[1] Total months indicate duration of period from beginning of site preparation to end of site cleanup.

Table 2.15-3 presents the direct, one-time expenditure of energy consumption associated with construction activities for design Scenario 2. As shown below, construction of design Scenario 2 would require approximately 439,503 gallons of diesel, 45,928 gallons of gasoline, and 10,084 kWh of electricity over a 26-month period between January 2025 and March 2027. The combined energy consumption would be the equivalent of 66,734 MMBTU. Annual average consumption of energy resources during construction activities would be approximately 202,847 gallons of diesel fuel, 21,197 gallons of gasoline, and 4,654 kWh of electricity per year, equivalent to 30,801 MMBTU/year.

Table 2.15-3: Construction Energy Consumption – Scenario 2

Construction Phase	Duration (Months)	Fuel Consumption (gal)		Electricity Consumption (kWh)
		Diesel	Gasoline	
Install Shield & Platform	9	69,116	9,361	1,232
Eastbound Approaches	9	42,930	5,853	1,357
Eastbound Suspension	7	129,313	12,472	2,524
Westbound Approaches	9	42,641	5,619	1,782
Westbound Suspension	7	127,002	11,108	2,816
Site Cleanup	4	28,501	1,515	373
Total	**26**[1]	**439,503**	**45,928**	**10,084**
Conversion Factor to Btu		138,700 Btu/gal	125,000 Btu/gal	3,412 Btu/kWh
Energy Consumption (MMBtu)		**60,959**	**5,741**	**34**
Total Energy Consumption (MMBtu)		**66,734**		

Source 1: Caltrans (2023)
Source 2: Energy Analysis Report (TAHA 2024)
Source 3: Construction Emissions Tool 2021 (CAL-CET2021 (version 1.0.2) (Caltrans 2023).
Source 4 : Energy Consumption by Mode of Transportation (BTS 2023).
[1] Total months indicate duration of period from beginning of site preparation to end of site cleanup.

Table 2.15-4 presents the direct, one-time expenditure of energy consumption associated with construction activities for design Scenario 3. Construction of design Scenario 3 would require approximately 919,054 gallons of diesel, 40,397 gallons of gasoline, and 13,776 kWh of electricity over a 48-month period between January 2025 and December 2028, involving a full closure of the Vincent Thomas Bridge for 41 months. The combined energy consumption would be the equivalent of 132,569 MMBTU. Annual average consumption of energy resources during construction activities would be approximately 229,764 gallons of diesel fuel, 10,100 gallons of gasoline, and 3,445 kWh of electricity per year, equivalent to 33,143 MMBTU/year.

Table 2.15-4: Construction Energy Consumption – Scenario 3

Construction Phase	Duration (Months)	Fuel Consumption (gal)		Electricity Consumption (kWh)
		Diesel	Gasoline	
Install Shield & Platform	9	67,468	6,242	936
Eastbound Approaches	14	65,066	7,493	1,797
Eastbound Suspension	20	349,960	11,117	3,515
Westbound Approaches	13	59,539	6,134	3,221
Westbound Suspension	17	341,449	6,509	3,055
Site Cleanup	5	35,573	2,902	1,252
Total	**48**[1]	**919,054**	**40,397**	**13,776**
Conversion Factor to Btu		138,700 Btu/gal	125,000 Btu/gal	3,412 Btu/kWh
Energy Consumption (MMBtu)		**127,473**	**5,050**	**47**
Total Energy Consumption (MMBtu)		**132,569**		

Source 1: Caltrans (2023)
Source 2: Energy Analysis Report (TAHA 2024)
Source 3: Construction Emissions Tool 2021 (CAL-CET2021 (version 1.0.2) (Caltrans 2023).
Source 4 : Energy Consumption by Mode of Transportation (BTS 2023).
[1] Total months indicate duration of period from beginning of site preparation to end of site cleanup.

Table 2.15-5 presents the direct, one-time expenditure of energy consumption associated with construction activities for design Scenario 4. Construction of design Scenario 4 would require approximately 593,720 gallons of diesel, 41,327 gallons of gasoline, and 7,793 kWh of electricity over a 29-month period between November 2024 and March 2027, involving a partial closure of the Vincent Thomas Bridge for 26 months and replacement of the bridge deck in two stages. The combined energy consumption would be the equivalent of 87,542 MMBTU. Annual average consumption of energy resources during construction activities would be approximately 245,678 gallons of diesel fuel, 17,101 gallons of gasoline, and 3,225 kWh of electricity per year, equivalent to 36,225 MMBTU/year.

Table 2.15-5: Construction Energy Consumption – Scenario 4

Construction Phase	Duration (Months)	Fuel Consumption (gal)		Electricity Consumption (kWh)
		Diesel	Gasoline	
Install Shield & Platform	10	77,180	9,488	1,210
Eastbound Approaches	11	184,988	1,521	872
Eastbound Suspension	12	62,208	12,673	2,094
Westbound Approaches	11	191,473	4,893	870
Westbound Suspension	10	47,438	8,398	1,675
Site Cleanup	4	30,434	4,355	1,071
Total	**29**[1]	**593,720**	**41,327**	**7,793**
Conversion Factor to Btu		138,700 Btu/gal	125,000 Btu/gal	3,412 Btu/kWh
Energy Consumption (MMBtu)		**82,349**	**5,166**	**27**
Total Energy Consumption (MMBtu)		**87,542**		

Source 1: Caltrans (2023)
Source 2: Energy Analysis Report (TAHA 2024)
Source 3: Construction Emissions Tool 2021 (CAL-CET2021 (version 1.0.2) (Caltrans 2023).
Source 4 : Energy Consumption by Mode of Transportation (BTS 2023).
[1] Total months indicate duration of period from beginning of site preparation to end of site cleanup.

Table 2.15-6 presents the direct, one-time expenditure of energy consumption associated with construction activities for design Scenario 5. As shown below, construction of design Scenario 5 would require approximately 591,889 gallons of diesel, 40,348 gallons of gasoline, and 7,516 kWh of electricity over a 29-month period between November 2024 and March 2027, involving a partial closure of the Vincent Thomas Bridge for 26 months and replacement of the bridge deck in two stages. The combined energy consumption would be the equivalent of 87,164 MMBTU. Annual average consumption of energy resources during construction activities would be approximately 244,920 gallons of diesel fuel, 16,696 gallons of gasoline, and 3,110 kWh of electricity per year, equivalent to 36,068 MMBTU/year.

Table 2.15-6: Construction Energy Consumption – Scenario 5

Construction Phase	Duration (Months)	Fuel Consumption (gal)		Electricity Consumption (kWh)
		Diesel	Gasoline	
Install Shield & Platform	10	76,632	9,191	1,155
Eastbound Approaches	11	184,988	1,521	805
Eastbound Suspension	12	61,532	12,310	2,005
Westbound Approaches	11	190,864	4,573	803
Westbound Suspension	10	47,438	8,398	1,675
Site Cleanup	4	30,434	4,355	1,071
Total	**29**[1]	**591,889**	**40,348**	**7,516**
Conversion Factor to Btu		138,700 Btu/gal	125,000 Btu/gal	3,412 Btu/kWh
Energy Consumption (MMBtu)		**82,095**	**5,044**	**26**
Total Energy Consumption (MMBtu)		**87,164**		

Source 1: Caltrans (2023)
Source 2: Energy Analysis Report (TAHA 2024)
Source 3: Construction Emissions Tool 2021 (CAL-CET2021 (version 1.0.2) (Caltrans 2023).
Source 4 : Energy Consumption by Mode of Transportation (BTS 2023).
[1] Total months indicate duration of period from beginning of site preparation to end of site cleanup.

Table 2.15-7 presents the direct, one-time expenditure of energy consumption associated with construction activities for design Scenario 6. Construction of design Scenario 6 would require approximately 785,876 gallons of diesel, 46,802 gallons of gasoline, and 13,875 kWh of electricity over a 42-month period between January 2025 and July 2028, involving a partial closure of the Vincent Thomas Bridge for 31 months and replacement of the bridge deck in three stages. The combined energy consumption would be the equivalent of 114,899 MMBTU. Annual average consumption of energy resources during construction of design Scenario 6 would be approximately 224,536 gallons of diesel fuel, 13,372 gallons of gasoline, and 3,965 kWh of electricity per year, equivalent to 47,545 MMBTU/year.

Table 2.15-7: Construction Energy Consumption – Scenario 6

Construction Phase	Duration (Months)	Fuel Consumption (gal)		Electricity Consumption (kWh)
		Diesel	Gasoline	
Install Shield & Platform	10	77,377	9,562	1,364
Eastbound Approaches	9	104,220	6,736	1,669
Eastbound Suspension	7	122,355	4,035	1,158
Westbound Approaches	9	104,612	6,839	2,498
Westbound Suspension	7	123,721	4,695	1,156
Center Approaches	8	94,361	6,544	3,201
Center Suspension	7	122,724	4,122	1,154
Site Cleanup	5	36,506	4,267	1,676
Total	**42**[1]	**785,876**	**46,802**	**13,875**
Conversion Factor to Btu		138,700 Btu/gal	125,000 Btu/gal	3,412 Btu/kWh
Energy Consumption (MMBtu)		**109,001**	**5,850**	**47**
Total Energy Consumption (MMBtu)		**114,899**		

Source 1: Caltrans (2023)
Source 2: Energy Analysis Report (TAHA 2024)
Source 3: Construction Emissions Tool 2021 (CAL-CET2021 (version 1.0.2) (Caltrans 2023).
Source 4 : Energy Consumption by Mode of Transportation (BTS 2023).
[1] Total months indicate duration of period from beginning of site preparation to end of site cleanup.

Table 2.15-8 presents the direct, one-time expenditure of energy consumption associated with construction activities for design Scenario 7. Construction under design Scenario 7 would require approximately 784,515 gallons of diesel, 46,110 gallons of gasoline, and 13,311 kWh of electricity over a 42-month period between January 2025 and July 2028, involving a partial closure of the Vincent Thomas Bridge for 31 months and replacement of the bridge deck in three stages. The combined energy consumption would be the equivalent of 114,622 MMBTU. Annual average consumption of energy resources during construction activities would be approximately 224,148 gallons of diesel fuel, 13,175 gallons of gasoline, and 3,804 kWh of electricity per year, equivalent to 32,750 MMBTU/year.

Table 2.15-8: Construction Energy Consumption – Scenario 7

Construction Phase	Duration (Months)	Fuel Consumption (gal)		Electricity Consumption (kWh)
		Diesel	Gasoline	
Install Shield & Platform	10	76,819	9,261	1,301
Eastbound Approaches	9	104,517	6,893	1,725
Eastbound Suspension	7	122,355	4,035	1,120
Westbound Approaches	9	104,110	6,579	2,359
Westbound Suspension	7	123,593	4,628	1,118
Center Approaches	8	93,923	6,332	2,897
Center Suspension	7	122,691	4,114	1,116
Site Cleanup	5	36,506	4,267	1,676
Total	**42**[1]	**784,515**	**46,110**	**13,311**
Conversion Factor to Btu		138,700 Btu/gal	125,000 Btu/gal	3,412 Btu/kWh
Energy Consumption (MMBtu)		**108,813**	**5,764**	**46**
Total Energy Consumption (MMBtu)		**114,622**		

Source 1: Caltrans (2023)
Source 2: Energy Analysis Report (TAHA 2024)
Source 3: Construction Emissions Tool 2021 (CAL-CET2021 (version 1.0.2) (Caltrans 2023).
Source 4 : Energy Consumption by Mode of Transportation (BTS 2023).
[1] Total months indicate duration of period from beginning of site preparation to end of site cleanup.

Table 2.15-9 presents the direct, one-time expenditure of energy consumption associated with construction activities for design Scenario 8. Construction under design Scenario 8 would require approximately 1,192,689 gallons of diesel, 49,447 gallons of gasoline, and 17,096 kWh of electricity over a 54-month period between January 2025 and July 2029, involving overnight closure of the Vincent Thomas Bridge between 7:00 p.m. and 6:00 a.m. for 48 months and replacement of the bridge deck in two stages. The combined energy consumption would be the equivalent of 171,666 MMBTU. Annual average consumption of energy resources during construction activities would be approximately 265,043 gallons of diesel fuel, 10,989 gallons of gasoline, and 3,800 kWh of electricity per year, equivalent to 38,148 MMBTU/year.

Table 2.15-9: Construction Energy Consumption – Scenario 8

Construction Phase	Duration (Months)	Fuel Consumption (gal)		Electricity Consumption (kWh)
		Diesel	Gasoline	
Install Shield & Platform	10	81,372	15,768	2,025
Eastbound Approaches	14	225,073	7,991	3,464
Eastbound Suspension	19	314,520	9,717	2,915
Westbound Approaches	14	225,413	7,833	3,460
Westbound Suspension	19	303,771	3,998	2,911
Site Cleanup	6	42,541	4,140	2,321
Total	**54**[1]	**1,192,689**	**49,447**	**17,096**
Conversion Factor to Btu		138,700 Btu/gal	125,000 Btu/gal	3,412 Btu/kWh
Energy Consumption (MMBtu)		**165,426**	**6,181**	**59**
Total Energy Consumption (MMBtu)		**171,666**		

Source 1: Caltrans (2023)
Source 2: Energy Analysis Report (TAHA 2024)
Source 3: Construction Emissions Tool 2021 (CAL-CET2021 (version 1.0.2) (Caltrans 2023).
Source 4 : Energy Consumption by Mode of Transportation (BTS 2023).
[1] Total months indicate duration of period from beginning of site preparation to end of site cleanup.

2.15.3.2 Indirect Energy

Maintenance comprises energy for the day-to-day upkeep of equipment and systems, as well as the energy embedded in any replacement equipment, materials, and supplies. The energy needed to maintain the Vincent Thomas Bridge would be less than the energy used to maintain the existing facility. The improved conditions would require fewer maintenance trips and materials to repair the bridge. In addition, the Build Alternative would include the use of energy-efficient, light-emitting diodes for new lighting. Light-emitting diode bulbs cost $60 to $70 each but last 5 to 6 years, compared to the 1-year average lifespan of the incandescent bulbs previously used. The light-emitting diode bulbs themselves consume 10 percent of the electricity of traditional lights.

2.15.3.3 Project Conformity

For the SCAG region, the 2020–2045 RTP/SCS, adopted on September 3, 2020 is the applicable RTP. The project does not obstruct or conflict with the RTP, or other applicable local plans such as Mobility Plan 2035 (Transportation Element of the City of Los Angeles General Plan), the San Pedro Bay Ports Clean Air Action Plan, or the 2017 LADWP SLTRP. The project's operational activity would not directly increase regional energy consumption because the bridge deck replacement would not change the operational vehicle capacity. There would be no appreciable difference between the Build Alternative and the No Build Alternative because the project is not expected to alter traffic patterns or induce VMT upon completion of construction. Minor reductions in project energy consumption are possible with improved conditions of the Vincent Thomas Bridge deck following construction completion, allowing for smoother driving conditions and reduced vehicle emissions.

Proposed project construction would primarily consume diesel and gasoline through operation of heavy-duty construction equipment, material deliveries, and debris hauling. As indicated above, energy use associated with proposed project construction is estimated to result in the short-term consumption of 165,426 gallons from diesel-powered equipment at maximum (Scenario 8) and 6,181 gallons from gasoline-powered equipment at maximum (Scenario 8). This represents a small demand on local and regional fuel supplies that would be easily accommodated, and this demand would cease once construction is complete. Moreover, construction-related energy consumption would be temporary and not a permanent new source of energy demand. Demand for fuel would have no noticeable effect on peak or baseline demands for energy. While construction would result in a short-term increase in energy use, project avoidance measures and design features such as AM-AQ-2 (the use of Tier 4 equipment during construction), PF-AQ-1 (limit idling to 5 minutes for delivery and dump trucks and other diesel-powered equipment), and PF-AQ-1 (requiring improved fuel efficiency from construction would help conserve energy). These energy conservation features are consistent with State and local policies to reduce energy. Therefore, the project would not result in an inefficient, wasteful, and unnecessary consumption of energy.

2.15.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

Implementation of the following avoidance measures and project feature would minimize project energy impacts related to construction and operational emissions (bridge deck lamps):

AM-E-1 The final design plans shall incorporate the use of energy-efficient lighting, such as light emitting diodes, to the extent feasible. Light-emitting diode bulbs cost $60 to $70 each but last 5 to 6 years, compared to the 1-year average lifespan of the incandescent bulbs previously used. The light-emitting diode bulbs themselves consume 10 percent of the electricity of traditional lights.

AM-E-2 The Build Alternative shall incorporate the following Best Available Control Technologies related to energy use:

- Use cement blended with the maximum feasible amount of flash or other materials (i.e., limestone).
- Use lighter-colored pavement where feasible to increase albedo.
- Use recycled water or grey water for fugitive dust control.
- Employ energy- and fuel-efficient vehicles and equipment, zero- and/or near-zero emission technologies.
- Encourage ride-sharing and carpooling for construction crews.

In addition to AM-E-1 and AM-E-2, air quality avoidance measure AM-AQ-2 and project feature PF-AQ-1 will minimize project energy impacts related to construction emissions. More information on these measures can be found under Avoidance, Minimization, and Mitigation Measures in Section 2.13, Air Quality.

BIOLOGICAL ENVIRONMENT

2.16 Natural Communities

This section of the document discusses natural communities of concern. The focus of this section is on biological communities, not individual plant or animal species. This section also includes information on wildlife corridors, fish passage, and habitat fragmentation. Wildlife corridors are areas of habitat used by wildlife for seasonal or daily migration. Habitat fragmentation involves the potential for dividing sensitive habitat and thereby lessening its biological value.

Habitat areas that have been designated as critical habitat under the Federal Endangered Species Act (FESA) are discussed in Section 2.20, Threatened and Endangered Species. Wetlands and other waters are also discussed in Section 2.17.

2.16.1 AFFECTED ENVIRONMENT

The information in this section is based on the Natural Environment Study (September 2023) prepared for the proposed project.

2.16.1.1 Physical Conditions

The biological study area (BSA) has two major components, the project impact area, or project footprint, and the project impact area's surroundings. The project impact area is the area where project activities will directly disturb and affect the existing environment and biological resources in the same space where the project implementation will occur. The remainder of the BSA is the area generally within 500 feet of the project impact area in all directions.

The project impact area consists of the existing Vincent Thomas Bridge, which is a steel suspension bridge. A steel truss partially supports the deck and maintains its rigidity. In the soffit of the bridge there is a catwalk and pipes that carry various utilities. The deck is made of cement concrete and steel plates. The bridge deck is suspended over land and water. Underneath the project impact area is the Los Angeles Channel, which is a channelized waterway that connects the Port of Los Angeles (POLA) and Port of Long Beach (POLB) to the Pacific Ocean. The Los Angeles Channel is mostly salt water, although the freshwater Dominguez Channel is tributary to it, and other surface waters, primarily urban runoff, ultimately drain into the Ports. The Los Angeles Channel is generally 50 to 58 feet deep under the bridge; the subsurface sides of the channel are steeply sloped and abruptly change grade close to the shore.

The land that is underneath the bridge is developed and primarily consists of paved areas that are used for the storage of shipping containers and paved areas for parking motor vehicles. The shoreline under the bridge and nearby is concreted and constructed to enable the docking of ships. There are also portions of the shore that are armored with rock revetment.

Outside of the immediate impact area and the area below, the surroundings are similarly developed. Little of the area within 500 feet of the bridge is landscaped. There are no natural areas that have not been anthropogenically altered. The bridge spans 164 feet above the surface of the Los Angeles Channel. The average elevation of POLA is 15 feet above mean sea level. Historically, ship and shipping truck traffic and idling has negatively affected air quality in the Port and surrounding communities.

2.16.1.2 Biological Conditions

The project impact area is the Vincent Thomas Bridge itself; there is no natural habitat that consists of vegetation or other non-human-made structures like cliffs or soil substrates. The soffit of the bridge and its towers have stable, flat, level surfaces that provide roosting and nesting substrate for birds. The peregrine falcon (*Falco peregrinus*) commonly uses the bridge soffit for roosting and nesting. The bridge deck is uninhabitable due to the vehicular traffic and ambient noise. The soffit of the bridge does not provide bat day roosting habitat since the bridge infrastructure is made of steel and does not have enclosed spaces; both characteristics cause the bridge to have an unsuitable thermal profile for bats to roost during the day. The soffit may be used by bats for night roosting. The bridge otherwise does not provide habitat conditions for other types of animals. No plants are known to grow on the bridge due to a lack of soil.

In the remainder of the BSA, the most natural place is the Los Angeles Channel, which connects with the Pacific Ocean. The water in the channel is mostly marine influenced and thus has high salinity. POLA is inhabited by various aquatic plant and animal species. Portions of the Port host eel grass (*Zostera marina*), which is an important foundational species for marine invertebrate communities and provides a substrate for fish and marine invertebrate rearing. No eel grass occurs under the Vincent Thomas Bridge or in the BSA. The Los Angeles Channel under the bridge is a deeper portion of the Port relative to other inner harbor areas, which limits the amount of and types of algae that can grow in the vicinity of the bridge. Other portions of POLA and POLB provide suitable conditions for algae, such as kelp, to grow.

POLA is inhabited by various other birds that pass through under and around the Vincent Thomas Bridge. Most of the birds are native species comprising the following guilds: gulls, waterfowl, and aerial fish foraging species. These species generally do not nest in the inner harbor areas; they typically nest on the outer harbor, islands, outer breakwaters, or beaches. Most birds use the inner harbor for resting and foraging. Resting and foraging areas include the open water, rock revetments, buildings, and light poles. The composition of the bird community changes seasonally, although peregrine falcon remains on/around the bridge throughout the year. Peregrine falcon uses the Vincent Thomas Bridge for foraging and resting. Rock pigeon are also common in the Port area.

2.16.1.3 Essential Fish Habitat

Essential fish habitat is designated in the Los Angeles Channel, which is under the bridge, for groundfish and coastal pelagic species. Coastal pelagic species habitat is designated for the four-species finfish complex (i.e., Pacific sardine, Pacific [chub] mackerel, northern anchovy, and jack mackerel). This area is designated for all life stages of groundfish and coastal pelagic species.

2.16.1.4 Endangered Species Critical Habitat

Endangered species critical habitat is designated in the “San Pedro” United States Geological Survey (USGS) geographic quadrangle for black abalone (*Haliotis cracherodii*). The critical habitat is designated along the southwestern edge of the Palos Verdes Peninsula to the southwest of the project site. No critical habitat is located within the BSA.

2.16.1.5 Eelgrass Beds

Portions of the Port have eelgrass beds. These stands of eelgrass are a rare natural community in southern California due to pollution, extensive development and filling in of wetlands and coastal estuaries, and Caulerpa (*Caulerpa taxifolia*), an invasive algae species in southern California that has been introduced into remnant estuarine habitats. Eelgrass beds are limited to the marine and estuarine environment that is typically 20 feet deep at most but may grow down to 98 feet in depth in soft-bottom substrates.

2.16.1.6 Special-Status Plants

There are records of special-status plants having occurred in the project vicinity according to the search results of the California Natural Diversity Database (CNDDB). The Information for Planning and Consultation (IPaC) system did not indicate there was potential for federally listed plant species to occur in the project vicinity.

2.16.1.7 Habitat Connectivity

The Los Angeles Channel provides connectivity with the Pacific Ocean and the inner harbor areas. The inner harbor areas, including the Los Angeles Turning Basin just upstream of the bridge, feature stands of eelgrass. The inner harbor areas are also places where pinnipeds find loafing haul-out habitat. Therefore, the channel is a migration and dispersal corridor and is an important place that connects sections of habitat for aquatic species in the Port.

2.16.2 ENVIRONMENTAL CONSEQUENCES

2.16.2.1 Essential Fish Habitat

The designated fish habitat is entirely outside of the project impact area and will not be affected by the construction. Essential fish habitat will not be discussed in the following sections because it would be inherently unaffected by the project, and avoidance and minimization measures are unnecessary for the project to avoid affecting the essential fish habitat. Essential fish habitat is designated for highly migratory fish species in the open ocean portion of the San Pedro USGS quadrangle outside of the BSA, would likewise not be affected by the project, and will not be discussed further in this report.

2.16.2.2 Endangered Species Critical Habitat

The critical habitat is designated along the southwestern edge of the Palos Verdes Peninsula to the southwest of the project site. It is entirely outside of the biological study area and would not be affected by the project. Therefore, the black abalone critical habitat would be inherently unaffected by the project and will not be discussed in the following sections.

There is no terrestrial species critical habitat designated in the project vicinity according to the United States Fish and Wildlife (USFWS) IPaC system.

2.16.2.3 Eelgrass Beds

The eelgrass in the project vicinity grows outside of the BSA, and the eelgrass would be inherently unaffected by the project due to the project’s limited nature. Eelgrass beds will not be discussed in subsequent sections of this report.

2.16.2.4 Special-Status Plants

Since the project will occur on the bridge, with staging occurring on developed and disturbed areas in POLA, there is no natural community that would support special-status plants that could be affected by the project. There is no suitable habitat for special-status plants in the BSA. Therefore, there is no potential to affect special-status plant species. Special-status plant species will not be discussed in the subsequent sections of this report.

2.16.2.5 Habitat Connectivity

On the land under and around the bridge, there are no major areas of natural habitat; therefore, the bridge and highway do not affect habitat connectivity for terrestrial wildlife. The bridge provides a minor impediment to birds, but due to its high clearance and open construction design and slim profile, it is not a substantial impediment to habitat connectivity for birds that migrate along the shore and up water ways. There is no data indicating a significant number of birds collide with the structure. Even if there were, the replacement of the bridge deck, even during the construction phase, would not change the bridge's influence on bird migration and dispersal in the BSA.

The project is located within the coastal zone and the Port of Los Angeles Port Master Plan (PMP); however, there is no potential to impact Environmentally Sensitive Habitat Area (ESHA).

2.16.3 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

No avoidance, minimization, and/or mitigation measures are required.

2.17 Wetlands and Other Waters

2.17.1 REGULATORY SETTING

Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the Federal Water Pollution Control Act, more commonly referred to as the Clean Water Act (CWA) (33 United States Code [USC] 1344), is the primary law regulating wetlands and surface waters. One purpose of the CWA is to regulate the discharge of dredged or fill material into waters of the United States, including wetlands. Waters of the United States include navigable waters, interstate waters, territorial seas, and other waters that may be used in interstate or foreign commerce. The lateral limits of jurisdiction over non-tidal water bodies extend to the ordinary high water mark (OHWM), in the absence of adjacent wetlands. When adjacent wetlands are present, CWA jurisdiction extends beyond the OHWM to the limits of the adjacent wetlands. To classify wetlands for the purposes of the CWA, a three-parameter approach is used that includes the presence of hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils formed during saturation/inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the CWA.

Section 404 of the CWA establishes a regulatory program that provides that discharge of dredged or fill material cannot be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation’s waters would be significantly degraded. The Section 404 permit program is run by the United States Army Corps of Engineers (USACE) with oversight by the United States Environmental Protection Agency (EPA).

The USACE issues two types of 404 permits: General and Individual. There are two types of General Permits: Regional and Nationwide. Regional Permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide Permits are issued to allow a variety of minor project activities with no more than minimal effects.

Ordinarily, projects that do not meet the criteria for a Regional or Nationwide Permit may be permitted under one of USACE’s Individual Permits. There are two types of Individual Permits: Standard Permits and Letters of Permission. For Individual Permits, the USACE decision to approve is based on compliance with EPA’s Section 404(b)(1) Guidelines (40 Code of Federal Regulations [CFR] Part 230), and whether permit approval is in the public interest. The Section 404 (b)(1) Guidelines (Guidelines) were developed by the EPA in conjunction with the USACE, and allow the discharge of dredged or fill material into the aquatic system (waters of the United States) only if there is no practicable alternative that would have less adverse effects. The Guidelines state that the USACE may not issue a permit if there is a “least environmentally damaging practicable alternative” (LEDPA) to the proposed discharge that would have lesser effects on waters of the United States, and not have any other significant adverse environmental consequences.

The Executive Order for the Protection of Wetlands (EO 11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, EO 11990 states that a federal agency, such as the Federal Highway Administration (FHWA) and/or Caltrans, as assigned, cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds: (1) that there is no practicable alternative to the construction and

(2) the proposed project includes all practicable measures to minimize harm. A Wetlands Only Practicable Alternative Finding must be made.

At the State level, wetlands and waters are regulated primarily by the State Water Resources Control Board (SWRCB), the Regional Water Quality Control Boards (RWQCBs), and the California Department of Fish and Wildlife (CDFW). In certain circumstances, the California Coastal Commission (CCC) (or Bay Conservation and Development Commission, or the Tahoe Regional Planning Agency) may also be involved. Sections 1600–1607 of the California Fish and Game Code require any agency that proposes a project that will substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify the CDFW before beginning construction. If the CDFW determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement will be required. The CDFW jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider. Wetlands under jurisdiction of the USACE may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the CDFW.

The RWQCBs were established under the Porter-Cologne Water Quality Control Act (Porter-Cologne Act) to oversee water quality. Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements (WDRs) and may be required even when the discharge is already permitted or exempt under the CWA. In compliance with Section 401 of the CWA, the RWQCBs also issue water quality certifications for activities that may result in a discharge to waters of the United States. This is most frequently required in tandem with a Section 404 permit request.

2.17.2 AFFECTED ENVIRONMENT

The information in this section is based on the Natural Environment Study (September 2023) prepared for the proposed project. The nearest jurisdictional waters are streams located approximately 2 miles west in Miraleste Canyon and the Palos Verdes Hills.

2.17.3 ENVIRONMENTAL CONSEQUENCES

The project will not affect jurisdictional waters because it will occur outside of jurisdictional waters and measures will be in place to prevent indirect effects to jurisdictional waters. No coordination was conducted with regulatory agencies regarding this project because it was unnecessary.

2.17.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

No avoidance, minimization, and/or mitigation measures are required.

2.18 Plant Species

2.18.1 REGULATORY SETTING

The United States Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) have regulatory responsibility for the protection of special-status plant species. “Special-status” species are selected for protection because they are rare and/or subject to population and habitat declines. Special status is a general term for species that are provided varying levels of regulatory protection. The highest level of protection is given to threatened and endangered species; these are species that are formally listed or proposed for listing as endangered or threatened under the Federal Endangered Species Act (FESA) and/or the California Endangered Species Act (CESA).

This section of the document discusses all other special-status plant species, including CDFW species of special concern, USFWS candidate species, and California Native Plant Society (CNPS) rare and endangered plants.

The regulatory requirements for FESA can be found at 16 United States Code (USC) Section 1531, et seq. See also 50 Code of Federal Regulations (CFR) Part 402. The regulatory requirements for CESA can be found at California Fish and Game Code, Section 2050, et seq. Caltrans projects are also subject to the Native Plant Protection Act, found at California Fish and Game Code, Section 1900-1913, and the California Environmental Quality Act (CEQA), found at California Public Resources Code (PRC), Sections 21000-21177.

2.18.2 AFFECTED ENVIRONMENT

The information in this section is based on the Natural Environment Study (September 2023) prepared for the proposed project.

There are records of special-status plants having occurred in the project vicinity according to the search results of the California Natural Diversity Database (CNDDB). The Information for Planning and Consultation (IPaC) system did not indicate there was potential for federally listed plant species to occur in the project vicinity.

2.18.3 ENVIRONMENTAL CONSEQUENCES

Since the project will occur on the bridge, with staging occurring on developed and disturbed areas in the Port of Los Angeles, there is no natural community that would support special-status plants that could be affected by the project. There is no suitable habitat for special-status plants in the BSA. Therefore, there is no potential to affect special-status plant species.

2.18.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

No avoidance, minimization, and/or mitigation measures are required.

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2.19 Animal Species

2.19.1 REGULATORY SETTING

Many state and federal laws regulate impacts to wildlife. The United States Fish and Wildlife Service (USFWS), the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries), and the California Department of Fish and Wildlife (CDFW) are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with animals not listed or proposed for listing under the Federal Endangered Species Act (FESA) or the California Endangered Species Act (CESA). Species listed or proposed for listing as threatened or endangered are discussed in Section 2.20, Threatened and Endangered Species. All other special-status animal species are discussed here, including CDFW fully protected species and species of special concern, and USFWS or NOAA Fisheries candidate species.

Federal laws and regulations relevant to wildlife include the following:

- National Environmental Policy Act (NEPA)
- Migratory Bird Treaty Act (MBTA)
- Fish and Wildlife Coordination Act

State laws and regulations relevant to wildlife include the following:

- California Environmental Quality Act (CEQA)
- Sections 1600–1603 of the California Fish and Game Code
- Sections 4150 and 4152 of the California Fish and Game Code

2.19.2 AFFECTED ENVIRONMENT

The information in this section is based on the Natural Environment Study (September 2023) prepared for the proposed project.

2.19.2.1 Black Abalone

Endangered species critical habitat is designated in the "San Pedro" United States Geological Survey (USGS) geographic quadrangle for black abalone (*Haliotis cracherodii*). The critical habitat is designated along the southwestern edge of the Palos Verdes Peninsula to the southwest of the project site.

2.19.2.2 California Least Tern

Among the federally listed wildlife species that have occurred in the project vicinity, only California least tern (*Sterna antillarum browni*) and green turtle (*Chelonia mydas*) have potential to occur in the Biological Study Area (BSA). The remaining species from the Information for Planning and Consultation (IPaC) search and NOAA Fisheries species list do not have suitable habitat in the BSA or they have no recent records of occurrence in the project vicinity.

California least tern, which is also listed under CESA as endangered, has suitable habitat in the BSA and the project vicinity. In the project vicinity, it nests near Pier 400 of the Port of Los Angeles (POLA), which is on the seaward edge of the Port and outside of the BSA. The Los Angeles Channel is suitable foraging habitat for this species, although this species mostly forages in the outer harbor areas of POLA and the Port of Long Beach (POLB). California least tern has the potential to occur in the BSA. Neither focused nor protocol surveys were performed for this species. There is no suitable nesting habitat for this species in the project impact area. There is foraging habitat for this species in the BSA outside of the project impact area. The Inner Harbor is less important for foraging as compared to the Outer Harbor due to the Outer Harbor being in closer proximity to the nesting site on Pier 400 and due to differences in prey availability throughout the Port. California least terns typically forage in a 2- to 4-mile radius around their nesting site. The project site is within 3 miles of the nesting colony on Pier 400, the closest nesting site to the project site.

2.19.2.3 Green Turtle

Green turtle (*Chelonia mydas*) has been observed sporadically in the inner harbor of POLA. There is limited foraging habitat in the patches of eelgrass found in the Los Angeles Channel outside of the BSA. There is no nesting habitat in the BSA for this species. This species would not be affected by the project because no work would occur in suitable habitat.

2.19.2.4 Guadalupe Fur Seal

Guadalupe fur seal (*Arctocephalus townsendii*) has not been known to occur in POLA. Most recent records of its occurrence are at the Channel Islands and islands along the Baja California peninsula. Therefore, Guadalupe fur seal is not expected to occur in the BSA.

2.19.2.5 Pinnipeds

California sea lion (*Zalophus californianus*) and Pacific harbor seal (*Arctocephalus townsendi*), collectively referred to as pinnipeds, occur in POLA. They have been observed foraging in the Los Angeles Channel upstream of the project site. However, most of their activity is limited to the outer harbor areas in the vicinity of Piers 300 and 400. The channel is suitable foraging and dispersal habitat for these species; therefore, they are expected to occur in the BSA. Other pinnipeds are not expected to occur in the BSA. Neither focused nor protocol surveys were performed for these species. There is no suitable habitat for these species in the project impact area. There is dispersal and foraging habitat for these species in the BSA outside of the project impact area. Individuals would likely be in-water while in the BSA. There is also limited haul-out habitat for this species in the BSA outside of the project impact area. Based on the literature review, these species are most active in the Outer Harbor, where more prey is available.

