California High-Speed Rail Authority

Los Angeles to Anaheim Project Section

DRAFT Proposed Combined Final Environmental Impact Statement/Record of Decision

October 2026



CALIFORNIA High-Speed Rail Authority

The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being or have been carried out by the State of California pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated renewed July 22, 2024, and executed by the Federal Railroad Administration and the State of California.

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ACRONYMS AND ABBREVIATIONS

Term	Definition
Amtrak	National Railroad Passenger Corporation
ARTIC	Anaheim Regional Transportational Intermodal Center
Authority	California High-Speed Rail Authority
BNSF	BNSF Railway
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
FESA	Endangered Species Act of 1973
FRA	Federal Railroad Administration
HSR	high-speed rail
I-	Interstate
IAMF	impact avoidance and minimization feature
LAUS	Los Angeles Union Station
LMF	light maintenance facility
LOSSAN Corridor	Los Angeles – San Diego – San Luis Obispo Rail Corridor
Metro	Los Angeles County Metropolitan Transportation Authority
MMEP	Mitigation Monitoring and Enforcement Plan
MOA	memorandum of agreement
MOU	memorandum of understanding
NEPA	National Environmental Policy Act
NEPA Assignment MOU	*Memorandum of Understanding between the Federal Railroad Administration and the State of California, Acting through its California State Transportation Agency and its California High-Speed Rail Authority, for the State of California's Participation in the Surface Transportation Project Delivery Program Pursuant to 23 U.S.C. 327*
NEPA/404/408 MOU	*Memorandum of Understanding—National Environmental Policy Act (42 U.S.C. 4321 et seq.) and Clean Water Act Section 404 (33 U.S.C. 1344) and Rivers and Harbors Act Section 14 (33 U.S.C. 408)—Integration Process for the California High-Speed Train Program*
NOAA Fisheries	National Oceanic and Atmospheric Administration Fisheries
OCS	overhead contact system
project section	Los Angeles to Anaheim Project Section
ROD	Record of Decision
SAA	Supplemental Alternatives Analysis
SCAQMD	South Coast Air Quality Management District

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Term	Definition
Section 404	Clean Water Act, Section 404
Section 408	Rivers and Harbors Act, Section 14
SHPO	State Historic Preservation Officer
Statewide Program EIR/EIS	*Final Program Environmental Impact Report/Environmental Impact Statement for the Proposed California High-Speed Train System*
STB	Surface Transportation Board
U.S.C.	U.S. Code
UPRR	Union Pacific Railroad
US 101	U.S. Highway 101
USACE	U.S. Army Corps of Engineers
USEO	U.S. Presidential Executive Order
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service

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CALIFORNIA HIGH-SPEED RAIL AUTHORITY
LOS ANGELES TO ANAHEIM PROJECT SECTION
RECORD OF DECISION
APPROVAL OF SHARED PASSENGER TRACK ALTERNATIVE A BETWEEN LOS ANGELES AND ANAHEIM

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1 INTRODUCTION

This document is the California High-Speed Rail Authority's (Authority) Record of Decision (ROD) under the National Environmental Policy Act (NEPA) for the California High-Speed Rail (HSR) Los Angeles to Anaheim Project Section (project section), which is part of the statewide HSR system. The Authority is the NEPA lead agency under what is commonly referred to as NEPA Assignment. More specifically, the environmental review, consultation, and other actions required by federal environmental laws for this project are being or have been carried out by the State of California pursuant to 23 U.S. Code (U.S.C.) Section 327 and a Memorandum of Understanding (MOU) effective July 23, 2019, executed by the Federal Railroad Administration (FRA) and the State of California, and renewed July 22, 2024 (FRA and State of California 2019, 2024). The Authority is also the lead agency for state environmental reviews under the California Environmental Quality Act (CEQA).

The Authority selects and approves for project implementation Shared Passenger Track Alternative A and all mitigation measures identified in the attached Appendix A (Mitigation Monitoring and Enforcement Plan; MMEP). Shared Passenger Track Alternative A is fully described in the *Los Angeles to Anaheim Project Section Final Environmental Impact Statement* (EIS) issued concurrently herewith.

The Authority has selected Shared Passenger Track Alternative A because it best serves the purpose and need for this project and minimizes economic, social, and environmental impacts by using an existing rail corridor where practicable and by incorporating mitigation measures. It is therefore the Selected Alternative.

The Authority proposes to build and operate the project after receiving the required approvals from the appropriate federal agencies. These agencies include the federal cooperating agencies—the U.S. Army Corps of Engineers (USACE) and the Surface Transportation Board (STB). Other federal agencies that are not cooperating agencies have been involved in and have contributed to the environmental review, including the Federal Transit Administration, Federal Aviation Administration, U.S. Environmental Protection Agency (USEPA), U.S. Fish and Wildlife Service (USFWS), and Advisory Council on Historic Preservation.

To comply with NEPA and CEQA, the Authority issued a joint Draft Environmental Impact Report (EIR)/EIS for a 61-day public comment period that began on December 5, 2025, and ended on February 3, 2026. In making its decision, the Authority considered the information and analysis contained in the 2025 Draft EIR/EIS and the Final EIS issued concurrently herewith (collectively, the *EIS Documents*) and the associated administrative record. The Authority also considered public and agency comments received during the public comment period for the Draft EIS and during preparation of the Final EIS.

Table 1 summarizes major NEPA milestones and completion dates for the EIS Documents.

Table 1 Summary of Major National Environmental Policy Act Milestones

Milestone	Date
Notice of Intent	March 15, 2007
Federal agency scoping meeting	April 2007
Memorandum of Understanding executed by the FRA and the State of California.	July 23, 2019
Revised Notice of Intent	August 25, 2020
Public scoping meetings	September 2020
Memorandum of Understanding executed by the FRA and the State of California (revised)	July 22, 2024
Notice of Availability published and circulation of Draft EIS and Section 4(f) Evaluation	December 5, 2025
Virtual open house meeting	December 11, 2025

Milestone	Date
In-person open house meetings/public hearings	
Santa Fe Springs	January 7, 2026
Anaheim	January 12, 2026
Commerce	January 22, 2026
Virtual public hearing	January 26, 2026
End of review period for Draft EIS and Section 4(f) Evaluation	February 3, 2026
Publication of Draft General Conformity Determination	February 2026
Issuance of Final General Conformity Determination	October 7, 2026
SHPO concurrence on MOA regarding disposition of cultural resources	September 24, 2026

EIS = environmental impact statement; FRA = Federal Railroad Administration; MOA = memorandum of agreement; SHPO = State Historic Preservation Officer; TBD = to be determined

The project section will connect the already approved portions of the HSR system (between the southern San Francisco Bay Area and Los Angeles) with Orange County and Anaheim. This ROD provides the decision of the Authority under its assigned responsibilities for NEPA, and outlines all relevant information used by the Authority, as the NEPA lead agency, for approval of the Selected Alternative (Shared Passenger Track Alternative A).

As depicted on Figure 1, the Selected Alternative is approximately 30 miles in length and traverses urban areas. The project section begins from south of Los Angeles Union Station (LAUS) in downtown Los Angeles at the northern edge of U.S. Highway 101 (US 101) and travels through the cities of Los Angeles, Vernon, Commerce, Bell, Montebello, Pico Rivera, Norwalk, Santa Fe Springs, La Mirada, Buena Park, Fullerton, and Anaheim (plus the unincorporated area of Los Angeles County known as West Whittier–Los Nietos), where it terminates at Anaheim Regional Transportation Intermodal Center (ARTIC) in Anaheim.

The Selected Alternative includes a light maintenance facility (LMF) at 26th Street in Vernon, which would provide storage capacity for trains and accommodate light maintenance activities. The proposed alignment would introduce HSR service into the existing Los Angeles – San Diego – San Luis Obispo Rail Corridor (LOSSAN Corridor) between LAUS and ARTIC.

As described further in Section 4.2, Alternatives Carried Forward for Study in the Environmental Impact Statement, the Authority considered Shared Passenger Track Alternative B and optional HSR stations in Norwalk/Santa Fe Springs and Fullerton. Shared Passenger Track Alternative B shares the same alignment as Shared Passenger Track Alternative A, but its LMF is proposed for 15th Street in Los Angeles.

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Figure 1 Overview of the Los Angeles to Anaheim Project Section

The Authority has prepared this ROD in accordance with the *Memorandum of Understanding between the Federal Railroad Administration and the State of California, Acting through its California State Transportation Agency and its California High-Speed Rail Authority, for the State of California's Participation in the Surface Transportation Project Delivery Program Pursuant to 23 U.S.C. 327* (NEPA Assignment MOU) dated July 23, 2019, and renewed July 22, 2024, as well as the FRA's Procedures for Considering Environmental Impacts (64 *Federal Register* 28545, May 26, 1999). Specifically, this ROD:

- Provides background on the NEPA process leading to the Final EIS, including a summary of public involvement and agency coordination
- States and reaffirms the project's purpose and need
- Summarizes the alternatives analysis process that led to the identification of the alternatives not carried forward for study in the EIS
- Discusses agency roles and responsibilities
- Identifies the alternatives considered in the EIS Documents
- Identifies Shared Passenger Track Alternative A as the Selected Alternative
- Identifies the Environmentally Preferable Alternative
- Summarizes environmental benefits and adverse effects
- Discusses and makes determinations required under other relevant laws, U.S. Presidential Executive Orders (USEO), and guidance, including:

  - The National Historic Preservation Act of 1966, as amended (54 U.S.C. 306101–307106 et seq.)
  - Section 4(f) of the Department of Transportation Act of 1966 (49 U.S.C. 303)
  - Section 14 of the Rivers and Harbors Act of 1899 (33 U.S.C. 408)
  - Section 7 of the Endangered Species Act of 1973 (FESA) (16 U.S.C. 1531–1544)
  - Section 404 of the Clean Water Act (33 U.S.C. 1251–1387)
  - USEO 11988 (Floodplain Management)
  - The FRA's General Conformity Determination pursuant to the Clean Air Act (42 U.S.C. 7401–7671q) and USEPA's General Conformity Regulations (40 Code of Federal Regulations [CFR] 93, Subpart B)
- Summarizes the comments received on the Final EIS and responds to substantive comments that have not been previously addressed
- Imposes impact avoidance and minimization features (IAMF) and mitigation measures that will be implemented to avoid and minimize environmental harm and sets forth a binding monitoring and enforcement program for all such features and measures
- Presents the Authority's decision, determinations, and findings on the proposed project and identifies and discusses the factors that were balanced by the Authority in making its decision
- Summarizes the status of compliance with permitting and other environmental requirements

The ROD also includes the following:

- Appendix A: MMEP
- Appendix B: Final Environmental Impact Statement
- Appendix C: State Historic Preservation Officer Section 106 Concurrence Letter and Memorandum of Agreement, September 24, 2026
- Appendix D: Section 4(f) Concurrence Letters
- Appendix E: Final General Conformity Determination (air quality)
- Appendix F: Section 408 Concurrence Letter and Preliminary Recommendation Letter
- Appendix G: Comments Received Between October 16, 2026, and Issuance of the Final EIS

1.1 The California High-Speed Rail System

The Authority is responsible for planning, designing, building, and operating the California HSR System. The Authority's mandate under the California High-Speed Rail Act of 1996 is to develop an HSR system that coordinates with the state's existing transportation network, which includes intercity rail and bus lines, regional commuter rail lines, urban rail and bus transit lines, highways, and airports.

The California HSR System would provide intercity, high-speed service on more than 800 miles of track throughout California, connecting the major population centers of Sacramento, the San Francisco Bay Area, the southern Central Valley, Los Angeles, the Inland Empire, Orange County, and San Diego as depicted on Figure 2. When completed, the nearly 800-mile train system would provide new passenger rail service to more than 90 percent of the state's population. Trains would serve the statewide intercity travel market.

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Figure 2 Statewide High-Speed Rail System, Program Alignments and Stations

The Authority and FRA prepared two programmatic (Tier 1) EIS documents to select preferred alignments and station locations to advance for project-level analysis in Tier 2 EISs. Between San Francisco and LAUS, the HSR system would use state-of-the art, electrically powered, steel-wheel-on-steel-rail technology, including contemporary safety, signaling, and automated train control systems, with trains capable of operating at speeds of up to 220 miles per hour in HSR

sections that are fully grade separated and on a dedicated track alignment. Between LAUS and ARTIC, the HSR system would use the same technology as the rest of the alignment, but speeds would be at most 90 miles per hour.

The Authority plans two phases of California HSR System development. The California HSR Program 2026 Business Plan (Authority 2026) describes in detail how the California HSR System will be implemented and recognizes current budgetary and funding realities. The California HSR System Phase 1, as approved through Tier 1 decisions, has been divided into eight individual sections for site-specific, Tier 2 analysis. The Authority and FRA defined HSR project sections such that they would have independent utility or independent significance (i.e., be usable even if later sections of the HSR system are not completed). In addition to this Combined Final EIS/ROD for the Los Angeles to Anaheim Project Section, the Authority has issued final Tier 2 environmental documents for the following sections that collectively compose Phase 1 of the California HSR System.

- San Francisco to San Jose (issued September 2022)
- San Jose to Merced (issued May 2022)
- Merced to Fresno (issued April 2012)
- Merced to Fresno/Central Valley Wye (issued August 2020)
- Fresno to Bakersfield (issued May 2014)
- Fresno to Bakersfield/Locally Generated Alternative (issued November 2019)
- Bakersfield to Palmdale (issued June 2021)
- Palmdale to Burbank (issued May 2024)
- Burbank to Los Angeles (issued November 2021)

1.2 Los Angeles to Anaheim Project Section

Following the completion of a programmatic review of the California HSR System in 2005, the FRA initially commenced environmental review in March 2007 for the project section with publication of a Notice of Intent. As further detailed in Section 4.1, Alternatives Analysis Process and Alternatives Considered but Eliminated from Detailed Study, between 2007 and 2018, the Authority considered a number of potential alignment alternatives and associated project elements. However, following substantial project changes, the Authority, now acting as NEPA lead agency under NEPA Assignment, recommenced the environmental review process for the project section on August 25, 2020, with publication of a revised Notice of Intent. The Authority held scoping meetings for the project in September 2020.

At its May 2024 meeting, the Authority Board of Directors approved Shared Passenger Track Alternative A as the Preferred Alternative. Resolution #HSRA 24-06 can be found on the Authority's website (Authority 2024a).

The Draft EIS presented two project alternatives (Shared Passenger Track Alternatives A and B) and the No Project Alternative. For all alternatives, the Draft EIS presented potential environmental impacts, provided environmental information to assist decision-makers in selecting the project alternative to be built, identified measures to avoid and minimize impacts and, when necessary, provided measures to mitigate adverse impacts, and considered cumulative impacts as part of the environmental review process.

The Draft EIS informed decision-makers, interested parties, and the public about the alternatives and potential impacts. The public review and comment period for the Draft EIS began on December 5, 2025, and concluded on February 3, 2026, for a total public review period of 61 days. The Authority held a virtual public hearing on December 11, 2025, to provide opportunities for the public to comment on the Draft EIS verbally and in writing. During the review period, 309 submissions yielding 1,450 individual comments were received on the Draft EIS.

The Authority considered the information presented in the comments received on the Draft EIS when preparing the Final EIS. The Final EIS also included responses to all comments and minor design refinements to Shared Passenger Track Alternatives A and B, including those resulting from public comments on the Draft EIS.

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2 FEDERAL AGENCY ROLES AND RESPONSIBILITIES

The Authority is the NEPA lead agency, pursuant to the NEPA Assignment MOU. USACE and STB are NEPA cooperating agencies. Multiple other federal agencies that are not cooperating agencies have been involved with and contributed to the environmental review, including the FRA, USEPA, USFWS, Federal Aviation Administration, and Advisory Council on Historic Preservation. The specific roles and responsibilities of the federal agencies involved in the project section including lead, cooperating, and permitting agencies are further described below.

2.1 Federal Railroad Administration

The FRA's responsibilities for environmental review, consultation, and other actions required by applicable federal environmental laws, including NEPA, for the proposed project are being carried out by the Authority, acting on behalf of the State of California, pursuant to 23 U.S.C. 327 and the NEPA Assignment MOU. Under the NEPA Assignment MOU, the FRA assigned federal environmental review responsibilities for the project to the State of California. Since July 23, 2019, the Authority has performed as the lead NEPA agency in this program, known as NEPA Assignment.

As required by law and the NEPA Assignment MOU, the FRA has retained responsibility for making air quality conformity determinations under the Clean Air Act (42 U.S.C. 7506) and for government-to-government consultation with Indian tribes (23 CFR Part 773.105(b)(4)). The FRA confirmed completion of the Final General Conformity Determination on October 7, 2026 (refer to Appendix E).

The NEPA Assignment MOU also requires the Authority to consult with the FRA prior to making any proposed constructive use determinations under Section 4(f) of the Department of Transportation Act of 1966 (49 U.S.C. 303). However, the Selected Alternative would not entail any constructive use determinations, as explained in Final EIS Chapter 4, Section 4(f) and Section 6(f) Evaluations.

Additionally, the FRA maintains authority over railroad safety under 49 U.S.C. 20103. As such, the FRA may exercise certain regulatory authority over the project. The FRA also administers certain grant funds provided to the Authority, including the American Recovery and Reinvestment Act of 2009.

2.2 U.S. Army Corps of Engineers and U.S. Environmental Protection Agency

USACE is responsible for issuing permits under the Clean Water Act, Section 404 (33 U.S.C. 1344) (Section 404), and the Rivers and Harbors Act, Section 14 (33 U.S.C. 408) (Section 408). USACE is required to comply with NEPA and issue its own NEPA decision before it can issue a permit under Section 404 or Section 408.

As a first step in project permitting, the Authority, the FRA, USACE, and USEPA executed the *Memorandum of Understanding—National Environmental Policy Act (42 U.S.C. 4321 et seq.) and Clean Water Act Section 404 (33 U.S.C. 1344) and Rivers and Harbors Act Section 14 (33 U.S.C. 408)—Integration Process for the California High-Speed Train Program* (NEPA/404/408 MOU) on December 21, 2010. The NEPA/404/408 MOU outlines a process to coordinate the NEPA environmental review process with the requirements of NEPA with certain steps in the Section 404 and Section 408 permitting and approval process. The purpose of the NEPA/404/408 MOU is to facilitate USACE decision-making under Section 404, Section 408, and NEPA.

Under Section 404, USACE and USEPA regulate the discharge of dredged and fill materials into waters of the U.S. Project sponsors must obtain a permit from USACE for discharges of dredged or fill materials into waters of the U.S. Based on the Authority's analysis of permanent impacts on waters of the U.S. and coordination with USACE, the Authority anticipates seeking coverage under the Nationwide Permit program under one of the following: Nationwide Permit 14, Linear Transportation Projects; Nationwide Permit 12, Utility Line Activities; or Nationwide Permit 39,

Commercial and Institutional Developments, for the project section.[1,2] The Authority expects to qualify for Nationwide Permit 14 for project components that are considered "single and complete projects" in the context of the Nationwide Permit program.[3] Therefore, an individual Clean Water Act Section 404 permit is not anticipated to be required for the project section, which would not require USACE to issue a least environmentally damaging practicable alternative determination.

The project section would require review from USACE under Section 408 where it would include modifications or alterations of any federal flood control facility to ensure that its usefulness is not impaired. The Rio Hondo Channel, San Gabriel River, North Fork Coyote Creek, and Coyote Creek are USACE facilities under Section 408. Therefore, during the design phase, the Authority would be required to coordinate with the Los Angeles County Flood Control District and USACE to obtain Section 408 approvals for the Rio Hondo Channel, San Gabriel River, North Fork Coyote Creek, and Coyote Creek.

Section 408 provides that USACE may grant permission for another party to alter a USACE flood control facility upon a determination that the alteration proposed would not be injurious to the public interest and would not impair the usefulness of the facility. The NEPA/404/408 MOU signed by the FRA, the Authority, USACE, and USEPA in November 2010 provides for early consultation with USACE to establish the appropriate level of review and to provide a preliminary determination on whether the proposed modifications or alterations to the subject federal flood control facilities are likely to be granted permission (U.S. Department of Transportation et al. 2010).

In July 2012, pursuant to the NEPA/404/408 MOU, both USACE and USEPA agreed in writing on the Purpose and Need for the project section, completing the Checkpoint A process (USACE 2012; USEPA 2012).

Although the project section initially followed the NEPA/404/408 MOU, technical analysis confirms that the project section's impact on waters of the U.S. can be authorized under the Nationwide Permit program. Accordingly, in October 2017, pursuant to the NEPA/404/408 MOU, the Authority and FRA advised USACE (and USEPA) that the nature of the project section was such that Checkpoint B (range of alternatives) and Checkpoint C (preliminary least environmentally damaging practicable alternative) were not applicable (Authority and FRA 2017). Consequently, only the NEPA/404/408 MOU's requirements with respect to Section 408 are applicable.

Specific to Section 408, in September 2026, USACE, responding to an Authority request, stated it had no objection to the preliminary recommendation of carrying forward the Preferred Alternative for further coordination and review under Section 408 (USACE 2026).

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[1] Nationwide Permit 14 covers activities required for the construction, expansion, modification, or improvement of linear transportation projects (e.g., roads, highways, railways, trails, airport runways, taxiways) in waters of the U.S. For linear transportation projects in nontidal waters, the discharge cannot cause the loss of greater than 0.5 acre of waters of the U.S. Any stream channel modification, including bank stabilization, is limited to the minimum necessary to build or protect the linear transportation project; such modifications must be in the immediate vicinity of the project. This Nationwide Permit also authorizes temporary structures, fills, and work necessary to build the linear transportation project. Furthermore, it should be noted that the USACE Los Angeles District categorizes direct impacts on concrete-lined channels as "temporary impacts" rather than a permanent loss of waters of the U.S.

[2] Nationwide Permit 12 has been included to acknowledge that several new structures are associated with utility realignments and may be considered under that Nationwide Permit, although it is more likely that all of the structures that would result in fill are associated with the linear transportation project. Furthermore, multiple Nationwide Permits could be used for any given structure for this project because the affected acreage thresholds would not be exceeded. Nationwide Permit General Condition 28 states, "Use of Multiple Nationwide Permits. The use of more than one NWP for a single and complete project is permitted when the acreage loss of waters of the United States authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit." In addition, if one or more of the Nationwide Permits used to authorize the single and complete project has specified acreage limits, the acreage loss of waters of the U.S. authorized by those Nationwide Permits cannot exceed their respective specified acreage limits.

[3] The term *single and complete project* is defined as that portion of the total linear project proposed or accomplished by one owner/developer or partnership, or other association of owners/developers, that includes all crossings of a single water of the U.S. (i.e., a single waterbody) at a specific location. For linear projects crossing a single or multiple waterbodies several times at separate and distant locations, each crossing is considered a single and complete project for purposes of Nationwide Permit authorization.

USACE is required to comply with NEPA and issue its own NEPA decision before it can issue a permit under Section 404 or grant permission under Section 408. USACE will use the Final EIS to integrate requirements of NEPA and its permitting responsibilities. The information contained in the Final EIS will provide information that will facilitate USACE's consideration and issuance of any necessary permits and approvals. Furthermore, any USACE documents produced using information from the Final EIS can be used to assess proposed alterations/modifications of federal flood risk management facilities and any associated operation and maintenance activities.

2.3 Surface Transportation Board

STB has authority over construction and operation of new rail lines (49 U.S.C. 10901). As STB explained in its June 13, 2013, decision authorizing construction of a 65-mile section of the California HSR System between Merced and Fresno (Docket No. FD_35724_0), 49 U.S.C. 10501(a)(2)(A) gives STB jurisdiction over transportation by rail carrier in one state, as long as that intrastate transportation is carried out "as part of the interstate rail network." STB determined that the California HSR System will be built as part of the interstate rail network. STB therefore concluded that it has jurisdiction over the California HSR System. STB has participated as a cooperating agency in this environmental review process. Following completion of this process, STB may adopt the Authority's EIS (or conduct additional review as appropriate) to issue a separate ROD authorizing project construction and operation.

2.4 U.S. Fish and Wildlife Service and National Oceanic and Atmospheric Administration Fisheries

Section 7 of the FESA, Interagency Cooperation, establishes the process whereby federal action agencies and USFWS, National Oceanic and Atmospheric Administration Fisheries (NOAA Fisheries), or both enter into consultation to ensure proposed actions are not likely to jeopardize the continued existence of species listed or proposed for listing as threatened or endangered, or result in the destruction or adverse modification of designated critical habitats for those species.

In accordance with Section 7 (16 U.S.C. 1536) and the implementing regulations of the FESA, effects on federally listed species were evaluated according to legal requirements, and the Authority has made a finding of *no effect* for federally listed species. No federally listed species or designated critical habitat are present in the action area; therefore, no consultation is required.

The Magnuson-Stevens Fisheries and Conservation Management Act (16 U.S.C. 1801 et seq.) requires federal agencies to consult with NOAA Fisheries on activities that may adversely affect Essential Fish Habitat for species that are managed under federal fishery management plans in U.S. waters. Impacts associated with Essential Fish Habitat are addressed through a coordination process with NOAA Fisheries that may be combined with FESA Section 7 consultation.

For the project section, the Authority is only required to consult with USFWS because there are no fish species present that would come under the jurisdiction of NOAA Fisheries.

2.5 Advisory Council on Historic Preservation

The Advisory Council on Historic Preservation is an independent federal agency that promotes the preservation, enhancement, and productive use of our nation's historic resources, and advises the President and Congress on national historic preservation policy. Established by the National Historic Preservation Act in 1966, the Advisory Council on Historic Preservation has the legal responsibility to encourage federal agencies to factor historic preservation into federal project requirements. The Advisory Council on Historic Preservation is a signatory to the Authority's Section 106 PA.

2.6 Federal Aviation Administration

To address the potential for disruption of airfield and airspace operations at Fullerton Municipal Airport as a result of construction of the Preferred Alternative, the Authority, the construction contractor(s), or both would submit construction plans and information to the Orange County Airport Land Use Commission for ultimate submittal to the Federal Aviation Administration for

approval as required by 14 CFR Part 77, which may include the location of planned HSR construction and construction staging areas near the boundary of the Fullerton Municipal Airport, the types and height of proposed equipment, and planned time/duration of construction, to ensure construction of the Preferred Alternative does not intrude into imaginary surfaces as defined in 14 CFR Part 77.9(b). Additionally, the Authority would implement measures required by the Federal Aviation Administration to ensure continued safety of air navigation during HSR construction pursuant to 14 CFR Part 77.5(c).

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3 PURPOSE AND NEED

3.1 Purpose of the High-Speed Rail System

As established in the *Final Program Environmental Impact Report/Environmental Impact Statement for the Proposed California High-Speed Train System* (Statewide Program EIR/EIS), the purpose of the California HSR System is to provide a reliable high-speed electric-powered train system that links the major metropolitan areas of California, delivering predictable and consistent travel times. A further objective is to provide an interface with commercial airports, mass transit, and the highway network and to relieve capacity constraints of the existing transportation system as increases in intercity travel demand in California occur, in a manner sensitive to and protective of California's unique natural resources (Authority and FRA 2005).

3.2 Purpose of the Los Angeles to Anaheim Project Section

The purpose of this project is to implement the Los Angeles to Anaheim Project Section of the California HSR System to provide the public with electric-powered HSR service that provides predictable and consistent travel times between major urban centers and connectivity to airports, mass transit, and the highway network in the Los Angeles-Orange Counties metropolitan region and connects to the rest of the system.

The Purpose and Need for the project section was developed through a process established by the Authority, FRA, USACE, and USEPA pursuant to the NEPA/404/408 MOU that was intended to facilitate the integration of NEPA, Section 404 of the Clean Water Act, and Section 14 of the Rivers and Harbor Act (Section 408). The parties reached agreement on the purpose and need in July 2012 (USACE 2012; USEPA 2012).

For Clean Water Act Section 404(b)(1) compliance, USACE must take into consideration the applicant's needs in the context of the geographic area of the proposed action and the type of project being proposed. Although the project section initially followed the NEPA/404/408 MOU, technical analysis confirms that the project section's impact on waters of the U.S. can be authorized under the Nationwide Permit program. As a result, only the NEPA/404/408 MOU's requirements with respect to Section 408 are applicable.

USACE has determined that the overall project purpose (as stated above) allows for a reasonable range of alternatives to be analyzed, which is acceptable as the basis for the USACE 404(b)(1) alternatives analysis.

3.3 Statewide and Regional Need for the High-Speed Rail System in the Los Angeles to Anaheim Project Section

The need for an HSR system is directly related to the expected growth in population and increase in intercity travel demand in California over the next 20 years and beyond. With growth in travel demand, there will be an increase in travel delays arising from the growing congestion on California's highways and at airports. In addition, there will be adverse effects on the economy, quality of life, and air quality in and around California's metropolitan areas from a transportation system that will become less reliable as travel demand increases. The intercity highway system, commercial airports, and conventional passenger rail serving the intercity travel market are currently operating at or near capacity and will require large public investments for maintenance and expansion to meet existing demand and future growth.

The approximately 30-mile-long project section is an essential component of the statewide HSR system. It would provide access to a new transportation mode and contribute to increased mobility throughout California. As depicted on Figure 1, this project section would connect to the Burbank to Los Angeles Project Section, as well as the Los Angeles to San Diego corridor, the latter being part of Phase 2 program development. The capacity of California's intercity transportation system, including within the Los Angeles-Long Beach-Anaheim Metropolitan Statistical Areas, which include the project section, is insufficient to meet existing and future travel

demand. The current and projected future system congestion will continue to result in deteriorating air quality, reduced reliability, and increased travel times.

The current transportation system has not kept pace with the increase in population, economic activity, and tourism in the state, including within the Los Angeles-Long Beach-Anaheim Metropolitan Statistical Area. The interstate highway system, commercial airports, and passenger rail systems[4] serving the intercity travel market are operating at or near capacity and will require large public investments to meet existing demand and future growth over the next 25 years and beyond. Moreover, the feasibility of expanding many major highways and key airports is uncertain; some necessary expansions may be impractical, or are constrained by physical, political, and other factors. The need for improvements to intercity travel in California—including intercity travel between the Los Angeles-Long Beach-Anaheim Metropolitan Statistical Area, the San Francisco Bay Area, the Central Valley, and Sacramento—relates to the following issues:

- Future growth in demand for intercity travel, including the growth in demand within the project section
- Capacity constraints that will result in increasing congestion and travel delays, including within the project section
- Unreliability of travel stemming from congestion and delays, weather conditions, accidents, and other factors that affect the quality of life and economic well-being of residents, businesses, and tourism in California, including within the project section
- Reduced mobility as a result of increasing demand on limited modal connections between major airports, transit systems, and passenger rail in the state, including within the project section
- Poor and deteriorating air quality as a result of increasing vehicle and airport operational congestion, including within the project section
- Legislative mandates to moderate the effects of transportation on climate change, including required reductions in greenhouse gas emissions caused by vehicles powered by the combustion of carbon-based fuels

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[4] Passenger rail systems include commuter rail services like Metrolink and intercity rail services like Amtrak. These are not to be confused with rail transit systems that generally operate within a smaller sub-region (e.g., Metro Rail).

4 ALTERNATIVES CONSIDERED

This section summarizes the alternatives analysis process, describes the alternatives evaluated in the EIS Documents, and describes the Selected and Environmentally Preferable Alternative.

4.1 Alternatives Analysis Process and Alternatives Considered but Eliminated from Detailed Study

The Authority and FRA undertook an extensive public screening process to identify and refine alternatives for study in the project-level EIS. The Authority and FRA began the project-level environmental review process for the project section in 2005. This section summarizes alternative screening and development since 2005, including alternatives that emerged but were ultimately eliminated.

4.1.1 2005 through 2009

Based on the Statewide Program EIR/EIS (Authority and FRA 2005), the Authority and FRA selected the LOSSAN Corridor in 2005 as the alignment to advance for further Tier 2 (project-level) study between Los Angeles and Anaheim. The LOSSAN Corridor was selected during the Tier 1 (statewide) process because the Statewide Program EIR/EIS determined that it would result in fewer infrastructure requirements, potentially decreased cost, and fewer environmental impacts. The Authority and FRA based the selection of the LOSSAN Corridor alignment on the assumption that the capacity and compatibility of uses associated with the shared operation of HSR and existing nonelectric service (National Railroad Passenger Corporation [Amtrak], Metrolink, and freight trains) in the LOSSAN Corridor would be resolved in subsequent project-level studies.

In 2007, the Authority and FRA issued a Notice of Intent for the project section. The Authority conducted public scoping in 2007. During the scoping process, several comments received by the public included suggestions for alternative alignments, including options (e.g., other alignments, tunnels) in consideration of at-grade street crossings, and an alternative Santa Fe Springs station location. Alternatives were developed with consideration for travel time, train speed, cost, local access times, potential connections with other modes of transportation, ridership potential, the distribution of population and major destinations along the route, and local planning constraints and conditions. The Authority considered options suggested during public scoping, with some deemed not feasible based on the aforementioned factors (Authority and FRA 2009a).

4.1.2 2010 through 2016

The Authority and FRA conducted further planning to develop and screen potential alignment alternatives between Los Angeles and Anaheim. The alternatives development process is documented in the Anaheim to Los Angeles Section Alternatives Analysis Report (Authority and FRA 2009b), the July 2010 Los Angeles to Anaheim Supplemental Alternatives Analysis (SAA) Report (Authority and FRA 2010), and the 2016 Los Angeles to Anaheim Project Section SAA Report (Authority and FRA 2016). The 2016 SAA Report considered two alternatives: Alternative 1 (formerly called the Dedicated High-Speed Train Alternative) and Alternative 2 (formerly called the Consolidated Shared-Track Alternative). Because of higher capital costs, right-of-way impacts, and potential impacts on sensitive resources, the Authority and FRA eliminated Alternative 1 from further consideration, and refined Alternative 2 to include up to six mainline tracks in the project corridor, which would allow for introduction of HSR service with blended systems and increased Amtrak, Metrolink, and BNSF Railway (BNSF) trains.

The 2016 Refinement Report describes design refinements to 2016 SAA Report Alternative 2. These additional design refinements occurred following the 2016 SAA Report as a result of engagement with key stakeholders in the project corridor. The Authority engaged with various stakeholders, including legislative staff and elected officials, through group and individual briefings with Stakeholder Working Groups and key rail-related organizations such as Amtrak, the LOSSAN Rail Corridor Agency, Metrolink, BNSF, and Los Angeles County Metropolitan Transportation Authority (Metro) to address project design and operational issues.

As described in the 2016 Refinement Report, the Authority made design refinements to Alternative 2. Generally, the design refinements to Alternative 2 reduced right-of-way impacts by consolidating passenger service on HSR and reducing the total number of mainline tracks needed to introduce HSR service within this active passenger and freight rail corridor.

4.1.3 2018 through 2023

In 2017 and 2018, the Authority continue to develop Alternative 2R, including coordination with BNSF. BNSF provided operational modeling that indicated the need for additional capacity during construction and operations for this project section. This necessitated the addition of the BNSF staging tracks in Lenwood (Lenwood Component) and the Colton Intermodal Facility (Colton Component) in San Bernardino County. On November 15, 2018, the Authority Board of Directors identified the refined version of Alternative 2, referred to as the 2018 HSR Project Alternative, as the Preferred Alternative for the project section.

In 2020, the Authority conducted revised scoping to garner additional public and agency input for the BNSF Components. Early interested party feedback on the BNSF Colton Component raised substantial opposition and concern to introducing a new intermodal facility far outside the project corridor. In particular, interested parties in the Inland Empire expressed concerns about the Colton facility's impacts with the added concern that the benefits of HSR and its associated improvements would not reach them. Opposition to the Colton Component is documented in the Summer 2020 Agency and Public Scoping Meetings Series Summary Report (Authority 2023).

Responding to these concerns, the Authority considered additional potential alternatives in the 2023 SAA Report that would eliminate the need to redirect trains and trucks to a new BNSF intermodal facility in San Bernardino County (Authority 2023). To maintain reliability and freight and passenger rail service, staging tracks were identified as mitigation for some alternatives during project construction. The 2023 SAA Report introduced three new alternatives to address the project's purpose and need and respond to concerns expressed on the 2018 HSR Project Alternative. These three new alternatives were the Shared Passenger Track Alternative, 3A – Freeway Tunnel Alternative, and 3B – Union Pacific Railroad (UPRR) Alignment Alternative. The 2018 HSR Project Alternative and the Shared Passenger Track Alternative were initially deemed the best candidates for further analysis. However, because of concerns related to the Colton Component, only the Shared Passenger Track Alternative was selected for continued evaluation. The alternatives analysis process is further summarized in Final EIS Chapter 2, Alternatives.

Except for the Shared Passenger Track Alternative, potential alternatives considered over the course of project development either failed to adequately meet the project purpose and need/ project objectives, failed to offer a substantial environmental advantage over other alternatives studied, or were deemed not to be feasible from a cost, technical, or engineering perspective. These potential alternatives were not carried forward for study in the EIS Documents.

4.2 Alternatives Carried Forward for Study in the Environmental Impact Statement

As a result of a comprehensive alternatives analysis process, the EIS evaluated two alternatives and two optional intermediate HSR stations:

- Shared Passenger Track Alternative A with an LMF at 26th Street
- Shared Passenger Track Alternative B with an LMF at 15th Street

The EIS Documents also evaluated prospective intermediate HSR station options in Norwalk/ Santa Fe Springs and Fullerton. Refer to Final EIS Chapter 2 for a more detailed discussion of the development of the two build alternatives.

The two build alternatives would have the same track alignment, which follows the existing LOSSAN Corridor from LAUS to ARTIC. The Authority previously evaluated the environmental impacts associated with an HSR station at LAUS as an element of the Burbank to Los Angeles Project Section EIR/EIS (Authority 2021; Metro 2026). Metro is also building tracks at LAUS that would allow HSR trains to run through LAUS to First Street. The environmental impacts

associated with Metro's construction of common rail infrastructure that would serve HSR and other passenger traffic from just north of US 101 to First Street are analyzed in the Link Union Station environmental document.

The physical construction elements of the Shared Passenger Track Alternatives would begin south of LAUS, at the northern edge of US 101, where the viaduct built as part of the Metro Link Union Station project would begin. This location is the match line between the Burbank to Los Angeles and Los Angeles to Anaheim Project Sections. From this northern edge of US 101 to First Street, the Authority would build the overhead contact system (OCS) on the existing rail infrastructure to power HSR trains, presented as a dashed blue line on Figure 3. The OCS north of US 101 was part of the Burbank to Los Angeles Project Section and was approved in connection with the Authority's January 2022 decision-making. From First Street south to ARTIC, the Shared Passenger Track Alternatives would include construction of the HSR project tracks and all other project infrastructure, which is presented in a solid blue line on Figure 3. The operation of HSR service from the northern edge of US 101 to ARTIC is fully evaluated in the Final EIS.

The EIS Documents also analyzed the No Action Alternative (synonymous with the No Build Alternative). The EIS Documents analyzed the alternatives that the Authority identified as reasonable and potentially feasible and capable of meeting the project Purpose and Need.

The following sections describe the two build alternatives and associated facilities evaluated in the EIS Documents, described in Final EIS Chapter 2, particularly Section 2.6.3, Shared Passenger Track Alternative A. As explained in Final EIS Chapter 16, Corrections and Additions to the Draft Report, Section 16.1.1, Design Refinements, the Authority and considered and incorporated minor engineering and design refinements after publication of the Draft EIS. The refinements were considered and incorporated for several reasons, including (1) in response to comments on the Draft EIS from agencies, stakeholders, and the public; and (2) to further minimize environmental impacts.

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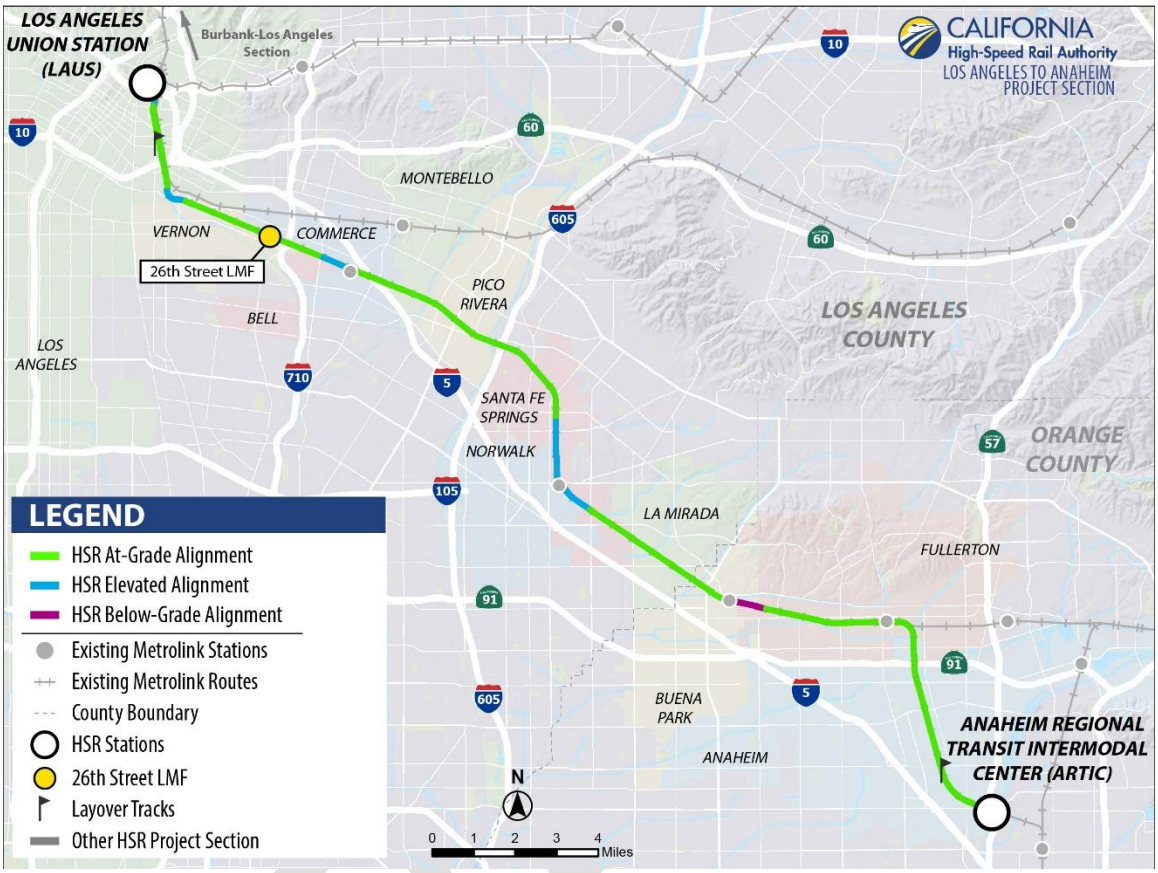
Source: Authority 2025
Metro = Los Angeles County Metropolitan Transportation Authority; LAUS = Los Angeles Union Station; Link US = Link Union Station project; OCS = overhead contact system; US 101 = U.S. Highway 101

Figure 3 High-Speed Rail and Link Union Station Project

4.2.1 Shared Passenger Track Alternative A (Selected Alternative)

The project section would use and electrify existing tracks in most of the corridor and would also add new tracks in some areas. From LAUS to Interstate (I-) 10, there would be two electrified tracks, to be shared with HSR and passenger rail. From I-10 to Downey Road, two existing tracks would be electrified for shared use. From Downey Road to Fullerton Junction, two new mainline tracks would be added in the corridor, with two tracks to be electrified and shared. From Fullerton Junction to ARTIC, the two existing tracks would be electrified for shared use.

The alignment is described from north to south by city, for ease of reference, and presented on Figure 4.



Source: Authority 2024b
Draft alignments, elements not to scale

Figure 4 Los Angeles to Anaheim Project Section Selected Alternative

Table 2 summarizes key elements of Shared Passenger Track Alternative A.

Table 2 Key Elements of Shared Passenger Track Alternative A

Key Elements	Shared Passenger Track Alternative A
Alignment	• North of US 101 to First Street[5]: Overhead catenary system installation • First Street to I-10: Two electrified tracks would be shared with HSR and passenger rail. • I-10-Downey Rd: Two existing tracks would be electrified for shared use. • Downey Rd to Fullerton Junction: Two new mainline tracks would be added in the corridor, with two tracks electrified for shared use. • Fullerton Junction to ARTIC: Two existing tracks would be electrified for shared use.

[5] Tracks in this segment will be built by Metro as part of the Link Union Station Project. Refer to the Link Union Station EIS/Supplemental EIR for more information.

Key Elements	Shared Passenger Track Alternative A
Ancillary features	• Two TPSS sites (Los Angeles and Anaheim) • Switching station (Santa Fe Springs) • Two paralleling stations (Montebello and Fullerton) • Two sets of layover tracks (Los Angeles and Anaheim)
HSR station	• HSR station at ARTIC (HSR station platform and other facilities)
Light maintenance facility	• At 26th St in Vernon, 49 acres • Would accommodate 20 single trainsets, double-ended
Freight and passenger railroad modifications	• Modifications to freight tracks and yards, including a new consolidated storage area adjacent to Hobart Yard • Modifications to the existing Norwalk/Santa Fe Springs Metrolink Station: Platforms would be shifted to the east and would be on an elevated structure. Existing surface parking would be replaced. • Modifications to the existing Fullerton Metrolink/Amtrak Station: A fourth mainline track would be added south of the corridor. The existing side platforms would be removed and replaced with a new center platform over Harbor Blvd. Existing pedestrian bridge would be removed and replaced with new pedestrian underpass. • Relocation of the Commerce Metrolink Station and Buena Park Metrolink Station
Roadway modifications	• Five full grade separations (Pioneer Blvd, Norwalk Blvd, Los Nietos Rd, Cerritos Ave, and State College Blvd) • One partial grade separation (Lakeland Road) • Eight at-grade crossings would remain at grade in Anaheim (Orangethorpe Ave, La Palma Ave, Sycamore St, Broadway, Santa Ana St, South St, Vermont Ave, and Ball Rd). • Modifications to existing grade separations, including roadway vertical realignment or new piers and abutments within roadways • Roadway realignments (26th St, Artesia Blvd, Walnut Ave) • Roadway closures near Hobart Yard
Modifications to Waterways	• Modifications at eight water crossings (Hobart Channel, Rio Hondo, San Gabriel River, North Fork Coyote Creek, La Mirada Creek, Coyote Creek, Brea Creek, Balcom Avenue Storm Drain)

ARTIC = Anaheim Regional Transportation Intermodal Center; HSR = high-speed rail; I- = Interstate; TPSS = traction power substation; US 101 = U.S. Highway 101

4.2.1.1 Los Angeles

For Shared Passenger Track Alternative A, starting at the LAUS platforms, HSR trains would run on the tracks built by the Link Union Station project, which cross over US 101, Commercial Street, and Ducommun Street on viaduct; and come down to grade just before First Street, joining the existing railroad right-of-way. Beginning at First Street, trackwork built under Shared Passenger Track Alternative A would run adjacent to the existing Metrolink and Amtrak service, immediately east of the Metro B (Red) Line Yard. Refer to Figure 1. Between First Street and Fourth Street, the HSR tracks would merge into the existing tracks nearest the west bank of the Los Angeles River that are used by Metrolink and Amtrak. Between Seventh Street and I-10, two HSR layover tracks would be added west of the shared tracks, which would require right-of-way acquisitions. The BNSF Eighth Street Yard storage tracks between First Street and I-10 would be removed and relocated to the new consolidated storage area adjacent to Hobart Yard.

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In several locations throughout the project section, Shared Passenger Track Alternative A would require removal or relocation of existing BNSF infrastructure. Affected BNSF storage and staging infrastructure would be relocated to a new consolidated storage area adjacent to Hobart Yard. The new storage area would provide 101,094 track feet of storage, which is slightly more than the amount that would be removed from the corridor (90,940 track feet).

The shared tracks would cross under the Olympic Boulevard roadway overcrossing and approach Redondo Junction. The tracks would rise onto an existing railroad bridge that crosses Washington Boulevard and the Los Angeles River, before curving east to cross over Soto Street. The alignment would come back to at grade east of Soto Street to run along the southern side of the corridor adjacent to the existing BNSF tracks, and enter Vernon. Just west of Downey Road, a new BNSF yard lead track would be added on the northern side to serve Hobart Yard farther east. The tracks would continue east, crossing over Downey Road on the existing railroad bridge, with a new bridge added for the new BNSF yard lead track on the northern side of Downey Road.

East of Downey Road, the tracks would cross the UPRR San Pedro Subdivision line and pass by the BNSF Los Angeles Intermodal Facility (referred to as Hobart Yard). The new BNSF yard lead track would merge into realigned tracks serving the existing Hobart Yard. The four mainline tracks, a new UPRR San Pedro Subdivision connector track, and two 26th Street LMF yard lead tracks would veer south out of the existing railroad right-of-way. The 26th Street LMF lead tracks would continue south to connect to the LMF tracks. The four mainline tracks would continue east, adjacent to other tracks used for the UPRR connector or HSR switching. The tracks would cross under an existing private Hobart Yard roadway and over Hobart Channel. The existing open channel would be modified with closed concrete box structures that would support the tracks and the 26th Street realignment. The two LMF yard lead tracks would merge with the four mainline tracks just west of I-710.

Shared Passenger Track Alternative A includes an LMF at 26th Street in Vernon. At about 49 acres in area, the LMF site would be between realigned mainline tracks on the north, a relocated 26th Street on the south, Downey Road on the west, and I-710 on the east. The LMF would include a five-track shop building able to accommodate 10 trainsets, along with an outdoor train yard with a storage capacity of 20 trainsets. The 26th Street LMF would be double-ended, providing trains access from the mainline to both ends of the LMF. The LMF would include space for fleet storage, cleaning, and repair. Changes on the south side of Hobart Yard would require 26th Street to be realigned, which would provide access to the LMF.

4.2.1.2 Commerce, Bell, Montebello, and Pico Rivera

East of Hobart Yard, the tracks would cross at grade under I-710 and enter Commerce. The tracks would cross Atlantic Boulevard on the existing railroad bridge, which would need to be widened on the northern side for a new Hobart Yard lead track (which extends farther east to BNSF's Commerce Yard), and also widened on the southern side for the new shared tracks.

The two shared tracks would then rise onto an elevated structure, referred to as the Commerce Flyover. The Commerce Flyover is designed to pass by the BNSF Commerce Intermodal Facility (referred to as Commerce Yard) and to separate passenger train operations from freight operations, reducing train traffic congestion through the Commerce Yard area.

The elevated structure would cross over Eastern Avenue. The at-grade BNSF tracks would also cross Eastern Avenue on the existing railroad bridge, which would need to be widened on both the northern and southern sides. The tracks would continue east, passing by the BNSF Commerce Yard. Throughout this area, there would be up to eight tracks within the corridor, some of which are existing and some which would be new, including new BNSF yard tracks, connector tracks, and a stub lead.

Continuing east, the tracks would pass the existing Commerce Metrolink Station. Because the shared tracks would be on the elevated structure, they would not connect with the Commerce Metrolink Station at its existing location. Therefore, the Commerce Metrolink Station would be relocated on the mainline tracks at the border of Commerce and Montebello, less than a mile to the east of its current location. The elevated tracks would rejoin the existing railroad right-of-way

and return to grade just before I-5. The four mainline tracks would cross over I-5, Telegraph Road, and Garfield Avenue on the existing railroad bridges. East of Garfield Avenue, the shared tracks would pass the relocated Commerce Metrolink Station, but HSR trains would not stop there.

The tracks would then enter Montebello, remain at grade, and cross over Greenwood Avenue on an existing railroad bridge. The tracks then enter Pico Rivera and cross over the Rio Hondo Channel, where the existing railroad bridge would be widened on the northern side to accommodate the new mainline track. Immediately east of the Rio Hondo Channel, there would be modifications to BNSF tracks leading into the BNSF Pico Rivera Yard; an existing yard lead track at the western end of the yard would be realigned and one existing storage track would be removed, for a total of five tracks within the corridor. Storage capacity at Pico Rivera Yard would be replaced adjacent to Hobart Yard. The tracks would then cross over Paramount Boulevard on the existing railroad bridge, and then pass by the BNSF Pico Rivera Yard on the northern side of the corridor. The yard lead track at the eastern end of the yard would be realigned and shifted.

The tracks would continue east to cross over Rosemead Boulevard, where a new railroad bridge would be added north of the existing railroad bridge to accommodate a realigned spur track. The realigned spur track would connect to a new BNSF yard lead track, for a total of five tracks in this area. Just west of Passons Boulevard, the yard lead track would converge with the mainline track and the four tracks would continue east, crossing over Passons Boulevard and the San Gabriel River, where both existing railroad bridges would need to be widened on the southern side for the new shared track.

4.2.1.3 Santa Fe Springs and Norwalk

The tracks would continue east underneath the Slauson Avenue roadway overcrossing, entering Santa Fe Springs. One of the Slauson Avenue bridge piers would need to be modified to accommodate the widened railroad bridge over the San Gabriel River. Underneath the Slauson Avenue bridge, the tracks would cross the UPRR Los Nietos Subdivision track, which would require a new diamond-shaped configuration at the point where the new shared track crosses the UPRR track. From Slauson Avenue to Telegraph Avenue, the track configuration would remain consistent with four tracks. The tracks would cross under I-605 and then over Pioneer Boulevard, which would be a new grade separation. Continuing east, the tracks would cross the UPRR La Habra Subdivision track (requiring another diamond-shaped track configuration), and then over Norwalk Boulevard and Los Nietos Road, which would be new grade separations. The tracks would continue east within the existing corridor, curving south to cross over Santa Fe Springs Road and Telegraph Road, where the existing railroad bridges would be widened on the western side to accommodate the new fourth mainline track.

South of Telegraph Road, the two shared tracks and BNSF mainline tracks would have different vertical profiles. The shared tracks would diverge slightly outside of the existing railroad right-of-way and rise onto retained fill to cross over Florence Avenue on a new bridge, while three BNSF mainline tracks would cross Florence Avenue on the existing railroad bridge. An existing BNSF support track on the eastern side of the corridor between Telegraph Road and Florence Avenue would be maintained. BNSF currently uses the mainline tracks in this area to also stage trains, but that function would be removed with the introduction of HSR; therefore, that staging capacity would need to be replaced adjacent to Hobart Yard.

The two shared tracks would continue to rise up and transition from retained fill onto an elevated structure that crosses over Lakeland Road, while the BNSF tracks would remain at grade in their current configuration throughout this area. The elevated structure would continue south and transition from the western side of the corridor over to the eastern side.

The elevated structure would veer east out of the existing railroad corridor and cross over Imperial Highway. This elevated structure would necessitate modifications to the existing Norwalk/Santa Fe Springs Metrolink Station. The location of the existing Metrolink platforms at this station would not be able to easily accommodate an additional mainline track and shared-track operations. Additionally, the existing Metrolink platforms are in an area where the corridor

curves, and any new platforms would need to be on a straight section of track, which would be challenging to implement along the existing curved corridor. Therefore, the HSR project would shift the Norwalk/Santa Fe Springs Metrolink platforms to the east, to be served by the new elevated tracks.

Freight trains would continue to operate at grade on the existing tracks through the existing Norwalk/Santa Fe Springs Metrolink Station site. BNSF currently uses the mainline tracks in this area to also stage trains, but that function would be removed with the introduction of HSR; therefore, that staging capacity would need to be replaced adjacent to Hobart Yard. The elevated structure would continue south to meet the existing railroad corridor, where it would run along the eastern side of the corridor until it transitions back down to at grade just west of Carmenita Road. The shared tracks would rejoin the existing railroad right-of-way on the eastern side of the corridor.

The tracks would cross Carmenita Road and North Fork Coyote Creek, where both existing railroad bridges would be widened on the northern side to accommodate the new shared track. The tracks would continue at grade and cross under Rosecrans Avenue roadway overcrossing.

From Rosecrans Avenue to Valley View Avenue, the four mainline tracks would run alongside the first yard of BNSF's La Mirada Yard (which consists of three noncontiguous yards), and an existing western yard lead track would be slightly realigned and connected to an existing freight track on the southern side of the corridor. This southernmost track would connect farther east to a relocated yard lead track for the second La Mirada Yard. The five tracks would cross over Valley View Avenue, where the existing railroad bridge would be widened on the southern side to accommodate the new yard lead track.

4.2.1.4 La Mirada and Buena Park

East of Valley View Avenue, the five tracks enter La Mirada. The tracks would cross over La Mirada Creek, where the existing railroad bridge would be widened on the northern side to accommodate the new shared track. The tracks would continue east and pass by the second yard of BNSF's La Mirada Yard on the southern side of the corridor, into which the relocated yard lead track would connect. The tracks would then cross under Alondra Boulevard, where the existing roadway bridge would be replaced with a wider one to accommodate the new mainline track on the north.

Continuing east of Alondra Boulevard, the five tracks would pass by the third yard of BNSF's La Mirada Yard. The existing freight tracks and connectors would be realigned in this area, and an existing storage track would be relocated to the western side of the yard. The tracks would then cross into Buena Park and over Coyote Creek, where the existing railroad bridge would be widened on both sides. At this point, the BNSF yard track on the southern side of the corridor converges with the mainline track, and the four tracks would then pass the relocated Buena Park Metrolink Station, just west of State Route 39 (Beach Boulevard). The existing Buena Park Metrolink Station is west of Dale Street but, because the HSR project would add and realign tracks through that area, the existing Buena Park Metrolink Station would need to be relocated. HSR trains would not stop at the relocated Buena Park Metrolink Station.

The tracks would cross over State Route 39 (Beach Boulevard), where the existing railroad bridge would be widened on the northern side, and then continue at grade. The tracks would then cross Brea Creek, where the existing railroad bridge would be widened on the southern side, and then Dale Street, where the existing railroad bridge would be widened on the northern side.

4.2.1.5 Fullerton

East of Dale Street, the tracks enter Fullerton. Fullerton Municipal Airport is south of the railroad corridor, and the shared tracks would need to be lowered as they pass by the airport so that the HSR project, including the OCS, trains, and all other project components, would not conflict with the airport runway protection zone. Additionally, the shared tracks on the northern side of the corridor would need to transition to the southern side to serve the existing Fullerton Metrolink/ Amtrak Station farther south. The shared tracks would make the transition via a short below-

grade section, in a braced trench. The trench would start approximately 850 feet east of Dale Street and, as it approaches the eastern end of Fullerton Municipal Airport, would cross under the BNSF tracks to the southern side of the corridor, where it would continue adjacent to the existing BNSF tracks, which would remain at grade. There would be total of four BNSF mainline tracks throughout this segment. HSR modifications throughout this area would result in a loss of BNSF staging capacity, which would be replaced at the new consolidated yard adjacent to Hobart Yard.

The shared tracks would return to at grade just west of the Gilbert Street undercrossing. A new railroad bridge would be built south of the existing railroad bridge to accommodate the two shared tracks. The intersection of Gilbert Street and the realigned Artesia Avenue would also need to be reconfigured to accommodate the new bridge structure. The four mainline BNSF tracks would continue east, for a total of six tracks within the corridor in this area. This track configuration would continue east and cross over Commonwealth Avenue, where the existing railroad bridge would be widened on both sides.

East of Commonwealth Avenue, an existing BNSF storage track currently on the southern side of the corridor would be relocated to be north of the shared tracks, adjacent to the four BNSF mainline tracks, while the shared tracks would diverge out of the existing railroad right-of-way, for a total of seven tracks in this area. This track configuration would cross Euclid Street, where an existing railroad bridge on the southern side of the corridor would be replaced with a new, wider bridge to accommodate the two shared tracks. East of Euclid Street, the BNSF storage track would converge with the adjacent BNSF mainline track, and the two shared tracks would rejoin the existing railroad right-of-way.

Continuing east, the tracks would approach the Fullerton Metrolink/Amtrak Station, which currently has three mainline tracks. Shared Passenger Track Alternative A would add a fourth mainline track on the southern side of the corridor. The new mainline track would require the existing railroad bridge over Highland Avenue to be widened on the southern side. At Highland Avenue, two of the BNSF mainline tracks would merge into the other tracks, for a total of two BNSF tracks and two shared tracks adjacent to the Fullerton Metrolink/Amtrak Station. The Fullerton Metrolink/Amtrak Station would require modifications. Under Shared Passenger Track Alternative A, HSR trains would not stop at the Fullerton Metrolink/Amtrak Station. The tracks would cross over Harbor Boulevard, where a new railroad bridge would be built south of the existing railroad bridge to accommodate the southernmost track and modified Metrolink/Amtrak platform. East of Lemon Street, a BNSF maintenance-of-way spur, approximately 500 feet long, would be added on the northern side of the corridor to replace a BNSF spur that would be removed near the Fullerton Metrolink/Amtrak Station.

East of the station, the tracks would head toward Fullerton Junction, which is a critical node in the Southern California rail network, where freight and passenger trains converge into the LOSSAN Corridor. The four tracks would cross Lemon Street on the existing railroad bridges, and new track turnouts would connect to a total of six tracks: three realigned BNSF mainline tracks on the northern side of the corridor that would be dedicated to BNSF trains traveling east-west through the junction; two shared tracks that would be dedicated to passenger trains traveling northwest-southeast from Los Angeles to ARTIC; and one existing Metrolink track on the southern side. The junction currently has four tracks, and the track changes would allow trains traveling in different directions to pass through the Fullerton Junction area more efficiently by separating BNSF and passenger rail trains onto the northern and southern sides of the corridor, respectively.

The BNSF mainline track added throughout the Fullerton Metrolink/Amtrak Station area would continue past Fullerton Junction, and would be directly south of the two existing tracks. This new track would cross the existing railroad bridge over Raymond Avenue and connect to an existing track, which currently ends east of Raymond Avenue.

Continuing south from Fullerton Junction, the Metrolink track would merge into the existing western track, for a total of two tracks within the corridor. From this point south, the HSR project would electrify these two existing tracks to allow for shared operations with Metrolink. Throughout the Fullerton Junction area south to ARTIC, the HSR project would not add tracks, but would maintain and use existing infrastructure to the greatest extent possible to minimize impacts.

The tracks would cross Fullerton Creek on the existing railroad bridge.

4.2.1.6 Anaheim

South of Fullerton Creek, the tracks enter Anaheim. The two shared tracks would run south, crossing Orangethorpe Avenue at grade and under State Route 91; existing BNSF siding and storage tracks would be maintained throughout this segment.

Continuing south, the tracks would cross the Carbon Creek channel on the existing bridge and then La Palma Avenue and Sycamore Street at grade. The two shared tracks would cross Lincoln Avenue on the existing railroad bridge and then cross Broadway, Santa Ana Street, South Street, Vermont Avenue, and Ball Road at grade in the existing at-grade crossings.

From south of Ball Road to south of Cerritos Avenue, two layover tracks would be added to the western side of the corridor, for a total of four tracks in the area. Refer to Section 2.6.3.2, Ancillary Facilities, of the Final EIS for more information on the layover tracks. The shared tracks would cross Lewis Street on the existing railroad bridge, while the layover tracks would cross the roadway on a new bridge to the south. Continuing south, the shared tracks and layover tracks would cross Cerritos Avenue, which would be grade separated; the roadway would be lowered and a new railroad bridge would be built for the shared tracks and layover tracks. Additionally, a new railroad bridge would be needed for an existing UPRR siding track to the east, because the lowered Cerritos Avenue would also cross under the UPRR track.

The two HSR layover tracks would merge into a single track, which would serve as an HSR lead track as well as a UPRR connector track, for a total for three tracks in the corridor, and cross the UPRR Tustin Branch (diamond-shaped configurations would be added for the track crossings). The tracks would curve to the east and cross State College Boulevard, which would be grade separated, with the roadway lowered and a new railroad bridge built over it. Continuing east, the HSR lead/UPRR connector track would turn out into two tracks and the four tracks would cross Katella Avenue, where the existing railroad bridge would be replaced with two new bridges to accommodate the four tracks. The two tracks on the northern side of the corridor would merge with the existing Metrolink tracks to serve the existing Metrolink platforms at ARTIC. The two tracks on the southern side would serve the new HSR platforms, south of the Metrolink platforms. The HSR tracks and station platform would extend under State Route 57 and over Douglass Road, where a new bridge would be added. The HSR tracks and platform would terminate just west of the Santa Ana River Trail at the Anaheim and Orange city borders, which is the project section's southern limit.

4.2.1.7 Modifications of Waterways and Bridges

Shared Passenger Track Alternative A would cross and potentially affect 11 waterways listed below. Modifications would be required at eight waterway crossings, including expansion or replacement of bridges. Waterway crossings needing modifications are indicated below with an asterisk:

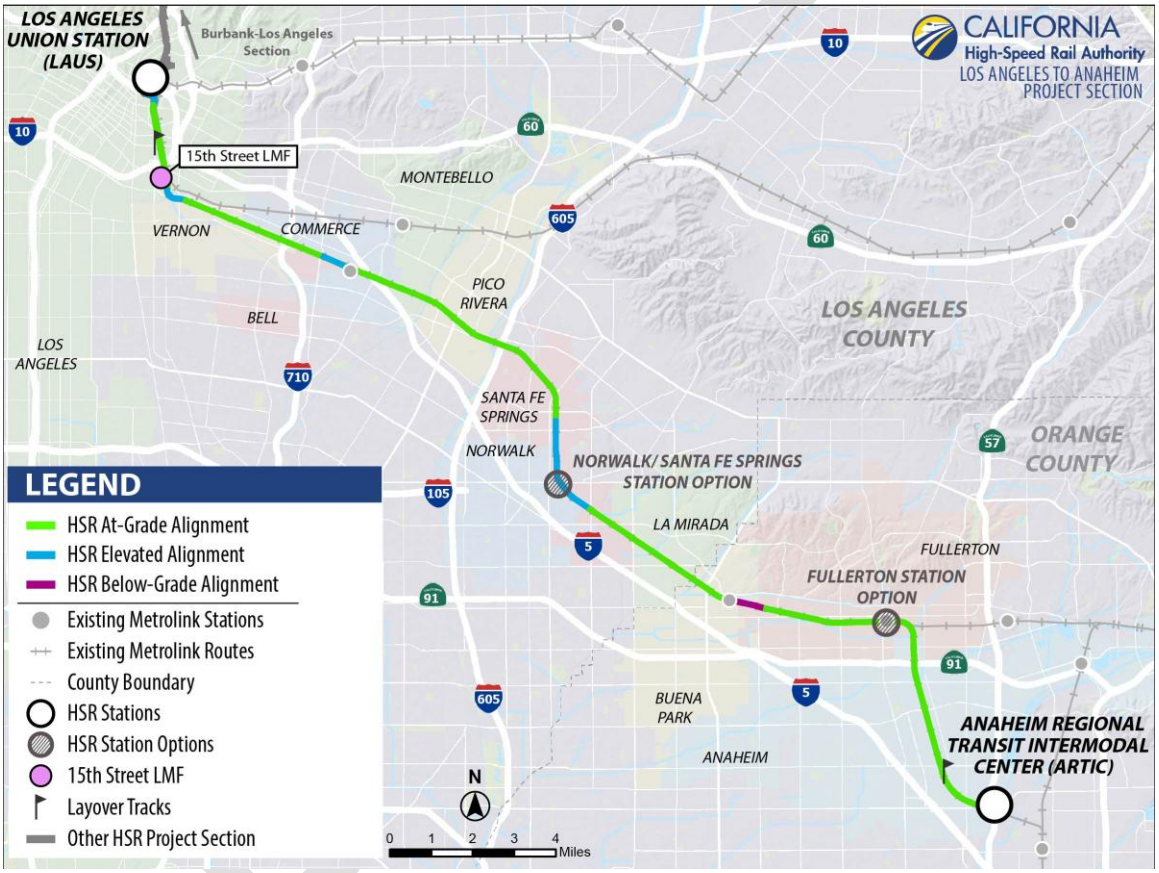
1. Los Angeles River
2. Hobart Channel*
3. Rio Hondo*
4. San Gabriel River*
5. North Fork Coyote Creek*
6. La Mirada Creek*
7. Coyote Creek*
8. Brea Creek*
9. Balcom Avenue Storm Drain*
10. Fullerton Creek
11. Carbon Creek

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4.2.2 Shared Passenger Track Alternative B

Shared Passenger Track Alternative B would follow the same alignment and share the same project features and operational assumptions as Shared Passenger Track Alternative A (refer to Figure 1), with the exception of the LMF location, which for Shared Passenger Track Alternative B would be at 15th Street in Los Angeles (Figure 5).