2.19.2.6 Cetaceans

Cetaceans such as dolphins and whales do not occur in the inner harbor of POLA; therefore, they are not expected to occur in the BSA.

2.19.2.7 Peregrine Falcon

Peregrine falcon (*Falco peregrinus*), a raptor species, nests on the bridge within the project impact area. Peregrine falcon is a raptor species that was at one time endangered and listed under FESA. It was also listed as a fully protected species under the California Fish and Game Code. Peregrine falcon is a resident species in southern California and maintains foraging territories year round. Its territories span multiple miles. Peregrine falcon has nested on the Vincent Thomas Bridge and other bridges in the POLB/POLA complex and surrounding areas for many years. It also uses the Vincent Thomas Bridge in other parts of the year outside of the nesting season as a roosting site. The peregrine falcon's nesting season is generally January to July, with courtship behaviors beginning in the prior December. The peregrine preys upon other bird species. In urban settings such as the project location, peregrine falcons often prey upon rock pigeons. The bridge may be nesting habitat for other native birds. Other native birds that commonly nest on bridges with steel infrastructure are common raven (*Corvus corax*) and house finch (*Haemorhous mexicanus*).

Surveys of peregrine falcon in the BSA and surroundings are ongoing. This species has nested on the Vincent Thomas Bridge for multiple years in recent decades, but it does not consistently nest on the bridge every year. Prior to the replacement of the Gerald Desmond Bridge, which is to the east of the Vincent Thomas Bridge in POLB, peregrine falcon nested on that bridge. Likewise, prior to the replacement of the Schuyler Heim Bridge, which is also on State Route 47 (SR-47) and to the northeast of the Vincent Thomas Bridge, peregrine falcon nested on the Schuyler Heim Bridge. The new bridges have suitable nesting surfaces and artificial nesting platforms for peregrine falcon to use. The peregrine falcon has been observed using the new bridges for nesting. The exact location where peregrine falcons nest on the Vincent Thomas Bridge is not known, but it is under the deck in the span over the channel. Nests of other native bird species have not been recorded, but the possibility remains that they may occur during construction and would also use as a nesting location any temporary platforms that are built for construction use.

2.19.3 ENVIRONMENTAL CONSEQUENCES

2.19.3.1 Essential Fish Habitat

The designated fish habitat is entirely outside of the project impact area and will not be affected by the construction. Essential fish habitat would be inherently unaffected by the project, and avoidance and minimization measures are unnecessary for the project to avoid affecting the essential fish habitat. Essential fish habitat is designated for highly migratory fish species in the open ocean portion of the San Pedro USGS quadrangle outside of the BSA and would likewise not be affected by the project.

2.19.3.2 Black Abalone

Black abalone habitat is entirely outside of the BSA and would not be affected by the project. Therefore, the black abalone critical habitat would be inherently unaffected by the project.

2.19.3.3 California Least Tern

This project will not affect the California least tern foraging or nesting behaviors, nor would it affect its suitable habitat. California least terns will likely pass through the BSA and may forage in the BSA, but they would not be disturbed by project activities. According to a United States Army Corps of Engineers (USACE) study of California least tern foraging ecology, this species is less sensitive to noise disturbance (including pile driving that is higher volume than concrete demolition) while foraging. Although the concrete demolition would cause noise, it would not occur in proximity to this species’ nesting site. Noise generated by the project would likely be close to ambient noise volume at the point at which California least terns would perceive the noise and they would not be engaged in stationary behavior that would result in them experiencing stress or expending more energy than they would in the absence of the project’s construction noise. There would be no effect to this species.

2.19.3.4 Green Turtle

There is no nesting habitat in the BSA for green turtle. This species would not be affected by the project or construction noise because no work would occur in suitable habitat.

2.19.3.5 Pinnipeds

This project will not affect pinniped foraging or hauling out behaviors, nor would it affect its suitable habitat. Pinnipeds will likely pass through the BSA and may forage in the BSA, but they would not be disturbed by project activities. Although the concrete demolition would cause noise, pinnipeds are less sensitive to noise disturbance in the air. Since these species would likely be in the water or at its surface while in the BSA, noise would be reflected by the water, and the noise that would enter the water would be attenuated. Noise generated by the project would likely be close to ambient noise volume at the point at which pinnipeds would perceive the noise, and they would not be engaged in stationary behavior (such as hauling out) that would result in them experiencing stress or expending more energy than they would in the absence of the project’s construction noise. Construction noise would also not interfere with these species’ intraspecific social vocalizations, which are important during breeding season since breeding activities are carried out in the Outer Harbor. There will be no effect to these species.

2.19.3.6 Peregrine Falcons and Other Nesting Birds

It is not expected that the project would cause injury or mortality to nesting birds with the inclusion of avoidance and minimization efforts. This project would interfere with bird nesting by occupying the same space that nesting would occur. Since the project must place platforms under the bridge deck to capture demolition debris and prevent that debris from entering the channel, there would be a substantial amount of human activity around the area that birds nest, especially the peregrine falcon. This heightened activity would cause disturbance to the birds, causing them to expend excess energy on hazing people prior to disturbing the nest itself. The construction of the debris catchment system would also impede access to space under the bridge deck, making ingress and egress to that space difficult for nesting birds. Demolishing the bridge deck would also cause debris to fall onto and around the existing nest and/or newly constructed nests, which could cause nest failure, and which would also interfere with nesting. Lastly, the noise from concrete demolition and other activities would harass the nesting birds, since it would occur within 150 to 500 feet of the nest or closer. The new bridge deck and other changes to the bridge would not likely result in altering the bridge so that the peregrine falcon would find the bridge unsuitable for nesting, since the whole bridge is not being replaced and the design would not be radically altered. The under-deck space that the peregrine falcon currently uses for nesting would remain unchanged and usable for nesting after construction. Other bird species would also likely find the bridge suitable for nesting post-construction as well. It is possible that due to changes in the local peregrine falcon population that peregrine falcon would choose to not nest on the Vincent Thomas Bridge and opt for other locations in the POLB/POLA complex during construction, in which case there would be no effect to the species.

2.19.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

The following avoidance, minimization, and mitigation measures are proposed for the nesting peregrine falcons on the Vincent Thomas Bridge:

MM-BIO-1 To prevent the project from interrupting nesting and causing nest failure, which would result in a substantial waste of energy and decreased ease of reproduction for peregrine falcon, Caltrans would install nesting exclusionary devices on the bridge prior to the nesting season in which construction is planned to occur. The exclusionary devices would prevent the falcon and other birds from attempting to nest on the bridge.

MM-BIO-2 To prevent the project from interrupting nesting and causing nest failure, Caltrans would remove existing nesting materials that are on the bridge when they are encountered prior to the nesting season (generally February 1 to September 1, but when including the peregrine falcon season, it is January 15 to September 1). This would discourage peregrine falcon and other species that reuse nests from using the bridge for nesting and reduce the likelihood that falcons and other birds, their eggs, and nest would be injured or destroyed by construction activities such as concrete demolition.

MM-BIO-3 A biologist with experience in surveying and monitoring avian activity will survey the bridge and its surroundings prior to construction to verify that birds are not nesting on the bridge prior to construction. A lapse in construction is not planned, but if there is a lapse in construction for longer than 3 days, a repeat survey would be performed. If birds are observed attempting nesting on the bridge, then a no-work buffer around the nest would be implemented and Caltrans would conduct consultation with the United States Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW).

MM-BIO-4 A biologist will monitor the bridge during construction for signs of whether birds are nesting on the bridge. They will keep track of nesting birds on the bridge and evaluate whether construction has the potential to or is disturbing nesting birds. The biological monitor will also observe construction to ensure that construction best management practices (BMPs) are applied to prevent incidental effects to the channel, water quality, and jurisdictional waters.

MM-BIO-5 A qualified biologist will make a presentation to construction staff who are on site for longer than 30 minutes. The staff will be advised on the bird species that have been known to occur in the project area, their nest appearance and siting factors, the project's conservation measures, and the procedures for reporting and avoiding nesting migratory birds.

MM-BIO-6 **Compensatory Mitigation.** Caltrans will construct an artificial nest platform outside of the project impact area within the Port of Long Beach/Port of Los Angeles complex to compensate for the temporary loss of the nesting space on the Vincent Thomas Bridge. The artificial nest platform will likely be placed close to the bridge so that falcons that repeatedly nest on the Vincent Thomas Bridge are aware of the artificial nesting platform. The platform would be constructed in a way and at a site that would make it suitable for peregrine falcon nesting, taking into consideration the elevation, the visibility of the platform, and other site characteristics. Potential nest platform sites will be discussed in consultation with the CDFW.

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2.20 Threatened and Endangered Species

2.20.1 REGULATORY SETTING

The primary federal law protecting threatened and endangered species is the Federal Endangered Species Act (FESA): 16 United States Code (USC) Section 1531, et seq. (See also 50 Code of Federal Regulations (CFR) Part 402.) The FESA and later amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of the FESA, federal agencies such as the Federal Highway Administration (FHWA) (and Caltrans, as assigned) are required to consult with the United States Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries) to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 may include a Biological Opinion with an Incidental Take Statement or a Letter of Concurrence. Section 3 of FESA defines take as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct."

California has enacted a similar law at the state level, the California Endangered Species Act (CESA), California Fish and Game Code Section 2050, et seq. CESA emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate planning to offset project-caused losses of listed species populations and their essential habitats. The California Department of Fish and Wildlife (CDFW) is the agency responsible for implementing CESA. Section 2080 of the California Fish and Game Code prohibits "take" of any species determined to be an endangered species or a threatened species. Take is defined in Section 86 of the California Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA allows for take incidental to otherwise lawful development projects; for these actions, an incidental take permit is issued by CDFW. For species listed under both FESA and CESA requiring a Biological Opinion under Section 7 of FESA, the CDFW may also authorize impacts to CESA species by issuing a Consistency Determination under Section 2080.1 of the California Fish and Game Code.

Another federal law, the Magnuson-Stevens Fishery Conservation and Management Act of 1976, was established to conserve and manage fishery resources found off the coast, as well as anadromous species and Continental Shelf fishery resources of the United States, by exercising: (a) sovereign rights for the purposes of exploring, exploiting, conserving, and managing all fish within the exclusive economic zone established by Presidential Proclamation 5030, dated March 10, 1983; and (b) exclusive fishery management authority beyond the exclusive economic zone over such anadromous species, Continental Shelf fishery resources, and fishery resources in special areas. The Magnuson-Stevens Fishery Conservation and Management Act gives NOAA Fisheries the authority to designate essential fish habitat.

2.20.2 AFFECTED ENVIRONMENT

The information in this section is based on the Natural Environment Study (September 2023) prepared for the proposed project.

2.20.2.1 Federal Endangered Species Act Consultation Summary

Caltrans has determined that the project would have no effect to species listed under FESA or critical habitats designated in accordance with that act. Therefore, no consultation with USFWS or NOAA Fisheries is necessary.

2.20.2.2 Essential Fish Habitat Consultation Summary

There is no essential fish habitat in the project impact area and there would be no indirect effect to essential fish habitat. There will be no effect to essential fish habitat. Therefore, no consultation with NOAA Fisheries is necessary.

2.20.2.3 Marine Mammal Protection Act

The project will not cause harassment of species listed under the Marine Mammal Protection Act because the project will not take place in pinniped habitat, and the amount of noise from the project would not cause disturbance to pinnipeds who would be traversing the BSA. No consultation was conducted with NOAA Fisheries.

2.20.2.4 California Endangered Species Act Consultation Summary

No take of species listed under CESA will result from the project. No incidental take permit would be required. No consultation with CDFW was conducted for CESA concerns.

2.20.2.5 Wetlands and Other Waters Coordination Summary

The project will not affect jurisdictional waters because it will occur outside of jurisdictional waters and measures will be in place to prevent indirect effects to jurisdictional waters. No coordination was conducted with regulatory agencies regarding this project because it was unnecessary.

2.20.2.6 Invasive Species

This project will not disturb vegetation and has no potential to introduce invasive species due to the lack of vulnerable habitat in the BSA. No measures are necessary to prevent invasive species introductions.

2.20.2.7 Native Birds

Caltrans will implement measures to prevent take of nesting birds and their nests and avoid interrupting birds' nesting attempts on the bridge. The project will not cause direct take of native birds or their nests. There will be temporary, minor, local losses of reproductive opportunities in the BSA for native birds, and a slightly more acute loss of reproductive opportunity for peregrine falcon specifically.

The under-deck spaces that are usable for bird nesting will remain after construction. The project will not result in a permanent loss of nesting substrate for native birds, including peregrine falcon, so there will not be a permanent effect on native birds that nest in the BSA. If Caltrans and its construction monitors find that construction would have the potential to affect nesting birds after the implementation of avoidance and minimization measures, then Caltrans would coordinate with USFWS and CDFW to determine a course of action that would continue to minimize the project's effects while enabling construction to proceed.

As of this time, limited consultation has been performed regarding peregrine falcon, since it has been stripped of its status as a fully protected species. Caltrans will mitigate for the temporary loss of the peregrine falcon's nesting site on the bridge by constructing an artificial nesting platform near the bridge so that the effect of excluding the species from the bridge would be reduced. After construction is complete, peregrine falcon and other native birds would have the same amount of nesting opportunities on the bridge as prior to the project, with an additional opportunity afforded by the artificial nesting platform, which would remain after construction.

2.20.3 ENVIRONMENTAL CONSEQUENCES

The project has no effect on all species listed in Table 2.20-1, except for the peregrine falcon. The project may affect but is not likely to adversely affect the peregrine falcon.

Table 2.20-1: Special-Status Species with Records of Occurrence in the Biological Study Area

Common Name	Scientific Name	Status	General Habitat Description	Habitat or Species Present/Absent	Rationale
Invertebrates					
Monarch butterfly	*Danaus plexippus*	Federal Candidate Endangered	Adults forage in a variety of habitats on various plant species. The egg, larval, and pupal stages are hosted by narrow leaf milkweed (*Asclepias fasciculatum*).	Absent	The habitat for this species is not present in the BSA.
Black abalone	*Haliotis cracherodii*	Federal Endangered	Rocky intertidal areas and open ocean to 20 feet in depth.	Absent	The habitat for this species is not present in the BSA.
White abalone	*Haliotis sorenseni*	Federal Endangered	Rocky substrates in open ocean, typically 50 to 180 feet in depth.	Absent	The habitat for this species is not present in the BSA.
Riverside fairy shrimp	*Steptocephalus woottoni*	Federal Endangered	Habitat consists of vernal pools for all life stages.	Absent	The habitat for this species is not present in the BSA.
Reptiles					
Loggerhead turtle	*Caretta caretta*	Federal Endangered	Forages in the open ocean, nests on the beach.	Absent	The habitat for this species is not present in the BSA.
Green turtle	*Chelonia mydas*	Federal Threatened	Forages in the open ocean and in estuarine channels with eel grass and open ocean.	Habitat Present	Potentially suitable habitat is present in the BSA, and there are recent enough records to indicate it could occur in the BSA, so its potential presence cannot be ruled out.
Leatherback turtle	*Dermochelys coriacea*	Federal Endangered	Forages in the open ocean, nests on the beach.	Absent	The habitat for this species is not present in the BSA.
Olive ridley turtle	*Lepidochelys olivacea*	Federal Threatened	Forages in the open ocean, nests on the beach.	Absent	The habitat for this species is not present in the BSA.
Birds					
Western snowy plover	*Charadrius nivosus nivosus*	Federal Threatened	Nests on and forages on sandy coastal beaches and dunes. Migrates along the coast.	Absent	The habitat for this species is not present in the BSA.
Peregrine falcon	*Falco peregrinus*	Sensitive	Inhabits a variety of habitats, including urban areas. Nests on cliffs, buildings, and bridges.	Present	Caltrans has observed the species or habitat in the BSA or has reports indicating the species' presence in the BSA.
Coastal California gnatcatcher	*Polioptila californica californica*	Federal Threatened, State Species of Special Concern	Coastal sage scrub with *Artemisia californica* and *Eriogonum fasciculatum* as dominant species, from sea level to 2,500 feet in elevation.	Absent	The habitat for this species is not present in the BSA.
California least tern	*Sterna antillarum browni*	Federal Endangered, State Endangered	Nests on islands off the coast and coastal peninsulas and forages in estuaries, streams, and open ocean.	Habitat Present	Caltrans has observed the species or habitat in the BSA or has reports indicating the species' presence in the BSA.

Table 2.20-1: Special-Status Species with Records of Occurrence in the Biological Study Area

Common Name	Scientific Name	Status	General Habitat Description	Habitat or Species Present/Absent	Rationale
Least Bell's vireo	*Vireo bellii pusillus*	Federal Threatened, State Endangered	Nests in dense riparian scrub and woodland, forages in riparian woodlands and adjacent uplands.	Absent	The habitat for this species is not present in the BSA
Mammals					
Guadalupe fur seal	*Arctocephalus townsendii*	Federal Endangered, Marine Mammal Protection Act Protected	Primarily pelagic, inhabits rocky shores and caves, closest breeding location is San Miguel Island.	Absent	The habitat for this species is not present in the BSA.
Pacific pocket mouse	*Perognathus longimembris pacificus*	Federal Endangered, State Species of Special Concern	Coastal sage scrub, coastal strand, coastal dune, river alluvium.	Absent	The BSA is located in this species' historic range, but the species has been locally extirpated.
Pacific harbor seal	*Phoca vitulina*	Marine Mammal Protection Act Protected	Hauls out on beaches. Forages estuaries and bays.	Present	Caltrans has observed the species or habitat in the BSA or has reports indicating the species' presence in the BSA.
California sea lion	*Zalophus californianus*	Marine Mammal Protection Act Protected	Hauls out on piers and quays and beaches. Forages estuarine channels.	Present	Caltrans has observed the species or habitat in the BSA or has reports indicating the species' presence in the BSA.
Fish					
Green sturgeon	*Acipenser medirostris*	Federal Threatened	Inhabits the ocean in southern California region. Spawns in rivers in northern California and Oregon.	Absent	The BSA is located in this species' historic range, but the species has been locally extirpated.
Southern steelhead trout	*Oncorhynchus mykiss*	Federal Endangered, State Endangered	Ocean, estuaries, lagoons, freshwater rivers with riparian canopy. Spawns in gravel substrates.	Absent	The BSA is located in this species' historic range, but the species has been locally extirpated.

2.20.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

The following avoidance, minimization, and mitigation measures are proposed for the nesting peregrine falcons on the Vincent Thomas Bridge:

MM-BIO-1 To prevent the project from interrupting nesting and causing nest failure, which would result in a substantial waste of energy and decreased ease of reproduction for peregrine falcon, Caltrans would install nesting exclusionary devices on the bridge prior to the nesting season in which construction is planned to occur. The exclusionary devices would prevent the falcon and other birds from attempting to nest on the bridge.

MM-BIO-2 To prevent the project from interrupting nesting and causing nest failure, Caltrans would remove existing nesting materials that are on the bridge when they are encountered prior to the nesting season (generally February 1 to September 1, but when including the peregrine falcon season, it is January 15 to September 1). This would discourage peregrine falcon and other species that reuse nests from using the bridge for nesting and reduce the likelihood that falcons and other birds, their eggs, and nest would be injured or destroyed by construction activities such as concrete demolition.

MM-BIO-3 A biologist with experience in surveying and monitoring avian activity will survey the bridge and its surroundings prior to construction to verify that birds are not nesting on the bridge prior to construction. A lapse in construction is not planned, but if there is a lapse in construction for longer than 3 days, a repeat survey would be performed. If birds are observed attempting nesting on the bridge, then a no-work buffer around the nest would be implemented and Caltrans would conduct consultation with the United States Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW).

MM-BIO-4 A biologist will monitor the bridge during construction for signs of whether birds are nesting on the bridge. They will keep track of nesting birds on the bridge and evaluate whether construction has the potential to or is disturbing nesting birds. The biological monitor will also observe construction to ensure that construction best management practices (BMPs) are applied to prevent incidental effects to the channel, water quality, and jurisdictional waters.

MM-BIO-5 A qualified biologist will make a presentation to construction staff who are on site for longer than 30 minutes. The staff will be advised on the bird species that have been known to occur in the project area, their nest appearance and siting factors, the project's conservation measures, and the procedures for reporting and avoiding nesting migratory birds.

MM-BIO-6 **Compensatory Mitigation.** Caltrans will construct an artificial nest platform outside of the project impact area within the Port of Long Beach/Port of Los Angeles complex to compensate for the temporary loss of the nesting space on the Vincent Thomas Bridge. The artificial nest platform will likely be placed close to the bridge so that falcons that repeatedly nest on the Vincent Thomas Bridge are aware of the artificial nesting platform. The platform would be constructed in a way and at a site that would make it suitable for peregrine falcon nesting, taking into consideration the elevation, the visibility of the platform, and other site characteristics. Potential nest platform sites will be discussed in consultation with the CDFW.

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2.21 Invasive Species

2.21.1 REGULATORY SETTING

On February 3, 1999, President William J. Clinton signed Executive Order (EO) 13112 requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as “any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health.” Federal Highway Administration (FHWA) guidance issued August 10, 1999 directs the use of the State’s invasive species list, which is maintained by the California Invasive Species Council, to define the invasive species that must be considered as part of the National Environmental Policy Act (NEPA) analysis for a proposed project.

2.21.2 AFFECTED ENVIRONMENT

The information in this section is based on the Natural Environment Study (September 2023) prepared for the proposed project. No invasive species have been identified within the Biological Study Area (BSA).

2.21.3 ENVIRONMENTAL CONSEQUENCES

This project will not disturb vegetation and has no potential to introduce invasive species due to the lack of vulnerable habitat in the BSA. No measures are necessary to prevent invasive species introductions.

2.21.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

No avoidance, minimization, and/or mitigation measures are required.

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2.22 Construction Impacts

Potential construction impacts as a result of the Vincent Thomas Bridge Deck Replacement Project are outlined below:

2.22.1 AFFECTED ENVIRONMENT

2.22.1.1 Construction Phasing

Alternative 1 (No Build Alternative) and Alternative 2 (Build Alternative) to replace the bridge deck of the Vincent Thomas Bridge are being evaluated as part of the proposed project. There are four construction staging options being evaluated for Alternative 2:

- **Single-Stage Construction:** This construction staging option consists of a full closure of the bridge that would last 16-41 months with detour routes and 24/7 work. The difference in construction timelines depends on the deck type chosen. Orthotropic and Pre-Cast deck types would lead to a construction timeline of approximately 16 months. A Cast-in-Place deck type would lead to a construction timeline of approximately 41 months.

- **Two-Stage Construction:** This construction staging option would leave one lane open in each direction for each stage (two stages). The work would require the installation of a temporary support/bracing system, reduced speeds of approximately 25 miles per hour (mph) due to narrowed lanes, and multiple weekend (55-hour) full closures and overnight full closures of the bridge. Construction would last approximately 25 months.

- **Three-Stage Construction**: This construction staging option would leave one lane open in each direction and would require installation of a temporary support/bracing system. One lane would be open in each direction for each stage, and multiple weekend (55-hour) full bridge closures and full overnight bridge closures would be required. Construction would last approximately 32 months.

- **Nighttime Bridge Closure:** This construction staging option would leave the bridge fully open during daytime traffic hours (6:00 a.m.–7:00 p.m.). The work would require the installation of a temporary support/bracing system and full closure of the bridge during nighttime hours (7:00 p.m.–6:00 a.m.) every day. Construction would last approximately 48 months.

2.22.2 ENVIRONMENTAL CONSEQUENCES

2.22.2.1 Environmental Justice

As discussed in Section 2.8, Environmental Justice, temporary effects to the overall population (including environmental justice communities) may occur due to construction activities and the associated bridge closures and traffic detours. Although proposed detour routes are located within environmental justice populations in the Community Impact Assessment (CIA) Study Area, land uses fronting detour routes are primarily industrial with areas of commercial development with some residential depending on the detour route chosen, the full bridge closure option requiring all bridge traffic being diverted into neighboring communities would result in temporary disproportionately high and adverse air quality and traffic effects on minority or low-income populations. However, the Build Alternative will incorporate mitigation measures MM-EJ-1, MM-EJ-2, MM-TR-1, MM-TR-2, AM-AQ-1, AM-AQ-2, project features, and best management practices (BMPs) to minimize detour route and construction-related impacts. The Build Alternative would replace the existing bridge deck and upgrade the bridge railing, median barrier, fencing, and seismic sensors, so there would be no permanent post-construction impacts to environmental justice communities.

2.22.2.2 Air Quality

As discussed in Section 2.13, Air Quality, based on the construction scenarios being considered, construction of the project would generate temporary increases in emissions from on-site activities and on-road vehicles as well as from diverted traffic caused by partial or full bridge closure. The temporary increases in emissions and incremental changes in particulate matter less than 10 microns in size (PM_{10}) concentrations along detour routes would remain below applicable regulatory thresholds for all construction scenarios, except for nitrogen oxide (NO_X) increases for Scenario 8 (nighttime closure with Pre-Cast deck type) that would exceed South Coast Air Quality Management District (SCAQMD) regional mass daily screening thresholds.

2.22.2.3 Noise

As discussed in Section 2.14, Noise, 23 Code of Federal Regulations (CFR) 772 requires that construction noise impacts be identified but does not specify specific methods or abatement criteria for evaluating construction noise. However, the Federal Highway Administration (FHWA) Roadway Construction Noise Model (FHWA 2006) can be used to determine if construction would result in adverse construction noise impacts on land uses or activities in the project area.

During the construction phases of the project, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. Construction noise is regulated by Caltrans Standard Specifications, Section 14-8.02, Noise Control. These requirements state that noise levels generated during construction shall comply with applicable local, State, and federal regulations.

As indicated, equipment involved in construction is expected to generate noise levels ranging from 70 to 90 A-weighted decibels (dBA) at a distance of 50 feet. Noise produced by construction equipment would be reduced over distance at a rate of about 6 dBA per doubling of distance. Normally, construction noise levels should not exceed 86 dBA (maximum instantaneous noise level [L_{max}]) at a distance of 50 feet. No adverse noise impacts from construction are anticipated because construction would be conducted in accordance with Caltrans Standard Specifications and would be short term, intermittent, and dominated by local traffic noise.

2.22.2.4 Biology

As discussed in Section 2.19, Animal Species, the peregrine falcon (*Falco peregrinus*, a raptor species) nests on the bridge within the project impact area. Peregrine falcon is a raptor species that was at one time endangered and listed under the Federal Endangered Species Act (FESA). It was also listed as a fully protected species under the California Fish and Game Code. Peregrine falcon is a resident species in southern California and maintains foraging territories year-round. Its territories span multiple miles. Peregrine falcon has nested on the Vincent Thomas Bridge and other bridges in the Port of Long Beach/Port of Los Angeles (POLB/POLA) Complex and surrounding areas for many years. It also uses the Vincent Thomas Bridge in other parts of the year outside of the nesting season as a roosting site. The peregrine falcon's nesting season is generally January to July, with courtship behaviors beginning in the prior December. The peregrine preys upon other bird species. In urban settings such as the project location, peregrine falcons often prey upon rock pigeons. The bridge may be nesting habitat for other native birds. Other native birds that commonly nest on bridges with steel infrastructure are common raven (*Corvus corax*) and house finch (*Haemorhous mexicanus*).

Surveys of peregrine falcon in the Biological Study Area (BSA) and surroundings are ongoing. This species has nested on the Vincent Thomas Bridge for recent decades, but it does not consistently nest on the bridge every year. Prior to the replacement of the Gerald Desmond Bridge, which is to the east of the Vincent Thomas Bridge in POLB, peregrine falcon nested on that bridge. Likewise, prior to the replacement of the Schuyler Heim Bridge (which is also on State Route 47 [SR-47]) to the northeast of the Vincent Thomas Bridge, peregrine falcon nested on the Schuyler Heim Bridge. The new bridges have suitable nesting surfaces and artificial nesting platforms for peregrine falcon to use. The peregrine falcon has been observed using the new bridges for nesting. The exact location where peregrine falcons nest on the Vincent Thomas Bridge is not known, but it is under the deck in the span over the channel. Nests of other native bird species have not been recorded but the possibility remains that they may occur during construction and would also take advantage of temporary platforms that are built for construction use as a nesting location.

During construction, it is not expected that the project would cause injury or mortality to nesting birds with the inclusion of avoidance, minimization, and mitigation efforts. This project would interfere with bird nesting, by occupying the same space that nesting would occur. Since the project must place platforms under the bridge deck to capture demolition debris and prevent that debris from entering the channel, there would be a substantial amount of human activity around the area that birds, especially the peregrine falcon, nest. This heightened activity would cause disturbance to the birds, causing them to expend excess energy on hazing people prior to disturbing the nest itself. The construction of the debris catchment system would also impede access to space under the bridge deck, making ingress and egress to that space difficult for nesting birds. Demolishing the bridge deck would also cause debris to fall onto and around the existing nest and/or newly constructed nests, which could cause nest failure, and which would also interfere with nesting. Lastly the noise from concrete demolition and other activities would harass the nesting birds, since it would occur within 150 to 500 feet of the nest or closer. The new bridge deck and other changes to the bridge would not likely result in altering the bridge so that the peregrine falcon would find the bridge unsuitable for nesting, since the whole bridge is not being replaced and the design would not be radically altered. The under-deck space that the peregrine falcon currently uses for nesting would remain unchanged and usable for nesting after construction. Other bird species would also likely find the bridge suitable for nesting post-construction as well. It is possible that due to changes in the local peregrine falcon population that peregrine falcon would choose to not nest on the Vincent Thomas Bridge and opt for other locations in the POLB/POLA Complex during construction, in which case there would be no effect to the species.

2.22.2.5 Utilities

As discussed in Section 2.9, Utilities/Emergency Services, there are four AT&T conduits on the underside of the bridge that are located to the side of the catwalk railing. During construction, all utilities within the freeway right-of-way and beneath or along the Vincent Thomas Bridge or adjacent properties would be protected in place or relocated. During final design, the Project Engineer would coordinate with each utility provider to finalize the exact location of that utility's facilities, assess whether the facilities can be protected in place during construction or would require relocation, and review with the utility provider the project plans for protection in place/relocation of the facility prior to construction. The utility providers in the area around the project area are listed in Table 2.22-1. If needed, permanent utility easements would be identified during final design.

Table 2.22-1: Utility Providers

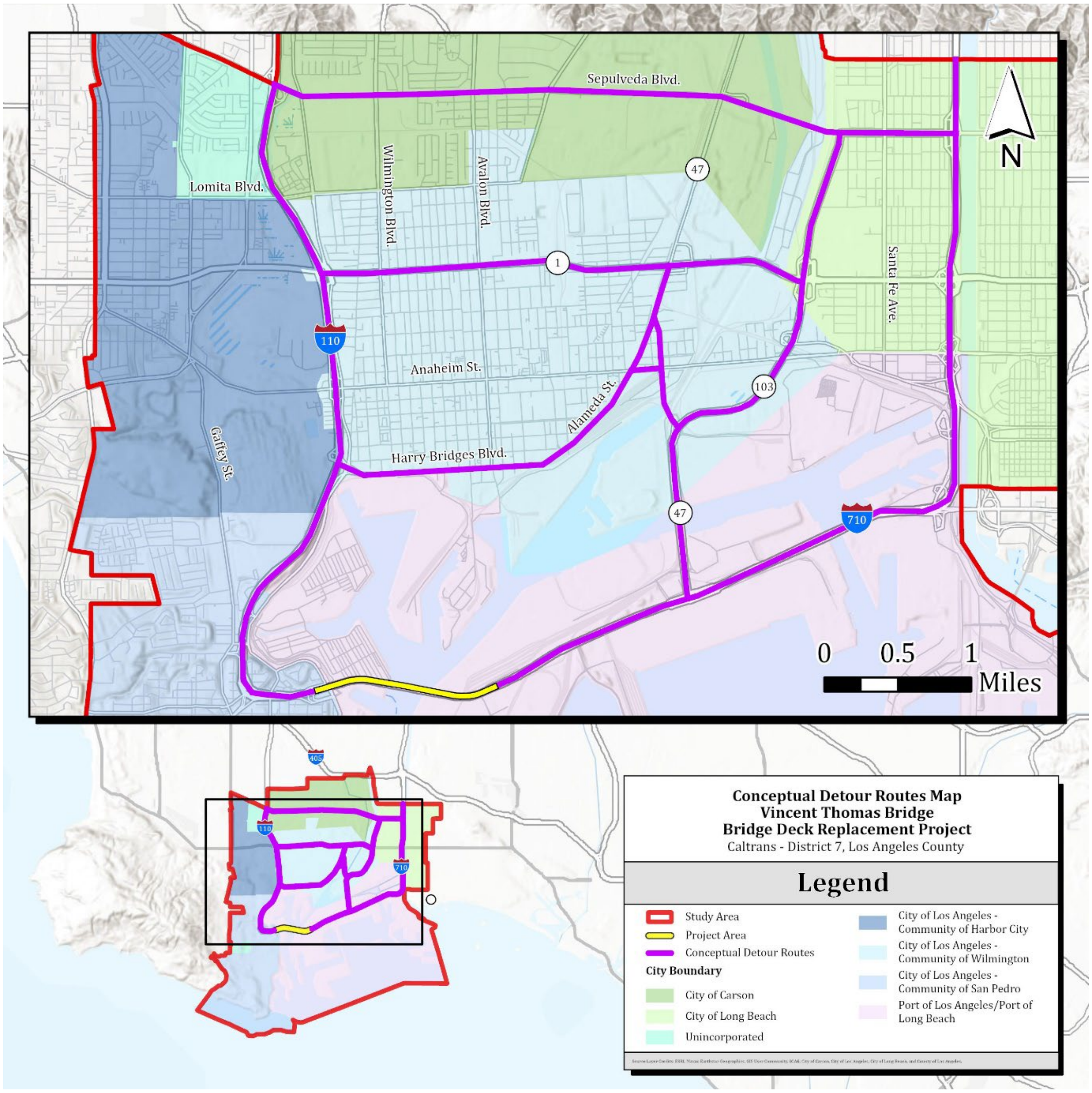
Facility Name	Utility Provider
Water and Sewer	Los Angeles Department of Water and Power, City of Long Beach Water
Stormwater	Los Angeles County Department of Public Works
Gas	Southern California Gas, Long Beach Gas and Oil
Electricity	Los Angeles Department of Water and Power, Southern California Edison
Telecom	AT&T, Time Warner Cable
Cable	Time Warner Cable, Comcast, Cox, DirectTV, Frontier, Spectrum, AT&T
Trash Service	City of Los Angeles Department of Public Works – Sanitation, City of Long Beach Department of Public Works

Source: Community Impact Assessment (2024).

2.22.2.6 Traffic

As discussed in Section 2.10, Traffic and Transportation/Pedestrian and Bicycle Facilities, during construction, detour route(s) will be necessary to divert traffic from the project area and continue to provide access for the traveling public to Terminal Island and the east/west corridors. Detour route(s) will potentially include Harry Bridges Boulevard/Alameda Street, Anaheim Street, Pacific Coast Highway (PCH), Sepulveda Boulevard, and Interstate 405 (I-405). A map of the potential detour routes can be found on Figure 2.22-1. The designated detour route(s) will be determined following evaluation from the public, local stakeholders, the Caltrans Traffic Operational Analysis Report (TOAR) (2024), and environmental analysis of community and traffic impacts. All of the construction staging options will require the use and designation of detour route(s), primarily located north of the project area in the neighborhood of Wilmington and the city of Carson. The Build Alternative will incorporate mitigation measures MM-TR-1, MM-TR-2, project features, and BMPs to minimize traffic-related impacts.

Figure 2.22-1: Map of Potential Detour Routes



Source: ESRI, Maxar, Earthstar Geographics, GIS User Community, Southern California Association of Governments, City of Carson, City of Los Angeles, City of Long Beach, and County of Los Angeles.

2.22.2.7 Emergency Services

As discussed in Section 2.9, Utilities/Emergency Services, emergency services, which include police, fire, and emergency medical services (EMS), are provided by numerous agencies within the CIA Study Area as noted in Table 2.22-2. Fire and EMS services are provided by the City of Los Angeles Fire Department, County of Los Angeles Fire Department, and Long Beach Fire Department. Law enforcement is provided by the Los Angeles Police Department, Los Angeles Port Police, and City of Long Beach Police Department, while the California Highway Patrol provides traffic law enforcement on the State highways, including Interstate 110 (I-110) and Interstate 710 (I-710).

Table 2.22-2: Emergency Services within the CIA Study Area

Facility Name	Address	Distance from Project Area (miles)
Wilmington (City of Los Angeles)		
Los Angeles Fire Department – Station No. 38	124 I Street, Los Angeles	2.22
Los Angeles Fire Department – Station No. 49	400 Yacht Street, Los Angeles	1.09
Harbor City (City of Los Angeles)		
Los Angeles Fire Department – Station No. 85	1331 W. 253rd Street, Los Angeles	3.28
Harbor City (City of Los Angeles)		
Los Angeles Fire Department – Station No. 36	1005 N. Gaffey Street, Los Angeles	0.67
Los Angeles Fire Department – Station No. 48	1601 S. Grand Avenue, Los Angeles	1.44
Los Angeles Fire Department – Station No. 112	444 S. Harbor Boulevard, Los Angeles	0.21
Los Angeles Port Police Department	330 S. Centre Street	0.59
Los Angeles Police Department – Harbor Community Police Station	2175 John S. Gibson Boulevard	0.75
Port of Los Angeles/Port of Long Beach (City of Los Angeles)		
Los Angeles Fire Department – Station No. 110	2945 Miner Street, Los Angeles	2.17
Los Angeles Fire Department – Station No. 111	1444 S. Seaside Avenue, Los Angeles	1.07
Los Angeles Fire Department – Station No. 40	330 Ferry Street, Los Angeles	0.18
Long Beach Fire Department – Station No. 24	111 Pier S Avenue, Los Angeles	1.43
Long Beach Fire Department – Station No. 20	1900 Pier D Street, Los Angeles	2.61
Long Beach Fire Department – Station No. 6	330 Windsor Way, Los Angeles	3.93
City of Long Beach		
Long Beach Fire Department – Station No. 13	2475 Adriatic Avenue, Long Beach	4.51
Long Beach Fire Department – Station No. 3	1222 Daisy Avenue, Long Beach	4.18
Long Beach Police Department – West Patrol Division	1835 Santa Fe Avenue, Long Beach	3.83
City of Carson		
Los Angeles County Fire Department – Station No. 127	2049 E. 223rd Street, Carson	5.27

Source: Community Impact Assessment (2024).

During construction, a full or partial closure of the Vincent Thomas Bridge and detours would be required for bridge deck replacement work that may affect emergency response times. The duration of temporary traffic detours required for a full bridge closure is approximately 16–41 months. For a partial bridge closure (two-stage construction and three-stage construction) approximately 25–32 months. For the nighttime bridge closure option where the bridge would be open from 6:00 a.m. to 7:00 p.m. and closed for construction from 7:00 p.m. to 6:00 a.m., the duration of traffic detours required would be 48 months. A full closure of the bridge would result in all bridge traffic being diverted into neighboring communities and partial closure would potentially result in less traffic being diverted into neighboring communities because traffic would maintain the ability to cross the bridge. Temporary detours may result in changes to travel patterns, increases in traffic volumes along detour routes, and increases in travel distance, and time and emergency response may be affected within the communities surrounding the construction area. However, access to emergency service facilities would be maintained, and coordination with emergency service providers would occur prior to and during construction, with construction signage and traffic control to maintain emergency services throughout the communities surrounding the construction area (PF-UES-1).

2.22.2.8 Construction Staging and Disposal

Staging for the proposed construction work would be located within Caltrans right-of-way or in temporary construction easements (TCEs) near the project limits. Specific staging locations would be determined by the construction contractor during the Design phase. A likely staging area includes the Vincent Thomas Bridge Toll Plaza Site, which is located on Terminal Island near the southeastern approach span of the bridge (see Figure 2.22-2).

Figure 2.22-2: Image of Vincent Thomas Bridge Toll Plaza Site

Source: Caltrans (2023).

Other staging areas on Terminal Island could be required and would be determined in coordination with POLA during the Design or Construction phase. Larger staging areas off site and outside the project area and CIA Study Area that are needed for construction could require TCEs and would be determined during the Design phase.

2.22.2.9 Environmental Justice

The following mitigation measures would be implemented as part of the Build Alternative to minimize potential impacts to environmental justice, underserved, overburdened, and disadvantaged communities:

MM-EJ-1 Regular and ongoing coordination with agencies will occur for projects within the CIA Study Area to coordinate projects with overlapping construction to avoid and minimize schedule conflicts.

MM-EJ-2 Regular and ongoing community engagement will occur to address key concerns and develop strategies to reduce potential impacts to the community.

In addition to MM-EJ-1 and MM-EJ-2, air quality and traffic measures and project feature AM-AQ-1, AM-AQ-2, MM-TR-1, MM-TR-2, and PF-TR-1 will be incorporated to lessen the cumulative temporary air quality and traffic impact on environmental justice, underserved, overburdened, and disadvantaged communities.

2.22.2.10 Air Quality

Based on the construction scenarios being considered, construction of the project would generate temporary increases in emissions from on-site activities and on-road vehicles, as well as from diverted traffic caused by partial or full bridge closure. The temporary increases in emissions and incremental changes in PM_{10} concentrations along detour routes would remain below applicable regulatory thresholds for all construction scenarios, except for NO_X

increases for Scenario 8 (nighttime closure with Pre-Cast deck type), which would exceed SCAQMD regional mass daily screening thresholds.

Implementation of the following avoidance measures and project feature would minimize project air quality impacts related to construction emissions: AM-AQ-1, AM-AQ-2, and PF-AQ-1. For more information on these measures, see Avoidance, Minimization, and Mitigation Measures in Section 2.13, Air Quality.

2.22.2.11 Biology

The following avoidance, minimization, and mitigation measures are proposed for the nesting peregrine falcons on the Vincent Thomas Bridge:

MM-BIO-1 To prevent the project from interrupting nesting and causing nest failure, which would result in a substantial waste of energy and decreased ease of reproduction for peregrine falcon, Caltrans would install nesting exclusionary devices on the bridge prior to the nesting season in which construction is planned to occur. The exclusionary devices would prevent the falcon and other birds from attempting to nest on the bridge.

MM-BIO-2 To prevent the project from interrupting nesting and causing nest failure, Caltrans would remove existing nesting materials that are on the bridge when they are encountered prior to the nesting season (generally February 1 to September 1, but when including the peregrine falcon season, it is January 15 to September 1). This would discourage peregrine falcon and other species that reuse nests from using the bridge for nesting and reduce the likelihood that falcons and other birds, their eggs, and nest would be injured or destroyed by construction activities such as concrete demolition.

MM-BIO-3 A biologist with experience in surveying and monitoring avian activity will survey the bridge and its surroundings prior to construction to verify that birds are not nesting on the bridge prior to construction. A lapse in construction is not planned, but if there is a lapse in construction for longer than 3 days, a repeat survey would be performed. If birds are observed attempting nesting on the bridge, then a no-work buffer around the nest would be implemented and Caltrans would conduct consultation with the United States Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW).

MM-BIO-4 A biologist will monitor the bridge during construction for signs of whether birds are nesting on the bridge. They will keep track of nesting birds on the bridge and evaluate whether construction has the potential to or is disturbing nesting birds. The biological monitor will also observe construction to ensure that construction best management practices (BMPs) are applied to prevent incidental effects to the channel, water quality, and jurisdictional waters.

MM-BIO-5 A qualified biologist will make a presentation to construction staff who are on site for longer than 30 minutes. The staff will be advised on the bird species that have been known to occur in the project area, their nest appearance and siting factors, the project’s conservation measures, and the procedures for reporting and avoiding nesting migratory birds.

MM-BIO-6 **Compensatory Mitigation.** Caltrans will construct an artificial nest platform outside of the project impact area within the Port of Long Beach/Port of Los Angeles complex to compensate for the temporary loss of the nesting space on the Vincent Thomas Bridge. The artificial nest platform will likely be placed close to the bridge so that falcons that repeatedly nest on the Vincent Thomas Bridge are aware of the artificial nesting platform. The platform would be constructed in a way and at a site that would make it suitable for peregrine falcon nesting, taking into consideration the elevation, the visibility of the platform, and other site characteristics. Potential nest platform sites will be discussed in consultation with the CDFW.

2.22.2.12 Traffic

The following minimization measures and project features are proposed to address direct temporary impacts on traffic flow in the CIA Study Area as a result of Alternative 2 (Build Alternative):

MM-TR-1 **Temporary Restriping and Signal Synchronization of Identified Intersections.** The Traffic Operational Analysis Report (TOAR) (2024) outlines potential improvements that can been developed at 13 intersections within the Community Impact Assessment (CIA) Study Area. The potential temporary improvements involve restriping, minimal geometric reconfigurations, and signal phasing modifications. A detailed analysis of restriping at the identified 13 intersections can be found in the TOAR (2024) and is available upon request.

The temporary modification of intersections outside of Caltrans right-of-way would be dependent on approval by all respective local jurisdictional agencies. Caltrans will coordinate with local jurisdictional agencies regarding this measure.

MM-TR-2 **Repairing Detour Routes.** Caltrans will partner with the City of Los Angeles to seek opportunities to repair detour routes prior to and after the construction of the project.

The repair of detour routes outside of Caltrans right-of-way would be dependent on approval by all respective local jurisdictional agencies. Caltrans will coordinate with local jurisdictional agencies regarding this measure.

PF-TR-1 **Transportation Management Plan.**

a. **Changeable Message Signs (CMS).** Permanent overhead message signs are placed along roadways approaching the project area to notify road users of lane and road closures on the bridge, work activities, traffic incidents, potential work zone hazards, traffic queues (backups), travel times, or delay information, as well as alternate routes in or around the work zone.

b. **Portable Changeable Message Signs (PCMS).** PCMS will be placed at key locations to notify motorists of lane closures, alternate routes, expected delay, and upcoming road closures on the bridge. These signs will be used to inform drivers of speed limit reductions and enforcement activities in a work zone, as well as projected delay or road opening times.

2.22.2.13 Emergency Services

A less than significant impact is expected to emergency services with the implementation of project feature PF-UES-1 which would require coordination with emergency service providers for ramp or road closures within the project area as part of the Vincent Thomas Bridge Deck Replacement Project.

2.23 Cumulative Impacts

2.23.1 REGULATORY SETTING

Cumulative impacts are those that result from past, present, and reasonably foreseeable future actions, combined with the potential impacts of the proposed project. A cumulative effect assessment looks at the collective impacts posed by individual land use plans and projects. Cumulative impacts can result from individually minor but collectively substantial impacts taking place over a period of time.

Cumulative impacts to resources in the project area may result from residential, commercial, industrial, and highway development, as well as from agricultural development and the conversion to more intensive agricultural cultivation. These land use activities can degrade habitat and species diversity through consequences such as displacement and fragmentation of habitats and populations, alteration of hydrology, contamination, erosion, sedimentation, disruption of migration corridors, changes in water quality, and introduction or promotion of predators. They can also contribute to potential community impacts identified for the project, such as changes in community character, traffic patterns, housing availability, and employment.

The California Environmental Quality Act (CEQA) Guidelines Section 15130 describes when a cumulative impact analysis is necessary and what elements are necessary for an adequate discussion of cumulative impacts. The definition of cumulative impacts under CEQA can be found in Section 15355 of the *State CEQA Guidelines*. A definition of cumulative impacts under the National Environmental Policy Act (NEPA) can be found in 40 Code of Federal Regulations (CFR) Section 1508.7.

2.23.1.1 Cumulative Impact Analysis

Alternative 1 (No Build Alternative)

The No Build Alternative would not include improvements to the Vincent Thomas Bridge. It would not require construction, and existing conditions would be perpetuated. Therefore, the No Build Alternative would not contribute to cumulative environmental effects in combination with other projects.

Alternative 2 (Build Alternative)

The Build Alternative proposes to replace the deck of the Vincent Thomas Bridge, replace the median concrete barriers, fencing, and guardrails, and upgrade the bridge's seismic sensors. This cumulative impact analysis determines whether the Build Alternative, in combination with other past, present, or reasonably foreseeable projects, would result in a cumulative effect and, if so, whether the Build Alternative's contribution to the cumulative impact would be considerable.

2.23.1.2 Methodology

There are several steps involved in analyzing cumulative impacts. Following Caltrans' Guidance for Preparers of Cumulative Impact Analysis (Caltrans 2005), the initial steps involve analyzing direct and indirect impacts followed by the application of those results to cumulative impacts. These steps are generally outlined as follows:

- **Step 1:** Identify and define the project-specific resources to include in the cumulative impact analysis.
- **Step 2:** Define the geographic boundary or resource study area (RSA) for each resource to be addressed in the cumulative impact analysis.
- **Step 3:** Describe the current health and the historical context of each resource.
- **Step 4:** Identify the direct and indirect impacts of the proposed project that may result in a cumulative impact on the identified resources.
- **Step 5:** Identify other current and reasonably foreseeable future actions or projects and associated environmental impacts.
- **Step 6:** Assess potential cumulative impacts.
- **Step 7:** Report cumulative impact analysis results in the environmental document.
- **Step 8:** Assess the need for avoidance, minimization, and/or mitigation measures and/or recommendations for actions by other agencies to address a cumulative impact.

If a proposed project does not result in a direct or indirect impact to a resource, it would not contribute to a cumulative impact to that resource. In accordance with *State CEQA Guidelines* Section 15130(a), if an incremental effect is not “cumulatively considerable,” the EIR need not consider the effect significant, but must briefly describe the basis for concluding that the incremental effect is not cumulatively considerable. A cumulative analysis is automatically required for resources with significant impacts. In addition, a cumulative analysis is needed for resources with a less than significant impact which are in poor health, declining health, or at risk. Project-specific impacts to environmental resources are evaluated in Chapter 2.0.

2.23.1.3 Evaluated Resources

Based on the analysis presented in Chapter 2.0, the following resources would not be directly or indirectly impacted by the Build Alternative; therefore, no incremental effects would be cumulatively considerable for these topic areas:

- Existing and Future Land Use
- Consistency with State, Regional, and Local Plans and Programs
- Coastal Zone
- Wild and Scenic Rivers
- Parks and Recreational Facilities
- Farmlands
- Timberlands
- Growth
- Relocations and Real Property Acquisition
- Utilities
- Visual Resources
- Hydrology/Floodplain
- Water Quality

- Geology/Soils/Seismic/Topography
- Paleontology
- Energy
- Biological Resources (with the exception of peregrine falcon)

The Build Alternative would result in a less than significant impact level to the following resource topics: economic conditions, emergency service, cultural resources, hazardous waste/materials, climate change, and noise. These topics are briefly discussed within this section.

For the purposes of the cumulative impact analysis, environmental justice communities, air quality, biological resources (peregrine falcon), and traffic and transportation will be further analyzed in detail later in this section because these resources are in poor health, declining health, or at risk as described in Chapter 2.0 for each respective resource. While the Build Alternative would not result in any significant impacts, these resources would be impacted at a less than significant level.

Economic Conditions

The project study area (see Figure 1-2) is heavily developed, includes a wide range of commercial and industrial businesses, including but not limited to large-scale and small-scale retail, production/manufacturing, restaurants, grocery stores, and recreational businesses, as described in Section 2.6, Community Character and Cohesion. The study area also includes the Port of Los Angeles (POLA) and the Port of Long Beach (POLB). The overall health of the economic conditions within the study area is not classified as in poor health, declining health, or at risk because steady growth in employment throughout the area is forecast to the year 2045.

All improvements associated with the Build Alternative would occur on the existing bridge, and no residents or businesses would be displaced. Temporary partial or full closures of the bridge may result in changes to travel patterns and increases in distance, travel time, and traffic along proposed detour routes. Travel distances and time spent traveling may increase for vehicles, transit, or trucks that typically use the Vincent Thomas Bridge, potentially affecting business activity and commuters traversing the study area. Disruptions to traffic patterns and flows may be increased should the construction of other reasonably foreseeable projects occur at the same time and require additional roadway closures and/or detours. However, access to the ports and other regional employment centers, including the ports, within the study area would remain, and the movement of people and goods would be maintained with visible and advance construction signage and coordinated traffic control. As such, the Build Alternative would not cumulatively contribute to impacts to economic conditions, and a cumulative analysis is not warranted.

Emergency Services

Emergency services, including police, fire, and emergency medical services (EMS), are provided by numerous agencies within the study area. As discussed in Section 2.9, Utilities/Emergency Services, adequate emergency service is provided to the communities, and the health of the resource is not classified as in poor health, declining health, or at risk. The Build Alternative would not permanently alter emergency service routes or affect access to surrounding communities. However, during the construction period, the full or partial closure of the Vincent Thomas Bridge for the deck replacement would require temporary traffic detours. The increase in traffic volumes along the detour routes may be compounded with additional traffic generated from other reasonably foreseeable projects occurring simultaneously, thereby affecting emergency service. However, access to residents and emergency service facilities throughout the study area would be maintained, and coordination with emergency service providers would occur prior to and during construction, with construction signage and traffic control to maintain emergency services throughout the study area. As such, the Build Alternative would not cumulatively contribute to impacts to emergency services, and a cumulative analysis is not warranted.

Cultural Resources

As discussed in Section 2.11, Cultural Resources, the Vincent Thomas Bridge is a recognized historic property that has been determined eligible for listing on the National Register of Historic Places (National Register) and is listed in the California Register of Historical Resources (California Register). The Build Alternative would replace several features on the existing bridge, including the deck, barriers, electroliers, fence mesh, and seismic sensors, with similar and compatible components. None of these features contribute to the significance of the historic property; therefore, their replacement would not result in damage to the historic property. The proposed project would not alter any of the characteristics of the bridge that qualify it for inclusion in the National Register or diminish the integrity of the historic property. The health of the resource is not classified as in poor health, declining health, or at risk. Therefore, the project would not cause an adverse effect to the historic property. As such, the Build Alternative would not cumulatively contribute to impacts to cultural resources, and a cumulative analysis is not warranted.

Hazardous Waste/Materials

The Build Alternative does not represent a significant hazard to the public or environment. As identified in Section 2.12, Hazardous Waste/Materials, existing hazardous materials could be encountered within the project footprint, including aerially deposited lead (ADL), asbestos-containing materials (ACM), lead-based paint (LBP), and electrical waste. In addition, three potential Recognized Environmental Condition (REC) sites are located adjacent to the project footprint. Any discovered hazardous materials would be handled safely and securely according to the project features identified in Section 2.12.3, Environmental Consequences, and applicable local, State, and federal laws. Testing during the Design phase would evaluate and determine the extent of ACM and LBP within the proposed work area. Although the full extent of hazardous contamination is not known, with incorporation of the project features and adherence to the applicable laws, no adverse impacts related to hazardous waste would occur. The health of the resource is not classified as in poor health, declining health, or at risk. As a result, the project would not cumulatively contribute to hazardous waste/materials impacts, and a cumulative analysis is not warranted.

Climate Change

An individual project does not generate enough greenhouse gas (GHG) emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may contribute to a potential impact through its incremental change in emissions when combined with the contributions of all other sources of GHG. As discussed in Section 3.3, Climate Change, the proposed project would not result in new permanent emissions and would not interfere with regional GHG reduction goals. While construction activities would generate temporary GHG emissions, the project would likely provide long-term GHG benefits by improved vehicle operation and smoother pavement surfaces on the bridge. Additionally, the project will incorporate two Non-Standard Special Provisions (NSSPs) to ensure that contractors use equipment outfitted with Tier 4 engines during construction, along with implementation of PF-AQ-1 and PF-AQ-2, to minimize construction-related emissions. Other project-level measures to further reduce GHG emissions during construction are under consideration, including:

- Schedule truck trips outside of peak morning and evening commute hours.
- Schedule longer-duration lane closures to reduce the number of equipment mobilization efforts (combined with public information efforts for congested areas).
- Use alternative fuels such as renewable diesel for construction equipment.
- Use solar-powered construction equipment (all applicable equipment, e.g., changeable message signs).
- Supplement existing construction environmental training with information on methods to reduce GHG emissions related to construction.
- Use an accelerated bridge construction (ABC) method. (ABC methods reduce construction windows, use more precast elements that in turn reduce need for additional falsework, forms, bracing, etc.)
- Salvage rebar from demolished concrete and process waste to create usable fill.
- Maximize use of recycled materials (tire rubber for example).
- Reduce construction waste. For example, reuse or recycle construction and demolition waste, which reduces consumption of raw materials, reducing waste and transportation to landfill, and saves costs.
- Include measures outlined in regional or local climate adaptation plans.
- Modify standards for the design, location, and construction of infrastructure to account for areas potentially subject to storm surge, sea level rise, and more frequent flooding.

Since Los Angeles County is currently designated Nonattainment (Extreme) for 8-hour average ozone (O_3) concentrations and Nonattainment (Serious) for 24-hour average $PM_{2.5}$ (particulate matter less than 2.5 microns in size) concentrations while a portion of the county is also designated Nonattainment for lead (Pb), the overall health of the resource is classified as in poor health, declining health, or at risk. However, the project would not increase or decrease capacity on the Vincent Thomas Bridge, would have no effect on long-term mobile source emissions in the region, and would also minimize construction period emissions. There would be no relevant cumulative impact to climate change. As such, the Build Alternative would not cumulatively contribute to climate change, and a cumulative analysis is not warranted.

Noise

As discussed in Section 2.14, Noise, implementation of the deck replacement would not change existing vehicle capacity or traffic patterns within the study area. During project construction, the traffic detours would not result in substantial noise increases during daytime or nighttime along any of the proposed routes that would cause significant temporary operational traffic noise impacts to the noise-sensitive land uses. The health of the resource is not classified as in poor health, declining health, or at risk. In addition, the Build Alternative would not cumulatively contribute to noise impacts. Therefore, a cumulative analysis is not warranted.

2.23.1.4 Resource Study Areas

An RSA corresponds to a geographic area cumulative impact that a particular resource can be analyzed within. Only active projects, defined as currently under construction or planned, were considered within each RSA. These projects were identified using information obtained from Caltrans and agency websites within the RSA. The identified projects are located in POLA, POLB, and the cities of Los Angeles, Long Beach, and Carson. The projects included are those that could contribute to cumulative impacts within the study area for each respective resource analyzed in this document (see Table 2.23-1).

Table 2.23-1: Development Activities in the Project Vicinity

Number	Name	Location	Project Description	Status
Port of Los Angeles				
1	Outer Harbor Cruise Terminal	3011 Miner Street	State of the art cruise terminal, 13 acres of back land with up to 14 acres for off-site parking.	Request For Proposals
2	AltaSea at the Port of Los Angeles	2451 S. Signal Street	35-acre campus	Under construction (anticipated completion in 2024)
3[1]	Avalon Promenade and Gateway Project	401 S. Avalon Boulevard	1,300-foot-long pedestrian walkway along Avalon Boulevard to provide access to the future Wilmington Waterfront Promenade.	Under construction (November 2024 through May 2027)
4	Front Street Beautification Project	Northeast corner of Front Street and Pacific Avenue, just north of the Vincent Thomas Bridge (SR-47)	Enhances connectivity and public access to the LA Waterfront for both the communities of Wilmington and San Pedro.	Under Construction (anticipated completion in 2024)
5	West Harbor Development	Existing Pier 73	42 acres of restaurants, shopping, fresh markets, office space, and a waterfront promenade with ample outdoor space and an open-air amphitheater for live entertainment.	Under Construction (anticipated completion in 2024)
6	Wilmington Waterfront Promenade	401 S. Avalon Boulevard	Waterfront promenade, pedestrian plaza, parking lot, street improvements, and parking onto an 8-acre site.	Completed January 2024
7[1]	SR-47/Harbor Boulevard Interchange Project	SR-47/Harbor Boulevard-Front Street Interchange	Construction, removal, and modification of existing off-ramps to provide improved safety and traffic operations.	Construction February 2024 to November 2026
8[1]	SR-47/Navy Way Interchange Project	Port of Los Angeles	Augments an existing partial interchange at SR-47/Seaside Avenue/Navy Way.	Construction to begin in December 2025 and last until June 2028
Port of Long Beach				
9	Heavy Haul Route	Port of Long Beach	Improvements at Anaheim Street and Farragut Avenue.	Construction from June 2024 to June 2025
10	Pier Wind Project	Port of Long Beach	400-acre offshore wind turbine assembly terminal	Construction to begin in early 2027
City of Los Angeles				
11	Ponte Vista at San Pedro	S. Western Avenue and Horizon Way	700 residential units, including a combination of single-family homes, townhomes, and flats. The development also includes recreational facilities, parks, open space, and a trail.	Currently under construction
12[1]	Alameda Street South Improvement Project	Alameda Street	Alameda Street widening from Harry Bridges Boulevard to Anaheim Street	Construction to begin February 2025 and last until mid-2027
13	Cabrillo Marine Aquarium Life Support Replacement System	3720 Stephen M. White Drive	Replaces the existing Life Support System, which was built in 1981 and is in poor condition.	Construction scheduled to begin in 2024 and be completed in 2025

Table 2.23-1: Development Activities in the Project Vicinity

Number	Name	Location	Project Description	Status
14	Anaheim Street Safety Improvements	Anaheim Street between I-110 and Alameda Street	Improvements of Anaheim Street supporting safer walking and bicycling.	Construction completed 2022
15	Wilmington Safe Streets Project	Multiple locations in Wilmington	Street improvements in Wilmington: ● L Street from I-110 to Eubank Avenue ● Anaheim Street from I-110 to Alameda Street ● Frigate Avenue from PCH to Anaheim Street ● Wilmington Boulevard from Anaheim Street to E Street ● Neptune Avenue from PCH to Wilmington Waterfront Park ● Eubank Avenue from PCH to Anaheim Street	Construction to begin July 2027 and last until mid-2030
16	Western Landing Apartments	25820 S. Western Avenue	80-unit supportive housing complex	Approved by LA City Council April 2023
17[1]	Westbound Anaheim Street Widening Project	Anaheim Street between Dominguez Channel to Farragut Avenue	Widening Anaheim Street	Construction scheduled to begin in July 2024 and end in July 2026
18	Starbucks Coffee Shop	Wilmington, 219 W. Pacific Coast Highway	New Starbucks coffee shop	In planning phase with construction pending
19	Pacific Coast Highway Capital Preventative Maintenance (CAPM) and ADA Improvement	Pacific Coast Highway	Preventative maintenance and ADA improvements	Under construction (anticipated completion in 2025)
City of Carson				
20	Figueroa Street Business Park	20601 Main Street	Development of a business park campus that can accommodate a range of uses.	Under review for city approval with construction pending
City of Long Beach				
21	Residential Street Improvements	W. Ocean Boulevard	Street Improvements along W. Ocean Boulevard from W. Shoreline Drive to Pacific Avenue	Under construction
Caltrans				
22	Union Pacific Overhead Bridge Deck Replacement Project	SR-103	Bridge deck replacement on SR-103 (Bridge #53-2626)	Construction scheduled to begin in April 2024 and end in October 2026
23	Anaheim Street Overhead Bridge Rails Upgrade	Anaheim Street	Upgrades to the Anaheim Street Overhead Bridge (Bridge #53-2627)	Construction scheduled to begin July 2024 and end in May 2025
24[1]	CAPM and ADA Improvement Project	PCH (SR-1)	ADA improvements along PCH from Studebaker Road to Paseo De Las Delicias	Construction began in November 2023 lasting until December 2025
25[1]	SR-103 Pavement Preservation Project	SR-103 from SR-47 to 0.2 mile north of SR-1	Pavement preservation along SR-103	Construction scheduled to begin July 2024 and end in October 2026
26[1]	Shoemaker Bridge Project	I-710	Joint City of Long Beach and Caltrans bridge replacement project on I-710 in Long Beach	Currently in Final Design, construction schedule is TBD

Table 2.23-1: Development Activities in the Project Vicinity

Number	Name	Location	Project Description	Status
Metropolitan Water District				
27	Reach 1 Conveyance Pipeline on Alameda Street	Metropolitan Water District	Metropolitan Water District conveyance pipeline system in the City of Carson to recharge locations throughout the greater LA area	Construction on Sepulveda Boulevard scheduled to start after March 2027

Source: Community Impact Assessment (2024).

[1] Projects anticipated to overlap with the Vincent Thomas Bridge construction period.

2.23.1.5 Resources Evaluated for Cumulative Impacts

The information in this section is presented by environmental resource area. The reasonably foreseeable projects and respective actions considered in this analysis are presented in Table 2.23-1. The projects identified include transportation and planned land use development projects relevant to the proposed project that would be near the proposed Build Alternative improvements. These projects are in various stages of project development, from early conceptual planning and feasibility study to projects planned for approval. Table 2.23-1 is not a comprehensive list of projects because the status of other planned developments is either unknown or the applicant has not pursued further action on their project.

2.23.1.6 Air Quality

Resource Study Area

The RSA for air quality cumulative impacts is a roughly 52-square-mile area that includes the communities of Wilmington, Harbor City, San Pedro, and Terminal Island within the city of Los Angeles, a portion of the cities of Carson and Long Beach, and both POLA and POLB. The RSA encompasses the area where secondary or indirect impacts from construction or operations of the Build Alternative are anticipated to occur, including the proposed detour routes that would be necessary to divert traffic from the bridge during project construction.

While air quality within the region has been improving, due to local and State rules, which have resulted in cleaner emission cars and industries, the residents of Wilmington, Carson, and West Long Beach are located adjacent to several sources of pollution, including POLA and POLB, five oil refineries, nine rail yards, four major freeways, several chemical facilities, and the third largest oilfield in the contiguous United States (Yee and Getahun 2022). POLA and POLB are the two busiest ports in the nation and have seen increases in congestion due to increased cargo imports and supply chain disruptions. This has resulted in more anchored ships running on auxiliary engines waiting to dock along with the increased truck and train activity to move the cargo. Therefore, the overall health of the resource within the RSA could be classified as in poor health, declining health, or at risk.

Project Impact

As discussed in Section 2.13, Air Quality, implementation of the Build Alternative would result in no appreciable difference in air quality conditions between the Build and No Build Alternatives because the project is not expected to permanently change the vehicle capacity or traffic patterns on the Vincent Thomas Bridge or surrounding roads. The proposed project would have no effect on long-term mobile source emissions in the region. There is no potential for an increase in permanent emissions that could contribute to cumulative emissions or interfere with air quality plans that are designed to reduce cumulative air quality impacts.

There is the potential that local and regional air quality would be temporarily affected for 16 to 48 months during construction of the Build Alternative. Emissions from construction equipment powered by gasoline and diesel engines would include carbon monoxide (CO), nitrogen oxides (NO_X), volatile organic compounds (VOCs), minimal amounts of sulfur oxides (SO_X), directly emitted $PM_{2.5}$ and particulate matter less than 10 microns in size (PM_{10}), and toxic air contaminants (TACs) such as diesel exhaust particulate matter (DPM). These emissions would be temporary and limited to the immediate area surrounding the construction site. Short-term degradation of air quality may also occur from the release of particulate emissions (airborne dust) generated by excavation, hauling, and other activities related to construction; however, these emissions would be very low due to construction occurring predominantly within the existing bridge structure footprint. As shown in Table 2.13-9, the temporary increases in emissions and incremental changes in PM_{10} concentrations within the RSA communities would remain below applicable regulatory thresholds for all construction scenarios. Additionally, the effects of the temporary construction-related emissions would be minimized with implementation of the following measures:

- The construction contractor must comply with the Caltrans' Standard Specifications in Section 14-9 (2023):
  - Section 14-9-02 specifically requires compliance by the contractor with all applicable laws and regulations related to air quality, including air pollution control district and air quality management district regulations and local ordinances.
  - Section 14-9.05 requires identification of the local air quality jurisdiction (South Coast Air Quality Management District [SCAQMD]) and for the contract to comply with all applicable rules and best management practices (BMPs).
- The construction contractor must also comply with Caltrans project-specific NSSPs 5-1.33 and 7-1.02C, which require that off-road construction equipment be outfitted with engines meeting Tier 4 emissions standards and that all certification and maintenance documentation be provided prior to equipment use. Implementation of these NSSPs would reduce emissions of ozone precursors and criteria pollutants (primarily particulate matter and NO_X) during construction activities.
- Construction equipment and vehicles will be properly tuned and maintained. All construction equipment will use low sulfur fuel as required by 17 California Code of Regulations (CCR) Section 93114.
- The construction contractor must comply with SCAQMD rules, including Rule 401 (Visible Emissions), Rule 402 (Nuisance), Rule 403 (Fugitive Dust), and Rule 1403 (Asbestos Emissions from Demolition/Renovation Activities).
- Diesel-powered off-road equipment shall limit idling in accordance with the California Air Resources Board (CARB) "Regulation for In-Use Off-Road Diesel-Fueled Fleets" (13 CCR Section 2449).
- Diesel-powered on-road vehicles and trucks shall limit idling in accordance with the CARB "Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling" (13 CCR Section 2485)."

The proposed project is located within one of the identified Assembly Bill (AB) 617 communities (Wilmington/Long Beach/Carson) for which the CARB is required to establish a program to reduce air pollution exposure. To help address public health disparities in these communities, Caltrans requires construction equipment to have engines that comply with United States Environmental Protection Agency (EPA) Tier 4 emission standards for off-road diesel-fueled vehicles. The proposed project will incorporate two NSSPs to ensure that contractors use equipment outfitted with Tier 4 engines during construction (7-1.02C) and that all appropriate certification documentation is provided for use authorization (5-1.33).

Current and Reasonably Foreseeable Future Actions

Current and reasonably foreseeable actions in the RSA include transportation and in-fill development projects listed in Table 2.23-1. There is the potential for temporary increases in construction-related emissions during the construction of each project. However, the construction-related impacts from these projects would be relatively short term and would be minimized to the greatest extent feasible with implementation of standard construction BMPs to minimize construction emissions. Implementation of these projects would add additional employment locations, residential units, and commercial and recreational facilities. This anticipated growth would likely result in an increase in traffic and associated vehicle emissions within the RSA due to more vehicles traveling to/from and within the RSA. The identified projects, however, would not result in an increase in mobile source emissions from trucks, ships, trains, and related activities associated with the ports.

Conclusion of Cumulative Impacts

As noted above, implementation of the proposed Build Alternative would result in temporary emission increases affecting air quality for residents. In addition, the other reasonably foreseeable projects may result in temporary air quality impacts. With the implementation of AM-AQ-1, AM-AQ-2, PF-AQ-1, NSSPs, and BMPs, temporary air quality impacts associated with the proposed project would be minimized; however, temporary cumulatively considerable air quality impacts within the RSA are anticipated with implementation of the Build Alternative.

2.23.1.7 Environmental Justice

Resource Study Area

The RSA for cumulative impacts on environmental justice communities includes the area where secondary or indirect impacts from construction or operations of the Build Alternative are anticipated to occur. This area is defined by 69 census tracts, measuring 52 square miles, and includes the communities of Wilmington, Harbor City, San Pedro, and Terminal Island within the city of Los Angeles, a portion of the city of Carson, and the city of Long Beach (see Figure 2.8-1 in Section 2.8, Environmental Justice). Based on the characteristics used to evaluate the presence of environmental justice communities, the project study area contains 55 census tracts where meaningfully greater minority and/or low-income populations were identified (see Table 2.8-1). Therefore, the health of the resource could be classified as at risk with a substantial environmental justice population within the RSA.

Project Impact

Full or partial closure of the Vincent Thomas Bridge would be required for deck replacement work requiring temporary traffic detours. Traffic detours would be required for up to 16 to 48 months for a partial or full bridge closure, depending on which construction staging option is chosen, and implementation of night or weekend closures. Temporary traffic detours would be required for full bridge closure between 16 and 41 months for single-stage construction, partial bridge closure for approximately 25 months for two-stage construction, and partial bridge closure for approximately 32 months for three-stage construction depending on implementation of night or weekend closures. Another option under consideration is a nighttime bridge closure option, which would keep the bridge open from 6:00 a.m. to 7:00

p.m. and closed for construction from 7:00 p.m. to 6:00 a.m. The duration of traffic detours required for the full nighttime bridge closure is approximately 48 months.