The 15th Street LMF would be in the city of Los Angeles between Olympic Boulevard and 15th Street, immediately adjacent to the existing Amtrak Eighth Street Yard. The 15th Street LMF would have an overall size of 52 acres and would include a six-track shop building able to accommodate 12 trainsets, along with an outdoor train yard with a storage capacity of 20 HSR trainsets. The 15th Street LMF would be a single-ended yard, which means that access to and from the mainline tracks is provided only from one side, at the northern end. Primary roadway access to the 15th Street LMF would be from Washington Boulevard and 15th Street.



Source: Authority 2025

Figure 5 Shared Passenger Track Alternative B

4.2.3 Intermediate Station Options

4.2.3.1 Norwalk/Santa Fe Springs

The prospective selection of the Norwalk/Santa Fe Springs HSR Station Option in conjunction with a Shared Passenger Track Alternative would entail several additional elements along with the station modifications described in Final EIS Section 2.6.3.5, Freight or Passenger Railroad Modifications.

The two tracks described in Final EIS Section 2.6.3.1, Alignment, would serve the modified Metrolink side platforms. Two more electrified passenger rail tracks would be added, for a total of

four tracks through the station. The two tracks added as part of the HSR station option would serve the HSR center platform in between the modified Metrolink side platforms. The HSR platform would be 1,000 feet long, capable of future extension to 1,410 feet.

The HSR station option would also require more parking to be added to serve HSR passengers. Parking and pick-up/drop-off for HSR and Norwalk/Santa Fe Springs Metrolink passengers would be combined within new surface parking lots. The intermediate station option at Norwalk/Santa Fe Springs would provide 640 more parking spaces compared to what Shared Passenger Track Alternative A or B would provide, for a total of 1,248 parking spaces. A new access road would be provided from Imperial Highway, along the eastern side of the site, to the Shoemaker Avenue/ Adler Drive intersection, with new signalized intersections.

4.2.3.2 Fullerton

The prospective selection of the Fullerton HSR Station Option in conjunction with a Shared Passenger Track Alternative would similarly entail several additional elements along with the station modifications described in Final EIS Section 2.6.3.5.

The overall track configuration would be the same as described in Final EIS Section 2.6.3.1, with two shared tracks on the southern side of the corridor and four BNSF tracks on the northern side, but implementation of the HSR station option would place the southernmost shared track slightly farther south to allow room for a center HSR platform. The HSR platform would extend approximately 1,000 feet west over Highland Avenue and would be built with a height of 48 inches above the top of rail to accommodate the HSR train boarding height. The height of the platform would require the shared tracks to be on retained fill, 10 feet high at the highest point, starting from approximately 1,600 feet west of Highland Avenue to approximately 600 feet east of Highland Avenue.

South of Walnut Avenue between Highland Avenue and Harbor Boulevard, the HSR station option would add HSR station buildings, a facility power substation, and a new multilevel parking structure that would provide a total of 570 HSR parking spaces. Similar to Shared Passenger Track Alternative A or B, the intersection of Highland Avenue and Walnut Avenue would need to be reconfigured to accommodate the southernmost track and new Highland Avenue railroad bridge. Additional improvements would be made along the northern side of Walnut Avenue, west of Harbor Boulevard, to provide transit stops and pedestrian crossings.

4.3 Description of the Selected Alternative

The Authority has identified Shared Passenger Track Alternative A as the Selected Alternative. The Selected Alternative would include approximately 30 miles of alignment and there would be two passenger trains per hour in each direction between Los Angeles and Anaheim during peak periods, and up to two trains during off-peak periods. The Selected Alternative would allow current and projected freight train volumes to be retained within the corridor.

The physical construction elements of the Selected Alternative would begin south of LAUS, at the northern edge of US 101. From this northern edge of US 101 to First Street, the Authority would build the OCS on the existing rail infrastructure to power HSR trains. The OCS north of US 101 was part of the Burbank to Los Angeles Project Section and was approved in January 2022. From First Street south to ARTIC, the Selected Alternative would include construction of the HSR project tracks and all other project infrastructure. Refer to Section 4.2.1, Shared Passenger Track Alternative A (Selected Alternative), and Figure 4 for further detail on the Selected Alternative (Shared Passenger Track Alternative A).

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4.4 Environmentally Preferable Alternative

In the ROD, the lead agency identifies the alternative or alternatives considered to be environmentally preferable (40 CFR Part 1505.2[6]). The Environmentally Preferable Alternative is Shared Passenger Track Alternative A inclusive of all the mitigation measures identified in the MMEP.

In determining an environmentally preferable alternative, the Authority considered Shared Passenger Track Alternatives A and B as well as the No Action Alternative. The Authority identified the Environmentally Preferable Alternative by balancing the adverse and beneficial impacts of the project alternatives on the natural environment.

The Authority determined that the adverse environmental effects associated with the Selected Alternative were less substantial than the environmental consequences associated with the No Action Alternative. While the No Action Alternative would not result in the construction-related impacts of either Shared Passenger Track Alternative, the No Action Alternative would not result in numerous environmental benefits, including regional reductions in automobile vehicle miles traveled, nor any associated reductions in mobile-source air pollutants (including greenhouse gases).

The Authority determined that the adverse environmental effects associated with the Selected Alternative were less substantial than the environmental consequences associated with Shared Passenger Track Alternative B, as further detailed below.

4.4.1 Construction Impacts

Shared Passenger Track Alternative B will generate 2,364 metric tons more of carbon dioxide equivalent emissions than the Selected Alternative. Shared Passenger Track Alternative B would also use 0.8 acre-feet per year more of water. Shared Passenger Track Alternative B would use 44,791 million British thermal units more than the Selected Alternative. Shared Passenger Track Alternative B would also have more permanent construction impacts on nesting birds (0.91 acre); Burrowing Owl (0.01 acre); Yellow Warbler (0.90 acre); Loggerhead Shrike (0.90 acre); White-Tailed Kite (0.90 acre); Mexican long-tonged bat, western red bat, and western yellow bat (0.90 acre); and mountain lion (0.91 acre). Shared Passenger Track Alternative B would disturb 939 acres, resulting in a greater area of temporary disturbance (48 acres) in floodplains than would be expected in the Selected Alternative.

The increase in disturbed area is associated with the proposed 15th Street LMF, which would be on a larger area (63.1 acres) than the 26th Street LMF (54 acres). In addition, the 15th Street LMF would require deeper excavation depths than the 26th Street LMF. More impervious surface would be built with Shared Passenger Track Alternative B. The likelihood of encountering known contaminated soils is higher for Shared Passenger Track Alternative B, so the volume of contaminated soils that may require disposal at hazardous waste or designated waste facilities would likely be higher under Shared Passenger Track Alternative B. However, Shared Passenger Track Alternative A involves more soil disturbance on the Exide property, which increases the potential severity of contaminated soil likely encountered. The likelihood of encountering hazardous materials through construction of the 15th Street LMF is minor to moderate, compared to the major likelihood of such outcomes through construction of the 26th Street LMF.

Adverse effects at the historic Olympic Boulevard Bridge under Shared Passenger Track Alternative B would be slightly more intense than those associated with the Selected Alternative because of the larger construction area associated with the 15th St LMF. Construction would

[6] The Council on Environmental Quality has withdrawn its 40 CFR Parts 1500–1508 regulations from the *Federal Register* (Interim Final Rule Rescinding NEPA Implementing Regulations, 90 *Federal Register* 10610 [February 25, 2025]). However, pursuant to the FRA's NEPA Procedures in effect at the time of the initial Notice of Intent on May 31, 2016, all citations to Council on Environmental Quality regulations in the environmental documents refer to the 1978 regulations and the 1986 amendment, 51 *Federal Register* 15618 (April 25, 1986). Citations to Council on Environmental Quality regulations are included in this document based on U.S. Department of Transportation NEPA implementing regulations, procedures, and guidance and not on the basis of any Council on Environmental Quality authority.

result in additional impacts on one historic built resource and one archaeological resource, and different effects on three of the historic built resources that are also affected by the Selected Alternative.

4.4.2 Operational Impacts

Compared to the Selected Alternative, operation of Shared Passenger Track Alternative B would require 345.5 acre-feet per year less than the current water usage for the land within the project footprint, but would require more water at the 15th Street LMF and ARTIC.

Based on the foregoing, the Authority identified the Selected Alternative as environmentally preferable.

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5 SUMMARY OF POTENTIAL EFFECTS

Construction and operation of the Selected Alternative has the potential to affect a variety of environmental and social resources. Impacts on these resources could be adverse or beneficial. A NEPA impact determination requires both context and intensity. Final EIS Chapter 3, Affected Environment, Environmental Consequences, and Mitigation Measures, and Chapter 16 include a full discussion of the project's potential impacts, organized by resource area. To fully understand the potential range of impacts of the Selected Alternative, the Final EIS analyzed all reasonably foreseeable environmental impacts resulting from project construction and operation.

Construction and operation of the Selected Alternative will not result in impacts in the resource/ topic areas listed below. In determining that the Selected Alternative will not result in impacts on these resources/in these topic areas, incorporation of IAMFs and best management practices and implementation of mitigation measures are presumed and will be required as part of project implementation as described further in Section 6, Mitigation Commitments and Monitoring, of this ROD. The Final EIS fully evaluates impacts on these resources; this ROD includes no further discussion on such impacts. Unless otherwise noted, neither construction nor operation would result in unavoidable adverse impacts in these resource areas.

- Transportation (beneficial impacts only)
- Noise and vibration
- Electromagnetic fields/electromagnetic interference
- Public utilities and energy
- Biological and aquatic resources
- Hydrology and water resources
- Geology, soils, seismicity, and paleontological resources
- Hazardous materials and wastes (operation only)
- Safety and security (operation only)
- Station planning, land use, and development
- Agricultural farmland and forest land
- Parks, recreation, and open space resources
- Cultural resources (operation only)
- Regional growth

The following sections summarize adverse or beneficial impacts, or both, that may occur with construction and operation of the Selected Alternative.

5.1 Air Quality and Global Climate Change

As discussed in Final EIS Section 3.3, Air Quality and Global Climate Change, construction emissions of nitrogen oxides generated in the South Coast Air Basin would exceed the general conformity *de minimis* level during construction years 2032 through 2034 even with incorporation of IAMFs. General conformity *de minimis* levels will not be exceeded for any of the other criteria pollutant.

Construction would result in criteria pollutant emissions, but these emissions would not degrade air quality because they would be either less than the General Conformity *de minimis* levels (carbon monoxide, sulfur dioxide, and particulate matter less than or equal to 10 and 2.5 microns in diameter) or will be offset through AQ-MM#1, Offset Project Construction Emissions in the SCAB through SCAQMD Emissions Offsets Program, to below the General Conformity *de minimis* levels (nitrogen oxides). With implementation of AQ-MM#2, Requirements for Use of Zero-Emission or Near-Zero-Emission Vehicles and Off-Road Equipment to Reduce Construction Emissions; and AQ-MM#3, Reduce the Potential Impact of Stationary Sources, construction emissions will be minimized. However, even with implementation of mitigation measures, the impact under NEPA would be adverse because the nitrogen oxides emission exceedances would delay the South Coast Air Quality Management District (SCAQMD) from achieving its attainment goals listed in the 2022 Air Quality Management Plan.

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Construction of the Selected Alternative will generate greenhouse gas emissions. However, these emissions will be temporary and will be offset from the emissions benefit that will occur during the operations period. As a result, the Selected Alternative will not result in global climate change impacts from greenhouse gas emissions. The Selected Alternative, as well as any of the other project alternatives, will avoid localized impacts from asbestos and lead-based paint exposure.

To reduce impacts on the environment, construction of the Selected Alternative will include project features to avoid and minimize impacts on air quality. Specifically, the Selected Alternative will employ measures to reduce fugitive dust emissions, use renewable diesel fuel in construction diesel equipment and on-road diesel trucks, and reduce criteria exhaust emissions from both on-road construction vehicles and heavy-duty off-road construction equipment. The Authority will require mitigation measures that will further minimize, compensate for, or both adverse effects of the Selected Alternative. These mitigation measures include additional on-site emissions controls to reduce fugitive dust and requirements for the use of zero-emission, near-zero emission, or both vehicles and off-road equipment. The Authority will enter into an agreement with SCAQMD to reduce nitrogen oxides to the required general conformity levels by acquiring emissions offsets.

An adverse operational effect cannot be ruled out associated with the project-related consolidation of storage/staging tracks near Hobart Yard. Rail activity levels on these tracks are not available. A future health risk assessment to be performed once more reliable information is available will determine whether the level of activity could expose people nearby to increased diesel emissions.

However, operation of the Selected Alternative would result in substantial beneficial impacts on regional air quality associated with anticipated mode shifts from automobile and air transportation to electric-powered HSR. Relative to the No Project Alternative, the Selected Alternative would result in the following approximate reductions in air pollutant emissions in horizon year 2040:

- -14 tons per year of reactive organic gases
- -1,625 tons per year of carbon monoxide
- -54 tons per year of nitrogen oxides
- -4.7 tons per year of sulfur oxides
- -195 tons per year of particulate matter less than or equal to 10 microns in diameter
- -56 tons per year of particulate matter less than or equal to 2.5 microns in diameter
- -601,639 metric tons per year (carbon dioxide equivalent) of greenhouse gas emissions

5.2 Hazardous Materials and Wastes

As discussed in Section 3.10, Hazardous Materials and Wastes, of the Final EIS, construction of the Selected Alternative on or near potential environmental sites of concern could expose workers, the public, or the environment to hazardous materials or wastes. There are two hazardous waste sites of special concern in the project section: the Exide Technologies property (a proposed Superfund site) and the Orange County North Basin site (a listed Superfund site). The Exide Technologies property at 2700 S Indiana Street in Vernon is within the boundaries of the 26th Street LMF location.

Groundwater beneath the Exide site is contaminated with trichloroethylene at concentrations exceeding USEPA's Maximum Contaminant Level and lead contamination in soils has been found in on-site acid pits as well as in residential neighborhoods around the site. The Orange County North Basin Superfund site features a contaminated groundwater plume originating from multiple sources in Orange County.

Construction on or near these sites could potentially cause a significant hazard to the public or the environment from a release of hazardous materials. As a mitigation measure, the Authority will be required to coordinate with the regulatory oversight agencies and the responsible parties for these sites on the design of the Selected Alternative, including the 26th Street LMF. Even with adherence to mitigation measures, the potential risk of accidental release of hazardous materials during construction would pose an adverse effect.

Construction of the Selected Alternative will involve the transport, storage, and use of hazardous substances or mixtures within 0.25 mile of schools, which could be a health or safety hazard to students or employees in the event of a release of hazardous materials or wastes. IAMFs include measures to reduce the potential for hazardous emissions within 0.25 mile of a school by implementing a spill prevention plan and hazardous materials and waste plan, a demolition plan, and a remediation plan. However, these IAMFs will not completely avoid the potential of a release. Implementation of mitigation measures will further limit the use of extremely hazardous materials within 0.25 mile of a school by requiring the contractor to prepare a memorandum establishing best management practices related to construction activity for approval by the Authority.

5.3 Safety and Security

As discussed in Section 3.11, Safety and Security, of the Final EIS, construction of the Selected Alternative on or near the two hazardous waste sites described above (Exide and Orange County North Basin) would, even with mitigation measures incorporated, result in potential exposure of people to hazardous materials.

Operation could result in delays to emergency response times. The project would retain eight existing at-grade crossings in Anaheim, leading to increased gate-down events, up to four per hour, because of added HSR train frequency. Although no new at-grade crossings would be introduced, the increased frequency of gate-down events could delay emergency response vehicles either by requiring them to wait at closed gates or detour to alternate routes. Mitigation measures would require the Authority to monitor response times at the start of HSR operations and coordinate with Anaheim Fire and Rescue to apply targeted improvements such as emergency signal preemption upgrades, real-time gate status alerts, and enhanced interagency dispatch protocols. With these measures, the impact would be reduced.

The positive train control and grade separations included as part of the Selected Alternative will also be beneficial to rail safety. Positive train control infrastructure to control train movements would improve operational railroad safety by reducing the probability of collisions between trains, casualties to roadway workers and damage to equipment, and over-speed accidents. Grade separations would make travel safer where roadways currently cross the railroad corridor at grade by eliminating the potential for train and automobile/bicycle/pedestrian conflicts that currently exists at grade crossings. In addition, travel delays would no longer be caused by passing trains or active grade-crossing safety equipment at grade-separated crossings.

5.4 Aesthetics and Visual Quality

As discussed in Section 3.16, Aesthetics and Visual Quality, of the Final EIS, during construction of the Selected Alternative, the addition of intrusion-protection railings to the four historic bridges (First Street Bridge, Fourth Street Bridge, Seventh Street Bridge, and Olympic Boulevard [Ninth Street] Bridge) will conflict with the visual character of these historic properties and create an impact on the scenic values of these visual and cultural resources. Even after implementation of mitigation measures, the residual visual impacts on the four historic bridges will remain adverse.

During project construction, intrusive nighttime lighting necessary for construction would occur, resulting in effects. Implementation of mitigation measures will reduce potentially invasive sources of light and glare associated with construction by requiring the contractor to prepare a technical memorandum verifying how nighttime construction lighting would be shielded and directed downward to minimize the light that falls outside the construction site boundaries.

Visual disturbance affecting viewers, visual character, and visual quality would result from operational activities of the Selected Alternative. Mitigation measures would require the Authority to incorporate design aesthetic preferences into final design and construction of nonstation structures and to incorporate design criteria for elevated guideways and station elements that can adapt to local context. Mitigation measures would also require the contractor to work with local jurisdictions to design structures that fit the local context. Prior to the commencement of HSR

operations, the Authority would provide landscape and other screening to obscure HSR infrastructure from viewers.

5.5 Cultural Resources

As discussed in Section 3.17, Cultural Resources, of the Final EIS, construction would result in five archaeological resources being affected in a manner that would be adverse under Section 106, resulting in an adverse effect under NEPA as a result of ground-disturbing activity. Although IAMFs are incorporated into the project, the potential for an adverse effect remains present for the five archaeological resources. CUL-MM#1, Mitigate Adverse Effects on Archaeological and Built-Environment Resources Identified During Phased Identification and Comply with the Stipulations Regarding the Treatment of Archaeological and Historic Built Resources in the Programmatic Agreement and Memorandum of Agreement; CUL-MM#2, Halt Work in the Event of an Archaeological Discovery and Comply with the Programmatic Agreement, Memorandum of Agreement, Archaeological Treatment Plan, and All State and Federal Laws, as Applicable; and CUL-MM#3, Other Mitigation for Effects on Precontact Archaeological Sites, will reduce impacts in accordance with their specified terms, which include data recovery or preservation in place, as appropriate, and would be implemented to address impacts on these five known and any unknown archaeological resources.

Construction may result in the discovery of previously undiscovered archaeological resources. If such resources are identified, found to be eligible, and cannot be avoided, significant effects on archaeological properties could occur. Construction also has the potential to damage previously unidentified archaeological resources that may not be identified through survey prior to construction. In unpaved areas, cultural resource inventories would be completed once legal access is secured. However, no inventory can ensure that all resources are identified.

Construction of the Selected Alternative will have an adverse effect on four historic built resources (First Street Bridge, Fourth Street Bridge, Seventh Street Bridge, and Olympic Boulevard [Ninth Street] Bridge) because of the proposed physical alterations necessary to add new intrusion-protection railing on the historic bridge decks above the HSR alignment to prevent people and objects from entering the right-of-way from the bridge. Even after implementation of mitigation measures, the impacts of these alterations would remain adverse.

5.6 Cumulative Impacts

As discussed in Section 3.19, Cumulative Impacts, of the Final EIS, construction of the Selected Alternative, in combination with other past, present, and reasonably foreseeable probable future actions or projects, will result in adverse cumulative impacts on the following resource areas:

- Air quality and global climate change
- Noise and vibration
- Cultural (historic built environment) resources

Operation of the Selected Alternative, in combination with other past, present, and reasonably foreseeable probably future actions or projects, will result in adverse cumulative impacts on the following resource areas:

- Air quality, transportation, noise, and public utilities during long-term operation of the Selected Alternative

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6 MITIGATION COMMITMENTS AND MONITORING

The Authority will supervise construction and require implementation of mitigation measures for the Selected Alternative. The Authority is responsible for ensuring that these commitments are met, and the Authority has a full oversight role for this project. It is also expected that other federal and state resource agencies will make frequent compliance reviews to ensure that all conditions of their respective permits are satisfied. All practicable means to avoid or minimize environmental harm caused by the Selected Alternative have been identified and incorporated as IAMFs. Further means to reduce, mitigate, or compensate for environmental impacts have been identified and included as mitigation measures in the MMEP (refer to Appendix A of this ROD). The Authority will monitor implementation of environmental commitments in the MMEP consistent with the NEPA Assignment MOU and with applicable regulations and guidance.

The MMEP describes mitigation measures that will avoid, minimize, or compensate for reasonably foreseeable environmental impacts that result from building and operating the project section. Pursuant to its responsibilities under the NEPA Assignment MOU, these measures were developed by the Authority in consultation with appropriate agencies, as well as through input received from the public. The Authority is required to comply with all mitigation measures adopted with the ROD.

The Selected Alternative incorporates IAMFs and best management practices that are identified in the Final EIS. The Authority identified these IAMFs and best management practices to avoid and minimize potential project impacts. The Authority will apply these IAMFs and best management practices to avoid impacts in several resource areas. In addition, various regulatory requirements (such as those related to hazardous material disposal and various mandatory safety requirements) provide additional assurance that adverse effects on the environment will not occur or will be minimized to the fullest extent practicable. The applicable regulatory requirements and IAMFs that are part of the Selected Alternative are described in more detail in the MMEP. The IAMFs are a condition of project approval and must be implemented by the Authority during design, construction, and operation of the Selected Alternative approved by this ROD.

All IAMFs and mitigation measures are included in the MMEP. The Authority is required to comply with all mitigation measures adopted with this ROD. The MMEP, as incorporated into this ROD, is a formal commitment by the Authority to carry out all of the measures identified therein as a condition of project approval. Therefore, in designing, building, and operating the Selected Alternative, the Authority is required to adhere to and provide appropriate funding for all IAMFs and mitigation measures contained in the MMEP.

The Authority will implement an Environmental Management System consisting of strategic planning, policies, and procedures; organizational structure; staffing and responsibilities; milestones; schedule; and resources devoted to achieving the Authority's environmental commitments. The Environmental Management System will also track implementation of environmental requirements and compliance reports. This system will rely on data from the design-build contractor, regional consultants, permitting activities, monitoring, inspections, and other compliance activities. This database will be managed by the Authority, and agency partners, including the FRA, will receive regular updates from meetings and reports that will demonstrate compliance activities and progress relevant to their regulatory requirements.

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7 SUMMARY OF COMMENTS RECEIVED BETWEEN OCTOBER 16, 2026, AND ISSUANCE OF THE FINAL ENVIRONMENTAL IMPACT STATEMENT AND RESPONSES

When a comment letter is received after the close of the public comment period, a NEPA lead agency does not have an obligation to respond (40 CFR Part 1503.4). However, a lead agency may, in its discretion, choose to respond. Consistent with that discretion, should the Authority receive comments between October 16, 2026, and the close of the October 29, 2026, Board meeting, and should the Board approve the project, the Authority will provide a summary of those comments and the Authority's response in Appendix G. Appendix G will be posted alongside final decision documents on the Authority's website.

In issuing the Final ROD, the Authority will consider whether the comments raise any new, significant information or circumstances that would require preparation of a supplemental EIS.

In issuing the Final ROD, the Authority will have considered all responsible and substantive comments received between October 16, 2026, and October 29, 2026, as well as the comments previously received on the Draft EIS.

8 DECISION

The Authority selects Shared Passenger Track Alternative A, as described in Final EIS Chapter 2, in this decision document as both the Environmentally Preferable Alternative as well as the Selected Alternative for the Los Angeles to Anaheim Project Section from the northern edge of US 101 to First Street, where the Authority would build the OCS on the existing rail infrastructure to power HSR trains, and from First Street south to ARTIC where the Authority would build the HSR project tracks and all other project infrastructure. In making this decision, the Authority concludes that among the alternatives considered, the Selected Alternative best fulfills the purpose and need and objectives for the project while balancing impacts on the natural and human environment.

In reaching this decision, the Authority considered the physical and operational characteristics and potential environmental consequences associated with all considered alternatives for the project section. In reaching this decision, the Authority, as lead agency, consulted with the cooperating agencies and considered the analysis of the No Project Alternative and Shared Passenger Track Alternatives A and B in the EIS Documents and all public and agency comments received. The federal cooperating agencies may issue their own decision documents, as appropriate, consistent with their statutory and regulatory responsibilities.

8.1 Section 106

Section 106 of the National Historic Preservation Act (16 U.S.C. 470f) requires that any federal agency having direct or indirect jurisdiction over a proposed federal or federally assisted undertaking take into account the effect of the undertaking on any district, site, building, structure, or other object that is listed or eligible for listing on the National Register of Historic Places. The FRA, State Historic Preservation Officer (SHPO), Authority, STB, and Advisory Council on Historic Preservation are signatories to the *Programmatic Agreement among the Federal Railroad Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California High-Speed Rail Authority Regarding Compliance with Section 106 of the National Historic Preservation Act, As It Pertains to the California High-Speed Train Project* effective 2011 and extended by a First Amendment in 2021 (Authority and FRA 2021) and a Second Amendment in July 2024 (Authority and FRA 2024).

In accordance with the Section 106 Programmatic Agreement, a memorandum of agreement (MOA) for the treatment of adverse effects on historic properties in the project section was executed by the SHPO and the Authority on September 24, 2026 (refer to Appendix C).

The MOA summarizes the results of the Section 106 process and the treatment measures for both aboveground and below-ground cultural resources. The following entities were invited to sign the MOA as concurring parties:

- The City of Fullerton Planning and Landmarks Commission
- The Fullerton Community Development Department
- Fullerton Heritage
- Gabrieleño Band of Mission Indians—Kizh Nation
- The Gabrielino/Tongva Nation
- The Juaneño Band of Mission Indians Acjachemen Nation – Belardes and 84A
- The Los Angeles Conservancy
- The Los Angeles City Historical Society
- The Los Angeles Department of City Planning, Office of Historic Resources

In accordance with Stipulation V.A of the Section 106 Programmatic Agreement, outreach and consultation were conducted with potentially interested parties, including the general public; historic preservation interest groups or individuals; and other federal, state, regional, or local agencies regarding effects on historic properties in Los Angeles and Orange Counties. As detailed in Final EIS Section 9.4.4, Section 106, National Historic Preservation Act, and Assembly Bill 52 Consultation, several responses from interested parties were received, including the California SHPO, which designated the FRA as lead federal agency for Section 106 on

September 2, 2015, and which designation was then assigned by the FRA to the Authority, pursuant to the NEPA Assignment MOU.

Notwithstanding the assignment, the FRA retained responsibility for conducting government-to-government consultation with federally recognized Native American tribes. The FRA initiated project-level government-to-government outreach in 2010 for the project section. Numerous tribes have since been provided information and updates about the project section and consulted to seek their input regarding concerns about effects on important tribal cultural resources. The Authority and FRA are engaged in ongoing meetings with the tribal consulting parties.

The assessment of adverse effects required under Section 106 was documented in the Finding of Effect and Finding of Effect Addendum 1. The SHPO approved the Finding of Effect on December 15, 2020 (refer to Appendix C). The SHPO approved the Finding of Effect Addendum 1 on October 8, 2025 (refer to Appendix C).

8.2 Section 4(f)

Projects that are undertaken by an operating administration of the U.S. Department of Transportation or that may receive federal funding, discretionary approvals, or both from such an operating administration must demonstrate compliance with Section 4(f) of the Department of Transportation Act of 1966. Section 4(f) protects publicly owned lands that are parks, recreational areas, and wildlife refuges. Section 4(f) also protects historic sites (including archaeological resources) of national, state, or local significance that are on public or private land.

Under the NEPA Assignment MOU, the Authority has been delegated the power to make determinations under Section 4(f). The NEPA Assignment MOU stipulates that the Authority must consult with the FRA prior to making any constructive use determination, but delegates all other Section 4(f) responsibilities to the Authority. As further detailed below, there is no constructive use determination associated with the project section.

As described in Final EIS Chapter 4, the Authority considered Section 4(f) properties throughout the planning and alternatives development and analysis processes to avoid and minimize impacts on such properties. During this process, the Selected Alternative was designed to avoid direct adverse effects on parks, recreation areas, and historic resources, such as additional impacts on the Olympic Boulevard Bridge that would have been associated with the proposed 15th Street LMF associated with Shared Passenger Track Alternative B. The Final EIS contains the Authority's evaluation of whether Shared Passenger Track Alternatives A and B would result in any of the following "uses" of properties protected under Section 4(f):

- Permanent use (which encompasses permanent easements or temporary easements that exceed the limits for temporary occupancy)
- Temporary occupancy
- Constructive use

Impacts were then evaluated to see if the criteria for a *de minimis* impact determination were met and appropriate coordination with officials having jurisdiction over each resource was conducted. A total of 70 Section 4(f) properties were identified as being within the resource study area (43 park and recreational facilities and 27 historic sites). Of the 70 properties evaluated, the Authority has determined that implementing the Selected Alternative will result in a permanent use of four historic properties that are also considered Section 4(f) properties:

- First Street Bridge
- Fourth Street Bridge
- Seventh Street Bridge
- Olympic Boulevard (Ninth Street) Bridge

The Authority has further determined that the Selected Alternative will have *de minimis* impacts on the Union Pacific Trail Phase II (a recreational resource) and Rio Hondo (a historic property).

Seven recreational resources (Rio Hondo River Trail, Rio Hondo River Bike Path, San Gabriel River Trail, San Gabriel River Bike Path, Coyote Creek North Fork Bikeway, Coyote Creek Main Branch Bikeway Extension, and Brea Creek Bastanchury Corridor) and one historic property (Hunt Foods and Industries Office and Library) would experience temporary occupancies as a result of project construction. However, these construction activities would not qualify as a use under Section 4(f) because they meet the criteria for a temporary occupancy exception under 23 CFR Part 774.13(d).

The Authority issued its draft Section 4(f) Evaluation in the Draft EIS, and the Authority included the final Section 4(f) Evaluation in the Final EIS. The analysis and information in the Section 4(f) Evaluation included in the Final EIS are incorporated herein by reference.

8.2.1 Measures to Minimize Harm/Mitigation

As set forth in Final EIS Table 4-6, the Authority developed measures to minimize harm to the First Street Bridge, Fourth Street Bridge, Seventh Street Bridge, and Olympic Boulevard (Ninth Street) Bridge during project construction to avoid or minimize impacts, as well as mitigation and enhancement measures to compensate for unavoidable project impacts. The measures identified in Final EIS Table 4-6 (herein incorporated by reference) that are applicable to the Selected Alternative are now incorporated into the Selected Alternative.

The Authority is continuing ongoing coordination, as appropriate, with the officials with jurisdiction over the Section 4(f) properties. During the Authority's consideration of its decision and during final design, the Authority, in consultation with the officials with jurisdiction, may identify and implement additional measures to further reduce potential impacts on the First Street Bridge, Fourth Street Bridge, Seventh Street Bridge, and Olympic Boulevard (Ninth Street) Bridge.

8.2.2 Section 4(f) Determination

Section 4(f) requires the selection of an alternative that avoids the use of a Section 4(f) property if that alternative is deemed feasible and prudent and the use does not qualify for a finding of *de minimis* impact. After making a Section 4(f) determination and identifying measures to minimize harm, if there is more than one alternative that results in the use of a Section 4(f) property, the Authority must also compare the alternatives to determine which alternative has the potential to cause the least overall harm in light of the preservationist purpose of the statute.

As described in Final EIS Chapter 4, the Authority has made a determination that the Selected Alternative would result in the permanent use of land that is adverse in terms of the Section 4(f) statute's preservation purpose and therefore a permanent use under Section 4(f) for the First Street Bridge, Fourth Street Bridge, Seventh Street Bridge, and Olympic Boulevard (Ninth Street) Bridge. As noted above, the Authority came to this determination after undertaking an evaluation to conclude that there are no feasible or prudent avoidance alternatives to the Selected Alternative, the Selected Alternative includes all possible planning to minimize harm to these Section 4(f) properties resulting from such use, and the Selected Alternative will cause the least overall harm in light of Section 4(f)'s preservation purpose.

As described in Final EIS Chapter 4, the Authority has made a *de minimis* determination under 49 U.S.C. 303(d) for one recreational resource, Union Pacific Trail Phase II, and one historic property, Rio Hondo. The City of Fullerton, the official with jurisdiction over Union Pacific Trail Phase II, concurred in writing with this determination on August 3, 2026 (refer to Appendix D).

The California SHPO, the official with jurisdiction over Rio Hondo, concurred in writing with the *de minimis* determination on September 28, 2026 (refer to Appendix D).

As described in Final EIS Chapter 4, the Authority has made a determination that seven recreational resources (Rio Hondo River Trail, Rio Hondo River Bike Path, San Gabriel River Trail, San Gabriel River Bike Path, Coyote Creek North Fork Bikeway, Coyote Creek Main Branch Bikeway Extension, and Brea Creek Bastanchury Corridor) and one historic property (Hunt Foods and Industries Office and Library) would experience temporary occupancies as a result of project construction. However, these construction activities would not qualify as a use under Section 4(f)

because they meet the criteria for a temporary occupancy exception under 23 CFR 774.13(d). The Authority is not proposing any constructive use findings for Section 4(f) properties for Shared Passenger Track Alternatives A and B.

- Concurrence from the Los Angeles County Department of Parks and Recreation, the official with jurisdiction over Rio Hondo River Trail and the San Gabriel River Trail, on the temporary occupancy determinations was received on September 23, 2026.
- Concurrence from the Los Angeles County Department of Public Works, the official with jurisdiction over the Rio Hondo River Bike Path, San Gabriel River Bike Path, and Coyote Creek North Fork Bikeway, on the temporary occupancy determinations was received on August 14, 2026.
- Concurrence from the County of Orange, the official with jurisdiction over the Coyote Creek Main Branch Bikeway Extension, on the temporary occupancy determination was received on October 8, 2026.
- Concurrence from the Orange County Department of Public Works, the official with jurisdiction over the Brea Creek Bastanchury Corridor along Brea Creek, on the temporary occupancy determination was received on July 22, 2026.
- Concurrence from the City of Buena Park, the official with jurisdiction over the Brea Creek Bastanchury Corridor along Dale Street, Artesia Boulevard, and Stanton Avenue, on the temporary occupancy determination was received on June 16, 2026.
- The California SHPO, the official with jurisdiction over Hunt Foods and Industries Office and Library, concurred in writing with the temporary occupancy determination on September 28, 2026.

8.3 Section 6(f) Determination

There are two Section 6(f) properties within the RSA: (1) the Santa Ana River Trail and Parkway and (2) River Park. The Selected Alternative will not result in either Section 6(f) resource being converted to nonrecreational uses. All of the project improvements and proposed work would be completed outside both resource boundaries. In addition, the trail and park would remain open during construction, and no access impacts would result from the project. Therefore, the Selected Alternative will not convert in whole or in part the Santa Ana River Trail and Parkway and River Park to a use other than public outdoor recreation.

8.4 General Conformity Determination

As part of the environmental review of the project section, the Authority conducted and the FRA approved a general conformity evaluation for air quality consistent with 40 CFR Part 93, Subpart B. The Authority conducted the general conformity evaluation consistent with all regulatory criteria and procedures and in coordination with USEPA, SCAQMD, and the California Air Resources Board. As a result of this review, the FRA concluded, based on the fact that project-generated emissions will either be offset (for the construction phase) or will be less than zero (for the operational phase), that the project's emissions can be accommodated in the State Implementation Plan for the South Coast Air Basin. The FRA has determined that the project as designed will conform to the approved State Implementation Plan, based on the following factors:

- The Authority commits that construction-phase nitrogen oxide emissions will be offset consistent with the applicable federal regulations in the SCAQMD by entering into a contractual agreement with SCAQMD to offset, as necessary, any criteria air pollutant emission exceedances resulting from the project. An agreement will be executed prior to the start of construction to conform with 40 CFR Part 93.158(a).
- SCAQMD will seek and implement the necessary emission-reduction measures, using Authority funds.

- SCAQMD will serve in the role of administrator of the emission-reduction projects and verifier of the successful mitigation effort.

Therefore, the FRA has concluded that the project, as designed, conforms to the purpose of the approved State Implementation Plan and is consistent with all applicable requirements. The FRA confirmed completion of the Final General Conformity Determination on October 7, 2026 (refer to Appendix E).

8.5 Section 7 Endangered Species Findings

The proposed action (construction and operation of the Selected Alternative) is in compliance with Section 7 of the FESA.

Nine federally listed plant species and 11 wildlife species were evaluated for their potential to occur within 3 miles of the action area. An additional three wildlife species are federal candidate species for listing. No federally listed species or designated critical habitat are present in the action area.

In accordance with Section 7 (16 U.S.C. 1536) and the implementing regulations of the FESA, effects on federally listed species were evaluated according to legal requirements and the Authority has made a finding of no effect for federally listed species. There would be no impact on designated or proposed critical habitat for any federally listed species. No formal consultation with USFWS or NOAA Fisheries is required for the proposed action.

Because the Selected Alternative will not encounter marine or anadromous fish habitat within the project footprint, the Selected Alternative will not adversely affect any marine or anadromous fish habitat. There is no Essential Fish Habitat in the Selected Alternative footprint. Therefore, the Authority was not required to consult with NOAA Fisheries under the Magnuson-Stevens Fishery Conservation and Management Act.

8.6 Wetlands Finding

In addition to NEPA and other environmental laws, the federal lead agency is required to make findings pursuant to USEO 11990, Protection of Wetlands, and the U.S. Department of Transportation Wetlands Order, Department of Transportation Order 5660.1A.

Aquatic resources in the project vicinity include wetlands in the San Gabriel River and nonwetland waters in the Los Angeles River, Rio Hondo, Rio Hondo Spreading Grounds, San Gabriel River, North Fork Coyote Creek, Milan Creek, La Mirada Creek, Coyote Creek, Lakeside Residential Community Pond, Fullerton Creek, Raymond Retarding Basin northwest, Carbon Creek, Raymond Retarding Basin southeast, Brea Creek, and the Santa Ana River. The vast majority of these features are concrete-lined, unvegetated channels. All of these features are regularly maintained for flood control capacity. USACE issued a Preliminary Jurisdictional Determination confirming the extent of mapped jurisdictional waters of the U.S. within the project section in July 2018. The project will require authorization under Section 404 of the Clean Water Act.

Construction of the Selected Alternative will have direct and indirect impacts on wetland and nonwetland aquatic resources, although the Authority has taken all feasible and practicable steps to avoid and minimize impacts on such resources. Construction activities and features that would result in permanent impacts on aquatic resources include modification of watercourse and waterbody crossings, and construction and modification of stormwater drainage facilities and access roads. The effects of these activities on aquatic functions and services include permanent direct and indirect effects on substrate and vegetation; currents, circulation, and drainage patterns; and water quality.

Permanent direct and temporary direct impacts on wetlands will be 0.01 acre and 0.29 acre, respectively, and are restricted to the San Gabriel River. Permanent direct and temporary direct impacts on nonwetland waters will be 0.09 acre and 1.23 acres, respectively. Incorporation of IAMFs and implementation of mitigation measures would reduce and offset temporary and permanent effects on these resources during construction. Accordingly, the Selected Alternative

is expected to qualify for authorization under the USACE Nationwide Permit program, specifically Nationwide Permit 14, Linear Transportation Projects.

During operation, wetlands and other aquatic resources may be subjected to indirect operational and maintenance impacts, including increased dust and the spread or introduction of nonnative plant species. However, the Selected Alternative will not be likely to alter existing conditions affecting wetlands or other aquatic resources. All practicable measures to minimize harm to wetlands have been incorporated into the project.

Based on USACE findings and the Authority's evaluation, the Authority determines that the project is consistent with USEO 11990 and Department of Transportation Order 5660.1A.

8.7 Floodplains Finding

Department of Transportation Order 5620.2 implements USEO 11988, Floodplain Management. These orders state that the federal lead agency may not approve an alternative involving a significant encroachment on floodplains unless the agency can make a finding that the proposed encroachment is the only practicable alternative. The major purposes of USEO 11988 are to avoid federal support for floodplain development; to prevent uneconomic, hazardous, or incompatible use of floodplains; to restore and preserve the natural and beneficial floodplain values; and to be consistent with the standards and criteria of the National Floodplain Insurance Program.

Construction of the Selected Alternative will place new structures within the 100-year floodplain, which would permanently alter floodplain elevations. To avoid impacts related to flooding, the Federal Emergency Management Agency and the local agencies require that an encroachment into a floodplain not increase the water surface elevation of a 100-year flood by more than 1 foot in Federal Emergency Management Agency–mapped floodplains. However, if there is a Federal Emergency Management Agency–designated "regulatory floodway," no increase in water surface elevation is permitted.

With incorporation of IAMFs, which require flood protection measures that minimize effects on 100-year floodplain water surface elevations, as well as compliance with the requirements set forth in USEO 11988 and Federal Emergency Management Agency regulations, no permanent effects on designated floodplains from construction would occur.

As indicated in Final EIS Section 3.8, Hydrology and Water Resources, the federal lead agency under the NEPA Assignment MOU, the Authority concludes that the Selected Alternative will not result in any substantial adverse impacts on natural and beneficial values of the floodplains, will not result in a substantial change in flood risks or damage, and would not have substantial potential for interruption or termination of emergency service and evacuation routes. Design of the Selected Alternative includes effective measures to avoid or minimize the potential for exposure of HSR passengers and employees to flooding, and new or additional exposure to flooding risks and hazards from the failure of a levee or dam would not occur. Based on these findings, the Authority determines that the project is consistent with requirements of USEO 11988.

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9 CONCLUSION

The Authority, as the federal lead agency, and as authorized by the NEPA Assignment MOU, has reached a decision that most closely aligns with its statutory mission and the responsibilities assigned to it by the FRA pursuant to NEPA Assignment, considering economic, environmental, technical, and other factors and based on the information contained in the Final EIS and the project record.

For the Los Angeles to Anaheim Project Section, the Authority approves Shared Passenger Track Alternative A as the Selected Alternative, with specific limits for OCS-only construction from the northern edge of US 101 to First Street in Los Angeles and with specific limits for rail infrastructure construction from First Street south to ARTIC in Anaheim.

The Authority has selected this alternative because it: (1) best satisfies the purpose, need, and objectives for the proposed action; and (2) minimizes impacts on the natural and human environment by using an existing transportation corridor where practicable and implementing mitigation measures. Accordingly, the Selected Alternative, with specific limits for OCS-only construction from the northern edge of US 101 to First Street in Los Angeles and with specific limits for rail infrastructure construction from First Street south to ARTIC in Anaheim, has been selected and approved for project implementation.

_____ _____

Ian Choudri
Chief Executive Officer
California High-Speed Rail Authority

Date

10 REFERENCES

California High-Speed Rail Authority (Authority). 2021. *Burbank to Los Angeles Project Section Final Environmental Impact Report/Environmental Impact Statement*. September. https://hsr.ca.gov/program-areas/environmental-planning/environmental-documents/project-section-environmental-documents-tier-2/burbank-to-los-angeles-project-section-draft-environmental-impact-report-environmental-impact-statement/ (accessed September 2026).

———. 2023. *California High-Speed Train Project Anaheim to Los Angeles Section Supplemental Alternatives Analysis Report.* November. https://hsr.ca.gov/wp-content/uploads/2023/11/231025-LA-A-SAA-Final-Version11-clean-A11Y.pdf (accessed December 2023).

———. 2024a. California High-Speed Rail Authority Resolution #HSRA 24-06. Staff Recommended Preferred Alternative for the Los Angeles to Anaheim Project Section Draft Environmental Impact Report/Environmental Impact Statement. May. https://hsr.ca.gov/wp-content/uploads/2024/05/Final-Board-Resolution-LAA-Shared-Passenger-Track-Alternative-May2024-PA-A11Y.pdf.

———. 2024b. California High-Speed Rail Authority Briefing: May 16, 2024, Board Meeting Agenda Item #2. https://hsr.ca.gov/wp-content/uploads/2024/05/20240516-Agenda-Item-2-Board-Memo-LAA-Shared-Passenger-Track-Alternative-PA-A11Y.pdf.

———. 2025. *Los Angeles to Anaheim Project Section Draft Preliminary Engineering for Project Definition Design*.

———. 2026. *2026 Business Plan*. Approved June 1, 2026. https://hsr.ca.gov/wp-content/uploads/2026/06/2026-Final-Business-Plan-060126-A11Y.pdf.

California High-Speed Rail Authority and Federal Railroad Administration (Authority and FRA). 2005. *Final Program Environmental Impact Report/Environmental Impact Statement for the Proposed California High-Speed Train System*. Sacramento, CA and Washington, DC. August. https://hsr.ca.gov/programs/environmental-planning/program-eir-eis-documents-for-the-statewide-high-speed-rail-system-tier-1/final-program-environmental-impact-report-environmental-impact-statement-eir-eis-for-the-proposed-california-high-speed-train-system-2005/.

———. 2009a. *California High Speed Train Draft Scoping Report for the Anaheim to Los Angeles High-Speed Train Project EIR/EIS.* www.hsr.ca.gov/docs/programs/statewide_rail/proj_sections/LA_Anaheim/LA_to_Orange_County_Draft_Scoping_Report_11_2_09.pdf (accessed July 2018).

———. 2009b. *California High-Speed Train Project Anaheim to Los Angeles Section Alternatives Analysis Report.* April 13, 2009. www.hsr.ca.gov/docs/programs/statewide_rail/proj_sections/LA_Anaheim/LA_to_Orange_County_Anaheim_to_LA_AA_Report.pdf (accessed January 2018).

———. 2010. *Los Angeles to Anaheim Supplemental Alternatives Analysis Report*.

———. 2016. *Los Angeles to Anaheim Project Section Supplemental Alternatives Analysis Report*. April. www.cahighspeedrail.ca.gov/docs/brdmeetings/2016/brdmtg_041216_Item9_ATTACHMENT_LA_to_Anaheim_Supplemental_Alternatives_Analysis.pdf (accessed December 2016).

———. 2017. California High-Speed Rail, Los Angeles to Anaheim Section, Notice Regarding Applicability of MOU Integration Process. October 26. CHSRA-EPA-06662.

———. 2021. *First Amendment to the Programmatic Agreement among the Federal Railroad Administration, the Advisory Council On Historic Preservation, the California State Historic Preservation Officer, and the California High-Speed Rail Authority Regarding Compliance with Section 106 of the National Historic Preservation Act, as It Pertains to the California High-Speed Train Project.*

———. 2024. *Second Amendment to the Programmatic Agreement among the Federal Railroad Administration, the Advisory Council On Historic Preservation, the California State Historic Preservation Officer, and the California High-Speed Rail Authority Regarding Compliance with Section 106 of the National Historic Preservation Act, as It Pertains to the California High-Speed Train Project*.

Federal Railroad Administration and State of California. 2019. *Memorandum of Understanding between the Federal Railroad Administration and the State of California, acting through its California State Transportation Agency and its California High-Speed Rail Authority, for the State of California's participation in the Surface Transportation Project Delivery Program Pursuant to 23 U.S.C. 327*. July 23, 2019. https://hsr.ca.gov/wp-content/uploads/2026/04/HSR-NEPA-Assignment-MOU_7.19.pdf.

———. 2024. *Memorandum of Understanding between the Federal Railroad Administration and the State of California, acting through its California State Transportation Agency and its California High-Speed Rail Authority, for the State of California's participation in the Surface Transportation Project Delivery Program Pursuant to 23 U.S.C. 327*. July 22, 2024. https://hsr.ca.gov/wp-content/uploads/2026/04/HSR-NEPA-Assignment-MOU-Renewal_7.24.pdf.

Los Angeles County Metropolitan Transportation Authority (Metro). 2026. *Link Union Station Combined Final Environmental Impact Statement/Record of Decision.* January. Volume IV: Record of Decision. https://www.linkunionstation.com/docs/20260311/Volume_IV_Record_of_Decision.pdf (accessed October 2026).

U.S. Army Corps of Engineers (USACE). 2012. Letter of agreement regarding Purpose and Need statement for the Los Angeles to Anaheim Project Section. July 26.

———. 2026. Concurrence and preliminary recommendation regarding Checkpoint C Section 408 Request for Preliminary Recommendation report and appendices for the proposed California High-Speed Rail Program, Los Angeles to Anaheim Project Section. September 10.

U.S. Department of Transportation, Federal Railroad Administration, California High-Speed Rail Authority, U.S. Environmental Protection Agency, and U.S. Army Corps of Engineers. 2010. Memorandum of Understanding among: United States Department of Transportation, Federal Railroad Administration, California High-Speed Rail Authority, United States Environmental Protection Agency, and United States Army Corps of Engineers: Integration Process for the California High-Speed Train Program. December 2010. https://hsr.ca.gov/wp-content/uploads/docs/programs/eir_memos/Proj_Guidelines_NEPA404_408MOU.pdf.

U.S. Environmental Protection Agency (USEPA). 2012. Agreement on Purpose and Need for California High-Speed Rail Project Bakersfield to Palmdale, Palmdale to Los Angeles, Los Angeles to Anaheim Sections. July 2.

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APPENDIX A: MITIGATION MONITORING AND ENFORCEMENT PLAN

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California High-Speed Rail Authority

Los Angeles to Anaheim Project Section

Mitigation Monitoring and Enforcement Plan

October 2026



CALIFORNIA High-Speed Rail Authority

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being or have been carried out by the State of California pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated July 22, 2024, and executed by the Federal Railroad Administration and the State of California.

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1 INTRODUCTION

The California High-Speed Rail Authority (Authority), as the state lead agency and as the federal lead agency pursuant to the National Environmental Policy Act (NEPA) Assignment Memorandum of Understanding (MOU) effective July 23, 2019 (renewed July 22, 2024), issued a Final Environmental Impact Report (EIR)/Proposed Final Environmental Impact Statement (EIS) for the Los Angeles to Anaheim Project Section (project section) of the California High-Speed Rail (HSR) System (Authority 2026).[1] The Final EIR satisfies the requirements of the California Environmental Quality Act (CEQA) and is the basis for the Authority's CEQA decision. The Combined Final EIS/Record of Decision (ROD) satisfies the requirements of NEPA and documents the Authority's NEPA decision. In the Authority Board of Directors' Resolution and Record of Decision, the Authority selected the Preferred Alternative (Shared Passenger Track Alternative A, which includes the 26th Street light maintenance facility and no optional intermediate stations).

This Mitigation Monitoring and Enforcement Plan (MMEP)[2] has been prepared for the Preferred Alternative. Table 1 describes mitigation measures from the project section Final EIR and Combined Final EIS/ROD that would mitigate the adverse environmental impacts of the Preferred Alternative. These mitigation measures were developed by the Authority in consultation with appropriate agencies, as well as with input from the public, to meet the requirements of CEQA and NEPA.

The Preferred Alternative incorporates impact avoidance and minimization features (IAMF), which include, but are not limited to, best management practices and are described in detail in the Final EIR/EIS, Appendix 2-A, Impact Avoidance and Minimization Features, as well as the technical reports that support the Final EIR/EIS. The IAMFs are considered to be part of the project and will be incorporated into the project design, construction, and operation of the Preferred Alternative. As a result of applying these IAMFs, the Preferred Alternative will avoid or minimize potential adverse environmental impacts in several resource areas, including transportation; electromagnetic fields and electromagnetic interference; public utilities and energy; biological and aquatic resources; hydrology and water resources; geology, soils, seismicity, and paleontological resources; socioeconomics and communities; station planning, land use, and development; and parks, recreation, and open space. Cooperating agencies that are part of the NEPA review process include the U.S. Army Corps of Engineers and Surface Transportation Board. Responsible agencies in California under CEQA include the following:

- California Department of Fish and Wildlife
- California Department of Transportation
- California Public Utilities Commission
- State Water Resources Control Board
- South Coast Air Quality Management District
- Department of Toxic Substances Control
- Los Angeles County Metropolitan Transportation Authority
- Los Angeles County Flood Control District
- Orange County Flood Control District
- Orange County Transportation Authority
- Riverside County Transportation Commission
- Southern California Regional Rail Authority

[1] To evaluate the potential impacts and effects of the project section, the Authority prepared a Draft EIR/EIS, which is a CEQA/NEPA joint document, for which the Authority was the CEQA and NEPA lead agency. Under both CEQA and NEPA, the Authority issued the Draft EIR/EIS for public comment on December 5, 2025. The comment period closed on February 3, 2026. To prepare a final environmental document, the Authority made the decision to split the CEQA and NEPA approvals.

[2] The MMEP is consistent with CEQA requirements for mitigation monitoring as set forth in Section 15097 and Section 15091, subdivision (d) of the State CEQA Guidelines (14 California Code of Regulations, Division 6, Chapter 3). Where mitigation is for NEPA purposes only or CEQA purposes only, it is identified accordingly.

The project IAMFs and compliance with regulatory requirements are conditions of project approval and must be incorporated by the Authority during the design, construction, and operation of the Preferred Alternative. The IAMFs that are part of the Preferred Alternative are listed in Table 2 of this document. They are described in more detail in Appendix 2-A to the Final EIR and Combined Final EIS/ROD.

Key legal requirements to which the Preferred Alternative is subject are detailed for each of the following resource areas in the following sections of the Final EIR/EIS, Chapter 3:

- Transportation: Sections 3.2.6 and 3.2.7
- Air Quality and Global Climate Change: Sections 3.3.6 and 3.3.7
- Noise and Vibration: Sections 3.4.6 and 3.4.7
- Electromagnetic Fields and Electromagnetic Interference: Sections 3.5.6 and 3.5.7
- Public Utilities and Energy: Sections 3.6.6 and 3.6.7
- Biological and Aquatic Resources: Sections 3.7.6 and 3.7.7
- Hydrology and Water Resources: Sections 3.8.6 and 3.8.7
- Geology, Soils, Seismicity, and Paleontological Resources: Sections 3.9.6 and 3.9.7
- Hazardous Materials and Wastes: Sections 3.10.6 and 3.10.7
- Safety and Security: Sections 3.11.6 and 3.11.7
- Socioeconomics and Communities: Sections 3.12.6 and 3.12.7
- Station Planning, Land Use, and Development: Sections 3.13.6 and 3.13.7
- Agricultural Farmland and Forest Land: Sections 3.14.5 and 3.14.6
- Parks, Recreation, and Open Space: Sections 3.15.6 and 3.15.7
- Aesthetics and Visual Quality: Sections 3.16.6 and 3.16.7
- Cultural Resources: Sections 3.17.7 and 3.17.8
- Regional Growth: Sections 3.18.6 and 3.18.7
- Cumulative Impacts: Sections 3.19.4 and 3.19.5
- Section 4(f) and Section 6(f) Evaluations: Sections 4.6 and 4.8
- Community Analysis: Sections 5.6 and 5.8

The MMEP adheres to the Federal Railroad Administration's *Procedures for Considering Environmental Impacts* (64 *Federal Register* 28545, May 26, 1999) and was prepared based on the Council on Environmental Quality's finalized guidance titled *Appropriate Use of Mitigation and Monitoring and Clarifying the Appropriate Use of Mitigated Findings of No Significant Impact* (January 14, 2011). The Council on Environmental Quality guidance assists NEPA lead agencies in developing mitigation programs that provide effective documentation, implementation, and monitoring of mitigation commitments.

2 MITIGATION MONITORING AND ENFORCEMENT PLAN

The environmental effects of the Preferred Alternative would result in impacts considered significant under CEQA and in effects considered adverse under NEPA. Mitigation measures that will reduce or eliminate potential adverse environmental impacts are described in Chapter 3 of the Final EIR and Combined Final EIS/ROD. The specific provisions contained in this MMEP are presented in Table 1 and include mitigation measures identified in the Final EIR and Combined Final EIS/ROD, organized by environmental issue and topical areas addressed in the Final EIR and Combined Final EIS/ROD. As discussed above, Table 2 presents the IAMFs incorporated by the Preferred Alternative. This MMEP describes implementation and monitoring procedural guidance, responsibilities, and timing for each mitigation measure identified in the Final EIR and Combined Final EIS/ROD. Components include:

- **Mitigation Measure/Title/Text:** These separate columns each provide the number, title, and text of the mitigation measures, as identified in the Final EIR and Combined Final EIS/ROD.
- **Phase:** Provides the phase during which the mitigation measure will be implemented (preconstruction, during construction, post-construction, or during operation).
- **Implementation Action/Text/Mechanism:** Each column identifies the actions required to implement the measures, including any required agreements and conditions.
- **Reporting Schedule:** Identifies the stage of the project and the frequency that reporting is to occur, if reporting is required.
- **Implementing Party/Reporting Party:** Except as noted, each column identifies the entity that will be responsible for directly implementing the mitigation measures, monitoring, and reporting. Implementation can be the responsibility of the Authority or its construction contractor or operating contractor. Monitoring will generally be the responsibility of the contractor, with oversight provided by the Authority during construction. Long-term mitigation monitoring responsibilities will be the responsibility of the Authority. If an operating contractor is retained, long-term mitigation and monitoring responsibilities transfer to the operating contractor, with oversight responsibility by the Authority.
- **Impact Number and Impact Text:** Provides the impact number and description of the impact requiring mitigation as identified in the Final EIR and Combined Final EIS/ROD.

2.1 Roles and Responsibilities

As the lead agency and proponent of this project, the Authority will implement the mitigation measures through its own actions, those of its contractor, and actions taken in cooperation with other agencies and entities. The Authority is ultimately accountable for the overall administration of the MMEP and for assisting relevant individuals and parties in their oversight and reporting responsibilities. The responsibilities of mitigation implementation, monitoring, and reporting extend to several entities as discussed above; however, the Authority will bear the primary responsibility for verifying that the mitigation measures are implemented. The Authority defines the mitigation measures required for the project. When project work is undertaken by the Authority's contractor, the contractor will implement the mitigation measures that are pertinent to its scope of work. The contractor will monitor construction activities to ensure that the mitigation measures are being properly implemented and accurately report their activity and results to the Authority. The Authority will periodically check the contractor's activity and reports, as well as the effectiveness of the mitigation activities.

- **Authority:** Although the Authority retains responsibility for implementation of and reporting on mitigation measures and IAMFs as specified in this MMEP, activities may be carried out by an Authority representative or an Authority-approved contractor. Authority responsibilities may also include certain measures outside of the scope of the contractor, such as future studies or operations-phase implementation. In addition, oversight of implementation and reporting may be provided by the Authority's contractor or representatives as lead agency

representatives to facilitate regulatory oversight agency coordination and compliance during implementation and reporting.

- **Contractor:** The contractor(s) (or the environmental team provided by the contractor) will be responsible for implementing or monitoring mitigation measures and IAMFs as specified in this MMEP. These responsibilities would be applicable to the construction contractor, design/build contractor, and operating contractor.
- **Contractor Community Liaison(s):** The contractor community liaison(s) (or the environmental team provided by the Authority) will be responsible for facilitating the communication and collaboration of the contractor(s) with the community ombudsperson.
- **Mitigation Manager:** The contractor's representative responsible for overseeing its environmental team's implementation and reporting of environmental commitments will be responsible for reporting the status of each mitigation measure to the Authority in accordance with this MMEP.
- **Project Biologist(s):** The project biologist will be approved and appointed by the Authority. The project biologist will oversee implementation of the MMEP and compliance assurance.
- **Biological Monitor(s):** The contractor-provided biological monitor(s) will be approved by and report directly to the contractor's biologist. The biological monitor(s) will be present on site within a reasonable monitoring distance during all ground-disturbing activities that have the potential to affect biological resources, as directed by the project biologist, and will be the principal agent(s) in the direct implementation of the MMEP and compliance assurance.
- **Cultural Resources Compliance Manager/Principal Investigator:** This position must be an archaeologist who meets the relevant Secretary of the Interior's qualifications for an archaeologist. The cultural resources compliance manager/principal investigator is responsible for implementing mitigation measures in compliance with the terms and conditions outlined in the MMEP and treatment plans and coordinating the status of archaeological mitigation with the Authority in accordance with this MMEP, the Authority's Section 106 Programmatic Agreement, and the Los Angeles to Anaheim Project Section Memorandum of Agreement.
- **Paleontological Resources Specialist:** The contractor-provided paleontological resources specialist is responsible for implementing mitigation measures in compliance with the terms and conditions outlined in the MMEP, including preparation of the paleontological resources management plan and approval and direction of the paleontological resource monitor(s).
- **Paleontological Resources Monitor(s):** The contractor-provided paleontological resources monitor(s) will be approved by and report directly to the paleontological resources specialist. The paleontological resources monitor(s) will be present on site within a reasonable monitoring distance during ground-disturbing activities in areas indicated as resource sensitive and will be the principal agent(s) in the direct implementation of the MMEP and compliance assurance as directed by the paleontological resources specialist.
- **Community Ombudsperson:** The Authority-provided community ombudsperson position will address the needs of communities. The community ombudsperson will provide a point of contact for communities with minority populations and low-income populations to provide feedback on project impacts. The community ombudsperson will have the authority to stop work if necessary. The community ombudsperson's responsibilities will also include obtaining community-specific feedback on plans not typically reviewed by the general public to minimize adverse effects on populations.

3 ENVIRONMENTAL MITIGATION MANAGEMENT AND ASSESSMENT SYSTEM

The Authority will implement an Environmental Mitigation Management and Assessment system consisting of strategic planning, policies, and procedures; organizational structure; staffing and responsibilities; milestones; schedule; and resources devoted to achieving the Authority's environmental commitments. The Environmental Mitigation Management and Assessment will also include a component that tracks implementation of mitigation measures (as well as environmental commitments, best management practices, and IAMFs) and can produce reports on compliance. The Authority staff will receive periodic reports on compliance and may request additional reports, as necessary, to ensure that the MMEP is fully implemented. This system will rely on data provided by the contractor, its consultants, and others to produce status reports regarding construction status, permitting activities, monitoring, inspections, and other compliance activities.