A full closure of the bridge would require all bridge traffic being diverted into neighboring communities, resulting in temporary disproportionately high and adverse effects on minority or low-income populations for cumulative traffic and air quality impacts. A partial closure with one lane open in each direction would result in less traffic being diverted into neighboring communities because traffic would maintain the ability to cross the bridge. Implementation of the detour routes within these communities may result in temporary changes to local traffic patterns and increased traffic volumes, potentially increasing travel distances and times. Additionally, the proposed bridge deck replacement work may result in intermittent increases in construction-related dust and noise, resulting in temporary impacts to the residential areas adjacent to the project area or increased traffic and associated emissions and noise along detour routes. Traffic volumes, travel distances and times throughout the RSA and along the project detour routes may temporarily be increased with additional traffic generated from other reasonably foreseeable projects occurring simultaneously.

The implementation of the Build Alternative would maintain a reliable connection between the city of Long Beach, the community of San Pedro, and the ports. The improved condition of the Vincent Thomas Bridge would maintain consistent employment access and mobility opportunities for all communities within the study area.

Current and Reasonably Foreseeable Future Actions

Current and reasonably foreseeable actions in the RSA include transportation and in-fill development projects listed in Table 2.23-1. The majority of the identified projects would occur within designated environmental justice communities. Construction-related impacts associated with these projects, including increased traffic, dust, air pollution, and noise, could be cumulatively considerable. However, impacts from these projects would be relatively short-term and would be minimized to the greatest extent feasible with implementation of standard construction BMPs to minimize construction dust, emissions, and noise, and the management of traffic for roadway construction.

Conclusion of Cumulative Impacts

As noted above, implementation of the proposed Build Alternative with the full bridge closure option would result in temporary disproportionately high and adverse effects to environmental justice communities and temporary cumulatively considerable traffic and air quality impacts to environmental justice communities. In addition, the other reasonably foreseeable projects may result in temporary impacts to environmental justice communities. Temporary traffic and air quality-related impacts would be minimized through the application of mitigation measures MM-EJ-1, MM-EJ-2, traffic mitigation measures and project feature MM-TR-1, MM-TR-2, and PF-TR-1, in addition to air quality minimization measures and project feature AM-AQ-1, AM-AQ-2, and PF-AQ-1, along with general project features and BMPs. However, a temporary disproportionately high and adverse effect to environmental justice communities due to cumulatively considerable traffic and air quality impacts for the single-stage (full bridge closure) option are anticipated.

2.23.1.8 Biological Resources

Resource Study Area

The RSA for cumulative impacts on biological resources includes the entire POLA/POLB harbor area and the vicinity extending east to the Long Beach City Hall and southwest to the border of San Pedro and Rancho Palos Verdes. Within the RSA, there has been a reduction of peregrine falcon nesting habitat associated with the replacement of bridges that were previously used for nesting. Therefore, the health of the resource could be classified as in poor health, declining health, or at risk.

Project Impact

Within the RSA, the natural habitat is dominated by the Los Angeles Channel, which connects with the Pacific Ocean. The surrounding areas are dominated by urban development with limited natural habitat. The project area consists of the Vincent Thomas Bridge, which includes stable, flat, level surfaces that provide roosting and nesting substrate for birds. The bridge soffit is commonly used by peregrine falcon (*Falco peregrinus*) for roosting and nesting. This species has nested on the Vincent Thomas Bridge for multiple years in recent decades, but it does not consistently nest on the bridge every year. Other native bird species, including gulls, waterfowl, and aerial fish foraging species generally use the bridge and inner harbor areas for resting and foraging, while typically nesting on the outer harbor, islands, outer breakwaters, or beaches. The composition of the bird community changes seasonally, although peregrine falcon remains on/around the bridge throughout the year. Surveys of peregrine falcon in the BSA and surroundings are ongoing.

Implementation of the Build Alternative would interfere with bird nesting by occupying the same space that nesting would occur. Placement of platforms under the bridge deck to capture demolition debris would require a substantial amount of human activity around the area in which birds, especially the peregrine falcon, nest. This heightened activity would result in disturbance to birds, causing them to expend excess energy on hazing people prior to disturbing the nest itself. In addition, the debris catchment system would also impede access to space under the bridge deck, making ingress and egress to that space difficult for nesting birds. Demolition of the existing bridge deck would interfere with nesting activity by causing debris to fall onto and around the existing nest and/or newly constructed nests, leading to nest failure. Lastly the noise from concrete demolition and other activities would harass the nesting birds, since it would occur within 150 to 500 feet of the nest or closer.

The proposed bridge improvements would not alter the bridge so that the peregrine falcon would find the bridge unsuitable for nesting. The under-deck space that the peregrine falcon currently uses for nesting would remain unchanged and usable for nesting after construction. Other bird species would also likely find the bridge suitable for nesting post-construction as well. It is possible that peregrine falcon would choose to not nest on the Vincent Thomas Bridge during construction and opt for other locations in the port complex, in which case there would be no effect to the species.

Current and Reasonably Foreseeable Future Actions

Current and reasonably foreseeable actions in the RSA include transportation and in-fill development projects listed in Table 2.23-1. Based on the location and nature of these projects, these projects are not expected to impact suitable peregrine falcon nesting habitat. However, there has been a reduction of peregrine falcon nesting habitat associated with the replacement of bridges that were previously used for nesting. Peregrine falcon had previously nested on both the Gerald Desmond Bridge, which is to the east of the Vincent Thomas Bridge in POLB, and the Schuyler Heim Bridge (which is also on State Route 47 [SR-47]) to the northeast of the Vincent Thomas Bridge prior to it being replaced. Both new bridges have suitable nesting surfaces and artificial nesting platforms for peregrine falcon to use, and peregrine falcons have recently been observed nesting on the new bridges.

Conclusion of Cumulative Impacts

The exclusion of peregrine falcon from the Vincent Thomas Bridge would reduce nesting habitat in the local area. The impact would be temporary and would not cause a downward population trend because the species would be excluded from the bridge for one to two breeding seasons. With the inclusion of avoidance and minimization efforts MM-BIO-1 through MM-BIO-6, it is not expected that the proposed project would cause injury or mortality to nesting birds. In addition, Caltrans would coordinate with the California Department of Fish and Wildlife (CDFW) on the inclusion of an artificial nest platform outside of the project impact area and within the POLB/POLA Complex to compensate for the temporary loss of the nesting space on the Vincent Thomas Bridge.

As previously mentioned, the current and foreseeable projects within the RSA would not contribute to impacts to peregrine falcons. Regionally, peregrine falcons have experienced success with increasing populations, and they do not face significant impacts from other sources that affect their survival. Peregrine falcon have adapted and found urban environments with multi-story tall buildings to be suitable for nesting along with its natural environment. Therefore, cumulatively considerable impacts to peregrine falcon are not anticipated.

2.23.1.9 Traffic and Transportation

Resource Study Area

The RSA for transportation-related cumulative impacts is a roughly 52-square-mile area that includes the communities of Wilmington, Harbor City, San Pedro, and Terminal Island within the city of Los Angeles, and a portion of the city of Carson, and the city of Long Beach, and both POLA and POLB. The RSA encompasses the proposed detour routes that would be necessary to divert traffic from the bridge during project construction. The conceptual detour routes include Sepulveda Boulevard between Interstate 710 (I-710) and Interstate 110 (I-110), Pacific Coast Highway (PCH) between SR-47 and I-110, Harry Bridges Boulevard/Alameda Street/E. Anaheim Street between SR-47 and I-110, and portions of State Route 103 (SR-103), SR-47, I-110, and I-710 between the Vincent Thomas Bridge and Sepulveda Boulevard. Within the RSA, 50 of the 59 intersections are controlled with either traffic signals or stop controls (see Section 2.10). The sum of traffic volumes entering all the study intersections varies between approximately 158,000 vehicles in the AM peak hour to approximately 162,000 vehicles in the PM peak hour. Existing traffic conditions within the RSA show that the majority of intersections operate at a level of service (LOS) D or better during weekday AM, mid-day (MD), and PM peak hours, with only 10 of 50 intersections operating at a LOS E or F in the AM peak hour and 12 of 50 operating at LOS E or F in the PM peak hour. Based on the current operational conditions within the RSA, the overall traffic conditions are not classified as in poor health, declining health, or at risk.

Project Impacts

As previously discussed in Section 1.4, Alternatives, there are several options for construction staging that require bridge closures and traffic detours of different durations. These options include:

- **Single-Stage Construction:** This construction staging option consists of a full closure of the bridge that would last 16 to 41 months with detour routes and 24/7 work. The difference in construction timelines depends on the deck type chosen. Orthotropic and Pre-Cast deck types would lead to a construction timeline of approximately 16 months. A Cast-in-Place deck type would lead to a construction timeline of approximately 41 months.

- **Two-Stage Construction:** This construction staging option would leave one lane open in each direction for each stage (two stages). All eastbound bridge traffic would be closed while one lane in the westbound direction would remain open and then it would switch with all westbound traffic closed with one lane open in the eastbound direction. The work would require the installation of a temporary support/bracing system, potentially reduced speeds due to small lanes, and multiple weekend (55-hour) full closures and overnight full closures of the bridge. Construction would last approximately 25 months.

- **Three-Stage Construction:** This construction staging option would leave one lane open in each direction and would require installation of temporary support/bracing system. One lane would be open in each direction for each stage and multiple weekend (55-hour) full bridge closures and full overnight bridge closures would be required. Construction would last approximately 32 months.

- **Nighttime Bridge Closure:** This construction staging option would leave the bridge fully open during daytime traffic hours (6:00 a.m. to 7:00 p.m.). The work would require the installation of a temporary support/bracing system and full closure of the bridge during nighttime hours (7:00 p.m. to 6:00 a.m.) every day. Construction would last approximately 48 months.

Traffic analysis indicates that each of the construction staging options would result in increased congestion at intersections throughout the RSA for all peak periods. Congestion is determined by adding the change in vehicle delay at intersections plus the change in LOS. The average delay increase for the staging options is between 5 percent for the three-stage option up to a 37 percent increase for the single-stage option, resulting in the highest congestion increase.

Similarly, the projected traffic increases along the proposed detour routes during the peak periods would vary by staging option, with the PM peak period showing the greatest increases. On Sepulveda Boulevard, the increase in traffic during the PM peak period would range from 97 to 270 vehicles, on PCH the increase in vehicles would range from 113 to 414, while Harry Bridges Boulevard would experience the greatest increase in detoured traffic with 315 to 762 additional vehicles. Average speeds along all roadway segments would be reduced during all peak periods with the single-stage option resulting in the greatest reduction. During the construction period, there would be a small increase in vehicle miles traveled (VMT), varying between a 0.01 percent increase for the three-stage option up to a 0.12 percent increase for the single-stage construction option.

Following completion of the improvements associated with the Build Alternative, the Vincent Thomas Bridge would maintain its existing configuration, and traffic patterns would not be altered. Therefore, implementation of the project would not induce additional VMT within the RSA.

Current and Reasonably Foreseeable Future Actions

Current and reasonably foreseeable actions in the RSA include transportation and the in-fill development projects listed in Table 2.23-1. For traffic analysis purposes, the SR-47/Vincent Thomas Bridge and Front Street/Harbor Boulevard Interchange Reconfiguration Project (#7) along with lane reductions along Alameda Street between Harry Bridges Boulevard and PCH (#12) were assumed complete and were included as part of the baseline condition. The identified development projects within the ports and surrounding communities would add additional employment locations, residential units, and commercial and recreational facilities. This anticipated growth would likely result in an increase in vehicular traffic within the RSA due to more vehicles traveling to/from and within the RSA. In addition, construction of several of the identified roadway projects, including the Alameda Street South Improvement Project, Westbound Anaheim Street Widening, ADA improvements along PCH, and SR-103 Pavement Preservation Project would overlap with the anticipated construction timeline for the Vincent Thomas Bridge. This project construction overlap may result in additional street or lane closures and/or detours occurring at the same time as the closure of the Vincent Thomas Bridge, thereby contributing to additional congestion and delay throughout the RSA and resulting in temporary cumulative traffic impacts.

Conclusion of Cumulative Impacts

The impacts to traffic conditions within the RSA, including increased traffic congestion and delay resulting from the closure of the Vincent Thomas Bridge, would be temporary and would vary in duration and severity depending on the construction staging option implemented. The single-stage construction staging option would result in the greatest increase in intersection delay, origin-destination travel time, and corridor VMT/vehicle-hour delay, and the greatest decrease in segment speed.

As stated above, other current and foreseeable projects within the RSA would contribute to additional traffic congestion and delay; however, these projects would be required to include measures to mitigate for impacts to traffic and transportation. The proposed project would include minimization measures MM-TR-1 and MM-TR-2 along with PF-TR-1 to address direct temporary impacts to traffic flow in the RSA. In addition, implementation of the strategies identified in MM-EJ-1 and MM-EJ-2 (including regular coordination with other agencies and projects regarding construction timing and potential traffic detours) along with regular community engagement would provide a managed effort to inform the public and to maintain traffic flow and transit service through the RSA, thereby minimizing potential temporary cumulative transportation impacts.

Temporary construction-related impacts would be minimized through the application of identified mitigation measures; however, temporary cumulatively considerable impacts to traffic and transportation for the Build Alternative with the full bridge closure option are anticipated.

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Chapter 3 – California Environmental Quality Act (CEQA) Evaluation

3.1 Determining Significance Under CEQA

The proposed project is a joint project by Caltrans and the Federal Highway Administration (FHWA) and is subject to State and federal environmental review requirements. Project documentation, therefore, has been prepared in compliance with both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). FHWA's responsibility for environmental review, consultation, and any other actions required by applicable federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 United States Code (USC) Section 327 and the Memorandum of Understanding (MOU) dated May 27, 2022, and executed by FHWA and Caltrans. Caltrans is the lead agency under both CEQA and NEPA.

One of the primary differences between NEPA and CEQA is the way significance is determined. Under NEPA, significance is used to determine whether an Environmental Impact Statement (EIS), or a lower level of documentation, will be required. NEPA requires that an EIS be prepared when the proposed federal action (project) as a whole has the potential to "significantly affect the quality of the human environment." The determination of significance is based on context and intensity. Some impacts determined to be significant under CEQA may not be of sufficient magnitude to be determined significant under NEPA. Under NEPA, once a decision is made regarding the need for an EIS, it is the magnitude of the impact that is evaluated and no judgment of its individual significance is deemed important for the text. NEPA does not require that a determination of significant impacts be stated in the environmental documents.

CEQA, on the other hand, does require Caltrans to identify each "significant effect on the environment" resulting from the project and ways to mitigate each significant effect. If the project may have a significant effect on any environmental resource, then an Environmental Impact Report (EIR) must be prepared. Each and every significant effect on the environment must be disclosed in the EIR and mitigated if feasible. In addition, the *State CEQA Guidelines* list a number of "mandatory findings of significance," which also require the preparation of an EIR. There are no types of actions under NEPA that parallel the findings of mandatory significance of CEQA. This chapter discusses the effects of this project and CEQA significance.

3.2 CEQA Environmental Checklist

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

Project features, which can include both design elements of the project and standardized measures that are applied to all or most Caltrans projects such as best management practices (BMPs) and measures included in the Standard Plans and Specifications or as

Standard Special Provisions, are considered to be an integral part of the project and have been considered prior to any significance determinations documented below; see Chapters 1 and 2 for a detailed discussion of these features. The annotations to this checklist are summaries of information contained in Chapter 2 in order to provide the reader with the rationale for significance determinations. For a more detailed discussion of the nature and extent of impacts, please see Chapter 2. This checklist incorporates by reference the information contained in Chapters 1 and 2.

3.2.1 AESTHETICS

Except as provided in Public Resources Code Section 21099, would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☐	☒
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

3.2.1.1 CEQA Significance Determinations for Aesthetics

a), b), c) No Impact

The proposed project is located within the city of Los Angeles in a mostly urban setting consisting of residential, recreation, transportation, commercial, and undeveloped land uses. The project area is highly urbanized, with some ornamental and weedy vegetation, and has low biological value to native plant and wildlife species. Therefore, there are no distinct natural open spaces or natural features in the project area. The proposed project does not include a Caltrans officially designated or eligible scenic highway. The proposed project does not include any grade separations; therefore, the proposed bridge deck replacement, and other modifications would remain generally consistent with the existing condition, and the project site's existing urbanized setting would remain relatively unchanged. As a result, the proposed project would not affect scenic views or result in the loss of any scenic resources in the area. Therefore, the proposed project would result in no impacts related to scenic vistas or scenic resources. No mitigation is required. The proposed project would not conflict with any zoning or other regulations governing scenic quality.

d) Less Than Significant Impact

Existing light sources surrounding the project site include traffic, street lighting, and lighted parking lots; signalization at intersections and freeway on- and off-ramps; industrial areas (port activities); and limited light sources from residential areas. Existing light fixtures within the freeway right-of-way on the Vincent Thomas Bridge would be replaced as part of the proposed project. The replaced light fixtures would be designed and installed consistent with existing Caltrans standards. The replaced light fixtures would be similar in function and light intensity to the existing lighting. The site is located within an area that already experiences some levels of light and/or glare from the existing vehicles, streetlights, and port activities. Light and glare from lighting fixtures and vehicles entering/exiting the project site after project implementation would generally be like the existing condition in the project area.

As a result, the proposed project would result in less than significant impacts related to lighting and glare. No mitigation is required.

3.2.2 AGRICULTURE AND FOREST RESOURCES

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.				
Would the project:	**Significant and Unavoidable Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

3.2.2.1 CEQA Significance Determinations for Agriculture and Forest Resources

a), b), c), d), e) No Impact

There is no farmland that would be converted within the project limits. There are no parcels under a Williamson Act contract within the project limits. There are no forest or timberlands within the project limits, therefore would be no changes to farmland or forest land.

3.2.3 AIR QUALITY

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations.				
Would the project:	**Significant and Unavoidable Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non- attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

3.2.3.1 CEQA Significance Determinations for Air Quality

a, b, c) Less Than Significant

The proposed project is located in the South Coast Air Basin (Basin) and is within the jurisdiction of the South Coast Air Quality Management District (SCAQMD) and California Air Resources Board (CARB). The SCAQMD is the primary agency responsible for writing the Air Quality Management Plan (AQMP) in cooperation with the Southern California Association of Governments (SCAG), local governments, and the private sector. The AQMP provides the blueprint for meeting State and federal ambient air quality standards. This project is not a capacity-increasing transportation project and is not expected to alter traffic patterns or induce vehicle miles traveled (VMT) upon completion. Although the project will have a temporary impact on traffic volumes during construction, the detour traffic is anticipated to generate an incremental increase in concentrations of particulate matter less than 10 microns in size (PM_{10}) that are less than the applicable threshold. Deck replacement activities would last 16 to 48 months depending on the scenarios, but are anticipated to generate less temporary emissions than an applicable regional mass emissions threshold, except for Scenario 8 (Overnight Closure with Pre-Cast Bridge Deck). Therefore, the proposed project will not conflict with the AQMP, violate any air quality standard, result in a net increase of any criteria pollutant, or expose sensitive receptors to substantial pollutant concentrations. The project is included in the conforming Federal Transportation Improvement Program (FTIP) in Amendment #23-13 (FTIP ID LALS04). Impacts will be less than significant. No mitigation is required.

d) Less Than Significant

Temporary construction activities could generate fugitive dust from the operation of construction equipment. The project will comply with construction standards adopted by the SCAQMD as well as Caltrans standardized procedures for minimizing air pollutants during construction. Impacts will be less than significant. No mitigation is required.

3.2.4 BIOLOGICAL RESOURCES

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, or NOAA Fisheries?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

3.2.4.1 CEQA Significance Determinations for Biological Resources

a) Less Than Significant with Mitigation Incorporated

The proposed project would interfere with bird nesting by occupying the same space in which nesting would occur. Since the project must place platforms under the bridge deck to capture demolition debris and prevent that debris from entering the channel, there would be a substantial amount of human activity around the area that birds, especially the peregrine falcon, nest. This heightened activity would cause disturbance to the birds, causing them to expend excess energy on hazing people prior to disturbing the nest itself. The construction of the debris catchment system would also impede access to space under the bridge deck, making ingress and egress to that space difficult for nesting birds. Demolishing the bridge deck would also cause debris to fall onto and around the existing nest and/or newly constructed nests, which could cause nest failure, and which would also interfere with nesting. Lastly the noise from concrete demolition and other activities would harass the nesting birds, since it would occur within 150 to 500 feet of the nest or closer. With implementation of the measures below, the impacts to bird (peregrine falcon) habitat would be less than significant with mitigation incorporated.

MM-BIO-1 To prevent the project from interrupting nesting and causing nest failure, which would result in a substantial waste of energy and decreased ease of reproduction for peregrine falcon, Caltrans would install nesting exclusionary devices on the bridge prior to the nesting season in which construction is planned to occur. The exclusionary devices would prevent the falcon and other birds from attempting to nest on the bridge.

MM-BIO-2 To prevent the project from interrupting nesting and causing nest failure, Caltrans would remove existing nesting materials that are on the bridge when they are encountered prior to the nesting season (generally February 1 to September 1, but when including the peregrine falcon season, it is January 15 to September 1). This would discourage peregrine falcon and other species that reuse nests from using the bridge for nesting and reduce the likelihood that falcons and other birds, their eggs, and nest would be injured or destroyed by construction activities such as concrete demolition.

MM-BIO-3 A biologist with experience in surveying and monitoring avian activity will survey the bridge and its surroundings prior to construction to verify that birds are not nesting on the bridge prior to construction. A lapse in construction is not planned, but if there is a lapse in construction for longer than 3 days, a repeat survey would be performed. If birds are observed attempting nesting on the bridge, then a no-work buffer around the nest would be implemented and Caltrans would conduct consultation with the United States Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW).

MM-BIO-4 A biologist will monitor the bridge during construction for signs of whether birds are nesting on the bridge. They will keep track of nesting birds on the bridge and evaluate whether construction has the potential to or is disturbing nesting birds. The biological monitor will also observe construction to ensure that construction best management practices (BMPs) are applied to prevent incidental effects to the channel, water quality, and jurisdictional waters.

MM-BIO-5 A qualified biologist will make a presentation to construction staff who are on site for longer than 30 minutes. The staff will be advised on the bird species that have been known to occur in the project area, their nest appearance and siting factors, the project's conservation measures, and the procedures for reporting and avoiding nesting migratory birds.

MM-BIO-6 **Compensatory Mitigation.** Caltrans will construct an artificial nest platform outside of the project impact area within the Port of Long Beach/Port of Los Angeles complex to compensate for the temporary loss of the nesting space on the Vincent Thomas Bridge. The artificial nest platform will likely be placed close to the bridge so that falcons that repeatedly nest on the Vincent Thomas Bridge are aware of the artificial nesting platform. The platform would be constructed in a way and at a site that would make it suitable for peregrine falcon nesting, taking into consideration the elevation, the visibility of the platform, and other site characteristics. Potential nest platform sites will be discussed in consultation with the CDFW.

b), c), d), e), f) No Impact

The proposed project would not affect riparian habitat or other sensitive natural communities or affect State or federally protected wetlands. This project will not affect any migratory wildlife corridors, the movement of any native resident or migratory fish or wildlife species, or impede the use of native wildlife nursery sites.

The proposed project will not conflict with any local policies or ordinances protecting biological resources. This project will not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Communities Conservation Plan, or other approved local, regional, or State habitat conservation plan.

3.2.5 CULTURAL RESOURCES

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☐	☒	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☐	☒
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☐	☐	☒

3.2.5.1 CEQA Significance Determinations for Cultural Resources

a) Less Than Significant Impact

The proposed scope of work to replace the bridge deck and median/guardrails would not alter any of the characteristics of the Vincent Thomas Bridge that qualify it for inclusion in the National Register of Historic Places (National Register) or diminish the integrity of the historic property; ,therefore the project would have a less than significant impact to the historic property.

b), c) No Impact

The project would not require ground disturbance, so no archaeological resources or human remains are anticipated to be affected by the undertaking. Project features PF-CR-1 and PF-CR-2 will require appropriate handling of human remains should they be found during construction.

3.2.6 ENERGY

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

3.2.6.1 CEQA Significance Determinations for Energy

a) Less Than Significant Impact

Proposed project construction would primarily consume diesel and gasoline through operation of heavy-duty construction equipment, material deliveries, and debris hauling. As indicated in Section 2.15 of this document, energy use associated with proposed project construction is estimated to result in the short-term consumption of 165,426 gallons from diesel-powered equipment at maximum (Scenario 8) and 6,181 gallons from gasoline-powered equipment at maximum (Scenario 8). This represents a small demand on local and regional fuel supplies that would be easily accommodated, and this demand would cease once construction is complete. Moreover, construction-related energy consumption would be temporary and not a permanent new source of energy demand, and demand for fuel would have no noticeable effect on peak or baseline demands for energy. While construction would result in a short-term increase in energy use, Project avoidance measures and design features such as AM-AQ-2 (the use of Tier 4 equipment during construction), PF-AQ-1 (limit idling to 5 minutes for delivery and dump trucks and other diesel-powered equipment), and PF-AQ-1 (requiring improved fuel efficiency from construction) would help conserve energy. These energy conservation features are consistent with State and local policies to reduce energy. Therefore, the project would not result in an inefficient, wasteful, and unnecessary consumption of energy.

Some energy consumption increases during the construction period would be unavoidable, but no increase in operational energy consumption is expected. There will likely be long-term energy consumption reductions from improved operation and smoother pavement surfaces on the replaced bridge deck.

b) No Impact

The project would comply with all SCAQMD regulations regarding use of construction vehicles and equipment. For the SCAG region, the 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), adopted on September 3, 2020 is the applicable RTP. The project does not obstruct or conflict with the RTP or other applicable local plans such as Mobility Plan 2035 (the Transportation Element of the City of Los Angeles General Plan), the San Pedro Bay Ports Clean Air Action Plan, or the Los Angeles Department of Water and Power (LADWP) 2017 Power Strategic Long-Term Resource Plan (SLTRP). The project's operational activity would not directly increase regional energy consumption because the bridge deck replacement would not change the operational vehicle capacity. There would be no appreciable difference between the Build Alternative and the No Build Alternative because the project is not expected to alter traffic patterns or induce VMT upon completion of construction. Minor reductions in project energy consumption are possible with improved conditions of the Vincent Thomas Bridge deck following construction completion, allowing for smoother driving conditions and reduced vehicle emissions.

3.2.7 GEOLOGY AND SOILS

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☐	☒
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☒
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☒
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒

3.2.7.1 CEQA Significance Determinations for Geology and Soils

a), b), c), d), e), f) No Impact

The proposed project is a bridge deck replacement located entirely along the approach and suspended spans of the Vincent Thomas Bridge. The Build Alternative would not contribute to impacts to geology, soils, seismology, or topography.

3.2.8 GREENHOUSE GAS EMISSIONS

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒

3.2.8.1 CEQA Significance Determinations for Greenhouse Gas Emissions

a) Less Than Significant Level

While the proposed project will result in greenhouse gas (GHG) emissions during construction, it is anticipated that the project will not result in any increase in operational GHG emissions. With implementation of construction GHG reduction measures, the impact would be less than significant.

b) No Impact

The proposed project does not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions.

While the proposed project will result in greenhouse gas (GHG) emissions during construction, it is anticipated that the project will not result in any increase in operational GHG emissions. The proposed project does not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. With implementation of construction GHG reduction measures, the impact would be less than significant.

3.2.9 HAZARDS AND HAZARDOUS MATERIALS

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	☒

3.2.9.1 CEQA Significance Determinations for Hazards and Hazardous Materials

a), b) Less Than Significant Impact

During construction, there is the potential to encounter hazardous materials in the existing road materials. The proposed project under Alternative 2 (Build Alternative) would involve demolition of existing structures; therefore, hazardous soil contaminants such as aerially deposited lead (ADL), polychlorinated biphenyls (PCBs), lead chromate, and asbestos-containing material (ACM) may be encountered during project construction. In addition, soil impacted by petroleum hydrocarbons, halogenated compounds, or other hazardous materials could be encountered at the properties that would be partially or fully acquired for the proposed project under Alternative 2.

Typical hazardous materials used during construction (e.g., solvents, paints, fuels) would be handled in accordance with standard procedures. There are standard regulations and Caltrans policies (avoidance and minimization measures) that must be followed with respect to the use, storage, handling, disposal, and transport of potentially hazardous materials during construction of the proposed project under the Build Alternative to protect human health and the environment.

Routine maintenance activities during operation of the proposed project under Alternative 2 would be required to follow applicable regulations with respect to the use, storage, handling, transport, and disposal of potentially hazardous materials. Therefore, the operation of the proposed project under the Build Alternative would not result in significant impacts related to hazardous waste or materials. No mitigation is required.

The proposed project would not create a substantial hazard to the public or the environment through any reasonably foreseeable upset or accident conditions involving the release of hazardous materials.

Routine hazardous materials such as paint, solvents, and fuel would be used, handled, stored, disposed of, and transported during construction of the proposed project in accordance with applicable local, State, and federal regulations. During operation of the proposed project, transport of hazardous materials is subject to strict regulation. Caltrans, the California Highway Patrol, and local police and fire departments are trained in emergency response procedures for safely responding to accidental spills of hazardous substances on public roads, which further reduces impacts. Hence, operation of the proposed project would not result in a significant permanent impact related to the transport or upset of hazardous waste and materials. No mitigation is required.

Project features related to the handling of hazardous waste materials can be found under Environmental Consequences in Section 2.12, Hazardous Waste/Materials.

c), d), e) No Impact

The closest school is Barton Hill Elementary School, which is approximately 0.75 mile west-southwest of the project site. The proposed project will not emit hazardous emissions, handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school.

The proposed project will not be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would not create a significant hazard to the public or the environment.

The closest public-use airport to the project site is Long Beach Airport/Dougherty Field, which is approximately 8 miles northeast of the project site. Due to the distance of this airport from the proposed project and the fact that the proposed project is not within an airport land use plan area, implementation of the proposed project would not result in a safety hazard related to airport operations for people working or residing in the study area. No mitigation is required.

f) Less Than Significant Impact

As described in Section 2.10, Traffic and Transportation/Pedestrian and Bicycle Facilities, the construction of the proposed project would result in temporary impacts to traffic circulation and pedestrian access in the project vicinity. Those impacts could include short-term closures of the Vincent Thomas Bridge and modifications to the existing facilities, as described in detail in Section 2.10. The temporary closures and detours may result in short-term effects on emergency response and evacuation along and in the vicinity of the project limits and arterials in the vicinity of State Route 47 (SR-47). Specifically, emergency responders would need to use designated detour routes to get around bridge closures. This could result in increased travel times for emergency service providers. Similarly, in the event evacuations are required during the temporary facility closures or lane reductions, there could be delays for traffic evacuating from the area due to the detours and/or temporary reduction in available road capacity. Project Feature PF-TR-1, provided in Section 2.10, requires preparation prior to construction and the implementation during construction of a Transportation Management Plan (TMP). Additionally, PF-UES-1, provided in Section 2.9, would require coordination with emergency service providers for ramp or road closures. Collectively, these project features would specifically address requirements for coordination with emergency service providers and accommodation of emergency travel routes and access to, through, and around active construction areas. With implementation of the identified project features, potential impacts related to emergency response times and plans would be less than significant.

g) No Impact

Wildland fires occur in geographic areas that contain the types and conditions of vegetation, topography, weather, and structure density susceptible to risks associated with uncontrolled fires that can be started by lightning, improperly managed campfires, cigarettes, sparks from automobiles, and other ignition sources. The project limits and the surrounding areas are developed urban and suburban areas and do not include brush- and grass-covered areas typically found in areas susceptible to wildfires. As a result, the proposed project would not expose people or structures to a significant risk of loss, injury, or death associated with wildland fires. No impact would occur and no mitigation is required.

3.2.10 HYDROLOGY AND WATER QUALITY

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☐	☒
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
(i) Result in substantial erosion or siltation on- or off-site;	☐	☐	☐	☒
(ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☐	☒
(iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☐	☒
(iv) Impede or redirect flood flows?	☐	☐	☐	☒
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒

3.2.10.1 CEQA Significance Determinations for Hydrology and Water Quality

a), b), c), d), e) No Impact

The proposed project is not located within the Federal Emergency Management Administration (FEMA) 100-year floodplain; therefore, the project would not contribute to any hydrology or floodplain impacts. The proposed project consists of replacing the bridge deck, guardrail, and median barrier, as well as seismic sensor upgrades and is not anticipated to contribute to water quality or stormwater runoff impacts.

3.2.11 LAND USE AND PLANNING

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Physically divide an established community?	☐	☐	☐	☒
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

3.2.11.1 CEQA Significance Determinations for Land Use and Planning

a), b) No Impact

The project limits are within an existing freeway with interchanges/ramps, retaining walls, noise barriers, and other structural features, and the proposed project would not introduce a new structural barrier that would divide or disrupt existing communities.

The proposed project would be consistent with the goals and policies in the Port of Los Angeles (POLA) Port Master Plan (PMP). The proposed project would not result in changes to existing land use patterns in the project area because SR-47 is an existing transportation facility in a highly developed area. The proposed project would not require amendment to the City of Los Angeles General Plan. Additionally, the proposed project is located within the coastal zone and would require a Coastal Development Permit from the California Coastal Commission (CCC) or an equivalent Harbor Development Permit from POLA (anticipated to be an exemption). Coastal Development Permits ensure compliance with the policies of Chapter 3 of the California Coastal Act, which strive to protect coastal zone resources. Therefore, the proposed project is consistent with local plans and policies. No mitigation is required.

3.2.12 MINERAL RESOURCES

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

3.2.12.1 CEQA Significance Determinations for Mineral Resources

a), b) No Impact

According to California's Division of Oil, Gas, and Geothermal Resources, there are six oil and gas wells in the community of San Pedro. All of the wells are inactive except for one, which is idle. The idle well is located more than 2 miles southwest of the project site. Therefore, the proposed project would have no impact.

The State Geologist is responsible for classifying and/or designating mineral deposits based on adopted criteria that address the resource development potential of a particular commodity. Areas are categorized into four Mineral Resource Zones (MRZs) based on geologic factors. MRZ-2 identifies significant mineral deposits of a particular commodity and is therefore the most important category. There are no deposits in the project area or in the community of San Pedro that have been classified as MRZ-2 by the State Geologist. As a result, the proposed project would not result in impacts on known mineral resources or resource extraction activities. No mitigation is required.

3.2.13 NOISE

Would the project result in:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☒
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

3.2.13.1 CEQA Significance Determinations for Noise

The potential for the proposed project to result in significant noise impacts was assessed in the Noise Study Report (December 2023) and Section 2.14, Noise, in this environmental document. The following discussions are based on those analyses.

a) Less Than Significant Impact

There are no substantial noise increases during daytime or nighttime along any of the detour routes to cause significant temporary operational traffic noise impacts to the noise sensitive land uses. No adverse noise impacts from construction are anticipated because construction would be conducted in accordance with Caltrans standard specifications and would be short term, intermittent, and dominated by local traffic noise. Therefore, temporary and permanent noise impacts are considered to have a less than significant impact in the project area.

b), c) No Impact

Project construction does not include blasting or pile driving, and there are no anticipated vibration impacts during construction. There are no private airstrips, airport land use plans, or public/public use airports within the project vicinity; therefore, there are no anticipated impacts.

3.2.14 POPULATION AND HOUSING

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

3.2.14.1 CEQA Significance Determinations for Population and Housing

a), b) No Impact

The Build Alternative proposes to replace an existing bridge deck and does not propose changes to access or capacity; therefore, project-related population or housing growth is not reasonably foreseeable. Implementation of the Build Alternative would not influence changes in regional population characteristics.