Table 1 Los Angeles to Anaheim Project Section Mitigation Monitoring and Enforcement Plan

Mitigation Measure	Title	Mitigation Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
Transportation										
TRAN-MM#1	Modify Traffic Signal Controls	*[The following improvements are available for consideration to address traffic delay impacts under NEPA. No mitigation is required under CEQA.]* TRAN-MM#1 will be implemented prior to construction of HSR and will modify traffic signal phasing sequence to improve operations at signalized intersections during construction and operation of HSR. If implemented, TRAN-MM#1 would reduce adverse effects at all the affected intersections discussed in Section 3.2.6.3, Project Impacts, and would reduce impacts to completely below the impact threshold for the following intersections: ▪ G44 East Street and Lincoln Avenue (Shared Passenger Track Alternatives A and B, inclusion of Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option): – Add northbound left-turn and southbound left-turn protected phases – Add southbound right-turn overlap phase – Add westbound right-turn overlap phase – Add eastbound right-turn overlap phase ▪ F26 Lemon Street and Orangethorpe Avenue (Shared Passenger Track Alternatives A and B, inclusion of Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option): – Add southbound right-turn overlap phase – Add westbound right-turn overlap phase – Add eastbound right-turn overlap phase	Preconstruction	Design	Prior to final design	Authority/ contractor	Authority/ contractor	Intersection improvements to address traffic delay impacts	MOU with cities, as necessary/contract with contractor	Impact TR-2: Permanent Impacts on Signalized Intersections from Construction of Permanent Roadway Modifications Impact TR-10: Continuous Permanent Impacts on Signalized Intersections During Operations
TRAN-MM#2	Restripe Intersections	*[The following improvements are available for consideration to address traffic delay impacts under NEPA. No mitigation is required under CEQA.]* TRAN-MM#2 will be implemented prior to construction of HSR and will restripe intersections to improve LOS and intersection operations during construction and operation of HSR. If implemented, TRAN-MM#2 would reduce adverse effects at all the affected intersections discussed in Section 3.2.6.3 and would reduce impacts to completely below the impact threshold for the following intersections: ▪ G44 East Street and Lincoln Avenue (Shared Passenger Track Alternatives A and B, inclusion of Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option): – Convert westbound through-right lane to through lane ▪ G89 Garfield Avenue and Washington Boulevard (Shared Passenger Track Alternatives A and B, inclusion of	Preconstruction	Design	Prior to final design	Authority/ contractor	Authority/ contractor	Intersection improvements to address traffic delay impacts	MOU with cities, as necessary/contract with contractor	Impact TR-2: Permanent Impacts on Signalized Intersections from Construction of Permanent Roadway Modifications Impact TR-10: Continuous Permanent Impacts on Signalized Intersections During Operations Impact SS-2: Increased Response Times for Fire, Rescue, and Emergency Services from Permanent Road Closures and Permanent Roadway Changes

Mitigation Measure	Title	Mitigation Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
		Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option): – Convert westbound shared through and right-turn lane to an exclusive through lane ▪ G96 Bonnie Beach Place and Bandini Boulevard (inclusion of Norwalk/Santa Fe Springs HSR Station Option): – Convert southbound right-turn lane to left-/right-turn lane ▪ G98 Atlantic Boulevard/I-710 northbound ramps and Bandini Boulevard (inclusion of Norwalk/Santa Fe Springs HSR Station Option): – Convert westbound right-turn lane (to I-710) to through-right lane – Convert northbound through lane (to Atlantic Boulevard) to left-turn lane (to I-710) ▪ G148 Beach Boulevard (SR 39) and Stage Road (inclusion of Norwalk/Santa Fe Springs HSR Station Option and inclusion of Fullerton HSR Station Option): – Convert westbound through lane to an additional right-turn lane – Convert westbound exclusive right-turn lane to a shared through and right-turn lane ▪ G177 Valley View Avenue and Alondra Boulevard (inclusion of Norwalk/Santa Fe Springs HSR Station Option and inclusion of Fullerton HSR Station Option): – Convert southbound shared through and right-turn lane to an exclusive through lane ▪ N1 Firestone Boulevard and Imperial Highway (inclusion of Norwalk/Santa Fe Springs HSR Station Option and inclusion of Fullerton HSR Station Option): – Convert southbound shared through and left-turn lane to an exclusive through and left turn-lane – Convert northbound shared through and left-turn lane to an exclusive through and left-turn lane ▪ N15 Bloomfield Avenue and Imperial Highway (inclusion of Norwalk/Santa Fe Springs HSR Station Option): – Convert shared lane on the westbound approach to through lane – Convert through lane on the southbound approach to shared through-right lane ▪ N27 I-5 northbound on-ramp and Imperial Highway (inclusion of Norwalk/Santa Fe Springs HSR Station Option): – Convert shared lane to right-turn lane on the eastbound and north approaches – Convert shared through-left lane to exclusive left-turn lane for northbound approach ▪ N49 Studebaker Road and Imperial Highway (Shared Passenger Track Alternatives A and B, inclusion of								

Mitigation Measure	Title	Mitigation Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
		Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option): – Convert one westbound shared through and right-turn lane to an exclusive through and right-turn lane ▪ N51 Bloomfield Avenue and Firestone Boulevard (south) (Shared Passenger Track Alternatives A and B, inclusion of Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option): – Convert eastbound left lane to shared left and shared right lane ▪ N58 Carmenita Road and Rosecrans Avenue (Shared Passenger Track Alternatives A and B, inclusion of Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option): – Convert one westbound shared through and right-turn lane to an exclusive through and right-turn lane ▪ F10 Malden Avenue and Commonwealth Avenue (Shared Passenger Track Alternatives A and B, inclusion of Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option): – Convert northbound shared through and left-turn to an exclusive left-turn lane – Convert exclusive northbound right-turn to shared through and right-turn lane ▪ F11 Harbor Boulevard and Imperial Highway (SR 90) (Shared Passenger Track Alternatives A and B, inclusion of Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option): – Convert eastbound shared through and right-turn lane to and exclusive through lane – Convert exclusive northbound through and right-turn lanes to a shared through and right-turn lane – Convert exclusive westbound through and right-turn lanes to a shared through and right-turn lane ▪ F15 Harbor Boulevard and Chapman Avenue (Shared Passenger Track Alternatives A and B, inclusion of Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option): – Convert eastbound shared through and right-turn lane to an exclusive through and right-turn lanes – Convert northbound shared through and right-turn lane to an exclusive through and right-turn lanes ▪ F16 Harbor Boulevard and Commonwealth Avenue (inclusion of Norwalk/Santa Fe Springs HSR Station Option): – Convert one through lane on westbound, northbound, and eastbound to shared through right lane ▪ F17 Harbor Boulevard and Santa Fe Avenue (Shared Passenger Track Alternatives A and B, inclusion of								

Mitigation Measure	Title	Mitigation Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
		Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option): – Convert eastbound shared through and right-turn lane to an exclusive through and an exclusive left-turn lane ▪ F23 Lemon Street and Chapman Avenue (Shared Passenger Track Alternatives A and B, inclusion of Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option): – Convert eastbound shared through and right-turn lane to an exclusive through and an exclusive right-turn lane ▪ F24 Lemon Street and Commonwealth Avenue (Shared Passenger Track Alternatives A and B, inclusion of Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option): – Convert southbound shared through and right-turn lane to a through lane ▪ F26 Lemon Street and Orangethorpe Avenue (Shared Passenger Track Alternatives A and B, inclusion of Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option): – Convert westbound left-turn lane to westbound through lane – Convert westbound through-right lane to right-turn lane – Convert eastbound through-right lane to through lane ▪ F28 Anaheim Boulevard/Lemon Street and SR 91 eastbound ramps (Shared Passenger Track Alternatives A and B, inclusion of Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option): – Convert eastbound shared through left-turn lane to an exclusive left-turn lane – Convert eastbound exclusive right-turn lane to a shared through and right-turn lane – Convert northbound shared through and right-turn lane to two exclusive right-turn lanes ▪ F29 Raymond Avenue and Chapman Avenue (Shared Passenger Track Alternatives A and B, inclusion of Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option): – Convert westbound shared through and right-turn lane to an exclusive through and an exclusive right-turn lane ▪ F48 SR 57 southbound ramps and Nutwood Avenue (Shared Passenger Track Alternatives A and B, inclusion of Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option):								

Mitigation Measure	Title	Mitigation Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
		– Convert southbound left-turn lane to a shared through and left-turn lane – Convert southbound shared through, left-, right-turn lane to an exclusive right-turn lane ▪ A14 State College Boulevard and Orangewood Avenue (Shared Passenger Track Alternatives A and B, inclusion of Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option): – Convert eastbound shared through and right-turn lane to an exclusive through lane ▪ A17 Sunkist Street and Cerritos Avenue (Shared Passenger Track Alternatives A and B, inclusion of Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option): – Convert southbound shared through and right-turn lane to an exclusive through lane – Convert southbound shared through and left-turn lane to an exclusive through lane								

Mitigation Measure	Title	Mitigation Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
TRAN-MM#3	Add Signal to Intersection to Improve Level of Service/ Operation	*[The following improvements are available for consideration to address traffic delay impacts under NEPA. No mitigation is required under CEQA.]* TRAN-MM#3 will be implemented prior to construction of HSR and will add traffic signals to affected unsignalized intersections that meet traffic signal warrants. This condition occurs in 2040, but the warrant criteria may or may not be met at earlier dates. Therefore, the signalization mitigation will only be required at such a time (between 2029 and 2040) as the warrant is met. These intersections will have to be monitored annually to determine when/if the warrant is met. If implemented, TRAN-MM#3 would reduce adverse effects at all the affected intersections discussed in Section 3.2.6.3 and would reduce impacts to completely below the impact threshold for the following intersections: ▪ G95 Indiana Street and Bandini Boulevard (inclusion of Norwalk/Santa Fe Springs HSR Station Option): – Install two-phase traffic signal ▪ G97 Ayers Avenue and Bandini Boulevard (inclusion of Norwalk/Santa Fe Springs HSR Station Option): – Install two-phase traffic signal ▪ G114 Gage Road and Telegraph Road (inclusion of Norwalk/Santa Fe Springs HSR Station Option): – Install two-phase traffic signal ▪ G118 Chapin Road and Union Street (inclusion of Norwalk/Santa Fe Springs HSR Station Option): – Install two-phase traffic signal ▪ G132 Pioneer Boulevard and Orr and Day Road (inclusion of Norwalk/Santa Fe Springs HSR Station Option): – Install two-phase traffic signal ▪ G210 Eastern Avenue and Driveway (Shared Passenger Track Alternatives A and B, inclusion of Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option): – Install two-phase traffic signal ▪ F9 Malden Avenue and Chapman Avenue (Shared Passenger Track Alternatives A and B, inclusion of Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option): – Install two-phase traffic signal	Preconstruction	Design	Prior to final design	Authority/ contractor	Authority/ contractor	Intersection improvements to address traffic delay impacts	MOU with cities, as necessary/contract with contractor	Impact TR-3: Permanent Impacts on Unsignalized Intersections from Construction of Permanent Roadway Modifications Impact TR-11: Continuous Permanent Impacts on Unsignalized Intersections During Operations Impact SS-2: Increased Response Times for Fire, Rescue, and Emergency Services from Permanent Road Closures and Permanent Roadway Changes
TRAN-MM#4	Add Exclusive Turn Lanes to Intersections	*[The following improvements are available for consideration to address traffic delay impacts under NEPA. No mitigation is required under CEQA.]* TRAN-MM#4 will be implemented prior to construction of HSR and will add exclusive turn lanes at intersections to improve LOS and intersection operations during construction and operation of HSR. If implemented, TRAN-MM#4 would reduce adverse effects at all the affected intersections discussed in Section 3.2.6.3 and	Preconstruction	Design	Prior to final design	Authority/ contractor	Authority/ contractor	Intersection improvements to address traffic delay impacts	MOU with cities, as necessary/contract with contractor	Impact TR-2: Permanent Impacts on Signalized Intersections from Construction of Permanent Roadway Modifications Impact TR-10: Continuous Permanent Impacts on Signalized Intersections During Operations Impact SS-2: Increased Response Times for Fire, Rescue, and

Mitigation Measure	Title	Mitigation Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
		would reduce impacts to completely below the impact threshold for the following intersections: ▪ G44 East Street and Lincoln Avenue (Shared Passenger Track Alternatives A and B, inclusion of Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option): – Add one westbound right-turn lane – Add one southbound left-turn lane – Add one northbound left-turn lane ▪ G84 Downey Road and Washington Boulevard (inclusion of Norwalk/Santa Fe Springs HSR Station Option): – Add one westbound left-turn and right-turn lanes – Add one eastbound left-turn and right-turn lane – Add one southbound left-turn and right-turn lane – Add one northbound left-turn and right-turn lane ▪ G89 Garfield Avenue and Washington Boulevard (Shared Passenger Track Alternatives A and B, inclusion of Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option): – Provide one additional southbound left-turn lane – Provide one additional westbound right-turn lane ▪ G94 Downey Road and Bandini Boulevard (inclusion of Norwalk/Santa Fe Springs HSR Station Option): – Add left-turn lanes to the southbound approach – Add right-turn lanes to the northbound approach ▪ G96 Bonnie Beach Place and Bandini Boulevard (inclusion of Norwalk/Santa Fe Springs HSR Station Option): – Add two right-turn lanes to the southbound approach ▪ G98 Atlantic Boulevard/I-710 northbound ramps and Bandini Boulevard (inclusion of Norwalk/Santa Fe Springs HSR Station Option): – Add one southbound right-turn lane – Add one left-turn lane to the westbound approach – Add two left-turn lanes to the northbound approach – Add one right-turn lane to the northbound and southbound approaches ▪ G150 Beach Boulevard (SR 39) and La Mirada Boulevard/ Malvern Avenue (Shared Passenger Track Alternatives A and B, inclusion of Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option): – Add right-turn lane to eastbound lane. ▪ G177 Valley View Avenue and Alondra Boulevard (inclusion of Norwalk/Santa Fe Springs HSR Station Option and inclusion of Fullerton HSR Station Option): – Add one right-turn lane to northbound approach								Emergency Services from Permanent Road Closures and Permanent Roadway Changes

Mitigation Measure	Title	Mitigation Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
		▪ N7 Norwalk Boulevard and Imperial Highway (inclusion of Norwalk/Santa Fe Springs HSR Station Option): – Add two right-turn lanes to the eastbound approach – Add two left-turn lanes to the westbound approach – Add two right-turn lanes to the northbound approach ▪ N15 Bloomfield Avenue and Imperial Highway (inclusion of Norwalk/Santa Fe Springs HSR Station Option) – Add right-turn lane to northbound approach – Add right-turn lane to westbound approach ▪ N49 Studebaker Road and Imperial Highway (Shared Passenger Track Alternatives A and B, inclusion of Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option): – Add one right-turn lane to the northbound approach – Add one left-turn lane for eastbound and westbound approaches ▪ N51 Bloomfield Avenue and Firestone Boulevard (south) (Shared Passenger Track Alternatives A and B, inclusion of Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option): – Add one right-turn lane to the eastbound approach ▪ F11 Harbor Boulevard and Imperial Highway (SR 90) (Shared Passenger Track Alternatives A and B, inclusion of Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option): – Add two right-turn lanes to eastbound approach – Add one left-turn lane to the northbound and westbound approaches ▪ F15 Harbor Boulevard and Chapman Avenue (Shared Passenger Track Alternatives A and B, inclusion of Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option): – Add one left-turn lane to the westbound approach ▪ F24 Lemon Street and Commonwealth Avenue (Shared Passenger Track Alternatives A and B, inclusion of Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option): – Add one right-turn lane to the eastbound and southbound approaches – Add one left-turn lane to the northbound approach ▪ F26 Lemon Street and Orangethorpe Avenue (Shared Passenger Track Alternatives A and B, inclusion of Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option): – Add one eastbound right-turn lane ▪ F32 State College Boulevard and Chapman Avenue (Shared Passenger Track Alternatives A and B, inclusion of								

Mitigation Measure	Title	Mitigation Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
		Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option): – Add one left-turn lane to the eastbound and northbound approaches – Add one right-turn lane to the southbound approach ▪ F48 SR 57 southbound ramps and Nutwood Avenue (Shared Passenger Track Alternatives A and B, inclusion of Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option): – Add one right-turn lane to the eastbound approach ▪ A14 State College Boulevard and Orangewood Avenue (Shared Passenger Track Alternatives A and B, inclusion of Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option): – Add one right-turn lane to the eastbound approach ▪ A17 Sunkist Street and Cerritos Avenue (Shared Passenger Track Alternatives A and B, inclusion of Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option): – Add one right-turn lane to the southbound approach – Add two left-turn lanes to the southbound approach – Add one right-turn lane to the westbound approach ▪ A79 Anaheim Boulevard and Cerritos Avenue (Shared Passenger Track Alternatives A and B, inclusion of Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option): – Add one left-turn lane to the westbound approach – Add one right-turn lane to the northbound approach								
TRAN-MM#5	Add New Lanes to Roadway	*[The following improvements are available for consideration to address traffic delay impacts under NEPA. No mitigation is required under CEQA.]* TRAN-MM#5 will be implemented prior to construction of HSR and will add additional roadway lanes to improve LOS and intersection operations during construction and operation of HSR. If implemented, TRAN-MM#5 would reduce adverse effects at all the affected roadway segments discussed in Section 3.2.6.3 and would reduce impacts to completely below the impact threshold for the following roadway segments: ▪ Bandini Boulevard, Downey Road to Atlantic Boulevard (Shared Passenger Track Alternatives A and B, inclusion of Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option): – Add one westbound through lane – Add one eastbound through lane ▪ Carmenita Road, Imperial Highway to Orden Drive (Shared Passenger Track Alternatives A and B, inclusion of Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option):	Preconstruction	Design	Prior to final design	Authority/ contractor	Authority/ contractor	Roadway segment improvements to address traffic delay impacts	MOU with cities, as necessary/contract with contractor	Impact TR-4: Permanent Impacts on Roadway Segments from Construction of Permanent Roadway Modifications Impact TR-12: Continuous Permanent Impacts on Roadway Segments During Operations Impact SS-2: Increased Response Times for Fire, Rescue, and Emergency Services from Permanent Road Closures and Permanent Roadway Changes

Mitigation Measure	Title	Mitigation Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
		– Add through lanes to both directions ▪ Imperial Highway, Norwalk Boulevard to Bloomfield Avenue (inclusion of Norwalk/Santa Fe Springs HSR Station Option): – Add through lanes to both directions ▪ Studebaker Road, Imperial Highway to I-105 (Shared Passenger Track Alternatives A and B, inclusion of Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option): – Add one northbound through lane – Add one southbound through lane ▪ Carmenita Road, Orden Drive to Rosecrans Avenue (Shared Passenger Track Alternatives A and B, inclusion of Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option): – Add through lanes to both directions ▪ Shoemaker Avenue, Imperial Highway to Foster Road (inclusion of Norwalk/Santa Fe Springs HSR Station Option): – Add through lanes to both directions ▪ Rosecrans Avenue, Studebaker Road to Pioneer Boulevard (Shared Passenger Track Alternatives A and B, inclusion of Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option): – Add through lanes to both directions ▪ Euclid Street, Bastanchury Road to Malvern Avenue (Shared Passenger Track Alternatives A and B, inclusion of Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option): – Add through lanes to both directions ▪ Euclid Street, Malvern Avenue to Commonwealth Avenue (Shared Passenger Track Alternatives A and B, inclusion of Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option): – Add through lanes to both directions ▪ Harbor Boulevard, Imperial Highway (SR 90) to Bastanchury Road (Shared Passenger Track Alternatives A and B, inclusion of Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option): – Add through lanes to both directions ▪ Harbor Boulevard, Brea Boulevard to Berkeley Avenue (inclusion of Norwalk/Santa Fe Springs HSR Station Option): – Add through lanes to both directions ▪ Harbor Boulevard, Berkeley Avenue to Chapman Avenue (inclusion of Norwalk/Santa Fe Springs HSR Station Option): – Add through lanes to both directions ▪ Harbor Boulevard, Chapman Avenue to Commonwealth Avenue (Shared Passenger Track Alternatives A and B,								

Mitigation Measure	Title	Mitigation Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
		inclusion of Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option): – Add through lanes to both directions ▪ Harbor Boulevard, Commonwealth Avenue to Orangethorpe Avenue (Shared Passenger Track Alternatives A and B, inclusion of Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option): – Add through lanes to both directions ▪ Harbor Boulevard, south of Orangethorpe Avenue (inclusion of Norwalk/Santa Fe Springs HSR Station Option and inclusion of Fullerton HSR Station Option): – Add through lanes to both directions ▪ Lemon Street, Commonwealth Avenue to Orangethorpe Avenue (Shared Passenger Track Alternatives A and B, inclusion of Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option): – Add one northbound through lane – Add one southbound through lane ▪ Lemon Street, south of Orangethorpe Avenue to SR 91 (Shared Passenger Track Alternatives A and B, inclusion of Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option): – Add one northbound through lane – Add one southbound through lane ▪ Chapman Avenue, Harbor Boulevard to Raymond Avenue (Shared Passenger Track Alternatives A and B, inclusion of Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option): – Add one westbound through lane – Add one eastbound through lane ▪ Chapman Avenue, Raymond Avenue to Acacia Avenue (Shared Passenger Track Alternatives A and B, inclusion of Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option): – Add one westbound through lane – Add one eastbound through lane ▪ Chapman Avenue, Acacia Avenue to State College Boulevard (Shared Passenger Track Alternatives A and B, inclusion of Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option): – Add one westbound through lane – Add one eastbound through lane ▪ Chapman Avenue, State College Boulevard to Commonwealth Avenue (Shared Passenger Track Alternatives A and B, inclusion of Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option): – Add through lanes to both directions								

Mitigation Measure	Title	Mitigation Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
		▪ SR 57 northbound Frontage Road, Nutwood Avenue to Chapman Avenue (Shared Passenger Track Alternatives A and B, inclusion of Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option): – Add through lanes to both directions ▪ Brea Boulevard, Rolling Hills Drive to Bastanchury Road (Shared Passenger Track Alternatives A and B, inclusion of Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option): – Add through lanes to both directions ▪ Brea Boulevard, Harbor Boulevard to Bastanchury Road (Shared Passenger Track Alternatives A and B, inclusion of Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option): – Add through lanes to both directions ▪ Santa Fe Avenue, Malden Avenue to Harbor Boulevard (inclusion of Norwalk/Santa Fe Springs HSR Station Option): – Add through lanes to both directions ▪ Santa Fe Avenue, Harbor Boulevard to Lemon Street (Shared Passenger Track Alternatives A and B, inclusion of Norwalk/Santa Fe Springs HSR Station Option, and inclusion of Fullerton HSR Station Option): – Add through lanes to both directions								

Mitigation Measure	Title	Mitigation Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
TRAN-MM#6	Prepare Track Construction Work Window Plan	Prior to the commencement of track construction activities, the Authority shall coordinate with freight and passenger rail agencies and operators that maintain service along the project section, including, but not limited to, BNSF, Metrolink, Amtrak, the LOSSAN Rail Corridor Agency, and the Riverside County Transportation Commission, and prepare a Track Construction Work Window Plan for track construction activities along the project corridor. The Track Construction Work Window Plan shall include, but is not limited to, identification of the following: ▪ Work segments, including the starting and ending mile points for each work segment ▪ Work windows comprising the days, work segment locations, and times during which track construction activities are anticipated to occur ▪ Identification of the work windows during which either some or all tracks could be out of service for a limited amount of time ▪ Identification of the work segments where heavy construction would occur adjacent to existing railroad operations ▪ Identification of locations where shoofly tracks are anticipated to be required ▪ Restrictions on track construction activities occurring concurrently in more than two work segments and occurring concurrently in two adjacent work segments ▪ Limiting speed restrictions to only the minimum required project limits distance and as determined by the host railroad The Track Construction Work Window Plan shall be submitted for review to the freight and passenger rail agencies and operators with service along the project section prior to commencement of track construction activities. Throughout and following the project design process, the identified work windows may be updated based on coordination with the host railroad's operations department.	Preconstruction	Design/reporting	Prior to commencement of track construction activities	Authority	Authority	Prepare Track Construction Work Window Plan	Condition of construction contract	Impact TR-8: Temporary Impacts on Freight and Passenger Rail Operations During Construction

Mitigation Measure	Title	Mitigation Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
TRAN-MM#7	Add Lane to State Route 57/Westbound Katella Avenue Southbound On-Ramp	*[The following improvements are available for consideration to address traffic delay impacts under NEPA. No mitigation is required under CEQA.]* Prior to approval of final improvement plans, the Authority shall coordinate with Caltrans on increasing capacity of the SR 57/ westbound Katella Avenue southbound on-ramp and merge area by widening the on-ramp to a two-lane section approximately 400 feet upstream of the on-ramp gore point and converting the outside travel lane of the merge area to a full on-ramp receiving lane. As part of coordination, the Authority shall apply for and obtain an encroachment permit from Caltrans for work within the SR 57 right-of-way. The new two-lane on-ramp shall be aligned/balanced with the acceleration lane and full on-ramp receiving travel lane, providing adequate capacity and reducing queues. The existing outside travel lane shall be dropped upstream of the on-ramp and gained with the on-ramp. Proper modifications to lane markings and advance warning signs to inform drivers about downstream lane assignments shall also be installed. The foregoing improvements shall be designed and implemented in accordance with the applicable provisions of Caltrans's 2023 Standard Plans and Standard Specifications and presented on the final improvement plans, which shall be subject to review and approval by the Authority and Caltrans.	Preconstruction	Design/ coordination	Prior to approval of final improvement plans	Authority	Authority	Coordinate with Caltrans on widening SR 57 on-ramp/apply for and obtain an encroachment permit	Condition of construction contract/condition of regulatory permit	Impact TR-14: Continuous Permanent Impacts on Freeway Mainline Segments and Ramps During Operations
Air Quality and Global Climate Change										
AQ-MM#1	Offset Project Construction Emissions in the SCAB through SCAQMD Emissions Offsets Program	The project's construction emissions that cannot be reduced by IAMFs and any other mitigation measures will be offset through a SCAQMD rule or contractual agreement to fund equivalent emissions reductions that achieve reductions in the same years (to the extent same-year offsets are available) as construction emissions occur, thus offsetting project-related air quality impacts in real time as required by the General Conformity Rule. The project would implement measures and best practices to minimize emissions from project construction. After implementation of these measures, if emission levels still exceed *de minimis* levels, the emissions will be fully offset to meet the General Conformity Rule, and to meet CEQA thresholds to the extent feasible. As the project advances toward construction, the Authority will work with SCAQMD to assess the estimated emissions, availability of offsets, and cost. As part of these offset programs, a copy of each unit's certified tier or model year specification shall be available upon request at the time of mobilization of each applicable equipment unit. Furthermore, the Authority will require periodic reporting and provision of written construction documents by construction contractor(s) to ensure compliance and conduct regular inspections to the maximum extent feasible to ensure compliance with applicable Authority IAMFs and mitigation measures.	Preconstruction	Reporting/ funding	Prior to and during construction	Authority/ contractor	Authority/ contractor	Offset project construction criteria air pollutant emissions through funding	Coordination with SCAQMD pursuant to contractor reports	Impact AQ-1: Temporary Direct and Indirect Impacts on Air Quality within Applicable Air Basin Impact AQ-2: Temporary Direct Impacts on Implementation of an Applicable Air Quality Plan

Mitigation Measure	Title	Mitigation Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
AQ-MM#2	Requirements for Use of Zero-Emission or Near-Zero-Emission Vehicles and Off-Road Equipment to Reduce Construction Emissions	This mitigation measure will reduce the impact of construction emissions from project-related on-road vehicles and off-road equipment. All remaining emissions after implementation of this measure would be offset to conform with 40 CFR Part 93.158(a) with emission credits required under AQ-MM#1. The Authority will require that all project construction contractors use a minimum of 25 percent, with a goal of 100 percent, of all light-duty on-road vehicles (e.g., passenger cars, light-duty trucks) associated with the project (e.g., on-site vehicles, contractor vehicles) with ZE or near-ZE technology.[1] The Authority and all project construction contractors will have the goal that a minimum of 25 percent of all heavy-duty on-road vehicles (e.g., for hauling, material delivery, and soil import/export) associated with the project use ZE or near-ZE technology. The Authority and all project construction contractors will have the goal that a minimum of 10 percent of off-road construction equipment use ZE or near-ZE vehicles. If local or state regulations mandate a faster transition to using ZE or near-ZE vehicles at the time of construction, the more stringent regulations will be applied. For example, EO N-79-20, issued by California Governor Gavin Newsom on September 23, 2020, currently states the following: ▪ Light-duty and passenger car sales be 100 percent ZE vehicles by 2035 ▪ Full transition to ZE short haul/drayage trucks by 2035 ▪ Full transition to ZE heavy-duty long-haul trucks, where feasible, by 2045 ▪ Full transition to ZE off-road equipment by 2035, where feasible The project will have a goal of surpassing the requirements of these or other future regulations as a mitigation measure. Because the commercial availability of future electric equipment and vehicles is unknown, emissions reductions achieved by AQ-MM#2 cannot currently be quantified or included in the analysis.	Preconstruction	Contract requirements/ compliance reporting	Prior to and during construction	Authority/ contractor	Authority/ contractor	Daily record keeping and monthly/annual reporting	The Authority making available a copy of each unit's certified tier specification and any required CARB or air pollution control district operating permit at the time of mobilization of each piece of equipment	Impact AQ-1: Temporary Direct and Indirect Impacts on Air Quality within Applicable Air Basin Impact AQ-2: Temporary Direct Impacts on Implementation of an Applicable Air Quality Plan
AQ-MM#3	Reduce the Potential Impact of Stationary Sources	Large stationary equipment (e.g., combustion equipment, paint booths, wastewater treatment) would use best industry practices, or alternative equipment would be used, to the extent practicable, to reduce emissions of criteria pollutants. Examples of best industry practices could include operating and maintenance procedures, ensuring efficient combustion in fuel-burning equipment, and ensuring proper fuel quality. Examples of equipment options could include replacing older, higher-emitting equipment with newer, lower-emitting units and installing emission controls such as filters or other particulate matter control devices, scrubbers for VOC and TACs, thermal or catalytic oxidation for CO and VOC, and catalytic reduction for NO_X. All of these devices would reduce emissions of one or more criteria pollutants and TACs, depending on the specific equipment.	Preconstruction	Reporting	Prior to construction	Authority/ contractor	Authority/ contractor	Implement best industry practices/use alternative equipment	Condition of construction contract	Impact AQ-1: Temporary Direct and Indirect Impacts on Air Quality within Applicable Air Basin Impact AQ-2: Temporary Direct Impacts on Implementation of an Applicable Air Quality Plan

Mitigation Measure	Title	Mitigation Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
AQ-MM#4	Requirement of a Future Operational Health Risk Assessment	Prior to the commencement of project operations, the Authority shall prepare a site-specific, supplemental operational HRA that analyzes the potential increase in activity levels at the Hobart Yard associated with the relocation of the 101,094 feet of staging and storage tracks, and the replacement container parking area to the north of Hobart Yard. The purpose of this supplemental HRA would be to adequately quantify air quality impacts from project operations with the inclusion of emissions associated with the planned 101,094 feet of storage and support track and relocation of container parking. The supplemental HRA will account for construction activities in the Hobart Yard area that may be occurring at the same time as freight storage and staging track operational activities. Health risk impacts for future operations would be quantified for cancer, noncancer chronic, and acute risk exposure. The next change of existing conditions to future operations health risk impacts would be compared to SCAQMD project-level thresholds, consistent with the approach presented in Table 3.3-46 and Table 3.3-47. If the supplemental HRA demonstrates that health risk exposures for adjacent receptors within 1,000 feet of Hobart Yard would be no greater than the health risk exposure previously identified in the Draft EIR/EIS (Table 3.3-46 and Table 3.3-47), additional mitigation would not be required. However, if the supplemental HRA demonstrates that health risks would exceed the health risk exposure levels identified in the Draft EIR/EIS at the time of the analysis at the modeled sensitive receptors, the Authority will complete additional CEQA review, NEPA review, or both, as necessary. Additional feasible on- and off-site mitigation recommended by an air quality expert will be implemented by the Authority to help reduce risks to the levels reported in the quantitative operational HRA for the Project Opening Year scenario to the greatest extent practicable. Potential on- or off-site mitigation strategies may include but are not limited to: ▪ Purchase or contribute to the cost of the replacement or retrofit of locomotive switchers, line-haul locomotives, cargo-handling equipment, or other diesel-fueled heavy-duty railyard equipment to the Best Available Control Technology, such as USEPA Tier 4 Final engine standards, ZE engines, or all-electric equipment. ▪ Provide air filtration systems with a minimum efficiency reporting value 13 or greater efficiency standards (https://www.epa.gov/indoor-air-quality-iaq/what-merv-rating) to the sensitive receptor locations that exceed the applicable SCAQMD project health risk threshold(s) at the time of the analysis. Following the air filtration systems manufacturer's recommendation on maintenance and replacement of air filters, a minimum efficiency reporting value 13 air filter may remove up to 85 to 90 percent of the indoor $PM_{2.5}$ and PM_{10} particulates, respectively. Minimum efficiency reporting value 13 is currently required for any newly built mechanically ventilated building in California (CALGreen 2022).	Preconstruction	Reporting	Prior to construction	Authority/ contractor	Authority/ contractor	Prepare site-specific/ supplemental operational HRA	Condition of construction contract	Impact AQ-15: Continuous Permanent Direct Impacts on Localized Air Quality—Exposure to Diesel Particulate Matter (Health Risk)

Mitigation Measure	Title	Mitigation Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
		▪ Adoption of future Best Available Control Technology that becomes commercially available and demonstrated to be effective in reducing DPM emissions. Because the potential increase in activity levels at Hobart Yard, as well as the potentially feasible on- and off-site mitigation measures, are unknown at the time of this analysis, emissions reductions achieved by AQ-MM#4 cannot currently be quantified or included in the analysis.								
Noise and Vibration										
N&V-MM#1	Construction Noise Mitigation Measures	Prior to construction (ground-disturbing activities), the contractor shall prepare a noise-monitoring program for Authority approval. The noise-monitoring program shall describe how, during construction, the contractor will monitor construction noise to verify compliance with the noise limits (an 8-hour L_{eq}, dBA of 80 during the day and 70 at night for residential land use, 85 for both day and night for commercial land use, and 90 for both day and night for industrial land use) where a noise-sensitive receiver is present. The contractor will be given the flexibility to meet the FRA construction noise limits in the most efficient and cost-effective manner. This can be done by either prohibiting certain noise-generating activities during nighttime hours or providing additional noise control measures to meet the noise limits. In addition, the noise-monitoring program will describe the actions required of the contractor to meet required noise limits. These actions will include (but are not limited to) the following nighttime and daytime noise control mitigation measures: ▪ Install a temporary construction site sound barrier near a noise source. ▪ Avoid nighttime construction in residential neighborhoods. ▪ Locate stationary construction equipment as far as possible from noise-sensitive sites. ▪ Reroute construction truck traffic along roadways that would cause the least disturbance to residents. ▪ During nighttime work, use smart backup alarms, which automatically adjust the alarm level based on the background noise level, or switch off backup alarms and replace with spotters. ▪ Use low-noise-emission equipment. ▪ Implement noise-deadening measures for truck loading and operations. ▪ Monitor and maintain equipment to meet noise limits. ▪ Line or cover storage bins, conveyors, and chutes with sound-deadening material. ▪ Use acoustic enclosures, shields, or shrouds for equipment and facilities. ▪ Use high-grade engine exhaust silencers and engine-casing sound insulation. ▪ Prohibit aboveground jackhammering and impact pile driving during nighttime hours.	Preconstruction/ construction	Design/yearly reporting	Prior to and during construction	Authority/ contractor	Authority/ contractor	Prepare and implement noise-monitoring program with construction noise-control mitigation measures	Contract requirements and specifications	Impact N&V-1: Temporary Exposure of Sensitive Receivers to Construction Noise Impact BIO-3: Construction Impacts on Special-Status Birds, Raptors, and Migratory Birds Impact BIO-4: Construction Impacts on Special-Status Mammals Impact BIO-6: Construction Impacts on Wildlife Movement Corridors

Mitigation Measure	Title	Mitigation Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
		▪ Minimize the use of generators to power equipment. ▪ Limit use of public address systems. ▪ Grade surface irregularities on construction sites. ▪ Limit or avoid certain noisy activities during nighttime hours. ▪ To mitigate noise related to impact pile driving, use an auger drill to install the piles instead of a pile driver to reduce noise and vibration levels substantially. If impact pile driving is necessary, limit the time of day that the activity can occur. The Authority will establish and maintain in operation until completion of construction a toll-free "hotline" regarding the project section construction activities. The Authority shall arrange for incoming messages to be logged (with summaries of the contents of each message) and for a designated representative of the Authority to respond to hotline messages within 24 hours (excluding weekends and holidays). The Authority shall make a reasonable, good faith effort to address concerns and answer questions, and shall include on the log its responses to callers. The Authority shall make a log of the incoming messages and the Authority's responsive actions publicly available on its website. The contractor shall provide the Authority with an annual report by January 31 of the following year documenting how it implemented the noise-monitoring program.								
N&V-MM#2	Construction Vibration Mitigation Measures	Prior to construction involving impact pile driving within 80 feet of a building, the contractor shall provide the Authority with a vibration technical memorandum documenting how project pile driving criteria will be met. Upon approval of the technical memorandum by the Authority, and where a vibration-sensitive receiver is present, the contractor shall comply with the vibration reduction methods described in that memorandum. Potential construction vibration building damage is only anticipated from impact pile driving at very close distances to buildings. If pile driving occurs more than 80 feet from buildings, or if alternative methods such as push piling or auger piling are used, damage from construction vibration is not expected to occur. When a construction scenario has been established, preconstruction surveys will be conducted by the contractor at locations within 80 feet of pile driving to document the existing condition of buildings in case damage is reported during or after construction. The contractor will arrange for the repair/restoration of damaged buildings to pre-impact condition or will pay compensation to the property owner.	Preconstruction/ construction/ post-construction	Design; reporting	Prior to construction/ weekly monitoring during/following construction, as needed	Authority/ contractor	Authority/ contractor	Prepare vibration technical memorandum/ conduct preconstruction surveys/repair and/or restore damaged buildings or pay compensation	Contract requirements and specifications	Impact N&V-2: Temporary Exposure of Sensitive Receivers to Vibration from Construction
N&V-MM#3	Implement California High-Speed Rail Project Noise Mitigation Guidelines	The Authority will examine alternatives to avoid, minimize, or reduce severe noise impacts. If severe noise impacts cannot be avoided, then the Authority would take steps to reduce severe noise substantially through mitigation measures that are reasonable, physically feasible, practical, and cost effective. Various options exist to address the potentially severe noise effects from HSR operations. The Authority has developed Noise Mitigation Guidelines for the statewide HSR system that set forth three categories of mitigation measures to reduce or offset severe noise impacts from HSR operations: sound barriers, sound	Preconstruction/ construction/ post-construction	Design	Prior to and during construction; monthly reporting during operation	Authority/ contractor	Authority/ contractor	Install sound barriers per Noise Mitigation Guidelines/ consider sound insulation or noise easements where barriers are not feasible	Contract requirements and specifications/ California High-Speed Rail Project Noise Mitigation Guidelines	Impact N&V-4: Permanent Exposure of Sensitive Receivers to Noise from Project Operation

Mitigation Measure	Title	Mitigation Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
		insulation, and noise easements. The guidelines also set forth an implementation approach that considers multiple factors for determining the reasonableness of sound barriers as mitigation for severe noise impacts, including structural and seismic safety, cost, number of affected receivers, and effectiveness. Sound barrier mitigation will be designed to reduce the exterior noise level from HSR operations from severe to moderate, according to the provisions of the FRA noise and vibration manual (FRA 2012). Where sound barriers are not feasible, sound insulation and noise easements would be considered. The Noise Mitigation Guidelines, included as Appendix 3.4-A, describe the following mitigation measures and approach. **Sound Barriers** Prior to operation of the project, the contractor will install sound barriers where they can achieve between 5 and 15 dB of exterior noise reduction, depending on their height and location relative to the tracks. The primary requirements for an effective sound barrier are that the barrier must (1) be high enough and long enough to break the line of sight between the sound source and the receiver, (2) be of an impervious material with a minimum surface density of 4 pounds per square foot, and (3) not have gaps or holes between the panels or at the bottom. Because many materials meet these requirements, aesthetics, durability, cost, and maintenance considerations usually determine the selection of materials for sound barriers. Depending on the situation, sound barriers can become visually intrusive. Typically, the sound barrier style is selected with input from the local jurisdiction to reduce the visual effect of barriers on adjacent land uses; refer to *Aesthetic Options for Non-Station Structures* (Authority 2017b). For example, sound barriers could be solid or transparent and made with various colors, materials, and surface treatments. Based on the Noise Mitigation Guidelines, solid barriers would be limited to no more than 6 feet in height and sound barriers would be made of transparent material at heights above 6 feet. Pursuant to the Noise Mitigation Guidelines, recommended sound barriers must meet the following criteria to be considered a reasonable and feasible mitigation measure: ▪ The barrier must achieve a minimum of 5 dB of noise reduction. ▪ The minimum number of affected sites should be at least 10. ▪ The length should be at least 800 feet. ▪ The cost must not exceed $95,000 (2018 dollars) per benefited residence. Barrier heights up to a maximum of 14 feet will be considered and mitigation options for areas that require barriers over 14 feet will be studied on a case-by-case basis. For at grade sections, berm and berm/wall combinations are the preferred types of sound barriers where space and other environmental constraints permit. On aerial structures, barrier material will be limited by engineering weight restrictions for barriers on the structure. Sound barriers will								

Mitigation Measure	Title	Mitigation Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
		be designed to be as low as possible to achieve a substantial noise reduction. A sound barrier was determined to be feasible at one location because the barrier is capable of providing a noise level reduction of 5 dB or more to more than 10 affected sites with a barrier length greater than 800 feet. This sound barrier was also determined to be reasonable because the cost to build the barrier will be less than $95,000 (2018 dollars) per benefited receiver. Figure 3.4-10 [of the EIR/EIS] depicts the proposed sound barrier location, and the reasonableness of this one feasible barrier is as follows: ▪ Location: 150 feet south of E Cyprus Street to E Sycamore Street, Anaheim ▪ Side of track: northbound ▪ Type of barrier: at grade ▪ Length: 875 feet ▪ Height: 8 feet ▪ Surface area: 7,000 square feet ▪ Total cost: $490,000 ▪ Number of benefited receivers (5 dB or more reduction): 36 ▪ Cost per benefited receiver: $13,611 ▪ Cost in excess of $95,000 per benefited receiver: No ▪ Reasonable barrier: Yes Noise modeling will be conducted as part of final design to determine the exact extent of the aforementioned sound barrier and its location relative to noise-sensitive receptors. This model will incorporate final vehicle specifications and existing concrete wall structures that have the potential to affect noise attenuation. If the noise modeling effort triggers changes to the noise impacts or recommendations for mitigation, additional environmental documentation will be prepared, as required by NEPA and CEQA.  **Figure 3.4-10 Location of Proposed Sound Barrier** **Sound Insulation** If noise barriers are not proposed for receptors with severe impacts, or if proposed noise barriers do not reduce exterior sound levels to at least a moderate impact level, the Authority will								

Mitigation Measure	Title	Mitigation Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
		consider building sound insulation as a potential additional mitigation measure on a case-by-case basis. Sound insulation of residences and institutional buildings to improve outdoor-to-indoor noise reduction is a mitigation measure that can be considered when the use of noise barriers is not feasible in providing a reasonable level (5 to 7 dBA) of noise reduction. Although this approach has no effect on noise in exterior areas, it may be the best choice for sites where noise barriers are not feasible or desirable and for buildings where indoor sensitivity is of most concern. Substantial improvements in building sound insulation (on the order of 5 to 10 dBA) can often be achieved by adding an extra layer of glazing to windows, by sealing holes in exterior surfaces that act as sound leaks, and by providing forced ventilation and air conditioning so that windows do not need to be opened. **Noise Easements** If a substantial noise reduction cannot be completed through installation of noise barriers or building sound insulation, the Authority will consider acquiring a noise easement on properties with a severe impact on a case-by-case basis. An agreement between the Authority and the property owner can be established wherein the property owner releases the right to petition the Authority regarding the noise level and subsequent disruptions. This would take the form of a permanent easement that would encompass the property boundaries to the right-of-way of the rail line. The Authority would consider this mitigation measure only in isolated cases where other mitigation is ineffective or infeasible.							

Mitigation Measure	Title	Mitigation Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
N&V-MM#4	Implement Operational Vibration Mitigation Measures	Vibration mitigation is more integrated with vehicle characteristics and detailed track design concepts than noise mitigation. Therefore, vibration mitigation will be evaluated during project design as needed in an effort to comply with the FRA criteria. Mitigation for operational vibration impacts can occur at the source, at the sensitive receiver, or along the propagation path from the source to the receiver. Potential measures from the mitigation guidelines include the following: ▪ **Vehicle Suspension (Source):** Rail vehicles should have low unsprung weight, soft primary suspension, minimum metal-on-metal contact between moving parts of the truck, and smooth wheels that are perfectly round. ▪ **Special Track Support Systems (Source):** Floating slabs, resiliently supported ties, high-resilience fasteners, and ballast mats help reduce vibration levels from track support system. ▪ **Building Modifications (Receiver):** For existing buildings, if vibration-sensitive equipment is affected by train vibration, the floor upon which the vibration-sensitive equipment is located could be stiffened and isolated from the remainder of the building. For new buildings, the building foundation should be supported by elastomer pads similar to bridge bearing pads. ▪ **Buffer Zones (Receiver):** Negotiate a vibration easement from the affected property owners or expand rail right-of-way. Because there are site-specific factors to consider, such as train speed, the presence of special trackwork, soil type, and vibration propagation characteristics, further studies during the subsequent engineering phases of the project should evaluate these site-specific conditions where vibration mitigation is indicated to determine the mitigation design requirements. Such studies would include additional vibration propagation tests to narrow down the site-specific vibration estimates and engineering evaluation of the special track support options. However, it may not be possible to fully mitigate all vibration impacts and therefore some vibration impacts would be potentially significant and unavoidable with mitigation.	Preconstruction/ construction/ post-construction	Design	Prior to construction/ prior to operation/ during operation	Authority	Authority	Evaluate and implement operational vibration mitigation measures per FRA criteria	Contract requirements and specifications	Impact N&V-5: Permanent Exposure of Sensitive Receivers and Buildings to Groundborne Noise and Vibration from Project Operation

Mitigation Measure	Title	Mitigation Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
Electromagnetic Fields and Electromagnetic Interference										
▪ EMF/EMI-MM#1	Protect Sensitive Equipment	The Authority will contact relevant entities regarding the potential impacts of both HSR-related EMF, RF, and low-frequency EMI on sensitive equipment or instrumentation prior to completion of final design. Where necessary to avoid interference, the final design will include suitable design provisions to prevent interference, in accordance with relevant standards and equipment-specific criteria. These design provisions may include establishing magnetic field shielding walls around sensitive equipment or installing RF filters into sensitive equipment. HSR-related EMI may affect highly susceptible, unshielded sensitive RF equipment such as older MRI systems and other measuring devices common to medical and research laboratories. Most of the devices manufactured today have adequate shielding from potential EMI sources; however, the potential exists for older devices to be affected and require shielding. A shielded enclosure is very effective at preventing external EMI. Metallic materials are used for shielding (specifically high-conductivity metals for high-frequency interference, such as from HSR operation), and high-permeability metals are used for low-frequency interference. Often either the housing of the affected device is coated with a conductive layer or the housing itself is made conductive. In some situations, it may be necessary to substantially reduce EMI for a suite of devices by creating a shielded room or rooms. Attenuation, or the effectiveness of EMI shielding, is the difference between an EM signal's intensity before and after shielding. Attenuation is the ratio between field strength with and without the presence of a protective medium measured in dB. This dB range changes on a logarithmic scale, so an attenuation rating of 50 dB indicates a shielding strength 10 times that of 40 dB. In general, a shielding range between 60 and 90 dB may be considered a high level of protection, and 90 to 120 dB is exceptional.	Preconstruction	Design	Prior to completion of final design	Authority/ contractor	Authority/ contractor	Protect nearby equipment sensitive to EMF/EMI	Contract requirements and specifications	Impact EMF/EMI-1: Temporary Impacts from Use of Heavy Construction Equipment Impact EMF/EMI-3: Temporary Impacts from Operation of Electrical Equipment Impact EMF/EMI-9: Permanent Interference with Sensitive Equipment

Mitigation Measure	Title	Mitigation Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
Public Utilities and Energy										
PUE-MM#1	Water Demand Analysis for Water Supplies for Construction and Operation	Given the uncertainties in planning for water procurement years in advance and the various restrictions, limitations, and unknowns associated with water supplies in the project area, the Authority will prepare updated water supply analyses for the Shared Passenger Track Alternatives prior to construction and throughout the project's operational life. The Authority will also outline what needs to occur to facilitate the use of available water in the project area and identify the sources of water that will meet supply needs, if necessary. The Authority will prepare and complete an initial water demand analysis when 90 percent engineering design plan sets are available and before the anticipated start of the construction period to assess the availability of water for construction activities throughout the approximately 30-mile project section. A subsequent water demand analysis will be prepared beginning when testing for the project commences and completed before the anticipated start of project operations. Every 5 years thereafter, a water supply analysis will be completed in coordination with water suppliers for the Shared Passenger Track Alternatives that identifies the detailed water supply needs for the ongoing operation of the project section station(s), including ARTIC, any included HSR platform and station facility options, and the LMF that is chosen and built for project operations. These analyses will describe the minimum adequate water supply for the study area during normal, dry, and multiple dry years based on the detailed project design, when more-detailed information about available water supply is known with greater certainty, and what will need to be done to facilitate use of available water in the project area. The Authority will, to the maximum extent feasible, identify the sources of water that will meet water supply needs, verify the sufficiency of water supplies, and fund any necessary expansion of water supplies and infrastructure if required to reduce impacts related to operational water use for the project section. Although the project section includes connections to the water supply infrastructure in the area, the project may not rely entirely on the existing and planned local water supply allocations, particularly in the event of a dry year or unforeseen local circumstance, such as wildfires. Based on the results of the water demand analyses, the Authority will coordinate with water suppliers to determine if allocations for additional water supply are needed for project construction along the right-of-way and for operation at the stations over the subsequent 5-year period. In the event that additional water supply is needed from the local groundwater or the State Water Project, the Authority will pay water suppliers its fair share of the State Water Project fees (per acre-foot of their allocations), which are used for building and operating the State Water Project conservation facilities.	Preconstruction	Design	Prior to final design	Authority/ contractor	Authority/ contractor	Conduct water supply analysis for construction and operation of the Shared Passenger Track Alternatives.	Contract requirements and specifications	Impact PU&E-3: Effects from Water Demand During Construction Impact PU&E-11: Operational Water Supply Demand

Mitigation Measure	Title	Mitigation Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
Biological and Aquatic Resources										
BIO-MM#6	Prepare and Implement a Restoration and Revegetation Plan	Prior to ground-disturbing activity, the Project Biologist will prepare an RRP to address temporary impacts resulting from ground-disturbing activities in areas that potentially support special-status species, wetlands, or other aquatic resources. Restoration activities may include, but are not limited to, grading landform contours to approximate predisturbance conditions, revegetating disturbed areas with native plant species, and using certified weed-free straw and mulch. The Authority will incorporate the RRP in temporarily disturbed areas outside of the permanent right-of-way that potentially support special-status species, wetlands, or other aquatic resources. Consistent with Section 1415 of the Fixing America's Surface Transportation Act or most recent applicable guidance, restoration activities will provide habitat for native pollinators through plantings of native forbs and grasses. The Project Biologist will obtain a locally sourced native seed mix. The restoration success criteria will include limits on invasive species, as defined by the California Invasive Plant Council, to an increase no greater than 10 percent compared to the predisturbance condition, or to a level determined through a comparison with an appropriate reference site consisting of similar natural communities and management regimes. The RRP will outline at a minimum: a. Procedures for documenting preconstruction conditions for restoration purposes b. Sources of plant materials and methods of propagation c. Specification of parameters for maintenance and monitoring of re-established habitats, including weed-control measures, frequency of field checks, and monitoring reports for temporary disturbance areas d. Specification of success criteria for re-established plant communities e. Specification of the remedial measures to be taken if success criteria are not met f. Methods and requirements for monitoring restoration or replacement efforts, which may involve a combination of qualitative or quantitative data gathering g. Maintenance, monitoring, and reporting schedules, including an annual report due to the Authority by January 31 of the following year The RRP will be submitted to the Authority and regulatory agencies, as defined in the conditions of regulatory authorizations, for review and approval.	Preconstruction/ construction/ post-construction	Surveying/ monitoring/ reporting	In accordance with agency permit requirements	Authority/ contractor/ Project Botanist	Authority/ contractor/ Project Botanist	Prepare and implement RRP/report findings	Condition of construction contract/condition of regulatory permits	Impact BIO-1: Construction Impacts on Riparian Habitat, Vegetation Communities, Land Cover, and Special-Status Natural Communities Impact BIO-3: Construction Impacts on Special-Status Birds, Raptors, and Migratory Birds Impact BIO-4: Construction Impacts on Special-Status Mammals Impact BIO-5: Construction Impacts on Aquatic Resources Impact BIO-6: Construction Impacts on Wildlife Movement Corridors

Mitigation Measure	Title	Mitigation Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
BIO-MM#14	Conduct Preconstruction Surveys and Delineate Active Nest Buffers Exclusion Areas for Breeding Birds	Prior to ground-disturbing activity, including vegetation removal, scheduled to occur during the bird breeding season (February 1 to September 1), the Project Biologist will conduct visual preconstruction surveys in the work area for nesting birds and active nests (nests with eggs or young) of nonraptor species listed under the MBTA or California Fish and Game Code no more than 14 days before the start of the activities, and as close to the start of activities as possible, in areas where suitable habitat is present. Surveys will occur in the habitat areas within the project footprint and, where access is available, to within 75 feet of the boundary of the project footprint. In the event that active bird nests are observed during the preconstruction survey, the Project Biologist will delineate no-work buffers. No-work buffers will be set at a distance of 75 feet unless a larger buffer is required pursuant to regulatory authorizations issued under the FESA or CESA. No-work buffers will be maintained until nestlings have fledged and are no longer reliant on the nest or parental care for survival or the Project Biologist determines that the nest has been abandoned. In circumstances where it is not feasible to maintain the standard no-work buffer, the no-work buffer may be reduced, provided that the Project Biologist monitors the active nest during the construction activity to ensure that the nesting birds do not become agitated. Larger buffers may be required if the Project Biologist determines that a larger buffer is required to prevent nest abandonment. Additional measures that may be used when no-work buffers are reduced include visual screens and sound barriers.	Preconstruction/ construction	Surveying/ monitoring/ reporting	Weekly or as established by regulatory compliance agencies	Authority/ contractor/ Project Biologist	Authority/ contractor/ Project Biologist	Visual preconstruction surveys in suitable habitats for nesting birds/establish no-work buffers/monitor active bird nests/report findings	Condition of construction contract/condition of regulatory permits	Impact BIO-3: Construction Impacts on Special-Status Birds, Raptors, and Migratory Birds
BIO-MM#15	Conduct Preconstruction Surveys and Monitoring for Raptors	If construction or other vegetation-removal activities are scheduled to occur during the breeding season for raptors (January 1 to September 1), the Project Biologist will conduct preconstruction surveys no more than 14 days before the start of the activities, and as close to the start of activities as possible, for nesting raptors in areas where suitable habitat is present. Specifically, such surveys will be conducted in habitat areas within the project footprint and, where access is available, within 500 feet of the boundary of the project footprint. If breeding raptors with active nests are found, the Project Biologist will delineate a 500-foot buffer (or as modified by regulatory authorizations for species listed under the FESA or CESA) around the nest to be maintained until the young have fledged from the nest and are no longer reliant on the nest or parental care for survival or until such time as the Project Biologist determines that the nest has been abandoned. Nest buffers may be adjusted if the Project Biologist determines that smaller buffers would be sufficient to avoid impacts on nesting raptors or if a larger buffer is required to prevent nest abandonment.	Preconstruction/ construction	Surveying/ monitoring/ reporting	Weekly or as established by regulatory compliance agencies	Authority/ contractor/ Project Biologist	Authority/ contractor/ Project Biologist	Preconstruction surveys in suitable habitats for nesting raptors/establish no-work buffers/monitor active raptor nests/report findings	Condition of construction contract/condition of regulatory permits	Impact BIO-3: Construction Impacts on Special-Status Birds, Raptors, and Migratory Birds

Mitigation Measure	Title	Mitigation Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
BIO-MM#20	Conduct Take Avoidance (Preconstruction) Surveys for Burrowing Owls	Prior to ground-disturbing activity, the Project Biologist will conduct take avoidance (preconstruction) surveys for Burrowing Owl within suitable habitat in the work area and extending 500 feet from the boundary of the work area, where access is available. Surveys will be conducted in accordance with guidelines in CDFW's Staff Report on Burrowing Owl Mitigation (CDFG 2012) or CDFW's most recent guidance. If no Burrowing Owls are observed and construction occurs within 14 days of the last survey, no further action is required for Burrowing Owls. However, if no Burrowing Owls are observed and construction is delayed more than 14 days after the last surveys, prior to ground-disturbing activities, within 14 days prior to construction, the Project Biologist will conduct preconstruction clearance surveys for Burrowing Owl within suitable habitat in the work area and extending 500 feet from the boundary of the work area, where access is available. A final survey will be conducted within 24 hours prior to ground disturbance. If no Burrowing Owls are observed, ground disturbance may occur. If Burrowing Owls are observed, BIO-MM#21 and potentially BIO-MM#44 would be implemented.	Preconstruction	Surveying/ monitoring/ reporting	Prior to construction	Authority/ contractor/ Project Biologist	Authority/ contractor/ Project Biologist	Conduct take avoidance surveys/ compliance reporting	Condition of construction contract/condition of regulatory permits	Impact BIO-3: Construction Impacts on Special-Status Birds, Raptors, and Migratory Birds
BIO-MM#21	Implement Avoidance and Minimization Measures for Burrowing Owl	If Burrowing Owl is not a candidate or listed species, and occupied Burrowing Owl burrows are found within the work area outside of the nesting season (as documented under BIO-MM#20), the Burrowing Owls will be relocated in accordance with CDFW's Staff Report on Burrowing Owl Mitigation (CDFG 2012). The Project Biologist will establish no-work buffers around occupied Burrowing Owl burrows in the work area. Work will not resume in this area unless the Project Biologist determines the burrow is inactive. Reductions in the nest buffer distance may be appropriate depending on ambient levels of human activity, screening vegetation, or possibly other factors and will be determined by the Project Biologist based on project conditions.	Preconstruction/ construction	Surveying/ monitoring/ reporting	Weekly or as established by regulatory compliance agencies	Authority/ contractor/ Project Biologist	Authority/ contractor/ Project Biologist	Relocate Burrowing Owls in accordance with CDFW guidance/ establish no-work buffers around occupied burrows/report findings	Condition of construction contract/condition of regulatory permits	Impact BIO-3: Construction Impacts on Special-Status Birds, Raptors, and Migratory Birds

Mitigation Measure	Title	Mitigation Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
BIO-MM#25	Conduct Preconstruction Surveys for Special-Status Bat Species	Preconstruction surveys will be conducted per *Caltrans Bat Mitigation: A Guide to Developing Feasible and Effective Solutions* (Johnston et al. 2021), as appropriate. No earlier than 30 days prior to the start of ground-disturbing activities in a work area, the Project Biologist will conduct a visual and acoustic survey (over the course of one day and one evening at a minimum, but could include a few nights of acoustic data collection at the discretion of the Project Biologist) for roosting bats in the work area and extending 500 feet from the boundary of the work area, where access is available. If possible and where deemed to be necessary by the Project Biologist, these surveys will be conducted during multiple seasons to determine the use of the project site for different life-history needs. When necessary, such surveys will be conducted in suitable habitat for special-status bats, including those areas in which bridges, abandoned structures, or trees with large cavities or dense foliage are present within up to a half-mile of the boundary of the work area, dependent on potential project indirect effects on bat hibernacula or maternity colonies. The Project Biologist will determine if surveys extending past 500 feet are necessary. The Project Biologist may determine that additional surveys prior to the preconstruction surveys (i.e., surveys conducted no more than 30 days prior to ground disturbance) may be required to develop effective mitigation strategies. Surveys to plan for effective mitigation may begin up to 2 years prior to construction to identify the bat species present and their locations. The requirement for and the planning of these surveys will be at the discretion of the Project Biologist.	Preconstruction	Surveying/ monitoring/ reporting	Prior to construction or as established by regulatory compliance agencies	Authority/ contractor/ Project Biologist	Authority/ contractor/ Project Biologist	Conduct surveys in accordance with Caltrans guidance; report findings	Condition of construction contract/condition of regulatory permits	Impact BIO-4: Construction Impacts on Special-Status Mammals
BIO-MM#26	Implement Bat Avoidance and Relocation Measures	Prior to ground-disturbing activity, tree removal, or bridge work, the Project Biologist will survey for active hibernacula or maternity roosts with guidance from *Caltrans Bat Mitigation: A Guide to Developing Feasible and Effective Solutions* (Johnston et al. 2021) (BIO-MM#25). Surveys will be conducted no earlier than 30 days prior to the start of ground-disturbing activities in a work area. The Project Biologist will conduct a visual and acoustic survey (over the course of one day and one evening at a minimum, but could include a few nights of acoustic data collection at the discretion of the Project Biologist) for hibernacula or maternity colonies in the work area and extending 500 feet from the boundary of the work area, where access is available. If possible and where deemed to be necessary by the Project Biologist, these surveys will be conducted during multiple seasons to determine the use of the project site for different life-history needs. If active hibernacula or maternity roosts are identified in the work area or within 500 feet extending from the work area during preconstruction surveys, they will be avoided to the extent feasible at the discretion of the Project Biologist depending on the type of impact and the likelihood of disturbance of the roosting bats with additional avoidance measures, as appropriate and as determined by the Project Biologist, from *Caltrans Bat Mitigation: A Guide to*	Preconstruction/ construction	Surveying/ monitoring/ reporting	Weekly or as established by regulatory compliance agencies	Authority/ contractor/ Project Biologist	Authority/ contractor/ Project Biologist	Avoid active or hibernation roosts, if feasible/if necessary, prepare and implement relocation plan for bat roosts/report findings	Condition of construction contract/condition of regulatory permits	Impact BIO-4: Construction Impacts on Special-Status Mammals

Mitigation Measure	Title	Mitigation Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
		Developing Feasible and Effective Solutions (Johnston et al. 2021) such as these avoidance measures for active day roosts: ▪ Implementing project activities when the colony is not present ▪ Avoiding clearing and grubbing of vegetation under and around roosts whenever possible ▪ Avoiding parking of equipment with internal combustion engines underneath or adjacent to bridge structures ▪ Not having construction personnel directly below roosts or present during the evening exodus The Project Biologist will determine if noise monitoring is required to reduce buffer distances and the types of noise monitoring that would be conducted or if buffers will be based on bat species present and types of known noises and decibels and frequencies being generated. If avoidance of a hibernaculum or maternity roosts is not feasible, the Project Biologist will prepare a relocation plan to remove the hibernaculum or maternity roosts and provide for construction of an alternative bat roost outside of the work area at the appropriate time of year. The maternity season begins April 15 through December 1 and the hibernation season begins September 1 through October 15. No removal will occur during the active maternity season or when bats are in torpor. The Project Biologist will implement the relocation plan and new roost sites shall be in place with sufficient time to allow relocation before the commencement of ground-disturbing activities that would occur within the buffers as described in Table 7-1 of *Caltrans Bat Mitigation: A Guide to Developing Feasible and Effective Solutions* (Johnston et al. 2021) of the hibernaculum or the maternity roosts, where the qualified biologist deems removal to be more beneficial than avoidance. If avoidance is possible without disturbing the bats, then avoidance will be implemented. Data collected during preconstruction surveys will be used for the effective planning of the relocation plan. The Project Biologist will determine if post-construction monitoring and success criteria will be required as a part of the relocation plan.								

Mitigation Measure	Title	Mitigation Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
BIO-MM#27	Implement Bat Exclusion and Deterrence Measures	If nonbreeding or nonhibernating individuals or groups of bats are found roosting in the work area, the Project Biologist will facilitate the eviction of the bats by methods such as either opening the roosting area to change the lighting and airflow conditions or installing one-way doors or other appropriate methods such as those described in *Caltrans Bat Mitigation: A Guide to Developing Feasible and Effective Solutions* (Johnston et al. 2021). Bat exclusion should occur when roosting habitat will be lost, not necessarily because of construction noise or light pollution. When maternity roosting habitat will be lost, exclusion would occur during early fall (September 1 through October 15) when the bats have dispersed, or at other times of year as long as it is outside of the maternity season pursuant to the judgment of the Project Biologist. To the extent feasible, the Authority will leave the roost undisturbed by project activities for a minimum of 1 week after implementing exclusion or eviction activities. Steps will not be taken to evict bats from active maternity roosts or hibernacula; instead, such features may be relocated pursuant to a relocation plan. The Project Biologist will determine if monitoring and adaptive management are necessary after bat exclusion.	Preconstruction/ construction	Surveying/ monitoring/ reporting	Weekly or as established by regulatory compliance agencies	Authority/ contractor/ Project Biologist	Authority/ contractor/ Project Biologist	Safely evict bats from roosts except for established maternity roosts and occupied hibernation roosts/report findings	Condition of construction contract/condition of regulatory permits	Impact BIO-4: Construction Impacts on Special-Status Mammals
BIO-MM#33	Restore Aquatic Resources Subject to Temporary Impacts	Within 90 days of the completion of construction activities in a work area, the Authority will begin to restore aquatic resources that were temporarily affected by construction. Aquatic resources are those resources considered waters of the U.S. under the CWA or waters of the state under Porter-Cologne. As set out in the RRP, such areas will be, to the extent feasible, restored to their natural topography. In areas where gravel or geotextile fabrics have been installed to protect substrate and to otherwise minimize impacts, the material will be removed and the affected features will be restored. The Authority will revegetate affected aquatic resources using appropriate native plants and seed mixes (from local vendors where available). The Authority will conduct maintenance monitoring consistent with the provisions of the RRP.	Construction/ post-construction	Restoration/ monitoring/ reporting	Weekly or as established by regulatory compliance agencies	Authority/ contractor/ Project Biologist	Authority/ contractor/ Project Biologist	Restore disturbed aquatic resources; conduct revegetation/ report findings	Condition of construction contract/condition of regulatory permits	Impact BIO-1: Construction Impacts on Riparian Habitat, Vegetation Communities, Land Cover, and Special-Status Natural Communities Impact BIO-5: Construction Impacts on Aquatic Resources
BIO-MM#34	Monitor Construction Activities within Aquatic Resources	The project biologist will monitor construction activities that occur within or adjacent to aquatic resources, including activities associated with the installation of protective barriers (e.g., silt fencing, sandbags, fencing), installation and/or removal of creek material to accommodate crossings, construction of access roads, and removal of vegetation. As part of this effort, the project biologist will document compliance with applicable avoidance and minimization measures, including measures set forth in applicable regulatory authorizations issued under the California Fish and Game Code, CWA, and/or the Porter-Cologne Water Quality Control Act.	Construction/ post-construction	Surveying/ monitoring/ reporting	Weekly or as established by regulatory compliance agencies	Authority/ contractor/ Project Biologist	Authority/ contractor/ Project Biologist	Conduct monitoring of construction activities in and adjacent to jurisdictional waters/report findings	Condition of construction contract/condition of regulatory permits	Impact BIO-1: Construction Impacts on Riparian Habitat, Vegetation Communities, Land Cover, and Special-Status Natural Communities Impact BIO-5: Construction Impacts on Aquatic Resources Impact BIO-6: Construction Impacts on Wildlife Movement Corridors

Mitigation Measure	Title	Mitigation Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
BIO-MM#35	Implement Transplantation and Compensatory Mitigation Measures for Protected Trees or Shrubs	Prior to ground-disturbing or maintenance activities, the Project Biologist will conduct surveys in the work area to identify protected trees or shrubs. The Project Biologist will establish ESAs around protected trees or shrubs with the potential to be affected by construction or maintenance activities, but that do not require removal. The ESAs will extend outward up to 5 feet from the driplines of such protected trees or shrubs and will include the dripline of protected trees. No grading will occur in the ESAs. Where protected trees or shrubs are present and are to be removed, depending on the requirements of the local government, a certified arborist may need to prepare a report identifying all protected trees and shrubs and any trees or shrubs where activity may occur within the dripline or any trees or shrubs that will be relocated or removed. The report will include the specific proposed mitigation measures for these activities and the anticipated effectiveness of these measures. The Authority will provide compensatory mitigation for impacts on protected trees and shrubs, including impacts associated with removing or trimming a protected tree or shrub as required by local ordinances. Compensation will be based on requirements set out in applicable local government ordinances, policies, and regulations. Compensatory mitigation may include, but is not limited to, the following: ▪ Transplantation of protected trees and shrubs to areas outside of the work area ▪ Replacement of protected trees or shrubs at an off-site location, based on the number of protected trees or shrubs affected, at a ratio not to exceed 3:1 for native trees or shrubs or 1:1 for ornamental trees or shrubs, unless higher ratios are specified by local government ordinances or regulations ▪ Contribution to a tree or shrub planting fund	Preconstruction/ construction/ post-construction	Surveying/ monitoring/ restoration/ reporting	Monthly or as established by regulatory compliance agencies	Authority/ contractor/ Project Biologist	Authority/ contractor/ Project Biologist	Conduct protected trees surveys/ compensate for impacts and effects to protected tree resources/ prepare and implement a monitoring and maintenance program to monitor transplanted trees/report findings	Condition of construction contract	Impact BIO-7: Construction Impacts on Locally Protected Biological Resources (Tree and Shrub Preservation Policies or Ordinances) Impact BIO-12: Operational Impacts on Locally Protected Biological Resources (Tree and Shrub Preservation Policies or Ordinances)
BIO-MM#37	Minimize Effects on Wildlife Movement Corridors During Construction	To the extent feasible, the Authority will avoid placing fencing, either temporarily or permanently, in known wildlife movement corridors, including the San Gabriel River, the Rio Hondo River and spreading grounds, the Santa Ana River, or the Los Angeles River, in those portions of the alignment where the tracks are elevated (e.g., viaducts, bridges). The Authority will avoid conducting ground-disturbing activities in these wildlife movement corridors during nighttime hours, to the extent feasible, and will shield nighttime lighting to avoid illuminating these areas in circumstances where night work avoidance is not feasible.	Preconstruction/ construction	Final design/ surveying/ monitoring/ reporting	Yearly or at other appropriate intervals	Authority/ contractor/ Project Biologist	Authority/ contractor/ Project Biologist	Avoid placement of fencing adjacent to wildlife movement corridors/report findings	Condition of construction contract	Impact BIO-3: Construction Impacts on Special-Status Birds, Raptors, and Migratory Birds Impact BIO-4: Construction Impacts on Special-Status Mammals Impact BIO-6: Construction Impacts on Wildlife Movement Corridors
BIO-MM#44	Obtain an Incidental Take Permit under the California Endangered Species Act for Burrowing Owl	If Burrowing Owl is a candidate or listed species and take is anticipated of Burrowing Owls or active Burrowing Owl burrows during the nesting season, an ITP from CDFW will be obtained. In the event the Authority does not acquire an ITP but will cause loss of Burrowing Owl habitat, the Authority will develop a Compensatory Mitigation Plan for Burrowing Owl requiring the concurrence of CDFW.	Preconstruction; construction	Design/ coordination/ reporting	Prior to ground-disturbing activities	Authority	Authority	Obtain ITP from CDFW/develop a Compensatory Mitigation Plan for Burrowing Owl	Condition of construction contract	Impact BIO-3: Construction Impacts on Special-Status Birds, Raptors, and Migratory Birds

Mitigation Measure	Title	Mitigation Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
BIO-MM#47	Prepare and Implement a Compensatory Mitigation Plan for Impacts on Aquatic Resources	The Authority will prepare and apply a CMP that identifies mitigation to address permanent losses, including functions and values, of aquatic resources defined as waters of the U.S. under the CWA or waters of the state under Porter-Cologne, as well as areas subject to California Fish and Game Code Section 1600 et seq. Compensatory mitigation may involve the restoration, establishment, enhancement, or preservation of aquatic resources through one or more of the following methods: ▪ Purchase of credits from an agency-approved mitigation bank ▪ Preservation of aquatic resources through acquisition of property ▪ Establishment, restoration, or enhancement of aquatic resources ▪ In-lieu fee contribution determined through consultation with the applicable regulatory agencies A 1:1 ratio will be used for compensatory mitigation to offset permanent impacts unless a higher ratio is required pursuant to regulatory authorizations issued under Section 404 of the CWA, Porter-Cologne, or California Fish and Game Code Section 1600 et seq. For mitigation involving the establishment, restoration, enhancement, or preservation of aquatic resources by the Authority, the CMP will contain the following information: ▪ Objectives: A description of the resource types and amounts that will be provided, the type of compensation (i.e., restoration, establishment, enhancement, or preservation), and the manner in which the resource functions of the compensatory mitigation project will address the needs of the watershed or ecoregion ▪ Site selection: A description of the factors considered during the term sustainability of the resource ▪ Adaptive management plan: A management strategy to address changes in site conditions or other components of the compensatory mitigation project ▪ Financial assurances: A description of financial assurances that will be provided to ensure that the compensatory mitigation will be successful In circumstances where the Authority intends to fulfill compensatory mitigation obligations by securing credits from approved mitigation banks or in-lieu fee programs, the CMP need only include the name of the specific mitigation bank or in-lieu fee program to be used and the method for calculating credits.	Preconstruction/ construction/ post-construction	Design/final design/ surveying/ compensatory mitigation/ reporting	Yearly or as established by regulatory compliance agencies	Authority/ contractor/ Project Biologist	Authority/ contractor/ Project Biologist	Prepare and implement CMP for temporary and permanent impact on aquatic resources/ report findings	Condition of construction contract/condition of regulatory permits	Impact BIO-1: Construction Impacts on Riparian Habitat, Vegetation Communities, Land Cover, and Special-Status Natural Communities Impact BIO-5: Construction Impacts on Aquatic Resources

Mitigation Measure	Title	Mitigation Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
BIO-MM#50	Implement Measures to Minimize Impacts During Off-Site Habitat Restoration, or Enhancement, or Creation on Mitigation Sites	Prior to ground-disturbing activities associated with habitat restoration, enhancement, or creation actions at a mitigation site, the Authority will conduct a site assessment of the work area to identify biological and aquatic resources, including plant communities, land cover types, and the distribution of special-status plants and wildlife. Based on the results of the site assessment, the Authority will obtain necessary regulatory authorizations prior to conducting habitat restoration, enhancement, or creation activities, including authorization under the FESA or CESA, California Fish and Game Code Section 1600 et seq., CWA, and Porter-Cologne. The Authority will implement the following to avoid or minimize impacts on species habitat and aquatic biological resources during habitat restoration, enhancement, or creation activities: ▪ BIO-IAMF#3: Prepare WEAP Training Materials and Conduct Construction-Period WEAP Training ▪ BIO-IAMF#6: Establish Monofilament Restrictions ▪ BIO-IAMF#7: Prevent Entrapment in Construction Materials and Excavations ▪ BIO-IAMF#8: Delineate Equipment Staging Areas and Traffic Routes ▪ BIO-IAMF#9: Dispose of Construction Spoils and Waste ▪ BIO-IAMF#10: Clean Construction Equipment ▪ BIO-IAMF#11: Maintain Construction Sites ▪ BIO-MM#14: Conduct Preconstruction Surveys and Delineate Active Nest Buffers Exclusion Areas for Breeding Birds ▪ BIO-MM#15: Conduct Preconstruction Surveys and Monitoring for Raptors ▪ BIO-MM#33: Restore Aquatic Resources Subject to Temporary Impacts ▪ BIO-MM#55: Prepare and Implement a Weed Control Plan ▪ BIO-MM#58: Delineate Environmentally Sensitive Areas and Install Wildlife Exclusion Fencing ▪ BIO-MM#60: Limit Vehicle Traffic and Construction Site Speeds ▪ BIO-MM#63: Work Stoppage	Preconstruction/ construction/ post-construction	Design/final design/ surveying/ compensatory mitigation/ reporting	Yearly or as established by regulatory compliance permits	Authority/ contractor/ Project Biologist	Authority/ contractor/ Project Biologist	Implement measures to avoid and minimize impacts during off-site habitat restoration, enhancement, and creation/ report findings	Condition of construction contract/condition of regulatory permits	Impact BIO-1: Construction Impacts on Riparian Habitat, Vegetation Communities, Land Cover, and Special-Status Natural Communities Impact BIO-5: Construction Impacts on Aquatic Resources

Mitigation Measure	Title	Mitigation Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
BIO-MM#54	Prepare and Implement an Annual Vegetation Control Plan	Prior to the O&M of the HSR, the Authority will prepare an annual VCP to address vegetation removal for the purpose of maintaining clear areas around facilities, reducing the risk of fire, and controlling invasive weeds during the operational phase. The Authority will generally follow the procedures established in Chapter C2 of the California Department of Transportation's *Maintenance Manual* to manage vegetation on Authority property (Caltrans 2014). To comply with Assembly Bill 1788, the use of any second-generation anticoagulant rodenticide will be prohibited, because these rodenticides have a higher toxicity and are more dangerous to nontarget wildlife. Vegetation will be controlled by chemical, thermal, biological, cultural, mechanical, structural, and manual methods. The VCP will be updated each winter and completed in time to be implemented no later than April 1 of each year. The annual update to the VCP will include a section addressing issues encountered during the prior year and changes to be incorporated into the VCP. The plan will describe site-specific vegetation control methods, as outlined below: ▪ Chemical vegetation-control methods ▪ Mowing program consistent with Section 1415 of the Fixing America's Surface Transportation Act or the most recent applicable guidance ▪ Other nonchemical vegetation control ▪ Other chemical pest control methods (e.g., insects, snail, rodent), which will be consistent with Assembly Bill 1788 with all second-generation anticoagulant rodenticides being prohibited The use of rodenticides will be prohibited to prevent the inadvertent poisoning of Burrowing Owl (CDFG 2012), raptors, and mountain lion. Only California Department of Transportation–approved herbicides may be used in the vegetation control program. Pesticide application will be conducted in accordance with requirements of the California Department of Pesticide Regulation and County Agricultural Commissioners by certified pesticide applicators. Noxious or invasive weeds will be treated where requested by County Agricultural Commissioners. The Authority will cooperate in area-wide efforts to control noxious or invasive weeds if such programs have been established by local agencies.	Preconstruction/ construction/ post-construction	Design/final design/ compensatory mitigation/ reporting	Yearly or as established by regulatory compliance agencies	Authority/ contractor/ Project Biologist	Authority/ contractor/ Project Biologist	Prepare and implement VCP for vegetation removal for the purpose of maintaining clear areas/report findings	Condition of construction contract/condition of regulatory permits	Impact BIO-8: Operational Impacts on Riparian Habitat, Vegetation Communities, Land Cover, and Special-Status Natural Communities Impact BIO-9: Operational Impacts on Special-Status Birds, Raptors, and Migratory Bird Species Impact BIO-10: Operational Impacts on Special-Status Mammals Impact BIO-11: Operational Impacts on Wildlife Movement Corridors Impact BIO-12: Operational Impacts on Locally Protected Biological Resources (Tree and Shrub Preservation Policies or Ordinances)

Mitigation Measure	Title	Mitigation Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
BIO-MM#55	Prepare and Implement a Weed Control Plan	Prior to ground-disturbing activity during the construction phase, the Project Biologist will develop a WCP, subject to review and approval by the Authority. The purpose of the WCP is to establish approaches to minimize and avoid the spread of invasive weeds during ground-disturbing activities during construction and O&M. The WCP will include, at a minimum, the following: ▪ A requirement to delineate ESAs in the field prior to weed-control activities ▪ A schedule for weed surveys to be conducted in coordination with the BRMP ▪ Success criteria for invasive weed control. The success criteria will be linked to the BRMP standards for on-site work during ground-disturbing activities. In particular, the criteria will establish limits on the introduction and spread of invasive species, as defined by the California Invasive Plant Council, to less than or equal to the predisturbance conditions in the area temporarily affected by ground-disturbing activities. If invasive species cover is found to exceed predisturbance conditions by greater than 10 percent or is 10 percent greater than levels at a similar, nearby reference site, a control effort will be implemented. If the target, or other success criteria identified in the WCP, has not been met by the end of the WCP monitoring and implementation period, the Authority will continue the monitoring and control efforts, and remedial actions will be identified and applied until the success criteria are met. ▪ Provisions to ensure consistency between the WCP and the RRP, including verification that the RRP includes measures to minimize the risk of the spread or establishment of invasive species and reflects the same revegetation performance standards as the WCP. ▪ Identification of weed-control treatments, including permitted herbicides and manual and mechanical removal methods ▪ Timeframes for weed-control treatment for each plant species ▪ Identification of fire-prevention measures	Preconstruction/ construction/ post-construction	Design/ final design/ compensatory mitigation/ reporting	Yearly or as established by regulatory compliance agencies	Authority/ contractor/ Project Biologist	Authority/ contractor/ Project Biologist	Prepare and implement WCP to minimize and avoid the spread of invasive weeds/report findings	Condition of construction contract/condition of regulatory permits	Impact BIO-1: Construction Impacts on Riparian Habitat, Vegetation Communities, Land Cover, and Special-Status Natural Communities Impact BIO-3: Construction Impacts on Special-Status Birds, Raptors, and Migratory Birds Impact BIO-4: Construction Impacts on Special-Status Mammals Impact BIO-5: Construction Impacts on Aquatic Resources Impact BIO-6: Construction Impacts on Wildlife Movement Corridors Impact BIO-7: Construction Impacts on Locally Protected Biological Resources (Tree and Shrub Preservation Policies or Ordinances) Impact BIO-8: Operational Impacts on Riparian Habitat, Vegetation Communities, Land Cover, and Special-Status Natural Communities Impact BIO-9: Operational Impacts on Special-Status Birds, Raptors, and Migratory Bird Species Impact BIO-11: Operational Impacts on Wildlife Movement Corridors Impact BIO-12: Operational Impacts on Locally Protected Biological Resources (Tree and Shrub Preservation Policies or Ordinances)

Mitigation Measure	Title	Mitigation Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
BIO-MM#56	Conduct Monitoring of Construction Activities	During initial ground-disturbing activity, the Project Biologist will be present in the work area to verify compliance with avoidance and minimization measures, establish ESAs, and install WEF and construction exclusion fencing. Any observations of special-status wildlife or plant species or sensitive natural communities will be reported to the CNDDB.	Construction	Monitoring/ reporting	Weekly or as established by regulatory compliance agencies	Authority/ Contractor/ Project Biologist	Authority/ Contractor/ Project Biologist	Project Biologist will be present in work area to verify compliance with avoidance and minimization measures	Condition of construction contract/condition of regulatory permits	Impact BIO-1: Construction Impacts on Riparian Habitat, Vegetation Communities, Land Cover, and Special-Status Natural Communities Impact BIO-3: Construction Impacts on Special-Status Birds, Raptors, and Migratory Birds Impact BIO-4: Construction Impacts on Special-Status Mammals Impact BIO-6: Construction Impacts on Wildlife Movement Corridors Impact BIO-7: Construction Impacts on Locally Protected Biological Resources (Tree and Shrub Preservation Policies or Ordinances) Impact BIO-12: Operational Impacts on Locally Protected Biological Resources (Tree and Shrub Preservation Policies or Ordinances)
BIO-MM#58	Establish Environmentally Sensitive Areas and Nondisturbance Zones	Prior to ground-disturbing activity in a work area, the Project Biologist will use flagging to mark ESAs that support special-status species or aquatic resources and are subject to seasonal restrictions or other avoidance and minimization measures. The Project Biologist will also direct the installation of WEF to prevent special-status wildlife species from entering work areas. The WEF will have exit doors to allow animals that may be inside an enclosed area to leave the area. The Project Biologist will also direct the installation of construction exclusionary fencing at the boundary of the work area, as appropriate, to avoid and minimize impacts on special-status species or aquatic resources outside of the work area during the construction period. The ESAs, WEF, and construction exclusionary fencing will be delineated by the Project Biologist based on the results of aquatic resource mapping, wildlife corridors, and preconstruction surveys, and in coordination with the Authority. The ESAs, WEF, and construction exclusionary fencing will be regularly inspected and maintained by the Project Biologist. The ESA, WEF, and construction exclusionary fencing locations will be identified and depicted on an exclusion fencing exhibit. The purpose of the ESAs and WEF will be explained at WEAP training and the locations of the ESA and WEF areas will be noted during worker tailgate sessions.	Preconstruction/ construction	Identify and establish ESAs, WEF, and construction exclusionary fencing	In accordance with reporting schedule established by agency permit requirements	Authority/ contractor	Authority	Identify and establish ESAs, WEF, and construction exclusionary fencing	Condition of construction contract	Impact BIO-1: Construction Impacts on Riparian Habitat, Vegetation Communities, Land Cover, and Special-Status Natural Communities Impact BIO-3: Construction Impacts on Special-Status Birds, Raptors, and Migratory Birds Impact BIO-4: Construction Impacts on Special-Status Mammals Impact BIO-5: Construction Impacts on Aquatic Resources Impact BIO-6: Construction Impacts on Wildlife Movement Corridors Impact BIO-7: Construction Impacts on Locally Protected Biological Resources (Tree and Shrub Preservation Policies or Ordinances) Impact BIO-12: Operational Impacts on Locally Protected Biological Resources (Tree and Shrub Preservation Policies or Ordinances)

Mitigation Measure	Title	Mitigation Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
BIO-MM#60	Limit Vehicle Traffic and Construction Site Speeds	Prior to ground-disturbing activities, the Project Biologist will ensure that appropriate measures have been instituted to restrict project vehicle traffic within the project footprint to established roads, construction areas, and other permissible areas. The Project Biologist will establish vehicle speed limits of no more than 15 miles per hour for unimproved access roads and for temporary and permanent construction areas within the project footprint. The Project Biologist will also direct that access routes be flagged and marked and that measures be adopted to prevent off-road vehicle traffic.	Preconstruction/ construction	Monitoring/ reporting	Weekly or as established by regulatory compliance agencies	Authority/ Contractor/ Project Biologist	Authority/ Contractor/ Project Biologist	Establish and demarcate vehicle access routes and speed limits/ report findings	Condition of construction contract/condition of regulatory permits	Impact BIO-1: Construction Impacts on Riparian Habitat, Vegetation Communities, Land Cover, and Special-Status Natural Communities Impact BIO-3: Construction Impacts on Special-Status Birds, Raptors, and Migratory Birds Impact BIO-4: Construction Impacts on Special-Status Mammals Impact BIO-6: Construction Impacts on Wildlife Movement Corridors Impact BIO-7: Construction Impacts on Locally Protected Biological Resources (Tree and Shrub Preservation Policies and Ordinances) Impact BIO-12: Operational Impacts on Locally Protected Biological Resources (Tree and Shrub Preservation Policies or Ordinances)
BIO-MM#62	Prepare Plan for Dewatering and Water Diversions	Prior to initiating construction activity that occurs in open or flowing water, the Authority will prepare a dewatering plan, which will be subject to review and approval by the applicable regulatory agencies. The plan will incorporate measures to minimize turbidity and siltation. The Project Biologist will monitor the dewatering or water diversion sites, including collection of water quality data, as applicable. Prior to the dewatering or diverting of water from a site, the Project Biologist will conduct pre-activity surveys to determine the presence or absence of special-status species in the affected waterbody. In the event that special-status species are detected during pre-activity surveys, the Project Biologist will relocate the species (unless the species is fully protected under state law), consistent with regulatory authorizations applicable to the species.	Preconstruction/ construction	Design/final design/ monitoring/ reporting	Weekly or as established by regulatory compliance agencies	Authority/ Contractor/ Project Biologist	Authority/ Contractor/ Project Biologist	Prepare and implement dewatering and waste diversion plan/report findings	Condition of construction contract/condition of regulatory permits	Impact BIO-1: Construction Impacts on Riparian Habitat, Vegetation Communities, Land Cover, and Special-Status Natural Communities Impact BIO-3: Construction Impacts on Special-Status Birds, Raptors, and Migratory Birds Impact BIO-4: Construction Impacts on Special-Status Mammals Impact BIO-5: Construction Impacts on Aquatic Resources Impact BIO-6: Construction Impacts on Wildlife Movement Corridors Impact HWR-3: Temporary Impacts on Surface Water Quality During Construction
BIO-MM#63	Work Stoppage	In the event that any special-status wildlife species is found in a work area, the project biologist will have the authority to halt work to prevent the death or injury to the species. Any such work stoppage will be limited to the area necessary to protect the species and work may be resumed once the project biologist determines that the individuals of the species have moved out of harm's way or the project biologist has relocated them out of the work area. Any such work stoppages and the measures taken to facilitate the removal of the species, if any, will be documented in a memorandum prepared by the Project Biologist and submitted to the Authority within 2 business days of the work stoppage.	Construction	Monitoring/ reporting	Weekly or as established by regulatory compliance agencies	Authority/ Contractor/ Project Biologist	Authority/ Contractor/ Project Biologist	Halt work to relocate special-status wildlife species (if possible)/report findings	Condition of construction contract/condition of regulatory permits	Impact BIO-3: Construction Impacts on Special-Status Birds, Raptors, and Migratory Birds Impact BIO-4: Construction Impacts on Special-Status Mammals Impact BIO-6: Construction Impacts on Wildlife Movement Corridors

Mitigation Measure	Title	Mitigation Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
BIO-MM#68	Avoid and Minimize Impacts on White-Tailed Kite	If construction activities are scheduled to occur between February 1 and August 31, the Project Biologist will conduct surveys for White-Tailed Kite in areas with suitable habitat for this species. Nesting surveys for White-Tailed Kite will comply with the general requirements of BIO-MM#15, including the requirement for raptor nesting surveys to occur no more than 14 days before the start of the activities in areas where suitable habitat is present. Surveys will cover a minimum of a 0.5-mile radius around the construction area. If nesting White-Tailed Kites are detected, the Project Biologist will establish a 0.25-mile no-disturbance buffer unless the Project Biologist determines that smaller buffers will be sufficient to avoid impacts. Buffers will be maintained until the Project Biologist has determined that the young have fledged and are no longer reliant on the nest or parental care that includes nest use for survival.	Preconstruction/ construction	Surveying/ monitoring/ reporting	Prior to construction or as established by regulatory compliance agencies	Authority/ Contractor/ Project Biologist	Authority/ Contractor/ Project Biologist	Conduct preconstruction surveys for White-Tailed Kite/establish no-disturbance buffer/report findings	Condition of construction contract/condition of regulatory permits	Impact BIO-3: Construction Impacts on Special-Status Birds, Raptors, and Migratory Birds
BIO-MM#76	Implement Wildlife Rescue Measures	During construction and O&M, if an injured or trapped wildlife species, including but not limited to birds and raptors, is observed, the Project Biologist will be notified immediately to determine if it is appropriate to release or take the wildlife species to the nearest CDFW-permitted rehabilitation center. The Project Biologist will follow relevant guidelines for federally and state-listed species. If an injured or trapped bird is incidentally observed during maintenance or construction, personnel will notify the Project Biologist immediately to determine if it is appropriate to release or take the bird to the nearest CDFW-permitted rehabilitation center. Other wildlife species that may be injured or trapped could include bats and mountain lion.	Construction/ post-construction/ operation	Monitoring/ reporting	Weekly or as established by regulatory compliance agencies	Authority/ Contractor/ Project Biologist	Authority/ Contractor/ Project Biologist	Notify CDFW of injured or trapped wildlife species/report findings	Condition of construction contract/condition of regulatory permits	Impact BIO-3: Construction Impacts on Special-Status Birds, Raptors, and Migratory Birds Impact BIO-4: Construction Impacts on Special-Status Mammals Impact BIO-9: Operational Impacts on Special-Status Birds, Raptors, and Migratory Bird Species Impact BIO-10: Operational Impacts on Special-Status Mammals
BIO-MM#79	Conduct Presence/Absence Preconstruction Surveys for Special-Status Natural Communities	Prior to ground-disturbing activity, the Project Biologist will conduct presence or absence botanical surveys for special-status natural communities in potentially suitable habitats in a work area and the Botanical RSA. The Project Biologist will be provided locations of the special-status natural community (Goodding's willow – red willow) as previously mapped within the Botanical RSA. Because this community is found in a natural system that commonly experiences fluctuations from flooding, the location and extent of this community may vary from year to year. The Project Biologist will establish ESAs and record in GIS the locations of observed special status natural communities in the work area and the Botanical RSA. The Project Biologist will flag and record in GIS the locations of observed special-status plant species and special-status natural communities.	Preconstruction	Surveying/ monitoring/ reporting	Report findings at least 30 days prior to ground disturbance	Authority/ Contractor/ Project Biologist	Authority/ Contractor/ Project Biologist	Conduct protocol-level surveys for special-status communities/ report findings	Condition of construction contract/condition of regulatory permits	Impact BIO-1: Construction Impacts on Riparian Habitat, Vegetation Communities, Land Cover, and Special-Status Natural Communities
BIO-MM#82	Implement Lighting Minimization Measures During Construction	Ground-disturbing activities in and adjacent to the Los Angeles River, the Rio Hondo and spreading grounds, the San Gabriel River, and the Santa Ana River will be avoided during nighttime hours to the extent feasible. If nighttime work is necessary, a biological monitor will be present and will use methods to reduce lighting in these wildlife corridors. These methods could include ensuring that nighttime lighting is shielded to avoid illuminating wildlife habitat and that night work is only conducted in the boundaries of previously disturbed, cleared, and grubbed areas.	Preconstruction	Reporting	Weekly	Authority/ Contractor	Authority/ Contractor	Implement lighting minimization measures during construction/ report findings	Condition of construction contract	Impact BIO-3: Construction Impacts on Special-Status Birds, Raptors, and Migratory Birds Impact BIO-4: Construction Impacts on Special-Status Mammals Impact BIO-6: Construction Impacts on Wildlife Movement Corridors

Mitigation Measure	Title	Mitigation Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
BIO-MM#83	Implement Lighting Minimization Measures During Operations	To the extent feasible, measures will be implemented to minimize operational lighting. These will include: ▪ Shields on nighttime lighting will direct light downward and contain the light to the boundaries of the project site. ▪ Train headlights will use the minimum standard allowed by the FRA under 49 CFR Part 229.125 (a single headlight of at least 200,000 candelas) in nontunnel portions of the project section. Outdoor lighting at operational facilities will be consistent with the minimum Occupational Safety and Health Administration requirements established by 29 CFR Part 1926.56 when the facilities are in use. To the extent feasible, the Authority will minimize the duration of lighting at operational facilities by using methods other than lighting (e.g., remote monitoring systems) to ensure security of facilities during nighttime hours they are not in use.	Operation	Reporting/ monitoring	Monthly	Authority/ Contractor	Authority/ Contractor	Implement measures to minimize the intensity and duration of operational lighting of permanent facilities and intermittent train lighting	Reporting contract requirements/ specifications	Impact BIO-9: Operational Impacts on Special-Status Birds, Raptors, and Migratory Bird Species Impact BIO-10: Operational Impacts on Special-Status Mammals Impact BIO-11: Operational Impacts on Wildlife Movement Corridors
BIO-MM#84	Nesting Bird Surveys During Operations	If operational work is to occur in the Los Angeles River, the Rio Hondo and spreading grounds, the San Gabriel River, and the Santa Ana River or other areas deemed to contain suitable nesting bird habitat during the avian nesting season (February 1 to September 1), the Project Biologist will conduct visual nesting bird surveys in the work area for nesting birds and active nests (nests with eggs or young) of nonraptor species listed under the MBTA or California Fish and Game Code no more than 14 days before the start of the activities in areas where suitable habitat is present. Surveys will occur in the habitat areas within the project footprint and, where access is available, to within 75 feet of the boundary of the project footprint. In the event that active bird nests are observed during the nesting bird survey, the Project Biologist will delineate no-work buffers. No-work buffers will be set at a distance of 75 feet unless a larger buffer is required pursuant to regulatory authorizations issued under the FESA or CESA. No-work buffers will be maintained until nestlings have fledged and are no longer reliant on the nest or parental care for survival or the Project Biologist determines that the nest has been abandoned. In circumstances where it is not feasible to maintain the standard no-work buffer, the no-work buffer may be reduced provided that the Project Biologist monitors the active nest during operational activities to ensure that the nesting birds do not become agitated. Larger buffers may be required if the Project Biologist determines that a larger buffer is required to prevent nest abandonment. Additional measures that may be used when no-work buffers are reduced include visual screens and sound barriers.	Operation	Surveying/ monitoring/ reporting	Prior to operational work or as established by regulatory compliance agencies	Authority/ Contractor/ Project Biologist	Authority/ Contractor/ Project Biologist	Conduct visual nesting bird surveys prior to operational work/establish no-work buffers/ report findings	Condition of construction contract/condition of regulatory permits	Impact BIO-9: Operational Impacts on Special-Status Birds, Raptors, and Migratory Bird Species

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Hazardous Materials and Wastes										
HMW-MM#1	Limit Use of Extremely Hazardous Materials Near Schools During Construction	Prior to construction, the contractor will prepare a memorandum establishing BMPs regarding hazardous materials related to construction activity for approval by the Authority. The memorandum will confirm that the contractor will not handle or store an extremely hazardous substance (as defined in California Public Resources Code Section 21151.4) or a mixture containing extremely hazardous substances in a quantity equal to or greater than the state threshold quantities specified pursuant to subdivision (j) of Section 25532 of the Health and Safety Code within 0.25 mile of a school. The memorandum will acknowledge that, prior to construction activities, signage will be installed to delineate work areas within 0.25 mile of a school, informing the contractor not to bring extremely hazardous substances into the area. The contractor will be required to monitor use of extremely hazardous substances. This construction mitigation measure for hazardous materials and wastes is consistent with California Public Resources Code Section 21151.4, and will be effective in reducing the impact to a less-than-significant level. The memorandum will be submitted to the Authority prior to construction involving an extremely hazardous substance and the contractor would implement during construction.	Preconstruction/ construction	Reporting/ monitoring	Memorandum approved 30 days prior to start of construction/ during construction, submit weekly reports or reporting requirements, as established by the approved memorandum	Authority/ Contractor/ Hazardous Material Monitor	Contractor	Hazardous materials memorandum/ weekly reporting	Hazardous materials memorandum	Impact HMW-6: Handling of Hazardous Materials, Substances, or Waste within 0.25 Mile of a School
HMW-MM#2	Coordination of High-Speed Rail Design and Construction with Remediation of Exide Site and Orange County North Basin Superfund Site	Construction of the 26th Street LMF and construction associated with Hobart Yard modifications would occur in a portion of the area of the Exide site proposed for listing on the National Priorities List. Construction of the modifications to the Fullerton Metrolink/Amtrak Station, as well as the Fullerton HSR Station Option (if the station option is selected), would occur in the area of the Orange County North Basin Superfund site. Remedy design for the Exide site is in progress, and USEPA expects to select a final remedy for the Orange County North Basin Superfund site Decision Unit 01 by April 2026 and Decision Unit 02 by November 2027. Given that the contamination at these two sites warrants listing (the Exide site's listing has been proposed) on the National Priorities List, and that the remedial designs for these sites have not been finalized, close coordination with the regulatory oversight agencies and the responsible parties on the design within these two sites is required to ensure that (1) project design takes into consideration interim remedial actions implemented to date and proposed remedial designs; and (2) project design and construction methods address known and suspected contamination at these sites in a manner protective of human health and the environment. In connection with advancing design of the selected HSR project alternative, it shall be the responsibility of the Authority to coordinate the project design at the Exide site and in the area of the Orange County North Basin Superfund site with responsible parties and the regulatory oversight agencies and to receive approvals from such agencies, as required. For the Exide site, these agencies include DTSC, USEPA, Los Angeles Regional Water Quality Control Board, SCAQMD, and City of Vernon. For the Orange County North Basin Superfund site, these agencies	Preconstruction/ construction	Coordination/ reporting/ monitoring	Coordinate with responsible parties, regulatory oversight agencies, and other interested parties at the 30, 60, and 90 percent design milestones	Authority/ Contractor	Authority/ Contractor	Coordinate with responsible parties, regulatory oversight agencies, and other interested parties	Condition of construction contract	Impact HMW-4: Construction within or Near Sites of Potential Environmental Concern or Cortese List Sites Impact HMW-6: Handling of Hazardous Materials, Substances, or Waste within 0.25 Mile of a School Impact SS-3: Temporary Exposure to Construction Site Hazards

Mitigation Measure	Title	Mitigation Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
		include USEPA, DTSC, Orange County Water District, and Santa Ana Regional Water Quality Control Board. As the designs progress, the Authority will coordinate the HSR design and construction methods with the responsible parties and the regulatory oversight agencies to ensure that the HSR design meets applicable cleanup requirements and the effectiveness of the cleanup remedies selected or proposed for the two sites is not impaired by construction and operation of the selected HSR project alternative. In connection with advancing HSR design within the two sites, the Authority will also communicate with public interested parties who expressed an interest in the potential impacts on human health and safety of project construction and operations on the Exide site and Orange County North Basin Superfund site. The Authority will provide these interested parties regular updates on the status of the project section design as it relates to the Exide site and the Orange County North Basin Superfund site and provide opportunities for meaningful input on the advancing design at the 30, 60, and 90 percent design milestones. The list of public interested parties receiving the aforementioned updates will include any individual or entity who submitted a written comment letter to the Authority during the Draft EIR/EIS public comment period or to the Authority Board before its public meeting to certify the EIR/EIS, if the written comment explicitly requests to receive "updates specified in HMW-MM#2 regarding HSR design at either the Exide Site or the Orange County North Basin site" and if the written comment includes a valid address. The Authority's Director of Environmental Services may, at their discretion, add individuals to this list who submit requests through other means. Such updates shall take the form, at minimum, of a postcard or email, depending on the address specified by the requester, and shall (1) advise the public that the Authority has recently or will soon reach one of the aforementioned design milestones (30 percent, 60 percent, 90 percent) for the project at either the Exide site or the Orange County North Basin site, (2) summarize the regulatory agencies with whom the Authority has coordinated and identify their contact information to date, and (3) specify a comment period in which any written input from the public may be submitted for consideration. The Authority will take into consideration any timely submitted comments.							

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Safety and Security										
S&S-MM#1	Implement Emergency Response Time Mitigation Strategies	Prior to the start of HSR operations, the Authority will coordinate with the City of Anaheim to conduct monitoring of emergency response vehicle trips through the eight at-grade crossings in Anaheim and implement emergency vehicle priority treatment strategies where impacts are identified. The monitoring will establish baseline travel times through the at-grade crossings, as well a baseline frequency and duration during which emergency vehicles are stopped at gate-down events per day. Travel time data will be collected for a 1-mile section of the at-grade crossing street (i.e., 0.5 mile on either side of the at-grade crossing) during weekday peak periods (7 a.m. to 9 a.m. and 4 p.m. to 6 p.m.). The cumulative time per day that an emergency vehicle is stopped at a gate-down event will also be collected. Data will be collected on 12 days during each monitoring year from Tuesday to Thursday over a 2-week period in early May and early October. Data will be collected at the following intervals: ▪ 1 year prior to initiation of new HSR service; based on this monitoring, the Authority will determine baselines for emergency response in coordination with the City of Anaheim. ▪ Monthly for the first 6 months of initial operations and annually thereafter for 3 years, to identify changes in emergency response caused by HSR trains passing through the at-grade crossings. An emergency vehicle priority treatment plan will be developed for at-grade crossing locations where travel times and the cumulative time per day where emergency vehicles are stopped exceed the baselines established in coordination with the city. The emergency vehicle priority treatment plan will include mitigation strategies such as, but not limited to, the following: ▪ Installation of or upgrades to emergency vehicle signal preemption systems at intersections ▪ Implementation of real-time gate status communication systems that integrate with emergency dispatch to notify responding units of active gate closures at the at-grade crossings in Anaheim, enabling real-time rerouting and minimizing signal wait times ▪ Enhancement of interagency dispatch coordination protocols among existing and proposed Anaheim Fire and Rescue stations, enabling flexible dispatch from stations on the same side of the railroad corridor, particularly for overlapping service areas The monitoring data would determine the Authority's fair-share contribution to the treatment plan strategies. As an alternative to the listed strategies, the Authority and a local agency may reach a mutual agreement to have the Authority make an in-lieu payment toward other projects. The in-lieu payment will be the fair-share capital contribution that the Authority would have otherwise made to one or more of the above emergency vehicle priority treatment strategies.	Preconstruction/ construction/ post-construction/ operation	Monitoring/ reporting	Monthly for the first 6 months/ annually thereafter for 3 years	Authority	Authority	Monitoring of emergency response vehicle trips through eight at-grade crossings/ establishment of baseline travel times/ development of an emergency vehicle priority treatment plan and compliance with provisions contained therein/contribution of fair share	Condition of construction contract	Impact SS-12: Permanent Interference with Emergency Response Times from Operational Activities

Mitigation Measure	Title	Mitigation Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
Socioeconomics and Communities										
SO-MM#1	Implement Measures to Reduce Impacts Associated with the Division of Residential Neighborhoods	Prior to construction (in residential areas), the Authority will minimize project impacts associated with the division of residential areas by conducting special outreach to affected homeowners and residents to fully understand their special relocation needs. The Authority will make efforts to locate suitable replacement properties that are comparable to those currently occupied by these residents. In cases where residents wish to remain in the immediate vicinity, the Authority will take measures to purchase vacant land or buildings in the area and consult with local authorities over matters such as zoning, permits, and moving of homes and replacement of services and utilities, as appropriate. Before land acquisition, the Authority will conduct community workshops to obtain input from those homeowners whose property would not be acquired, but whose community would be substantially altered by construction of HSR facilities, including the loss of many neighbors, to identify measures that could be taken to mitigate impacts on those who remain (including placement of sound walls and landscaping, and potential uses for nonagricultural remnant parcels that could benefit the community in the long term). The Authority will document implementation of this measure through annual reporting.	Preconstruction/ construction/ post-construction	Coordination/ reporting	Annually	Authority	Authority	Provide compensatory mitigation/meet with affected residents and property owners/design appropriate measures to minimize impacts	Condition of construction contract	Impact SO-1: Disruption or Division of Existing Communities from Construction

Mitigation Measure	Title	Mitigation Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
SO-MM#2	Implement Measures to Reduce Impacts Associated with the Division of Communities	Prior to construction (in mixed-use communities), the Authority will minimize project impacts associated with the division of existing communities through a program of outreach to homeowners, residents, land owners, business owners, community organizations, and local officials in affected neighborhoods. The objective will be to maintain community cohesion. The Authority will evaluate the community's modified access, including the effectiveness of providing overcrossings or undercrossings of the HSR track to allow continued use of community facilities and connectivity. This includes the design of overcrossings or undercrossings to allow multimodal passage. The Authority will also conduct community workshops about the future use of the area beneath the rail guideway, where these would exist. These meetings will provide the community an opportunity to identify design and use options that could strengthen community cohesion and be compatible with the existing community character. To maximize attendance and generate awareness of the workshops, the Authority will work with either community organizations or community leaders in the neighborhoods. A location and time will be selected to increase attendance and be based on the community's needs. The Authority will present information at the workshops giving the community options for the future use of the area beneath or above the rail guideway, and provide an opportunity for individuals to provide feedback and also propose solutions. For example, if safety considerations prohibit such uses as bike paths or community gardens, alternatives, such as sculpture gardens or managed landscaping, could be considered. The Authority will consider comments and feedback in planning for the sites. On gathering feedback from the community, the Authority will coalesce the input and define solutions. The Authority will report the decisions, through a public workshop and in a written report made available to the public. The Authority will be responsible for implementing the measures to reduce impacts through project design and through the long-term management of the measures. This will involve documenting the desired design concepts, incorporating them into the final design, and facilitating ongoing maintenance. The Authority will identify potential uses that may be developed in the project right-of-way. These uses will be compatible with the character of the adjacent community and sensitive to project needs (as outlined in Section 3.11). The costs associated with the development of these corridor improvements and how these costs would be paid will be determined during consultations with the affected jurisdictions or community organizations. Furthermore, the parties (e.g., the Authority, local government, park or recreation district, or nonprofit organization) responsible for ongoing maintenance of these community areas will be determined. The Authority will document compliance with this measure through annual reporting.	Preconstruction/ construction/ post-construction	Reporting/ monitoring	Annually	Authority	Authority	Implement outreach programs and community workshops for affected communities/ implement identified measures	Condition of construction contract	Impact SO-1: Disruption or Division of Existing Communities from Construction

Mitigation Measure	Title	Mitigation Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
Parks, Recreation, and Open Space										
PR-MM#1	Temporary Restricted Access to Park Facilities During Construction	Prior to construction (any ground-disturbing activity affecting trails), the contractor shall prepare a technical memorandum documenting how connections to the unaffected trail portions and nearby roadways are maintained during construction. In coordination with the park facility owner, the contractor will identify and provide alternative access via a temporary detour of the trail using existing roadways or other public rights-of-way. The contractor will provide detour signage and lighting and will provide that the alternative routes meet public safety requirements. The technical memorandum shall be submitted to the Authority for review and approval.	Preconstruction/ construction	Technical memorandum/ compliance reporting	Weekly	Contractor	Contractor	Technical memorandum prior to construction/ weekly reporting	Condition of construction contract	Impact PR-4: Project Construction Would Diminish Access to or Use of Recreational Resources
PR-MM#2	Providing Park Access	Prior to construction (any ground-disturbing activity affecting park access), the contractor shall prepare a technical memorandum documenting how the contractor will ensure that connections to the unaffected park portions or nearby roadways are maintained during and after construction. If a proposed linear recreational resource closure restricts connectivity, the contractor will provide permanent multimodal access using existing roadways or other public rights-of-way. The technical memorandum shall be submitted to the Authority for review and approval.	Preconstruction/ construction/ post-construction/ operation	Technical memorandum/ compliance reporting	Weekly or at other appropriate interval	Contractor	Contractor	Technical memorandum prior to construction/ weekly reporting or at other appropriate interval	Condition of construction contract	Impact PR-4: Project Construction Would Diminish Access to or Use of Recreational Resources
PR-MM#4	Replacement of Property Acquired from Existing or Planned Multiuse Trails and Paths	During the right-of-way acquisition process, the Authority will consult with the public agency with jurisdiction over any existing or planned multiuse paths or trails regarding the specific conditions of acquisition and replacement for the land that will be acquired. Where property that contains existing or planned multiuse paths or trails required for HSR improvements involves the establishment of a permanent easement or permanent conversion to rail right-of-way from lands owned by the City of Fullerton, the Authority will consult with the officials with jurisdiction to identify an alternative route for the continuation of the lost use and functionality of the resource, including maintaining connectivity. The identification of the alternative route must be determined to be feasible for the intended use by the respective Public Works Department, Parks and Recreation Department, or other equivalent authority in the City of Fullerton prior to the establishment of the permanent easement or permanent conversion of City of Fullerton–owned lands.	Preconstruction	Final design/ consultation	Prior to final design	Authority/ Contractor	Authority/ Contractor	Provide compensation, land, or both, pursuant to Public Resources Code Division 5, Chapter 2.5, Section 5401	Condition of construction contract	Impact PR-5: Permanent Easements or Acquisitions of Property from Parks and Recreation Due to Construction

Mitigation Measure	Title	Mitigation Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
Aesthetics and Visual Quality										
AVQ-MM#1	Minimize Visual Disruption from Construction Activities	Prior to construction (any ground-disturbing activity), the contractor shall prepare a technical memorandum identifying how the project will reduce construction-related visual/aesthetic disruption and will include the following activities: ▪ Minimize preconstruction clearing to that necessary for construction. ▪ Limit the removal of buildings to those that will conflict with project components. ▪ When possible, preserve existing vegetation, particularly vegetation along the edge of construction areas that may help screen views. ▪ After construction, regrade areas disturbed by construction, staging, and storage to original contours and revegetate with plant material similar in numbers and types to that which was removed, based on local jurisdictional requirements. If no local jurisdictional requirements exist, replace removed vegetation at a 1:1 replacement ratio for shrubs and small trees, and a 2:1 replacement ratio for mature trees. For example, if the contractor removes 10 mature trees in an area, replant 20 younger trees that within 5 to 15 years (depending on the growth rates of the trees) will be of a height and spread to provide visual screening similar to the visual screening provided by the trees that were removed for construction. Replaced shrubs shall be a minimum of 5 gallons and replaced trees shall be a minimum 24-inch box and minimum 8 feet in height. ▪ To the extent feasible, do not locate construction staging sites within the immediate foreground distance (0 to 500 feet) of existing residential neighborhoods, recreational areas, or other land uses that include high-sensitivity viewers. Where such siting is unavoidable, screen staging sites from viewers using appropriate solid screening materials such as temporary fencing and walls. Paint over or remove graffiti or visual defacement of temporary fencing and walls within 5 business days of it occurring. The technical memorandum will be submitted to the Authority for review and approval.	Preconstruction/ construction/ post-construction	Prepare technical memorandum	Prior to construction	Contractor	Contractor	Prior to construction	Contract requirements and specifications	Impact AVQ-1: Visual Quality During Construction Impact BIO-3: Construction Impacts on Special-Status Birds, Raptors, and Migratory Birds; Impact BIO-4: Construction Impacts on Special-Status Mammals; Impact BIO-6: Construction Impacts on Wildlife Movement Corridors
AVQ-MM#2	Minimize Light Disturbance During Construction	Prior to construction (any ground-disturbing activity requiring nighttime construction), the contractor shall prepare a technical memorandum verifying how nighttime construction lighting will be shielded and directed downward to minimize the light that falls outside the construction site boundaries. The technical memorandum will be submitted to the Authority for review and approval.	Preconstruction/ construction	Prepare technical memorandum	Prior to construction	Contractor	Contractor	Prior to construction	Contract requirements and specifications	Impact AVQ-2: Nighttime Lighting During Construction Impact BIO-3: Construction Impacts on Special-Status Birds, Raptors, and Migratory Birds Impact BIO-4: Construction Impacts on Special-Status Mammals Impact BIO-6: Construction Impacts on Wildlife Movement Corridors

Mitigation Measure	Title	Mitigation Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
AVQ-MM#3	Incorporate Design Aesthetic Preferences into Final Design and Construction of Nonstation Structures	Prior to construction (any ground-disturbing activity), the contractor shall work with the Authority and local jurisdictions to incorporate the Authority-approved aesthetic preferences for nonstation structures into final design and construction. Refer to *Aesthetic Options for Non-Station Structures* (Authority 2017b). A technical memorandum will be submitted to the Authority to document compliance.	Preconstruction/ construction	Compliance report	Prior to construction	Contractor	Contractor	Prior to construction	Contract requirements and specifications	Impact AVQ-3: Visual Quality During Operation
AVQ-MM#4	Provide Vegetation Screening Along At-Grade and Elevated Guideways Adjacent to Residential Areas	Prior to operation and maintenance of the Shared Passenger Track Alternatives, the contractor will plant trees (minimum 24-inch box and 8 feet in height) along the edges of the HSR rights-of-way in locations adjacent to residential areas to visually screen the elevated guideway and the residential area. The species of trees to be installed will be selected based on their mature size and shape, growth rate, hardiness, and drought tolerance. No species on the Invasive Species Council of California's list will be planted. Upon maturity, the crowns of trees used would be tall enough to partially, or fully, screen views of the elevated guideway from adjacent at-grade areas. Upon maturity, trees would allow ground-level views under the crowns (with pruning if necessary) and would not interfere with the 15-foot clearance requirement for the guideway. The trees will be maintained. Irrigation systems will be installed in the tree planting areas. The contractor shall prepare a technical memorandum within 90 days of completing a construction section or segment documenting the species of trees that were incorporated into the edges of the HSR right-of-way adjacent to residential uses. The technical memorandum will be submitted to the Authority to document compliance.	Construction/ post-construction	Plant trees/ compliance report	Prior to operation planting trees/ 90 days of completing any construction section or segment documenting the species of trees that were incorporated into design	Contractor	Contractor	Prior to operation, planting trees/ 90 days of completing any construction section or segment documenting the species of trees that were incorporated into design	Contract requirements and specifications/ landscaping and maintenance will be provided by the Contractor for its scope of work until completion of the work at which time the Authority shall assume responsibility for landscaping or assign the responsibility to other third parties	Impact AVQ-3: Visual Quality During Operation
AVQ-MM#5	Replant Unused Portions of Land Acquired for the Los Angeles to Anaheim Project Section	Prior to operation and maintenance of the Shared Passenger Track Alternatives, the contractor will plant vegetation in land acquired for the project (e.g., shifting roadways) that are not used for the HSR or related supporting infrastructure, or other higher or better use. Plantings will allow adequate space between the vegetation and the HSR alignment and catenary lines. Street trees and other visually important vegetation removed in these areas during construction will be replaced with similar vegetation that, on maturity, will be similar in size and character to the removed vegetation. Replaced shrubs shall be a minimum of 5 gallons, and trees shall be a minimum 24-inch box and 8 feet in height. The contractor will provide for continuous maintenance with appropriate irrigation systems. The contractor will install the irrigation system in the planting areas. No species listed on the Invasive Species Council of California's list of invasive species will be planted.	Post-construction/ operation	Plant vegetation/ reporting	Prior to operation and maintenance planting trees/ monthly reporting	Contractor	Contractor	Prior to operation and maintenance planting trees/ monthly reporting	Authority to implement appropriate landscape and maintenance plan	Impact AVQ-3: Visual Quality During Operation

Mitigation Measure	Title	Mitigation Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
AVQ-MM#6	Screen Traction Power Distribution Stations and Radio Communication Towers	Within 90 days of completing TPSS or radio tower construction, the contractor will screen from public view the TPSS (at approximately 30-mile intervals along the HSR guideway), including radio towers where required, through the use of landscaping or solid walls/fences. This will consist of context-appropriate landscaping of a type and scale that does not draw attention to the station or feature. Plant species will be selected based on their mature size and shape, growth rate, hardiness, and drought tolerance. Planted shrubs shall be a minimum of 5 gallons and trees shall be a minimum 24-inch box and 8 feet in height. No species on the Invasive Species Council of California's list will be planted. The landscaping will be continuously maintained and appropriate irrigation systems will be installed within the landscaped areas. Walls will be built of cinder-block, or similar material, and will be painted a neutral color to blend in with the surrounding context. If a chain-link or cyclone fence is used, it will include slats in the fencing. Graffiti or visual defacement or damage of fencing and walls will be painted over or repaired within a reasonable period as agreed between the Authority and local jurisdiction. None of the mitigation measure options is expected to result in secondary effects. The mitigation measures are typical of visual treatments applied on linear transportation facilities; they have been defined to be specific in range and implementable according to context and designed in coordination with local jurisdictions. The contractor shall prepare a technical memorandum documenting how the requirements in this measure were implemented. The technical memorandum will be submitted to the Authority to document compliance.	Post-construction/ operations	Plant vegetation/ reporting	Prior to operation and maintenance planting trees/ monthly reporting	Contractor	Contractor	Screening of TPSS from public view	Authority to implement appropriate landscape and maintenance plan/ contract requirements and specifications	Impact AVQ-3: Visual Quality During Operation
AVQ-MM#7	Incorporate Design Criteria for Elevated Guideways and Station Elements that Can Adapt to Local Context	Prior to construction (any ground-disturbing activity), the contractor will prepare a technical memorandum describing how the contractor partnering with the Authority coordinated with local jurisdictions during final design on the design of elevated guideways and stations so that they were designed appropriately to fit in with the visual context of the areas near them. This will include the following activities: ▪ **For stations:** During the station design process, establish or follow a consultation process with the local jurisdiction to identify and integrate local design features into the station design through a collaborative, context-sensitive approach. The process will include activities to solicit community input in their respective station areas. This effort will be coordinated with the station area planning process that will be undertaken by those cities under their station area planning grants. ▪ **For elevated guideways in cities or unincorporated communities:** During the elevated guideway design process, establish a process with the city or county with jurisdiction over the land along the elevated guideway to advance the final design through a collaborative, context-sensitive approach. Participants in the consultation process will meet on a regular basis to develop a consensus on the urban design elements that are to be incorporated into the final guideway designs. The	Preconstruction/ construction	Prepare technical memorandum/ final design/ consultation	Prior to construction	Authority/ Contractor	Authority/ Contractor	Prepare a technical memorandum describing how contractor coordinated with local jurisdictions/ achieve integration with local design context	Condition of construction contract/contract requirements and specifications	Impact AVQ-3: Visual Quality During Operation

Mitigation Measure	Title	Mitigation Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
		process will include activities to solicit community input in the affected neighborhoods. Actions taken to help achieve integration with the local design context during the context-sensitive process will include the following: ▪ Design HSR stations and associated structures such as elevators, escalators, and walkways to be attractive architectural elements or features that add visual interest to the streetscapes near them. ▪ Design HSR station parking structures and adjacent areas to integrate visually into the areas where they will be located. Where the city has adopted applicable downtown design guidelines, the parking structures and adjacent areas will be designed to be compatible with the policies and principles of those guidelines. ▪ For the elevated guideways and columns, incorporate architectural elements, such as graceful curved or tapered sculptural forms and decorative surfaces, to provide visual interest. Include decorative texture treatments on large-scale concrete surfaces such as parapets and other portions of elevated guideways. Include a variety of textures, shadow lines, and other surface articulation to add visual and thematic interest. Where the guideway is approaching a station, the design of guideway columns and parapets will be closely coordinated with station and platform architecture to promote unity and coherence. ▪ Consistent with the principles of crime prevention through environmental design, integrate trees and landscaping into the station streetscape and plaza plans where possible to soften and buffer the appearance of guideways, columns, and elevated stations. ▪ For the stations, structures, and related open spaces, incorporate design features that provide interest and reflect the local design context. These features could include landscaping, lighting, and public art. The designs in cities and unincorporated communities will reflect the results of the context-sensitive design process. During the context-sensitive design process, the project's obligations and constraints related to planning, mitigation, engineering, performance, funding, and operational requirements will be taken into consideration. The technical memorandum will be submitted to the Authority to document compliance.							

Mitigation Measure	Title	Mitigation Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
Cultural Resources										
CUL-MM#1	Mitigate Adverse Effects on Archaeological and Built-Environment Resources Identified During Phased Identification and Comply with the Stipulations Regarding the Treatment of Archaeological and Historic Built Resources in the Programmatic Agreement and Memorandum of Agreement	Once parcels are accessible and surveys have been completed, including consultation as stipulated in the MOA, additional archaeological resources may be identified. Built-environment resources were adequately visible from the public right-of-way and would not likely require phased identification. For newly identified eligible properties that would be adversely affected, the following process will be followed, which is presented in detail in the BETP and ATP: ▪ The Authority will consult with the MOA signatories and concurring parties to determine the preferred treatment of Section 106 properties/resources and appropriate mitigation measures. ▪ For CRHR-eligible archaeological resources, the Authority will determine if these resources can feasibly be preserved in place, or if data recovery is necessary. The methods of preservation in place will be considered in the order of priority provided in State CEQA Guidelines Section 15126.4(b)(3). If data recovery is the only feasible treatment, the Authority will adopt a data recovery plan as required under State CEQA Guidelines Section 15126.4(b)(3)(C). ▪ Should data recovery be necessary for a Section 106 property, the Authority Principal Investigator, in consultation with the MOA signatories and Consulting Parties, will prepare a data recovery plan for approval by the Authority and in consultation with the MOA signatories. On approval, the Authority's Principal Investigator will implement the plan. ▪ For archaeological resources, the Authority will also determine if the resource is a unique archaeological site under CEQA. If the resource is not a historical resource but is an archaeological site, the resource will be treated as required in California Public Resources Code Section 21083.2 by following protection, data recovery, and other appropriate steps outlined in the ATP. The review and approval requirements for these documents is outlined in the ATP.	Preconstruction/ construction	Reporting	Weekly	Authority/ Contractor	Authority/ Contractor	Preconstruction surveys and construction/ weekly reporting or as dictated by the ATP and the MOA	Programmatic Agreement	Impact CUL-1: Disturbance of Known Archaeological Resources During Construction Impact CUL-2: Permanent Disturbance of Unknown Archaeological Resources During Construction
CUL-MM#2	Halt Work in the Event of an Archaeological Discovery and Comply with the Programmatic Agreement, Memorandum of Agreement, Archaeological Treatment Plan, and All State and Federal Laws, as Applicable	During construction (i.e., ground-disturbing activities including cleaning and grubbing) should there be an unanticipated discovery, the Authority will follow the procedures for unanticipated discoveries as stipulated in the PA, MOA, and associated ATP. The procedures must also be consistent with the following: the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation (48 Fed. Reg. 44716-42), as amended (National Park Service); and Guidelines for the Implementation of CEQA, as amended (Title 14 California Code of Regulations Chapter 3, Article 9, Sections 15120–15132). In the event of a discovery in Caltrans right-of-way, the Authority will notify appropriate Caltrans staff in accordance with provisions of the ATP. Should the discovery include human remains, the contractor and the Authority will comply with federal and state regulations and guidelines regarding the treatment of human remains, including relevant sections of the Native American	Construction	Reporting	During construction	Authority/ Contractor	Contractor	Daily logs during active monitoring	ATP/MOA	Impact CUL-1: Disturbance of Known Archaeological Resources During Construction Impact CUL-2: Permanent Disturbance of Unknown Archaeological Resources During Construction

Mitigation Measure	Title	Mitigation Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
		Graves Protection and Repatriation Act (Section 3(c)(d)); California Health and Safety Code, Section 8010 et seq.; and California Public Resources Code Section 5097.98; and consult with the NAHC, tribal groups, and the SHPO. In the event of an unanticipated archaeological discovery, the Authority will cease work in the immediate vicinity of the find, based on the direction of the archaeological monitor or the apparent location of cultural resources if no monitor is present. If no qualified archaeologist is present, no work can commence until it is approved by the qualified archaeologist in accordance with the MOA, ATP, and monitoring plan. The Authority's qualified archaeologist will assess the potential significance of the find and make recommendations for further evaluation and treatment as necessary. These steps may include evaluation for the CRHR and NRHP, and necessary treatment to resolve significant effects if the resource is a historical resource or historic property. If, after documentation is reviewed by the Authority, and it determines it is a historic property and the SHPO concurs that the resource is eligible for the NRHP, or the Authority determines it is eligible for the CRHR, preservation in place will be considered by the Authority in the order of priority provided in State CEQA Guidelines Section 15126.4(b)(3) and in consultation with the signatories and Consulting Parties to the MOA. If data recovery is the only feasible mitigation, then the Authority's qualified Principal Investigator will prepare a data recovery plan as required under State CEQA Guidelines Section 15126.4(b)(3)(C), the MOA, and ATP, for the Authority's approval. If human remains are discovered on state-owned or private lands, the Authority will contact the relevant county coroner to allow the coroner to determine if an investigation regarding the cause of death is required. If no investigation is required and the remains are of Native American origin, the Authority will contact the NAHC to identify the MLD. The MLD will be empowered to reinter the remains with appropriate dignity. If the MLD fails to make a recommendation, the remains will be reinterred in a location not subject to further disturbance and the location will be recorded with the NAHC and relevant information center of the California Historical Resources Information System. If human remains are part of an archaeological site, the Authority or its contractor will, in consultation with the MLD and other Consulting Parties, consider preservation in place as the first option, in the order of priority called for in State CEQA Guidelines Section 15126.4(b)(3). In consultation with the relevant Native American tribes, the Authority may conduct scientific analysis on the human remains if called for under a data recovery plan and amenable to Consulting Parties. The Authority will work with the MLD to satisfy the requirements of California Public Resources Code Section 5097.98. Performance tracking of this mitigation measure will be based on successful implementation and acceptance of the documentation by the SHPO and appropriate Consulting Parties.								

Mitigation Measure	Title	Mitigation Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
CUL-MM#3	Other Mitigation for Effects on Precontact Archaeological Sites	Because of limited access to private properties during the environmental review phase of this project, the Authority's ability to fully identify and evaluate archaeological resources within the APE has, correspondingly, also been limited. Therefore, the majority of the project APE has not been subject to archaeological field inventories. Because pedestrian field surveys are a necessary component of the archaeological resource identification and evaluation effort, the commitment to complete the field surveys, prior to ground-disturbing activities associated with the project, is codified in the MOA that will be executed as a condition of the Final EIR/EIS. Access to previously inaccessible properties to complete the archaeological resource identification effort is expected to be available after the ROD, during the design-build phase of the project. However, because of the design constraints associated with building HSR, the ability to shift the alignment to avoid newly identified archaeological resources at this late phase of the project delivery process is substantially limited or unlikely, as the alignment is already established. Therefore, impacts/effects on as-yet-unidentified significant archaeological resources as a result of this project are anticipated; however, the nature and quantity of such effects remains unknown until completion of the archaeological field identification and evaluation effort, and after ground-disturbing construction activities are complete. Protocols for the identification, evaluation, treatment, and data-recovery mitigation of as-yet-unidentified archaeological resources are addressed in the MOA and ATP. Efforts to develop meaningful mitigation measures for effects on as-yet-unidentified Native American archaeological resources that cannot be avoided will be negotiated with the tribal Consulting Parties. Measures that are negotiated among the MOA signatories and tribal Consulting Parties will be the responsibility of the Authority to execute.	Preconstruction	Preconstruction surveys	Prior to ground-disturbing activities	Authority	Authority	Conduct archaeological surveys prior to ground-disturbing activities	ATP/MOA	Impact CUL-1: Disturbance of Known Archaeological Resources During Construction Impact CUL-2: Permanent Disturbance of Unknown Archaeological Resources During Construction
CUL-MM#12	Design Review for Intrusion-Protection Barriers	Because of safety concerns, protective barriers will be installed on four NRHP- and CRHR-eligible bridges crossing the Los Angeles River, specifically the First, Fourth, and Seventh Street Bridges and Olympic Boulevard Bridge. Prior to execution of the MOA, the Authority commits to consultation with the SHPO and other Consulting Parties to achieve a bridge barrier design that meets the goal of preventing people or objects from entering the Shared Passenger Track Alternatives right-of-way while introducing the minimum physical and visual effects on the historic property.	Preconstruction	Preconstruction surveys	Prior to ground-disturbing activities	Authority	Authority	Prior to ground-disturbing activities	Meetings with departments and agencies	Impact CUL-3: Permanent Demolition, Destruction, Relocation, or Alteration of Historic Architectural Built Resources or Setting During Construction Impact AVQ-3: Visual Quality During Operation
Cumulative Impacts										
CUM-N&V-MM#1	Consult with Agencies Regarding Construction Activities	To minimize the potential overlapping noise- and vibration-generating construction activities in the same area, the Authority or its contractors would consult with local city and county planning departments and other agencies prior to and during the construction phase. Consultation would entail notifying the departments and agencies regarding the anticipated HSR construction schedule and types of activities expected during the construction period.	Preconstruction/ construction	Notify and consult with departments and agencies	Monthly	Authority/ Contractor	Authority/ Contractor	Monthly record keeping and reporting	Condition of construction contract	Cumulative Impacts Analysis: Noise and Vibration

[1] According to California Health and Safety Code Section 44258(c), *near-zero-emission vehicle* means a vehicle that uses ZE technologies, enables technologies that provide a pathway to ZE operations, or incorporates other technologies that significantly reduce criteria pollutants, TACs, and GHG emissions, as defined by the state board in consultation with the State Energy Resources Conservation and Development Commission consistent with meeting the state's mid- and long-term air quality standards and climate goals.