The Build Alternative would maintain the existing configuration of the Vincent Thomas Bridge and does not include any changes to access or capacity. All improvements would occur within the footprint of the existing bridge and Caltrans right-of-way and would not require any residential acquisitions, relocations, or construction of new housing units.

3.2.15 PUBLIC SERVICES

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
i) Fire protection?	☐	☐	☒	☐
ii) Police protection?	☐	☐	☒	☐
iii) Schools?	☐	☐	☐	☒
iv) Parks?	☐	☐	☐	☒
v) Other public facilities?	☐	☐	☐	☒

3.2.15.1 CEQA Significance Determinations for Public Services

a) i) and ii) Less Than Significant Impact

During construction, a full or partial closure of the Vincent Thomas Bridge and detours would be required for bridge deck replacement work that may affect emergency response times. The duration of temporary traffic detours required for a full bridge closure is approximately 16 to 41 months. For a partial bridge closure (two-stage construction and three-stage construction), the duration is approximately 25 to 32 months. For the nighttime bridge closure option, where the bridge would be open from 6:00 a.m. to 7:00 p.m. and closed for construction from 7:00 p.m. to 6:00 a.m., the duration of traffic detours required would be 48 months. A full closure of the bridge would result in all bridge traffic being diverted into neighboring communities, and partial closure would potentially result in less traffic being diverted into neighboring communities because traffic would maintain the ability to cross the bridge. Temporary detours may result in changes to travel patterns, increases in traffic volumes along detour routes, and increases in travel distance and time, and emergency response may be affected within the Community Impact Assessment (CIA) Study Area. However, access to emergency service facilities would be maintained, and coordination with emergency service providers would occur prior to and during construction, with construction signage and traffic control to maintain emergency services throughout the CIA Study Area. Therefore, the Build Alternative would result in a less than significant impact to emergency services (fire and police protection). See PF-UES-1 (regular coordination with emergency service providers for ramp or road closures). More details are available in Section 2.9 of this document.

a) iii), iv), and v) No Impact

During construction, there would be no impacts to community facilities (e.g., schools, parks, and other public facilities) due to their distance from the project area construction activities, and access to community facilities would be maintained. Therefore, the Build Alternative would result in no impacts to community facilities under CEQA.

3.2.16 RECREATION

	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

3.2.16.1 CEQA Significance Determinations for Recreation

a), b) No Impact

During construction, bridge deck replacement work activities would occur completely within the footprint of Vincent Thomas Bridge and Caltrans right-of-way, and would not affect or impair the use, features, activities, or attributes of parks or recreational facilities. Therefore, the Build Alternative would result in no impacts to parks and recreation under CEQA.

3.2.17 TRANSPORTATION

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☒	☐	☐
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
d) Result in inadequate emergency access?	☐	☐	☒	☐

3.2.17.1 CEQA Significance Determinations for Transportation

a) Less Than Significant Impact

The duration of temporary traffic detours required for a full bridge closure is approximately 16 to 41 months. For a partial bridge closure (two-stage construction and three-stage construction), the duration is approximately 25 to 32 months. For the nighttime bridge closure option, where the bridge would be open from 6:00 a.m. to 7:00 p.m. and closed for construction from 7:00 p.m. to 6:00 a.m., the duration of traffic detours required would be 48 months. A full closure of the bridge would result in all bridge traffic being diverted into neighboring communities, and a partial closure would potentially result in less traffic being diverted into neighboring communities because traffic would maintain the ability to cross the bridge.

Proposed detour routes include Sepulveda Boulevard between State Route 103 (SR-103) and Interstate 110 (I-110), Pacific Coast Highway (PCH) between SR-47 and I-110, Harry Bridges Boulevard/Alameda Street/Anaheim Street between SR-47 and I-110, and portions of SR-103, SR-47, I-110,, and Interstate 710 (I-710) through the surrounding areas. During construction, existing access and parking would be maintained; however, there may be changes in traffic patterns and circulation due to increased traffic volumes along detour routes, and travel distances and times may increase for travelers within the CIA Study Area. Project features and BMPs such as use of signage (including changeable message signs) to alert travelers of full or partial bridge closures, to provide time frames or durations for construction activities, and to direct traffic to the detour routes to minimize construction-related impacts. Therefore, the Build Alternative would result in a less than significant impact to the circulation system, including transit, roadway, bicycle, and pedestrian facilities.

b) Less Than Significant Impact with Mitigation Incorporated

Transportation projects that reduce, or have no impact on, vehicle miles traveled (VMT) should be presumed to cause a less than significant transportation impact. This project's Build Alternative has four different construction staging options. The two-stage, three-stage, and full nighttime closure construction options would maintain existing conditions upon completion and would have no permanent impact on VMT. Temporary closures of the bridge would slightly increase VMT for some origin and destination routes that otherwise would have used the Vincent Thomas Bridge; however, these impacts are minimal and would be further minimized through the mitigation measures outlined in Section 2.10; therefore, these construction staging options would result in a less than significant impact with mitigation incorporated.

The single-stage (full-closure) construction option would maintain existing conditions upon completion and would have no permanent impact on VMT. The temporary closure of the entire bridge would not measurably increase VMT in the project area; ,however the increase of 0.12 percent in VMT for the CIA Study Area is larger than the other three construction staging options being considered. The Build Alternative would result in a (temporary) less than significant impact with mitigation incorporated to the VMT guidance in *State CEQA Guidelines* Section 15064.3, subdivision (b).

c) No Impact

The Build Alternative would be designed, constructed, and operated consistent with the Caltrans Highway Design Manual (2020) and other applicable standards and specifications for ramps, arterial intersections, retaining walls, noise barriers, drainage features, and utility relocations/modifications. No additional access or roadway improvements have been proposed that would substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). Therefore, the Build Alternative would not include any hazardous design features or incompatible uses. No mitigation is required.

d) Less Than Significant Impact

During construction, a full or partial closure of the Vincent Thomas Bridge and detours would be required for bridge deck replacement work that may affect emergency response times. The duration of temporary traffic detours required for a full bridge closure is approximately 16 to 41 months. For a partial bridge closure (two-stage construction and three-stage construction), the duration would be approximately 25 to 32 months. The nighttime bridge closure option, where the bridge would be open from 6:00 a.m. to 7:00 p.m. and closed for construction from 7:00 p.m. to 6:00 a.m., the duration of traffic detours required would be 48 months. A full closure of the bridge would result in all bridge traffic being diverted into neighboring communities, and partial closure would potentially result in less traffic being diverted into neighboring communities because traffic would maintain the ability to cross the bridge. Temporary detours may result in changes to travel patterns, increases in traffic volumes along detour routes, and increases in travel distance and time and emergency response may be affected within the CIA Study Area. However, access to emergency service facilities would be maintained, and coordination with emergency service providers would occur prior to and during construction, with construction signage and traffic control to maintain emergency services throughout the CIA Study Area. Therefore, the Build Alternative would result in a less than significant impact to emergency service access. See Caltrans standard project feature PF-UES-1 (regular coordination with emergency service providers for ramp or road closures).

3.2.18 TRIBAL CULTURAL RESOURCES

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☐	☐	☒
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☐	☒

3.2.18.1 CEQA Significance Determinations for Tribal Cultural Resources

a), b) No Impact

Caltrans, in accordance with Section 106 Programmatic Agreement (PA) Stipulation VIII.C.5 has determined there are properties within the Area of Potential Effects (APE) that were previously determined eligible for inclusion in the National Register, and those determinations remain valid. Caltrans Bridge #53-1471 (Vincent Thomas Bridge) was determined National Register eligible during the 2010 Update of the Caltrans Statewide Historic Bridge Inventory. Caltrans, pursuant to Section 106 PA Stipulation X.B.2, has determined that a Finding of No Adverse Effect (without Standard Conditions) is appropriate for this undertaking, and received the State Historic Preservation Officer’s (SHPO’s) concurrence in this determination on August 7, 2023.

The potential for the Build Alternative to adversely impact Tribal Cultural Resources was assessed in the Historic Property Survey Report (HPSR) (2023), the attachments to the HPSR, Section 2.11 Cultural Resources, and by adhering to Assembly Bill (AB) 52. AB 52, which went into effect on July 1, 2015, introduced a new class of resources—Tribal Cultural Resources—and proposed that it be included in the CEQA analysis. The California Office of Administrative Law approved the changes to the CEQA Checklist to incorporate the Tribal Cultural Resource questions on September 27, 2016. The proposed project is subject to the requirements of AB 52, the CEQA Tribal Consultation law. As such, in addition to the initial Native American coordination, consultation under AB 52 was subsequently conducted by Caltrans on April 28, 2023. On April 20, 2023, Caltrans sent letters to the following individuals/Tribes:

- Gabrieleño Band of Mission Indians-Kizh Nation, Andrew Salas, Chairperson
- Gabrieleno/Tongva San Gabriel Band of Mission Indians, Anthony Morales, Chairperson
- Gabrielino/Tongva Nation, Sandonne Goad, Chairperson
- Gabrielino Tongva Indians of California Tribal Council, Robert Dorame, Chairperson, and Christina Conley, Tribal Consultant and Administrator

- Gabrielino-Tongva Tribe, Charles Alvarez Santa Rosa Band of Cahuilla Indians, Lovina Redner, Tribal Chair
- Soboba Band of Luiseno Indians, Isaiah Vivanco, Chairperson, and Joseph Ontiveros, Cultural Resources Department

On April 20, 2023, Ms. Brandy Salas, Tribal Administrator of the Gabrieleño Band of Mission Indians-Kizh Nation, responded to say the Tribe has no concerns since no ground disturbance is proposed. On April 20, 2023, Ms. Christina Conley, Gabrielino Tongva Indians of California Tribal Council, replied via email that the Tribe had no concerns due to the lack of ground disturbance. On May 16, 2023, Mr. Anthony Morales of the Gabrieleno/Tongva San Gabriel Band of Mission Indians, responded via telephone to say that because there is no ground disturbance proposed, he has no concerns. However, if the project changes to include ground disturbance, he would have concerns due to the proximity to a known village site and numerous archaeological sites adjacent to the ocean. Caltrans staff sent follow-up emails or made phone calls to three of the remaining tribes on May 17, 2023. Caltrans staff mailed hard copies of the letter (April 20, 2023 and May 16, 2023) to Mr. Charles Alvarez of the Gabrielino-Tongva Tribe via the United States Postal Service (USPS) because neither his phone number nor his email address appeared to be working.

The proposed project would not cause a ground disturbance, and following tribal consultation, it has been determined the Build Alternative would have no impact on a Tribal Cultural Resource.

3.2.19 UTILITIES AND SERVICE SYSTEMS

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☐	☒
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☐	☒
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals??	☐	☐	☐	☒
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

3.2.19.1 CEQA Significance Determinations for Utilities and Service Systems

a), b), c), d), e) No Impact

The proposed project would not generate wastewater or discharge wastewater to the area sewer system. As a result, the proposed project would not exceed wastewater treatment requirements, require or result in the construction of new wastewater treatment facilities, or result in the need for a determination by a wastewater treatment provider that it has adequate capacity to serve the proposed project. The project would not require the need for water supplies or impair the access of water supplies for future development. No solid waste would be generated from the project.

3.2.20 WILDFIRE

If located in or near State responsibility areas or lands classified as Very High Fire Hazard Severity Zones, would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☒
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

3.2.20.1 CEQA Significance Determinations for Wildfire

a), b), c), d) No Impact

The proposed project is not located in a Fire Hazard Severity Zone according to the State Fire Marshall. Therefore, no wildfire impacts are anticipated.

3.2.21 MANDATORY FINDINGS OF SIGNIFICANCE

	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☒	☐	☐	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

3.2.21.1 CEQA Significance Determinations for Mandatory Findings of Significance

a) Less Than Significant with Mitigation Incorporated

The potential for the proposed project to result in significant impacts to cultural or biological resources, specifically, is discussed in Sections 2.16 through 2.21 in this environmental document. The proposed project would not degrade the quality of the environment or permanently impact any animal or plant species or associated habitat. The potential for temporary construction-related impacts to habitats for nesting peregrine falcon would be avoided with implementation of the following avoidance, minimization, and mitigation measures: MM-BIO-1, MM-BIO-2, MM-BIO-3, MM-BIO-4, MM-BIO-5, and MM-BIO-6. Details of these mitigation measures can be found under Avoidance, Minimizations, and Mitigation Measures in Section 2.19, Animal Species.

Caltrans identified one historic property, the Vincent Thomas Bridge, that was determined eligible for the National Register within the project APE. Caltrans applied the Criteria of Adverse Effect as defined in 36 Code of Federal Regulations (CFR) 800.5(a)(1) and found that the project will have no adverse effect on historic properties. None of the proposed work would alter the characteristics of the Vincent Thomas Bridge that qualify it for the National Register or diminish the integrity of the historic property. Based on SHPO's review of the submitted documentation, the SHPO does not object to Caltrans' finding of no adverse effect for the undertaking.

The Vincent Thomas Bridge is the only historic property protected by Section 4(f) of the Department of Transportation Act of 1966 within the project vicinity. However, this project will not "use" the property as defined by Section 4(f). Please see "Resources Evaluated Relative to the Requirements of Section 4(f)" in Appendix A for additional details.

b) Significant and Unavoidable Impact

As noted in Section 2.23, Cumulative Impacts, implementation of the proposed Build Alternative with the single-stage construction (full bridge closure) option would result in temporary cumulatively considerable air quality and traffic impacts to environmental justice communities. In addition, the other reasonably foreseeable projects in the region may result in temporary impacts to environmental justice communities. Temporary construction-related impacts would be minimized through the application of mitigation measures MM-EJ-1, MM-EJ-2, project features, and BMPs; however, temporary cumulatively considerable air quality and traffic impacts to environmental justice communities from the full closure option are anticipated.

Implementation of the proposed Build Alternative would result in temporary emission increases affecting air quality for residents. In addition, the other reasonably foreseeable projects in the resource study area (RSA) may result in temporary air quality impacts. With the implementation of AM-AQ-1, AM-AQ-2, project features, and BMPs, temporary air quality impacts associated with the proposed project would be minimized; however, temporary cumulatively considerable air quality impacts within the RSA are anticipated with implementation of the Build Alternative.

The impacts to traffic conditions within the RSA, including increased traffic congestion and delay resulting from the closure of the Vincent Thomas Bridge, would be temporary and would vary in duration and severity depending on the construction staging option implemented. The single-stage construction staging option (full bridge closure) would result in the greatest increase in intersection delay, origin-destination travel time, and corridor VMT/vehicle-hour delay, and the greatest decrease in segment speed; therefore, temporary cumulatively considerable traffic impacts within the RSA are anticipated with implementation of the Build Alternative (full bridge closure construction option).

This project would include mitigation measures MM-TR-1 and MM-TR-2 along with project feature PF-TR-1 to address direct temporary impacts to traffic flow in the RSA. In addition, implementation of strategies identified in MM-EJ-1 and MM-EJ-2, including regular coordination with other agencies and projects regarding construction timing and potential traffic detours, along with regular community engagement would provide a managed effort to inform the public and to maintain traffic flow and transit service through the RSA, thereby minimizing potential temporary cumulative transportation impacts. Temporary construction-related impacts would be minimized through the application of identified mitigation measures; however, temporary cumulatively considerable impacts to air quality and traffic for the Build Alternative with the full bridge closure option are anticipated and considered significant and unavoidable.

c) Less Than Significant Impact

As discussed in the Human Environment portion of this environmental document, the proposed project would result in less than significant environmental impacts that would cause substantial adverse effects on human beings, either directly or indirectly.

3.3 Climate Change

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the Earth's climate system. The Intergovernmental Panel on Climate Change, established by the United Nations and World Meteorological Organization in 1988, is devoted to greenhouse gas (GHG) emissions reduction and climate change research and policy. Climate change in the past has generally occurred gradually over millennia, or more suddenly in response to cataclysmic natural disruptions. The research of the Intergovernmental Panel on Climate Change and other scientists over recent decades, however, has unequivocally attributed an accelerated rate of climatological changes over the past 150 years to GHG emissions generated from the production and use of fossil fuels.

Human activities generate GHGs consisting primarily of carbon dioxide (CO_2), methane (CH_4), nitrous oxides (N_2O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF_6), and various hydrofluorocarbons (HFCs). CO_2 is the most abundant GHG; while it is a naturally occurring and necessary component of Earth's atmosphere, fossil-fuel combustion is the main source of additional, human-generated CO_2 that is the main driver of climate change. In the United States and in California, transportation is the largest source of GHG emissions, most of which is CO_2.

The impacts of climate change are already being observed in the form of sea level rise, drought, extended and severe fire seasons, and historic flooding from changing storm patterns. The most important strategy to address climate change is to reduce GHG emissions. Additional strategies are necessary to mitigate and adapt to these impacts. In the context of climate change, "mitigation" involves actions to reduce GHG emissions to lessen adverse impacts that are likely to occur. "Adaptation" is planning for and responding to impacts to reduce vulnerability to harm, such as by adjusting transportation design standards to withstand more intense storms, heat, and higher sea levels. This analysis will include a discussion of both in the context of this transportation project.

3.3.1 REGULATORY SETTING

For a full list of laws, regulations, and guidance related to climate change (GHGs and adaptation), please refer to Caltrans' Standard Environmental Reference (SER), Chapter 16, Climate Change.

3.3.1.1 Federal

To date, no nationwide numeric mobile-source GHG reduction targets have been established, nor have any regulations or legislation been enacted specifically to address climate change and GHG emissions reduction at the project level.

The NEPA (42 USC Part 4332) requires federal agencies to assess the environmental effects of their proposed actions prior to making a decision on the action or project. In January 2023, the White House Council on Environmental Quality (CEQ) issued updated and expanded interim National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change (88 Federal Register 1196) (CEQ NEPA GHG Guidance), in accordance with EO 14057, Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability, 86 FR 70935 (Dec. 13, 2021) and Executive Order (EO) 14008, Tackling the Climate Crisis at Home and Abroad. The CEQ guidance does not establish numeric thresholds of significance, but emphasizes quantifying reasonably foreseeable lifetime direct and indirect emissions whenever possible. This guidance also emphasizes resilience and environmental justice in project-level climate change and GHG analyses.

The FHWA recognizes the threats that extreme weather, sea level rise, and other changes in environmental conditions pose to valuable transportation infrastructure and those who depend on it. FHWA therefore supports a sustainability approach that assesses vulnerability to climate risks and incorporates resilience into planning, asset management, project development and design, and operations and maintenance practices (FHWA 2022). This approach encourages planning for sustainable highways by addressing climate risks while balancing environmental, economic, and social values—“the triple bottom line of sustainability” (FHWA n.d.). Program and project elements that foster sustainability and resilience also support economic vitality and global efficiency, increase safety and mobility, enhance the environment, promote energy conservation, and improve the quality of life.

Early efforts by the federal government to improve fuel economy and energy efficiency to address climate change and its associated effects include The Energy Policy and Conservation Act of 1975 (42 USC Section 6201) and Corporate Average Fuel Economy (café) Standards. The United States Department of Transportation (USDOT) National Highway Traffic and Safety Administration (NHTSA) sets and enforces CAFE standards for on-road motor vehicles sold in the United States. The United States Environmental Protection Agency (EPA) calculates average fuel economy levels for manufacturers and also sets related GHG emissions standards for vehicles under the Clean Air Act (CAA). Raising CAFE standards leads automakers to create a more fuel-efficient fleet, which improves our nation’s energy security, saves consumers money at the pump, and reduces GHG emissions (USDOT 2014). These standards are periodically updated and published through the federal rulemaking process.

3.3.1.2 State

California has been innovative and proactive in addressing GHG emissions and climate change by passing multiple Senate Bills, Assembly Bills, and Executive Orders.

In 2005, EO S-3-05 initially set a goal to reduce California’s GHG emissions to 80 percent below year 1990 levels by 2050, with interim reduction targets. Later Executive Orders and Assembly and Senate Bills refined interim targets and codified the emissions reduction goals and strategies. The CARB was directed to create a Climate Change Scoping Plan and implement rules to achieve “real, quantifiable, cost-effective reductions of greenhouse gases.” Ongoing GHG emissions reduction was also mandated in Health and Safety Code Section 38551(b). In 2022, the California Climate Crisis Act was passed, establishing State policy to reduce statewide human-caused GHG emissions by 85 percent below 1990 levels, achieve net zero GHG emissions by 2045, and achieve and maintain negative emissions thereafter.

Beyond GHG reduction, the State maintains a climate adaptation strategy to address the full range of climate change stressors, and passed legislation requiring State agencies to consider protection and management of natural and working lands as an important strategy in meeting the State’s GHG reduction goals.

3.3.2 ENVIRONMENTAL SETTING

The proposed project is in an urban area of Los Angeles County with a well-developed road and street network. The project area is mainly industrial, with some light commercial and residential buildings near the project area. Traffic congestion during peak hours is not uncommon in the project area. A SCAG RTP/SCS guides transportation and housing development in the project area. The Los Angeles County Sustainability Plan addresses GHGs in the project area, as does the City of Long Beach Climate Action Plan, and the City of Los Angeles Green New Deal Sustainability Plan.

3.3.2.1 GHG Inventories

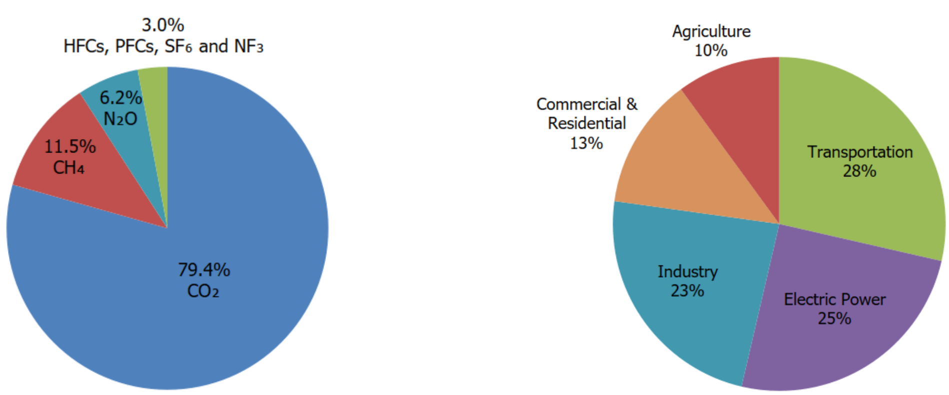
A GHG emissions inventory estimates the amount of GHGs discharged into the atmosphere by specific sources over a period of time. Tracking annual GHG emissions allows countries, states, and smaller jurisdictions to understand how emissions are changing and what actions may be needed to attain emission reduction goals. The EPA is responsible for documenting GHG emissions nationwide, and the CARB does so for the State of California, as required by Health and Safety Code Section 39607.4. Cities and other local jurisdictions may also conduct local GHG inventories to inform their GHG reduction or climate action plans.

National GHG Inventory

The annual GHG inventory submitted by the EPA to the United Nations provides a comprehensive accounting of all human-produced sources of GHGs in the United States. Total national GHG emissions from all sectors in 2021 were 5,586 million metric tons (MMT), factoring in deductions for carbon sequestration in the land sector.[1] While total GHG emissions in 2021 were 17 percent below 2005 levels, they increased by 6 percent over 2020 levels. Of these, 79.4 percent were CO_2, 11.5 percent were CH_4, and 6.2 percent were N_2O; the balance consisted of fluorinated gases. From 1990 to 2021, CO_2 emissions decreased by only 2 percent (EPA 2023a).

The transportation sector's share of total GHG emissions increased to 28 percent in 2021 and remains the largest contributing sector (Figure 3-1). Transportation fossil fuel combustion accounted for 92 percent of all CO_2 emissions in 2021. This is an increase of 7% over 2020, largely due to the rebound in economic activity over 2020, largely due to the rebound in economic activity following the COVID-19 pandemic (U.S. EPA 2023a, 2023b)).

Figure 3-1: U.S. 2021 Greenhouse Gas Emissions



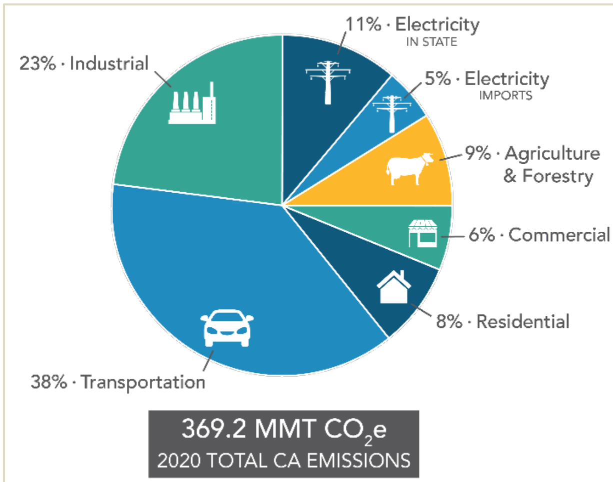
Source: Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2021 (EPA 2023b).

1 Land Use, Land Use Change, and Forestry provide a carbon sink equivalent to 12 percent of total United States emissions in 2021 (EPA 2023a).

State GHG Inventory

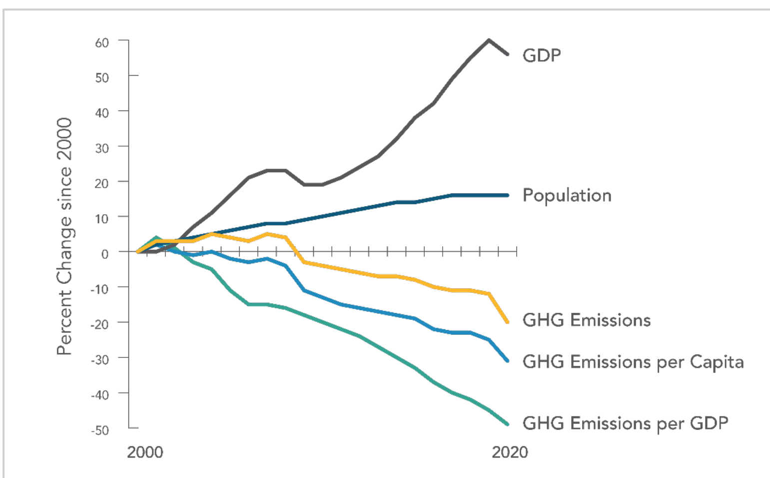
The CARB collects GHG emissions data for transportation, electricity, commercial/residential, industrial, agricultural, and waste management sectors each year (Figure 3-2). It then summarizes and highlights major annual changes and trends to demonstrate the State's progress in meeting its GHG reduction goals. Overall statewide GHG emissions declined from 2000 to 2020 despite growth in population and State economic output (Figure 3-3) (CARB 2022a).

Figure 3-2: California 2020 Greenhouse Gas Emissions by Economic Sector



Source: California Greenhouse Gas Emissions Inventory Data – 2022 Edition, 2000-2020 (CARB 2022).

Figure 3-3: Change in California GDP, Population, and GHG Emissions Since 2000



Source: California Greenhouse Gas Emissions Inventory Data – 2022 Edition, 2000-2020 (CARB 2022).

AB 32 required the CARB to develop a Scoping Plan that describes the approach California will take to achieve the goal of reducing GHG emissions to 1990 levels by 2020, and to update it every 5 years. The AB 32 Scoping Plan and the subsequent updates contain the main strategies California will use to reduce GHG emissions. The CARB adopted the first scoping plan in 2008. The second updated plan, California's 2017 Climate Change Scoping Plan, was adopted on December 14, 2017, and reflects the 2030 target established in

EO B-30-15 and SB 32. The 2022 Scoping Plan for Achieving Carbon Neutrality, adopted in September 2022, assesses progress toward the statutory 2030 reduction goal and defines a path to reduce human-caused emissions to 85 percent below 1990 levels and achieve carbon neutrality no later than 2045 in accordance with AB 1279 (CARB 2022b).

3.3.2.2 Regional Plans

As required by The Sustainable Communities and Climate Protection Act of 2008, the CARB sets regional GHG reduction targets for California's 18 Metropolitan Planning Organizations (MPOs) to achieve through planning future projects that will cumulatively achieve those goals and reporting how they will be met in the RTP/SCS. Targets are set at a percent reduction of passenger vehicle GHG emissions per person from 2005 levels. The proposed project is included in the RTP/SCS for SCAG. The regional reduction target for SCAG is -19 percent by 2035 (CARB 2021). A summary of regional and local GHG reduction policies and strategies is shown in Table 3-1.

Table 3-1: Regional and Local Greenhouse Gas Reduction Plans

Title	GHG Reduction Policies or Strategies
Southern California Association of Governments (SCAG) Regional Transportation Plan/Sustainable Communities Strategy (adopted September 2020)	● Demand and system management improvements ● Cleaner goods movement ● Complete streets implementation ● Preventative system preservation and resilience
County of Los Angeles Revised Draft 2045 Climate Action Plan	● Transportation mitigation strategies ● Sustainable industrial process and product use
Sustainability Plan for the City of Los Angeles (adopted 2019)	● Mobility and public transit component ● Zero emission vehicles ● Industrial emissions and air quality monitoring
City of Long Beach Climate Action Plan (adopted August 2022)	● Transportation component
Port of Los Angeles, Port of Long Beach, San Pedro Bay Ports Clean Air Action Plan (2017)	● Reduce GHGs from port-related sources to 40% below 1990 level by 2030 and 80% below 1990 levels by 2050.

Source 1: 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy (SCAG 2020).
Source 2: Revised Draft 2045 Climate Action Plan County of Los Angeles (County of Los Angeles 2023).
Source 3: L.A.'s Green New Deal – Sustainable City pLAn 2019 (City of Los Angeles 2020).
Source 4: City of Long Beach Climate Action Plan (City of Long Beach 2022).
Source 5: San Pedro Bay Ports Clean Air Action Plan (POLA 2017.

3.3.3 PROJECT ANALYSIS

GHG emissions from transportation projects can be divided into those produced during operation and use of the State Highway System (operational emissions) and those produced during construction. The primary GHGs produced by the transportation sector are CO_2, CH_4, N_2O, and HFCs. CO_2 emissions are a product of burning gasoline or diesel fuel in internal combustion engines, along with relatively small amounts of CH_4 and N_2O. A small amount of HFC emissions related to refrigeration is also included in the transportation sector. (GHGs differ in how much heat each traps in the atmosphere, called global warming potential, or GWP.) CO_2 is the most important GHG, so amounts of other gases are expressed relative to CO_2 using a metric called "carbon dioxide equivalent", or CO_2e. The global warming potential of CO_2 is assigned a value of 1, and the GWPs of other gases are assessed as multiples of CO_2.)

The *State CEQA Guidelines* generally address GHG emissions as a cumulative impact due to the global nature of climate change (Public Resources Code, Section 21083(b)(2)). As the California Supreme Court explained, “because of the global scale of climate change, any one project’s contribution is unlikely to be significant by itself.” (Cleveland National Forest Foundation v. San Diego Association of Governments (2017) 3 Cal.5th 497, 512.) In assessing cumulative impacts, it must be determined if a project’s incremental effect is “cumulatively considerable” (CEQA Guidelines Sections 15064(h)(1) and 15130).

To make this determination, the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. Although climate change is ultimately a cumulative impact, not every individual project that emits GHGs must necessarily be found to contribute to a significant cumulative impact on the environment.

3.3.3.1 Operational Emissions

The purpose of the proposed project is to extend the service life of the Vincent Thomas Bridge deck and ensure the safety of the traveling public by replacing the bridge deck, median concrete barrier and guardrails, and upgrading the seismic sensors on the bridge. This type of project generally causes minimal or no increase in operational GHG emissions. Because the project would not increase the number of travel lanes on SR-47, no increase in VMT would occur. While some GHG emissions during the construction period would be unavoidable, no increase in operational GHG emissions is expected. There will likely be long-term GHG benefits from improved operation and smoother pavement surfaces on the replaced bridge deck.

3.3.3.2 Construction Emissions

Construction GHG emissions would result from material processing and transportation, on-site construction equipment, and traffic delays due to construction. These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases. While construction GHG emissions are only produced for a short time, they have long-term effects in the atmosphere, so they cannot be considered “temporary” in the same way as criteria pollutants that subside after construction is completed.

Use of long-life pavement, improved traffic management plans, and changes in materials can also help offset GHG emissions produced during construction by allowing longer intervals between maintenance and rehabilitation activities.

Construction is anticipated to last anywhere from 16 to 48 months, depending on the construction staging option and/or deck type chosen. The proposed project will incorporate two Non-Standard Special Provisions (NSSPs) to ensure that contractors use equipment outfitted with Tier 4 engines during construction. Anticipated ranges of construction CO_2 emissions utilizing Tier 4 engines for each construction scenario are displayed below in Table 3-2. Table 3-3 outlines the eight construction scenarios analyzed in Section 2.13, Air Quality, and in the Air Quality Analysis Report.

Table 3-2: Project Total CO_2e Emissions from Construction Activities (Metric Tons)

	Uncontrolled	Controlled (Tier 4 Equipment)
Scenario 1	5,493	5,464
Scenario 2	5,175	5,085
Scenario 3	10,241	10,065
Scenario 4	6,835	6,653
Scenario 5	6,806	6,624
Scenario 6	8,941	8,728
Scenario 7	8,920	8,707
Scenario 8	13,941	13,037

Source: Air Quality Report (2023).

Table 3-3: Bridge Closure Alternatives and Construction Scenarios

Bridge Closure Alternative	Construction Design Scenarios	Deck Replacement Duration (months)	Cost (millions $)
Full Closure	Scenario 1: Pre-Cast & Orthotropic	16	$555
	Scenario 2: Pre-Cast Only	16	$503
	Scenario 3: Cast-in-Place Only	41	$521
Partial Closure	Scenario 4: 1/2 Closure (2-Stage), Pre-Cast & Orthotropic	26	$565
	Scenario 5: 1/2 Closure (2-Stage), Pre-Cast Only	26	$512
	Scenario 6: 1/3 Closure (3-Stage), Pre-Cast & Orthotropic	31	$575
	Scenario 7: 1/3 Closure (3-Stage), Pre-Cast Only	31	$522
Nighttime Closure (7:00 PM to 6:00 AM)	Scenario 8: Full Overnight Closure, Pre-Cast Only	48	$571

Source: Compiled by Caltrans (2023),.

The project will implement the following project feature:

PF-AQ-1 Construction equipment and vehicles will be properly tuned and maintained. All construction equipment will use low sulfur fuel as required by California Code of Regulations (CCR) Title 17, Section 93114.

- The construction contractor must comply with SCAQMD rules, including Rule 401 (Visible Emissions), Rule 402 (Nuisance), Rule 403 (Fugitive Dust), and Rule 1403 (Asbestos Emissions from Demolition/Renovation Activities).

- Diesel-powered, off-road equipment shall limit idling in accordance with the California Air Resources Board (CARB) “Regulation for In-Use Off-Road Diesel-Fueled Fleets” (Title 13, CCR, Section 2449).

- Diesel-powered, on-road vehicles and trucks shall limit idling in accordance with the CARB “Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling” (Title 13, CCR, Section 2485).

The following project-level measures to reduce GHG emissions related to construction activities are suggested for this project and, if deemed feasible by the Project Development Team (PDT) and construction contractor, will be included prior to final Design:

- Schedule truck trips outside of peak morning and evening commute hours.
- Schedule longer-duration lane closures to reduce number of equipment mobilization efforts (combine with public information efforts for congested areas).
- Use alternative fuels such as renewable diesel for construction equipment.
- Use solar-powered construction equipment (all applicable equipment, i.e. changeable message signs).
- Supplement existing construction environmental training with information on methods to reduce GHG emissions related to construction.
- Use accelerated bridge construction (ABC) method (reduces construction windows, uses more precast elements that in turn reduce need for additional falsework, forms, bracing, etc.).
- Salvage rebar from demolished concrete and process waste to create usable fill.
- Maximize use of recycled materials (e.g., tire rubber).
- Reduce construction waste (e.g., reuse or recycle construction and demolition waste), which in turn reduces consumption of raw materials, reduces waste and transportation to landfills, and saves costs.
- Include measures outlined in regional or local climate adaptation plans.
- Modify standards for the design, location, and construction of infrastructure to account for areas potentially subject to storm surge, sea level rise, and more frequent flooding.