Amtrak = National Railroad Passenger Corporation; APE = area of potential effects; ARTIC = Anaheim Regional Transportation Intermodal Center; ATP = Archaeological Treatment Plan; Authority = California High-Speed Rail Authority; BETP = Built Environment Treatment Plan; BMP = best management practice; BNSF = BNSF Railway; BRMP = Biological Resources Management Plan; Caltrans = California Department of Transportation; CARB = California Air Resources Board; CDFW = California Department of Fish and Wildlife; CEQA = California Environmental Quality Act; CESA = California Endangered Species Act; CFR = Code of Federal Regulations; CMP = Compensatory Mitigation Plan; CNDDB = California Natural Diversity Database; CO = carbon monoxide; CRHR = California Register of Historical Resources; CWA = Clean Water Act; dB = decibel; dBA = A-weighted decibel; DPM = diesel particulate matter; DTSC = Department of Toxic Substances Control; EIR/EIS = environmental impact report/environmental impact statement; EM = electromagnetic; EMF = electromagnetic field; EMI = electromagnetic interference; EO = California Executive Order; ESA = environmentally sensitive area; Fed. Reg. = *Federal Register*; FESA = federal Endangered Species Act; FRA = Federal Railroad Administration; GIS = geographic information system; HSR = high-speed rail; I- = Interstate; IAMF = impact avoidance and minimization feature; ITP = Incidental Take Permit; L_{eq} = equivalent sound level; LMF = light maintenance facility; LOSSAN = Los Angeles – San Diego – San Luis Obispo; MBTA = Migratory Bird Treaty Act; MLD = most likely descendant; MOA = Memorandum of Agreement; MOU = Memorandum of Understanding; NAHC = Native American Heritage Commission; NEPA = National Environmental Policy Act; NO_X = nitrogen oxides; NRHP = National Register of Historic Places; O&M = operations and maintenance; PA = Programmatic Agreement; PM_{10} = particulate matter less than or equal to 10 microns in diameter; $PM_{2.5}$ = particulate matter less than or equal to 2.5 microns in diameter; Porter-Colone = Porter-Cologne Water Quality Control Act; project section = Los Angeles to Anaheim Project Section; RF = radio frequency; ROD = Record of Decision; RRP = Restoration and Revegetation Plan; RSA = resource study area; SCAQMD = South Coast Air Quality Management District; SHPO = State Historic Preservation Officer; SR = State Route; TAC = toxic air contaminant; TPSS = traction power substation; USEPA = U.S. Environmental Protection Agency; VCP = Vegetation Control Plan; VOC = volatile organic compound; WCP = Weed Control Plan; WEAP = Worker Environmental Awareness Program; WEF = wildlife exclusion fencing; ZE = zero-emission

Table 2 Los Angeles to Anaheim Project Section: Impact Avoidance and Minimization Features

IAMF	Title	IAMF Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
Air Quality										
AQ-IAMF#1	Fugitive Dust Emissions	During construction, the Authority-designated contractor shall employ the following measures to minimize and control fugitive dust emissions. The Authority-designated contractor shall prepare a fugitive dust control plan for each distinct construction segment. At a minimum, the plan will describe how each measure will be employed and identify an individual responsible for ensuring implementation. At a minimum, the plan will address the following components unless alternative measures are approved by the applicable air quality management district. Before finalizing the plan, the Authority-designated contractor shall provide a draft of the plan to any potentially affected public school districts on their request, for their review and comment. ▪ Cover all vehicle loads transported on public roads to limit visible dust emissions, and maintain at least 6 inches of freeboard space from the top of the container or truck bed. ▪ Clean all trucks and equipment before exiting the construction site using an appropriate washing station that does not allow runoff to leave the site or mud to be carried on tires off the site. ▪ Water exposed surfaces and unpaved roads at a minimum three times daily with adequate volume to result in wetting of the top 1 inch of soil but avoiding overland flow. Rain events may result in adequate wetting of top 1 inch of soil, thereby alleviating the need to manually apply water. ▪ Limit vehicle travel speed on unpaved roads to 15 miles per hour. ▪ Suspend any dust-generating activities when instantaneous wind speed exceeds 25 miles per hour. ▪ Stabilize all disturbed areas, including storage piles that are not being used on a daily basis for construction purposes, by using water, a chemical stabilizer/suppressant, hydro mulch, or by covering with a tarp or other suitable cover or vegetative ground cover, to control fugitive dust emissions effectively. In areas adjacent to organic farms, the Authority-designated contractor will use nonchemical means of dust suppression. ▪ Stabilize all on-site unpaved roads and off-site unpaved access roads, using water or a chemical stabilizer/suppressant, to effectively control fugitive dust emissions. In areas adjacent to organic farms, the Authority-designated contractor will use nonchemical means of dust suppression. ▪ Carry out watering or presoaking for all land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities. ▪ For buildings up to 6 stories in height, wet all exterior surfaces of buildings during demolition. ▪ Limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at a minimum of once daily, using a vacuum type sweeper.	Construction	Prepare plan/ Reporting	Weekly	Contractor	Contractor	Prepare a fugitive dust control plan	Condition of construction contract	Impact AQ-1: Temporary Direct and Indirect Impacts on Air Quality within Applicable Air Basin Impact AQ-2: Temporary Direct Impacts on Implementation of an Applicable Air Quality Plan Impact AQ-7: Temporary Direct Impacts on Localized Air Quality During Construction—Criteria Pollutants Impact SO-1: Disruption or Division of Existing Communities from Construction Impact SO-9: Impacts on Children's Health and Safety from Construction

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		▪ After the addition of materials to or the removal of materials from surface or outdoor storage piles, apply sufficient water or a chemical stabilizer/suppressant. Before finalizing the plan, the Authority-designated contractor shall provide a draft of the plan to any potentially affected public school districts on their request, for their review and comment.								
AQ-IAMF#2	Selection of Coatings	During construction, the Authority-designated contractor will use: ▪ Low-volatile organic compound paint that contains less than 10 percent of VOC contents (VOC, 10 percent). ▪ Super-compliant or Clean Air paint that has a lower volatile organic compound content consistent with South Coast Air Quality Management District Rule 1113, as applicable. If not available, the Authority-designated contractor will document the lack of availability, recommend alternative measure(s) to comply with Rule 1113 or disclose absence of measure(s) for full compliance and obtain concurrence from the Authority.	Construction	Low-VOC-paint use	Monthly	Contractor	Contractor	Use of low-VOC paint during construction	Condition of construction contract	Impact AQ-1: Temporary Direct and Indirect Impacts on Air Quality within Applicable Air Basin Impact AQ-2: Temporary Direct Impacts on Implementation of an Applicable Air Quality Plan Impact AQ-7: Temporary Direct Impacts on Localized Air Quality During Construction—Criteria Pollutants Impact SO-1: Disruption or Division of Existing Communities from Construction
AQ-IAMF#3	Renewable Diesel	During construction, the Authority-designated contractor will use renewable diesel fuel to minimize and control exhaust emissions from all heavy-duty diesel-fueled construction diesel equipment and on-road diesel trucks. Renewable diesel must meet the most recent ASTM D975 specification for Ultra Low Sulfur Diesel and have a carbon intensity no greater than 50 percent of diesel with the lowest carbon intensity among petroleum fuels sold in California. The Authority-designated contractor will provide the Authority with monthly and annual reports, through the Environmental Mitigation Management and Application system, of renewable diesel purchase records and equipment and vehicle fuel consumption. Exemptions to use traditional diesel can be made where renewable diesel is not available from suppliers within 200 miles of the project site. The construction Authority-designated contractor must identify the quantity of traditional diesel purchased and fully document the availability and price of renewable diesel to meet project demand. The Authority assumes this measure would not be applicable to BNSF Railway–led project components.	Construction	Renewable diesel fuel use	Monthly	Contractor	Contractor	Use of renewable diesel fuel during construction	Contract requirements and specifications	Impact AQ-1: Temporary Direct and Indirect Impacts on Air Quality within Applicable Air Basin Impact AQ-2: Temporary Direct Impacts on Implementation of an Applicable Air Quality Plan Impact AQ-3: Temporary Direct and Indirect Impacts on Global Climate Change—Greenhouse Gas Emissions Impact AQ-7: Temporary Direct Impacts on Localized Air Quality During Construction—Criteria Pollutants Impact AQ-8: Temporary Direct Impacts on Localized Air Quality—Exposure to Diesel Particulate Matter (Health Risk) Impact SO-1: Disruption or Division of Existing Communities from Construction Impact SO-9: Impacts on Children's Health and Safety from Construction

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AQ-IAMF#4	Reduce Criteria Exhaust Emissions from Construction Equipment	Prior to issuance of construction contracts, the Authority or contract administrator will incorporate the following construction equipment exhaust emissions requirements into the contract specifications: 1. All heavy-duty off-road construction diesel equipment used during the construction phase will meet Tier 4 Final engine requirements. 2. A copy of each unit's certified tier specification and any required California Air Resources Board or air pollution control district operating permit will be made available to the Authority at the time of mobilization of each piece of equipment. 3. The Authority-designated contractor will keep a written record (supported by equipment-hour meters where available) of equipment usage during project construction for each piece of equipment. 4. The Authority-designated contractor will provide the Authority with monthly reports of equipment operating hours (through the Environmental Mitigation Management and Assessment system) and annual reports documenting compliance. The Authority assumes this measure would not be applicable to BNSF Railway–led project components.	Preconstruction	Contract specifications	Prior to construction	Authority	Authority	Exhaust emissions requirements incorporated into contract specifications	Contract requirements and specifications	Impact AQ-1: Temporary Direct and Indirect Impacts on Air Quality within Applicable Air Basin Impact AQ-2: Temporary Direct Impacts on Implementation of an Applicable Air Quality Plan Impact AQ-7: Temporary Direct Impacts on Localized Air Quality During Construction—Criteria Pollutants Impact AQ-8: Temporary Direct Impacts on Localized Air Quality—Exposure to Diesel Particulate Matter (Health Risk) Impact SO-1: Disruption or Division of Existing Communities from Construction Impact SO-9: Impacts on Children's Health and Safety from Construction
AQ-IAMF#5	Reduce Criteria Exhaust Emissions from On-Road Construction Equipment	Prior to issuance of construction contracts, the Authority or contract administrator will incorporate the following material-hauling truck fleet mix requirements into the contract specifications: 1. All on-road trucks used to haul construction materials, including fill, ballast, rail ties, and steel, will consist of an average fleet mix of equipment model year 2020 or newer, but no less than the average fleet mix for the current calendar year as set forth in the database included in the latest USEPA-approved EMFAC at the time of emissions inventory development. 2. The Authority-designated contractor will provide documentation to the Authority of efforts to secure such a fleet mix. 3. The Authority-designated contractor will keep a written record of equipment usage during project construction for each piece of equipment and provide the Authority with monthly reports of vehicle miles traveled (through the Environmental Mitigation Management and Assessment system) and annual reports documenting compliance. The Authority assumes this measure would not be applicable to BNSF Railway–led project components.	Preconstruction	Contract Specifications	Prior to construction	Authority	Authority	Material hauling truck fleet mix requirements incorporated into contract specifications	Contract requirements and specifications	Impact AQ-1: Temporary Direct and Indirect Impacts on Air Quality within Applicable Air Basin Impact AQ-2: Temporary Direct Impacts on Implementation of an Applicable Air Quality Plan Impact AQ-3: Temporary Direct and Indirect Impacts on Global Climate Change—Greenhouse Gas Emissions Impact AQ-7: Temporary Direct Impacts on Localized Air Quality During Construction—Criteria Pollutants Impact AQ-8: Temporary Direct Impacts on Localized Air Quality—Exposure to Diesel Particulate Matter (Health Risk) Impact SO-1: Disruption or Division of Existing Communities from Construction Impact SO-9: Impacts on Children's Health and Safety from Construction

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Aesthetics and Visual Quality										
AVQ-IAMF#1	Aesthetic Options	Prior to construction, the Authority-designated contractor shall document, through issuance of a technical memorandum, how the Authority's aesthetic guidelines have been employed to minimize visual effects. The Authority seeks to balance providing a consistent, project-wide aesthetic with the local context for the numerous HSR nonstation structures across the state. Examples of aesthetic options will be provided to local jurisdictions that can be applied to nonstandard structures in the HSR system. Refer to *Aesthetic Options for Non-Station Structures*, 2017 (Authority 2017).	Preconstruction	Reporting	At incorporation or completion of design/monthly reporting during construction	Contractor	Contractor	Prepare aesthetics technical memorandum	Condition of construction contract	Impact AVQ-1: Visual Quality During Construction Impact AVQ-2: Nighttime Lighting During Construction Impact AVQ-3: Visual Quality During Operation Impact AVQ-4: Nighttime Lighting During Operation Impact SO-1: Disruption or Division of Existing Communities from Construction
AVQ-IAMF#2	Aesthetic Review Process	Prior to construction, the Authority-designated contractor will document that the Authority's aesthetic review process has been followed to guide the development of nonstation area structures. Documentation will be through issuance of a technical memorandum to the Authority. The Authority will identify key nonstation structures recommended for aesthetic treatment, consult with local jurisdictions on how best to involve the community in the process, solicit input from local jurisdictions on their aesthetic preferences, and evaluate aesthetic preferences for potential cost, schedule, and operational impacts. The Authority will also evaluate compatibility with project-wide aesthetic goals, include recommended aesthetic approaches in the construction procurement documents, and work with the Authority-designated contractor and local jurisdictions to review designs and local aesthetic preferences and incorporate them into final design and construction. Refer to *Aesthetic Options for Non-Station Structures, 2017*.	Preconstruction	Reporting	At incorporation or completion of design/monthly reporting during construction	Contractor	Contractor	Prepare aesthetics review process technical memorandum	Condition of construction contract	Impact AVQ-1: Visual Quality During Construction Impact AVQ-2: Nighttime Lighting During Construction Impact AVQ-3: Visual Quality During Operation Impact AVQ-4: Nighttime Lighting During Operation Impact SO-1: Disruption or Division of Existing Communities from Construction

IAMF	Title	IAMF Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
Biological Resources										
BIO-IAMF#1	Designate Project Biologist, Designated Biologists, Species-Specific Biological Monitors and General Biological Monitors	At least 15 business days prior to commencement of ground-disturbing activity, including but not limited to geotechnical investigations, utility realignments, creation of staging areas, or initial clearing and grubbing, the Authority-designated contractor will submit the name(s) and qualifications of Project Biologists, Designated Biologists, Species-Specific Biological Monitors, and General Biological Monitors retained to conduct biological resource monitoring activities and implement avoidance and minimization measures to the wildlife agencies. No ground-disturbing activity will begin until the Authority-designated contractor has received written approval from the U.S. Fish and Wildlife Service, National Oceanic and Atmospheric Administration Fisheries, where applicable, and the California Department of Fish and Wildlife that the biologists and monitors have been approved to conduct the specified work. The Project Biologist is responsible for ensuring the timely implementation of the biological avoidance and minimization measures as outlined in the BRMP, and for guiding and directing the work of the Designated Biologists and Biological Monitors. Designated Biologists will be responsible for directly overseeing and reporting the implementation of general and species-specific conservation measures. In some instances, Designated Biologists will only be approved for specific species, in which case they will only be authorized to conduct surveys and implement measures for the species for which they have been approved. Species-Specific Biological Monitors will be responsible for implementation of species-specific measures for the species for which they have been approved, and will report directly to a Designated Biologist. General Biological Monitors will report directly to a Designated Biologist or to the Project Biologist. General Biological Monitors will be responsible for conducting WEAP training, implementing general conservation measures, conducting general compliance monitoring, and reporting on compliance monitoring activities. The term Project Biologist is used in these IAMFs to mean the Project Biologist, Designated Biologists, Species-Specific Biological Monitors, and General Biological Monitors, as appropriate. When the Authority-designated contractor is specified as implementing an IAMF, it is assumed that the Authority-designated contractor, or its Authority-designated contractor or agent, is implementing the IAMF under the supervision of biologists and Biological Monitors, as appropriate.	Preconstruction	Compliance reporting	15 days prior to ground disturbance	Authority	Authority	Submit names of biologists and monitors to regulatory agencies	EMMA	Impact BIO-1: Construction Impacts on Riparian Habitat, Vegetation Communities, Land Cover, and Special-Status Natural Communities Impact BIO-3: Construction Impacts on Special-Status Birds, Raptors, and Migratory Birds Impact BIO-4: Construction Impacts on Special-Status Mammals Impact BIO-5: Construction Impacts on Aquatic Resources Impact BIO-6: Construction Impacts on Wildlife Movement Corridors Impact BIO-7: Construction Impacts on Locally Protected Biological Resources (Tree and Shrub Preservation Policies or Ordinances)

IAMF	Title	IAMF Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
BIO-IAMF#3	Prepare WEAP Training Materials and Conduct Construction Period WEAP Training	Prior to ground-disturbing activity, the Project Biologist will prepare a WEAP for the purpose of training construction crews to recognize and identify sensitive biological resources that may be encountered in the vicinity of the project footprint. The WEAP training materials will be submitted to the Authority-designated contractor for review and approval. A video of the WEAP training prepared and presented by the Project Biologist and approved by the Authority-designated contractor may be used if the Project Biologist is not available to present the training in person. At a minimum, WEAP training materials will include the following information: key provisions of the federal Endangered Species Act, the California Endangered Species Act, the Bald and Golden Eagle Protection Act, the Migratory Bird Treaty Act, California Fish and Game Code 1600, the Porter-Cologne Water Quality Control Act, and the Clean Water Act; the consequences and penalties for violation or noncompliance with these laws and regulations and project authorizations; identification and characteristics of special-status plants, special-status wildlife, jurisdictional waters, and special-status plant communities and explanations about their ecological value; hazardous substance spill prevention and containment measures; the contact person in the event of the discovery of a dead or injured wildlife species; and review of avoidance, minimization, and mitigation measures. The Project Biologist will present WEAP training to construction personnel before they work in the project footprint. As part of the WEAP training, construction timing in relation to species' habitat and life-stage requirements will be detailed and discussed on project maps, which will indicate areas of planned minimization and avoidance measures. Crews will be informed during the WEAP training that, except when necessary, as determined in consultation with the Project Biologist, travel within the project footprint is restricted to established roadbeds, which include pre-existing and project-built unimproved and improved roads. A fact sheet conveying this information will be prepared by the Project Biologist for distribution to the construction crews and to others who enter the project footprint. Fact sheet information will be duplicated in a wallet-sized format and will be provided in other languages as necessary to accommodate non-English-speaking workers. Construction staff will attend the WEAP training prior to beginning work on site and will attend the WEAP training on an annual basis thereafter. On completion of the WEAP training, each member of the construction crew will sign a form stating that they attended the training, understood the information presented, and agreed to comply with the requirements set out in the WEAP training. The Project Biologist will submit the signed WEAP training forms to the Authority-designated contractor on a monthly basis. On an annual basis, the Authority-designated contractor will certify that WEAP training had been provided to construction personnel. On a monthly basis, the Project Biologist will provide updates relevant to the training to construction personnel during the daily safety ("tailgate") meeting.	Preconstruction	Training program/ reporting	Annual (training)/ monthly (reporting)	Authority/ Contractor	Authority/ Contractor	Prepare WEAP/annual (training)/ monthly (reporting)	WEAP	Impact BIO-1: Construction Impacts on Riparian Habitat, Vegetation Communities, Land Cover, and Special-Status Natural Communities Impact BIO-3: Construction Impacts on Special-Status Birds, Raptors, and Migratory Birds Impact BIO-4: Construction Impacts on Special-Status Mammals Impact BIO-5: Construction Impacts on Aquatic Resources Impact BIO-6: Construction Impacts on Wildlife Movement Corridors Impact BIO-7: Construction Impacts on Locally Protected Biological Resources (Tree and Shrub Preservation Policies or Ordinances)

IAMF	Title	IAMF Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
BIO-IAMF#4	Conduct Operation and Maintenance Period WEAP Training	Prior to initiating O&M activities, O&M personnel will attend a WEAP training session arranged by the Authority-designated contractor. At a minimum, O&M WEAP training materials will include the following information: key provisions of the Endangered Species Act, California Endangered Species Act, the Bald and Golden Eagle Protection Act, the Migratory Bird Treaty Act, the Porter-Cologne Water Quality Control Act, and the Clean Water Act; the consequences and penalties for violation or noncompliance with these laws and regulations and project authorizations; identification and characteristics of special-status plants, special-status wildlife, jurisdictional waters, and special-status plant communities and explanations about their ecological value; hazardous substance spill prevention and containment measures; and the contact person in the event of the discovery of a dead or injured wildlife species. The training will include an overview of provisions of the BRMP, annual vegetation, and management plan; weed control plan; and security fencing and wildlife exclusion fencing maintenance plans pertinent to O&M activities. A fact sheet prepared by the Authority-designated contractor environmental compliance staff will be prepared for distribution to the O&M employees. The training will be provided by the Authority-designated contractor environmental compliance staff. The training sessions will be provided to employees prior to their involvement in O&M activity and will be repeated for O&M employees on an annual basis. On completion of the WEAP training, O&M employees will, in writing, verify their attendance at the training sessions and confirm their willingness to comply with the requirements set out in those sessions.	Post-construction	Training program/ reporting	Annual	Authority/ Contractor	Authority/ Contractor	WEAP training/ annual reporting	WEAP	Impact BIO-8: Operational Impacts on Riparian Habitat, Vegetation Communities, Land Cover, and Special-Status Natural Communities Impact BIO-9: Operational Impacts on Special-Status Birds, Raptors, and Migratory Bird Species Impact BIO-10: Operational Impacts on Special-Status Mammals Impact BIO-11: Operational Impacts on Wildlife Movement Corridors Impact BIO-12: Operational Impacts on Locally Protected Biological Resources (Tree and Shrub Preservation Policies or Ordinances)

IAMF	Title	IAMF Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
BIO-IAMF#5	Prepare and Implement a Biological Resources Management Plan	Prior to ground-disturbing activity, the Project Biologist will prepare the BRMP, which will include a compilation of the biological resources avoidance and minimization measures applicable to the HSR section. Project environmental plans, such as the Restoration and Revegetation Plan and Weed Control Plan, will be included as appendices to the BRMP. The BRMP is intended to serve as a comprehensive document that sets out the range of avoidance and minimization measures to support the appropriate and timely implementation of those measures. The implementation of these measures will be tracked through final design, construction, and operation phases. The BRMP will contain, but not be limited to, the following information: ▪ A master schedule that outlines construction of the project, preconstruction surveys, and establishment of buffers and exclusions zones to protect sensitive biological resources ▪ Specific measures for the protection of special-status species ▪ Identification (on construction plans) of the locations and quantity of habitats to be avoided or removed, along with the locations where habitats are to be restored ▪ Identification of agency-approved Project Biologist(s) and Biological Monitor(s), including those responsible for notification and report of injury or death of federally or State-listed species ▪ Measures to preserve topsoil and control erosion ▪ Design of protective fencing around Environmentally Sensitive Areas and the construction staging areas ▪ Locations of trees to be protected as wildlife habitat (roosting sites) and locations for planting replacement trees ▪ Specification of the purpose, type, frequency, and extent of chemical use for insect and disease control operations as part of vegetative maintenance within sensitive habitat areas ▪ Specific measures for the protection of vernal pool habitat and riparian areas. These measures may include erosion and siltation control measures, protective fencing guidelines, dust control measures, grading techniques, construction area limits, and biological monitoring requirements ▪ Provisions for biological monitoring during ground-disturbing activities to confirm compliance and success of protective measures. The monitoring will: (1) identify specific locations of wildlife habitat and sensitive species to be monitored; (2) identify the frequency of monitoring and the monitoring methods (for each habitat and sensitive species to be monitored); (3) list required qualifications of Biological Monitor(s); (4) identify the reporting requirements; and (5) provide an accounting of impacts on special-status species habitat compared to preconstruction impact estimates The BRMP will be submitted to the Authority for review and approval prior to ground-disturbing activity.	Preconstruction	Prepare plan	Prior to any ground-disturbing activity	Contractor	Contractor	Prepare BRMP	USFWS, USACE, SWRCB, and CDFW permits	Impact BIO-1: Construction Impacts on Riparian Habitat, Vegetation Communities, Land Cover, and Special-Status Natural Communities Impact BIO-5: Construction Impacts on Aquatic Resources

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BIO-IAMF#6	Establish Monofilament Restrictions	Prior to any ground-disturbing activity, the Project Biologist will verify that plastic monofilament netting (erosion control matting) or similar material is not being used as part of erosion control activities. The Project Biologist will identify acceptable material for such use, including geomembranes, coconut coir matting, tackified hydroseeding compounds, and rice straw wattles (e.g., Earthsaver wattles: biodegradable, photodegradable, burlap). Within developed or urban areas, the Project Biologist may allow exceptions to the restrictions on the type of erosion control material if the Project Biologist determines that the construction area is of sufficient distance from natural areas to ensure the avoidance of potential impacts on wildlife.	Preconstruction	Compliance reporting	Prior to any ground-disturbing activity	Contractor	Contractor	Monthly reporting	Condition of construction contract	Impact BIO-3: Construction Impacts on Special-Status Birds, Raptors, and Migratory Birds
BIO-IAMF#7	Prevent Entrapment in Construction Materials and Excavations	At the end of each workday during construction, the Authority-designated contractor will cover excavated, steep-sided holes or trenches more than 8 inches deep and that have sidewalls steeper than 1:1 (45 degree) slope with plywood or similar materials, or provide a minimum of one escape ramp per 100 feet of trenching (with slopes no greater than 3:1) built of earth fill or wooden planks. The Project Biologist will thoroughly inspect holes and trenches for trapped animals at the start and end of each workday. The Authority-designated contractor will screen, cover, or elevate at least 1 foot above ground, construction pipe, culverts, or similar structures with a diameter of 3 inches or greater that are stored overnight within the project footprint. These pipes, culverts, and similar structures will be inspected by the Project Biologist for wildlife before such material is moved, buried, or capped.	Construction	Monitoring/ compliance reporting	Daily monitoring/ monthly reporting	Contractor	Contractor	Daily monitoring/ monthly reporting	Condition of construction contract	Impact BIO-3: Construction Impacts on Special-Status Birds, Raptors, and Migratory Birds Impact BIO-4: Construction Impacts on Special-Status Mammals Impact BIO-6: Construction Impacts on Wildlife Movement Corridors
BIO-IAMF#8	Delineate Equipment Staging Areas and Traffic Routes	Prior to ground-disturbing activity, the Authority-designated contractor will establish staging areas for construction equipment in areas that minimize effects on sensitive biological resources, including habitat for special-status species, seasonal wetlands, and wildlife movement corridors. Staging areas (including temporary material storage areas) will be in areas occupied by permanent facilities, where practicable. Equipment staging areas will be identified on final project construction plans. The Authority-designated contractor will flag and mark access routes to ensure that vehicle traffic within the project footprint is restricted to established roads, construction areas, and other designated areas.	Preconstruction	Compliance reporting	Prior to any ground-disturbing activity	Contractor	Contractor	Monthly reporting	Condition of construction contract	Impact BIO-1: Construction Impacts on Riparian Habitat, Vegetation Communities, Land Cover, and Special-Status Natural Communities Impact BIO-3: Construction Impacts on Special-Status Birds, Raptors, and Migratory Birds Impact BIO-4: Construction Impacts on Special-Status Mammals Impact BIO-5: Construction Impacts on Aquatic Resources Impact BIO-6: Construction Impacts on Wildlife Movement Corridors Impact BIO-7: Construction Impacts on Locally Protected Biological Resources (Tree and Shrub Preservation Policies or Ordinances)

IAMF	Title	IAMF Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
BIO-IAMF#9	Dispose of Construction Spoils and Waste	During ground-disturbing activities, the Authority-designated contractor may temporarily store excavated materials produced by construction activities in areas at or near construction sites within the project footprint. Where practicable, the Authority-designated contractor will return excavated soil to its original location to be used as backfill. Excavated waste materials unsuitable for treatment and reuse will be disposed of at an off-site location, in conformance with applicable state and federal laws.	Construction	Compliance reporting	Monthly	Authority	Contractor	Monthly reporting	Condition of construction contract	Impact BIO-3: Construction Impacts on Special-Status Birds, Raptors, and Migratory Birds Impact BIO-4: Construction Impacts on Special-Status Mammals Impact BIO-5: Construction Impacts on Aquatic Resources Impact BIO-6: Construction Impacts on Wildlife Movement Corridors Impact HWR-3: Temporary Impacts on Surface Water Quality During Construction Impact HWR-5: Temporary Impacts on Groundwater Volume, Quality, and Recharge During Construction Impact HWR-7: Temporary Impacts on Flood Hazard, Tsunami, or Seiche Zones Resulting in the Risk of Release of Pollutants During Construction Impact HWR-8: Permanent Impacts on Flood Hazard, Tsunami, or Seiche Zones Resulting in the Risk of Release of Pollutants During Construction Impact HWR-13: Impact from Risk of Release of Pollutants from Inundation During Operations
BIO-IAMF#10	Clean Construction Equipment	Prior to ground-disturbing activity, the Authority-designated contractor will ensure that equipment entering the work area is free of mud and plant materials. The Authority-designated contractor will establish vehicle cleaning locations designed to isolate and contain organic materials and minimize opportunities for weeds and invasive species to move in and out of the project footprint. Cleaning may be done by washing with water, blowing with compressed air, brushing, or other hand cleaning. The cleaning areas will be located so as to avoid impacts on surface waters and appropriate SWPPP BMPs will be implemented so as to further control potential for the spread of weeds or other invasive species. Cleaning stations will be inspected regularly (at least monthly).	Preconstruction	Compliance reporting	Prior to any ground-disturbing activity, monthly reporting	Authority	Contractor	Monthly reporting	Condition of construction contract	Impact BIO-1: Construction Impacts on Riparian Habitat, Vegetation Communities, Land Cover, and Special-Status Natural Communities Impact BIO-3: Construction Impacts on Special-Status Birds, Raptors, and Migratory Birds Impact BIO-5: Construction Impacts on Aquatic Resources Impact BIO-6: Construction Impacts on Wildlife Movement Corridors

IAMF	Title	IAMF Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
BIO-IAMF#11	Maintain Construction Sites and BMP Training	Prior to ground-disturbing activity, the Authority-designated contractor will prepare a construction site BMP field manual. The manual will contain standard construction site housekeeping practices required to be implemented by construction personnel. The manual will identify BMPs for the following topics: temporary soil stabilization, temporary sediment control, wind erosion control, nonstormwater management, waste management and materials control, rodenticide use, and other general construction site cleanliness measures, including trash control and removal. All construction personnel will receive training on BMP field manual implementation prior to working within the project footprint. All personnel will acknowledge, in writing, their understanding of the BMP field manual implementation requirements. The BMP field manual will be updated by January 31 of each year. The Authority will provide, on an annual basis, training updates to all construction personnel.	Preconstruction	Reporting	Prior to any ground-disturbing activity, annual reporting	Authority	Contractor	Monthly reporting	Condition of construction contract	Impact BIO-1: Construction Impacts on Riparian Habitat, Vegetation Communities, Land Cover, and Special-Status Natural Communities Impact BIO-3: Construction Impacts on Special-Status Birds, Raptors, and Migratory Birds Impact BIO-4: Construction Impacts on Special-Status Mammals Impact BIO-5: Construction Impacts on Aquatic Resources Impact BIO-6: Construction Impacts on Wildlife Movement Corridors Impact HWR-1: Temporary Impacts on Drainage Patterns, Stormwater Runoff, and Hydraulic Capacity (Surface Water Hydrology) During Construction Impact HWR-3: Temporary Impacts on Surface Water Quality During Construction Impact HWR-5: Temporary Impacts on Groundwater Volume, Quality, and Recharge During Construction Impact HWR-7: Temporary Impacts on Flood Hazard, Tsunami, or Seiche Zones Resulting in the Risk of Release of Pollutants During Construction Impact HWR-8: Permanent Impacts on Flood Hazard, Tsunami, or Seiche Zones Resulting in the Risk of Release of Pollutants During Construction Impact HWR-9: Impacts on Drainage Patterns, Stormwater Runoff, and Hydraulic Capacity (Surface Water Hydrology) During Operations Impact HWR-13: Impact from Risk of Release of Pollutants from Inundation During Operations
BIO-IAMF#12	Design the Project to Be Bird Safe	Prior to final construction design, the Authority-designated contractor will ensure that the catenary system, masts, and other structures such as fencing, electric lines, communication towers, and facilities are designed to be bird and raptor-safe in accordance with the applicable recommendations presented in *Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 2006* (APLIC 2006) and *Reducing Avian Collisions with Power Lines: State of the Art in 2012* (APLIC 2012). Applicable Avian Powerline Interaction Committee recommendations include, but are not limited to:	Preconstruction	Design	Prior to final design	Authority	Authority	Bird- and raptor-safe design catenary system, masts, and other structures, such as fencing	Condition of construction contract	Impact BIO-3: Construction Impacts on Special-Status Birds, Raptors, and Migratory Birds Impact BIO-9: Operational Impacts on Special-Status Birds, Raptors, and Migratory Bird Species Impact BIO-11: Operational Impacts on Wildlife Movement Corridors

IAMF	Title	IAMF Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
		▪ Ensuring sufficient spacing of phase conductors to prevent bird electrocution ▪ Configuring lines to reduce vertical spread of lines or decreasing the span length if such options are feasible ▪ Marking lines and fences (e.g., Bird Flight Diverter for fencing and lines) to increase the visibility of lines and reduce the potential for collision. Where fencing is necessary, using bird-compatible design standards to increase visibility of fences to prevent collision and entanglement ▪ Installing perch guards to discourage avian presence on and near project facilities ▪ Minimizing the use of guywires. Where the use of guywires is unavoidable, demarcating guywires using the best available methods to minimize avian strikes (e.g., line markers) ▪ Reusing or co-locating new transmission facilities and other ancillary facilities with existing facilities and disturbed areas to minimize habitat impacts and avoid collision risks ▪ Using structures with monopole or dual-pole design versus lattice tower design to minimize perching and nesting opportunities. Communication towers will conform to Recommended Best Practices for Communication Tower Design, Siting, Construction, Operation, Maintenance, and Decommissioning (USFWS 2021). ▪ Using facility lighting that does not attract birds or their prey to project sites. Best practices include using nonsteady burning lights (red, dual red and white strobe, strobe-like flashing lights) to meet FAA requirements, using motion or heat sensors and switches to reduce the time when lights are illuminated, using appropriate shielding to reduce horizontal or skyward illumination, and avoiding the use of high-intensity lights (e.g., sodium vapor, quartz, and halogen). Lighting will not be installed under viaduct and bridge structures in riparian habitat areas. Additional bird operational actions will be required for dry lakes and playas, Audubon Important Bird Areas and documented avian movement corridors. These measures include: ▪ Avoid, to the extent feasible, siting transmission lines across canyons or on ridgelines to prevent bird and raptor collisions. ▪ Install bird flight diverters on facilities spanning or within 1,000 feet of stream and wash channels, canals, ponds, and other natural or artificial body of water. ▪ Install fencing or other type of flight diverter on viaduct structures to encourage birds and raptors to fly over the HSR and avoid flying directly in the path of oncoming trains. ▪ Ensure poles do not have openings that could entrap birds. Measures may include sealing or capping openings in poles or providing for escape routes (e.g., openings accommodating escape for various species).							

IAMF	Title	IAMF Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
		Design aerial structures (e.g., viaducts and bridges) and tunnel portals to discourage birds and bats from roosting in expansion joints or other crevices.								
Cultural Resources										
CUL-IAMF#1	Geospatial Data Layer and Archaeological Sensitivity Map	Prior to construction (any ground-disturbing activities) and staging of materials and equipment, the Authority-designated contractor's archaeologist or geoarchaeologist will prepare a geospatial data layer identifying the locations of all known archaeological resources and built historic resources that require avoidance or protection, and areas of archaeological sensitivity that require monitoring within the area of potential effect. The Authority-designated contractor's archaeologist, who meets the Secretary of the Interior's Professional Qualifications Standards provided in 36 CFR Part 61, is to use, as appropriate, a combination of the following: known locations of archaeological sites and built historic properties, tribal consultation, landforms, depositional processes, distance to water, mapping provided in the Archaeological Treatment Plan, or historical mapping. This mapping is to be updated as the design progresses if it results in an expansion of the area of ground disturbance/area of potential effect, including temporary construction easements and new laydown and access areas. This mapping will be used to develop an archaeological monitoring plan to be prepared by the Authority-designated contractor's archaeologist and, on approval by the Authority, applied by the Authority-designated contractor's archaeologist. When design is sufficiently advanced, a geospatial data layer will be produced by the Authority-designated contractor overlaying the locations of all known archaeological resources and built historic resources within the area of potential effect for which avoidance measures are necessary, and all archaeologically sensitive areas for which monitoring is required.	Design/ preconstruction	Prepare plan	At incorporation or completion of design	Contractor/ contractor's archaeologist or geo-archaeologist	Authority	Prepare geospatial data layer	Condition of construction contract	Impact CUL-1: Disturbance of Known Archaeological Resources During Construction Impact CUL-2: Permanent Disturbance of Unknown Archaeological Resources During Construction Impact CUL-3: Permanent Demolition, Destruction, Relocation, or Alteration of Historic Architectural Built Resources or Setting During Construction Impact CUL-4: Potential for Visual, Noise, or Vibration Effects on a Historic Building or Structure During Construction

IAMF	Title	IAMF Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
CUL-IAMF#2	Worker Environmental Awareness Program Training Session	Prior to construction (any ground-disturbing activity), construction Authority-designated contractor personnel who work on site will attend a WEAP training session provided by the Authority-designated contractor. The WEAP will include cultural resources awareness training performed by the Authority-designated contractor's archaeologist or architectural historian who meets the Secretary of the Interior's Professional Qualification Standards provided in 36 CFR Part 61. The Authority-designated contractor will develop instructional materials and a fact sheet for distribution to the construction crews, and submit the materials, as well as qualifications of the personnel providing the training, to the Authority for approval at least 15 days prior to being permitted on-site access. The training will address measures required to avoid or protect built historic resources, and to educate crews on artifacts and archaeological features they may encounter and the mandatory procedures to follow should potential cultural resources be exposed during construction. Translation services will be provided by the Authority-designated contractor for non-English-speaking participants. The training sessions will be given prior to the initiation of any ground disturbance activities and repeated on an annual basis. Additionally, new construction crewmembers will attend an initial WEAP training session prior to working on site. On completion of the WEAP training, construction crews will sign a form stating that they attended the training, understood the information presented, and will comply with the WEAP requirements. The Authority-designated contractor's archaeologist will submit the signed WEAP training forms to the Mitigation Manager on a monthly basis. On an annual basis, the Authority-designated contractor will provide the Authority with a letter indicating that regular WEAP training has been implemented and will provide at least one PowerPoint annually of the WEAP training. On a monthly basis, the Authority-designated contractor's archaeologist will provide updates and synopsis of the training to workers during the daily safety ("tailgate") meeting. Construction crews will be informed during the WEAP training that, to the extent possible, travel within the marked project site will be restricted to established roadbeds.	Preconstruction	Training program/ reporting	Prior to construction (any ground-disturbing activity), then annual (training)/ monthly (reporting)	Contractor/ contractor's archaeologist	Contractor	WEAP training	Condition of construction contract	Impact CUL-1: Disturbance of Known Archaeological Resources During Construction Impact CUL-2: Permanent Disturbance of Unknown Archaeological Resources During Construction Impact CUL-3: Permanent Demolition, Destruction, Relocation, or Alteration of Historic Architectural Built Resources or Setting During Construction Impact CUL-4: Potential for Visual, Noise, or Vibration Effects on a Historic Building or Structure During Construction

IAMF	Title	IAMF Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
CUL-IAMF#3	Preconstruction Cultural Resource Surveys	Prior to construction (any ground-disturbing activities in areas not yet surveyed) and the staging of materials and equipment, the Authority-designated contractor will conduct preconstruction cultural resource surveys. Resulting from lack of legal access, much of the construction footprint may not have been surveyed. Once parcels are accessible the Authority-designated contractor will have archaeologists or architectural historians, as appropriate, who meet the Secretary of the Interior's professional qualification standards, survey and complete reporting in appropriate document for archaeology or built resources, in accordance with documentation requirements stipulated in the Section 106 Programmatic Agreement. Identified resources will be evaluated for the National Register of Historic Places and the California Register of Historical Resources. The qualified archaeologist or architectural historian, as appropriate, will assess the potential to affect historic properties (National Register of Historic Places) by applying the effects criteria in 36 CFR Part 800.5(a)(1), and the potential of significant impacts on historical resources (California Register of Historical Resources) by applying the criteria in California Environmental Quality Act Guidelines 15064.5(b). Should the Authority and FRA determine, in consultation with the SHPO, that any newly identified historic properties or historical resources will be adversely affected, the BETP or Archaeological Treatment Plan, as appropriate, will be amended, to document mitigation measures agreed on by the memorandum of agreement signatories. The schedule of these surveys will be dependent on the timing of obtaining legal access to the properties and may be driven by the need to complete construction-related activities (e.g., geotechnical borings, laydown yards). Prior to beginning surveys, updated records searches may be required by the Authority and FRA, depending on the length of the passage of time, to validate that accurate information was obtained regarding previous inventory and evaluation efforts. The Authority-designated contractor's archaeologist, in consultation with the Authority, will determine if an updated records search is required. If an updated records search is necessary, the search will be performed by the Authority-designated contractor's archaeologist.	Preconstruction	Conduct preconstruction surveys/identify historic and/or cultural resources	Surveys conducted prior to ground disturbance	Contractor/ Contractor's archaeologist or architectural historian	Contractor	Cultural resource surveys conducted prior to ground disturbance	Condition of construction contract	Impact CUL-1: Disturbance of Known Archaeological Resources During Construction Impact CUL-2: Permanent Disturbance of Unknown Archaeological Resources During Construction

IAMF	Title	IAMF Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
CUL-IAMF#4	Relocation of Project Features when Possible	Changing the rail alignment to avoid newly discovered sites is likely infeasible; however, access areas and laydown sites may be relocated should their proposed location be found to be on archaeological sites or have the potential to affect historic built resources in the vicinity. The Authority-designated contractor will delineate all of the applicable avoidance and protection measures as identified in the final treatment plans for identified archaeological and historic built resources on construction drawings prior to the start of construction. Additionally, as the design progresses, the Authority-designated contractor will site project features such as communication towers or other rail infrastructure to avoid and protect identified archaeological and built historic properties and historical resources. The Authority will establish regular coordination meetings with the Authority-designated contractor's qualified staff of archaeologists and architectural historians to ensure that the identified resources are avoided and the project designs have taken these resources into account.	Construction	Relocation of access areas and laydown sites	As needed	Contractor	Contractor	Relocation access areas and laydown sites as needed to avoid archaeological or historic built resources	Condition of construction contract	Impact CUL-1: Disturbance of Known Archaeological Resources During Construction Impact CUL-2: Permanent Disturbance of Unknown Archaeological Resources During Construction
CUL-IAMF#5	Archaeological Monitoring Plan and Implementation	Prior to construction, the Authority's professionally qualified archaeologist, as defined in the Section 106 Programmatic Agreement, will prepare a monitoring plan based on the results of geospatial data layer and archaeological sensitivity map. The plan will be reviewed and approved by the Authority prior to any ground-disturbing activities. During construction (any ground-disturbing activities) or staging of materials or equipment, the Authority-designated contractor will be responsible for executing the monitoring plan and providing archaeological and tribal monitoring of ground-disturbing construction activities with a potential to affect archaeological remains in areas identified as archaeologically sensitive in the Archaeological Treatment Plan. The Authority-designated contractor will obtain Authority approval of all persons providing archaeological or tribal monitoring.	Preconstruction/ construction	Prepare and implement monitoring plan	Prior to construction (prepare plan)/ during construction (implement plan)	Contractor's archaeologist/ Contractor	Contractor	Prepare archaeological monitoring plan	Condition of construction contract	Impact CUL-1: Disturbance of Known Archaeological Resources During Construction Impact CUL-2: Permanent Disturbance of Unknown Archaeological Resources During Construction

IAMF	Title	IAMF Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
CUL-IAMF#6	Preconstruction Conditions Assessment, Plan for Protection of Historic Built Resources, and Repair of Inadvertent Damage	Prior to construction (any ground-disturbing activities that are within 1,000 feet of a historic built resource), the Authority-designated contractor may be required to assess the condition of historic build resources adjacent to construction and prepare a Plan for the Protection of Historic Built Resources and Repair of Inadvertent Damage. The memorandum of agreement and BETP will stipulate for which properties the plan is to be prepared. Memorandum of agreement signatories and Consulting Parties may comment on the adequacy of the assessments. Protection measures will be developed in consultation with the landowner or land-owning agencies as well as the SHPO and the memorandum of agreement signatories and Consulting Parties, as required by the Section 106 Programmatic Agreement. As the design progresses, additional properties may be identified by the Authority as requiring this plan. The plan will record existing conditions in order to (1) establish a baseline against which to compare the property's post-project condition, (2) identify structural deficiencies that make the property vulnerable to project-construction-related damage, such as vibration, and (3) identify stabilization or other measures required to avoid or minimize inadvertent adverse effects. The plan will be further described in the BETP and be prepared by an interdisciplinary team, including (but not limited to), as appropriate, an architectural historian, architect, photographer, structural engineer, and acoustical engineer. Ambient conditions will be used to identify buildings that are sensitive receptors to construction-related vibration and require vibration monitoring during construction activities. Additional protective measures may be required if the property is vacant during construction. The plan content will be outlined in the BETP and is to be completed and approved by the Authority, with protective measures implemented before construction begins within 1,000 feet of the subject property. The plan will describe the protocols for documenting inadvertent damage (should it occur), as well as notification, coordination, and reporting to the SHPO, memorandum of agreement signatories, and the owner of the historic built resource. The plan will direct that inadvertent damage to historic built resources will be repaired in accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties (U.S. Department of the Interior 1995). The plan will be developed in coordination with the Authority and FRA, and it will be submitted to the SHPO for review and approval. Protective plans will be required for buildings that will be moved as part of the project mitigation, including stabilization before, during, and after relocation; protection during temporary storage; and relocation to a new site, followed by rehabilitation.	Preconstruction	Conduct assessment and protection plan	Required if within 1,000 feet of historic built property	Authority/ Contractor	Authority/ Contractor	Assess the condition of construction-adjacent historic properties and prepare a Plan for the Protection of Historic Built Resources and Repair of Inadvertent Damage	MOA/PA/BETP	Impact CUL-3: Permanent Demolition, Destruction, Relocation, or Alteration of Historic Architectural Built Resources or Setting During Construction Impact CUL-4: Potential for Visual, Noise, or Vibration Effects on a Historic Building or Structure During Construction

IAMF	Title	IAMF Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
CUL-IAMF#7	Built Environment Monitoring Plan	Prior to construction (any ground-disturbing activities within 1,000 feet of a historic property or resource), the Authority-designated contractor will prepare a Built Environment Monitoring Plan. Draft and final Built Environment Monitoring Plans will be prepared describing the properties that will require monitoring, the type of activities or resources that will require full-time monitoring or spot checks, the required number of monitors for each construction activity, and the parameters that will influence the level of effort for monitoring. Maximum vibration level thresholds may be established in the Plan for Protection of Historic Resources and Repair of Inadvertent Damage, the monitoring of which will be included in this monitoring plan. The BETP will outline the process for corrective action should the protection measures prove ineffective. Consultation procedures will also be defined in the BETP. The Authority-designated contractor will develop both the draft and final plans in coordination with the Authority and FRA, and the plans will be submitted to the SHPO for review and approval. The plan will be implemented prior to any ground-disturbing activities within 1,000 feet of properties identified as requiring monitoring, as specified in the BETP.	Preconstruction	Prepare monitoring plan	Prior to construction (any ground-disturbing activities within 1,000 feet of historic property or resource)	Authority/ Contractor	Authority/ Contractor	Prepare a BEMP	BETP	Impact CUL-3: Permanent Demolition, Destruction, Relocation, or Alteration of Historic Architectural Built Resources or Setting During Construction Impact CUL-4: Potential for Visual, Noise, or Vibration Effects on a Historic Building or Structure During Construction
CUL-IAMF#8	Implement Protection and/or Stabilization Measures	The Authority-designated contractor will implement the measures described in the Plan for Protection of Historic Resources and Repair of Inadvertent Damage and in the BETP. Such protection measures will include, but will not be limited to, vibration monitoring of construction in the vicinity of historic built resources; cordoning off of resources from construction activities (e.g., traffic, equipment storage, personnel); shielding of resources from dust or debris; and stabilization of buildings and structures adjacent to construction. The monitoring measures described in the BETP will ensure that protection measures are in place before construction begins. Additionally, monitoring during construction will verify that the protection measures are effective. For resources requiring vibration monitoring, the monitor will be responsible for setting up on-site vibration monitoring devices at the approximate location of the construction site; monitoring vibration levels and issuing a temporary work stoppage if maximum vibration level thresholds are reached; implementing the procedures outlined in a vibration monitoring and control plan if construction activities result in vibration exceedances or an unanticipated impact occurs; reporting to the Authority any concerns or issues related to the historic built resources within the area of potential effects that may require further investigation; and documenting monitoring activities in a daily log and summarizing these activities in a monthly report. The Authority-designated contractor will submit the monitoring logs and monthly reports to the Authority as they are completed. Temporary stabilization and protection measures will be removed after construction is complete, and the historic built resources will be restored to their preconstruction condition. For buildings that will be moved, treatment will include stabilization before, during, and after relocation; protection during temporary storage; and relocation to a new site, followed by rehabilitation.	Preconstruction	Implement protection and/or stabilization measures	Per BETP	Authority/ Contractor	Contractor	Implement historic built resource protection measures per BETP	BETP	Impact CUL-3: Permanent Demolition, Destruction, Relocation, or Alteration of Historic Architectural Built Resources or Setting During Construction Impact CUL-4: Potential for Visual, Noise, or Vibration Effects on a Historic Building or Structure During Construction

IAMF	Title	IAMF Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
Electromagnetic Fields/Electromagnetic Interference										
EMF/EMI-IAMF#1	Preventing Interference with Adjacent Railroads	TM 3.00.10. Implementation Stage Electromagnetic Compatibility Program Plan requires coordination with adjacent railroads. During project design, the Authority-designated contractor will work with the engineering departments of railroads that operate parallel the HSR to apply standard design practices to prevent interference with the electronic equipment operated by these railroads. Prior to O&M of each operating segment, the Authority-designated contractor will certify through issuance of a technical memorandum to the Authority that design provisions to prevent interference have been established and have been determined to be effective prior to the activation of potentially interfering systems of the HSR. The Authority-designated contractor will work with the railroad engineering departments where these railways parallel the HSR to apply the standard design practices to prevent interference with the electronic equipment operated by these railroads. Design provisions to prevent interference will be put in place and determined to be adequately effective by a qualified electrical engineering professional prior to the HSR activation of potentially interfering systems. The HSR Design Criteria Manual Chapter 26 summarizes the applicable electromagnetic interference/ electromagnetic field design standards that the Authority will use for the project.	Design/ construction	Prepare technical memorandum/ compliance/ reporting	Monthly	Contractor	Authority/ Contractor	Prepare electromagnetic compatibility technical memorandum	Condition of construction contract	Impact EMF/EMI-8: Effects on Adjacent Existing Rail Lines

IAMF	Title	IAMF Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
EMF/EMI-IAMF#2	Controlling Electromagnetic Fields/ Electromagnetic Interference	Prior to construction, the Authority-designated contractor will prepare an electromagnetic field/electromagnetic interference technical memorandum for review and approval by the Authority. The HSR project will adhere to international guidelines and comply with applicable federal and state laws and regulations. The HSR project design will follow TM 300.10, Implementation Stage Electromagnetic Compatibility Program Plan, the HSR Design Criteria Manual Chapter 26, which provides detailed electromagnetic compatibility design criteria for the HSR systems and equipment, and the HSR Design Criteria Manual Chapter 22, which addresses grounding requirements for third-party metallic structures, including fences and pipelines, which are parallel and adjacent to the HSR right-of-way. These documents describe the design practices to avoid electromagnetic interference and to provide for HSR operational safety. Some measures of the Authority's Implementation Stage Electromagnetic Compatibility Program Plan include: ▪ During the planning stage through system design, the Authority-designated contractor will perform electromagnetic compatibility/electromagnetic interference safety analyses, which will include identification of existing nearby radio systems, design of systems to prevent electromagnetic interference with identified neighboring uses, and incorporation of these design requirements into bid specifications used to procure radio systems. ▪ Pipelines and other linear metallic objects that are not sufficiently grounded through the direct contact with earth will be separately grounded in coordination with the affected owner or utility to avoid possible shock hazards. For cases where metallic fences are purposely electrified to inhibit livestock or wildlife from traversing the barrier, specific insulation design measures will be implemented. ▪ HSR standard corrosion protection measures will be implemented to eliminate risk of substantial corrosion of nearby metal objects.	Design/ construction	Prepare technical memorandum/ compliance/ reporting	Monthly	Contractor	Authority/ Contractor	Prepare EMF/EMI technical memorandum	Condition of construction contract	Impact EMF/EMI-1: Temporary Impacts from Use of Heavy Construction Equipment Impact EMF/EMI-3: Temporary Impacts from Operation of Electrical Equipment Impact EMF/EMI-5: People with Implanted Medical Devices and Exposure to Electromagnetic Fields Impact EMF/EMI-6: Potential for Corrosion of Underground Pipelines, Cables, and Adjoining Rail Impact EMF/EMI-7: Potential for Nuisance Shocks Impact EMF/EMI-9: Permanent Interference with Sensitive Equipment Impact EMF/EMI-10: Electromagnetic Interference Effects on Schools Impact EMF/EMI-11: Effects Related to Adjacent Airports
Community Analysis										
CA-IAMF#1	Authority Community Ombudsperson and Contractor's Community Liaison	Prior to final design, the Authority shall create an ombudsperson position to address the needs of adversely affected communities. The Authority will also make available resources developed for community analysis IAMFs to any other affected communities that are identified in Chapter 5 of the EIR/EIS along the alignment, if a specific community so requests. The Authority's final design plans and contract documents shall require the contractor to establish a full-time community liaison to serve as a multilingual single point of contact for the eligible communities. The scope of the Authority's community ombudsperson and contractor's community liaison responsibilities and duties include those articulated in the other community analysis–related IAMFs. These responsibilities include implementing programs (e.g., the Workforce Development Program, community air quality monitoring), holding community roundtables to obtain ideas for business spotlighting, developing	Construction	Create ombudsperson position	Ongoing during construction	Authority/ Contractor	Authority/ Contractor	Creation of an ombudsperson position	Condition of construction contract	Chapter 5, Community Analysis, Section 5.6.3, Project Impacts: Noise and Vibration

IAMF	Title	IAMF Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
		appropriate aesthetic treatments, proposing potential intersection or safety improvements, and obtaining community-specific feedback on the following plans not typically reviewed by the general public: ▪ CMP (SOCIO-IAMF#1) ▪ Relocation Mitigation Plan (SOCIO-IAMF#3 ▪ Construction Safety Transportation Management Plan (SS-IAMF#1) ▪ Safety and Security Management Plan (SS-IAMF#2) ▪ Operations Noise and Vibration Technical Memorandum (NV-IAMF#1) The community ombudsperson and contractor's community liaison shall have stop-work authority in the event of safety concerns and may also apply stop-work authority for project-related concerns regarding fugitive dust, construction noise, and traffic (e.g., noncompliance with designated truck hauling routes and the California Transportation Plan). Beginning with final design and throughout the construction phase of the project, the contractor's community liaison shall submit reports (quarterly, at minimum) to the ombudsperson providing evidence of compliance with all community analysis IAMFs, maintenance of pedestrian access per TR-IAMF#4, communication of relocation mitigation plan, and relocation ombudsperson availability (SOCIO-IAMF#3). During construction, the contractor's community liaison shall provide multilingual notices (e.g., online information, e-blasts, text messaging, voice messaging, or mailers) to inform communities (specifically, communities identified in the first paragraph of this IAMF) of the Authority's hotline for reporting community concerns or complaints regarding construction noise and traffic effects and updates. These notices shall be provided 2 weeks in advance of each planned instance of vehicle, pedestrian, bicycle, transit access, and utility service disruption. Notices shall continue, at a minimum, until the communities receive post-construction guidance with details of how to access and ride the HSR system. The community liaison's report to the ombudsperson shall include all concerns and complaints received from communities and measures taken by the Authority or its contractors to address those concerns and complaints. The Authority's construction contractor shall implement all corrective actions communicated by the community ombudsperson, or their community liaison, within a 24-hour period unless written authorization from the community ombudsperson provides the contractor with an alternate timeline. The Authority shall ensure the point of contact has access to the Authority's contract interpretation and translation services for substantial Limited English Proficiency languages in the affected area. Substantial shall be as defined in state Limited English Proficiency law (the Dymally Alatorre Bilingual Services Act). The Authority may also consider contracting with a community organization for substantial Limited English Proficiency communities to assist with outreach.								

IAMF	Title	IAMF Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
CA-IAMF#2	Business Spotlighting	To minimize any potential access disruptions or inconveniences to businesses within adversely affected communities (as defined in CA-IAMF#1) during construction activities, the Authority shall provide assistance to those businesses to maintain visibility during construction, such as providing signage and targeted advertising and marketing campaigns, incentives for construction worker patronage (as applicable), or Authority-sponsored community events. Business spotlighting will include street vendors permitted by the City of Los Angeles.	Construction	Implement visibility spotlighting measures	Prior to operation	Authority	Authority	Provide assistance to businesses to maintain their visibility	Condition of construction contract	Chapter 5, Community Analysis, Section 5.6.3, Project Impacts: Socioeconomics and Communities
CA-IAMF#3	Community-Inclusive Development of Aesthetic Treatments and Community Cohesion Enhancements	In addition to the requirements in AVQ-IAMF#1 and AVQ-IAMF#2, the contractor's community liaison shall work with the Authority community ombudsperson to hold community roundtables to seek input on locally desired aesthetic treatment preferences from the adversely affected communities (as defined in CA-IAMF#1), possibly developed by local artists. Treatment options may include streetscape, vegetation screening, consideration of a community mural, and beautification tree plantings or plant plantings (such as improvements to an existing community garden or establishment of a new community garden location). As appropriate, reuse of property purchased by the Authority that is within the communities (as defined in CA-IAMF#1) shall be considered for plant and tree plantings. Upon Authority review for compatibility with the Draft Design Opportunities for Local Jurisdictions and Aesthetic Requirements and approval, the identified locally desired aesthetic treatments shall be included in the final design plans. The Authority's contractor shall implement the aesthetic treatments in the construction of HSR infrastructure.	Preconstruction	Reporting	At incorporation or completion of design/monthly	Contractor	Contractor	Prepare aesthetics technical memorandum	Condition of construction contract	Chapter 5, Community Analysis, Section 5.6.3, Project Impacts: Aesthetics and Visual Quality and Cultural Resources
CA-IAMF#4	Business Relocation/Displacement Assistance	Pursuant to SOCIO-IAMF#3, the Authority will develop a relocation mitigation plan. The plan will include a subsection dedicated to addressing adverse effects to businesses in the communities (as defined in CA-IAMF#1). This subsection shall include a description of measures taken or proposed to offset the adverse effects of business displacements and relocations in communities, including a description of measures to relocate displaced businesses in proximity to their same community. The Authority shall hold community roundtable meetings to seek and consider input from affected communities prior to finalizing the Authority's Relocation Mitigation Plan.	Construction	Prepare plan	Prior to property acquisitions	Authority	Authority	Develop relocation mitigation plan	Condition of construction contract	Chapter 5, Community Analysis, Section 5.6.3, Project Impacts: Socioeconomics and Communities
Geological Resources										
GEO-IAMF#1	Geologic Hazards	Prior to construction, the Authority-designated contractor will prepare a CMP addressing how the Authority-designated contractor will address geologic constraints and minimize or avoid impacts related to geologic hazards during construction. This geologic hazard risk minimization plan will be submitted to the Authority for review and approval. The plan will address the following geological and geotechnical constraints/resources, with reference to the specific underlying standards set forth in the guidance and other manuals detailed in GEO-IAMF#10: a. Groundwater Withdrawal: Controlling the amount of groundwater withdrawal from the project by re-injecting groundwater at specific locations if necessary, or using	Design/ construction	Prepare plan	At incorporation or completion of design/during monthly construction report	Contractor	Contractor	Prepare CMP	Condition of construction contract	Impact GSSPR-5: Soil Erosion as a Result of Construction Impact GSSPR-6: Be Located on 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 During Construction

IAMF	Title	IAMF Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
		alternate foundation designs to offset the potential for settlement. This control is important for locations with retained cuts in areas where high groundwater exists, and where existing buildings are located near the depressed track section. b. Unstable Soils: Employing various methods to mitigate for the risk of ground failure from unstable soils. If soft or loose soils are encountered at shallow depths, they can be excavated and replaced with competent soils. To limit the excavation depth, replacement materials can also be strengthened using geosynthetics. Where unsuitable soils are deeper, ground improvement methods, such as stone columns, cement deep-soil-mixing, or jet-grouting, can be used. Alternatively, if sufficient construction time is available, preloading—in combination with prefabricated vertical drains (wicks) and staged construction—can be used to gradually improve the strength of the soil without causing bearing-capacity failures. c. Subsidence: The Authority-designated contractor addresses subsidence in its design and construction processes. For the initial design, survey monuments were installed to establish a datum and set an initial track profile. In the construction phase, the Authority-designated contractors for track bed preparation will conduct topographic surveys for preparation of final design. Because subsidence could have occurred since the original benchmarks (survey monuments) were established, the Authority-designated contractor's topographic surveys will be used to help determine whether subsidence has occurred. The updated topographic surveys will also be used to establish the top of rail elevations for final design where the HSR system is outside established floodplain areas and above water surface elevations. Where the HSR system is in floodplain areas susceptible to flooding, consideration is being given to overbuild the height of the railbed in anticipation of future subsidence. d. Water and Wind Erosion: The Authority-designated contractor will implement erosion control methods as appropriate from the various erosion control methods documented in the Construction SWPPP (refer to HYD-IAMF#3), California Department of Transportation (Caltrans) Construction Manuals, and in coordination with other erosion, sediment, stormwater management, and fugitive dust control efforts. Water and wind erosion control methods may include, but are not limited to, use of revegetation, stabilizers, mulches, and biodegradable geotextiles. e. Soils with Shrink-Swell Potential: In locations where shrink-swell potential is marginally unacceptable, soil additives will be mixed with existing soil to reduce the shrink-swell potential. Construction specifications will be based on the decision whether to remove or treat the soil. This decision is based on the soils, specific shrink-swell characteristics, the additional costs for treatment versus excavation and								Impact GSSPR-13: Increased Exposure of People or Structures to Potential Loss of Life, Injuries, or Destruction Due to Liquefaction and Other Types of Seismically Induced Ground Failure During Operation Impact GSSPR-15: Increased Exposure of People or Structures to Potential Loss of Life, Injuries, or Destruction Due to Slope Failure Associated with Cut-and-Fill Slopes, or Landslides, Including Seismically Induced Landslides Impact HWR-3: Temporary Impacts on Surface Water Quality During Construction Impact HWR-5: Temporary Impacts on Groundwater Volume, Quality, and Recharge During Construction Impact HWR-7: Temporary Impacts on Flood Hazard, Tsunami, or Seiche Zones Resulting in the Risk of Release of Pollutants During Construction Impact HMW-2: Upset and Accident Conditions Involving the Release of Hazardous Materials into the Environment

IAMF	Title	IAMF Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
		replacement, as well as the long-term performance characteristics of the treated soil. f. Soils with Corrosive Potential: In locations where soils have a potential to be corrosive to steel and concrete, the soils will be removed and buried structures will be designed for corrosive conditions, and corrosion-protected materials will be used in infrastructure. g. Faults: The Authority-designated contractor will identify and characterize faults as either Nonhazardous Faults, Potentially Hazardous Fault Zones, or Hazardous Fault Zones through a progressive process described in Technical Memorandum 2.10.6, titled *Fault Hazard and Mitigation Guidelines* (Parsons Brinkerhoff 2014). Technical Memorandum 2.10.6 provides guidelines for the identification, characterization, and resolution of displacement associated with faulting. A structural engineer will evaluate the potential for ground deformation, including fault-related folding, based on findings from the geotechnical investigation. The structural engineer will recommend appropriate design methods and engineering techniques to reduce or withstand potential geologic risks identified in the geotechnical investigation. These methods and techniques will be incorporated into the structural design to minimize the risk of permanent damage to structures or increased exposure of people to potential loss of life or injury from active fault-related folding. Potential strategies may include increased articulation at piers, simple spans with large and elongated bearing seats, enhanced derailment containment, seismic isolation and dissipation devices, monopile foundations at areas where the deformation zone is not well defined, and ductile and thickened reinforced mat concrete foundations.								
GEO-IAMF#2	Slope Monitoring	During O&M, the Authority will incorporate slope monitoring by a Registered Engineering Geologist into the O&M procedures. The procedures will be implemented at sites identified in the CMP where a potential for long-term instability exists from gravity or seismic loading including but not limited to at-grade sections where slope failure could result in loss of track support, or where slope failure could result in additional earth loading to foundations supporting elevated structures.	Operation	Prepare plan/ monitoring	Monthly during operation	Authority/ Contractor	Contractor	Slope monitoring during operation	Condition of construction contract	Impact GSSPR-13: Increased Exposure of People or Structures to Potential Loss of Life, Injuries, or Destruction Due to Liquefaction and Other Types of Seismically Induced Ground Failure During Operation Impact GSSPR-15: Increased Exposure of People or Structures to Potential Loss of Life, Injuries, or Destruction Due to Slope Failure Associated with Cut-and-Fill Slopes, or Landslides, Including Seismically Induced Landslides

IAMF	Title	IAMF Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
GEO-IAMF#3	Gas Monitoring	Prior to construction, the Authority-designated contractor shall prepare a CMP addressing how gas monitoring will be incorporated into construction BMPs. The CMP will be submitted to the Authority for review and approval. Hazards related to potential migration of hazardous gases caused by the presence of known oil and gas fields, areas of active or historical landfills, or other subsurface sources can be reduced or eliminated by following strict federal and state Occupational Safety & Health Administration regulatory requirements for excavations, and by consulting with other agencies as appropriate, such as the California Geologic Energy Management Division, California Environmental Protection Agency, and Department of Toxic Substances Control, regarding known areas of concern. Practices will include using safe and explosion-proof equipment during construction and testing for gases regularly. Installation of passive or active gas venting systems, gas collection systems, as well as active monitoring systems and alarms will be required in underground construction areas and facilities where subsurface gases are present. Installing gas-detection systems can monitor the effectiveness of these systems.	Design/ construction	Prepare plan/ design	Prior to construction	Authority/ Contractor	Contractor	Preparation of a CMP	Condition of construction contract	Impact GSSPR-10: Substantial Risk Caused by Disruption of Subsurface Oil and Gas Resources During Construction Impact HMW-2: Upset and Accident Conditions Involving the Release of Hazardous Materials into the Environment Impact HMW-4: Construction within or Near Sites of Potential Environmental Concern or Cortese List Sites Impact HMW-7: Risks During Construction on or Near Landfills and Oil and Gas Wells Impact PU&E-5: Effects from Waste Generation During Construction Impact SS-3: Temporary Exposure to Construction Site Hazards Impact SS-7: Temporary Exposure to Landfill Hazards Impact SS-8: Temporary Exposure to Oil and Gas Well Hazards
GEO-IAMF#6	Ground Rupture Early Warning Systems	Prior to construction, the Authority-designated contractor shall document how the project design incorporates installation of early warning systems, triggered by strong ground motion association with ground rupture. Known nearby active faults will be monitored. Linear monitoring systems such as time domain reflectometers or similar technology shall be installed along rail lines in the zone of potential ground rupture. These devices emit electronic information that is processed in a centralized location and will be used to temporarily control trains, thus reducing accidents caused by fault creep. Damage to infrastructure from fault creep can be mitigated with routine maintenance including minor realignment.	Design/ construction	Design/ Monitoring	Prior to construction	Authority/ Contractor	Contractor	Preparation of a CMP	Condition of construction contract	Impact GSSPR-13: Increased Exposure of People or Structures to Potential Loss of Life, Injuries, or Destruction Due to Liquefaction and Other Types of Seismically Induced Ground Failure During Operation

IAMF	Title	IAMF Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
GEO-IAMF#7	Evaluate and Design for Large Seismic Ground Shaking	Prior to construction, the Authority-designated contractor shall document through preparation of a technical memorandum how all HSR components were evaluated and designed for large seismic ground shaking. Prior to final design, the Authority-designated contractor will conduct additional seismic studies to establish up-to-date estimation of levels of ground motion. The most current Caltrans seismic design criteria at the time of design will be used in the design of any structures supported in or on the ground. These design procedures and features reduce to the greatest practical extent for potential movements, shear forces, and displacements that result from inertial response of the structure. In critical locations, pendulum base isolators may be used to reduce the levels of inertial forces. New composite materials may also be used to enhance seismic performance.	Design	Design/Studies	Prior to final design	Authority/ Contractor	Authority/ Contractor	At incorporation or completion of design	Seismic ground shaking design technical memorandum	Impact GSSPR-2: Increased Exposure of People or Structures to Potential Loss of Life, Injuries, or Destruction Due to Liquefaction During Construction Impact GSSPR-6: Be Located on 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 During Construction Impact GSSPR-13: Increased Exposure of People or Structures to Potential Loss of Life, Injuries, or Destruction Due to Liquefaction and Other Types of Seismically Induced Ground Failure During Operation
GEO-IAMF#8	Suspension of Operations During an Earthquake	Prior to O&M activities, the Authority-designated contractor shall document in a technical memorandum how suspension of operations during or after an earthquake was addressed in project design. Motion-sensing instruments to provide ground motion data and a control system to shut down HSR operations temporarily during or after a potentially damaging earthquake will be incorporated into final design. Monitoring equipment will be installed at select locations where high ground motions could occur. The system will then be inspected for damage caused by ground motion or ground deformation, and then returned to service when appropriate.	Design/ construction/ operation	Reporting	Prior to O&M activities	Authority/ Contractor	Authority/ Contractor	At incorporation or completion of design/during monthly construction report	Technical memorandum prepared as needed based on an earthquake event	Impact GSSPR-13: Increased Exposure of People or Structures to Potential Loss of Life, Injuries, or Destruction Due to Liquefaction and Other Types of Seismically Induced Ground Failure During Operation Impact GSSPR-14: Increased Exposure of People or Structures to Potential Loss of Life, Injuries, or Destruction Due to Seismically Induced Flooding from Dam Failure or Seiche During Operation Impact GSSPR-15: Increased Exposure of People or Structures to Potential Loss of Life, Injuries, or Destruction Due to Slope Failure Associated with Cut-and-Fill Slopes, or Landslides, Including Seismically Induced Landslides
GEO-IAMF#9	Subsidence Monitoring	Prior to O&M, the Authority will develop a stringent track monitoring program. Once tracks are operational, a remote monitoring program will be implemented to monitor the effects of ongoing subsidence. Track inspection systems will provide early warning of reduced track integrity. HSR train sets will be equipped with autonomous equipment for daily track surveys. This specification will be added to HSR train bid packages. If monitoring indicates that track tolerances are not met, trains will operate at reduced speeds until track tolerances are restored. In addition, the Authority-designated contractor responsible for wayside maintenance will be required to implement a stringent program for track maintenance.	Design/operation	Program development	Monthly	Authority/ Contractor	Contractor	Develop a stringent track monitoring program	Condition of construction contract	Impact GSSPR-15: Increased Exposure of People or Structures to Potential Loss of Life, Injuries, or Destruction Due to Slope Failure Associated with Cut-and-Fill Slopes, or Landslides, Including Seismically Induced Landslides

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GEO-IAMF#10	Geology and Soils	Prior to construction, the Authority-designated contractor will document through issuance of a technical memorandum how the following guidelines and standards have been incorporated into facility design and construction: ▪ 2015 American Association of State Highway and Transportation Officials *LRFD Bridge Design Specifications* and the 2015 American Association of State Highway and Transportation Officials *Guide Specifications for LRFD Seismic Bridge Design* (AASHTO 2015a, 2015b) or their most recent versions: These documents provide guidance for characterization of soils, as well as methods to be used in the design of bridge foundations and structures, retaining walls, and buried structures. These design specifications will provide minimum specifications for evaluating the seismic response of the soil and structures. ▪ Federal Highway Administration Circulars and Reference Manuals: These documents provide detailed guidance on the characterization of geotechnical conditions at sites, methods for performing foundation design, and recommendations on foundation construction. Methods to characterize geotechnical conditions at sites are found in Chapter 6, Geotechnical, of *Federal Lands Highway Project Development and Design Manual* (FHWA 2025). Methods for performing foundation design and recommendations on foundation construction are found in Chapter 10, Structural Design, of the Project Development and Design Manual. These guidance documents include methods for designing retaining walls used for retained cuts and retained fills, foundations for elevated structures, and at-grade segments. Some of the documents include guidance on methods of mitigating geologic hazards that are encountered during design. The Federal Highway Administration *Geotechnical Technical Guidance Manual* (FHWA 2024) supports the policies, standards, and standard practices presented in Chapter 6 of the Project Development and Design Manual. Additionally, it provides guidance for activities where standards and standard practices do not exist, and it provides access to and guidance for the use of new technologies. ▪ American Railway Engineering and Maintenance-of-Way Association Manual: These guidelines deal with rail systems. Although they cover many of the same general topics as American Association of State Highway and Transportation Officials, they are more focused on best practices for rail systems. The manual includes principles, data, specifications, plans, and economics pertaining to the engineering, design, and construction of railways. ▪ California Building Code: The code is based on the 2015 International Building Code. This code contains general building design and construction requirements relating to fire and life safety, structural safety, and access compliance. Geologic and soils hazards are discussed in Chapter 16, Structural Design, and Chapter 18, Soils and Foundations, of	Design/ construction/ operation	Design/ reporting	At incorporation or completion of design/during monthly construction reporting	Authority/ Contractor	Contractor	Prepare technical memorandum/ implementation of guidelines during design, construction, and operation phases	Condition of construction contract	Impact GSSPR-2: Increased Exposure of People or Structures to Potential Loss of Life, Injuries, or Destruction Due to Liquefaction During Construction Impact GSSPR-4: Increased Exposure of People or Structures to Potential Loss of Life, Injuries, or Destruction Due to Slope Failure Hazards Associated with Unstable Soils, Cut-and-Fill Slopes, or Collapsible Soils, Including Seismically Induced Landslides During Construction Impact GSSPR-5: Soil Erosion as a Result of Construction Impact GSSPR-6: Be Located on 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 During Construction Impact GSSPR-7: Difficult Excavation Encountered During Construction Impact GSSPR-8: Soil Corrosion and Expansion Hazards as a Result of Construction Impact GSSPR-13: Increased Exposure of People or Structures to Potential Loss of Life, Injuries, or Destruction Due to Liquefaction and Other Types of Seismically Induced Ground Failure During Operation Impact GSSPR-14: Increased Exposure of People or Structures to Potential Loss of Life, Injuries, or Destruction Due to Seismically Induced Flooding from Dam Failure or Seiche During Operation

IAMF	Title	IAMF Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
		the 2019 California Building Code, Title 24, Part 2 (Volumes 1 and 2) with a January 2020 Errata (iccsafe.org). ▪ International Building Code and American Society of Civil Engineers-7: These codes and standards provide minimum design loads for buildings and other structures. They will be used for the design of the maintenance facilities and stations. Sections in the International Building Code and American Society of Civil Engineers-7 provide minimum requirements for geotechnical investigations, levels of earthquake ground shaking, minimum standards for structural design, and inspection and testing requirements. ▪ Caltrans Design Standards: Caltrans has specific minimum design and construction standards for all aspects of transportation system design, ranging from geotechnical explorations to construction practices. These amendments provide specific guidance for the design of deep foundations that are used to support elevated structures (Caltrans 2024a), for design of mechanically stabilized earth walls used for retained fills (Caltrans 2021), and for design of various types of cantilever (e.g., soldier pile, secant pile, and tangent pile) (Caltrans 2024b), and tie-back walls used for retained cuts (Caltrans 2024c). ▪ Caltrans Construction Manuals: Caltrans has a number of manuals including Field Guide to Construction Dewatering, Caltrans Construction Site BMPs Manual, and Construction Site BMP Field Manual and Troubleshooting Guide. These provide guidance and BMPs for dewatering options and management, erosion control and soil stabilization, nonstormwater management, and waste management at construction sites. ▪ ASTM: ASTM has developed standards and guidelines for all types of material testing- from soil compaction testing to concrete-strength testing. The ASTM standards also include minimum performance requirements for materials.								

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GEO-IAMF#11	Engage a Qualified Paleontological Resources Specialist	Prior to the 90 percent design milestone for each CP[1] within the project section, the Authority-designated contractor will retain a PRSresponsible for: ▪ Reviewing the final design for the CP ▪ Developing a detailed PRMMP for the CP ▪ Implementing the PRMMP by the PRS, including development and delivery of WEAP training, supervision of Paleontological Resource Monitors, evaluation and treatment of finds, if any, and preparation of a final paleontological mitigation report, per the PRMMP and for each CP Retention of PRS staff will occur in a timely manner, in advance of the 90 percent design milestone for each CP, such that the PRS is on board and can review the 90 percent design submittal without delay when it becomes available. If feasible, the same PRS will be responsible for all CPs within a given project section. All PRS staff will meet or exceed the qualifications for a Principal Paleontologist as defined in Caltrans current *Standard Environmental Reference*, Chapter 8 (Caltrans 2014). Appointment of PRS staff will be subject to review and approval by the Authority.	Design	Contractor will retain paleontological resources specialist	Prior to 90 percent design milestone for each CP	Authority/ Contractor	Contractor	Retain PRS	Condition of construction contract	Impact GSSPR-11: Geologic Units Sensitive for Paleontological Resources Disturbed During Construction
GEO-IAMF#12	Perform Final Design Review and Triggers Evaluation	For each CP within the project section, the responsible PRS will evaluate the 90 percent design submittal to identify the portions of the CP that will involve work in paleontologically sensitive geologic units (either at the surface or in the subsurface), based on findings of the final Paleontological Resources Technical Report prepared for the project section. Evaluation will consider the location, areal extent, and anticipated depth of ground disturbance; the construction techniques that are planned/proposed; and the geology (i.e., location of geologic units with high potential for paleontological resources) of the CP and vicinity. The evaluation and resulting recommendations will be consistent with guidance in the SVP *Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources* (SVP 2010), the *SVP Conditions of Receivership for Paleontologic Salvage Collections* (SVP 1996), and relevant guidance from Chapter 8 of the current Caltrans *Standard Environmental Reference* (Caltrans 2014). The purpose of the Final Design Review and Triggers Evaluation will be to develop specific language detailing the location and duration of paleontological monitoring and other requirements for paleontological resources applicable to each CP within the project section. Paleontological protection requirements identified through the Final Design Review and Triggers Evaluation will be recorded in a concise technical memorandum (“Final Design Review Requirements for Paleontological Resources Protection”), which will then be incorporated in full detail into the PRMMP for each CP. Those portions of the CP requiring paleontological monitoring will also be clearly delineated in the project construction documents for each CP.	Design	Reporting	Prior to 90 percent design milestone for each CP	Authority/ Contractor	Contractor	CP reporting	Condition of construction contract	Impact GSSPR-11: Geologic Units Sensitive for Paleontological Resources Disturbed During Construction

IAMF	Title	IAMF Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
GEO-IAMF#13	Prepare and Implement a Paleontological Resource Monitoring and Mitigation Plan	Following the Final Design Review and Triggers Evaluation for each CP, the PRS will develop a CP-specific PRMMP. For greater efficiency, PRMMPs may be written such that they cover more than one CP, as long as the specific requirements of the IAMFs are satisfied explicitly and in detail for each CP included. The PRMMP for each CP will incorporate the findings of the Design Review and Triggers Evaluation for that CP and will be consistent with the SVP's *Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources* (SVP 2010), the SVP *Conditions of Receivership for Paleontologic Salvage Collections* (SVP 1996), and relevant guidance from Chapter 8 of the current Caltrans *Standard Environmental Reference* (Caltrans 2014). Therefore, the PRMMP will provide for at least the following: ▪ Implementation of the PRMMP by qualified personnel, including the following positions: – Paleontological Resource Specialist: The PRS will be required to meet or exceed Principal Paleontologist qualifications per Chapter 8 of the current Caltrans Standard Environmental Reference (Caltrans 2014). The Supervising Paleontologist may, but not necessarily, be the PRS who prepares the PRMMP. – Paleontological Resources Monitors: The PRS will be required to meet or exceed Paleontological Monitor qualifications per Chapter 8 of the current Caltrans *Standard Environmental Reference* (Caltrans 2014). ▪ Development of preconstruction and construction-period coordination procedures and communications protocols. ▪ Evaluation as to whether a preconstruction survey by qualified personnel is warranted for the CP. In general, preconstruction surveys are beneficial if there is a strong possibility that significant paleontological resources (e.g., concentrations of vertebrate fossils) are exposed at the ground surface and will be destroyed during the initial clearing and grubbing phase of earthwork. Such a determination can usually be made during preparation of the paleontological resources TR. ▪ Requirements for paleontological monitoring by qualified paleontological resources monitors of all ground disturbance activities known to affect, or potentially affect, highly sensitive geologic units and for ground disturbance activities affecting other geologic units in any areas where the PRS considers it warranted based on the findings of the paleontological resources technical report or any preconstruction surveys. In all areas of the CP subject to monitoring, monitoring will initially be conducted full time for all ground disturbance activities. However, the PRMMP may provide for monitoring frequency in any given location to be reduced once approximately 50 percent of the ground disturbance activity has been completed, if the reduction is appropriate based on the implementing	Design	Prepare CP-specific PRMMP	Following the final design review and triggers evaluation for each CP	Authority/ Contractor	Contractor	CP reporting	Condition of construction contract	Impact GSSPR-11: Geologic Units Sensitive for Paleontological Resources Disturbed During Construction

IAMF	Title	IAMF Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
		PRS's professional judgment in consideration of actual site conditions. ▪ Provisions, if recommended by the PRS for paleontological monitoring of specific construction drilling operations. In general, small-diameter (i.e., smaller than 18 inches) drilling operations or drilling operations using bucket augers tend to pulverize affected sediments and any contained fossils and are typically not monitored. The section in the PRMMP addressing monitoring for drilling operations will rely, in part, on the information supplied by the CP design and geotechnical teams, but will also take into consideration the nature, depth, and location of drilling needed, and the anticipated equipment and staging configurations. ▪ Provisions for the content development and delivery of paleontological resources WEAP training. ▪ Provisions for in-progress documentation of monitoring (and, if applicable, salvage/recovery operations) via "construction dailies" or a similar approved means. ▪ Provisions for a "stop work, evaluate, and treat appropriately" response in the event of a known or potential paleontological discovery, including finds in highly sensitive geologic units as well as finds, if any, in geologic units identified as less sensitive, or nonsensitive, for paleontological resources. ▪ Provisions for sampling and recovery of unearthed fossils consistent with SVP *Standard Procedures* (SVP 2010) and the SVP *Conditions of Receivership* (SVP 1996). Recovery procedures will provide for recovery of both macrofossils and microfossils. ▪ Provisions for acquiring a repository agreement from an approved regional repository for the curation, care, and storage of recovered materials, consistent with the SVP *Conditions of Receivership* (SVP 1996). If more than one repository institution is designated, separate repository agreements must be provided. ▪ Provisions for preparation of a final monitoring and mitigation report that meets the requirements of the Caltrans *Standard Environmental Reference* Chapter 8 provisions for the Paleontological Monitoring Report and Paleontological Stewardship Summary (Caltrans 2014). ▪ Provisions for the preparation, identification, analysis, and curation of fossil specimens and data recovered, consistent with the SVP *Conditions of Receivership* (SVP 1996) and any specific requirements of the designated repository institution(s).							

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GEO-IAMF#14	Provide Worker Environmental Awareness Program Training for Paleontological Resources	Prior to groundbreaking for each CP within the project section, the Authority-designated contractor will provide paleontological resources WEAP training delivered by the PRS. All management and supervisory personnel and construction workers involved with ground-disturbing activities will be required to take this training before beginning work on the project. Refresher training will also be made available to management and supervisory personnel and workers as needed, based on the judgment of the PRS. At a minimum, paleontological resources WEAP Training will include information on: ▪ Coordination between construction staff and paleontological staff ▪ Construction and paleontological staff roles and responsibilities in implementing the PRMMP ▪ The possibility of encountering fossils during construction ▪ The types of fossils that may be seen and how to recognize them ▪ Proper procedures in the event fossils are encountered, including the requirement to halt work in the vicinity of the find and procedures for notifying responsible parties in the event of a find Training materials and formats may include, but are not necessarily limited to, in-person training, prerecorded videos, posters, and informational brochures that provide contacts and summarize procedures in the event paleontological resources are encountered. WEAP Training contents will be subject to review and approval by the Authority. Paleontological resources WEAP Training may be provided concurrently with cultural resources WEAP Training. On completion of any WEAP training, the Authority-designated contractor will require workers to sign a form stating that they attended the training and understand and will comply with the information presented. Verification of paleontological resources WEAP training will be provided to the Authority by the Authority-designated contractor.	Preconstruction	Training program/ reporting	Prior to groundbreaking for each CP within the project section, then annual (training) and monthly (reporting)	Authority/ Contractor	Authority/ Contractor	WEAP training	Condition of construction contract	Impact GSSPR-11: Geologic Units Sensitive for Paleontological Resources Disturbed During Construction

IAMF	Title	IAMF Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
GEO-IAMF#15	Halt Construction, Evaluate, and Treat If Paleontological Resources Are Found	Consistent with the PRMMP, if fossil materials are discovered during construction, regardless of the individual making the discovery, all activity in the immediate vicinity of the discovery will halt and the find will be protected from further disturbance. If the discovery is made by someone other than the PRS or paleontological resource monitor(s), the person who made the discovery will immediately notify construction supervisory personnel, who will in turn notify the PRS. Notification to the PRS will take place promptly (prior to the close of work the same day as the find), and the PRS will evaluate the find and prescribe appropriate treatment as soon as feasible. Work may continue on other portions of the CP while evaluation (and, if needed, treatment) takes place, as long as the find can be adequately protected in the judgment of the PRS. If the PRS determines that treatment (i.e., recovery and documentation of unearthed fossil[s]) is warranted, such treatment, and any required reporting, will proceed consistent with the PRMMP. The Authority-designated contractor will be responsible for ensuring prompt and accurate implementation, subject to verification by the Authority. The stop-work requirement does not apply to drilling operations because drilling typically cannot be suspended in mid-course. However, if finds are made during drilling, the same notification and other follow-up requirements will apply. The PRS will coordinate with construction supervisory and drilling staff regarding the handling of recovered fossils. The requirements of this IAMF will be detailed in the PRMMP and presented as part of the paleontological resources WEAP training.	Construction	Reporting	Daily logs during active monitoring	Authority/ Contractor	Contractor	Weekly reporting (if resource is identified during construction)	PRMMP, WEAP	Impact GSSPR-11: Geologic Units Sensitive for Paleontological Resources Disturbed During Construction

IAMF	Title	IAMF Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
Hazardous Materials and Wastes										
HMW-IAMF#1	Property Acquisition Phase I and Phase II Environmental Site Assessments, Additional Preconstruction Investigations, and Associated Actions to Control Site Contamination	During the right-of-way acquisition phase, Phase I ESAs will be conducted in accordance with standard ASTM methodologies, ASTM E 1527-21, or more recent applicable requirements, to characterize each parcel, including parcels at potential environmental concern sites. Parcels that require a Phase II ESA (e.g., soil, groundwater, soil vapor subsurface investigations) will be identified using information and data obtained in the Phase I ESAs. Phase II and subsequent investigation may require coordination with federal, state, and local agency officials, as well as other stakeholders. Depending on the arrangement negotiated during property acquisition, potential environmental concern sites with known or suspected contamination may be remediated prior to construction on the site. For sites that are not remediated prior to acquisition, data obtained during the Phase I ESA will be used to evaluate the need for and the extent of additional investigation. The Phase II ESA and any additional characterization data collected will be used to inform aspects of detailed project design and actions required during construction and operation of the project to protect human health and the environment from contaminants present on the parcels (e.g., targeted removal of contamination, in-situ treatment, or soil capping). Project design details for construction at sites subject to cleanup or land use controls will be reviewed and approved by appropriate environmental oversight agencies. Design and other corrective actions required to protect human health and the environment will be coordinated with appropriate federal, state, and local agency officials and stakeholders (as necessary) and conducted in full compliance with recorded land use restrictions, applicable state and federal laws and regulations, and local ordinances. Controls necessary to protect workers, the public, and the environment from contamination discovered during the ESAs and preconstruction site investigations will be identified and are required to be implemented during construction in accordance with HMW-IAMF#4.	Preconstruction/ construction	Conduct Phase I and Phase II ESAs	During the right-of-way acquisition phase	Authority/ Contractor	Contractor	Prepare Phase I and II ESAs	Condition of construction contract	Impact HMW-2: Upset and Accident Conditions Involving the Release of Hazardous Materials into the Environment Impact HMW-4: Construction within or Near Sites of Potential Environmental Concern or Cortese List Sites Impact HMW-10: Operations and Maintenance Near Sites of Potential Environmental Concern (Including Cortese List Sites)
HMW-IAMF#2	Landfill	The Authority is committed to ensuring that methane protection measures will be implemented. Prior to construction (any ground-disturbing activities), the Authority-designated contractor will verify to the Authority through preparation of a technical memorandum that methane protection measures will be implemented for all work (including the development of new structures) within 1,000 feet of a landfill, including gas-detection systems and personnel training. This will be undertaken pursuant to State of California Title 27, Environmental Protection – Division 2, Solid Waste, and the hazardous materials BMP plan.	Preconstruction/ construction	Prepare technical memorandum	Prior to construction (any ground-disturbing activities)/ monthly record keeping	Authority/ Contractor	Contractor	Prepare technical memorandum describing methane protection measures	Contract requirements and specifications	Impact HMW-7: Risks During Construction on or Near Landfills and Oil and Gas Wells

IAMF	Title	IAMF Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
HMW-IAMF#3	Work and Vapor Barriers	Prior to construction (any ground-disturbing activities), the Authority-designated contractor will verify to the Authority through preparation of a technical memorandum the use of work barriers. Nominal design variances, such as the addition of a plastic barrier beneath the ballast material to limit the potential release of volatile subsurface contaminants, may be implemented in conjunction with site investigation and remediation. Vapor barriers and associated venting systems determined to be necessary to prevent intrusion of hazardous concentrations of volatile compounds into occupied project structures (e.g., stations, tunnels) will be designed in accordance with standard engineering practices and reviewed and accepted by relevant stakeholders and regulatory agencies. Existing vapor barriers for controlling vapor intrusion at potential environmental concern sites will be protected during construction and, if damaged, will be repaired or replaced in accordance with discussions and coordination with relevant stakeholders and regulatory agencies.	Preconstruction/ construction	Prepare technical memorandum	Prior to construction (any ground-disturbing activities)/ monthly record keeping	Authority/ Contractor	Contractor	Prepare work barrier technical memorandum	Condition of construction contract	Impact HMW-4: Construction within or Near Sites of Potential Environmental Concern or Cortese List Sites Impact HWR-3: Temporary Impacts on Surface Water Quality During Construction
HMW-IAMF#4	Known, Suspected, and Unanticipated Environmental Contamination	The Authority, or its Authority-designated design contractor, prior to completion of 30 percent design, will develop a soil management plan that incorporates information and data regarding known and suspected contamination obtained per HMW-IAMF#1. The plan will include requirements for protection of human health and the environment to be implemented by the Authority-designated construction contractor during construction on sites at which contamination is or may be present. The soil management plan will be reviewed and approved by appropriate agencies with oversight responsibilities for sites subject to cleanup or land use controls and will be provided to the Authority-designated construction contractor, who shall be contractually obligated to meet the plan requirements. Prior to construction the Authority-designated construction contractor, in accordance with the soil management plan, will prepare a CMP addressing provisions for the disturbance and handling of known, suspected, and unanticipated contamination; and protection of existing remedial systems and contamination controls (e.g., vapor barriers) where construction may affect or damage such systems and controls. The plan requires that an environmental professional provide oversight of activities that may result in encountering known or suspected contamination. The CMP shall require the Authority-designated contractor to develop and implement site-specific health and safety protocols that address site hazards in compliance with California Division of Occupational Safety and Health regulations for handling contaminated media, including training of construction workers in hazard recognition and monitoring for hazardous contaminants to which workers may be exposed in areas where contamination is known or suspected based on data obtained under HMW-IAMF#1. Use of field screening equipment will be specified as appropriate based on data obtained under HMW-IAMF#1 (e.g., for volatile organic vapors). The CMP shall include specifications for controlling releases of contaminants or contaminated media during construction, including dust control, control of soil erosion	Preconstruction/ construction	Prepare plan/ reporting	Prior to construction	Authority/ Contractor	Contractor	Prepare CMP/reporting, as needed	Condition of construction contract	Impact HMW-1: Transport, Use, Storage, and Disposal of Hazardous Materials and Hazardous Wastes Impact HMW-2: Upset and Accident Conditions Involving the Release of Hazardous Materials into the Environment Impact HMW-3: Inadvertent Disturbance of Unknown Hazardous Materials and Wastes Impact HMW-4: Construction within or Near Sites of Potential Environmental Concern or Cortese List Sites Impact HMW-6: Handling of Hazardous Materials, Substances, or Waste within 0.25 Mile of a School Impact HMW-7: Risks During Construction on or Near Landfills and Oil and Gas Wells Impact HWR-3: Temporary Impacts on Surface Water Quality During Construction

IAMF	Title	IAMF Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
		and contaminated water runoff, vapor control, and testing and proper storage and disposal of excavated material. The CMP will include an effective monitoring and cleanup program for spills and leaks of any hazardous materials or contaminated media. Requirements for sampling and analysis of media suspected to be contaminated shall be included in the CMP. For work at sites subject to contaminant cleanup, the CMP will be submitted, as required, to regulatory agencies with oversight authority for the cleanup and to stakeholders. The CMPs include requirements for notification by the Authority-designated contractor to the Authority, which will notify appropriate stakeholders and agencies of newly discovered contamination. The Authority will work closely with the stakeholders and regulatory agencies to resolve any such encounters and address necessary cleanup or disposal. Recordkeeping requirements will be specified in the CMP. For operations in areas with known and suspected contamination, the Authority will prepare and implement emergency response procedures that address the unlikely potential of a major hazardous materials release close to or in the vicinity of the project as required by federal, state, and local regulations. The CMP will be submitted to the Authority for review and approval. Copies of all documentation generated in accordance with the CMP, including monitoring and analytical results, will be provided to the Authority within 30 days of receipt of analytical results or encountering of apparent contaminated media (soil, groundwater, or vapor).								
HMW-IAMF#5	Demolition Plans	Prior to construction that involves demolition, the Authority-designated contractor will prepare demolition plans for the safe dismantling and removal of building components and debris. The demolition plans will include a plan for polychlorinated biphenyls, lead and asbestos abatement. The plans will be submitted to the project construction manager on behalf of the Authority for verification that appropriate demolition practices have been followed consistent with federal and state regulations regarding asbestos and lead paint abatement.	Preconstruction/ construction	Prepare plan/ reporting	Prior to construction that involves demolition	Authority/ Contractor	Contractor	Prepare demolition plans/reporting, as needed	Condition of construction contract	Impact HMW-1: Transport, Use, Storage, and Disposal of Hazardous Materials and Hazardous Wastes Impact HMW-3: Inadvertent Disturbance of Unknown Hazardous Materials and Wastes Impact HMW-5: Increased Exposure to Lead-Based Paint and Asbestos as a Result of Roadway and Building Demolition Impact HMW-6: Handling of Hazardous Materials, Substances, or Waste within 0.25 Mile of a School Impact SO-9: Impacts on Children's Health and Safety from Construction

IAMF	Title	IAMF Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
HMW-IAMF#6	Spill Prevention	Prior to construction (any ground-disturbing activities), the Authority-designated contractor will prepare a CMP addressing spill prevention. A Spill Prevention, Control, and Countermeasure plan (or spill prevention and response plan if the total aboveground oil storage capacity is less than 1,320 gallons in storage containers greater than or equal to 55 gallons) will prescribe BMPs to follow to prevent hazardous material releases that may occur. Example BMPs would be: all containers are to remain tightly covered unless removing contents/adding to them; drums and other contains are not to be stacked; all containers with liquids are to have secondary containment; and a spill response/containment kit is to be available in the area where hazardous materials are stored. The plans will be prepared and submitted to the project construction manager on behalf of the Authority and will be implemented during construction.	Preconstruction/ construction	Prepare plan/ reporting	Prior to construction (any ground-disturbing activities)/ reporting during construction	Authority/ Contractor	Contractor	Prepare CMP/ reporting, as needed	Condition of construction contract	Impact HMW-1: Transport, Use, Storage, and Disposal of Hazardous Materials and Hazardous Wastes Impact HMW-2: Upset and Accident Conditions Involving the Release of Hazardous Materials into the Environment Impact HMW-4: Construction within or Near Sites of Potential Environmental Concern or Cortese List Sites Impact HMW-6: Handling of Hazardous Materials, Substances, or Waste within 0.25 Mile of a School Impact HMW-7: Risks During Construction on or Near Landfills and Oil and Gas Wells Impact BIO-5: Construction Impacts on Aquatic Resources Impact HWR-3: Temporary Impacts on Surface Water Quality During Construction Impact HWR-7: Temporary Impacts on Flood Hazard, Tsunami, or Seiche Zones Resulting in the Risk of Release of Pollutants During Construction Impact HWR-10: Impacts on Surface Water Quality During Operations Impact SO-9: Impacts on Children's Health and Safety from Construction

IAMF	Title	IAMF Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
HMW-IAMF#7	Storage and Transport of Materials	During construction and operations, the Authority-designated contractor will comply with applicable state and federal regulations, such as the Resource Conservation and Recovery Act, Comprehensive Environmental Response, Compensation, and Liability Act, the Hazardous Materials Release Response Plans and Inventory Law, the Hazardous Materials Transportation Act, and the Hazardous Waste Control Law. Prior to construction and operations, the Authority-designated contractor will provide the Authority with a hazardous materials and waste plan describing responsible parties and procedures for hazardous materials transport.	Preconstruction/ construction	Regulation compliance/ reporting	Monthly	Authority/ Contractor	Contractor	Weekly record keeping/monthly reporting	Condition of construction contract	Impact HMW-1: Transport, Use, Storage, and Disposal of Hazardous Materials and Hazardous Wastes Impact HMW-2: Upset and Accident Conditions Involving the Release of Hazardous Materials into the Environment Impact HMW-3: Inadvertent Disturbance of Unknown Hazardous Materials and Wastes Impact HMW-5: Increased Exposure to Lead-Based Paint and Asbestos as a Result of Roadway and Building Demolition Impact HMW-6: Handling of Hazardous Materials, Substances, or Waste within 0.25 Mile of a School Impact HMW-8: Operations and Maintenance Transport, Use, Storage, and Disposal of Hazardous Materials and Hazardous Wastes Impact HMW-9: Operations and Maintenance Upset and Accident Conditions Involving the Release of Hazardous Materials into the Environment Impact HMW-11: Operations and Maintenance Handling of Hazardous Materials or Waste within 0.25 Mile of a School Impact HWR-3: Temporary Impacts on Surface Water Quality During Construction Impact SO-9: Impacts on Children's Health and Safety from Construction Impact SO-12: Impacts on Children's Health and Safety from Operations

IAMF	Title	IAMF Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
HMW-IAMF#8	Permit Conditions	During construction and operation, Authority-designated contractors will comply with the State Water Resources Control Board Construction Clean Water Act Section 402 General Permit conditions and requirements for transport, labeling, containment, cover, and other BMPs for storage of hazardous materials during construction and operation. Prior to construction and operation, Authority-designated contractors will provide the Authority with a hazardous materials and waste plan describing responsible parties and procedures for hazardous materials transport, containment, and storage BMPs that will be implemented during construction and operation.	Preconstruction/ construction	Prepare plan	Prior to construction	Authority/ Contractor	Contractor	Prepare a hazardous materials and waste plan	Condition of construction contract	Impact HMW-1: Transport, Use, Storage, and Disposal of Hazardous Materials and Hazardous Wastes Impact HMW-2: Upset and Accident Conditions Involving the Release of Hazardous Materials into the Environment Impact HMW-6: Handling of Hazardous Materials, Substances, or Waste within 0.25 Mile of a School Impact HWR-3: Temporary Impacts on Surface Water Quality During Construction Impact SO-9: Impacts on Children's Health and Safety from Construction

IAMF	Title	IAMF Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
HMW-IAMF#9	Environmental Management System	To the extent feasible, the Authority is committed to identifying, avoiding, and minimizing hazardous materials in the material selection process for construction, operation, and maintenance of the HSR system. The Authority will use an Environmental Management System to describe the process that will be used to evaluate the full inventory of hazardous materials as defined by federal and state law employed on an annual basis and will replace hazardous materials with nonhazardous materials. The Authority-designated contractor will implement the material substitution recommendation contained in the annual inventory.	Preconstruction/ construction	Reporting	Annual	Authority/ Contractor	Contractor	Annual reporting	Condition of construction contract/ Environmental Management System	Impact HMW-1: Transport, Use, Storage, and Disposal of Hazardous Materials and Hazardous Wastes Impact HMW-2: Upset and Accident Conditions Involving the Release of Hazardous Materials into the Environment Impact HMW-4: Construction within or Near Sites of Potential Environmental Concern or Cortese List Sites Impact HMW-8: Operations and Maintenance Transport, Use, Storage, and Disposal of Hazardous Materials and Hazardous Wastes Impact HMW-9: Operations and Maintenance Upset and Accident Conditions Involving the Release of Hazardous Materials into the Environment Impact HMW-11: Operations and Maintenance Handling of Hazardous Materials or Waste within 0.25 Mile of a School Impact HWR-3: Temporary Impacts on Surface Water Quality During Construction Impact HWR-7: Temporary Impacts on Flood Hazard, Tsunami, or Seiche Zones Resulting in the Risk of Release of Pollutants During Construction Impact HWR-8: Permanent Impacts on Flood Hazard, Tsunami, or Seiche Zones Resulting in the Risk of Release of Pollutants During Construction Impact HWR-13: Impact from Risk of Release of Pollutants from Inundation During Operations Impact SO-12: Impacts on Children's Health and Safety from Operations

IAMF	Title	IAMF Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
HMW-IAMF#10	Hazardous Materials Plans	Prior to O&M activities, the Authority will prepare hazardous materials monitoring plans. These will use a basis source, such as a hazardous materials business plan as defined in Title 19 California Code of Regulations and a spill prevention, control, and countermeasure plan.	Post-construction	Prepare plans	Prior to operations	Authority	Authority	Prepare hazardous materials monitoring plans	Condition of construction contract	Impact HMW-1: Transport, Use, Storage, and Disposal of Hazardous Materials and Hazardous Wastes Impact HMW-8: Operations and Maintenance Transport, Use, Storage, and Disposal of Hazardous Materials and Hazardous Wastes Impact HMW-9: Operations and Maintenance Upset and Accident Conditions Involving the Release of Hazardous Materials into the Environment Impact HMW-11: Operations and Maintenance Handling of Hazardous Materials or Waste within 0.25 Mile of a School Impact PU&E-15: Effects from Hazardous Waste Generation Impact HWR-3: Temporary Impacts on Surface Water Quality During Construction Impact HWR-7: Temporary Impacts on Flood Hazard, Tsunami, or Seiche Zones Resulting in the Risk of Release of Pollutants During Construction Impact HWR-8: Permanent Impacts on Flood Hazard, Tsunami, or Seiche Zones Resulting in the Risk of Release of Pollutants During Construction Impact HWR-10: Impacts on Surface Water Quality During Operations Impact HWR-13: Impact from Risk of Release of Pollutants from Inundation During Operations Impact SO-12: Impacts on Children's Health and Safety from Operations

IAMF	Title	IAMF Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
Hydrology and Water Resources										
HYD-IAMF#1	Stormwater Management	Prior to construction, the Authority-designated contractor will prepare a stormwater management and treatment plan in compliance with municipal separate storm sewer systems and construction general permits, issued by the State Water Resources Control Board for review and approval by the Authority. During the detailed design phase, each receiving stormwater system's capacity to accommodate project runoff will be evaluated. As necessary, on-site stormwater management measures, such as detention or selected upgrades to the receiving system, will be designed to provide adequate capacity and comply with the design standards in the latest version of Authority Technical Memorandum 2.6.5, Hydraulics and Hydrology Guidelines (Authority 2011a), HSR Design Criteria Manual, Caltrans Stormwater Quality Handbook: Project Planning and Design Guide (Caltrans 2017), and the requirements stated in the applicable state and local National Pollutant Discharge Elimination System permits and guidelines. On-site stormwater management facilities will be designed and built to capture runoff and provide treatment of pollutant-generating surfaces prior to discharge off site, including from station parking areas, access roads, new road over- and underpasses, reconstructed interchanges, and new or relocated roads and highways. Low-impact development techniques will be used to detain runoff on site and reduce off-site runoff, such as through use of built wetland systems, biofiltration and bioretention systems, wet ponds, organic mulch layers, soil beds, and vegetated systems (biofilters), such as vegetated swales and grass filter strips, which will be used where appropriate. The stormwater management and treatment plan will also address hydromodification such that preproject hydrology is maintained. Hydromodification design measures will include incorporating on-site retention of stormwater runoff by using flow dispersion, infiltration, and evaporation (supplemented by detention where required). Additional flow control measures will be implemented where local regulations or drainage requirements dictate.	Design	Prepare plan	At incorporation or completion of design	Authority/ Contractor	Contractor	Prepare a stormwater management and treatment plan	Condition of construction contract	Impact HWR-2: Permanent Construction Impacts on Drainage Patterns, Stormwater Runoff, and Hydraulic Capacity (Surface Water Hydrology) Impact HWR-4: Permanent Impacts on Surface Water Quality During Construction Impact HWR-6: Permanent Impacts on Groundwater Volume, Quality, and Recharge During Construction Impact HWR-8: Permanent Impacts on Flood Hazard, Tsunami, or Seiche Zones Resulting in the Risk of Release of Pollutants During Construction Impact HWR-9: Impacts on Drainage Patterns, Stormwater Runoff, and Hydraulic Capacity (Surface Water Hydrology) During Operations Impact HWR-10: Impacts on Surface Water Quality During Operations Impact HWR-11: Impacts on Groundwater Volume, Quality, and Recharge During Operations Impact HWR-13: Impact from Risk of Release of Pollutants from Inundation During Operations Impact BIO-5: Construction Impacts on Aquatic Resources Impact PU&E-4: Effects on Stormwater Infrastructure During Construction Impact PU&E-13: Effects on Storm Drain Facilities During Operation Impact HMW-2: Upset and Accident Conditions Involving the Release of Hazardous Materials into the Environment Impact HMW-8: Operations and Maintenance Transport, Use, Storage, and Disposal of Hazardous Materials and Hazardous Wastes

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HYD-IAMF#2	Flood Protection	Prior to construction, the Authority-designated contractor will prepare a flood protection plan for Authority review and approval. The flood protection plan will be prepared to ensure that the project is designed to both remain operational during flood events and minimize increases in 100-year flood elevations. The Authority-designated contractor will be responsible for implementation of the design standards as presented in the flood protection plan. Design standards, as itemized in the flood protection plan, will include the following: ▪ Establish track elevation to prevent saturation and infiltration of stormwater into the sub-ballast. ▪ Minimize development within the floodplain to such an extent that the water surface elevation in the floodplain will not increase by more than 1 foot, or as required by state or local agencies, during the 100-year flood flow. Avoid placing facilities in the floodplain or raising the ground with fill above the base-flood elevation. ▪ Design the floodplain crossings to maintain a 100-year floodwater surface elevation of no greater than 1 foot above current levels, or as required by state or local agencies, and ensure project features within the floodway itself will not increase existing 100-year floodwater surface elevations in Federal Emergency Management Agency–designated floodways or as otherwise agreed on with the local county flood control district floodplains manager. The following design standards will minimize the effects of pier placement on floodplains and floodways: ▪ Design site crossings to be as nearly perpendicular to the channel as feasible to minimize bridge length. ▪ Orient piers to be parallel to the expected high-water flow direction to minimize flow disturbance. ▪ Elevate bridge crossings at least 3 feet above the high-water surface elevation to provide adequate clearance for floating debris or as required by local agencies. ▪ Conduct engineering analyses of channel scour depths at each crossing to evaluate the depth for burying the bridge piers and abutments. Implement scour-control measures to reduce erosion potential. ▪ Use quarry stone, cobblestone, or their equivalent for erosion control along rivers and streams, complemented with native riparian plantings or other natural stabilization alternatives that will restore and maintain a natural riparian corridor. ▪ Place bedding materials under the stone protection at locations where the underlying soils require stabilization as a result of streamflow velocity.	Design	Prepare plan	At incorporation or completion of design	Authority/ Contractor	Contractor	Prepare flood protection plan	Condition of construction contract	Impact HWR-2: Permanent Construction Impacts on Drainage Patterns, Stormwater Runoff, and Hydraulic Capacity (Surface Water Hydrology) Impact HWR-8: Permanent Impacts on Flood Hazard, Tsunami, or Seiche Zones Resulting in the Risk of Release of Pollutants During Construction Impact PU&E-4: Effects on Stormwater Infrastructure During Construction Impact PU&E-13: Effects on Storm Drain Facilities During Operation
HYD-IAMF#3	Prepare and Implement a Construction Stormwater	Prior to construction (any ground-disturbing activities), the Authority-designated contractor shall comply with the State Water Resources Control Board Construction General Permit requiring preparation and implementation of a SWPPP. The SWPPP will be prepared by a qualified SWPPP developer and reviewed and	Preconstruction/ construction	Permit compliance	At incorporation or completion of design/during monthly	Authority/ Contractor	Contractor	Prepare construction SWPPP	Condition of construction contract	Impact HWR-1: Temporary Impacts on Drainage Patterns, Stormwater Runoff, and Hydraulic Capacity (Surface Water Hydrology) During Construction

IAMF	Title	IAMF Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
	Pollution Prevention Plan	approved by the Authority's environmental manager. The Construction SWPPP will propose BMPs to minimize potential short-term increases in sediment transport caused by construction, including erosion control requirements, stormwater management, and channel dewatering for affected stream crossings. These BMPs will include measures to incorporate permeable surfaces into facility design plans where feasible, and describe how treated stormwater will be retained or detained on site. Other BMPs will include strategies to manage the amount and quality of overall stormwater runoff. The construction SWPPP will include measures to address, but is not limited to, the following: ▪ Hydromodification management to verify maintenance of preproject hydrology by emphasizing on-site retention of stormwater runoff using measures such as flow dispersion, infiltration, and evaporation (supplemented by detention where required); additional flow control measures will be implemented where local regulations or drainage requirements dictate. ▪ Implementing practices to minimize the contact of construction materials, equipment, and maintenance supplies with stormwater. ▪ Limiting fueling and other activities using hazardous materials to areas distant from surface water, providing drip pans under equipment, and requiring daily checks of vehicle condition. ▪ Implementing practices to reduce erosion of exposed soil, including soil stabilization, regular watering for dust control, perimeter siltation fences, and sediment catchment basins. ▪ Implementing practices to maintain current water quality, including siltation fencing, wattle barriers, stabilized construction entrances, grass buffer strips, ponding areas, organic mulch layers, inlet protection, storage tanks, and sediment traps to arrest and settle sediment. ▪ Where feasible, avoiding areas that may have substantial erosion risk, including areas with erosive soils and steep slopes. ▪ Using diversion ditches to intercept surface runoff from off site. ▪ Where feasible, limiting construction to dry periods when flows in waterbodies are low or absent. ▪ Implementing practices to capture and provide proper off-site disposal of concrete wash water, including isolation of runoff from fresh concrete during curing to prevent it from reaching the local drainage system and possible treatments (e.g., dry ice). ▪ Developing and implementing a spill prevention and emergency response plan to handle potential fuel or hazardous material spills. ▪ Implementing a SWPPP by the construction Authority-designated contractor as directed by the Authority-designated contractor's QSP or designee. The qualified SWPPP developer will report all findings to the Authority-designated contractor's environmental manager. As part of that responsibility, the			construction report					Impact HWR-2: Permanent Construction Impacts on Drainage Patterns, Stormwater Runoff, and Hydraulic Capacity (Surface Water Hydrology) Impact HWR-3: Temporary Impacts on Surface Water Quality During Construction Impact HWR-5: Temporary Impacts on Groundwater Volume, Quality, and Recharge During Construction Impact HWR-7: Temporary Impacts on Flood Hazard, Tsunami, or Seiche Zones Resulting in the Risk of Release of Pollutants During Construction Impact HWR-8: Permanent Impacts on Flood Hazard, Tsunami, or Seiche Zones Resulting in the Risk of Release of Pollutants During Construction Impact HWR-13: Impact from Risk of Release of Pollutants from Inundation During Operations Impact PU&E-4: Effects on Stormwater Infrastructure During Construction Impact PU&E-13: Effects on Storm Drain Facilities During Operation Impact BIO-1: Construction Impacts on Riparian Habitat, Vegetation Communities, Land Cover, and Special-Status Natural Communities Impact BIO-5: Construction Impacts on Aquatic Resources Impact GSSPR-5: Soil Erosion as a Result of Construction Impact HMW-1: Transport, Use, Storage, and Disposal of Hazardous Materials and Hazardous Wastes Impact HMW-2: Upset and Accident Conditions Involving the Release of Hazardous Materials into the Environment

IAMF	Title	IAMF Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
		effectiveness of construction BMPs must be monitored before, during, and after storm events. Records of these inspections and monitoring results are submitted to the local RWQCB as part of the annual report required by the Statewide Construction General Permit. The reports are available to the public online. The State Water Resources Control Board and regional water quality control board will have the opportunity to review these documents.								
HYD-IAMF#4	Prepare and Implement an Industrial Stormwater Pollution Prevention Plan	Prior to construction of any facility classified as an industrial facility (e.g., vehicle maintenance facilities), the Authority-designated contractor will comply with existing industrial stormwater quality regulations. The general permit for stormwater discharges associated with industrial activities, National Pollutant Discharge Elimination System No. CAS000001, requires preparation of an industrial SWPPP by a qualified industrial SWPPP preparer and a monitoring plan for industrial facilities that discharge stormwater from the site, including vehicle maintenance facilities associated with transportation operations. The permit includes performance standards for pollution control. The industrial SWPPP will describe the facility functions, treatment BMPs, operations BMPs, inspection and monitoring activities, and recordkeeping that will be implemented during the facility operations as they pertain specifically to stormwater. The SWPPP will be designed to: 1. Protect existing water quality and comply with the industrial National Pollutant Discharge Elimination System permit. 2. Identify activities that have the potential to cause surface water or groundwater contamination and the BMPs required to reduce, eliminate, or prevent contamination. The Authority-designated contractor will provide a fully trained and certified Qualified Industrial Storm Water Practitioner to assist with compliance with and implementation of this permit.	Design/ construction	Permit compliance	At incorporation or completion of design/during monthly operation report	Authority/ Contractor	Contractor	Prepare industrial SWPPP	Condition of construction contract	Impact HWR-4: Permanent Impacts on Surface Water Quality During Construction Impact HWR-10: Impacts on Surface Water Quality During Operations Impact PU&E-13: Effects on Storm Drain Facilities During Operation Impact BIO-5: Construction Impacts on Aquatic Resources
Station Planning, Land Use, and Development										
LU-IAMF#1	Passenger Rail Station Area Development: General Principles and Guidelines	Increases benefits and reduces land use impacts at HSR stations by implementing the Authority's station area development principles and guidelines; it will concentrate activity conveniently to stations, increase the use of the HSR system, generating additional HSR ridership and revenue to benefit the entire state, and accommodate new growth on a smaller project footprint. At modified/relocated passenger rail stations, relevant portions of the Authority's station area development principles and guidelines will be applied, specifically as related to ensuring connectivity. Prior to O&M, the Authority-designated contractor will prepare a memorandum for each station (proposed HSR stations and modified/relocated existing passenger rail stations) describing how Authority's station area development principles and guidelines are applied to achieve the anticipated benefits of station area development. Refer to HSR Station Area Development General Principles and Guidelines, February 3, 2011.	Post-construction	Reporting	Prior to O&M for each station	Authority	Authority	Prepare a technical memorandum for each station	Condition of construction contract	Impact LU-4: Permanent Alteration of Land Use Patterns from Land Use Conversion

IAMF	Title	IAMF Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
LU-IAMF#2	Station Area Planning and Local Agency Coordination	Prior to O&M, the Authority-designated contractor will prepare a memorandum for each station (proposed HSR stations and modified/relocated existing passenger rail stations) describing the local agency coordination and station area planning conducted to prepare the station area for HSR operations. Refer to HSR Station Area Development: General Principles and Guidelines, February 3, 2011.	Post-construction	Reporting	Prior to O&M for each station	Authority	Authority	Prepare a technical memorandum for each station	Condition of construction contract	Impact LU-4: Permanent Alteration of Land Use Patterns from Land Use Conversion Impact LU-6: Land Use Impacts of Parking and Traffic Access Demands at Station Sites
LU-IAMF#3	Restoration of Land Used Temporarily During Construction	Prior to any ground-disturbing activities at the site of land to be used temporarily during construction, the Authority-designated contractor shall prepare a restoration plan addressing specific actions, sequence of implementation, parties responsible for implementation and successful achievement of restoration for temporary impacts. Before beginning construction use of land, the Authority-designated contractor will submit the restoration plan to the Authority for review and obtain Authority approval. The restoration plan will include time-stamped photo documentation of the preconstruction conditions of all temporary staging areas. All construction access, mobilization, material laydown, and staging areas will be returned to a condition equal to the preconstruction staging condition. This requirement is included in the design-build construction contract requirements.	Preconstruction	Prepare restoration plan	Prior to construction	Authority/ Contractor	Contractor	Prepare a restoration plan	Condition of construction contract	Impact LU-1: Temporary Direct Impacts on Land Use Patterns and Incompatibility as Result of Construction Activities Impact SO-1: Disruption or Division of Existing Communities from Construction
Noise and Vibration										
NV-IAMF#1	Noise and Vibration	Prior to construction, the Authority-designated contractor shall prepare and submit to the Authority a noise and vibration technical memorandum documenting how the Federal Transit Administration and FRA guidelines for minimizing construction noise and vibration impacts will be employed when work is being conducted within 1,000 feet of sensitive receptors. Typical construction practices contained in the Federal Transit Administration and FRA guidelines for minimizing construction noise and vibration impacts include the following: ▪ Build noise barriers, such as temporary walls or piles of excavated material, between noisy activities and noise sensitive resources. ▪ Route truck traffic away from residential streets, when possible. ▪ Build walled enclosures around especially noisy activities or around clusters of noisy equipment. ▪ Combine noisy operations so that they occur in the same period. ▪ To reduce vibration, phase demolition, earthmoving, and ground-impacting operations so as not to occur in the same time period. Unlike noise, the total vibration level produced could be significantly less when each vibration source operates separately. ▪ Avoid impact pile driving where possible in vibration sensitive areas.	Preconstruction/ construction	Prepare technical memorandum/ compliance reporting	Monthly	Contractor	Contractor	Prepare a construction noise and vibration technical memorandum	Condition of construction contract	Impact N&V-1: Temporary Exposure of Sensitive Receivers to Construction Noise Impact N&V-2: Temporary Exposure of Sensitive Receivers to Vibration from Construction Impact SO-1: Disruption or Division of Existing Communities from Construction Impact SO-9: Impacts on Children's Health and Safety from Construction

IAMF	Title	IAMF Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
Parks, Recreation, and Open Space										
PK-IAMF#1	Parks, Recreation, and Open Space	Prior to construction, the Authority-designated contractor shall prepare and submit to the Authority a technical memorandum that identifies project design features to be implemented to minimize impacts on parks, recreation, and open space during construction and operation. Typical design measures to avoid or minimize impacts on parks and recreation may include: ▪ Provide safe and attractive access for present travel modes (e.g., motorists, bicyclists, pedestrians—as applicable) to existing park and recreation facilities. ▪ Design guideway, system, and station features in such a way as to enhance the surrounding local communities. Provide easy crossings of the guideway, which allows for community use under the guideway or at station areas.	Preconstruction	Reporting	At incorporation or completion of design/monthly reporting during construction	Authority/ Contractor	Contractor	Prepare technical memorandum that documents project design features that minimize impacts on parks, recreation, and open space	Condition of construction contract	Impact PR-4: Project Construction Would Diminish Access to or Use of Recreational Resources

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Public Utilities and Energy										
PUE-IAMF#1	Design Measures	The HSR project design incorporates utilities and design elements that minimize impacts on public utilities. A key objective is to minimize electricity consumption (e.g., using regenerative braking, energy-saving equipment on rolling stock and at station facilities, implementing energy saving measures during construction, and automatic train operations to maximize energy efficiency during operations). Therefore, the project will not overburden electric utility services during construction or operation. These design elements are included in the design-build contract. Additionally, the Authority has adopted a sustainability policy (POLI-1007) that establishes project design and construction requirements that avoid and minimize impacts on public utilities. The policy commits the Authority to work toward net-zero water consumption during operations with compliance with the California Green Building Standards Code and net-zero energy consumption, with facilities Leadership in Energy Environmental Design–certified at the platinum level. The Authority also has committed to using 100 percent renewable energy for operation. During construction, the policy calls for implementing the following: ▪ Follow construction waste practices that divert at least 85 percent of waste from landfill, unless the local regulation is higher. ▪ Recycle all steel and concrete waste generated. ▪ Reduce potable water use. ▪ Maximize the use of renewable transportation fuels. ▪ In compliance with the International Standards Organization 14001 standard, the Authority's contract requirements for the design-build Authority-designated contractor will be monitored throughout construction, performance data collected through the EMMA database, and data compiled into annual reports for verification and continuous improvement of sustainability practices, including minimizing impacts on public utilities. The Authority, or Authority-designated contractor, shall comply with the Authority's Sustainability Policy in effect at the time of contracting (e.g., POLI-1007).	Design/ construction	Reporting	At incorporation or completion of design/monthly reporting (during construction)	Contractor	Contractor	Incorporation of utilities and design elements that minimize electrical consumption into design	Condition of construction contract	Impact PU&E-6: Conflicts with Existing Utilities Impact PU&E-9: Construction Energy Consumption Impact PU&E-16: Operational Energy Demand

IAMF	Title	IAMF Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
PUE-IAMF#3	Public Notifications	Prior to construction in areas where utility service interruptions are unavoidable, the Authority will obtain written consent from utility owners prior to construction consistent with the HSR Design Criteria Manual Chapter 28, Utilities, Section 28.2.2.3.4, Level of Service and Service Interruptions. The Authority-designated contractor will notify the public through a combination of communication media (e.g., by phone, email, mail, newspaper notices, or other means) within that jurisdiction and the affected service providers of the planned outage. The notification will specify the estimated duration of the planned outage and will be published no less than 7 days prior to the outage. Construction will be coordinated to avoid interruptions of utility service to hospitals and other critical users. The Authority-designated contractor will submit the public communication plan to the Authority 60 days in advance of the work for verification that appropriate messaging and notification are to be provided.	Preconstruction/ construction	Public notification	Monthly	Contractor	Contractor	Public notification of utility service interruptions 60 days in advance of work for verification	Condition of construction contract	Impact PU&E-1: Temporary Interruption of Utility Service Impact PU&E-6: Conflicts with Existing Utilities Impact PU&E-7: Reduced Access to Existing Utilities in the High-Speed Rail Right-of-Way During Construction
PUE-IAMF#4	Utilities and Energy	Prior to construction, the Authority-designated contractor will prepare a technical memorandum documenting how construction activities will be coordinated with utility service providers to minimize or avoid planned and accidental temporary interruptions. It will include upgrades of existing power lines to connect the HSR system to existing utility substations. The memorandum will identify all affected utility service providers, proposed coordination activities before and during construction, as well as the location of all known underground utilities. The technical memorandum will be provided to the Authority for review and approval prior to the start of coordination with any utility service providers. Confirmation of existing utilities will be conducted with all utility service providers consistent with the HSR Design Criteria Manual Section 28.2.2.3.2, Utility Verification Request to Owner. In addition, the Authority-designated contractor and each utility service provider will agree on the best ways to coordinate during construction for all planned and accidental interruptions of utility service. Following these initial Authority-designated contractor coordination activities with the utility service providers, the Authority-designated contractor will prepare a second technical memorandum to document the location of confirmed utility infrastructure that will be affected by construction activities consistent with the HSR Design Criteria Manual Chapter 28, Utilities, and California Government Code Section 4215 as well as the negotiated protocols the Authority-designated contractor will use to coordinate during construction with each affected utility service provider. This technical memorandum will be reviewed and approved by the Authority.	Design/ preconstruction	Prepare a technical memorandum	At incorporation or completion of design/monthly reporting (during construction)	Contractor	Contractor	Prepare service provider coordination technical memorandum	Condition of construction contract	Impact PU&E-1: Temporary Interruption of Utility Service Impact PU&E-2: Accidents and Disruption of Services Impact PU&E-6: Conflicts with Existing Utilities Impact PU&E-7: Reduced Access to Existing Utilities in the High-Speed Rail Right-of-Way During Construction

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Safety and Security										
SS-IAMF#1	Construction Safety Transportation Management Plan	Prior to construction (any ground-disturbing activity), the Authority-designated contractor will prepare for submittal to the Authority a construction safety transportation management plan. The plan will describe the Authority-designated contractor's coordination efforts with local jurisdictions for maintaining emergency vehicle access. The plan also will address duration of road and traffic lane closures, length of detour routes, and ongoing coordination during construction with local jurisdictions as well as emergency service providers. The plan will also specify the Authority-designated contractor's procedures for implementing temporary road closures including: access to residences and businesses during construction, lane closures, signage and flag persons, temporary detour provisions, alternative bus and delivery routes, emergency vehicle access, and alternative access locations. The Authority requires the Authority-designated contractor to maintain emergency vehicle access and access for nearby residences and business throughout the duration of construction. The Authority-designated contractor will prepare and submit monthly reports to the Authority documenting CTP implementation activities for compliance monitoring.	Preconstruction/ construction	Prepare plan	Prior to construction (any ground-disturbing activity)	Contractor	Contractor	Prepare Construction Safety Transportation Management Plan	Condition of construction contract	Impact SS-1: Increased Response Times for Fire, Rescue, and Emergency Services from Temporary Road Closures Impact SS-5: Accidents Associated with Construction-Related Detours and Traffic Hazards Impact SO-1: Disruption or Division of Existing Communities from Construction
SS-IAMF#2	Safety and Security Management Plan	The Authority will require the Authority-designated contractor to prepare a safety and security management plan that complies with the below-listed requirements to protect public safety and security. Sixty days after receiving from the Authority a construction notice to proceed, the Authority-designated contractor shall provide the Authority with a technical memorandum documenting how the following requirements, plan, programs, and guidelines were considered in design, construction, and eventual operation to protect the safety and security of construction workers and users of the HSR. The Authority-designated contractor shall be responsible for implementing all construction-related safety and security plans and the Authority shall be responsible for implementing all safety and security plans related to HSR operation. ▪ Workplace worker safety is generally governed by the Occupational Health and Safety Act of 1970, which established the Occupational Health and Safety Administration. The Occupational Health and Safety Administration establishes standards and oversees compliance with workplace safety and reporting of injuries and illnesses of employed workers. In California, Occupational Health and Safety Administration enforcement of workplace requirements is performed by California Occupational Safety and Health Administration. Under California Occupational Health and Safety Administration regulations, as of July 1, 1991, every employer must establish, implement, and maintain an injury and illness prevention program. ▪ The Authority has adopted the California High-Speed Rail Program Safety and Security Management Plan (Authority 2018) to guide the safety and security activities, processes, and responsibilities during design, construction and	Preconstruction/ construction	Prepare plan	60 days after receiving a construction notice to proceed	Authority/ Contractor	Authority/ Contractor	Prepare technical memorandum documenting compliance with safety requirements, plans, programs, and guidelines	Condition of construction contract	Impact SS-3: Temporary Exposure to Construction Site Hazards Impact SS-4: Temporary Exposure to Criminal Activity at Construction Sites Impact SS-9: Temporary Exposure to Valley Fever Impact SS-10: Interference with Aviation Safety Impact SS-11: Permanent Interference with Emergency Response Access from Operational Activities Impact SS-13: Permanent Exposure to Rail-Related Hazards Impact SS-14: Permanent Exposure to High-Risk Facilities Impact SS-16: Potential for Criminal and Terrorist Activity Impact SS-19: Wildfire Hazards Impact SO-9: Impacts on Children's Health and Safety from Construction Impact SO-12: Impacts on Children's Health and Safety from Operations

IAMF	Title	IAMF Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
		implementation phases of the project to protect the safety and security of construction workers and the public. A Systems Safety Program and a Security and Emergency Preparedness Plan will be implemented prior to the start of revenue service to guide the safety and security of the operation of the HSR system. ▪ Prior to construction, the Authority-designated contractor will provide the Authority with a Safety and Security Management Plan documenting how they will apply the Authority's safety and security requirements within their project scope. ▪ Implement site-specific health and safety plans and site-specific security plans to establish minimum safety and security guidelines for Authority-designated contractors of, and visitors to, construction projects. The Authority-designated contractor will be required to develop and implement site-specific measures that address regulatory requirements to protect human health and property at construction sites. ▪ Preparation of a Valley Fever action plan that includes: (1) information on causes, preventive measures, symptoms, and treatments for Valley Fever to individuals who could potentially be exposed through construction activities (i.e., construction workers, monitors, managers, and support personnel); (2) continued outreach and coordination with California Department of Public Health; (3) coordination with county departments of public health to ensure that the above referenced information concerning Valley Fever is readily available to nearby residents, schools, and businesses and to obtain area information about Valley Fever outbreaks and hotspots; and (4) provide a qualified person dedicated to overseeing implementation of the Valley Fever prevention measures to encourage a culture of safety of the Authority-designated contractors and Authority-designated subcontractors. The Valley Fever Health and Safety designee will coordinate with the county Public Health Officer and oversee and manage the implementation of Valley Fever control measures. The Valley Fever Health and Safety designee is responsible for ensuring the implementation of measures in coordination with the county Public Health Officer. Medical information will be maintained following applicable and appropriate confidentiality protections. The Valley Fever Health and Safety designee in coordination with the county Public Health Officer will determine what measures will be added to the requirements for the Safety and Security Management Plan regarding preventive measures to avoid Valley Fever exposure. Measures will include, but are not limited to the following: (1) train workers and supervisors on how to recognize symptoms of illness and ways to minimize exposure, such as washing hands at the end of shifts; (2) provide washing facilities nearby for washing at the end of shifts; (3) provide vehicles with enclosed, air conditioned cabs and make sure workers keep the windows closed; (4) equip heavy equipment cabs with high-efficiency particulate air filters; and (5) make National Institute for Occupational Safety and Health								

IAMF	Title	IAMF Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
		approved respiratory protection with particulate filters as recommended by the California Department of Public Health available to workers who request them. ▪ System safety program plans incorporate FRA requirements and are implemented on FRA approval. The FRA's Systems Safety Program Plan requirements will be determined in the FRA's new System Safety Regulation (49 CFR Part 270). ▪ Rail systems must comply with FRA requirements for tracks, equipment, railroad operating rules and practices, passenger safety, emergency response, and passenger equipment safety standards found in 49 CFR Parts 200-299. ▪ The HSR Urban Design Guidelines (Authority 2011b) require implementing the principles of crime prevention through environmental design. The Authority-designated contractor will consider four basic principles of crime prevention through environmental design during station design and site planning: territoriality (design physical elements that express ownership of the station or site); natural surveillance (arrange physical features to maximize visibility); improved sightlines (provide clear views of surrounding areas); and access control (provide physical guidance for people coming and going from a space). The HSR design includes emergency access to the rail right-of-way, and elevated HSR structure design includes emergency egress points. ▪ Implement fire/life safety and security programs that promote fire and life safety and security in system design, construction, and implementation. The fire and life safety program is coordinated with local emergency response organizations, rail operators, and right-of-way owners, to provide them with an understanding of the rail system, facilities, and operations, and to obtain their input for modifications to emergency response operations and facilities, such as evacuation routes. The Authority-designated contractor will establish fire/life safety and security committees throughout the project section. ▪ Implement system security plans that address design features intended to maintain security at the stations within the track right-of-way, at stations, and onboard trains. A dedicated police force will ensure that the security needs of the HSR system are met. ▪ The design standards and guidelines require emergency walkways on both sides of the tracks for both elevated and at-grade sections and the provision of appropriate space as defined by fire and safety codes along at-grade sections of the alignment to allow for emergency response access. ▪ Implement standard operating procedures and emergency operating procedures, such as the FRA-mandated Roadway Worker Protection Program to address the day-to-day operation and emergency situations that will maintain the safety of employees, passengers, and the public.							