These measures are not environmental commitments and are not confirmed to be included as part of the Vincent Thomas Bridge Deck Replacement Project. Measures will need to be discussed in coordination with the Caltrans PDT and general contractor.

All construction contracts include Caltrans Standard Specifications related to air quality. Caltrans Standard Specifications Section 7-1.02A, General, and 7-1.02C, Emissions Reduction, require contractors to comply with all laws applicable to the project and to certify they are aware of and will comply with all CARB emission reduction regulations. Caltrans Standard Specification Section 14-9.02, Air Pollution Control, requires contractors to comply with all air pollution control rules, regulations, ordinances, and statutes. Certain common regulations, such as equipment idling restrictions, that reduce construction vehicle emissions also help reduce GHG emissions.

3.3.3.3 CEQA Conclusion

While the proposed project will result in GHG emissions during construction, it is anticipated that the project will not result in any increase in operational GHG emissions. With the implementation of NSSPs to mandate use of Tier 4 equipment, GHG emissions from construction activities are anticipated to decrease by as much as 904 MT CO_2e over the course of construction under Scenario 8 (the highest GHG emissions scenario). The proposed project does not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHG. With implementation of construction GHG reduction measures, the impact would be less than significant.

Caltrans is firmly committed to implementing measures to help reduce GHG emissions. These measures are outlined in the following section.

3.3.4 GREENHOUSE GAS REDUCTION STRATEGIES

3.3.4.1 Statewide Efforts

In response to AB 32, the Global Warming Solutions Act, California is implementing measures to achieve emission reductions of GHGs that cause climate change. Climate change programs in California are effectively reducing GHG emissions from all sectors of the economy. These programs include regulations, market programs, and incentives that will transform transportation, industry, fuels, and other sectors to take California into a sustainable, cleaner, low-carbon future, while maintaining a robust economy (CARB 2022c).

Major sectors of the California economy, including transportation, will need to reduce emissions to meet 2030 and 2050 GHG emissions targets. The Governor's Office of Planning and Research identified five sustainability pillars in a 2015 report:

1. Increasing the share of renewable energy in the State's energy mix to at least 50 percent by 2030
2. Reducing petroleum use by up to 50 percent by 2030
3. Increasing the energy efficiency of existing buildings by 50 percent by 2030
4. Reducing emissions of short-lived climate pollutants
5. Stewarding natural resources, including forests, working lands, and wetlands, to ensure that they store carbon, are resilient, and enhance other environmental benefits

The transportation sector is integral to the people and economy of California. To achieve GHG emission reduction goals, it is vital that the State build on past successes in reducing criteria and toxic air pollutants from transportation and goods movement. GHG emission reductions will come from cleaner vehicle technologies, lower-carbon fuels, and reduction of VMT. Reducing today's petroleum use in cars and trucks is a key state goal for reducing GHG emissions by 2030 (CalEPA 2015).

In addition, Senate Bill (SB) 1386 (Wolk 2016) established as State policy the protection and management of natural and working lands and requires State agencies to consider that policy in their own decision making. Trees and vegetation in forests, rangelands, farms, and wetlands remove CO_2 from the atmosphere through biological processes and sequester the carbon in above- and below-ground matter.

Subsequently, Governor Gavin Newsom issued EO N-82-20 to combat the crises in climate change and biodiversity. It instructs State agencies to use existing authorities and resources to identify and implement near- and long-term actions to accelerate natural removal of carbon and build climate resilience in our forests, wetlands, urban green spaces, agricultural soils, and land conservation activities in ways that serve all communities and in particular low-income, disadvantaged, and vulnerable communities. To support this order, the California Natural Resources Agency released Nature-Based Climate Solutions: Natural and Working Lands Climate Smart Strategy (California Natural Resources Agency 2022).

3.3.4.2 Caltrans Activities

Caltrans continues to be involved on the Governor's Climate Action Team as the CARB works to implement EOs S-3-05 and S-01-07 and help achieve the targets set forth in AB 32. EO B-30-15, issued in April 2015, and SB 32 (2016), set an interim target to cut GHG emissions to 40 percent below 1990 levels by 2030. The following major initiatives are underway at Caltrans to help meet these targets.

Climate Action Plan for Transportation Infrastructure

The Climate Action Plan for Transportation Infrastructure (CAPTI) builds on Executive Orders signed by Governor Newsom in 2019 and 2020 that were targeted at reducing GHG emissions in transportation, which accounts for more than 40 percent of all polluting emissions, to reach the State's climate goals. Under CAPTI, where feasible and within existing funding program structures, the State will invest discretionary transportation funds in sustainable infrastructure projects that align with its climate, health, and social equity goals (CalSTA 2021).

California Transportation Plan

The California Transportation Plan (CTP) 2050 is a statewide, long-range transportation plan to meet our future mobility needs and reduce GHG emissions. It serves as an umbrella document for all the other statewide transportation planning documents. The CTP 2050 presents a vision of a safe, resilient, and universally accessible transportation system that supports vibrant communities, advances racial and economic justice, and improves public and environmental health. The plan's climate goal is to achieve statewide GHG emissions reduction targets and increase resilience to climate change. It demonstrates how GHG emissions from the transportation sector can be reduced through advancements in clean fuel technologies; continued shifts toward active travel, transit, and shared mobility; more efficient land use and development practices; and continued shifts to telework (Caltrans 2021b).

Caltrans Strategic Plan

The Caltrans 2020–2024 Strategic Plan includes goals of stewardship, climate action, and equity. Climate action strategies include developing and implementing a Caltrans Climate Action Plan, which is a robust program of climate action education, training, and outreach; partnership and collaboration; a VMT monitoring and reduction program; and engagement with the most vulnerable communities in developing and implementing Caltrans climate action activities (Caltrans 2021d).

Caltrans Policy Directives and Other Initiatives

Caltrans Director's Policy 30 (DP-30) Climate Change (June 22, 2012) established a policy to ensure coordinated efforts to incorporate climate change into Caltrans decisions and activities. Other Director's policies promote energy efficiency, conservation, and climate change, and commit Caltrans to sustainability practices in all planning, maintenance, and operations. Caltrans Greenhouse Gas Emissions and Mitigation Report (Caltrans 2020a) provides a comprehensive overview of Caltrans emissions and current Caltrans procedures and activities that track and reduce GHG emissions. It identifies additional opportunities for further reducing GHG emissions from Caltrans-controlled emission sources in support of Caltrans and State goals.

3.3.4.3 Project-Level GHG Reduction Strategies

The following measures will also be implemented in the project to reduce GHG emissions and potential climate change impacts from the project.

AM-AQ-1 The construction contractor must comply with the Caltrans' Standard Specifications in Section 14-9 (2023).

- Section 14-9.02 specifically requires compliance by the contractor with all applicable laws and regulations related to air quality, including Air Pollution Control District and Air Quality Management District regulations and local ordinances.
- Non-Standard Special Provision (NSSP) 14-9.05 requires identification of the local air quality jurisdiction (i.e., South Coast Air Quality Management District [SCAQMD]) and for the contract to comply with all applicable rules and best management practices (BMPs).

AM-AQ-2 The construction contractor must also comply with Caltrans project-specific NSSPs 5-1.33 and 7-1.02C, which require that off-road construction equipment be outfitted with engines meeting Tier 4 emissions standards and that all certification and maintenance documentation be provided prior to equipment use. Implementation of these NSSPs would reduce emissions of ozone precursors and criteria pollutants (primarily particulate matter [PM] and nitrogen oxides [NO_X]) during construction activities.

PF-AQ-1 Construction equipment and vehicles will be properly tuned and maintained. All construction equipment will use low sulfur fuel as required by California Code of Regulations (CCR) Title 17, Section 93114.

- The construction contractor must comply with SCAQMD rules, including Rule 401 (Visible Emissions), Rule 402 (Nuisance), Rule 403 (Fugitive Dust), and Rule 1403 (Asbestos Emissions from Demolition/Renovation Activities).
- Diesel-powered, off-road equipment shall limit idling in accordance with the California Air Resources Board (CARB) "Regulation for In-Use Off-Road Diesel-Fueled Fleets" (Title 13, CCR, Section 2449).
- Diesel-powered, on-road vehicles and trucks shall limit idling in accordance with the CARB "Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling" (Title 13, CCR, Section 2485).

3.3.5 ADAPTATION

Reducing GHG emissions is only one part of an approach to addressing climate change. Caltrans must plan for the effects of climate change on the State's transportation infrastructure and strengthen or protect the facilities from damage. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, variability in storm surges and their intensity, and in the frequency and intensity of wildfires. Flooding and erosion can damage or wash out roads. Longer periods of intense heat can buckle pavement and railroad tracks. Storm surges combined with a rising sea level can inundate highways. Wildfire can directly burn facilities and indirectly cause damage when rain falls on denuded slopes that landslide after a fire. Effects will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. Furthermore, the combined effects of transportation projects and climate stressors can exacerbate the impacts of both on vulnerable communities in a project area. Accordingly, Caltrans must consider these types of climate stressors in how highways are planned, designed, built, operated, and maintained.

3.3.5.1 Federal Efforts

Under NEPA assignment, Caltrans is obligated to comply with all applicable federal environmental laws and FHWA NEPA regulations, policies, and guidance. Caltrans practices generally align with the 2023 CEQ interim Guidance on Consideration of Greenhouse Gas Emissions and Climate Change, which offers recommendations for additional ways of evaluating project effects related to GHG emissions and climate change. These recommendations are not regulatory requirements.

The Fifth National Climate Assessment, published in 2023, presents the most recent science and “analyzes the effects of global change on the natural environment, agriculture, energy production and use, land and water resources, transportation, human health and welfare, human social systems, and biological diversity; [It] analyzes current trends in global change, both human-induced and natural, and projects major trends for the subsequent 25 to 100 years … to support informed decision-making across the United States.” Building on previous assessments, it continues to advance “an inclusive, diverse, and sustained process for assessing and communicating scientific knowledge on the impacts, risks, and vulnerabilities associated with a changing global climate” (United States Global Change Research Program 2023).

The USDOT recognizes the transportation sector’s major contribution of GHGs that cause climate change and has made climate action one of the department’s top priorities (USDOT 2023). FHWA’s policy is to strive to identify the risks of climate change and extreme weather events to current and planned transportation systems. The FHWA has developed guidance and tools for transportation planning that fosters resilience to climate effects and sustainability at the federal, State, and local levels (FHWA 2022).

The National Oceanic and Atmospheric Administration provides sea level rise projections for all United States coastal waters to help communities and decision-makers assess their risk from sea level rise. Updated projections through 2150 were released in 2022 in a report and online tool (NOAA 2022).

3.3.5.2 State Efforts

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system. A number of State policies and tools have been developed to guide adaptation efforts.

California’s Fourth Climate Change Assessment (Fourth Assessment) (2018) provides information to help decision-makers across sectors and at State, regional, and local scales protect and build the resilience of the State’s people, infrastructure, natural systems, working lands, and waters. The Fourth Assessment reported that if no measures are taken to reduce GHG emissions by 2021 or sooner, the State is projected to experience up to an 8.8 degrees Fahrenheit (°F) increase in average annual maximum daily temperatures, a two-thirds decline in water supply from snowpack that would result in water shortages, a 77 percent increase in average area burned by wildfire, and large-scale erosion of up to 67 percent of Southern California beaches due to sea level rise. These effects will have profound impacts on infrastructure, agriculture, energy demand, natural systems, communities, and public health (State of California 2018).

Sea level rise is a particular concern for transportation infrastructure in the coastal zone. Major urban airports will be at risk of flooding from sea level rise combined with storm surge as early as 2040. San Francisco International Airport is already at risk. Miles of coastal highways vulnerable to flooding in a 100-year storm event will triple to 370 by 2100, and 3,750 miles will be exposed to temporary flooding. The Fourth Assessment's findings highlight the need for proactive action to address these current and future impacts of climate change.

To help actors throughout the State address the findings of California's Fourth Climate Change Assessment, AB 2800's multidisciplinary Climate-Safe Infrastructure Working Group published Paying it Forward: The Path Toward Climate-Safe Infrastructure in California. This report provides guidance on assessing risk in the face of inherent uncertainties still posed by the best available climate change science. It also examines how State agencies can use infrastructure planning, design, and implementation processes to respond to the observed and anticipated climate change impacts.

EO S-13-08, issued in 2008, directed State agencies to consider sea level rise scenarios for 2050 and 2100 during planning to assess project vulnerabilities, reduce risks, and increase resilience to sea level rise. It gave rise to the 2009 California Climate Adaptation Strategy, the Safeguarding California Plan, and a series of technical reports on statewide sea level rise projections and risks, including the State of California Sea-Level Rise Guidance Update in 2018. The reports addressed the full range of climate change impacts and recommended adaptation strategies. The current California Climate Adaptation Strategy incorporates key elements of the latest sector-specific plans such as the Natural and Working Lands Climate Smart Strategy, Wildfire and Forest Resilience Action Plan, Water Resilience Portfolio, and the CAPTI (described above). Priorities in the 2023 California Climate Adaptation Strategy include acting in partnership with California Native American Tribes, strengthening protections for climate-vulnerable communities that lack capacity and resources, implementing nature-based climate solutions, using best available climate science, and partnering and collaboration to best leverage resources (California Natural Resources Agency 2023).

EO B-30-15 recognizes that effects of climate change threaten California's infrastructure and requires State agencies to factor climate change into all planning and investment decisions. Under EO B-30-15, the Office of Planning and Research published Planning and Investing for a Resilient California: A Guidebook for State Agencies, to encourage a uniform and systematic approach to building resilience.

SB 1 – Coastal Resources: Sea Level Rise (Atkins 2021) established statewide goals to "anticipate, assess, plan for, and, to the extent feasible, avoid, minimize, and mitigate the adverse environmental and economic effects of sea level rise within the coastal zone." As the legislation directed, the Ocean Protection Council collaborated with 17 State planning and coastal management agencies to develop the State Agency Sea-Level Rise Action Plan for California in February 2022. This plan promotes coordinated actions by State agencies to enhance California's resilience to the impacts of sea level rise (California Ocean Protection Council 2022).

3.3.5.3 Caltrans Adaptation Efforts

Caltrans Vulnerability Assessments

Caltrans completed climate change vulnerability assessments to identify segments of the State Highway System vulnerable to climate change effects of precipitation, temperature, wildfire, storm surge, and sea level rise.

The climate change data in the assessments were developed in coordination with climate change scientists and experts at federal, State, and regional organizations at the forefront of climate science. The findings of the vulnerability assessments guide analysis of at-risk assets and development of Adaptation Priority Reports as a method to make capital programming decisions to address identified risks.

Caltrans Sustainability Programs

The Director's Office of Equity, Sustainability and Tribal Affairs supports implementation of sustainable practices at Caltrans. The Sustainability Roadmap is a periodic progress report and plan for meeting the Governor's sustainability goals related to EOs B-16-12, B-18-12, and B-30-15. The Sustainability Roadmap includes designing new buildings for climate change resilience and zero-net energy, and replacing fleet vehicles with zero-emission vehicles (Caltrans 2023).

3.3.5.4 Project Adaptation Analysis

The Vincent Thomas Bridge will potentially be affected by a variety of future climate change impacts. The Caltrans Adaptation Priorities Report for District 7 (January 2021) provides an assessment of a total of 201 bridges within the District for vulnerability to sea level rise, storm surge, coastal cliff retreat, and enhanced riverine flooding associated with climate change. The Vincent Thomas Bridge is rated as a high priority with a cross-hazard prioritization score of 95.70 because no detours are found around the bridge under the lowest sea level rise increment. The report also indicates that long-term maintenance plays an important part in managing and protecting assets that are considered a high priority. The Vincent Thomas Bridge Deck Replacement Project is a maintenance project that contributes to the longevity of the bridge's functionality.

Sea Level Rise

The proposed project is within the California coastal zone, and according to the Cal-Adapt sea level rise model, the project area is vulnerable to future sea level rise scenarios (Cal-Adapt 2024). Figure 3-4 visualizes minimal flooding at 6 feet of projected sea level rise on SR-47 on the west approach span of the Vincent Thomas Bridge. The elevated bridge suspension and approach spans will be above the inundation area and is less vulnerable to sea level rise. However, connecting roads to these facilities would remain vulnerable to inundation, including high tide and water surface level increases associated with storm surge events.

Figure 3-4: Projected Sea-Level Rise (6 feet) for Port of Los Angeles Region

Source: Sea-Level Rise Viewer (NOAA 2024).

According to the Caltrans District 7 Adaptation Priorities Report (2021e), there are several ways in which sea level rise may adversely affect bridges. For very low bridges, a rise in sea levels may result in water overtopping the deck and impeding travel. It is important to recognize, however, that serious impacts to bridges can still occur from sea level rise even if water does not overtop the deck. For example, on some bridge designs, if sea levels rise just enough to result in waves contacting the bottom of the deck, the uplifting forces may be enough to separate the deck from the rest of the structure. Even bridges whose decks are well above projected water levels may be impacted by sea level rise. For example, waves may contact piers at a higher elevation than they were designed for leading to more rapid corrosion of bridge components and unexpected strain being put on the bridge structure. The bridge abutments may also be adversely impacted by waves regularly hitting higher than initially designed and eroding the approach embankments. Furthermore, the navigability of shipping channels may become impeded by bridges as sea levels rise and ship clearances are reduced.

There are uncertainties in sea level rise projections that come from variances from several factors, including GHG projections, rates of ice melt, rates of thermal expansion, and accuracy of climate models. Although there is relative certainty in rising sea levels, it is unknown precisely how the oceans will rise in response to atmospheric GHG emissions. The appropriate use of these projections is to understand the range of scenarios and plan with uncertainty in mind, by understanding the implications of any adaptation strategies recommended.

The changes to historical conditions brought on by sea level rise could make the proposed transportation facility more vulnerable to damage. A rising groundwater table could inundate supports on land that were not built to accommodate saturated soil conditions, leading to erosion of soils and loss of stability. Additionally, higher sea levels could increase the risk of adverse scour effects on structural elements.

According to the Ocean Protection Council Sea-Level Rise (OPC SLR) Guidance (2018), considering a range of different sea-level rise projections allows decision-makers to evaluate the vulnerability of people, natural resources, and infrastructure under various future flooding conditions, as well as their level of comfort with over- or underestimating sea-level rise. Because future projections of sea-level rise along California's coastline are uncertain (due to uncertainty associated with modeling and the trajectory of global emissions), it is critical to consider a range of projections to understand the consequences of various decisions, determine the tolerance for risk associated with those decisions, and to inform adaptation strategies necessary to prepare for change in the face of uncertainty utilizing a set of projections appropriate for low, medium-high, and extreme levels of risk aversion to evaluate a spectrum of potential impacts, consequences and responses. This analysis uses the projections in Table 3-4 for the project. The medium-high risk aversion scenario in Table 3-4 is recommended for the project as discussed in the Transportation Planning Scoping Information Sheet (TPSIS) (Caltrans 2022). For highly vulnerable or critical assets that have a lifespan beyond 2050 and would result in significant consequences if damaged, the H++ scenario (extreme risk aversion projection) should also be included in planning analyses. This project's expected lifespan is beyond 2050; therefore, this project's analysis also considers the H++ scenario.

Table 3-4: Projected Sea-Level Rise (feet) for Los Angeles

		Probabilistic Projections (in feet) (based on Kopp et al. 2014)						**H++ scenario (Sweet et al. 2017) *Single scenario**
		Median	**Likely Range**			**1-in-20 Chance**	**1-in-200 Chance**	
		50% probability sea-level rise meets or exceeds…	**66% probability sea-level rise is between…**			**5% probability sea-level rise meets or exceeds…**	**0.5% probability sea-level rise meets or exceeds…**	
					Low Risk Aversion		**Medium–High Risk Aversion**	**Extreme Risk Aversion**
High Emissions	2030	0.3	0.2	-	**0.5**	0.6	**0.7**	**1.0**
	2040	0.5	0.4	-	**0.7**	0.9	**1.2**	**1.7**
	2050	0.7	0.5	-	**1.0**	1.2	**1.8**	**2.6**
Low Emissions	2060	0.8	0.5	-	**1.1**	1.4	**2.2**	**3.7**
High Emissions	2060	1.0	0.7	-	**1.3**	1.7	**2.5**	
Low Emissions	2070	0.9	0.6	-	**1.3**	1.8	**2.9**	**5.0**
High Emissions	2070	1.2	0.8	-	**1.7**	2.2	**3.3**	
Low Emissions	2080	1.0	0.6	-	**1.6**	2.1	**3.6**	**6.4**
High Emissions	2080	1.5	1.0	-		2.8		
Low Emissions	2090	1.2	0.7	-	**1.8**	2.5	**4.5**	**8.0**
High Emissions	2090	1.8	1.2	-	**2.7**	3.4	**5.3**	
Low Emissions	2100	1.3	0.7	-	**2.1**	3.0	**5.4**	**9.9**
High Emissions	2100	2.2	1.3	-	**3.2**	4.1	**6.7**	

Source 1: National Oceanic and Atmospheric Administration (NOAA) Sea Level Rise Viewer.
Source 2: Caltrans District 7 Adaptation Priorities Report (Caltrans 2021e).
Source 3: State of California Sea-Level Rise Guidance (Ocean Protection Council 2018).
Note: Probabilistic projections for the height of sea-level rise shown above, along with the H++ scenario (depicted in the far-right column), as seen in the Rising Seas Report. The H++ projection is a single scenario and does not have an associated likelihood of occurrence as do the probabilistic projections. Probabilistic projections are with respect to a baseline of the year 2000, or more specifically the average relative sea level over 1991–2009. High emissions represent representative concentration pathway (RCP) 8.5. Low emissions represent RCP 2.6.

Based on the range of sea level rise projections in Table 3-4 and the analytical resources available (i.e., the NOAA Sea Level Rise Viewer, the Caltrans District 7 Adaptation Priorities Report, and the OPC SLR Guidance), maximum sea level rise projections in 2030 (1.0 feet), 2040 (1.7 feet), and 2050 (2.6 feet) would not have the potential to impact the project area. However, maximum sea level rise projections for 2100 (9.9 feet) would have the potential to impact the project area. Project facilities would remain unaffected by sea level rise up to approximately 6 feet according to the NOAA Sea Level Rise Viewer (Figure 3-4).

The west approach span of the Vincent Thomas Bridge would be inundated at approximately 6 feet of sea level rise, which could occur by 2080. With a 100-year storm surge, flooding could occur as early as 2060. In this event, detour routes would be required for the duration of the closure. Any future flooding that closes SR-47 and the Vincent Thomas Bridge will require coordination to maintain emergency access to Terminal Island. Similar traffic control measures that will be in place for the duration of construction for the Vincent Thomas Bridge Deck Replacement Project will need to be implemented. These measures include: designated detour routes, changeable message signs, and traffic control BMPs.

No adaptation strategies have been approved for the Vincent Thomas Bridge Deck Replacement Project. An Adaptive Management Plan for Caltrans right-of-way in the POLA region can be implemented in the future as certain sea level rise thresholds (flood frequency increases) occur. The Caltrans Adaptation Priorities Report for District 7 (2021e) identified the Vincent Thomas Bridge as a high-priority bridge for an adaptation assessment; therefore, a future Adaptive Management Plan is advised.

According to the 2023 State Highway System Management Plan (SHMP) SLR Adaptation Guidelines, there are four broad categories of adaptation strategies available to adapt roadway and bridges to potential sea level rise impacts (i.e., defend, accommodate, retreat, or changes in policies or practices). Table 3-5 provides general descriptions of the types of activities that would fall within those four broad adaptation categories. Activities that are applicable to the Vincent Thomas Bridge could be considered in a future Adaptive Management Plan.

Table 3-5: Roadway and Bridge Adaptation Strategies

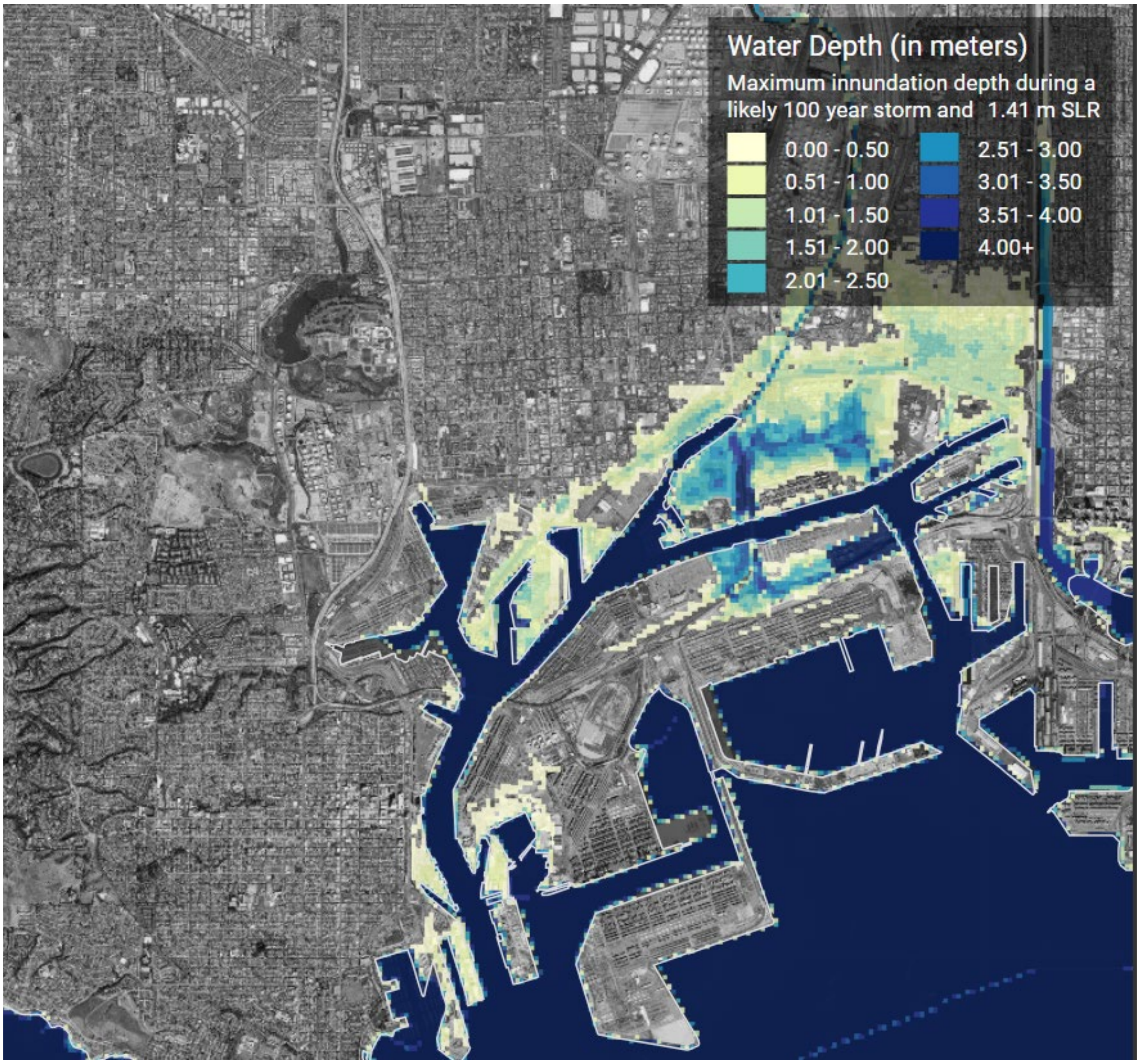
Approach	Adaptation Option
Defend	● Provide major structural protection. ● Provide protection at existing elevations/locations. ● Utilize nature-based solutions to protect assets like vegetated dunes, cobble berms, marsh sills, tidal benches, oyster reefs, and eelgrass beds.
Accommodate	● Elevate the infrastructure above the impact zone. ● Enhance drainage to minimize closure time and/or deterioration levels.
Retreat	● Abandon infrastructure. ● Relocate infrastructure or realign highway outside of exposed areas. ● Temporarily restrict use of infrastructure.
Changes in Policies or Practices	● Increase the infrastructure's maintenance and inspection interval and continue to monitor/evaluate. ● Modify land use and development policies to account for future impacts. ● Develop a detailed detour plan for assets susceptible to temporary flooding.

Source: Compiled by Caltrans (2023).

Precipitation and Flooding

Bridges are sensitive to higher flood levels and river flows. With climate change, precipitation is generally expected to become more intense in Caltrans District 7, leading to increased flooding on rivers and streams. These higher flows could exceed the design tolerances of bridges. In addition, wildfires are also expected to become more prevalent in District 7 with climate change. After a wildfire burns, the ground can become hard and less capable of absorbing water. As a result, flood flows can increase substantially in the aftermath of a fire, which could further exacerbate the risks to bridges. As seen on Figure 3-5, the Vincent Thomas Bridge is less likely to be impacted by a 100-year flood event due to the elevated design of the approach and suspended spans of the bridge. The proposed project is not located within the FEMA 100-year floodplain; therefore, the project would not contribute to any hydrology or floodplain impacts.

Figure 3-5: Cal-Adapt Maximum Inundation Depth During a Likely 100 Year Storm and 1.41 M SLR



Source: Cal-Adapt Sea Level Rise Tool (2024).

Wildfire

As stated in Section 3.2.20, the proposed project is not located in a Fire Hazard Severity Zone according to the State Fire Marshall. Therefore, the project area is not a concern for wildfire in future years.

Temperature

The Caltrans District 7 Adaptation Priorities Report (2021e) does not indicate temperature changes during the project's design life that would require adaptive changes in pavement design or maintenance practices.

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Chapter 4 – Comments and Coordination

4.1 Early Coordination and Consultation

Early and continuing coordination with the general public and public agencies is an essential part of the environmental process. It helps planners determine the necessary scope of environmental documentation and the level of analysis required, and to identify potential impacts and avoidance, minimization, and/or mitigation measures and related environmental requirements. Agency and tribal consultation and public participation for this project have been accomplished through a variety of formal and informal methods, including interagency coordination meetings, public meetings, public notices, monthly Project Development Team (PDT) meetings, stakeholder meetings, Community Advisory Committee (CAC) and Technical Advisory Committee (TAC) meetings, elected officials briefings, implementation of a Virtual Meeting Room (VMR), and informal pop-up events in surrounding communities. This chapter summarizes the results of the California Department of Transportation's (Caltrans) efforts to fully identify, address, and resolve project-related issues through early and continuing coordination.

4.2 Public Participation and Scoping Activities

Formal environmental scoping activities were conducted to introduce the project and solicit input from the public, affected stakeholders, elected officials, and government agencies to identify concerns and to help define the environmental issues and alternatives to be examined in the Environmental Impact Report /Environmental Assessment (EIR/EA). Public and agency coordination is ongoing and will continue throughout the California Environmental Quality Act/National Environmental Policy Act (CEQA/NEPA) environmental process.

4.3 Notice of Preparation, Scoping, and Initiation of Studies

On April 11, 2023, a Notice of Preparation (NOP) of an EIR in accordance with CEQA and a Notice of Scoping and Initiation of Studies in accordance with NEPA were sent via mail or email to 220 agencies, organizations, individuals and to federal, State, and local elected officials. In addition, over 10,000 flyers were distributed in surrounding communities. On April 13, 2023, the NOP was published in the following three local newspapers: *The Daily Breeze, Long Beach Press Telegram,* and *La Opinion* (Spanish language). Ten social media posts were developed and published by Caltrans. Social media posts included details about the project and encouraged participation in the environmental process, public scoping meetings, and the comment period. Nine email notifications were distributed to the project's stakeholder database, including community organizations, businesses, elected officials, and stakeholders in the area surrounding the project. Caltrans also published four press releases to promote the project, announce the public scoping meetings (in-person and virtual), drive awareness and engagement via the VMR, and create a call to action for comments from the community. The NOP was also submitted to the State Clearinghouse for distribution to State responsible and trustee agencies. The NOP initiated the EIR/EA 30-day scoping comment period from April 13, 2023, through May 12, 2023. The scoping comment period was extended twice to 89 days and concluded on July 10, 2023.

4.4 Public Scoping Meetings

There were two public scoping meetings, one in-person and one virtual, with the same project materials and presentation at each meeting. Caltrans provided an overview of the project, construction staging options, conceptual detour routes, an overview of the environmental process, the purpose of scoping, the comment period, and the different methods to provide comments. Each meeting also provided Spanish-language translators. The first scoping meeting was held in person on Thursday, April 27, 2023, at the Wilmington Greenbelt Community Center; approximately 15 members of the public attended, including three elected official representatives, a neighborhood organization, and the Los Angeles County Fire Department. The second scoping meeting was held virtually via Zoom on Thursday, May 4, 2023; approximately 95 participants attended (including agency representatives), including Los Angeles County Supervisor Janice Hahn, and the City of Los Angeles Councilmember from District 15, Tim McOsker, who provided opening remarks before the meeting started. During the meeting, in response to multiple public and stakeholder requests, Caltrans extended the comment period by 14 days until May 26, 2023, to allow ample time for stakeholders and the public to be informed, submit comments, and provide feedback on the project and potential conceptual detour routes. Subsequently, following the scoping meetings, and upon additional requests from elected officials, community groups, and the public, Caltrans extended the scoping comment period an additional 45 days, from May 26, 2023, to July 10, 2023. The scoping period began on April 13, 2023, and ended on July 10, 2023, for a total of 89 days. The extension notices were sent to a total of 428 elected officials, agencies, and interested stakeholders that consisted of additional stakeholders who signed up to receive project notifications. Caltrans expanded the targeted outreach area to include additional communities and stakeholders that may be affected by the project.

4.5 Virtual Meeting Room

Outreach methods included a variety of engagement tools, including a project website and VMR. The project's VMR was established as a primary hub during scoping for the community to learn about the project with 24/7 access to project information and comment forms. The VMR was launched on April 13, 2023, through Monday, July 10, 2023. The VMR was promoted via the meeting invitation flyer, project fact sheet social media posts, email outreach, stakeholder phone calls, and the in-person and virtual public scoping meetings. The VMR provided visitors with the opportunity to learn about the project, the scoping process, and the commenting period. The VMR served as an extension of outreach efforts, allowing the public and stakeholders to visit the site at their convenience to take a virtual walk through the VMR's stations, view the virtual boards, and submit comments. After the May 4, 2023, virtual meeting, a recording was made available in English and Spanish. Approximately 3,200 unique/new users accessed the VMR with a total of 74,000 page views. A link to the VMR was provided on the project website at the following link: https://virtualeventroom.com/caltrans/vtb/. After the conclusion of the scoping period, the VMR was closed; however, the project website has been maintained to provide feedback, ongoing project updates, and information and archived materials.

4.6 Additional Outreach Methods

The project fact sheet and meeting flyer (in both English and Spanish) were distributed to key community locations in Long Beach, San Pedro, and Wilmington to disseminate the project information at the start of scoping. Updated project fact sheets were distributed twice more to each location with the extended comment period information. English and Spanish fact sheets were also provided at both Harbor City neighborhood council meetings (June 8, 2023, and June 21, 2023). The key community locations are as follows:

- Alamitos Neighborhood Library (Long Beach)
- Billie Jean King Main Library (Long Beach)
- Mark Twain Neighborhood Library (Long Beach)
- Freeman Community Center (Long Beach)
- San Pedro Regional Branch Library (San Pedro)
- Peck Park Community Center (San Pedro)
- East Wilmington Greenbelt Community Center (Wilmington)
- Wilmington Branch Library (Wilmington)
- Banning's Landing Community Center (Wilmington)
- Harbor City-Harbor Gateway Branch Library

4.7 Community Pop-up Events

The outreach team attended local farmers markets in San Pedro, Wilmington, and Long Beach. The pop-up events at the farmers' markets provided a different venue/method to inform the public and engage communities, including environmental justice communities, within the project area. The outreach team shared with booth visitors the scoping meeting flyer and fact sheets in English and Spanish and had sign-in sheets to add to the project distribution database. Bilingual outreach team members attended all community pop-up events. These events promoted the upcoming public scoping meetings and comment period, and encouraged community members to submit comments on the project. The Wilmington Farmers' Market event was attended primarily by Spanish-speaking community members.