IAMF	Title	IAMF Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
SS-IAMF#3	Hazard Analyses	The Authority's hazard management program includes the identification of hazards, assessment of associated risk, and application of control measures (mitigation), to reduce the risk to an acceptable level. Prior to project construction, the Authority or its contractor will prepare a hazard assessment includes a preliminary hazard analysis and threat and vulnerability assessment. ▪ The Authority's programmatic preliminary hazard analyses are developed in conformance with the FRA's *Collison Hazard Analysis Guide: Commuter and Intercity Passenger Service* (FRA 2007) and the U.S. Department of Defense's System Safety Program Plan (MIL-STD-882) to identify and determine the facility hazards and vulnerabilities so that they can be addressed by—and either eliminated or minimized—the design. ▪ Threat and vulnerability assessments establish provisions for the deterrence and detection of, as well as the response to, criminal and terrorist acts for rail facilities and system operations. Provisions include right-of-way fencing, security lighting, security procedures and training, and closed-circuit televisions. Intrusion-detection technology could also alert to the presence of inert objects, such as toppled tall structures or derailed freight trains, and stop HSR operations to avoid collisions. ▪ During design and construction, the Authority-designated contractor will conduct site-specific preliminary hazard analysis and threat and vulnerability assessments to apply the programmatic work to their specific project designs. The Authority's safety and security committees will be responsible for implementing the recommendations contained in the hazard analysis during HSR operation.	Preconstruction/ construction	Reporting	Monthly	Authority	Authority	Monthly reporting	Condition of construction contract	Impact SS-13: Permanent Exposure to Rail-Related Hazards Impact SS-14: Permanent Exposure to High-Risk Facilities Impact SS-18: Permanent Safety Hazards to Schools Impact HWR-8: Permanent Impacts on Flood Hazard, Tsunami, or Seiche Zones Resulting in the Risk of Release of Pollutants During Construction Impact HWR-13: Impact from Risk of Release of Pollutants from Inundation During Operations
SS-IAMF#4	Oil and Gas Wells	Prior to ground-disturbing activities, the Authority-designated contractor shall identify and inspect all active and abandoned oil and gas wells within 200 feet of the HSR tracks. Any active wells will be abandoned and relocated by the Authority-designated contractor in accordance with the California Department of Conservation, Division of Oil, and Gas and Geothermal Resources standards in coordination with the well owners. In the event that relocated wells do not attain the current production rates of the now-abandoned active wells, the Authority will be responsible for compensating the well owner for lost production. All abandoned wells within 200 feet of the HS tracks will be inspected and re-abandoned, as necessary, in accordance with California Department of Conservation, Division of Oil, and Gas and Geothermal Resources standards and in coordination with the well owner. The Authority-designated contractor will provide the Authority with documentation that the identification and inspection of the wells has occurred prior to construction.	Preconstruction	Regulatory compliance/ reporting	Prior to ground-disturbing activities	Authority/ Contractor	Authority	Compliance with DOGGR standards	Condition of construction contract	Impact SS-8: Temporary Exposure to Oil and Gas Well Hazards Impact SS-15: Permanent Exposure to Oil and Gas Well Hazards Impact HMW-7: Risks During Construction on or Near Landfills and Oil and Gas Wells

IAMF	Title	IAMF Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
SS-IAMF#5	Aviation Safety	To address FAA requirements related to its mandate of ensuring civil aviation safety and to prevent the potential for disruption of airfield and airspace operations at Fullerton Municipal Airport as a result of construction or operation of the project section, the Authority or the Authority-designated contractor(s) on behalf of the Authority will: ▪ Submit designs, information, or both to FAA as required by 14 CFR Part 77 to ensure design of permanent HSR features within and adjacent to the boundary of Fullerton Municipal Airport do not intrude into imaginary surfaces as defined in 14 CFR Part 77.9(b). ▪ Submit construction plans, information, or both to FAA as required by 14 CFR Part 77, which may include the location of planned HSR construction and construction staging areas within and adjacent to the boundary of the Fullerton Municipal Airport, the types and height of proposed equipment, and planned time/duration of construction, to ensure construction within and adjacent to the boundary of Fullerton Municipal Airport does not intrude into imaginary surfaces as defined in 14 CFR Part 77.9(b). ▪ Implement measures required by FAA to ensure continued safety of air navigation during HSR construction and operation, pursuant to 14 CFR Part 77.5(c). ▪ Ensure that the planned HSR facilities do not violate any grant assurances that are imposed at Fullerton Municipal Airport as a condition for obtaining an Airport Improvement Grants from FAA. ▪ If necessary, work with the City of Fullerton to amend the current Airport Layout Plan for any temporary or permanent construction-related facilities required for the HSR project to be submitted to the FAA for approval.	Preconstruction	Prepare plan/ reporting	Monthly	Authority	Authority	Compliance with FAA requirements related to aviation safety	Condition of construction contract	Impact SS-3: Temporary Exposure to Construction Site Hazards Impact SS-10: Interference with Aviation Safety
Socioeconomics and Communities										
SOCIO-IAMF#1	Construction Management Plan	Prior to construction, the Authority-designated contractor will prepare a CMP providing measures that minimize construction impacts on communities, in particular low-income households and minority populations that are more sensitive to construction-borne disruptions. The plan will be submitted to the Authority for review and approval. The plan will include actions pertaining to communications, visual protection, air quality, safety controls, noise controls, and traffic controls to minimize impacts on surrounding communities, particularly low-income households and minority populations. The plan will verify that property access is maintained for local businesses, residences, and emergency services. This plan will include maintaining customer and vendor access to local businesses throughout construction by using signs to instruct customers about access to businesses during construction. In addition, the plan will include efforts to consult with local transit providers to minimize effects on local and regional bus routes in affected communities.	Design/ construction	Prepare plan	Prior to construction	Contractor	Contractor	Prepare CMP	Condition of construction contract	Impact SO-1: Disruption or Division of Existing Communities from Construction

IAMF	Title	IAMF Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
SOCIO-IAMF#2	Compliance with Uniform Relocation Assistance and Real Property Acquisition Policies Act	The Authority must comply with the Uniform Act. The provisions of the Uniform Act, a federally mandated program, will apply to all acquisitions of real property or displacements of persons resulting from this federally assisted project. It was created to provide for fair and equitable treatment of all affected persons. Additionally, the Fifth Amendment of the U.S. Constitution provides that private property may not be taken for a public use without payment of "just compensation." The Uniform Act requires that the owning agency provide notification to all affected property owners of the agency's intent to acquire an interest in their property. This notification includes a written offer letter of just compensation. A right-of-way specialist is assigned to each property owner to assist him or her through the acquisition process. The Uniform Act also provides benefits to displaced individuals to assist them financially and with advisory services related to relocating their residence or business operation. Benefits are available to both owner occupants and tenants of either residential or business properties. The Uniform Act requires provision of relocation benefits to all eligible persons regardless of race, color, religion, sex, or national origin. Benefits to which eligible owners or tenants may be entitled are determined on an individual basis and explained in detail by an assigned right-of-way specialist. The California Relocation Assistance Act essentially mirrors the Uniform Act and also provides for consistent and fair treatment of property owners. However, because the project will receive federal funding, the Uniform Act takes precedence. Owners of private property have federal and state constitutional guarantees that their property will not be acquired or damaged for public use unless owners first receive just compensation. Just compensation is measured by the "fair market value," where the property value is considered to be the highest price that will be negotiated on the date of valuation. The value must be agreed on by a seller who is willing, not obliged to sell, but under no particular or urgent necessity and by a buyer who is ready, willing, and able to buy but under no particular necessity. Both the owner and the buyer must deal with the other with the full knowledge of all the uses and purposes for which the property is reasonably adaptable and available (Code of Civil Procedure Section 1263.320a). More detailed information about how the Authority plans to comply with the Uniform Act and the California Relocation Assistance Act is provided in the following three detailed relocation assistance documents modeled after Caltrans versions: ▪ *Your Rights and Benefits as a Displacee under the Uniform Relocation Assistance Program (Residential)* ▪ *Your Rights and Benefits as a Displacee under the Uniform Relocation Assistance Program (Mobile Home)* ▪ *Your Rights and Benefits as a Displaced Business, Farm, or Nonprofit Organization under the Uniform Relocation Assistance Program*	Design/ construction/ operation	Reporting and meeting with interested parties	Prior to completion of property acquisition	Authority	Authority	Comply with Uniform Act/ creation of ombudsman office and reporting/ monthly reporting and record keeping	Condition of construction contract	Impact SO-2: Residential Displacements and Relocations

IAMF	Title	IAMF Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
SOCIO-IAMF#3	Relocation Implementation Plan	Before any acquisitions occur, the Authority will develop a Relocation Implementation Plan, in consultation with affected cities and counties and property owners. In addition to establishing a program to minimize the economic disruption related to relocation, the Relocation Implementation Plan will be written in a style that also enables it to be used as a public-information document. The Relocation Implementation Plan will be designed to meet the following objectives: ▪ Provide affected property and business owners and tenants a high level of individualized assistance in situations when acquisition is necessary and the property owner desires to relocate the existing land use. ▪ Coordinate relocation activities with other agencies acquiring property resulting in displacements in the resource study area to provide for all displaced persons and businesses to receive fair and consistent relocation benefits. ▪ Make a best effort to minimize the permanent closure of businesses and nonprofit agencies as a result of property acquisition. ▪ Within the limits established by law and regulation, minimize the economic disruption caused to property owners by relocation. ▪ In individual situations, where warranted, consider the cost of obtaining the entitlement permits necessary to relocate to a suitable location and take those costs into account when establishing the fair market value of the property. ▪ Provide those business owners who require complex permitting with regulatory compliance assistance. The Relocation Implementation Plan will include the following components: ▪ A description of the appraisal, acquisition, and relocation process as well as a description of the activities of the appraisal and relocation specialists. ▪ A means of assigning appraisal and relocation staff to affected property owners, tenants, or other residents on an individual basis. ▪ Individualized assistance to affected property owners, tenants, or other residents in applying for funding, including research to summarize loans, grants, and federal aid available, and research areas for relocation. ▪ Creation of an ombudsman's position to act as a single point of contact for property owners, residents, and tenants with questions about the relocation process. The ombudsman will also act to address concerns about the relocation process as it applies to the individual situations of property owners, tenants, and other residents.	Design/ construction	Prepare plan	Prior to property acquisitions	Authority	Authority	Develop relocation mitigation plan	Condition of construction contract	Impact SO-2: Residential Displacements and Relocations Impact SO-3: Business Displacements and Relocations Impact SO-4: Physical Deterioration Impact SO-8: County and City Sales Tax Effects

IAMF	Title	IAMF Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
Transportation										
TR-IAMF#1	Protection of Public Roadways During Construction	Prior to construction, the Authority-designated contractor shall provide a photographic survey documenting the condition of the public roadways along truck routes providing access to the proposed project site. The photographic survey will be submitted for approval to the agency responsible for road maintenance and the Authority. The Authority-designated contractor will be responsible for the repair of any structural damage to public roadways caused by HSR construction or construction access, returning any damaged sections to the equivalent of their original pre-HSR construction structural condition or better. The Authority-designated contractor will survey the condition of the public roadways along truck routes providing access to the proposed project site after construction is complete. The Authority-designated contractor will complete a before- and after-survey report and submit it to the Authority for review, indicating the location and extent of any damage.	Preconstruction/ post-construction	Survey/ reporting	Immediately prior to and immediately following construction, and during construction as needed	Contractor	Contractor	Provide a photographic survey	Condition of construction contract	Impact TR-1: Temporary Impacts on Intersections, Roadways, and Freeways from Temporary Road Closures, Relocations, and Modifications During Construction Impact TR-2: Permanent Impacts on Signalized Intersections from Construction of Permanent Roadway Modifications Impact TR-3: Permanent Impacts on Unsignalized Intersections from Construction of Permanent Roadway Modifications Impact TR-4: Permanent Impacts on Roadway Segments from Construction of Permanent Roadway Modifications Impact SO-1: Disruption or Division of Existing Communities from Construction
TR-IAMF#2	Construction Transportation Plan	The Authority-designated contractor shall prepare a detailed CTP for the purpose of minimizing the impact of construction and construction traffic on adjoining and nearby roadways in close consultation with the local jurisdiction or property owners having authority over the site. The Authority must review and approve the CTP before the Authority-designated contractor commences any construction activities. This plan will address, in detail, the activities to be carried out in each construction phase, with the requirement of maintaining traffic flow during peak travel periods. Such activities include, but are not limited to, the routing and scheduling of materials deliveries, materials staging and storage areas, construction employee arrival and departure schedules, employee parking locations, and temporary road closures, if any. The CTP will provide traffic controls pursuant to the *California Manual on Uniform Traffic Control Devices* sections on temporary traffic controls (Caltrans 2017) and will include a traffic control plan that includes, at a minimum, the following elements: ▪ Temporary signage to alert drivers and pedestrians to the construction zone. ▪ Flag persons or other methods of traffic control. ▪ Traffic speed limitations in the construction zone. ▪ Temporary road closures and provisions for alternative access during the closure. ▪ Detour provisions for temporary road closures—alternating one-way traffic will be considered as an alternative to temporary closures where practicable and where it will result in better traffic flow than will a detour. ▪ Identified routes for construction traffic.	Design/ construction	Prepare plan/ reporting	At incorporation or completion of design/ implementation during construction	Contractor	Contractor	Prepare and implement CTP	Condition of design- build contract	Impact TR-1: Temporary Impacts on Intersections, Roadways, and Freeways from Temporary Road Closures, Relocations, and Modifications During Construction Impact TR-5: Temporary Impacts on Pedestrian, Bicycle, and Transit Facilities During Construction Impact SO-1: Disruption or Division of Existing Communities from Construction Impact SO-9: Impacts on Children's Health and Safety from Construction

IAMF	Title	IAMF Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
		▪ Provisions for safe pedestrian and bicycle passage or convenient detour. ▪ Provisions to minimize access disruption to residents, businesses, customers, delivery vehicles, and buses to the extent practicable. Where road closures are required during construction, limit to the hours that are least disruptive to access for the adjacent land uses. ▪ Provisions for 24-hour access by emergency vehicles. ▪ Safe vehicular and pedestrian access to local businesses and residences during construction. The plan will provide for scheduled transit access where construction will otherwise impede such access. Where an existing bus stop is within the work zone, the Authority-designated contractor will provide a temporary bus stop at a safe and convenient location away from where construction is occurring in close coordination with the transit operator. Adequate measures will be taken to separate students and parents walking to and from the temporary bus stop from the construction zone. ▪ Advance notification to the local school district of construction activities and rigorously maintained traffic control at all school bus loading zones, to provide for the safety of schoolchildren. Review existing or planned Safe Routes to Schools with school districts and emergency responders to incorporate roadway modifications that maintain existing traffic patterns and fulfill response route and access needs during project construction and HSR operations. ▪ Identification and assessment of the potential safety risks of project construction to children, especially in areas where the project is near homes, schools, daycare centers, and parks. ▪ Promotion of child safety within and near the resource study area. For example, crossing guards could be provided in areas where construction activities are near schools, daycare centers, and parks. CTPs will consider and account for the potential for overlapping construction projects.								
TR-IAMF#3	Off-Street Parking for Construction-Related Vehicles	The Authority-designated contractor will identify adequate off-street parking for all construction-related vehicles throughout the construction period to minimize impacts on public on-street parking areas. If adequate parking cannot be provided on the construction sites, the Authority-designated contractor shall designate a remote parking area and arrange for the use a shuttle bus to transfer construction workers to/from the job site. This measure will be addressed in the CTP.	Design/ construction	Prepare plan	Prior to construction	Contractor	Contractor	Prepare CTP/Identify adequate off-street parking for all construction-related vehicles	Condition of construction contract	Impact TR-1: Temporary Impacts on Intersections, Roadways, and Freeways from Temporary Road Closures, Relocations, and Modifications During Construction Impact SO-1: Disruption or Division of Existing Communities from Construction

IAMF	Title	IAMF Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
TR-IAMF#4	Maintenance of Pedestrian Access	The Authority-designated contractor will prepare specific CMPs, as part of the CTP, to address maintenance of pedestrian access during the construction period, to the extent feasible, in accordance with design, safety, and Americans with Disabilities Act requirements. Construction actions that limit pedestrian access will include, but not be limited to, sidewalk closures, bridge closures, crosswalk closures or pedestrian rerouting at intersections, placement of construction-related material within pedestrian pathways or sidewalks, and other actions that may affect the mobility or safety of pedestrians during the construction period. If sidewalks are maintained along the construction site frontage, the Authority-designated contractor will provide covered walkways and fencing.	Design/ construction	Prepare plan	Prior to construction	Contractor	Contractor	Prepare construction management plans that address maintenance of pedestrian access	Condition of construction contract	Impact TR-5: Temporary Impacts on Pedestrian, Bicycle, and Transit Facilities During Construction Impact SO-1: Disruption or Division of Existing Communities from Construction
TR-IAMF#5	Maintenance of Bicycle Access	The Authority-designated contractor will prepare specific CMPs to address maintenance of bicycle access during the construction period, to the extent feasible, in accordance with design, safety, and Americans with Disabilities Act requirements. Construction actions that limit bicycle access will include, but not be limited to, bike lane closures or narrowing, closure or narrowing of streets that are designated bike routes, bridge closures, placement of construction-related materials within designated bike lanes or along bike routes, and other actions that may affect the mobility or safety of bicyclists during the construction period.	Design/ construction	Prepare plan	Prior to construction	Contractor	Contractor	Prepare construction management plans that address maintenance of bicycle access	Condition of construction contract	Impact TR-5: Temporary Impacts on Pedestrian, Bicycle, and Transit Facilities During Construction Impact SO-1: Disruption or Division of Existing Communities from Construction
TR-IAMF#6	Restriction on Construction Hours	The Authority-designated contractor will limit construction material deliveries between 7 a.m. and 9 a.m. and between 4 p.m. and 6 p.m. on weekdays to minimize impacts on traffic on roadways. The Authority-designated contractor will limit the number of construction employees arriving or departing the site between the hours of 7 a.m. and 8:30 a.m. and 4:30 p.m. and 6 p.m. Areas where these restrictions will be implemented will be determined as part of the CTP. Based on Authority review of the CTP, the restricted hours may be altered to accommodate local travel patterns.	Construction	CTP to be prepared prior to construction followed by reporting	Prior to construction/ weekly	Contractor	Contractor	Prepare CTP/ limit construction materials deliveries and employee arrival and departures	Condition of construction contract	Impact TR-1: Temporary Impacts on Intersections, Roadways, and Freeways from Temporary Road Closures, Relocations, and Modifications During Construction Impact SO-1: Disruption or Division of Existing Communities from Construction
TR-IAMF#7	Construction Truck Routes	The Authority-designated contractor will deliver all construction-related equipment and materials on the designated truck routes identified in the CTP and will prohibit heavy-construction vehicles from using alternative routes to get to the site. Truck routes will be established away from schools, daycare centers, and residences, or along routes with the least impact if the Authority determines those areas are unavoidable. This measure will be addressed in the CTP.	Construction	CTP to be prepared prior to construction followed by reporting	Prior to construction/ weekly	Contractor	Contractor	Prepare CTP/ establish truck routes	Condition of construction contract	Impact TR-1: Temporary Impacts on Intersections, Roadways, and Freeways from Temporary Road Closures, Relocations, and Modifications During Construction
TR-IAMF#8	Construction During Special Events	The Authority-designated contractor will provide a mechanism to prevent roadway construction activities from reducing roadway capacity during major athletic events or other special events that substantially (10 percent or more) increase traffic on roadways affected by project construction. Mechanisms include the presence of police officers directing traffic, special-event parking, use of within-the-curb parking, or shoulder lanes for through-traffic and traffic cones. This measure will be addressed in the CTP.	Construction	CTP to be prepared prior to construction followed by reporting	Prior to construction/ weekly	Contractor	Contractor	Prepare CTP/ event coordination	Condition of construction contract	Impact TR-1: Temporary Impacts on Intersections, Roadways, and Freeways from Temporary Road Closures, Relocations, and Modifications During Construction Impact SO-1: Disruption or Division of Existing Communities from Construction

IAMF	Title	IAMF Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
TR-IAMF#9	Protection of Freight and Passenger Rail During Construction	The Authority-designated contractor will repair any structural damage to freight or public railways that may occur during the construction period, and return any damaged sections to their original structural condition. If necessary, during construction, a "shoofly" track will be built to allow existing train lines to bypass any areas closed for construction activities. On completion, tracks will be opened and repaired, or new mainline track will be built, and the "shoofly" will be removed. Authority-designated contractor repair responsibility will be included in the contract.	Construction	Design-build and CTP to be prepared prior to construction followed by reporting	Weekly	Contractor	Contractor	Repair structural damage to freight or public railways	Condition of construction contract	Impact TR-8: Temporary Impacts on Freight and Passenger Rail Operations During Construction
TR-IAMF#11	Maintenance of Transit Access	The Authority-designated contractor will prepare specific CMPs, as part of the CTP, to address maintenance of transit access during the construction period, to the extent feasible, in accordance with design, safety, and Americans with Disabilities Act requirements. Construction actions that limit transit access will include, but not be limited to, roadway lane closures or narrowing, closure or narrowing of streets that are designated transit routes, bus stop closures, bridge closures, placement of construction-related materials within designated transit lanes, bus stop or layover zones or along transit routes, and other actions that may affect the mobility or safety of bus transit during the construction period.	Construction	Design-build and CTP to be prepared prior to construction followed by reporting	Prior to construction/ weekly	Contractor	Contractor	Prepare Construction Management Plans to address maintenance of transit access	Condition of construction contract	Impact TR-5: Temporary Impacts on Pedestrian, Bicycle, and Transit Facilities During Construction Impact TR-8: Temporary Impacts on Freight and Passenger Rail Operations During Construction Impact SO-1: Disruption or Division of Existing Communities from Construction
TR-IAMF#12	Pedestrian and Bicycle Safety	Prior to construction, the Authority-designated contractor will provide a technical memorandum describing how, during operation, pedestrian and bicycle accessibility and safety will be provided and supported across the HSR corridor, to and from stations and on station property. Priority of safety for pedestrians and bicycles and vulnerable populations over motor vehicle access will be carried out in a manner to encourage maximum potential access from nonmotorized modes. Local access programs, such as Safe Routes to Schools, will be maintained or enhanced. Access to community facilities for vulnerable populations will be maintained or enhanced.	Preconstruction	Prepare technical memorandum	Prior to construction	Contractor	Contractor	Preparation of a pedestrian and bicycle accessibility technical memorandum	Condition of construction contract	Impact TR-5: Temporary Impacts on Pedestrian, Bicycle, and Transit Facilities During Construction Impact TR-6: Permanent Impacts on Pedestrian, Bicycle, and Transit Facilities from Construction of Permanent Roadway Modifications Impact TR-13: Continuous Permanent Impacts on Pedestrian, Bicycle, and Transit Facilities During Operations Impact SO-1: Disruption or Division of Existing Communities from Construction

IAMF	Title	IAMF Text	Phase	Implementation Action	Reporting Schedule	Implementation Party	Reporting Party	Implementation Text	Implementation Mechanism	Impact # and Impact Text
TR-IAMF#13	Stakeholder Coordination with Transportation Agencies	As design of the project section progresses, the Authority will continue to coordinate with agencies that provide existing or planned rail services and bus services, or maintain operating rights within the corridor, including BNSF Railway, Southern California Regional Rail Authority (Metrolink), Los Angeles – San Diego – San Luis Obispo Rail Corridor Agency, National Railroad Passenger Corporation (Amtrak), Orange County Transportation Authority, and Riverside County Transportation Commission. The purpose of this ongoing stakeholder coordination is to ensure that the design, construction, and operation of the project section does not negatively affect existing and planned rail service, including bus routes that service existing and planned rail stations. The Authority will work with the agencies to define roles and responsibilities within the shared corridor, including operational and maintenance responsibilities. The Authority, California State Transportation Agency, or both will lead this coordination, which will take place when funding for advanced design is identified. Elements to be included in the future agreements include, but are not limited to: ▪ An operating plan acceptable to all parties, which includes train counts, operating slots, dispatching, and maintenance responsibilities ▪ Updated modeling for the new operating plan ▪ Plans for capital and O&M cost sharing ▪ Plans for right-of-way adjustments and ownership	Design/ preconstruction/ post-construction/ operation	Coordination	Prior to construction/ construction/ operation	Authority	Authority	Stakeholder coordination with transportation agencies/ prepare agreements	Condition of construction contract	Impact TR-5: Temporary Impacts on Pedestrian, Bicycle, and Transit Facilities During Construction Impact TR-8: Temporary Impacts on Freight and Passenger Rail Operations During Construction Impact TR-13: Continuous Permanent Impacts on Pedestrian, Bicycle, and Transit Facilities During Operations Impact TR-15: Continuous Permanent Impacts on Freight Rail and Passenger Rail System Capacity During Operations

[1] Because of their length and complexity, most HSR project sections are expected to be designed and built in segments, with separate construction documents (plans and specifications) developed for each segment. *Construction package* refers to a portion (segment) of a project section for which a discrete, stand-alone construction document set will be developed.

ASTM = ASTM International; Authority = California High-Speed Rail Authority; BETP = Built Environment Treatment Plan; BMP = best management practice; BRMP = Biological Resources Management Plan; Caltrans = California Department of Transportation; CFR = Code of Federal Regulations; CMP = Construction Management Plan; CP = construction package; CTP = Construction Transportation Plan; EIR = Environmental Impact Report; EIS = Environmental Impact Statement; EMFAC = Emission Factors; ESA = environmental site assessment; FAA = Federal Aviation Administration; FRA = Federal Railroad Administration; HSR = high-speed rail; IAMF = impact avoidance and minimization feature; O&M = operations and maintenance; PRMMP = Paleontological Resource Monitoring and Mitigation Plan; project section = Los Angeles to Anaheim Project Section; PRS = Paleontological Resources Specialist; QSP = qualified SWPPP practitioner; RWQCB = Regional Water Quality Control Board; SHPO = State Historic Preservation Officer; SVP = Society of Vertebrate Paleontology; SWPPP = Stormwater Pollution Prevention Plan; TR = technical report; Uniform Act = Uniform Relocation Assistance and Real Property Acquisition Policies Act, as amended; USEPA = U.S. Environmental Protection Agency; WEAP = Worker Environmental Awareness Program

APPENDIX B: PROPOSED FINAL ENVIRONMENTAL IMPACT STATEMENT

A copy of the Proposed Final EIS can be found at https://hsr.ca.gov/LAAProposedFinalEIS.

DRAFT

APPENDIX C: STATE HISTORIC PRESERVATION OFFICER SECTION 106 CONCURRENCE LETTER AND MEMORANDUM OF AGREEMENT

DRAFT

MEMORANDUM OF AGREEMENT
AMONG THE CALIFORNIA HIGH-SPEED RAIL AUTHORITY, THE SURFACE TRANSPORTATION BOARD, AND THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER
REGARDING THE LOS ANGELES TO ANAHEIM PROJECT SECTION OF THE CALIFORNIA HIGH-SPEED RAIL PROGRAM IN LOS ANGELES AND ORANGE COUNTIES, CALIFORNIA

WHEREAS, the California High-Speed Rail Authority (Authority) proposes to build the Los Angeles to Anaheim Project Section (the Undertaking), an approximately 30-mile portion of the California High-Speed Rail Program in Los Angeles and Orange Counties, in an existing railroad corridor crossing the cities of Los Angeles, Vernon, Commerce, Bell, Montebello, Pico Rivera, West Whittier–Los Nietos, Santa Fe Springs, Norwalk, La Mirada, Buena Park, Fullerton, and Anaheim; and

WHEREAS, the approximately 30-mile long Los Angeles to Anaheim Project Section was identified as an Undertaking subject to review under Section 106 of the National Historic Preservation Act (54 U.S. Code [U.S.C.] § 306108) and its implementing regulations (36 Code of Federal Regulations [CFR] Part 800) in the *Programmatic Agreement among the Federal Railroad Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California High-Speed Rail Authority regarding compliance with Section 106 of the National Historic Preservation Act as it pertains to the California High-Speed Train Project* (PA), executed on July 22, 2011 (**Attachment 1**); and

WHEREAS, the *First Amendment to the Programmatic Agreement among the Federal Railroad Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California High-Speed Rail Authority regarding compliance with Section 106 of the National Historic Preservation Act as it pertains to the California High-Speed Train Project* was executed on July 21, 2021, extending the expiration of the PA from July 22, 2021, to July 23, 2024 (**Attachment 1**); and

WHEREAS, the *Second Amendment to the Programmatic Agreement among the Federal Railroad Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California High-Speed Rail Authority regarding compliance with Section 106 of the National Historic Preservation Act as it pertains to the California High-Speed Train Project* was executed on July 23, 2024, extending the expiration of the PA from July 23, 2024, to July 23, 2034 (**Attachment 1**); and

WHEREAS, the Authority has coordinated compliance with Section 106 and 36 CFR Part 800 with steps taken to meet the requirements of the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA) and has planned public participation, analysis, and review in such a way to satisfy the requirements of each statute; and

WHEREAS, on July 23, 2019, the State of California and the Federal Railroad Administration (FRA) executed a memorandum of understanding (MOU) under the Surface Transportation Project Delivery Program (known as NEPA Assignment), pursuant to the legal authority under 23 U.S.C. § 327, and the MOU was renewed on July 23, 2024, for a duration of 10 years; and under NEPA Assignment, the state, acting through the California State Transportation Agency and the Authority, assumed the FRA's responsibilities under NEPA and other federal environmental laws, including Section 106; and

WHEREAS, government-to-government consultation with federally recognized Native American tribes remains the FRA's responsibility under NEPA Assignment; and

WHEREAS, on April 18, 2013, the Surface Transportation Board (STB) issued a decision concluding that it has jurisdiction over the construction of the California High-Speed Rail Program, requiring the Authority

to obtain STB approval for the construction of each project section and subsequently designated FRA as lead agency to act on its behalf for the purposes of compliance with Section 106 for High-Speed Rail Program Undertakings; and on June 23, 2021, STB designated the Authority as lead federal agency for Section 106, and STB accepted the Authority's invitation to be an Invited Signatory to this memorandum of agreement (MOA); and

WHEREAS, on May 20, 2020, the U.S. Army Corps of Engineers (USACE), San Francisco, Sacramento, and Los Angeles Districts, sent a letter to the Authority reaffirming its understanding regarding the Authority's role as lead agency for compliance with Section 106, and that the Authority has the responsibility to act on USACE's behalf for its discretionary federal actions related to all high-speed rail project sections; and

WHEREAS, the Undertaking would be designed and built using a design-build procurement process, in which the current level of design is generally 15 percent complete, and which the Authority's design-build contractor (the Contractor) will advance to 100 percent, potentially resulting in adjustments to the project footprint; and

WHEREAS, the Authority has delineated the Area of Potential Effects (APE) for the Undertaking based on the current level of design in accordance with Stipulation VI.A of the PA to encompass the geographic areas within which the Undertaking may directly or indirectly cause alterations in the character or use of historic properties, as depicted in **Attachment 2**; and

WHEREAS, the Authority surveyed the APE for built-environment resources and, in consultation with the California State Historic Preservation Officer (SHPO) and other consulting parties, determined that the APE contains 27 built-environment historic properties listed in or considered eligible for listing in the National Register of Historic Places (NRHP) (**Attachment 3**); and

WHEREAS, the Authority proposes to phase the identification and evaluation of eight archaeological historic properties as provided for in Stipulation VI.E of the PA and 36 CFR Part 800.4(b)(2); and

WHEREAS, because of access restrictions and the predominance of paved or otherwise non-visible ground surfaces, the Authority has not yet surveyed any of the project footprint for archaeological resources and, in consultation with the SHPO and other consulting parties, determined that the APE contains nine previously identified archaeological historic properties (**Attachment 3**), one of which, P-19-001575, has been previously determined eligible, and eight others, P-19-000182, P-19-002121, P-19-002770, P-19-003073, P-19-003683, P-30-001712, P-30-001724, P-30-120020, are currently unevaluated and presumed NRHP-eligible under Criterion D for planning purposes; and

WHEREAS, the Advisory Council on Historic Preservation (ACHP) notified the Authority that the ACHP would not be participating in consultation regarding the Undertaking by email on April 4, 2025; and

WHEREAS, the Authority, in consultation with the SHPO, the Invited Signatory, and other Consulting Parties, determined that the Undertaking, as currently designed, may have an adverse effect on four built-environment historic properties (the First Street, Fourth Street, Seventh Street, and Olympic Boulevard Bridges), no adverse effect on 22 built-environment historic properties, and no effect on one built-environment historic property and one archaeological resource (P-19-001575), as documented in the Finding of Effect (FOE) reports for the Los Angeles to Anaheim Project Section, and as listed in **Attachment 3** of this MOA; and that the Authority will phase the evaluation and effects assessment for eight archaeological properties that have been identified in the APE; and

WHEREAS, the Authority will ensure the avoidance, minimization, or resolution of adverse effects of the Undertaking on historic properties through the execution and implementation of this MOA and the implementation of the Archaeological Treatment Plan (ATP) (**Attachment 4**) and the Built Environment Treatment Plan (BETP) (**Attachment 5**); and

WHEREAS, because the Contractor has not yet been selected, the Authority shall ensure that the terms of this MOA, ATP, and BETP are incorporated in their entirety in all contracts, licenses, or other approvals for this Undertaking, with the intent to bind the Contractors to compliance with this MOA, ATP, and BETP; and

WHEREAS, in accordance with Stipulations V.A and V.B of the PA, the Authority has consulted with agencies with jurisdiction over portions of the APE and other consulting parties with a demonstrated interest in the Undertaking, a legal or economic relation to an affected historic property, or concern with the Undertaking's effects on historic properties, as noted in **Attachment 6**, about the Undertaking and its effects on historic properties and has taken into account all comments received from them; and

WHEREAS, in accordance with Stipulations IV.A and IV.C of the PA, the FRA, with the support of and in coordination with the Authority, has formally consulted with or has made a good-faith effort to formally consult with the federally recognized Native American tribes, as identified in **Attachment 7**, that may attach religious and cultural significance to historic properties within the APE of the Undertaking; and

WHEREAS, no federally recognized tribes have chosen to participate in the consultation; and

WHEREAS, in accordance with Stipulations IV.B and IV.C of the PA, the Authority has consulted with or made a good-faith effort to consult with California Native American tribes that are on the Native American Heritage Commission's (NAHC) consultation list that are traditionally and culturally affiliated with the APE of the Undertaking (the California Native American tribes that have chosen to participate in the consultation are identified in **Attachment 7**); and

WHEREAS, the parties listed in **Attachments 6** and **7** have accepted the Authority's invitation to be Consulting Parties to the Undertaking (collectively referred to as Consulting Parties); and

WHEREAS, the Authority sought and considered the views of the public on this Undertaking through its public involvement program as part of the environmental review process and requirements of NEPA and CEQA, as described in the environmental impact report/environmental impact statement (EIR/EIS) for the Undertaking, which included distributing informational materials to the public, making presentations and soliciting comments at public meetings, and circulating the draft and final EIR/EIS and supporting technical reports for public review and comment; and

WHEREAS, the Authority and SHPO are collectively referred to as the Signatories and STB is referred to as the Invited Signatory; and

WHEREAS, the Consulting Parties have been invited to sign this MOA as concurring parties; and

NOW, THEREFORE, the Authority and SHPO (Signatories) agree the Undertaking will be implemented in accordance with the following stipulations in order to take into account the effects of the Undertaking on historic properties, and further agree that these stipulations shall govern the Undertaking and all its parts until this MOA expires or is terminated.

STIPULATIONS

The Authority, with the assistance of the Contractor, shall ensure that the following stipulations of this MOA are carried out.

I. OVERSIGHT AND COORDINATION

The Authority, as the lead federal agency, will be responsible for ensuring compliance with all stipulations of this MOA.

The Authority shall ensure that the terms of this MOA, including the ATP and BETP, are incorporated in their entirety in all contracts, licenses, or other approvals for this Undertaking and shall ensure the completion of all measures specified in this MOA, including in the ATP and BETP.

The Authority shall ensure that it carries out its responsibilities under the PA (as may be amended from time to time) and any subsequent programmatic agreements regarding compliance with Section 106, to the extent such responsibilities are applicable to the Undertaking and in effect.

As the Invited Signatory, STB will receive all documentation related to implementation of this MOA and treatment plans, be provided the opportunity to review and comment on such documentation, and will be part of the ongoing consultation process during implementation of this MOA. The Authority will consider any comments made by STB prior to finalizing all MOA-associated documentation.

II. MODIFICATIONS TO THE AREA OF POTENTIAL EFFECTS

In accordance with the PA, the APE was developed and agreed upon by the Authority and SHPO, and accounts for potential impacts on both archaeological and built-environment resources that may result from construction and operation of the Undertaking.

If modifications to the Undertaking, subsequent to the execution of this MOA, necessitate the revision of the APE, the Authority is responsible for informing the SHPO, the Invited Signatory, and other Consulting Parties within 15 days of identification of the needed changes in accordance with PA Stipulation VI. The Authority shall document the revised APE in an appropriate supplemental identification report (e.g., APE Modification Memo, addendum Archaeological Survey Report, addendum Historic Architecture Survey Report). The SHPO will have 30 days to review the modified APE. If the SHPO objects to the modified APE, the Authority will revise the APE based on SHPO comments and resubmit for review. The SHPO will have 30 days to review and comment on this revised APE.

III. COMPLETION OF HISTORIC PROPERTIES IDENTIFICATION EFFORT PRIOR TO CONSTRUCTION

The Authority will ensure that any additional historic property identification efforts are completed as outlined below and that documentation of the identification efforts is prepared in accordance with this MOA, including the ATP, BETP, and PA Stipulation VI. The Authority will submit documentation of these efforts to the SHPO, the Invited Signatory, and other interested Consulting Parties for a 30-day review period. Prior to finalizing any inventory and evaluation documentation, the Authority shall consider the comments regarding identification efforts that are received through this consultation process.

Completion of the historic properties identification effort will be consistent with Stipulations VI (Identification of Historic Properties) and IX (Changes in Ancillary Area/Construction Right-of-Way) of the PA, including archaeological survey of areas not previously accessible/surveyed prior to construction. The Authority shall provide the SHPO, the Invited Signatory, and other Consulting Parties with the information necessary to document that efforts to identify and evaluate historic properties in the Undertaking's APE are sufficient to comply with 36 CFR Part 800.4(b) and (c).

The Authority will ensure that addendum FOEs (aFOE) are prepared, in accordance with PA Stipulation VII, once supplemental historic property identification efforts are completed. The Authority will submit aFOEs to the Invited Signatory and other Consulting Parties with an interest in the historic property for a concurrent 30-day review period. The Authority shall take into consideration all comments regarding effects received within the review period prior to finalizing aFOEs for submission to the SHPO for review and concurrence. The SHPO shall have an additional 30 days to review final aFOE reports. If the SHPO makes no objection within the final 30-day review period, the findings for resources documented in the aFOE will become final. Should the SHPO have any objection, the Authority will follow Stipulation VIII.A, Dispute Resolution, in this MOA.

IV. TREATMENT OF HISTORIC PROPERTIES IDENTIFIED IN THE APE

This MOA outlines the Authority's commitments regarding the treatment of all historic properties, both currently known and yet to be identified, that may be affected by the Undertaking. As allowed under Stipulation VI.C of the PA, this MOA includes provisions for treatment plans that include use of a combined archaeological testing and data recovery program. Two detailed historic property treatment plans have been prepared for the Undertaking: the ATP and the BETP.

The ATP (**Attachment 4**) describes treatments for effects on archaeological historic properties and Native American traditional cultural properties. The BETP (**Attachment 5**) describes the treatments for effects on built-environment historic properties. The work described in the treatment plans will be conducted prior to construction, during construction, and after construction of the Undertaking. The treatments to historic properties known at the time of execution of this MOA are summarized in an impact/treatment table, organized by historic property, in **Attachment 3**. The treatment measures listed will be applied to historic properties within the APE in order to avoid, minimize, or mitigate effects of the Undertaking. The Authority shall implement and complete the treatment measures within 2 years of completion of construction of the Undertaking, or earlier if so specified. The Authority shall ensure that sufficient time and funding are provided to complete all necessary preconstruction commitments before disturbances related to the Undertaking occur.

A. Archaeological Treatment Plan

The ATP describes in detail the methods that will be employed to complete the historic properties identification effort within the Undertaking's APE as part of the phased identification of archaeological resources. More specifically, the ATP builds on the identification efforts completed to date and specifies where and under what circumstances further efforts to identify significant archaeological deposits will take place within the Undertaking's areas of physical impact.

The ATP also describes in detail the avoidance, minimization, and mitigation treatment measures for all currently known and yet-to-be-identified significant archaeological resources and Native American cultural resources affected by the Undertaking. Additional measures to avoid, minimize, or mitigate effects on archaeological historic properties may be developed in consultation with consulting parties as identification and evaluation efforts are performed in future planning and construction phases of the Undertaking. The Authority commits to implementing the terms of the ATP.

The SHPO, the Invited Signatory, and other Consulting Parties with an interest in archaeological resources and traditional cultural properties shall have the opportunity to review and comment on cultural resources documentation specified in the ATP in accordance with Stipulation VI of this MOA.

B. Built Environment Treatment Plan

The BETP provides detailed descriptions of treatment measures for built-environment historic properties within the APE that may be affected by the Undertaking. The treatments will be carried out by qualified professionals per Stipulation III of the PA. The treatment measures are included in the BETP and are intended to avoid, minimize, or mitigate adverse effects caused by the Undertaking. The Authority commits to implementing the terms of the BETP.

The Authority shall provide documentation produced under the BETP to the SHPO, the Invited Signatory, and Consulting Parties with an interest in historic properties included in the BETP for review and comment in accordance with Stipulation VI of this MOA.

C. Avoidance and Minimization Measures

The Authority has identified property-specific and programmatic-level impact avoidance and minimization features (IAMF) to ensure the Undertaking would result in no adverse effect on 22 built-environment historic properties and no effect on one built-environment historic property, as outlined in the BETP (**Attachment 5**).

a. The Authority will ensure that the IAMFs are incorporated into project design and construction contracts for the Undertaking.

b. In consultation with the SHPO, the Invited Signatory, and other Consulting Parties, the Authority will ensure that the IAMFs are implemented during the appropriate design and construction phases of the Undertaking.

c. The Authority may revise the IAMFs or develop additional IAMFs to ensure the Undertaking would result in no adverse effects in accordance with Stipulation VII.B below, should project design changes result in new potential effects on previously identified historic properties or on additional historic properties within revised APEs.

D. Conditions for the Treatment of Historic Bridges Requiring Intrusion Protection Barriers

Four historic bridges in the Undertaking APE—the First Street, Fourth Street, Seventh Street, and Olympic Boulevard Bridges—require intrusion protection barriers to be constructed on the bridge decks that may result in adversely affecting the built-environment historic properties. To ensure the barriers will be designed to minimize physical damage and visual effects on the bridges, the Authority shall convene a consulting party treatment oversight panel (TOP) with the consulting parties with demonstrable interest or jurisdiction over the bridges. The TOP will review and comment on the design of the barriers as it advances to ensure that compliance with the Secretary of the Interior's Standards for the Treatment of Historic Properties is achieved, to the extent feasible, as stipulated in the BETP and in Stipulation IV.D.1 and 2, below.

When a design-build contractor has been contracted to design the barriers, the Authority will require them to participate in an Authority presentation about the bridges, their historical significance and character-defining features, and the requirement to avoid, as much as feasible, adversely affecting the bridges by designing the required intrusion barriers to be context sensitive and following the Secretary of the Interior's Standards for the Treatment of Historic Properties. The Authority will also describe the required consultation and review process and the TOP participants' roles in the ongoing process to ensure the design-build contractor is fully aware of their contractual commitments to avoid or minimize adversely affecting the bridges to the extent feasible.

1. Continued Consultation

a. Invited Members of the TOP will include the Authority, SHPO, LA Conservancy, the Los Angeles Department of City Planning – Office of Historic Resources, and a representative from the Authority's contractor.

b. The Authority will establish an outreach schedule in consultation with the TOP that will be integrated in the future design and construction schedules. As intrusion protection barrier design advances, the Authority will seek the input of the TOP as project design reaches 30 percent, 60 percent, and 90 percent. The Authority shall afford the TOP members the opportunity to review and comment on project design documentation at approximately 30 percent, 60 percent, and 90 percent development levels, in accordance with Stipulation IV.D.2 below. The design-build contractor will not advance the design at each review stage

until the TOP has the opportunity to comment within the period of time specified in Stipulation IV.D.2 below and, if requested, meet to discuss the design.

The Los Angeles Department of City Planning – Office of Historic Resources may consult with the Los Angeles Bureau of Engineering on the proposed design during each review and comment period and incorporate any comments from the Los Angeles Bureau of Engineering in its responses to the proposed design.

c. The Authority shall consider comments received in developing final design for the barriers, in accordance with Stipulation IV.D.2, below.

d. If, through the design-review process, the Authority determines the Undertaking would still result in adverse effects on the four bridges, the Authority shall consult with the TOP to minimize or mitigate adverse effects. **Attachment 8** briefly describes potential mitigation measures should the bridges be adversely affected despite the TOP and design teams' efforts, and continued consultation is required. The TOP may further develop these measures or propose other measures.

e. Disputes arising from this consultation shall be resolved in accordance with Stipulation VII.A of this MOA.

2. Review Process

The Authority will submit design and planning documentation for the design and installation of the barriers, including 30, 60, and 90 percent design development documentation, to the TOP for review and comment as the documentation becomes available.

a. The Authority will notify the TOP members of the upcoming availability of design documentation at least 1 week before the documentation is made available for review.

b. The Authority will develop and provide TOP members additional visualization materials and documentation to inform the review of barrier designs.

c. For each design review period, the TOP members will have 30 calendar days from receipt of a printed or electronic copy of the materials to provide written comments to the Authority. If requested by a TOP member, the Authority will coordinate a virtual or in-person meeting during the review period to present and review the documentation.

d. If the TOP members do not comment within 30 calendar days, the documentation will be considered final. If any TOP member provides comments within the 30-calendar-day review period, the Authority will take the comments into consideration and may make revisions before finalizing the documentation. The Authority will consider an extension to the 30-calendar-day review period if requested by a TOP member.

e. If the Authority determines that the developing designs have the potential to avoid adversely affecting the bridges, the Authority will prepare an aFOE and continue consultation with the TOP, in accordance with the BETP, before design is advanced further. The Authority will transmit the aFOE to the TOP members for a 30-day review and comment period. The Authority shall ensure that comments are considered prior to finalizing the aFOE report for submission to the SHPO for review and concurrence. The SHPO shall have an additional 30 days to review the final aFOE report. If the SHPO makes no objection within the final 30-day review period, the findings for those resources would become final. If the SHPO objects, the Authority will follow the dispute resolution procedures identified in Stipulation VII.A of this MOA.

V. POST-REVIEW DISCOVERIES

If properties are discovered that may be historically significant or unanticipated effects on historic properties are found, the Authority shall follow the processes detailed in the ATP and BETP.

VI. PREPARATION AND REVIEW OF DOCUMENTS

A. Professional Qualifications

The Authority shall ensure that all cultural resources studies carried out pursuant to this MOA are performed by or under the direct supervision of personnel meeting the Secretary of the Interior's Professional Qualifications Standards (48 *Federal Register* 44738-39) in the disciplines of history, architectural history, historic architecture, or archaeology, as appropriate.

B. Confidentiality

The Signatories and Invited Signatory acknowledge that the handling of documentation regarding historic properties covered by this MOA is subject to the provisions of Section 304 of the National Historic Preservation Act of 1966 (54 U.S.C. § 307103), and Section 6254.10 of the California Government Code (Public Records Act).

C. Review

Unless otherwise specified, parties to this MOA will have 30 calendar days upon receipt to provide the Authority with comments on all technical materials, findings, and other documentation arising from this MOA. If no comments are received from a party within the 30-calendar-day review period, the Authority may assume that the nonresponsive party has no comment. The Authority shall take into consideration all comments received in writing within the 30-calendar-day review period and may make revisions before finalizing the documentation.

For documentation that is amended or revised, the Authority will prepare a comment and response summary or matrix and provide it to the SHPO, the Invited Signatory, and other Consulting Parties.

If a party to this MOA objects to documentation provided for review within 30 calendar days of the receipt of any submissions, the Authority shall resolve the objection in accordance with Stipulation VII.A, below.

D. Electronic Submittals

Unless otherwise requested, documentation produced under this MOA will be distributed electronically. Additionally, electronic mail may serve as an official method of communication regarding this MOA.

VII. ADMINISTRATIVE STIPULATIONS

A. Dispute Resolution

Should any Signatory, the Invited Signatory, or other Consulting Party to this MOA object at any time to any actions proposed or the manner in which the terms of this MOA are implemented, the Authority shall consult with such party to resolve the objection. If the Authority determines that such objection cannot be resolved, the Authority will:

1. Forward all documentation relevant to the dispute, including the Authority's proposed resolution, to ACHP. The Authority will also provide a copy to the SHPO, the Invited Signatory, and Consulting Parties with a demonstrated interest in the affected property or subject of the dispute. ACHP shall provide the Authority with its advice on the resolution of the objection within 30 calendar days of receiving adequate documentation. Prior to

reaching a final decision on the dispute, the Authority shall prepare a written response that takes into account any timely advice or comments regarding the dispute from the ACHP, the SHPO, the Invited Signatory, and interested Consulting Parties, and provide them with a copy of this written response. The Authority will then proceed according to its final decision.

2. If ACHP does not provide its advice regarding the dispute within the 30-calendar-day time period, the Authority may make a final decision on the dispute and proceed accordingly. Prior to reaching such a final decision, the Authority shall prepare a written response that takes into account any comments regarding the dispute from the SHPO, the Invited Signatory, and Consulting Parties with a demonstrated interest in the affected property or subject of the dispute and provide them and ACHP with a copy of such written response.
3. The Authority's responsibility to carry out all other actions subject to the terms of this MOA that are not the subject of the dispute remains unchanged.

B. Amendments and Revisions

The MOA may be amended by written request from either Signatory or the Invited Signatory. Consulting Parties shall be afforded 30 calendar days to review and comment on any proposed amendments to the MOA. The Signatories and Invited Signatory shall take into consideration all comments received prior to executing an amendment. The amendment will be effective when all Signatories and the Invited Signatory that signed the original agreement sign a copy of the amendment.

Notwithstanding the prior paragraph, to address changes in the Undertaking or the treatment of historic properties affected by the Undertaking, the Authority may revise the ATP, the BETP, or other attachments to this MOA in consultation with the SHPO, the Invited Signatory, and other Consulting Parties without executing a formal amendment to this MOA. The Authority shall provide proposed ATP or BETP revisions to the SHPO, the Invited Signatory, and other Consulting Parties with an interest in historic properties that may be affected by the proposed revisions for a 30-calendar-day review period. The Signatories shall take into consideration all timely comments received prior to agreeing to the revisions. Upon the written concurrence from the SHPO, revisions to the ATP, the BETP, or other attachments shall take effect and be considered a part of this MOA.

C. Termination

If any Signatory or the Invited Signatory determines that the terms of the MOA will not or cannot be carried out, that party shall immediately consult with the Signatories and Invited Signatory to attempt to resolve the issue under Stipulation VII.A, above, or to develop an amendment per Stipulation VII.B, above. If within 30 calendar days (or another time period agreed to by the Signatories and Invited Signatory) an amendment cannot be reached, either Signatory or the Invited Signatory may terminate this MOA upon written notification to the Signatories and the Invited Signatory. Termination hereunder shall render this MOA without further force or effect.

If this MOA is terminated, and the Authority determines that the Undertaking will proceed, the Authority must either execute a new MOA pursuant to 36 CFR Part 800.6 prior to proceeding further with the Undertaking or follow the procedures for termination of consultation pursuant to 36 CFR Part 800.7. The Authority shall notify the SHPO, the Invited Signatory, and Consulting Parties as to the course of action it will pursue.

D. Duration

If the Authority determines that construction of the Undertaking has not been completed within 10 years following execution of this MOA, the Signatories and Invited Signatory shall consult to reconsider its terms. Reconsideration may include continuation of the MOA as originally executed, amendment, or termination.

This MOA will be in effect through the Authority's implementation of the Undertaking and will terminate and have no further force or effect when the Authority, in consultation with the SHPO and Invited Signatory, determines that the terms of this MOA have been fulfilled in a satisfactory manner. The Authority shall provide the SHPO and Invited Signatory with written notice of its determination and of termination of this MOA.

E. Annual Reporting and Meetings

The Authority shall prepare an annual report documenting implementation of the actions taken under this MOA as stipulated in PA Section XVII.C.1. The annual report shall include specific lists of studies, reports, actions, evaluations, and consultation and outreach efforts related to implementation of this MOA. The Authority will provide the annual report to the SHPO, the Invited Signatory, and other Consulting Parties. If requested by the SHPO, the Invited Signatory, and other Consulting Parties, the Authority will coordinate a meeting or call to discuss the annual report.

VIII. EFFECTIVE DATE AND EXECUTION

This MOA may be executed in counterparts, with a separate page for each Signatory and the Invited Signatory, and will take effect on the latest date of execution by the Authority and SHPO. STB's signature is not required to execute this MOA or for its effectiveness. Separate concurrence pages may also be provided for each Concurring Party. The Authority shall ensure that the SHPO, the Invited Signatory, and each Concurring Party are provided with a copy of the fully executed MOA. The refusal of any Concurring Party to sign this MOA shall not invalidate this MOA or prevent this MOA from taking effect.

Execution of this MOA by the Authority and SHPO and implementation of its terms evidence that the Authority has taken into account the effects of this Undertaking on historic properties and afforded ACHP an opportunity to comment.

MEMORANDUM OF AGREEMENT
AMONG THE CALIFORNIA HIGH-SPEED RAIL AUTHORITY, THE SURFACE TRANSPORTATION BOARD, AND THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER
REGARDING THE LOS ANGELES TO ANAHEIM PROJECT SECTION OF THE CALIFORNIA HIGH-SPEED RAIL PROGRAM IN LOS ANGELES AND ORANGE COUNTIES, CALIFORNIA

SIGNATORIES:

CALIFORNIA HIGH-SPEED RAIL AUTHORITY

By: _____ Date: August -28-2026
Ian Choudri
Chief Executive Officer

CALIFORNIA STATE HISTORIC PRESERVATION OFFICER

By: _____ Date: 9/24/2026
Julianne Polanco
State Historic Preservation Officer

INVITED SIGNATORY:

SURFACE TRANSPORTATION BOARD

By: _____ Date: _____
Danielle Gosselin
Director, Office of Environmental Analysis

MEMORANDUM OF AGREEMENT
AMONG THE CALIFORNIA HIGH-SPEED RAIL AUTHORITY, THE SURFACE TRANSPORTATION BOARD, AND THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER
REGARDING THE LOS ANGELES TO ANAHEIM PROJECT SECTION OF THE CALIFORNIA HIGH-SPEED RAIL PROGRAM IN LOS ANGELES AND ORANGE COUNTIES, CALIFORNIA

CONCURRING PARTIES

LOS ANGELES CONSERVANCY

By: Adrian Scott Fine Date: 8/24/2026
Name Adrian Scott Fine
Title President & CEO

LOS ANGELES DEPARTMENT OF CITY PLANNING, OFFICE OF HISTORIC RESOURCES

By: _____ Date: _____
Name
Title

LOS ANGELES COUNTY DEPARTMENT OF REGIONAL PLANNING

By: _____ Date: _____
Name
Title

LOS ANGELES CITY HISTORICAL SOCIETY

By: _____ Date: _____
Name
Title

GABRIELEÑO BAND OF MISSION INDIANS – KIZH NATION

By: _____ Date: _____
Andrew Salas
Chairperson

GABRIELIÑO/TONGVA NATION

By: _____ Date: _____
Sandonne Goad
Chairperson

MEMORANDUM OF AGREEMENT
AMONG THE CALIFORNIA HIGH-SPEED RAIL AUTHORITY, THE SURFACE TRANSPORTATION BOARD, AND THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER
REGARDING THE LOS ANGELES TO ANAHEIM PROJECT SECTION OF THE CALIFORNIA HIGH-SPEED RAIL PROGRAM IN LOS ANGELES AND ORANGE COUNTIES, CALIFORNIA

CONCURRING PARTIES

LOS ANGELES CONSERVANCY

By: _____ Date: _____
Name
Title

LOS ANGELES DEPARTMENT OF CITY PLANNING, OFFICE OF HISTORIC RESOURCES

By: _____ Date: 8-19-26
Ken Bernstein, AICP
Principal City Planner, Office of Historic Resources and Urban Design Studio

LOS ANGELES COUNTY DEPARTMENT OF REGIONAL PLANNING

By: _____ Date: _____
Name
Title

LOS ANGELES CITY HISTORICAL SOCIETY

By: _____ Date: _____
Name
Title

GABRIELEÑO BAND OF MISSION INDIANS – KIZH NATION

By: _____ Date: _____
Andrew Salas
Chairperson

GABRIELIÑO/TONGVA NATION

By: _____ Date: _____
Sandonne Goad
Chairperson

MEMORANDUM OF AGREEMENT
AMONG THE CALIFORNIA HIGH-SPEED RAIL AUTHORITY, THE SURFACE TRANSPORTATION BOARD, AND THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER
REGARDING THE LOS ANGELES TO ANAHEIM PROJECT SECTION OF THE CALIFORNIA HIGH-SPEED RAIL PROGRAM IN LOS ANGELES AND ORANGE COUNTIES, CALIFORNIA

CONCURRING PARTIES

LOS ANGELES CONSERVANCY

By: _____ Date: _____
Name
Title

LOS ANGELES DEPARTMENT OF CITY PLANNING, OFFICE OF HISTORIC RESOURCES

By: _____ Date: _____
Name
Title

LOS ANGELES COUNTY DEPARTMENT OF REGIONAL PLANNING

By: _____ Date: _____
Name
Title

LOS ANGELES CITY HISTORICAL SOCIETY

By: _____ Date: _____
Name
Title

GABRIELEÑO BAND OF MISSION INDIANS – KIZH NATION

By: Andrew Salas Date: 8/25/2026
Andrew Salas
Chairperson

GABRIELIÑO/TONGVA NATION

By: _____ Date: _____
Sandonne Goad
Chairperson

MEMORANDUM OF AGREEMENT
AMONG THE CALIFORNIA HIGH-SPEED RAIL AUTHORITY, THE SURFACE TRANSPORTATION BOARD, AND THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER REGARDING THE LOS ANGELES TO ANAHEIM PROJECT SECTION OF THE CALIFORNIA HIGH-SPEED RAIL PROGRAM IN LOS ANGELES AND ORANGE COUNTIES, CALIFORNIA

CONCURRING PARTIES

LOS ANGELES CONSERVANCY

By: _____ Date: _____
Name
Title

LOS ANGELES DEPARTMENT OF CITY PLANNING, OFFICE OF HISTORIC RESOURCES

By: _____ Date: _____
Name
Title

LOS ANGELES COUNTY DEPARTMENT OF REGIONAL PLANNING

By: _____ Date: _____
Name
Title

LOS ANGELES CITY HISTORICAL SOCIETY

By: _____ Date: _____
Name
Title

GABRIELEÑO BAND OF MISSION INDIANS – KIZH NATION

By: _____ Date: _____
Andrew Salas
Chairperson

GABRIELIÑO/TONGVA NATION

By: Sandonne Goad S.D. Date: 8-20-24
Sandonne Goad
Chairperson

JUANEÑO BAND OF MISSION INDIANS ACJACHEMEN NATION – BELARDES

By: _____ Date: _____
Matias Belardes
Chairperson

JUANEÑO BAND OF MISSION INDIANS ACJACHEMEN NATION – 84A

By: _____ Date: _____
Nathan Banda
Chairperson

FULLERTON HERITAGE

By: _____ Date: _____
Name
Title

CITY OF FULLERTON COMMUNITY AND ECONOMIC DEVELOPMENT DEPARTMENT

By: _____ Date: 8/27/24
Sunayana Thomas
Director of Community and Economic Development

ATTACHMENT 1: PROGRAMMATIC AGREEMENT AND FIRST AND SECOND AMENDMENTS TO THE PROGRAMMATIC AGREEMENT FOR CALIFORNIA HIGH-SPEED RAIL

ATTACHMENT 2: AREA OF POTENTIAL EFFECTS

ATTACHMENT 3: HISTORIC PROPERTIES WITHIN THE AREA OF POTENTIAL EFFECTS AS LISTED IN THE FINDING OF EFFECT REPORTS

Built Historic Properties within the Los Angeles to Anaheim Project Section Area of Potential Effects

Map ID No.	Resource Name and Address	City, County	Effect Findings	Treatment Measures
8	1st St Bridge, over Los Angeles River No address	Los Angeles, Los Angeles	**Adverse Effect**	CUL-IAMF#1—Geospatial Data Layer and Archaeological Sensitivity Map CUL-IAMF#2—Worker Environmental Awareness Program Training Session CUL-IAMF#6—Preconstruction Conditions Assessment, Plan for Protection of Historic Built Resources, and Repair of Inadvertent Damage CUL-IAMF#7—Built Environment Monitoring Plan CUL-IAMF#8—Implement Protection or Stabilization Measures **CUL-MM#12—Design of Intrusion Protection Railing for Historic Bridges**
18	Los Angeles River No address	Los Angeles, Los Angeles	No Adverse Effect	CUL-IAMF#1—Geospatial Data Layer and Archaeological Sensitivity Map CUL-IAMF#2—Worker Environmental Awareness Program Training Session
16	4th St Bridge, over Los Angeles River No address	Los Angeles, Los Angeles	**Adverse Effect**	CUL-IAMF#1—Geospatial Data Layer and Archaeological Sensitivity Map CUL-IAMF#2—Worker Environmental Awareness Program Training Session CUL-IAM #6—Preconstruction Conditions Assessment, Plan for Protection of Historic Built Resources, and Repair of Inadvertent Damage CUL-IAMF#7—Built Environment Monitoring Plan CUL-IAMF#8—Implement Protection or Stabilization Measures **CUL-MM#12—Design of Intrusion Protection Railing for Historic Bridges**
87	7th St Bridge, over Los Angeles River No address	Los Angeles, Los Angeles	**Adverse Effect**	CUL-IAMF#1—Geospatial Data Layer and Archaeological Sensitivity Map CUL-IAMF#2—Worker Environmental Awareness Program Training Session CUL-IAMF#6—Preconstruction Conditions Assessment, Plan for Protection of Historic Built Resources, and Repair of Inadvertent Damage CUL-IAMF#7—Built Environment Monitoring Plan CUL-IAMF#8—Implement Protection or Stabilization Measures **CUL-MM#12—Design of Intrusion Protection Railing for Historic Bridges**
162	Olympic Blvd (9th St) Bridge, over Los Angeles River No address	Los Angeles, Los Angeles	**Adverse Effect**	CUL-IAMF#1—Geospatial Data Layer and Archaeological Sensitivity Map CUL-IAMF#2—Worker Environmental Awareness Program Training Session CUL-IAMF#6—Preconstruction Conditions Assessment, Plan for Protection of Historic Built Resources, and Repair of Inadvertent Damage CUL-IAMF#7—Built Environment Monitoring Plan CUL-IAMF#8—Implement Protection or Stabilization Measures **CUL-MM#12—Design of Intrusion Protection Railing for Historic Bridges**

Map ID No.	Resource Name and Address	City, County	Effect Findings	Treatment Measures
3967	Southern California Gas Company Complex No address	Los Angeles, Los Angeles	No Adverse Effect	CUL-IAMF#1—Geospatial Data Layer and Archaeological Sensitivity Map CUL-IAMF#2—Worker Environmental Awareness Program Training Session
3968	Southern California Gas Company Administration Building, 1700 S Santa Fe Ave	Los Angeles, Los Angeles	No Adverse Effect	CUL-IAMF#1—Geospatial Data Layer and Archaeological Sensitivity Map CUL-IAMF#2—Worker Environmental Awareness Program Training Session
187	Washington Blvd Bridge, over Los Angeles River	Los Angeles, Los Angeles	No Adverse Effect	CUL-IAMF#1—Geospatial Data Layer and Archaeological Sensitivity Map CUL-IAMF#2—Worker Environmental Awareness Program Training Session
157	AT&SF Steam Locomotive No. 3751 2435 E Washington Blvd	Los Angeles, Los Angeles	No Effect	CUL-IAMF#1—Geospatial Data Layer and Archaeological Sensitivity Map CUL-IAMF#2—Worker Environmental Awareness Program Training Session
153	AT&SF Railway Redondo Junction Yard (Historic District) 2435 E Washington Blvd	Los Angeles, Los Angeles	No Adverse Effect	CUL-IAMF#1—Geospatial Data Layer and Archaeological Sensitivity Map CUL-IAMF#2—Worker Environmental Awareness Program Training Session
635	Shrimpton Manufacturing and Supply Company 2700 S Eastern Ave	Commerce, Los Angeles	No Adverse Effect	CUL-IAMF#1—Geospatial Data Layer and Archaeological Sensitivity Map CUL-IAMF#2—Worker Environmental Awareness Program Training Session
643	Western Waxed Paper Company, 2620 Commerce Way	Commerce Los Angeles	No Adverse Effect	CUL-IAMF#1—Geospatial Data Layer and Archaeological Sensitivity Map CUL-IAMF#2—Worker Environmental Awareness Program Training Session
3208	Rio Hondo No address	Los Angeles, Los Angeles	No Adverse Effect	CUL-IAMF#1—Geospatial Data Layer and Archaeological Sensitivity Map CUL-IAMF#2—Worker Environmental Awareness Program Training Session
829	Boulder Dam–Los Angeles 287.5-kV Transmission Line, eastern shoulder of the Rio Hondo through the APE No address	Pico Rivera, Los Angeles	No Adverse Effect	CUL-IAMF#1—Geospatial Data Layer and Archaeological Sensitivity Map CUL-IAMF#2—Worker Environmental Awareness Program Training Session
2226	Val-Vita Headquarters 1747 W Commonwealth Ave	Fullerton, Orange	No Adverse Effect	CUL-IAMF#1—Geospatial Data Layer and Archaeological Sensitivity Map CUL-IAMF#2—Worker Environmental Awareness Program Training Session CUL-IAMF#6—Preconstruction Conditions Assessment, Plan for Protection of Historic Built Resources, and Repair of Inadvertent Damage CUL-IAMF#7—Built Environment Monitoring Plan CUL-IAMF#8—Implement Protection or Stabilization Measures

Map ID No.	Resource Name and Address	City, County	Effect Findings	Treatment Measures
2227	Hunt Foods and Industries Office and Library, 1645 W Valencia Dr and 201 S Basque Ave	Fullerton, Orange	No Adverse Effect	CUL-IAMF#1—Geospatial Data Layer and Archaeological Sensitivity Map CUL-IAMF#2—Worker Environmental Awareness Program Training Session
4062	St. Mary's Catholic Church, 336 W Commonwealth Ave	Fullerton, Orange	No Adverse Effect	CUL-IAMF#1—Geospatial Data Layer and Archaeological Sensitivity Map CUL-IAMF#2—Worker Environmental Awareness Program Training Session
4053	Amerige Brothers' Reality Office, 340 W Commonwealth Ave	Fullerton, Orange	No Adverse Effect	CUL-IAMF#1—Geospatial Data Layer and Archaeological Sensitivity Map CUL-IAMF#2—Worker Environmental Awareness Program Training Session
4144	Elephant Packing House, 201 W Truslow Ave	Fullerton, Orange	No Adverse Effect	CUL-IAMF#1—Geospatial Data Layer and Archaeological Sensitivity Map CUL-IAMF#2—Worker Environmental Awareness Program Training Session CUL-IAMF#6—Preconstruction Conditions Assessment, Plan for Protection of Historic Built Resources, and Repair of Inadvertent Damage CUL-IAMF#7—Built Environment Monitoring Plan CUL-IAMF#8—Implement Protection or Stabilization Measures
2467	Fullerton Ice Company, 112 E Walnut Ave	Fullerton, Orange	No Adverse Effect	CUL-IAMF#1—Geospatial Data Layer and Archaeological Sensitivity Map CUL-IAMF#2—Worker Environmental Awareness Program Training Session CUL-IAMF#6—Preconstruction Conditions Assessment, Plan for Protection of Historic Built Resources, and Repair of Inadvertent Damage CUL-IAMF#7—Built Environment Monitoring Plan CUL-IAMF#8—Implement Protection or Stabilization Measures
2463	Fullerton Union Pacific Depot, 100 (110) E Santa Fe Ave (former 105 W Truslow Ave)	Fullerton, Orange	No Adverse Effect	CUL-IAMF#1—Geospatial Data Layer and Archaeological Sensitivity Map CUL-IAMF#2—Worker Environmental Awareness Program Training Session CUL-IAMF#6—Preconstruction Conditions Assessment, Plan for Protection of Historic Built Resources, and Repair of Inadvertent Damage CUL-IAMF#7—Built Environment Monitoring Plan CUL-IAM #8—Implement Protection or Stabilization Measures
2466	Fullerton Odd Fellows Temple, 112–114 E Commonwealth Ave	Fullerton, Orange	No Adverse Effect	CUL-IAM #1—Geospatial Data Layer and Archaeological Sensitivity Map CUL-IAMF#2—Worker Environmental Awareness Program Training Session
2478	Pacific Electric Railway Depot, 128 (136) E Commonwealth Ave	Fullerton, Orange	No Adverse Effect	CUL-IAMF#1—Geospatial Data Layer and Archaeological Sensitivity Map CUL-IAMF#2—Worker Environmental Awareness Program Training Session

Map ID No.	Resource Name and Address	City, County	Effect Findings	Treatment Measures
2486	Santa Fe Railway Passenger and Freight Depot, 140 E Santa Fe Ave	Fullerton, Orange	No Adverse Effect	CUL-IAMF#1—Geospatial Data Layer and Archaeological Sensitivity Map CUL-IAMF#2—Worker Environmental Awareness Program Training Session CUL-IAMF#6—Preconstruction Conditions Assessment, Plan for Protection of Historic Built Resources, and Repair of Inadvertent Damage CUL-IAMF#7—Built Environment Monitoring Plan CUL-IAMF#8—Implement Protection or Stabilization Measures
2487	Fullerton Post Office, 202 E Commonwealth Ave	Fullerton, Orange	No Adverse Effect	CUL-IAMF#1—Geospatial Data Layer and Archaeological Sensitivity Map CUL-IAMF#2—Worker Environmental Awareness Program Training Session
2851	Anaheim Union Pacific Railroad Depot (Anaheim Union Station), 100 S Atchison St	Anaheim Orange	No Adverse Effect	CUL-IAMF#1—Geospatial Data Layer and Archaeological Sensitivity Map CUL-IAMF#2—Worker Environmental Awareness Program Training Session CUL-IAMF#6—Preconstruction Conditions Assessment, Plan for Protection of Historic Built Resources, and Repair of Inadvertent Damage CUL-IAMF#7—Built Environment Monitoring Plan CUL-IAMF#8—Implement Protection or Stabilization Measures
2782	Kroeger-Melrose Historic District, Olive, Kroeger, Melrose, Broadway, and Philadelphia Streets Multiple addresses	Anaheim Orange	No Adverse Effect	CUL-IAMF#1—Geospatial Data Layer and Archaeological Sensitivity Map CUL-IAMF#2—Worker Environmental Awareness Program Training Session

APE = Area of Potential Effects; AT&SF = Atchison, Topeka and Santa Fe; kV = kilovolt

Archaeological Historic Properties within the Los Angeles to Anaheim Project Section Area of Potential Effects

Property Number	Type	Attributes	Effects Finding	Treatment Measures
P-19-001575	Precontact/Historic Site	Native American Cemetery, Habitation, Historic Chinatown	No effect	Not applicable
P-19-000182	Precontact Site	Village of *Sejat* (multiple plotted locations)	Phased	Applies to all 8 archaeological historic properties: • Inventory (Addenda ASRs) • Evaluation (AEPs/AERs) • Data Recovery (Archaeological Data Recovery Reports) • Archaeological Monitoring Plan • Avoidance/Protection Measures/Best Management Practices • Cultural Resources Awareness Training • Archaeological/Native American Monitoring • Observation of Protocols for Unanticipated Discoveries Additional measures to avoid, minimize, or mitigate effects on archaeological historic properties may be developed in consultation with signatories and consulting parties as identification and evaluation efforts are performed in future planning and construction phases of the Undertaking.
P-19-002121	Precontact/Historic Site	Historic refuse deposit; precontact two pieces of debitage	Phased	
P-19-002770	Historic Site	Historic refuse deposit	Phased	
P-19-003073	Historic Site	Hobart Tower structure destroyed in 2019	Phased	
P-19-003683	Historic Site	Historic refuse deposit dating between 1880 and 1930s	Phased	
P-30-001712	Historic Site	Historic refuse deposit	Phased	
P-30-001724	Precontact/Historic Site	Historic refuse deposit, precontact debitage	Phased	
P-30-120020	Historic Site	Historic privies and refuse deposits	Phased	

AEP = Archaeological Evaluation Plan; AER = Archaeological Evaluation Report; ASR = Archaeological Survey Report

ATTACHMENT 4: ARCHAEOLOGICAL TREATMENT PLAN

ATTACHMENT 5: BUILT ENVIRONMENT TREATMENT PLAN

ATTACHMENT 6: AGENCIES AND OTHER INTERESTED PARTIES CONSULTED

State Historic Preservation Officer

Surface Transportation Board

Los Angeles Department Of City Planning, Office Of Historic Resources

Los Angeles County Department Of Regional Planning

Los Angeles Conservancy

Los Angeles City Historical Society

Fullerton Heritage

City Of Fullerton Planning And Landmarks Division

City Of Fullerton Community Development Department

Consulting Parties that have been invited but have chosen not to participate in the development of the MOA

Advisory Council on Historic Preservation

ATTACHMENT 7: NATIVE AMERICAN TRIBAL GOVERNMENTS CONSULTED

Gabrieleño Band of Mission Indians – Kizh Nation

Gabrielino/Tongva Nation

Juaneño Band of Mission Indians Acjachemen Nation – Belardes

Juaneño Band of Mission Indians Acjachemen Nation – 84A

ATTACHMENT 8: POTENTIAL MEASURES TO MITIGATE ADVERSE EFFECTS ON HISTORIC BRIDGES

The four subject bridges have been documented and recorded in the past.

On January 30, 2008, the Los Angeles City Council approved the designation of several Los Angeles River bridges as Historic-Cultural Monuments (HCM). The designation includes the four bridges within the APE: the First Street Bridge (HCM #909), Fourth Street Bridge (HCM #906), Seventh Street Bridge (HCM #904), and Olympic Boulevard Bridge (HCM #302). All four were determined eligible for the NRHP in 1986 and are therefore listed on the California Register of Historical Resources.[1] As part of the California Department of Transportation's program to update the state's historic bridge survey, a report titled *City of Los Angeles Monumental Bridges, 1900–1950, Historic Context and Evaluation Guidelines* was completed in 2004. Attached to the report is Appendix B, Maps and Photographs of Bridges that Appear Eligible as City of Los Angeles Monumental Bridges.

Potential Mitigation Measures

- Electronic Recordation and Interpretation:
  - Prior to commencement of installation of intrusion barriers on the four bridges, the Authority will retain the services of a team of professionals to document the extant Los Angeles River bridges listed in the California Department of Transportation's 2004 report as eligible for City of Los Angeles Monumental Bridges that are concentrated between Arroyo Seco Parkway and Washington Boulevard in downtown Los Angeles. The team will include a professional surveyor with appropriate experience to measure and record each bridge using a light detecting and ranging system (LiDAR) or another similar remote sensing technology, and a photographer with demonstrable experience in following the photographic specifications of the Secretary of the Interior's Standards and Guidelines for Architectural and Engineering Documentation and the National Park Service's Heritage Document Program's Historic American Building Survey (HABS) Level 1.[2] The team would also include a professionally qualified architectural historian to work with the photographer to identify the character-defining features and elevations to be photographed to ensure that the bridges' significant features are adequately explicated.
  - The Authority will develop an interpretive website to document the history of the bridges using and expanding upon the historic contexts included in the California Department of Transportation's 2004 report. The website would include an interactive multimedia presentation prepared using ESRI's ArcGIS StoryMap software to compile the LiDAR documentation, the large-format photographs, and historic photographs, drawings, articles, and ephemera to tell the history of bridging the Los Angeles River. Examples of StoryMaps can be found at https://www.esri.com/en-us/arcgis/products/arcgis-storymaps/stories. The StoryMap will be available on the Authority website and other websites as requested, such as LA Conservancy or City of Los Angeles Planning Department. The website will be developed for smartphones and tablets so interested parties can access the website while visiting the bridges.
- Prepare an NRHP Nomination for Los Angeles River Bridges:
  - The Authority will determine, in consultation with the members of the TOP, if this concentration of bridges has the potential to be a historic district or if it would be better recorded using a

[1] California Department of Transportation. 1986. National Register Determination of Eligibility: Historic Bridges in California: Concrete Arch, Concrete Girder, Concrete Slab, Canticrete, Stone Masonry, Suspension, Steel Girder and Steel Arch (Thematic). https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/historic-non-truss-bridges-1986-a11y.pdf (accessed April 2025).