4.8 Newspaper Articles and Live Interviews

News articles and media outlets shared project information and details to further extend the opportunity to create project interest and build community awareness. Articles published and media coverage about the project can be found in Table 4-1.

Table 4-1: Articles and Media Coverage

Media Outlet	News Publication Date	Title and Details
KTLA 5 Local News	Tuesday, May 9, 2023	Title: Residents raise questions, concerns about proposed closure of Vincent Thomas Bridge
LB Patch	Tuesday, May 9, 2023	Title: Public to Get Say in Overhaul of Famed Vincent Thomas Bridge
Random Length News	Thursday, May 11, 2023	Title: Vincent Thomas Bridge Proposed to Close in 2025 for Repairs
LA Daily News	Friday, May 12, 2023	Title: LA Harbor Commission discusses Vincent Thomas Bridge Project
Daily Breeze	Friday, May 12, 2023	Title: LA Harbor Commission discusses Vincent Thomas Bridge Project
Long Beach Post News	Monday, May 15, 2023	Title: Vincent Thomas Bridge needs months, maybe years, of construction; Caltrans weighs closure options (Reporter interviewed Jason Roach, Caltrans District Senior Environmental Planner)
Roads & Bridges	Monday, May 15, 2023	Title: Caltrans is Planning Work on the Vincent Thomas Bridge
Reddit	Reposted Daily Breeze article on Friday, May 12, 2023	Post Title: Vincent Thomas Bridge closure hearing brings large crowd with complaints, questions. Bridge could be fully closed for 2 years during repairs.
LA Times	Tuesday, May 16, 2023	Title: Motorists in San Pedro, Long Beach face headaches during repairs to Vincent Thomas Bridge
LAist	Tuesday, May 30, 2023	Title: Vincent Thomas Bridge Will Get a Makeover and Caltrans Wants Public Input

Source: Scoping Summary Report (Caltrans 2023b).

4.9 Stakeholder Meetings

Additionally, the project team was requested to attend 14 stakeholder meetings during scoping to provide information about the project and answer questions. Participants were encouraged to provide feedback on the project or to ask questions. Before scoping concluded, a CAC was established in response to the community's request to continue to engage with Caltrans after scoping to provide feedback, keep informed, and collaborate with Caltrans to avoid, minimize, or mitigate potential impacts to the community. Please see Section 4.11.1, below, for more details regarding the CAC.

Since the announcement of the first comment period extension on May 4, 2023, stakeholder meetings with unions and neighborhood councils, and other interested groups occurred to continue ongoing discussions, listen to key concerns, and build project awareness. Table 4-2 shows all of the stakeholder meetings that were held in May, June, and July 2023.

Table 4-2: Stakeholder Meetings

No.	Stakeholders	Meeting Date
1	South Bay Cities Council of Governments	5/16/23
2	Unions, Pacific Maritime Association (PMA), and representatives from the Port of Los Angeles (POLA) and the Port of Long Beach (POLB)	5/19/23
3	Wilmington Neighborhood Council	5/23/23
4	South Bay Cities Council of Governments – Board Meeting	5/24/23
5	Office of Los Angeles Mayor Karen Bass	6/1/23
6	Harbor Gateway South Neighborhood Council	6/8/23
7	Northwest San Pedro Neighborhood Council	6/12/23
8	San Pedro Chamber of Commerce – Economic Development & Policy Committee	6/13/23
9	Office of Los Angeles Mayor Karen Bass/Council District 15	6/15/23
10	Harbor Trucking Association	6/19/23
11	Wilmington Chamber of Commerce	6/20/23
12	Coastal San Pedro Neighborhood Council	6/20/23
13	Harbor City Neighborhood Council	6/21/23
14	Central San Pedro Neighborhood Council (rescheduled from 6/20/23 due to conflict)	7/18/23

Source: Scoping Summary Report (Caltrans 2023b).

4.10 Summary of Public Comments

During the scoping period, comments were collected from the public and stakeholders through various methods, including email, direct mail, and verbally at the in-person and virtual scoping meetings with a court reporter. A total of 182 comments were collected, most of them through the project website or through email.

- Project Emails: 122
- Virtual Meeting Room Comment Form: 17
- Paper Comment Cards: 8
- Mailed Letters: 14
- In-Person Scoping Meeting (via Court Reporter): 5
- Virtual Scoping Meeting (via Court Reporter): 16

Table 4-3 provides a summary of the comment themes and key concerns expressed by the public and stakeholders.

Table 4-3: Scoping Meetings Comment Themes and Key Concerns

Comment Themes	Key Concerns
In-Person Scoping Meeting	
● Repair Alameda Street before start of construction ● Appreciation for avoiding Anaheim Street as part of the detour routes ● Community improvements ● Underground tunnel ● Prefer construction staging Option 2	● Traffic congestion ● Existing street conditions ● Truck traffic impacts ● Pacific Coast Highway and Alameda Street truck traffic congestion and street conditions
Virtual Scoping Meeting	
● Extension of the scoping comment period ● Impacted communities were not notified sufficiently ● Suggested different project design (i.e., new or underground bridges) ● Truck traffic and safety ● Adding bike and pedestrian lanes ● Trusting of Caltrans, but outreach needs to be better	● Attendees felt some communities were not informed and should have Spanish outreach ● Pollution, air quality, and health risks ● Increase in traffic congestion ● Unsafe conditions for impacted communities ● Dangerous road conditions ● Alternative detour routes

Source: Scoping Summary Report (Caltrans 2023b).

Comments were collected to gather a consensus of the community's preference on preliminary construction staging options. Among those who provided a direct comment on the current staging options, the option with the least amount of construction time was favored. Further analysis showed some stakeholders were interested in a different alternative solution, such as bridge closures for night work only and keeping the bridge open during the daytime hours.

Multiple community concerns were received, with the main topics being the truck traffic from the ports and commuter traffic impacts, as well as the impacts to the residents surrounding the conceptual detour routes within the community of Wilmington. Stakeholders' comments raised concern about the existing road conditions and the improvements needed to be addressed before, during, and after the project has been completed. One area of interest was a portion of Anaheim Street, Road Diet (section with the reduced vehicle lanes), current road conditions, and traffic congestion.

In addition, stakeholders presented alternative ideas and solutions to consider. Some comments offered other detour route possibilities, such as expanding the project area to include freeways (Interstate 710 [I-710], Interstate 405 [I-405], etc.). Stakeholders also wanted to see creative solutions to help mitigate potential traffic impacts, such as implementing a ferry service to Terminal Island, providing food trucks on Terminal Island, and shuttles for port workers. Stakeholders also wanted to explore the possibility of building a new bridge entirely as well as adding bike lanes to the current bridge.

Stakeholder comments included public outreach and the need to extend the comment period and conduct more outreach through multiple channels to avoid, minimize, or mitigate potential traffic impacts to surrounding communities. There were also multiple requests to have a 90-day comment period for the Draft EIR/EA as well as to form a CAC and to include more Spanish outreach.

Overall, stakeholders expressed their concern for potential impacts of the construction staging options and conceptual detour routes on their communities. The community expressed their desire to be involved to help collaborate on mitigation measures, proposed detour routes, and future engagement.

4.11 Public Participation (After Scoping)

4.11.1 COMMUNITY ADVISORY COMMITTEE

The CAC was established during the scoping period to continue engagement, and the first CAC meeting was held during the scoping comment period. The CAC members represent community-based organizations, neighborhood councils, businesses, community leaders, and unions supporting and serving the communities in the project area. These organizations were selected for having a history of being involved in the development of transportation improvements in and around surrounding communities and the Port of Los Angeles (POLA) and Port of Long Beach (POLB). The CAC meets to discuss major project activities, such as the development of the Build Alternative, types of studies to be conducted, assumptions for traffic studies, and technical analysis. The purpose of the CAC is to be the conduit between Caltrans and the community and to express community opinions and concerns. The CAC meetings will continue throughout the life of the project as needed.

The CAC was developed in collaboration partnerships with area elected officials, including, but not limited to, the offices of Los Angeles Mayor Karen Bass, Councilmember Tim McOsker (District 15), Supervisor Janice Hahn, Assembly Members Mike Gipson and Josh Lowenthal, Congressmembers Nanette Barragan and Robert Garcia, local elected officials, and Long Beach Mayor Rex Richardson. These officials were kept up to date and contacted for participation, guidance, and recommendations on key stakeholders and engagement. CAC members, meeting agendas, recordings, minutes, and an overview table are posted at https://virtualeventroom.com/caltrans/vtb/. See Table 4-4 for a summary of CAC meetings.

Table 4-4: CAC Meetings and Agendas

No.	Meeting	Date	Agenda
1	CAC	June 29, 2023	• Project overview • Public and community outreach to date • Advisory committees overview • Role of CAC members • Survey: Format/day/time/frequency of meetings
2	CAC	July 26, 2023	• Overview of first CAC meeting • Recurring meeting invite (third Wednesday) • Overview of first TAC • Overview of traffic analysis and data collection
3	CAC	August 23, 2023	• Scoping summary • Overview of second TAC
4	CAC	September 27, 2023	• Upcoming cable work on Vincent Thomas Bridge • Project area coordination update • Conceptual detour routes • Brown Act • Overview of third TAC
5	CAC	October 25, 2023	• Outreach plan for circulation of Draft EIR/EA • Overview of fourth TAC
6	CAC	December 13, 2023	• Draft EIR/EA and public circulation • Overview of fifth TAC
7	CAC	January 24, 2024	• Draft EIR/EA circulation and outreach update

Source: Community Impact Assessment (2024).

4.11.2 TECHNICAL ADVISORY COMMITTEE

The TAC is made up of subject matter and technical experts with related transportation and/or regional- or local agency-related expertise from agencies of various levels of government likely to be affected by a project. They provide technical expertise and will support educating the CAC on policies. The TAC will also provide relevant expertise, solutions, and strategies to Caltrans. Project updates will be presented, and topics such as concurrent or adjacent projects, bridge deck replacement and construction staging options, the environmental process, truck traffic, traffic detours, and safety will be discussed. The TAC meetings will continue throughout the life of the project as needed.

The goal is to obtain multi-jurisdictional technical expertise from the TAC to address key concerns, discuss timing of adjacent or concurrent projects, and develop collaborative strategies to ensure safety and minimize project-related impacts. TAC members, meeting agendas, recordings, minutes, and an overview table describing everything discussed during the meetings are posted at https://virtualeventroom.com/caltrans/vtb/. See Table 4-5 for the TAC meeting summary.

Table 4-5: TAC Meetings and Agendas

No.	Meeting	Date	Agenda
1	TAC	July 25, 2023	● Project Overview ● Technical Advisory Committee ● Roles and Responsibilities ● Meeting Timing ● Preliminary Project Coordination
2	TAC	August 15, 2023	● Bridge Deck Existing Conditions ● Wheel Loads of Different Types of Vehicles ● CAC Meeting #2 Summary of Feedback ● Anaheim Street Diet/LADOT Vision Zero ● Coordination with Railroad/Caltrans
3	TAC	September 19, 2023	● Potential Detour Routes ● Project Coordination Map and Schedules (agency updates)
4	TAC	September 27, 2023	● Upcoming Cable Work on Vincent Thomas Bridge ● Project Area Coordination Update ● Conceptual Detour Routes ● Brown Act ● Overview of Third TAC
5	TAC	October 17, 2023	● Camera Locations Surrounding Vincent Thomas Bridge Project Area ● Traffic Study Status ● Project Coordination Map and Schedules (Agency Updates)
6	TAC	December 5, 2023	● High-Level Overview of Traffic Results ● Project Coordination Map and Schedules (Agency Updates) ● Draft EIR/EA Overview and Outreach Plan
7	TAC	January 16, 2024	● TBD

Source: Community Impact Assessment (2024).

4.11.3 ELECTED OFFICIALS BRIEFINGS

In addition to the CAC and TAC, Caltrans will conduct briefings to elected officials on an as-needed basis. The purpose of these briefings will be used to keep elected officials informed. On January 29, 2024, Caltrans held an elected officials briefing prior to the circulation of the Draft EIR/EA.

4.11.4 COMMUNITY EVENTS

On August 12, 2023, the outreach team attended the Wilmington Back to School event, provided fact sheets in English and Spanish, answered questions, and signed up members of the public who wished to stay informed about the project (approximately 30 people visited the booth and 22 people signed up). On September 4, 2023, the team provided project fact sheets (in English and Spanish) for participants in the Conquer the Bridge event, an annual Labor Day run/walk event over the Vincent Thomas Bridge. Over 1,000 project fact sheets were provided to be distributed in each participant's race packet.

4.11.5 PROJECT WEBSITE UPDATES

In September 2023, the Vincent Thomas Bridge Deck Replacement Project Scoping Summary Report, which summarizes project scoping and outreach activities from April 13, 2023, through July 10, 2023, was posted on the project website. In October 2023, a Frequently Asked Questions (FAQs) sheet was posted in English and Spanish on the website in order to answer commonly asked questions.

Continuous and ongoing project updates, including a calendar of events displaying past and future project meetings, are also available on the project website.

4.11.6 NATIVE AMERICAN CONSULTATION (ASSEMBLY BILL 52 AND SECTION 106)

Caltrans sent letters notifying interested parties of the initiation of Section 106 and Assembly Bill (AB) 52 consultation on April 20, 2023. On April 28, 2023, the Native American Heritage Commission (NAHC) provided Caltrans with a consultation list of tribes that are traditionally and culturally affiliated with the geographic area of the project. Due to there being no ground-disturbing activities, the interested parties responded stating there was no need for consultation. All letters of correspondence can be found at the end of this chapter. Caprice “Kip” Harper, Environmental Scientist, Caltrans District 7, was the Caltrans representative for all AB 52 tribal consultation described in Table 4-6.

Table 4-6: Native American Consultation (Assembly Bill 52 and Section 106)

Date	Type of Communication	Addressed to	Response or Note
Native American Heritage Commission			
11/28/2022	Email/letter	Kip Harper, Environmental Scientist	Andrew Green, Cultural Resources Analyst, noted that the Sacred Lands File for the project was completed and the results were negative, and he provided a list of Native American tribes.
4/28/2023	Email/letter	Kip Harper, Environmental Scientist	Andrew Green, Cultural Resources Analyst, provided the list of Native American tribes in response to AB 52 that are geographically associated with the project area.
Gabrieleno/Tongva San Gabriel Band of Mission Indians			
4/20/2023	Email/letter	Anthony Morales, Chairperson	Kip Harper emailed the initial Section 106/AB 52 project letter to the tribe and copied Adrian Morales. The email was sent with a delivery receipt. No response was received.
5/16/2023	Phone	Anthony Morales, Chairperson	Mr. Morales said that since no ground disturbance is proposed, he does not have any concerns. However, if the project were to require ground disturbance/excavation, he would have concerns due to its proximity to known village and archaeological sites adjacent to the ocean.
Gabrieleno Band of Mission Indians – Kizh Nation			
4/20/2023	Emailed letter	Andy Salas, Chairperson	Kip Harper emailed an initial Section 106/AB 52 project letter to Chairman Salas. The email was sent with a delivery receipt.
4/20/2023	Email	Brandy Salas, Tribal Administrator	Ms. Salas responded by email that the tribe has no concerns.
Gabrielino Tongva Indians of California Tribal Council			
4/20/2023	Email/letter	Robert Dorame, Chairperson	Kip Harper emailed the initial Section 106/AB 52 letter to the tribe. The email was sent with a delivery receipt.
4/20/2023	Email/letter	Christina Conley, Tribal Consultant and Administrator	Ms. Conley responded that the tribe has no concerns since there is no ground disturbance.
Gabrielino/Tongva Nation of the Greater Los Angeles Basin			
4/20/2023	Email/letter	Sandonne Goad, Chairperson	Kip Harper emailed the initial Section 106/AB 52 letter to the tribe. The email was sent with a delivery receipt. No response was received.
4/20/2023	Email/letter	Sandonne Goad, Chairperson	Kip Harper resent the 4/20/2023 letter to the tribe. The email was sent with a delivery receipt. No response was received.
Gabrielino-Tongva Tribe			
4/20/2023	Email/letter and USPS	Charles Alvarez	Kip Harper emailed the initial Section 106/AB 52 letter to Mr. Alvarez. It was undeliverable. A letter was also mailed via USPS on 4/20/2023.
5/16/2023	Phone and letter via USPS	Charles Alvarez	Kip Harper called the phone number on the NAHC list and the call failed. The number does not seem to be working. Ms. Harper mailed a second follow-up letter via USPS on 5/16/2023.
Santa Rosa Band of Cahuilla Indians			
4/20/2023	Email/letter	Lovina Redner, Tribal Chair	Kip Harper emailed the initial Section 106/AB 52 letter to the tribe. The email was sent with a delivery receipt. No response was received.
5/16/2023	Email/letter	Lovina Redner, Tribal Chair	Kip Harper emailed a follow-up Section 106/AB 52 letter to the tribe. The email was sent with a delivery receipt. No response was received.
Soboba Band of Mission Indians			
4/20/2023	Email/letter	Joseph Ontiveros, Cultural Resource Director	Kip Harper emailed the initial Section 106/AB 52 letter to the tribe. The email was sent with a delivery receipt. No response was received.
4/20/2023	Email/letter	Isaiah Vivanco, Chairperson	Kip Harper emailed the initial Section 106/AB 52 letter to the tribe. The email was sent with a delivery receipt. No response was received.
5/16/2023	Email/letter	Joseph Ontiveros, Cultural Resource Director	Kip Harper emailed the follow-up Section 106/AB 52 letter to the tribe. The email was sent with a delivery receipt. No response was received.
5/16/2023	Email/letter	Isaiah Vivanco, Chairperson	Kip Harper emailed the follow-up Section 106/AB 52 letter to the tribe. The email was sent with a delivery receipt. No response was received.

Source: Compiled by Caltrans (2023).

4.11.7 SECTION 106 COORDINATION AND CONSULTATION

In accordance with Section 106, Caltrans sent a notification and request for comment regarding the project to potentially interested parties on March 2, 2023. No responses were received in response to the initial letter. Caltrans Architectural Historian, Jeff Carr, followed up with additional emails on May 31, 2023. A summary of these efforts follows in Table 4-7.

Table 4-7: Section 106 Coordination

Date	Type of Communication	Addressed to	Response
Los Angeles Conservancy			
3/2/2023	Letter/email	Adrian Scott Fine, Senior Director of Advocacy	No response.
5/31/2023	Follow-up email	Adrian Scott Fine, Senior Director of Advocacy	No response.
San Pedro Bay Historical Society			
3/2/2023	Letter/email	Mona Dallas Reddick, President	No response.
5/31/2023	Follow-up email	Mona Dallas Reddick, President	No response.
Historical Society of Long Beach			
3/2/2023	Letter/email	Julie Bartolotto, Executive Director	No response.
5/31/2023	Follow-up email	Julie Bartolotto, Executive Director	No response.
Long Beach Heritage			
3/2/2023	Letter/email	Chris Hogan, President	No response.
5/31/2023	Follow-up email	Chris Hogan, President	No response.

Source: Compiled by Caltrans (2023).

4.11.8 STATE HISTORIC PRESERVATION OFFICE CONSULTATION AND COORDINATION

On July 10, 2023, Caltrans District 7 sent a letter to the Caltrans Cultural Studies Office (CSO) requesting the CSO to initiate the Section 106 consultation with the State Historic Preservation Officer (SHPO). On July 20, 2023, as the lead agency, Caltrans sent a letter to initiate Section 106 consultation for the proposed Project to SHPO. The letter requested SHPO's concurrence on Caltrans' determination that a Finding of No Adverse Effect without Standard Conditions is appropriate for the project. Caltrans identified one historic property within the Area of Potential Effects (APE), the Vincent Thomas Bridge. The property was previously determined eligible for listing in the National Register of Historic Places (National Register) as part of the 2010 Update of the Caltrans Statewide Historic Bridge Inventory. It is listed in the California Register of Historical Resources (California Register), on the Master List of Historical Resources, and is a State-owned historical resource. Caltrans applied the Criteria of Adverse Effect as set forth at 36 Code of Federal Regulations (CFR) 800.5(a)(1) and Stipulation X.B of the 106 Programmatic Agreement (PA), and found that the project would not adversely affect the Vincent Thomas Bridge within the APE. Attached to this letter was the Historic Property Survey Report (HPSR).

On August 7, 2023, SHPO concurred with Caltrans' finding of no adverse effect without standard conditions on historic properties. In the letter from SHPO, it was stated that none of the proposed work would alter the characteristics of the Vincent Thomas Bridge that qualify it for the National Register or diminish the integrity of the historic property. Correspondence letters can be found at the end of this chapter.

4.11.9 CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE COORDINATION

On July 27, 2022, Caltrans biologists Susan Cai and Mario Mariotta surveyed the bridge from the catwalk under the deck. They recorded observations of evidence of peregrine falcon presence on the underside of the bridge and conducted interviews with Caltrans Maintenance staff, who paint the bridge and have had encounters with the peregrine falcon. Biologists Lonnie Rodriguez, Samuel Bressler, and Carla Cervantes performed weekly surveys of the bridge and potential falcon nesting territories in the POLA vicinity to establish patterns of use from May 2023 to July 2024 and to understand the behavior of the peregrine falcon(s) in the area, identify the specific nesting location on the bridge, and the species' use of the bridge and surroundings outside of the nesting season.

Caltrans coordinated with the California Department of Fish and Wildlife (CDFW) to determine the means by which a "take" of peregrine falcon could be avoided. Caltrans biologist Mario Mariotta contacted the Caltrans liaison for CDFW, Erika Cleugh, by email for coordination. After the fully protected status was removed from the peregrine falcon on July 10, 2023, Mario Mariotta spoke with Erika Cleugh on July 20, 2023, and she indicated that the regulatory status of the species was nebulous. CDFW may issue regulations pertaining to the take of peregrine falcon in the near future. Caltrans regards the status as a protected bird species in accordance with federal and California migratory bird protection laws. Caltrans also met with Erika Cleugh and Heather Pert (CDFW) on August 17, 2023, and the regulatory status of the peregrine falcon was discussed further. CDFW indicated that the peregrine falcon should be treated like other raptors in accordance with the California Migratory Bird Treaty Act (MBTA) and other laws in the California Fish and Game Code that apply to native nesting birds.

Chapter 5 – List of Preparers

This Environmental Impact Report/Environmental Assessment (EIR/EA) was prepared by the California Department of Transportation (Caltrans), District 7, with assistance from consultant teams. The following individuals were involved in the preparation of this EIR/EA:

5.1 California Department of Transportation, District 7

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Congressional District 44
The Honorable Nanette Diaz Barragan,
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Congressional District 36
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6.5 Elected Officials – State

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The Honorable Lena Gonzalez,
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Senate District 24
The Honorable Ben Allen, Senator
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Senate District 15
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Facilities Development & Planning
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Homeland Cultural Arts Center
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Ernest McBride Park & Cal Rec Community Center
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Long Beach, CA 90813

Freeman Community Center
2760 N. Studebaker Rd.
Long Beach, CA 90815

Freeman Community Center
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Billie Jean King Main Library
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Alamitos Neighborhood Library
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Willmore City Heritage Association
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ILWU Local 63 – Marine Clerks
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ILWU Local 20
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ILWU Local 63 – Marine Clerks
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ILWU Local 56
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ILWU Local 63
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1 World Trade Center #1650
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Long Beach Area Chamber of Commerce
Nelson Judy, Vice President Business Councils
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Food Net – San Pedro Service Center – Food Distribution Center
769 W. 3rd St.
San Pedro, CA 90731

Harbor Christian Center – Food Distribution Center
Maggio Vivian
1602 Wilmington Blvd.
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Saint Peter and Paul Poverty Program Food Distribution Center
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Wilmington, CA 90744

A Needy Wilmington
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550 W. Upland Ave.
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568 W. Upland Ave.
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562 W. Upland Ave.
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Appendix A. Section 4(f)

Resources Evaluated Relative to the Requirements of Section 4(f): No-Use Determination(s)

Section 4(f) of the Department of Transportation Act of 1966, codified in federal law at 49 United States Code (USC) 303, declares that “it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites.”

This section of the document discusses parks, recreational facilities, wildlife refuges, and historic properties found within or next to the project area that do not trigger Section 4(f) protection because: (1) they are not publicly owned, (2) they are not open to the public, (3) they are not eligible historic properties, or (4) the project does not permanently use the property and does not hinder the preservation of the property.

Section 4(f) Properties

Section 4(f) properties include:

- Publicly owned parks, recreation areas, wildlife, or waterfowl refuges.
- Historic sites on or eligible for the National Register of Historic Places (National Register).
- Archaeological sites on or eligible for listing on the National Register and that warrant preservation in place as determined by Caltrans and the official(s) with jurisdiction.

For more detailed information on historic sites, see Chapter 2, Section 2.11 Cultural Resources, and for information on parks and recreational facilities, see Section 2.4 Parks and Recreational Facilities in this Environmental Impact Report/Environmental Assessment (EIR/EA).

Section 4(f) Study Areas

As described in Chapter 1, the Build Alternative proposes to replace the bridge deck, median barrier, fencing, rails, and seismic sensors, and all project construction activities would take place within the existing right-of-way of the Vincent Thomas Bridge (Bridge #53-1471) between Post Miles (PM) 0.4 and 2.0. The identification of Section 4(f) properties and the assessment of use followed the guidance presented in the Caltrans Standard Environmental Reference (SER) and the Federal Highway Administration (FHWA) Section 4(f) Policy Paper. The Section 4(f) Study Area includes the project Area of Potential Effects (APE) or Section 4(f) Historic Study Area to identify and analyze the use of all potential Section 4(f) historic sites. The Section 4(f) Publicly Owned Parks and Recreation Study Area also identified all potential parks, recreational facilities, and wildlife and waterfowl refuges adjacent to and within 1,000 feet of the project area to ensure that proximity impacts (constructive use) were considered (see Figure A-1, provided later).

In addition, several detour routes have been proposed to temporarily route traffic around the bridge during partial or full bridge closures. Depending on the construction staging option and whether night or weekend closures are implemented, the detours would be in place between 9 and 36 months (see Table A-1).

Table A-1: Construction Staging Options

Construction Staging Option	Description
Single-Stage Construction	Full closure of Vincent Thomas Bridge with traffic detours in place for 9 to 12 months.
Two-Stage Construction	One lane open in each direction for each stage (two stages). The work would require the installation of a temporary support/bracing system, potentially reduced speeds due to small lanes, and multiple weekend (55-hour) full closures and overnight full closures of the bridge.
Three-Stage Construction	One lane in each direction on the bridge would remain open (three stages) with multiple full weekend and overnight closures. Traffic detours in place for 24 to 30 months with weekend and overnight closures or 30 to 36 months with no full closures.
Nighttime Bridge Closure	Bridge fully open during daytime (6:00 a.m. to 7:00 p.m.) with full closure during the nighttime hours (7:00 p.m. to 6:00 a.m.) every day.

Source: Compiled by Caltrans (2023).

The proposed routes include Sepulveda Boulevard, Pacific Coast Highway (PCH), Harry Bridges Boulevard/Alameda Street/Anaheim Street (between State Route 47 [SR-47] and Henry Ford Avenue), SR-47, State Route 103 (SR-103), Interstate 110 (I-110), and Interstate 710 (I-710) (see Section 1.4.7 of the environmental document). As highlighted in Section 2.2.4 of the environmental document, there are numerous parks and recreational facilities located adjacent to the proposed detour routes, and while the detour routes may experience temporary increased volumes of traffic, access would be maintained at all times and there would be no direct or indirect impacts affecting the park or park activities, features, or attributes. Therefore, these facilities were not considered as part of this evaluation.

Section 4(f) "Use" Definitions

As defined in Title 23, Code of Federal Regulations (CFR), Section 774.17, the "use" of a protected Section 4(f) property occurs when any of the following conditions are met:

- **Direct Use:** A direct use of a Section 4(f) property occurs when property is permanently incorporated into a proposed transportation project. This may occur as a result of partial or full acquisition of a fee simple interest, permanent easement, or temporary easement that exceeds regulatory limits.

- **Temporary Use:** A temporary use of a Section 4(f) property occurs when there is a temporary occupancy of property that is considered adverse in terms of the preservation purposes of the Section 4(f) statute. A temporary occupancy of property does not constitute a use of a Section 4(f) resource when all of the following conditions are satisfied:

    - Duration is less than the time needed for construction of the project and there is no change in ownership of the land.

  - The nature and magnitude of the changes to the Section 4(f) property are minimal.
  - There are no anticipated permanent adverse physical impacts, nor is there interference with the protected activities, features, or attributes of the property on either a temporary or permanent basis.
  - The land being used will be fully returned to a condition at least as good as that which existed prior to the project.
  - There is a documented agreement of the official(s) with jurisdiction over the Section 4(f) resource regarding the above conditions.

- **Constructive Use:** A constructive use of a Section 4(f) property occurs when a transportation project does not incorporate land from the resource, but the proximity of the project results in impacts so severe that the protected activities, features, or attributes that qualify the resource for protection under Section 4(f) are substantially impaired (23 CFR 774.15).

- ***De minimis* Impact:** The requirements of Section 4(f) are satisfied with respect to a Section 4(f) resource if it is determined by the FHWA that a transportation project would have only a "*de minimis* impact" on the Section 4(f) resource. The provision allows avoidance, minimization, mitigation, and enhancement measures to be considered in making the *de minimis* determination. The official(s) with jurisdiction over the resource must be notified of FHWA's determination. A *de minimis* impact is defined in 23 CFR 774.17 as follows:

  For parks, recreation areas, and wildlife/waterfowl refuges, a de minimis impact is one that would not adversely affect the features, attributes, or activities qualifying the property for protection under Section 4(f), and the official with jurisdiction has concurred with this determination after there has been a chance for public review and comment (Note: For parks, recreation areas, and wildlife/waterfowl refuges, public notice and an opportunity for public review and comment concerning the effects on the protected features, attributes, or activities of the property are required from the official with jurisdiction).

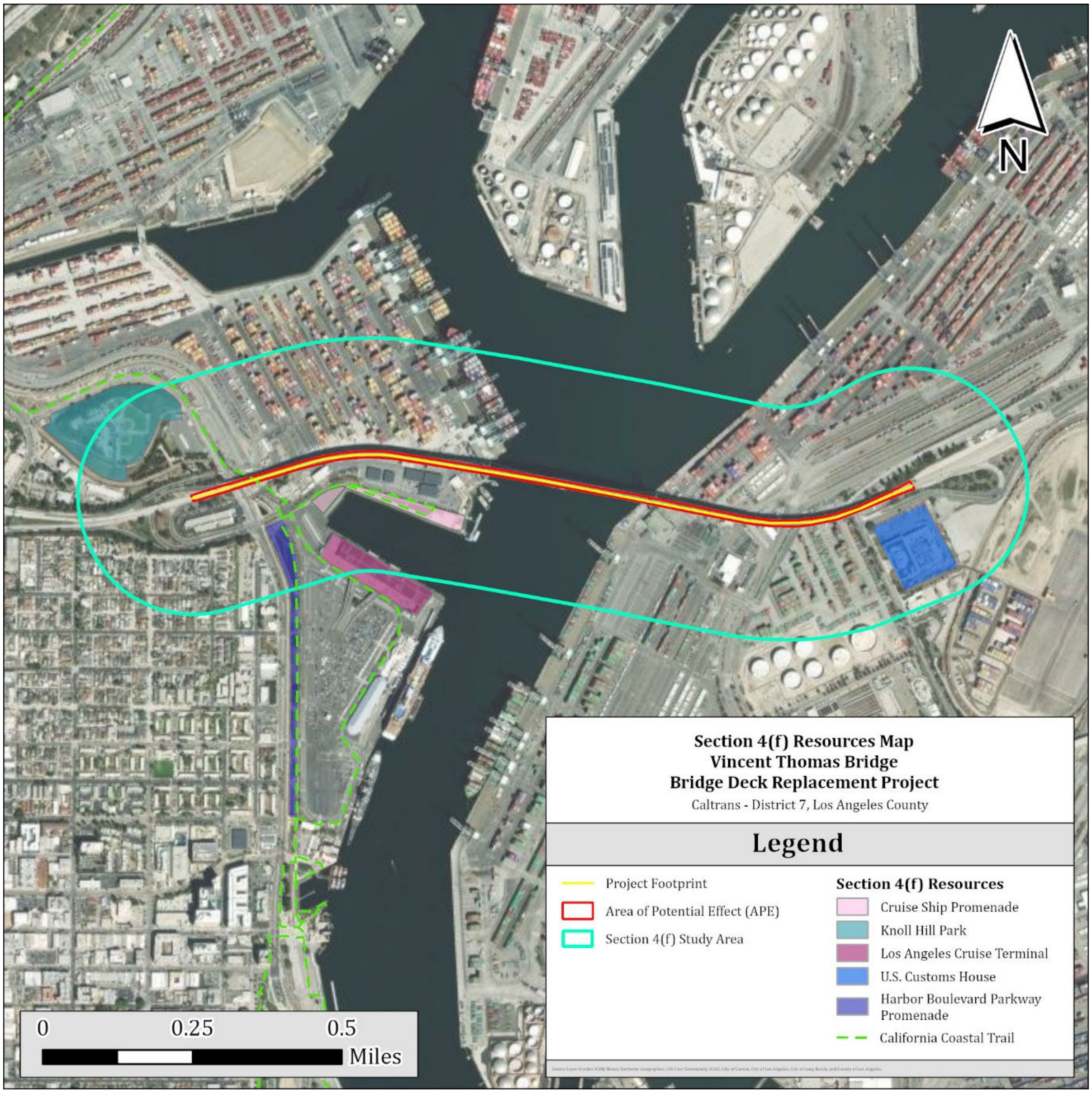
Properties Not Protected by Section 4(f)

There are no historic sites within the project's APE, or public or private parks, recreational facilities, and wildlife refuges within the Section 4(f) study area that are not protected by Section 4(f).

Section 4(f) Protected Properties

Within the Section 4(f) study area, there are both historic sites and publicly owned parks and recreation areas that are Section 4(f) protected properties (see Figure A-1).

Figure A-1: Section 4(f) Study Area and Protected Properties



Source: ESRI, Maxar, Earthstar Geographics, GIS User Community, Southern California Association of Governments, City of Carson, City of Los Angeles, City of Long Beach, and County of Los Angeles.

HISTORIC SITES

Vincent Thomas Bridge

The Vincent Thomas Bridge, completed in 1963, is a cable suspension steel bridge spanning the main channel of Los Angeles Harbor between San Pedro and Terminal Island. The 6,062-foot bridge has been determined eligible for listing in the National Register. As a National Register-eligible property, the Vincent Thomas Bridge is considered a Section 4(f) property.

As outlined in 23 CFR 774.13(a)(3), the use of historic transportation facilities is, in certain circumstances, an exception to the requirement for Section 4(f) approval. One such exception is: maintenance, preservation, rehabilitation, operation, modernization, reconstruction, or replacement of historic transportation facilities if the Administration concludes, as a result of the consultation under 36 CFR 800.5, that:

1. Such work will not adversely affect the historic qualities of the facility that caused it to be on or eligible for the National Register, or this work achieves compliance with Section 106 through a program alternative under 36 CFR 800.14; and

2. The official(s) with jurisdiction over the Section 4(f) resource have not objected to the Administration conclusion that the proposed work does not adversely affect the historic qualities of the facility that caused it to be on or eligible for the National Register, or [Caltrans] concludes this work achieves compliance with 54 USC 306108 (Section 106) through a program alternative under 36 CFR 800.14.

In August 2023, the State Historic Preservation Officer (SHPO) agreed to Caltrans' finding that the project will have no adverse effect on historic properties based on the Criteria of Adverse Effect as defined in 36 CFR 800.5(a)(1) and Stipulation X.B. of the January 1, 2014 First Programmatic Agreement Among the Federal Highway Administration (FHWA), the Advisory Council on Historic Preservation, the California State Historic Preservation Officer (SHPO), and the California Department of Transportation Regarding Compliance with Section 16 of the National Historic Preservation Act, as it Pertains to the Administration of the Federal-Aid Highway Program in California (106 PA [Programmatic Agreement]). It was determined that none of the proposed work to preserve the functionality and structural integrity would alter the characteristics of the Vincent Thomas Bridge that qualify it for the National Register or diminish the integrity of the historic property.

The Vincent Thomas Bridge is a Section 4(f) property, but as provided in 23 CFR 774.13(a)(3), the provisions of Section 4(f) do not apply.

Los Angeles Cruise Terminal

The Los Angeles Cruise Terminal building was originally opened in 1963 with an upper level devoted for cruise travel operations and a lower level for cargo. A spectator gallery was built on the upper level, along with two vehicle bridges up from ground level. The Berth 93 structure was remodeled and expanded in 2002. The terminal is immediately south of the Vincent Thomas Bridge, outside of the project APE, and is evaluated as eligible for listing in the National Register. All project construction activities would be confined to the bridge and there would be no adverse effect to the Los Angeles Cruise Terminal building. As an eligible property, the Los Angeles Cruise Terminal building is a Section 4(f) property, but no "use" will occur; therefore, the provisions of Section 4(f) do not apply.

U.S. Customs House

The U.S. Customs House was completed in 1967 to serve as the Port of Los Angeles (POLA) center for assessing taxes and duties on imported goods, controlling imports and exports, and combating fraud and smuggling. The building is located at 300 Ferry Street on Terminal Island adjacent to the eastern end of the Vincent Thomas Bridge, outside of the project APE, and is eligible for listing in the National Register. The proposed construction activities would be confined to the footprint of the bridge, over 350 feet north of the building, and there would be no adverse effect to the U.S. Customs House. As an eligible property, the U.S. Customs House is a Section 4(f) property, but no "use" will occur; therefore, the provisions of Section 4(f) do not apply.

There are no archaeological sites protected under Section 4(f) within the Section 4(f) study area.

PUBLICLY OWNED PARKS AND RECREATION AREAS

California Coastal Trail

The California Coastal Trail is a network of public trails and routes throughout the entire state, which when complete will span the entire California coastline. The trail provides access for hiking, walking, cycling, skating, and horseback riding. Within the Section 4(f) study area, the primary leg of the California Coastal Trail, follows the Harbor Boulevard Parkway Promenade to the Cruise Ship Promenade. At Swinford Street, a secondary leg of the trail passes underneath the western end of the Vincent Thomas Bridge along the existing bike lane on Harbor Boulevard/Front Street, continuing to Pacific Avenue and north to John S. Gibson Boulevard. With all proposed deck replacement and enhancement activities occurring on the bridge deck above the trail, there would be no permanent direct or temporary use of the trail. The trail would remain open and intact throughout the duration of construction. With implementation of Caltrans' project BMPs to minimize any effects of construction noise and dust, proposed construction activities would not result in direct or indirect impacts that would substantially impair the activities, features, or attributes of the trail. The California Coastal Trail is a Section 4(f) property, but no "use" will occur; therefore, the provisions of Section 4(f) do not apply.

Cruise Ship Promenade

The Cruise Ship Promenade is a 4-acre open area along the waterfront from the cruise ship passenger terminal to the Catalina Express Terminal. The open space located along Swinford Street consists of a promenade, benches, chairs, bocce ball court, and chess tables. In addition, the promenade includes a public art kinetic wind and sound array called "Telltales Wind Ensemble". With all proposed work activities occurring on the deck of the Vincent Thomas Bridge, which is elevated adjacent to the promenade, and implementation of Caltrans' project BMPs to minimize any effects of construction noise and dust, there would be no permanent direct or temporary use of the promenade, nor would those activities result in indirect impacts that would substantially impair the promenade's activities, features, or attributes. The Cruise Ship Promenade is a Section 4(f) property, but no "use" will occur; therefore, the provisions of Section 4(f) do not apply.

Harbor Boulevard Parkway Promenade

The Harbor Boulevard Parkway Promenade runs parallel to Harbor Boulevard, from Swinford Street to 5th Street in San Pedro. The promenade features a tree-lined multi-use pathway, plazas, interpretive signage, checker/chess board tables, and multiple benches throughout the parkway. With all proposed work activities occurring on the deck of the Vincent Thomas Bridge, which is elevated adjacent to the promenade, there would be no permanent or temporary use of the parkway. In addition, the proposed construction activities occurring on the bridge deck would not result in indirect impacts that would substantially impair the parkway's activities, features, or attributes. The Harbor Boulevard Parkway Promenade is a Section 4(f) property, but no "use" will occur; therefore, the provisions of Section 4(f) do not apply.

Knoll Hill Park

The Knoll Hill Park is located between Front Street and Knoll Drive in the community of San Pedro. The 24-acre park includes three Little League baseball diamonds. The fields are approximately 0.15 mile northwest of the proposed bridge deck work at the western end of the project area. With all proposed work activities occurring on the deck of the Vincent Thomas Bridge, there would be no permanent or temporary use of Knoll Hill Park. In addition, there would not be a constructive use of the park because the primary function of the park is for active use, and project activities on the Vincent Thomas Bridge would occur over 0.15 mile from the park. The project would not result in direct or indirect impacts or substantial impairments to features, activities, or attributes of the park. Knoll Hill Park is a Section 4(f) property, but no “use” will occur; therefore, the provisions of Section 4(f) do not apply.

There are no wildlife or waterfowl refuges protected under Section 4(f) within the Section 4(f) study area.

SECTION 4(F) USE DETERMINATIONS

Table A-2 provides a summary of Section 4(f) historic properties analyzed within the Section 4(f) study area and Section 4(f) use determinations, with Table A-3 providing a summary of the Section 4(f) Publicly Owned Parks and Recreation Areas.

Table A-2: Summary of Section 4(f) Historic Properties and Use Determination for the Build Alternative

Section 4(f) Property Name	On or Adjacent to Project Area	Section 106 Effect Determination	Use (None – Direct, Temporary, or Constructive)	*De Minimis* (Yes/No)
Vincent Thomas Bridge	On	No Adverse Effect	Use – None	No
Los Angeles Cruise Terminal	Adjacent	No Effect	Use – None	No
U.S. Customs House	Adjacent	No Effect	Use – None	No

Source: Compiled by Caltrans (2023).

Table A-3: Summary of Section 4(f) Publicly Owned Parks and Recreational Areas and Use Determination for the Build Alternative

Section 4(f) Property Name	On or Adjacent to Project Area	Use (None – Direct, Temporary, or Constructive)	*De Minimis* (Yes/No)
California Coastal Trail	Adjacent	Use – None	No
Cruise Ship Promenade	Adjacent	Use – None	No
Harbor Boulevard Parkway Promenade	Adjacent	Use – None	No
Knoll Hill Park	Adjacent	Use – None	No

Source: Compiled by Caltrans (2023).

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Appendix B. Title VI Policy Statement

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California Department of Transportation

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September 2022

NON-DISCRIMINATION POLICY STATEMENT

The California Department of Transportation, under Title VI of the Civil Rights Act of 1964, ensures *"No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance."*

Caltrans will make every effort to ensure nondiscrimination in all of its services, programs and activities, whether they are federally funded or not, and that services and benefits are fairly distributed to all people, regardless of race, color, or national origin. In addition, Caltrans will facilitate meaningful participation in the transportation planning process in a non-discriminatory manner.

Related federal statutes, remedies, and state law further those protections to include sex, disability, religion, sexual orientation, and age.

For information or guidance on how to file a complaint, or obtain more information regarding Title VI, please contact the Title VI Branch Manager at (916) 639-6392 or visit the following web page: https://dot.ca.gov/programs/civil-rights/title-vi.

To obtain this information in an alternate format such as Braille or in a language other than English, please contact the California Department of Transportation, Office of Civil Rights, at PO Box 942874, MS-79, Sacramento, CA 94274-0001; (916) 879-6768 (TTY 711); or at Title.VI@dot.ca.gov.

TONY TAVARES
Director

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Appendix C. Avoidance, Minimization and/or Mitigation Summary

In order to be sure that all of the environmental measures identified in this document are executed at the appropriate times, the following mitigation program (as articulated on the proposed Environmental Commitments Record [ECR] which follows) would be implemented. During project design, avoidance, minimization, and /or mitigation measures will be incorporated into the project's final plans, specifications, and cost estimates, as appropriate. All permits will be obtained prior to implementation of the project. During construction, environmental and construction/engineering staff will ensure that the commitments contained in this ECR are fulfilled. Following construction and appropriate phases of project delivery, long-term mitigation maintenance and monitoring will take place, as applicable. As the following ECR is a draft, some fields have not been completed, and will be filled out as each of the measures is implemented. Note: Some measures may apply to more than one resource area. Duplicative or redundant measures have not been included in this ECR.

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Environmental Commitments Record (ECR)

DIST-CO-RTE: 07 – LA - 047 **PM/PM:** 0.430/2.000 **EA/Project ID.:** 07-39020_/0722000334
Project Description: Replace bridge deck and seismic sensors. This project is under the Construction Manager/General Contractor (CMGC) Program
Date (Last modification):
Environmental Planner: Alex Brown **Phone No.:** 213-310-2590
Construction Liaison: **Phone No.:**
Resident Engineer: **Phone No.:**

PERMITS

Permit	Agency	Application Submitted	Permit Received	Permit Expiration	Permit Requirement Completed by:	Permit Requirement Completed on:	Comments
CEQA Review	California Department of Fish and Wildlife						
Coastal Development Permit - Local	Coastal Commission						
Fully Protected Species Technical Assistance	California Department of Fish and Wildlife						

ENVIRONMENTAL COMMITMENTS

PS&E/BEFORE RTL

Category	Task and Brief Description	Source	Included in PS&E package	Responsible Branch/Staff	Action to Comply	Due Date	Task Completed by	Task Completed on	Remarks	Mitigation for Significant Impacts Under CEQA?
Hazardous Waste	The Office of Environmental Engineering (OEE) reviewed the State Resources Water Control Board GEOTRACKER and the California Department of Toxic Substance Control (DTSC) ENVIROSTOR environmental databases to identify potential Recognized Environmental Conditions (RECs) with respect to potential soil, soil vapor, and groundwater related to planned improvements when a more detailed scope of work with project limit and boundaries is provided. The objective of the environmental research is to evaluate and determine if there are reported REC sites that exist that may impact the proposed improvements.	Preliminary Hazardous Waste Reassessment Env Doc Section 2.12		OEE						
Hazardous Waste	SP 14 11.13, Disturbance of Existing Paint Systems on Bridge, will be required during Plans, Specifications, and Estimates (PS&E).	Preliminary Hazardous Waste Assessment Env Doc Section 2.12	SSP	General Contractor						

PRE-CONSTRUCTION

Category	Task and Brief Description	Source	Included in PS&E package	Responsible Branch/Staff	Action to Comply	Due Date	Task Completed by	Task Completed on	Remarks	Mitigation for Significant Impacts Under CEQA?
Air Quality	**AM-AQ-1:** The construction contractor must comply with the Caltrans Standard Specifications in Section 14-9 (2023). • Section 14-9.02 specifically requires compliance by the contractor with all applicable laws and regulations related to air quality, including air pollution control district and air quality management district regulations and local ordinances.	Env Doc Section 2.13		General Contractor						

Category	Task and Brief Description	Source	Included in PS&E package	Responsible Branch/Staff	Action to Comply	Due Date	Task Completed by	Task Completed on	Remarks	Mitigation for Significant Impacts Under CEQA?
	• Non-Standard Special Provision (NSSP) 14-9.05 requires identification of the local air quality jurisdiction (i.e., South Coast Air Quality Management District [SCAQMD]) and for the contract to comply with all applicable rules and best management practices (BMPs).									
Air Quality	**AM-AQ-2:** The construction contractor must also comply with Caltrans project-specific NSSPs 5-1.33 and 7-1.02C, which require that off-road construction equipment be outfitted with engines meeting Tier 4 emissions standards and that all certification and maintenance documentation be provided prior to equipment use. Implementation of these NSSPs would reduce emissions of ozone precursors and criteria pollutants (primarily particulate matter [PM] and nitrogen oxides [NOX]) during construction activities.	Env Doc Section 2.13	NSSP	General Contractor						
Air Quality	**PF-AQ-1:** Construction equipment and vehicles will be properly tuned and maintained. All construction equipment will use low sulfur fuel as required by California Code of Regulations (CCR) Title 17, Section 93114. • The construction contractor must comply with SCAQMD rules, including Rule 401 (Visible Emissions), Rule 402 (Nuisance), Rule 403 (Fugitive Dust), and Rule 1403 (Asbestos Emissions from Demolition/Renovation Activities). • Diesel-powered, off-road equipment shall limit idling in accordance with the California Air Resources Board (CARB) “Regulation for In-Use Off-Road Diesel-Fueled Fleets” (Title 13, CCR, Section 2449). Diesel-powered, on-road vehicles and trucks shall limit idling in accordance with the CARB “Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling” (Title 13, CCR, Section 2485).	Env Doc Section 2.13		General Contractor						
Biology	**MM-BIO-1:** To prevent the project from interrupting nesting and causing nest failure, which would result in a substantial waste of energy and decreased ease of reproduction for peregrine falcon, Caltrans would install nesting exclusionary devices on the bridge prior to the nesting season in which construction is planned to occur. The exclusionary devices would prevent the falcon and other birds from attempting to nest on the bridge.	Natural Environment Study (NES) Chapter 4 Env Doc Section 2.19		Caltrans Environmental/General Contractor						
Biology	**MM-BIO-2:** To prevent the project from interrupting nesting and causing nest failure, Caltrans would remove existing nesting materials that are on the bridge when they are encountered prior to the nesting season (generally February 1 to September 1, but when including the peregrine falcon season, it is January 15 to September 1). This would discourage peregrine falcon and other species that reuse nests from using the bridge for nesting and reduce the likelihood that falcons and other birds, their eggs, and nest would be injured or destroyed by construction activities such as concrete demolition.	NES Chapter 4 Env Doc Section 2.19		Caltrans Environmental/General Contractor						

Category	Task and Brief Description	Source	Included in PS&E package	Responsible Branch/Staff	Action to Comply	Due Date	Task Completed by	Task Completed on	Remarks	Mitigation for Significant Impacts Under CEQA?
Biology	**MM-BIO-3:** A biologist with experience in surveying and monitoring avian activity will survey the bridge and its surroundings prior to construction to verify that birds are not nesting on the bridge prior to construction. A lapse in construction is not planned, but if there is a lapse in construction for longer than 3 days, a repeat survey would be performed. If birds are observed attempting nesting on the bridge, then a no-work buffer around the nest would be implemented and Caltrans would conduct consultation with the United States Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW).	NES Chapter 4 Env Doc Section 2.19		Caltrans Environmental/General Contractor						
Biology	**MM-BIO-5:** A qualified biologist will make a presentation to construction staff who are on site for longer than 30 minutes. The staff will be advised on the bird species that have been known to occur in the project area, their nest appearance and siting factors, the project's conservation measures, and the procedures for reporting and avoiding nesting migratory birds.	NES Chapter 4 Env Doc Section 2.19		Caltrans Environmental/General Contractor						
Biology	**MM-BIO-6: Compensatory Mitigation.** Caltrans will construct an artificial nest platform outside of the project impact area within the Port of Long Beach/Port of Los Angeles complex to compensate for the temporary loss of the nesting space on the Vincent Thomas Bridge. The artificial nest platform will likely be placed close to the bridge so that falcons that repeatedly nest on the Vincent Thomas Bridge are aware of the artificial nesting platform. The platform would be constructed in a way and at a site that would make it suitable for peregrine falcon nesting, taking into consideration the elevation, the visibility of the platform, and other site characteristics. Potential nest platform sites will be discussed in consultation with the CDFW.	NES Chapter 4 Env Doc Section 2.19		Caltrans Environmental/General Contractor						
Community Impact Assessment	Regular and ongoing community engagement will occur to address key concerns and develop strategies to reduce potential impacts to the community.	CIA Section 4.5.3 Env Doc Section 2.8		Caltrans PDT						
Community Impact Assessment	Regular and ongoing coordination with agencies will occur for projects within the CIA Study Area to coordinate projects with overlapping construction to avoid and minimize schedule conflicts.	CIA Section 4.5.3 Env Doc Section 2.8		Caltrans PDT						
Hazardous Waste	**Material Containing Asbestos Containing Materials (ACMs).** Any demolition/alteration and/or modification work on a bridge, regardless of whether it contains ACM, triggers United States Environmental Protection Agency (USEPA) National Emission Standards for Hazardous Air Pollutants (NESHAP) regulation that requires notification to the delegated air quality district. The delegated air quality district in Southern California is the South Coast Air Quality Management District (SCAQMD). SCAQMD requires an ACM survey to accompany the notification of proposed work at least 15 days prior to the start of bridge renovation/modification work. The ACM survey shall be performed by a certified asbestos consultant (CAC). If ACM is found, it must be removed and disposed of at an appropriate disposal facility by a licensed asbestos abatement contractor. Pursuant to State regulations, the contractor that performs the ACM survey must not be the same contractor that performs the asbestos abatement. OEE recommends project-specific site investigation (SI) as required to evaluate and determine the extent of ACM and lead-based paint at the proposed work area.	Preliminary Hazardous Waste Reassessment Env Doc Section 2.12	SSP							

Category	Task and Brief Description	Source	Included in PS&E package	Responsible Branch/Staff	Action to Comply	Due Date	Task Completed by	Task Completed on	Remarks	Mitigation for Significant Impacts Under CEQA?
	The handling and managing of materials suspected to contain asbestos in bridges when the quantity or area of material being disturbed is less than the regulatory notification requirements for asbestos shall be in accordance with Standard Special Provision (SSP) 14 11.16 Asbestos Containing Construction Materials in Bridges.									

CONSTRUCTION

Category	Task and Brief Description	Source	Included in PS&E package	Responsible Branch/Staff	Action to Comply	Due Date	Task Completed by	Task Completed on	Remarks	Mitigation for Significant Impacts Under CEQA?
Air Quality	Senate Bill 1 2030(e) directs Caltrans "To the extent deemed cost effective, and where feasible, in the context of both the project scope and the risk level for the asset due to global climate change to better adapt the asset to withstand the negative effects of climate change and make the asset more resilient to impacts such as fires, floods, and sea level rise." In response, the Caltrans Division of Environmental Analysis, Office of Environmental Management, developed a GHG Reduction Measures Toolbox (https://enc.onramp.dot.gov/downloads/env/managedfiles/caltrans-ghg-reduction-measures-jun-2021-a11y.pdf) for use in project development. It is recommended that the PDT review, evaluate, and consider project measures in Tables 1 and 3 of the Toolbox in the link above and that the project commit to include all feasible and relevant measures identified from the tables. If any measures are proposed outside the tables in the Toolbox, the PDT shall ensure that those measures are biddable and can be successfully implemented. All identified reduction measures shall be carried forward in the ECR. Based on the currently proposed scope, the project therefore appears to be exempt from all requirements of Rule 403.2. The AQMD will evaluate the project in PS&E to determine the applicability of Rule 403.2. In order to help address public health disparities in underserved communities, consistent with one of the action items of Caltrans' Strategic Plan Goal to "Advance Equity and Livability in All Communities," Caltrans now requires use of Tier 4 engines for offroad diesel-fueled vehicles. The AQMD will coordinate with HQ for approval of nonstandard special provisions (NSSPs) to mandate contractors to use Tier 4 engines during construction. The coordination and approval of NSSPs will be completed as part of a review of PS&E. Construction of the proposed project shall comply with all applicable air quality management district rules. Objectionable odors should also be minimized by conducting certain construction activities in areas at least 500 feet from the sensitive receptors as feasible.	Env Doc Section 2.13		Caltrans Environmental Department	RE Report to Caltrans					

Category	Task and Brief Description	Source	Included in PS&E package	Responsible Branch/Staff	Action to Comply	Due Date	Task Completed by	Task Completed on	Remarks	Mitigation for Significant Impacts Under CEQA?
Biology	**MM-BIO-4:** A biologist will monitor the bridge during construction for signs of whether birds are nesting on the bridge. They will keep track of nesting birds on the bridge and evaluate whether construction has the potential to or is disturbing nesting birds. The biological monitor will also observe construction to ensure that construction best management practices (BMPs) are applied to prevent incidental effects to the channel, water quality, and jurisdictional waters.	NES Chapter 4 Env Doc Section 2.19		Caltrans Environmental/Biologist						
Community Impact Assessment	**PF-UES-1:** Regular coordination with emergency service providers for ramp or road closures.	CIA Section 1.4.1.2 Env Doc Section 2.9		Caltrans PDT						
Hazardous Waste	The General Contractor shall develop a task-specific Lead Compliance Plan and Excavation Transportation Plan for special handling and management of aerially deposited lead (ADL) contaminated soil as stipulated in Standard Special Provisions (SSPs) Standard Specifications, 8 California Code of Regulations (CCR), Section 1532.1, “Lead” and the California Division of Occupational Safety and Health (Cal-OSHA) Construction Safety Order. Refer to attached SSP 14-11.08 Regulated Material Containing Aerially Deposited Lead. The Contractor is required to adhere to the requirement stipulated in the SSPs and to prepare a project specific Lead Compliance Plan (LCP) with lead awareness training in conformance with 8 CCR, Section 1532.1 “Lead,” Cal-OSHA Construction Safety Order and Caltrans Standard Specifications prior to commencement of work. The LCP shall be prepared/signed/stamped by a Certified Industrial Hygienist (CIH). Refer to attached SSP 14-11.09, Minimal Disturbance of Regulated Material Containing Aerially Deposited Lead. All soil disturbed must remain in the immediate area of disturbance and not be transported elsewhere, except for location 17004 Alburtis Avenue, Artesia, CA 90701. Health and safety precautions and dust control for hazardous waste must be implemented. Location: 17004 Alburtis Avenue, Artesia CA 90701: Based on the available information and close distance from project site, groundwater depth, and excavation depth of 48”, this recognized environmental condition (REC) may have adversely affected the project site. An NSSP is likely needed to ensure proper handling and disposal. Coordination with HW is ongoing.	Preliminary Hazardous Waste Reassessment Env Doc Section 2.12	Std Spec	Caltrans Environmental Department	RE Report to Caltrans					
Hazardous Waste	Use Standard Special Provision (SSP) 14-11.04, Minimal Disturbance of Material Containing HW Concentrations of ADL.	Preliminary Hazardous Waste Reassessment Env Doc Section 2.12	Yes	General Contractor						
Hazardous Waste	Use Standard Special Provision (SSP) 14-11.07, Remove Yellow Traffic Stripe and Pavement Making with HW Residue.	Preliminary Hazardous Waste Reassessment Env Doc Section 2.12	Yes	General Contractor						
Hazardous Waste	Use Standard Special Provision (SSP) 14-11.10, Disposal of Electrical Equipment Requiring Special Handling.	Preliminary Hazardous Waste Reassessment Env Doc Section 2.12	Yes	General Contractor						

Category	Task and Brief Description	Source	Included in PS&E package	Responsible Branch/Staff	Action to Comply	Due Date	Task Completed by	Task Completed on	Remarks	Mitigation for Significant Impacts Under CEQA?
Other	**MM-TR-1: Temporary Restriping and Signal Synchronization of Identified Intersections.** The Traffic Operations Analysis Report (TOAR) (2024) outlines potential improvements that can been developed at 13 intersections within the Community Impact Assessment (CIA) Study Area. The potential temporary improvements involve restriping, minimal geometric reconfigurations, and signal phasing modifications. A detailed analysis of restriping at the identified 13 intersections can be found in the TOAR (2024) and is available upon request. The temporary modification of intersections outside of Caltrans right-of-way would be dependent on approval by all respective local jurisdictional agencies. Caltrans will coordinate with local jurisdictional agencies regarding this measure.	Env Doc Section 2.10		Caltrans/Jurisdictional Agencies						
Other	**MM-TR-2: Repairing Detour Routes.** Caltrans will partner with the City of Los Angeles to seek opportunities to repair detour routes prior to and after the construction of the project. The repair of detour routes outside of Caltrans right-of-way would be dependent on approval by all respective local jurisdictional agencies. Caltrans will coordinate with local jurisdictional agencies regarding this measure.	Env Doc Section 2.10		Caltrans/Jurisdictional Agencies						
Other	**PF-TR-1: Transportation Management Plan.** a. **Changeable Message Signs (CMS):** Permanent overhead message signs are placed along roadways approaching the project area to notify road users of lane and road closures on the bridge, work activities, traffic incidents, potential work zone hazards, traffic queues (backups), travel times, or delay information, as well as alternate routes in or around the work zone. b. **Portable Changeable Message Signs (PCMS):** PCMS will be placed at key locations to notify motorists of lane closures, alternate routes, expected delay, and upcoming road closures on the bridge. These signs will be used to inform drivers of speed limit reductions and enforcement activities in a work zone, as well as projected delay or road opening times.	Env Doc Section 2.10		Caltrans						

Appendix D. List of Abbreviations and Acronyms

°F	degrees Fahrenheit
AADT	annual average daily traffic
AASHTO	American Association of State Highway and Transportation Officials
AB	Assembly Bill
AB 32	California Global Warming Solutions Act
ABC	accelerated bridge construction
ACHP	Advisory Council on Historic Preservation
ACM	asbestos-containing material
ACS	American Community Survey
ACTA	Alameda Corridor Transportation Authority
ADA	Americans with Disabilities Act
ADL	aerially deposited lead
Alternative 1	No Build Alternative
Alternative 2	Build Alternative
AOI	area of interest
APE	Area of Potential Effects
AQMD	Air Quality Management District
AQMP	Air Quality Management Plan
Basin	South Coast Air Basin
BIP	Bridge Investment Program
BIRIS Report	Bridge Inspection Records Information Search Report
BMPs	best management practices
BSA	Biological Study Area
CAA	Clean Air Act
CAAA	Clean Air Act Amendment
CAAQS	California Ambient Air Quality Standards
CAC	Community Advisory Committee
CAFE	Corporate Average Fuel Economy
Cal/OSHA	California Occupational Safety and Health Administration
CalEPA	California Environmental Protection Agency
California Register	California Register of Historical Resources
California Register	California Register of Historical Resources

Caltrans	California Department of Transportation
CAPTI	California Action Plan for Transportation Infrastructure
CARB	California Air Resources Board
CCA	California Coastal Act of 1976
CCAA	California Clean Air Act
CCC	California Coastal Commission
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CE	Categorical Exclusion
CEC	California Energy Commission
Census Bureau	United States Census Bureau
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CEQA/NEPA	California Environmental Quality Act/National Environmental Policy Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CERFA	Community Environmental Response Facilitation Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CH_4	methane
CIA	Community Impact Assessment
CMGC Program	Construction Manager/General Contractor Program
CMS	changeable message sign
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
CPUC	California Public Utilities Commission
CSO	Cultural Studies Office
CTP	California Transportation Plan
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
dB	decibels

dBA	A-weighted decibels
Desk Guide	Desk Guide, Environmental Justice in Transportation Planning and Investments
DP-30	Director's Policy 30
DPM	diesel exhaust particulate matter
DTSC	Department of Toxic Substances Control
EA	Environmental Assessment
EIR	Environmental Impact Report
EIR/EA	Environmental Impact Report/Environmental Assessment
EIS	Environmental Impact Statement
EMS	emergency medical services
ENN	Enhanced Neighborhood Network
EO	Executive Order
EPA	United States Environmental Protection Agency
ESHA	Environmentally Sensitive Habitat Area
FAQs	Frequently Asked Questions
FEMA	Federal Emergency Management Administration
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FMS	Fenix Marine Services
FONSI	Finding of No Significant Impact
Fourth Assessment	Fourth Climate Change Assessment
FTA	Federal Transit Administration
FTIP	Federal Transportation Improvement Program
GHG	greenhouse gas
GPR	ground penetrating radar
Green LA Plan	Green LA – An Action Plan to Lead the Nation in Fighting Global Warming
Guidelines	Section 404 (b)(1) Guidelines
GWP	global warming potential
H&SC	California Health and Safety Code
H_2S	hydrogen sulfide
HCM	Highway Capacity Manual
HFCs	hydrofluorocarbons

HHS	Department of Health and Human Services
HOV	high-occupancy vehicle
HPSR	Historic Property Survey Report
I-10	Interstate 10
I-110	Interstate 110
I-405	Interstate 405
I-605	Interstate 605
I-710	Interstate 710
IPaC	Information for Planning and Consultation
kWh	kilowatt-hours
LADOT	Los Angeles Department of Transportation
LADWP	Los Angeles Department of Water and Power
LAUSD	Los Angeles Unified School District
LBP	lead-based paint
LCP	Local Coastal Program
LCP	Lead Compliance Plan
LEDPA	least environmentally damaging practicable alternative
L_{max}	maximum instantaneous noise level
LOS	level of service
LST	localized significance threshold
MAP-21	Moving Ahead for Progress in the 21st Century Act
MASH	Manual for Assessing Safety Hardware
MBTA	Migratory Bird Treaty Act
MD	mid-day
Metro	Los Angeles County Metropolitan Transportation Authority
MLD	Most Likely Descendant
MMA	multi-modal multi-class traffic assignment
MMBtu	million British thermal units
MMT	million metric tons
MOEs	Measures of Effectiveness
MOU	Memorandum of Understanding
MPCs	maximum practical capacities
mpg	miles per gallon
mph	miles per hour

MPO	Metropolitan Planning Organization
MRZ	Mineral Resource Zone
MSAT	Mobile Source Air Toxins
MT CO_2e	metric tons of carbon dioxide equivalent
MW	megawatts
N_2O	nitrous oxides
NAAQS	National Ambient Air Quality Standards
NAC	Noise Abatement Criteria
NAHC	Native American Heritage Commission
National Register	National Register of Historic Places
NEMA	National Electrical Manufacturing Association
NEPA	National Environmental Policy Act
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NHPA	National Historic Preservation Act of 1966
NHTSA	National Highway Traffic Safety Administration
NO_2	nitrogen dioxide
NOA	naturally-occurring asbestos
NOA	Notice of Availability
NOAA	National Oceanic and Atmospheric Administration
NOAA Fisheries	National Oceanic and Atmospheric Administration’s National Marine Fisheries Service
NOD	Notice of Determination
NOP	Notice of Preparation
NO_X	nitrogen oxides
NSSP	Non-Standard Special Provision
O_3	ozone
O-D	origin-destination
OEE	Office of Environmental Engineering
OEHHA	Office of Environmental Health Hazard Assessment
OHWM	ordinary high water mark
OPC SLR	Ocean Protection Council Sea-Level Rise
OSHA	Occupational Safety and Health Act
PA	Programmatic Agreement
Pb	lead
PCBs	polychlorinated biphenyls

PCH	Pacific Coast Highway
PCMS	portable changeable message sign
PDT	Project Development Team
PEDs	Pedestrian Enhanced Districts
PHF	peak-hour factor
PLACs	permits, licenses, agreements, and certifications
PM	particulate matter
PM	Post Mile
PM_{10}	particulate matter less than 10 microns in size
$PM_{2.5}$	particulate matter less than 2.5 microns in size
PMP	Port Master Plan
POLA	Port of Los Angeles
POLB	Port of Long Beach
PorTAM	Port Transportation Analysis Model
Porter-Cologne Act	Porter-Cologne Water Quality Control Act
PQS	Professionally Qualified Staff
PRC	Public Resources Code
project	Vincent Thomas Bridge Deck Replacement Project
PS&E	Plans, Specifications, and Estimates
RAP	Relocation Assistance Program
RAS	Rapid Automated Sounding
RCRA	Resource Conservation and Recovery Act
RECs	Recognized Environmental Conditions
RSA	resource study area
RTP	Regional Transportation Plan
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCS	Sustainable Communities Strategy
Section 106 PA	*January 2014 First Amended Programmatic Agreement Among the Federal Highway Administration, the Advisory Council On Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it*

	Pertains to the Administration of the Federal-Aid Highways Program in California
SER	Standard Environmental Reference
SF_6	sulfur hexafluoride
SHMP	State Highway System Management Plan
SHOPP	State Highway Operation and Protection Program
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SLTRP	2017 Power Strategic Long-Term Resource Plan
SM&I Office	Structure Maintenance and Inspection Office
SO_2	sulfur dioxide
SOIS	Secretary of the Interior's Standards for the Treatment of Historic Properties
SO_X	sulfur oxides
SR-103	State Route 103
SR-47	State Route 47
SR-91	State Route 91
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	Technical Advisory Committee
TAC	Technical Advisory Committee
TACs	toxic air contaminants
TAZ	traffic analysis zone
TCE	temporary construction easement
Technical Advisory	FHWA Technical Advisory 6640.8A
TEU	twenty-foot equivalent
TMCs	turning movement counts
TMP	Transportation Management Plan
TOAR	Final Traffic Operations Analyses Report
TPSIS	Transportation Planning Scoping Information Sheet
Traffic Noise Analysis Protocol	Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects
TSCA	Toxic Substances Control Act
Uniform Act	Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970
USACE	United States Army Corps of Engineers

USC	United States Code
USDOT	United States Department of Transportation
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
USPS	United States Postal Service
VHD	vehicle hours of delay
VIA	Visual Impact Assessment
VMR	Virtual Meeting Room
VMT	vehicle miles traveled
VOCs	volatile organic compounds
VTB	Vincent Thomas Bridge
WDR	Waste Discharge Requirement

Appendix E. Notice of Preparation

Notice of Preparation

Notice of Preparation

To: Responsible and Trustee Agencies

(Address)

From: California Department of Transportation (District 7) Division of Environmental Planning
100 S. Main Street, MS 16A
Los Angeles, CA 90012

(Address)

Subject: Notice of Preparation of a Draft Environmental Impact Report

The California Department of Transportation (D7) will be the Lead Agency and will prepare an environmental impact report for the project identified below. We need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

The project description, location, and the potential environmental effects are contained in the attached materials. A copy of the Initial Study (☐ is ☒ is not) attached.

Due to the time limits mandated by State law, your response must be sent at the earliest possible date but not later than 30 days after receipt of this notice.

Please send your response to Jason Roach, Division of Environmental Planning at the address shown above. We will need the name for a contact person in your agency.

Project Title: Vincent Thomas Bridge Deck Replacement Project

Project Applicant, if any:

Date: 4/12/23

Signature: jason roach   Digitally signed by jason roach Date: 2023.04.12 08:07:04 -07'00'

Title: Senior Environmental Planner

Telephone: (213) 310-2653

Reference: California Code of Regulations, Title 14, (CEQA Guidelines) Sections 15082(a), 15103, and 15375.

Revised 2011

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Appendix F. List of Technical Studies

The technical studies prepared to support the analysis and conclusions in this Environmental Impact Report/Environmental Assessment (EIR/EA) are listed below. The following technical studies are available upon request.

Air Quality Analysis Report, prepared by Caltrans (January 2024).

Biological Assessment, prepared by Caltrans (September 2023).

Community Impact Assessment, prepared by HNTB (January 2024).

Cultural Resources Finding of No Adverse Effect, prepared by Caltrans (July 2023).

Energy Analysis Technical Memorandum, prepared by Caltrans (January 2024).

Historic Property Survey Report, prepared by Caltrans (July 2023).

Natural Environmental Study, prepared by Caltrans (September 2023).

Noise Study Report, prepared by Caltrans (December 2023).

Preliminary Hazardous Waste Reassessment, prepared by Caltrans (July 2023).

Questionnaire to Determine Visual Impact Level (VIA), prepared by Caltrans (April 2023).

Traffic and Operations Analysis Report, prepared by Jacobs (January 2024).

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