[2] Secretary of the Interior's Standards and Guidelines for Architectural and Engineering Documentation. U.S. Department of the Interior. National Park Service. Heritage Document Program. HABS Guidelines | HABS/HAER/HALS (nps.gov)

multiple-property documentation form. The Authority will prepare an NRHP nomination for the concentration of Los Angeles River bridges described above.

  - To the extent possible, the Authority will use prior documentation and studies to inform the nomination. Where needed, the Authority will expand on the prior studies and recordations and update the current status and condition of each of the subject bridges.

- Prepare a Maintenance and Repair Manual for the Bridges:
  - Identify and document character-defining features of each bridge. Working with bridge engineers, develop a manual of repair, restoration, and maintenance activities that are generally needed to ensure the continued use and safety of the subject bridges. Such a manual will identify activities that would not have the potential to adversely affect the structures as opposed to what kind of activities need to be undertaken in a manner to ensure the significant features of each bridge are not compromised. This measure is based on the FRA's program comment to exempt from Section 106 review certain activities that have the potential to affect historic properties within railroad rights-of-way where those effects are likely to be minimal or not adverse.
  - Such a manual would provide a process to ensure protection of the bridges while allowing for expedited work, such as graffiti removal or deck repair, to be undertaken in an already-prescribed acceptable manner. The manual would also include a process outlining how larger, potentially damaging tasks can be efficiently programed.
- Prepare Educational Materials:
  - In consultation with the TOP, determine a target age/grade for which to develop a curriculum or educational unit. Topics could include basic bridge design—different types of bridges and how they are supported; architectural styles applied to the bridges and how those styles reflect their period of construction; the history of bridging and channeling the Los Angeles River; or other topics developed by the TOP.
  - A bridge design unit could include interactive demonstrations or basic physics experiments on how bridge design works.
  - Identification of architectural features could be expanded to having the students identify local buildings that express similar decorative features that will help to identify the era in which the buildings were designed and built.
  - Channeling and bridging the Los Angeles River could include the history of water in the Los Angeles area and the rapid twentieth century urbanization of the region that led to the channelization and bridging of it.

APPENDIX D: SECTION 4(F) CONCURRENCE LETTERS

DRAFT

State of California • Natural Resources Agency
Gavin Newsom, *Governor*

DEPARTMENT OF PARKS AND RECREATION
OFFICE OF HISTORIC PRESERVATION
Armando Quintero, *Director*

Julianne Polanco, State Historic Preservation Officer
1725 23rd Street, Suite 100, Sacramento, CA 95816-7100
Telephone: (916) 445-7000 FAX: (916) 445-7053
calshpo.ohp@parks.ca.gov www.ohp.parks.ca.gov

September 28, 2026 Reply in Reference To: FRA100524D

Submitted Via Electronic Mail

Amy T. MacKinnon
Cultural Resources Specialist
California High Speed Rail Authority
770 L Street
Sacramento, CA 95814

Re: Correction, High-Speed Rail Program, Los Angeles to Anaheim Project Section, Notification of Intent to make a *de minimis* Impact Determination under Section 4(f)

Dear Ms. Mackinnon:

The California High-Speed Rail Authority (Authority) is continuing consultation with the State Historic Preservation Officer (SHPO) and other consulting parties regarding the Los Angeles to Anaheim Project Section of the California High-Speed Rail (HSR) Program. The purpose of this letter is to correct some of the Section 4(f) impact determinations that were provided to SHPO on August 19, 2025. Section 4(f) of the Department of Transportation Act of 1966 requires consultation with the SHPO, the official with jurisdiction (OWJ) over historic sites, as stipulated in 23 CFR § 774.17.

On August 19, 2025, the Authority sent a letter to SHPO notifying our office of the intent to make a *de minimis* impact determination under Section 4(f). Since this time, It has come to the attention of the Authority that this letter incorrectly identified the Section 4(f) impact determinations for multiple resources. The letter indicated there would be a *de minimis* impact determination for twenty three historic properties. One of these properties, Rio Hondo, was correctly determined to have a *de minimis* impact and no change to this finding is proposed. All other historic sites are now proposed to have “no use” determinations. Of these, the Hunt Foods & Industries Office and Library is now determined to have a temporary occupancy exception for utility relocation and tree trimming work. Under 23 CFR § 774.13(d) this work constitutes no Section 4(f) use (i.e., the occupancy of this historic site is short in duration, small in scale, will have no lasting harm, and will be restored to its prior condition). The Authority is consequently notifying the SHPO, as OWJ, of the Authority’s intent to make the following impact determinations for the Section 4(f) historic sites that will not be adversely affected:

- Los Angeles River, Section 4(f) Impact Determination: No Use
- Southern California Gas Company Complex, Section 4(f) Impact Determination: No Use
- Southern California Gas Company Administration Building, Section 4(f) Impact Determination: No Use
- Washington Blvd Bridge, Section 4(f) Impact Determination: No Use
- AT&SF Railway Steam Locomotive No. 3751, Section 4(f) Impact Determination: No Use
- AT&SF Railway Redondo Junction Yard (Historic District), Section 4(f) Impact Determination: No Use
- St. Mary's Catholic Church, Section 4(f) Impact Determination: No Use
- Amerige Brothers' Real Estate Office, Section 4(f) Impact Determination: No Use
- Elephant Packing House, Section 4(f) Impact Determination: No Use
- Fullerton Ice Company, Section 4(f) Impact Determination: No Use
- Fullerton Union Pacific Depot, Section 4(f) Impact Determination: No Use
- Fullerton Odd Fellows Temple, Section 4(f) Impact Determination: No Use
- Pacific Electric Railway Depot, Section 4(f) Impact Determination: No Use
- Fullerton Post Office, Section 4(f) Impact Determination: No Use
- Santa Fe Railway Passenger and Freight Depot, Section 4(f) Impact Determination: No Use
- Shrimpton Manufacturing and Supply Company, Section 4(f) Impact Determination: No Use
- Western Waxed Paper Company, Section 4(f) Impact Determination: No Use
- Rio Hondo, Section 4(f) Impact Determination: de minimis
- Boulder Dam to Los Angeles 287.5-Kilovolt Transmission Line, Section 4(f) Impact Determination: No Use

- Val-Vita Food Processing Company Headquarters, Section 4(f) Impact Determination: No Use
- Hunt Foods & Industries Office and Library, Section 4(f) Impact Determination: Temporary occupancy exception, No Use
- Anaheim Union Pacific Railroad Depot, Section 4(f) Impact Determination: No Use
- Kroeger-Melrose Historic District, Section 4(f) Impact Determination: No Use

In addition to the above-listed properties, nine archaeological properties were assumed to be eligible for listing on the National Register of Historic Places (NRHP) under Criteria D only; therefore, these properties would not be considered for protection under Section 4(f) as historic sites because their importance is chiefly of what can be learned through data recovery and they have minimal value for preservation in place. These properties are as follows:

- Ca-LAN-1575/H, Historic Chinatown; precontact Native American human remains and artifacts
- CA-LAN-2121/H, Historic refuse deposit; precontact two pieces of debitage
- CA-LAN-3073, Hobart Tower Structure destroyed in 2019
- CA-LAN-3683, Historic refuse deposit dating between 1880 and 1930s
- CA-LAN-1712, Historic refuse deposit
- CA-ORA-1724/H, Historic refuse deposit, precontact debitage
- CA-LAN-182, Village of Sejat (multiple plotted locations)
- CA-LAN-2770, Historic refuse deposit
- 30-120020, Historic privies and refuse deposits

The Authority is not proposing any changes to the above determinations and seeks only to clarify that the concurrence letter received from SHPO on October 8, 2025, incorrectly identified these resources as Section 4(f) historic sites with a *de minimis* impact determination. The Authority is requesting SHPO concurrence that the above resources would not be considered for protection under Section 4(f) as historic sites as their eligibility is under Criterion D only; therefore, a Section 4(f) impact determination is not applicable for these resources.

Having reviewed your submittal, SHPO does not object to the Authority's above-listed corrections under Section 4(f) for built environment properties and archaeological properties.

If you have any questions or comments, please contact staff historian Tristan Tozer at (916) 894-5499 or Tristan.Tozer@parks.ca.gov.

Sincerely,

Julianne Polanco
State Historic Preservation Officer

CALIFORNIA
High-Speed Rail Authority

June 11, 2026

Mina Mikhael
Director of Public Works/City Engineer
City of Buena Park
6650 Beach Boulevard
Buena Park, CA 90621

Subject: Request for a Concurrence with Section 4(f) Temporary Occupancy Exception: Brea Creek Bastanchury Corridor (Planned)

Dear Ms. Mikhael,

The California High-Speed Rail Authority (Authority) is currently preparing an Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the Los Angeles to Anaheim Project Section of the California High-Speed Rail (HSR). The purpose of this letter is to request your concurrence with the Authority's determination that the temporary closure and temporary construction easements on the planned Brea Creek Bastanchury Corridor during construction of the Los Angeles to Anaheim Project Section would not constitute a "use" of this bike path, as defined by Section 4(f) of the United States Department of Transportation Act, and would meet the temporary occupancy exception requirements under Title 23, Section 774.13(d) of the Code of Federal Regulations (CFR).

Under Section 4(f) (49 U.S.C. 303), an operating agency of the United States Department of Transportation may not approve a project that uses protected properties unless there are no prudent or feasible alternatives to such use and the project includes all possible planning to minimize harm to such properties. Section 4(f) properties are publicly owned lands of a park, recreation area, wildlife and waterfowl refuge, or land of a historical site of national, state, or local significance and listed on or determined to be eligible for the National Register of Historic Places, as determined by the federal, state, regional, or local officials having jurisdiction over the resource.

A permanent use of a Section 4(f) property occurs when property is permanently incorporated into a proposed transportation facility. This might occur as a result of partial or full acquisition, permanent easements, or temporary easements that exceed limits for temporary occupancy.

A temporary occupancy of a Section 4(f) resource occurs when there is a temporary occupancy of property that is considered adverse in terms of the preservationist purposes of the Section 4(f) statute. However, a temporary occupancy of property does not constitute a use of a Section 4(f) resource when the following conditions are satisfied:

- The occupancy must be of temporary duration (e.g., shorter than the period of construction) and must not involve a change in ownership of the property.
- The scope of work must be minor, with only minimal changes to the protected resource.

- There must be no permanent adverse physical impacts on the protected resource or interference with activities or purpose of the resource.
- The property being used must be fully restored to a condition that is at least as good as that which existed before project construction.
- There must be documented agreement of the appropriate officials having jurisdiction over the resource regarding the foregoing requirements.

For parks, recreation areas, and wildlife and waterfowl refuges, a *de minimis* impact determination may be made for permanent impacts if the Authority concludes the transportation project will not adversely affect the activities, features, and attributes that qualify the property for protection under Section 4(f) after mitigation. In addition, to make a *de minimis* impact determination, there must be:

- Public notice and opportunity for public review and comment. (For this project, the public notice and public review would be concurrent with the Draft EIR/EIS comment period, which started on December 5, 2025, and ended on February 3, 2026.)[1]
- Concurrence on the effect finding is received from the official(s) with jurisdiction over the property.

Brea Creek Bastanchury Corridor (Planned)

The Brea Creek Bastanchury Corridor is a planned 12.5-mile Class I bicycle path with small portions of Class II and Class III bicycle lanes. The bike path would travel along Brea Creek from east to west and would run south along Dale Street, west along Artesia Boulevard, and north along Stanton Avenue to rejoin Brea Creek (see Attachment A, Impacts to Brea Creek Bastanchury Corridor [Planned]). This resource is owned and operated by the Orange County Department of Public Works (along Brea Creek) and owned and operated by the City of Buena Park (along Dale Street, Artesia Boulevard, and Stanton Avenue). The planned Brea Creek Bastanchury Corridor has been formally designated in the Coyote Creek Bikeway Master Plan connecting to multi-use trails that include fitness stations and interpretive signage. The Brea Creek Bastanchury Corridor is used for recreational activities, such as bicycling, walking, running, and skateboarding uses.

The Draft EIR/EIS evaluates potential impacts that would occur due to construction and operation of Shared Passenger Track Alternatives A and B, as well as potential impacts associated with the option for an intermediate HSR station at either Norwalk/Santa Fe Springs or Fullerton. No land from the planned Brea Creek Bastanchury Corridor would be permanently incorporated into the project footprint under Shared Passenger Track Alternatives A and B, the Norwalk/Santa Fe Springs HSR Station Option, or the Fullerton HSR Station Option. Therefore, no permanent use would result. Project impacts are shown in Attachment A. The Shared Passenger Track Alternatives A and B would require a temporary construction easement (TCE) of 810 feet out of 12.5 miles (or approximately 1.2 percent) of land on the bicycle path. Of the 810 feet, approximately 650 feet would be within the City of Buena Park's jurisdiction along Dale Street, as shown in the inset map on Attachment A.

After project implementation, HSR trains would cross the trail above grade at Dale Street. If the planned Brea Creek Bastanchury Corridor is completed before construction begins, the Authority has determined that the impacts of Shared Passenger Track Alternatives A and B on the Brea Creek Bastanchury Corridor

[1] The Notice of Completion/Notice of Availability for the Draft EIR/EIS was published on December 5, 2025. The Section 4(f) Evaluation was made publicly available for public comments from December 5, 2025, to February 3, 2026. Refer to https://hsr.ca.gov/programs/environmental-planning/project-section-environmental-documents-tier-2/los-angeles-to-anaheim-project-section-environmental-documents/.

would meet the following five conditions under 23 CFR Section 774.13(d), and the temporary occupancy would, therefore, not constitute a use under Section 4(f):

1. *Duration of occupancy must be temporary (i.e., less than the time needed for construction of the project).*

   The land use would be of short duration (defined as less than the time needed for the construction of the project). The duration of construction in the temporary construction easement area would be a maximum of 36 months, which would be less than the total time needed to build the entire project (approximately 10 years or more). There would be no change in ownership or operation of the trail as a result of the project. Therefore, the duration of the occupancy would be temporary.

2. *Scope of the work must be minor (i.e., both the nature and magnitude of the changes to the 4(f) resource must be minimal).*

   The scope of the work would be minor (810 feet/1.2 percent of the resource). Of the 810 feet, approximately 650 feet would be within the City of Buena Park's jurisdiction along Dale Street. The existing railroad bridge over Dale Street would be widened, and Dale Street would be lowered to provide the required clearance. Work would occur above the resource to meet the clearance requirements of the widened rail bridge; however, construction and installation of steel plate girders and decking may require temporary utilization of construction equipment on the bike path. Construction activities would consist of shifting the existing low point along Dale Street where the road proceeds under the railroad bridge approximately 150 feet to the north to provide the required vertical clearances for the new, widened railroad bridge. This, in turn, would lower the roadway profile north of the railroad bridge approximately 2 feet to 3 feet before coming to grade. The depth of the modified Dale Street, however, would not be any deeper under the existing/proposed rail bridge than the road's existing depth. Other than the foregoing modification to the location of Dale Street's low point and roadway reprofiling, all other conditions beneath the bridge, to include the planned Brea Creek Bastanchury Corridor bike trail and Dale Street, would be replaced in kind.

3. *There are no anticipated permanent adverse physical impacts, nor will there be interference with the activities or purposes of the resource, on either a temporary or permanent basis.*

   At-grade rail construction is anticipated to occur for 36 months over the course of the project. At this location, construction is anticipated to take a period of 12 to 15 months for water-crossing (level 3) construction. If the bicycle path is completed before construction begins, while the bikeway is passing under the HSR for approximately 80 feet, scaffolding placed above the sidewalks and bicycle path would protect users from construction activities being completed on the elevated track segment and ensure that the sidewalks and bicycle path below the construction work remain operational during construction. During construction to change the vertical alignment of Dale Street, the path would be temporarily closed. If construction activities require equipment or other materials to be placed directly on or in proximity to the sidewalks and bicycle path, the path may be closed intermittently to support improvements, such as steel plate girders and decking, to the elevated track segment. However, detours using existing roadways or other public rights-of-way would be provided during construction and would include adequate notice, signage, lighting, and other measures to meet public safety requirements to maintain access to and use of the bike path. In addition, the Authority would be required to return the Brea Creek Bastanchury Corridor to its original condition or better after completion of construction. Therefore, there would be no temporary or permanent adverse changes to the activities, features, or attributes of the Brea Creek Bastanchury Corridor.

4. *The land being used must be fully restored (i.e., the resource must be returned to a condition which is at least as good as that which existed prior to the project).*

   As discussed in responses #2 and #3, the Authority would be required to restore the Brea Creek Bastanchury Corridor to its original condition or better after completion of construction. In addition, the Authority's project engineer would require the Authority to document that access to and connectivity of the Brea Creek Bastanchury Corridor were restored.

5. *There must be documented agreement of the appropriate federal, state, or local officials having jurisdiction over the resource regarding the above conditions.*

   The City of Buena Park is the official with jurisdiction over this segment of the Brea Creek Bastanchury Corridor. Prior to applying the Section 4(f) exception, the City of Buena Park must agree in writing that the project meets the conditions outlined above. A signature block is provided in this letter for the City of Buena Park's concurrence.

Should you have questions concerning this matter, please contact Jennifer Gallerani, Senior CEQA/NEPA Manager, at (650) 515-1381 or jennifer.gallerani@hsr.ca.gov, or me at (916) 908-1230 or brett.rushing@hsr.ca.gov.

Sincerely,



Brett Rushing
NEPA Assignment Manager, Environmental Services
California High-Speed Rail Authority

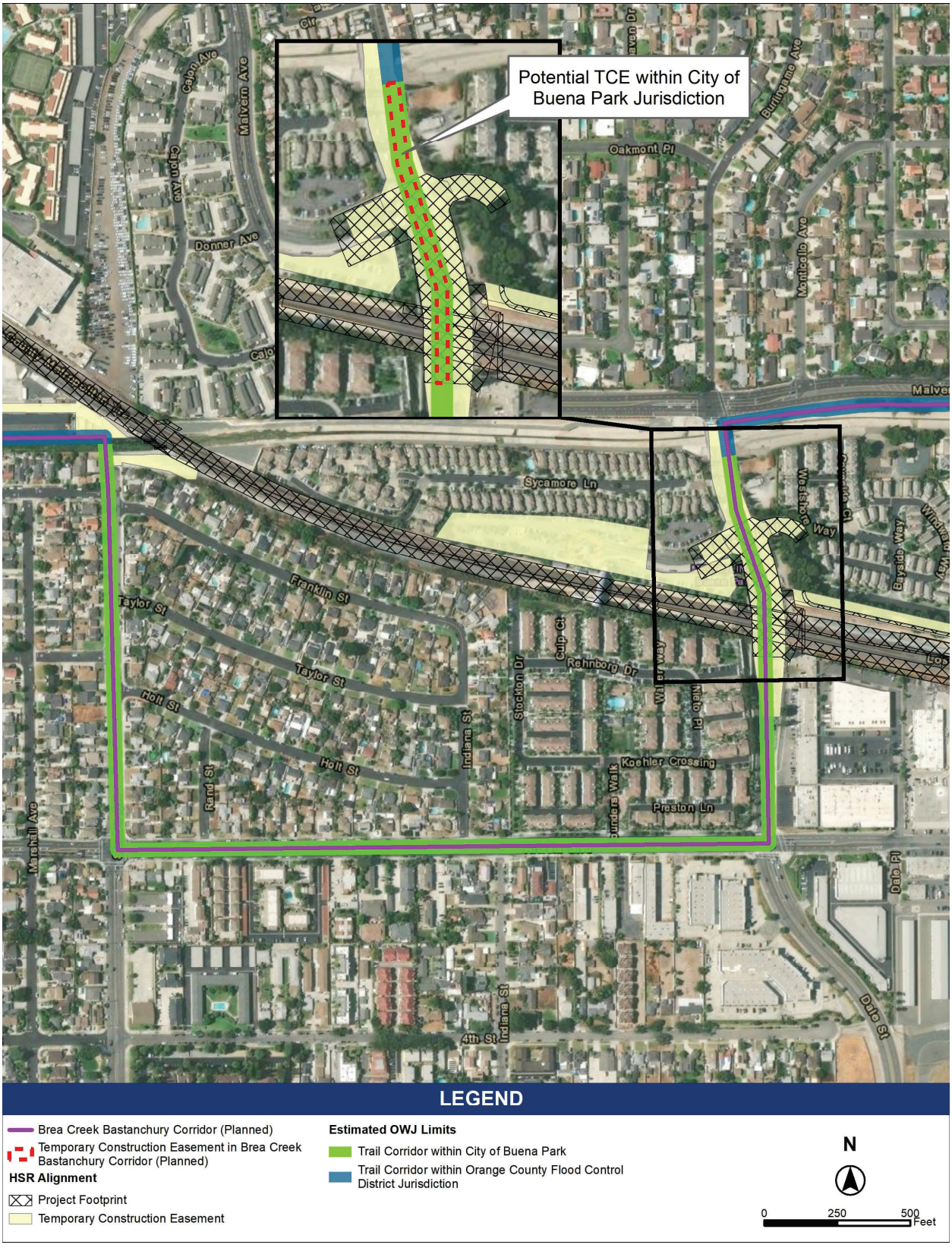
City of Buena Park Concurrence: Brea Creek Bastanchury Corridor (Planned)

The provisions of Section 4(f) require documented agreement from City of Buena Park that states that the temporary occupancy of the Brea Creek Bastanchury Corridor (planned) would meet all five conditions of the temporary occupancy exception and do not constitute a Section 4(f) use. The Authority requests that the City of Buena Park provide its concurrence with the Authority's temporary occupancy exception determination by signing below.

Concurrence: _____ Date 6/16/2026

Mina Mikhael
Director of Public Works/City Engineer

Attachment A: Impacts to Brea Creek Bastanchury Corridor (Planned)



Orange County Department of Public Works Concurrence: Brea Creek Bastanchury Corridor (Planned)

The provisions of Section 4(f) require documented agreement from Orange County Department of Public Works that states that the temporary occupancy of the Brea Creek Bastanchury Corridor (planned) would meet all five conditions of the temporary occupancy exception and do not constitute a Section 4(f) use. The Authority requests that the Orange County Department of Public Works provide its concurrence with the Authority's temporary occupancy exception determination by signing below.

Concurrence: Kevin Onuma Date 7/22/26

Kevin Onuma
Orange County Department of Public Works

This is only for the approximately 160 feet within the right-of-way for Brea Creek right-of-way under OC Public Works' jurisdiction.

CALIFORNIA
High-Speed Rail Authority

June 11, 2026

Daisy Perez
Deputy City Manager
City of Fullerton
303 West Commonwealth Avenue
Fullerton, CA 92832

Subject: Request for a Concurrence with Section 4(f) *De Minimis* Determination: Union Pacific Trail Phase II

Dear Ms. Perez,

The California High-Speed Rail Authority (Authority) is currently preparing an Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the Los Angeles to Anaheim Project Section of the California High-Speed Rail (HSR). The purpose of this letter is to request your concurrence with the Authority's determination that the permanent impact on the Union Pacific Trail Phase II would constitute a *de minimis* impact of this bike path, as defined by Section 4(f) of the United States Department of Transportation Act.

Under Section 4(f) (49 U.S.C. 303), an operating agency of the United States Department of Transportation may not approve a project that uses protected properties unless there are no prudent or feasible alternatives to such use and the project includes all possible planning to minimize harm to such properties. Section 4(f) properties are publicly owned lands of a park, recreation area, wildlife and waterfowl refuge, or land of a historical site of national, state, or local significance and listed on or determined to be eligible for the National Register of Historic Places, as determined by the federal, state, regional, or local officials having jurisdiction over the resource.

A permanent use of a Section 4(f) property occurs when property is permanently incorporated into a proposed transportation facility. This might occur as a result of partial or full acquisition, permanent easements, or temporary easements that exceed limits for temporary occupancy.

A temporary occupancy of a Section 4(f) resource occurs when there is a temporary occupancy of property that is considered adverse in terms of the preservationist purposes of the Section 4(f) statute. However, a temporary occupancy of property does not constitute a use of a Section 4(f) resource when the following conditions are satisfied:

- The occupancy must be of temporary duration (e.g., shorter than the period of construction) and must not involve a change in ownership of the property.
- The scope of work must be minor, with only minimal changes to the protected resource.
- There must be no permanent adverse physical impacts on the protected resource or interference with activities or purpose of the resource.
- The property being used must be fully restored to a condition that is at least as good as that which existed before project construction.

- There must be documented agreement of the appropriate officials having jurisdiction over the resource regarding the foregoing requirements.

For parks, recreation areas, and wildlife and waterfowl refuges, a *de minimis* impact determination may be made for permanent impacts if the Authority concludes the transportation project will not adversely affect the activities, features, and attributes that qualify the property for protection under Section 4(f) after mitigation. In addition, to make a *de minimis* impact determination, there must be:

- Public notice and opportunity for public review and comment. (For this project, the public notice and public review would be concurrent with the Draft EIR/EIS comment period, which started on December 5, 2025, and ended on February 3, 2026.)[1]
- Concurrence on the effect finding is received from the official(s) with jurisdiction over the property.

Union Pacific Trail Phase II

The Union Pacific Trail Phase II is a 0.5-mile Class I bicycle path that runs along the existing Union Pacific Railroad corridor in Fullerton. The total length of the entire Union Pacific Trail (the 8-mile bicycle path that already existed, plus the Phase II extension) is 8.5 miles (see Attachment A, Impacts to Union Pacific Trail Phase II). The segment of the bicycle path in the resource study area (RSA) is in Fullerton, owned by Union Pacific Railroad, operated by City of Fullerton, and has been formally designated in the City of Fullerton Recreational Trails map. The Union Pacific Trail Phase II is used for recreational activities, such as bicycling, walking, running, and skateboarding uses.

The Union Pacific Trail Phase II opened to the public on December 13, 2025 subsequent to publication of the Draft EIR/EIS, which was released on December 5, 2025. The Final EIR/EIS will be revised to reflect the change in status of the trail. The Draft EIR/EIS evaluates potential impacts that would occur due to construction and operation of Shared Passenger Track Alternatives A and B, as well as potential impacts associated with the option for an intermediate HSR station at either Norwalk/Santa Fe Springs or Fullerton. No land from the Union Pacific Trail Phase II would be permanently incorporated into the footprint for the Norwalk/Santa Fe Springs HSR Station Option or the Fullerton HSR Station Option. However, a portion of the land would be incorporated into both of the Shared Passenger Track Alternatives. The existing railroad corridor would be widened in this area, and permanent fencing would be installed along the track, resulting in a portion of the trail landscaping and bioswale being permanently incorporated into the project. This would conflict with landscaping and require a minor realignment of approximately 110 feet of the trail by shifting it south within the parcel. The affected portion of the trail would be minor in size (approximately 110 feet) in relation to the entire Union Pacific Trail (approximately 8.5 miles). The Draft EIR/EIS sets forth various mitigation measures to address potential impacts. Implementation of PR-MM#4, Replacement of Property Acquired from Existing or Planned Multiuse Trails, would be implemented to require that the Authority consult with the owner with jurisdiction to identify an alternative route for the continuation of the lost use and functionality of the resource, including maintaining connectivity. With implementation of PR-MM#4, the trail would remain functional after construction and this permanent use would not be of a severity that the protected activities, features, or attributes that qualify the park for protection under Section 4(f) would be adversely affected.

[1] The Notice of Completion/Notice of Availability for the Draft EIR/EIS was published on December 5, 2025. The Section 4(f) Evaluation was made publicly available for public comments from December 5, 2025, to February 3, 2026. Refer to https://hsr.ca.gov/programs/environmental-planning/project-section-environmental-documents-tier-2/los-angeles-to-anaheim-project-section-environmental-documents/.

At-grade rail construction is anticipated to occur for 36 months over the course of the project. Construction vehicles using Highland Avenue and Richman Avenue for grading and other related activities could result in diminished access to portions of the resource, because they would occur adjacent to the bicycle path. However, detours using existing roadways or other public rights-of-way would be provided during construction and would include adequate notice, signage, lighting, and other measures to meet public safety requirements to maintain access to and use of the bike path. The remaining portion of the bike path outside of the construction area would remain open for public use during construction.

For the reasons stated above, the Shared Passenger Track Alternatives would not adversely affect the activities, features, or attributes that qualify the Union Pacific Trail Phase II for protection under Section 4(f). Therefore, the Shared Passenger Track Alternatives would result in a *de minimis* impact on this resource.

The City of Fullerton is the official with jurisdiction over this resource. The City of Fullerton must agree in writing that the project meets the *de minimis* conditions outlined above. A signature block is provided in this letter for the City of Fullerton's concurrence.

Should you have questions concerning this matter, please contact Jennifer Gallerani, Senior CEQA/NEPA Manager, at (650) 515-1381 or jennifer.gallerani@hsr.ca.gov, or me at (916) 908-1230 or brett.rushing@hsr.ca.gov.

Sincerely,



Brett Rushing
NEPA Assignment Manager, Environmental Services
California High-Speed Rail Authority

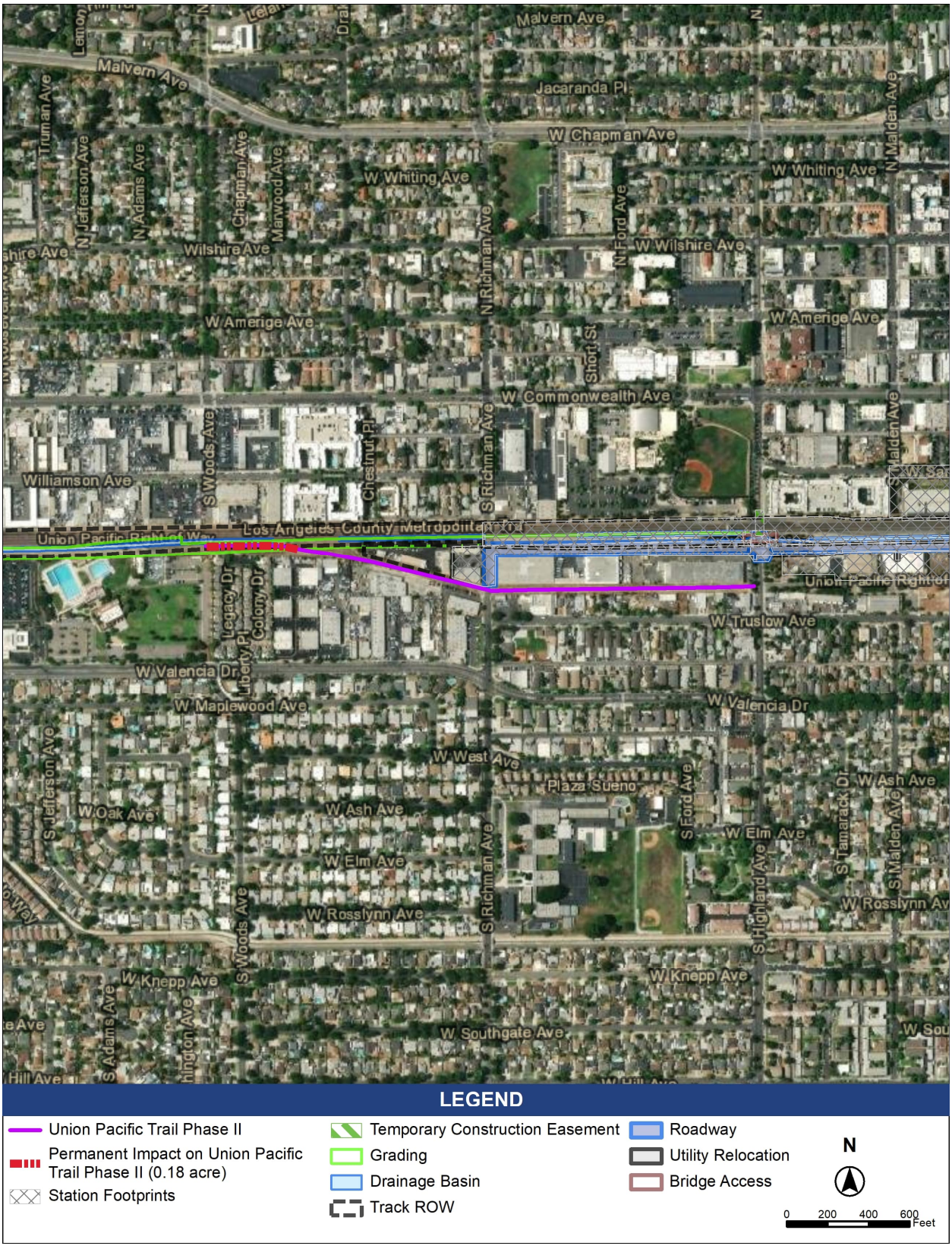
City of Fullerton Concurrence: Union Pacific Trail Phase II

The provisions of Section 4(f) require documented agreement from City of Fullerton that states that the permanent impact on the Union Pacific Trail Phase II would meet all conditions for making a *de minimis* impact determination and that the Los Angeles to Anaheim HSR Build Alternatives would not adversely affect the activities, features, or attributes that qualify the Union Pacific Trail Phase II for protection under Section 4(f). The Authority requests that the City of Fullerton provide its concurrence with the Authority's *de minimis* impact determination by signing below.

Concurrence: _____ Date 8/3/2026

Daisy Perez
City of Fullerton

Attachment A: Impacts on Union Pacific Trail Phase II



COUNTY OF LOS ANGELES
DEPARTMENT OF PARKS AND RECREATION
"Parks Make Life Better!"
Norma E. García-González, Director Alina Bokde, Chief Deputy Director

September 23, 2026

Mr. Brett Rushing
NEPA Assignment Manager
Environmental Services
California High-Speed Rail Authority
770 L Street, Suite 620
Sacramento, CA 95814

Dear Mr. Rushing:

LOS ANGELES TO ANAHEIM PROJECT – CALIFORNIA HIGH-SPEED RAIL SECTION 4(F) RESOURCES CONCURRENCE

The County of Los Angeles Department of Parks and Recreation (LA County Parks) appreciates the opportunity to participate in the Section 4(f) concurrence process. We concur with the California High-Speed Rail Authority's (Authority) determination that the temporary closures and temporary construction easements on the Rio Hondo River Trail and San Gabriel River Trail during construction of the Los Angeles to Anaheim Project Section would not constitute a "use" of these trails under Section 4(f) of the United States Department of Transportation Act and would meet the temporary occupancy exception requirements set forth in Title 23, Section 774.13(d) of the Code of Federal Regulations.

The Authority acknowledges that construction will result in temporary impacts to the trails, including intermittent closures and detours. Our concurrence is based on the Authority's September 21, 2026 revised request, including the commitments documented following our September 17, 2026 consultation. Specifically, the Authority has committed to working with LA County Parks as project design progresses to identify detours that are acceptable and safe for trail users, maintain trail access and continuity, minimize trail closures, and schedule necessary closures during periods of least trail use or at night to the extent feasible. The Authority has also committed to restoring the affected trail facilities to their original condition or better following construction.

This concurrence does not constitute LA County Parks' approval of the currently identified detour routes. Consistent with its September 21, 2026 revised request, the Authority has committed to continuing coordination with LA County Parks as project design advances to identify final detour routes and appropriate safety measures.

Thank you for the opportunity to participate in the Section 4(f) process. Please contact Ms. Natasha Krakowiak, Park Planner, at (626) 876-2901 or NKrakowiak@parks.lacounty.gov if you have any questions.

Sincerely,

Clement Lau
Chief of Planning

CL:NK:nk

Attachments:

1. California High-Speed Rail Authority, Request for Concurrence with Section 4(f) Temporary Occupancy Exception, September 21, 2026
2. High-Speed Rail – Section 4(f) Evaluation Follow-up Trail Question, Consultation Meeting Minutes, September 17, 2026

c: Parks & Recreation (M. O'Connor, L. Hikichi, J. Chien, N. Krakowiak)

CALIFORNIA
High-Speed Rail Authority

September 21, 2026

Clement Lau
Chief of Planning
Los Angeles County Department of Parks and Recreation
1000 South Fremont Avenue, Unit #40
Alhambra, CA 91803

Subject: Request for Concurrence with Section 4(f) Temporary Occupancy Exception: Rio Hondo River Trail and San Gabriel River Trail

Dear Mr. Lau,

The California High-Speed Rail Authority (Authority) is currently preparing an Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the Los Angeles to Anaheim Project Section of the California High-Speed Rail (HSR). On June 11, 2026, the Authority sent a letter requesting concurrence on the Authority's determination that t the temporary closure and temporary construction easements (TCEs) proposed on the Rio Hondo River Trail and San Gabriel River Trail during construction of the Los Angeles to Anaheim Project Section would not constitute a "use" of these trails as defined by Section 4(f) of the United States Department of Transportation Act and would meet the temporary occupancy exception requirements under Title 23, Section 774.13(d) of the Code of Federal Regulations (CFR). On July 16, 2026, Los Angeles County Department of Parks and Recreation (LACPR) informed the Authority that there is a new Chief of Planning, Clement Lau. The Authority updated and re-sent the letter to request concurrence from the new Chief of Planning (July 16,2026). On July 30, 2026, LACPR sent an email with a question on the anticipated timeframe for the HSR project noting potential conflicts with other projects in the vicinity.

On August 3, 2026, the Authority responded noting that construction is assumed to start in 2031; however, there is currently no funding identified to advance this project section. Once the Authority identifies funding, design and more detailed construction staging plans in coordination with LA County Parks and other relevant agencies will occur to ensure that construction activities do not impact trail access. Temporary closures of the Rio Hondo and San Gabriel River trails would occur intermittently as needed during construction near these resources during construction of this project section. On August 10, 2026, LACPR emailed the Authority indicating that they are continuing to evaluate the project and could not provide concurrence at that time. They requested no additional follow-up while they were evaluating. On August 13, 2026, the Authority informed LACPR of their timing needs for concurrence and respectfully requested questions before and/or concurrence by September 15, 2026.

On August 31, 2026, LACPR sent questions to the Authority regarding trail access during construction and proposed detour routes regarding safety and feasibility for all multiuse trail users, particularly equestrians and bicyclists. LACPR requested clarification for how the Authority plans to provide and maintain safe and continuous access for multiuse trail users during construction, and requested more

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information regarding the anticipated necessity, duration, and extent of any hard trail closures. LACPR also asked about how the project's environmental analysis accounted for the overlapping impacts of the U.S. Army Corps of Engineers' (USACE) Whittier Narrows Dam Safety Modification Project.

The Authority responded on September 9, 2026, with more information on the proposed detour routes and the potential for construction staging so that the two trails are not closed at the same time, and to detour users of the Rio Hondo River Trail from one of the two trail options to the other (i.e., the bikeway to the multiuse path, or multiuse path to the bikeway when necessary). The Authority clarified that the detour roadways were chosen so that trail users would be located on secondary streets to the maximum extent possible, and detours would only be located on major roadways for the minimum extent necessary. Safety features along the detour route would include adequate signage, lighting, and other measures to meet public safety requirements. Although construction in this area would take approximately 20 months, trail closures would only occur intermittently during this period, depending on the type of work. In general, scaffolding would be placed above the trail to protect users of the resource from construction activities being completed on the elevated track segment and ensure that the trail below the construction work remain operational during construction. Occasionally, construction activities may require equipment or other materials to be placed directly on or in proximity to the trail, or the types of overhead construction activities occurring overhead may require the trail to be closed intermittently for the safety of trail users. The trail closures and necessary detours would only be required when these types of construction activities occur. While the exact duration of the temporary trail closures are unknown at this time the Authority will coordinate with LACPR prior to potential closures to determine time frames and duration of necessary intermittent closures.

The LACPR raised concerns regarding the USACE's Whittier Narrows Dam Safety Modification Project to the Authority and the potential for overlapping trail closures and detours with the HSR project. The Authority responded explaining that the Whittier Narrows Dam Safety Modification Project is outside of the HSR project footprint and cumulative resource study area (RSA) and therefore is not included in the list of cumulative projects evaluated. However, given the current status of the Los Angeles to Anaheim Project Section, construction is not likely to overlap at all with USACE's dam safety modification project. Construction of HSR's structures (i.e. the modified bridges over the channels) would start in July 2032 at the earliest (refer to the EIR/EIS Chapter 2 Table 2-19), but the Los Angeles to Anaheim project section is currently not funded for final design and construction. Until the Authority identifies funding for the next phases of project development, this HSR project section cannot move forward to implementation.

On September 15, 2026, Authority requested an update on the evaluation and concurrence from LACPR if possible. On that same day the LACPR responded that they conducted a field review of the revised detour alignments and continue to have concerns regarding both the Rio Hondo River Trail and San Gabriel River Trail. Based on their field review, LACPR does not believe the proposed detours currently provide safe and suitable alternatives for all multiuse trail users. Given the outstanding concerns, LACPR was not able to provide the requested concurrence. The Authority requested a meeting to discuss LACPR concerns and the proposed construction schedule details available at this time. The meeting was held of September 17, 2026, from 9:00 am to 10:00 am via Microsoft Teams.

During the meeting, LACPR and the Authority discussed LACPR concerns regarding detour routes proposed and the Section 4(f) determination of temporary occupancy exception for the Rio Hondo River Trail and San Gabriel River Trail. The Authority communicated schedule needs and the Authority's commitment to continued coordination with LACPR as planning and design progresses. The Authority expressed the desire to continue coordination with LACPR to minimize trail closures and to identify acceptable detours so that the continued use and enjoyment of these resources remains during construction activities. The Authority and LACPR discussed the potential for needed closures to occur

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during non-peak usage of the trails. The Authority clarified that although there would be 15 to 20 months of construction at the Rio Hondo River Trails, a detour route would only be used during worst case scenarios and that the trail(s) would only be temporarily closed to ensure the safety of trail users from construction activities. Regarding the San Gabriel River Trail, the Authority clarified that there is a grade separation project proposed at one of the locations where railroad tracks cross Pioneer Street on the proposed detour route. The grade separation proposed at this location would be an undercrossing for which future coordination would occur to ensure that LACPR is satisfied that the requirements of the Americans with Disabilities Act (ADA) are being met for users of the detour that would be routed through this area. Coordination as the project moves forward should focus on how long the trail needs to be closed, and if it is unavoidable finding ways to make the detour routes more amenable to equestrians / pedestrians / bicyclists as much as possible, such as ensuring adequate trail width and vertical clearances for riders.

The Authority and LACPR will continue consultation to identify the least impactful options that address the safety of trail users while maintaining access and continuity. The Authority will work with LACPR to identify detours that are acceptable and safe for trail users. The Authority will continue to work with LACPR as the design progresses for these locations and will include stipulations to the construction contractor regarding the need to minimize closure of the bikeway and trails and ensure that closures would occur during the hours of least use of the bikeway and trails or at night as much as possible. When final design is procured there will be further coordination between the Authority and the LACPR.

The purpose of this letter is to request LACPR concurrence with the Authority's determination that the temporary closure and TCEs on the Rio Hondo River Trail (bikeway and multiuse trail) and San Gabriel River Trail during construction of the Los Angeles to Anaheim Project Section would not constitute a "use" of these trails as defined by Section 4(f) of the United States Department of Transportation Act and would meet the temporary occupancy exception requirements under Title 23, Section 774.13(d) of the CFR.

Under Section 4(f) (49 U.S.C. 303), an operating agency of the United States Department of Transportation may not approve a project that uses protected properties unless there are no prudent or feasible alternatives to such use and the project includes all possible planning to minimize harm to such properties. Section 4(f) properties are publicly owned lands of a park, recreation area, wildlife and waterfowl refuge, or land of a historical site of national, state, or local significance and listed on or determined to be eligible for the National Register of Historic Places, as determined by the federal, state, regional, or local officials having jurisdiction over the resource.

A permanent use of a Section 4(f) property occurs when property is permanently incorporated into a proposed transportation facility. This might occur as a result of partial or full acquisition, permanent easements, or temporary easements that exceed limits for temporary occupancy. For parks, recreation areas, and wildlife and waterfowl refuges, a *de minimis* impact determination may be made for permanent impacts if the Authority concludes the transportation project will not adversely affect the activities, features, and attributes that qualify the property for protection under Section 4(f) after mitigation. The HSR project would not result in a permanent use of the Rio Hondo River Trail or San Gabriel River Trail nor do the temporary impacts identified qualify for a *de minimis* impact finding.

The HSR project has identified that a temporary occupancy of a Section 4(f) resource will occur. A temporary occupancy occurs when there is a temporary occupancy of property that is considered adverse in terms of the preservationist purposes of the Section 4(f) statute. However, a temporary occupancy of property does not constitute a use of a Section 4(f) resource when the following

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conditions are satisfied:

- The occupancy must be of temporary duration (e.g., shorter than the period of construction) and must not involve a change in ownership of the property.
- The scope of work must be minor, with only minimal changes to the protected resource.
- There must be no permanent adverse physical impacts on the protected resource or interference with activities or purpose of the resource.
- The property being used must be fully restored to a condition that is at least as good as that which existed before project construction.
- There must be documented agreement of the appropriate officials having jurisdiction over the resource regarding the foregoing requirements.

Rio Hondo River Trail

The Rio Hondo River Trail is an approximately 16-mile-long trail that is comprised of two parallel paths connected at intervals throughout the segment, a bikeway and multiuse trail. The bikeway and multiuse trail run along or near the banks of the Rio Hondo River from the Peck Road Water Conservation Park to the north, terminating at Whittier Narrows Recreation Area in South El Monte to the south. They are a dedicated trail for biking, walking, running, dog walking, and equestrian use. The segment of the Rio Hondo River Trail in the project section consists of a bikeway and multipurpose trail along the western edge of a drainage basin, which is part of the Rio Hondo Coastal Spreading Grounds. Within the RSA, the bikeway and multiuse trail intersect and pass underneath the HSR alignment.

The Draft EIR/EIS evaluates potential impacts that would occur due to construction and operation of Shared Passenger Track Alternatives A and B, as well as potential impacts associated with the option for an intermediate HSR station at either Norwalk/Santa Fe Springs or Fullerton. The bikeway and multiuse trail are outside of the RSA for the Norwalk/Santa Fe Springs HSR Station Option and the Fullerton HSR Station Option. No land from Rio Hondo River Trail (bikeway or multiuse trail) would be permanently incorporated into the project footprint under Shared Passenger Track Alternatives A and B (see Attachment A, Impacts to Rio Hondo River Trail). Therefore, no permanent use would result. Project impacts are shown in Attachment A. The Shared Passenger Track Alternatives would require a TCE on approximately 198 feet out of 16 total miles (less than 1 percent) of land.

The Authority has determined that the impacts of the Shared Passenger Track Alternatives A and B on the Rio Hondo River Trail would meet the following five conditions under 23 CFR Section 774.13(d), and the temporary occupancy would, therefore, not constitute a use under Section 4(f):

1. *Duration of occupancy must be temporary (i.e., less than the time needed for construction of the project).*

   The land use would be of short duration (defined as less than the time needed for construction of the project). The duration of construction in the TCE area would be a maximum of 36 months, which would be less than the total time needed to build the entire project (approximately 10 years or more). There would be 15 to 20 months of construction at this location, and a detour route would be used only during worst case scenarios; the bikeway and multiuse trail would only be closed when there was a safety issue from construction activities. The Authority will continue to work with LACPR as the design progresses for these locations and will include stipulations to the construction contractor regarding the need to minimize closure of the bikeway and trails and ensure that closures would occur during the hours of least use of the bikeway and trails or at night as much as possible. When final design is procured there will be further coordination between the Authority

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and the LACPR. LACPR would continue to own the land. Therefore, the duration of the occupancy would be temporary.

2. *Scope of the work must be minor (i.e., both the nature and magnitude of the changes to the 4(f) resource must be minimal).*

   The scope of the work would be minor (198 feet / 0.2 percent of the resource). Work would occur above the resource; however, construction and installation of steel plate girders and decking may require temporary utilization of construction equipment on the trail. Project elements would not be built within the resource itself, and the resource would only be used to aid construction elsewhere. The work within the TCEs would not result in permanent changes or result in permanent closures of the bikeway or multiuse trail. Therefore, the scope of work would be minor.

3. *There are no anticipated permanent adverse physical impacts, nor will there be interference with the activities or purposes of the resource, on either a temporary or permanent basis.*

   At-grade rail construction is anticipated to occur for 36 months over the course of the project. At this location, construction is anticipated to take a period of 15 to 20 months for water-crossing construction. While the trail is passing under the HSR for approximately 100 feet, scaffolding placed above the multiuse path would protect users of the resource from construction activities being completed on the elevated track segment and ensure that the trail below the construction work remains operational during construction. If construction activities require equipment or other materials to be placed directly on or in proximity to the trail, the trail may be closed intermittently to support improvements, such as the steel plate girders and decking, to the elevated track segment.

   Staging areas may be required on both the bikeway and multiuse trail, requiring that the bikeway or multiuse path be closed temporarily. However, detours using existing roadways or other public rights-of-way would be provided during construction and would include adequate notice, signage, lighting, and other measures to meet public safety requirements to maintain access to and use of the bike path. Detours for the path would include Bluff Road and Greenwood Avenue. There would be 15 to 20 months of construction at this location, and a detour route would be used only during worst case scenarios; the bikeway and multiuse trail would only be closed when there was a safety issue from construction activities. The Authority will continue to work with LACPR as the design progresses for these locations and will include stipulations to the construction contractor regarding the need to minimize closure of the bikeway and trails and ensure that closures would occur during the hours of least use of the bikeway and trails or at night as much as possible. When final design is procured there will be further coordination between the Authority and the LACPR.

   In addition, the Authority would be required to return the Rio Hondo River Trail (bikeway and multiuse trail) to its original condition or better after completion of construction. Therefore, there would be no temporary or permanent adverse changes to the activities, features, or attributes of the Rio Hondo River Trail.

4. *The land being used must be fully restored (i.e., the resource must be returned to a condition which is at least as good as that which existed prior to the project).*

   As discussed in responses #2 and #3, the Authority would be required to return the Rio Hondo River Trail (bikeway and multiuse trail) to its original condition or better after completion of construction. In addition, the Authority's project engineer would require the Authority to document that access to and connectivity of the trail were restored.

5. *There must be documented agreement of the appropriate federal, state, or local officials having jurisdiction over the resource regarding the above conditions.*

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The LACPR is the official with jurisdiction over the Rio Hondo River Trail. Prior to applying the Section 4(f) exception, the LACPR must agree in writing that the project meets the conditions outlined above. A signature block is provided in this letter for the LACPR's concurrence.

San Gabriel River Trail

The San Gabriel River Trail is an approximately 35-mile-long trail. The trail runs along the banks of the San Gabriel River, a scenic resource, north from Azusa to Seal Beach. It is a dedicated trail for biking, walking, running, dog walking, and equestrian use. Within the RSA, the trail intersects and passes underneath the alignment.

The trail is outside of the RSA for the Norwalk/Santa Fe Springs HSR Station Option and the Fullerton HSR Station Option. No land from San Gabriel River Trail would be permanently incorporated into the project footprint under Shared Passenger Track Alternatives A and B (see Attachment B, Impacts to San Gabreil River Trail). Therefore, no permanent use would result. Project impacts are shown in Attachment B. The Shared Passenger Track Alternatives would require a TCE on approximately 349 feet of 35 total miles (less than 1 percent) of land.

The Authority has determined that the impacts of the Shared Passenger Track Alternatives A and B on the San Gabriel River Trail would meet the following five conditions under 23 CFR Section 774.13(d), and the temporary occupancy would, therefore, not constitute a use under Section 4(f):

1. *Duration of occupancy must be temporary (i.e., less than the time needed for construction of the project).*

   The land use would be of short duration (defined as less than the time needed for construction of the project). The duration of construction in the TCE area would be a maximum of 36 months, which would be less than the total time needed to build the entire project (approximately 10 years or more). There would be 15 to 20 months of construction at this location, and a detour route would be used only during worst case scenarios; the trail would only be closed when there was a safety issue from construction activities. The Authority will continue to work with LACPR as the design progresses for these locations and will include stipulations to the construction contractor regarding the need to minimize closure of the trail and ensure that closures would occur during the hours of least use of the trail or at night as much as possible. When final design is procured there will be further coordination between the Authority and the LACPR. The LACPR would continue to own the land. Therefore, the duration of the occupancy would be temporary.

2. *Scope of the work must be minor (i.e., both the nature and magnitude of the changes to the 4(f) resource must be minimal).*

   The scope of the work would be minor (349 feet/0.2 percent of the resource). Work would occur above the resource; however, construction and installation of steel plate girders and decking may require temporary utilization of construction equipment on the trail. Project elements would not be built within the resource, itself, and the resource would only be used to aid construction elsewhere. There would be 15 to 20 months of construction at this location, and a detour route would be used only during worst case scenarios; the trail would only be closed when there was a safety issue from construction activities. The Authority will continue to work with LACPR as the design progresses for these locations and will include stipulations to the construction contractor regarding the need to minimize closure of the trail and ensure that closures would occur during the hours of least use of the trail or at night as much as possible. When final design is procured there will be further coordination between the Authority and the LACPR. The work in the TCEs would not result in permanent changes or result in permanent closures of the trail. Therefore, the scope of work would

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be minor.

3. *There are no anticipated permanent adverse physical impacts, nor will there be interference with the activities or purposes of the resource, on either a temporary or permanent basis;*

   At-grade rail construction is anticipated to occur for 36 months over the course of the project. At this location, construction is anticipated to take a period of 15 to 20 months for water-crossing construction. While the trail is passing under the HSR for approximately 80 feet, scaffolding placed above bicycle path would protect users of the resource from construction activities being completed on the elevated track segment and ensure that the bicycle path below the construction work remains operational during construction. If construction activities require equipment or other materials to be placed directly on or in proximity to the bicycle path, the path may be closed intermittently to support improvements to the elevated track segment. However, detours using existing roadways or other public rights-of-way would be provided during construction and would include adequate notice, signage, lighting, and other measures to meet public safety requirements to maintain access to and use of the bike path. The Authority will continue to work with LACPR as the design progresses for these locations and will include stipulations to the construction contractor regarding the need to minimize closure of the trail and ensure that closures would occur during the hours of least use of the trail or at night as much as possible. When final design is procured there will be further coordination between the Authority and the LACPR.

   In addition, the Authority would be required to return the San Gabriel River Trail to its original condition or better after completion of construction. Therefore, there would be no temporary or permanent adverse changes to the activities, features, or attributes of the San Gabriel River Trail.

4. *The land being used must be fully restored (i.e., the resource must be returned to a condition which is at least as good as that which existed prior to the project).*

   As discussed in responses #2 and #3, the Authority would be required to return the San Gabriel River Trail to its original condition or better after completion of construction. In addition, the Authority's project engineer would require the Authority to document that access to and connectivity of the trail were restored.

5. *There must be documented agreement of the appropriate federal, state, or local officials having jurisdiction over the resource regarding the above conditions.*

   The LACPR is the official with jurisdiction over the San Gabriel River Trail. Prior to applying the Section 4(f) exception, the LACPR must agree in writing that the project meets the conditions outlined above. A signature block is provided in this letter for the LACPR's concurrence.

Should you have questions concerning this matter, please contact Jennifer Gallerani, Senior CEQA/NEPA Manager, at (650) 515-1381 or jennifer.gallerani@hsr.ca.gov, or me at (916) 908-1230 or brett.rushing@hsr.ca.gov.

Sincerely,

Brett Rushing
NEPA Assignment Manager, Environmental Services
California High-Speed Rail Authority

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Los Angeles County Department of Parks and Recreation Concurrence: Rio Hondo River Trail

The provisions of Section 4(f) require documented agreement from Los Angeles County Department of Parks and Recreation that states that the temporary occupancy of the Rio Hondo River Trail would meet all five conditions of the temporary occupancy exception and do not constitute a Section 4(f) use. The Authority requests that Los Angeles County Department of Parks and Recreation provide its concurrence with the Authority's temporary occupancy exception determination by signing below.

Concurrence: _____ Date _____

Clement Lau
Chief of Planning

Los Angeles County Department of Parks and Recreation Concurrence: San Gabriel River Trail

The provisions of Section 4(f) require documented agreement from Los Angeles County Department of Parks and Recreation that states that the temporary occupancy of the San Gabriel River Trail would meet all five conditions of the temporary occupancy exception and do not constitute a Section 4(f) use. The Authority requests that Los Angeles County Department of Parks and Recreation provide its concurrence with the Authority's temporary occupancy exception determination by signing below.

Concurrence: _____ Date _____

Clement Lau
Chief of Planning

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Attachment A: Impacts to Rio Hondo River Trail



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Attachment B: Impacts to San Gabriel River Trail



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CALIFORNIA High-Speed Rail Authority

High-Speed Rail - Section 4(f) Evaluation Follow-up Trail Question	Location: *Microsoft Teams (https://teams.microsoft.com/meet/299919636575290?p=c9fj9WiJFL6H2wKB8H)*
	Date: *September 17, 2026*
	Time: *09:00 – 10:00*
	Facilitator: *Jennifer Gallerani & Brett Rushing*
	Secretary: *Marya Samuelson, GPA Consulting*

Attendees & Roles:

Alan Bosch alan.bosch@stvinc.com, STV (Present)

Austen Balthazar austen.balthazar@aecom.com, AECOM (Present)

Brett Rushing brett.rushing@hsr.ca.gov, HSR (Present)

Clement Lau CLau@parks.lacounty.gov, LACPR (Present)

Jennifer Gallerani jennifer.gallerani@hsr.ca.gov, HSR (Present)

Jui Ing Chien jchien@parks.lacounty.gov, LACPR

LeAnn Waletzko leann.waletzko@hsr.ca.gov, HSR (Present)

Lisa Jacobs LJacobs@counsel.lacounty.gov, LACPR

Lynda Hikichi LHikichi@parks.lacounty.gov, LACPR

Matt Genova matt.genova@hsr.ca.gov, HSR

Marya Samuelson marya@gpaconsulting-us.com, GPA Consulting (Present)

Michelle O'Connor MOconnor@parks.lacounty.gov, LACPR (Present)

Natasha Krakowiak NKrakowiak@parks.lacounty.gov, LACPR (Present)

Susan Anderson susan.anderson@aecom.com, AECOM (Present)

Tyler Bonstead tyler.bonstead@stvinc.com, STV (Present)

Agenda:

Discussion of the Los Angeles County Department of Parks and Recreation (LACPR) concerns regarding detour routes proposed and the Section 4(f) determination of temporary occupancy exception for the Rio Hondo River Trail and San Gabriel River Trail. The Authority has determined that the project impacts would qualify as a temporary occupancy exception under Section 4(f).

1. Introduction and Schedule

   Brett Rushing went over the current schedule for NEPA and need to get the ROD by end of October. Emphasized that the team will continue to coordinate with the County and will work with parks and recreation to ensure that Authority can find ways to avoid closures and that they will try to ensure that users of the trail can enjoy it and use it as much as possible.

   Jennifer Gallerani also highlighted that the project does not have funding for final design and construction. This is at 15% design level clearance. The details of detours can be further flushed out down the line

   Clement Lau expressed his appreciation for the Authority working with them to safeguard and protect the County trails as much as possible; while understanding that these projects are needed too

2. Rio Hondo River Trai

   Natasha indicated that equestrians are the main users of the multipurpose trail and that the option of detour route on the bikeway over the levee has numerous safety concerns.

   The on road detour route proposed currently goes through a major trucking route; Natasha indicated that for pedestrians and equestrians, this route would not be feasible due to the detour trails being too narrow or not having enough head room for riders.

   The RC team indicated that there would be 15-20 months of construction at this location – and that a detour route would be used during worst case scenarios; the trail(s) would only be closed when there was a safety issue from construction activities.

   a. RC will revise the letter requesting concurrence to clarify that there are two distinct trails, one bikeway and one multiuse path.
   b. RC will also revise the letter to emphasize that the Authority is committed to mitigating the closures and impacts to bikeway/trail uses as much as possible.
   c. RC will continue to work with LACPR as the design progresses for this location and will include stipulations to construction contractor regarding the need to minimize closure of the bikeway/trail and closures occurring during the hours of least use of the trail and at night as much as possible.
   d. When final design is procured there will be further coordination between the Authority and the County

3. San Gabriel River Trail

   Natasha discussed concerns with the proposed detour route and the railroad crossing without signals specific to pedestrians on Pioneer road.

   The RC indicated that there is a grade separation proposed at this location and that there would be an undercrossing built at this crossing for which future coordination could occur to ensure that LACPR is satisfied with ADA requirements that are being met in the design for users of the detour that would be routed through this area.

   The RC also described a potential alternative detour route using a Maintenance road on the bank that looks like it could be opened up temporarily for the detour—would need to negotiate this with the owner of the maintenance road (likely LA Flood Control District).

   Coordination as the project moves forward should focus on how long the trail needs to be closed, and if it is unavoidable finding ways to make the detour routes more amenable to

equestrians/pedestrians/bicyclists as possible. Ensuring that they are not too narrow and that they have enough head room for riders.

The Authority will make sure that the detours are acceptable and safe; that the users are protected during detour use.

All agreed that Authority and LACPR will continue consultation and identify the least impactful uses of the trail(s) as possible.

Future design coordination will also focus on construction measures that will minimize closures to the trail as much as possible, and only close the trail during least impactful times.

County is going to look for preferable detour routes that the County would want to propose.

a. RC will also revise the letter to emphasize that the Authority is committed to mitigating the closures and impacts to bikeway/trail uses as much as possible.
b. RC will continue to work with LACPR as the design progresses for this location and will include stipulations to construction contractor regarding the need to minimize closure of the bikeway/trail and closures occurring during the hours of least use of the trail and at night as much as possible.
c. When final design is procured there will be further coordination between the Authority and the County
d. LACPR has coordinated with LA public works and similar to their approach may send their own letter of concurrence with the HSR letter appended rather than signing our letter so that they can document any outstanding concerns

Intended Outcome: The Authority is requesting concurrence from LACPR with the Section 4(f) determinations and will continue to coordinate regarding future project design requirements and construction methods to minimize impacts to trail users and determine the safest most feasible detour routes during any temporary closure of the trail(s) if detours are necessary.

CALIFORNIA
High-Speed Rail Authority

October 7, 2026

Andrea Echeverria, PE
County of Orange
OC Construction - Capital Project Management
601 N. Ross Street
Santa Ana, CA 92701

Subject: Request for a Concurrence with Section 4(f) Temporary Occupancy Exception: Orange County Loop Segments O, P, and Q (Planned)

Dear Ms. Echeverria:

The California High-Speed Rail Authority (Authority) is currently preparing an Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the Los Angeles to Anaheim Project Section of the California High-Speed Rail (HSR). On June 11, 2026, the Authority sent a letter requesting for concurrence on the Authority's determination that the temporary impacts due to a temporary construction easement (TCE) to construct a connection to the relocated Buena Park Metrolink Station on the planned Orange County (OC) Loop Segments O, P, and Q during construction of the Los Angeles to Anaheim Project Section would not constitute a "use" of this bikeway as defined by Section 4(f) of the United States Department of Transportation Act and would meet the temporary occupancy exception requirements under Title 23, Section 774.13(d) of the Code of Federal Regulations (CFR). Following that letter, Andrea Echeverria responded on July 2, 2026 as the project manager from Orange County Public Works (OCPW) for the OC Loop Segments O, P, and Q Project[1] (Planned). A meeting to discuss the most current bikeway alignment was held on July 9, 2026 with Orange County Parks (OCP), OCPW, the Authority, and HSR team. Following the meeting, OCPW provided the updated alignment, which includes a circular ramp on the west side of Coyote Creek that transitions the elevated bikeway down to the existing road level. The circular ramp is planned on a parcel that was identified for acquisition and use as TCE for the Los Angeles to Anaheim Project Section. In order to avoid impacts to the circular ramp, the Authority has removed the parcel from the HSR project footprint, and there is no longer a conflict (see Attachment A, Impacts to OC Loop Segments O, P, and Q [Planned]).

A revised letter requesting concurrence was sent to OCPW on September 2, 2026. OCPW provided a new signatory for the letter on September 14, 2026, and the Authority revised the letter to be signed by Joe Nguyen. The updated letter requesting concurrence was sent to OCPW on September 15, 2026. The Authority revised the letter in accordance with discussions with OCPW to add clarification regarding TCEs and the location of the TCEs and impacts anticipated from them in another letter on September 18, 2026. On September 24, 2026, OCPW requested that the signatory be revised back to Andrea

[1] The OC Loop Segments O, P, and Q, a part of the Coyote Creek Bikeway, is called the "Coyote Creek Bikeway Extension" in the Final EIR/EIS.

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Echeverria and requested further clarification regarding the potential temporary closure and detour at the connection to the relocated Buena Park Metrolink Station. The Authority held discussions with OCPW to discuss impacts of the potential temporary closure and detour at the connection point and revised the letter for resubmittal.

An updated description of the bikeway, analysis of impacts, clarification regarding potential temporary closure and detour at the connection to the relocated Buena Park Metrolink Station, impact avoidance and minimization features for the detour route from the EIR/EIS (see Attachment B, Impact Avoidance and Minimization Features), and figure showing the alignment in relation to the HSR project are below and in Attachment A. Given this updated information and analysis, the Authority requests:

1) Confirmation that County of Orange is the Official with Jurisdiction (OWJ) for the OC Loop Segments O, P, and Q.
2) Concurrence with the Authority's determination that the temporary impacts from closure of one lane at a time of the bikeway due to a TCE to construct protective barriers on the bridge, and the temporary impacts from the TCE for a connection to the relocated Buena Park Metrolink Station, which may require temporary closure of the connection point on the bikeway and temporary detour around the connection, on the planned OC Loop Segments O, P, and Q during construction of the Los Angeles to Anaheim Project Section would not constitute a "use" of this bikeway as defined by Section 4(f) of the United States Department of Transportation Act and would meet the temporary occupancy exception requirements under Title 23, Section 774.13(d) of the Code of Federal Regulations (CFR).

OC Loop Segments O, P, and Q (Planned)

OC Loop Segments O, P, and Q is an approximately 2.7-mile section of proposed bikeway that would run southwest to northeast along Coyote Creek from its confluence with La Canada Verde Creek (North Fork) to La Mirada Boulevard in Buena Park and close the existing gap in the Coyote Creek Bikeway. Approximately 2.8 miles of the Coyote Creek Bikeway have already been constructed north of OC Loop Segments O, P, and Q, from La Mirada Boulevard in Buena Park to Imperial Highway in La Habra. The existing section of the Coyote Creek Bikeway south of OC Loop Segments O, P, and Q is approximately 6 miles, for a total of 11.5 miles for the entire Coyote Creek Bikeway (existing bicycle paths plus the planned extension).

The portion of OC Loop Segments O, P, and Q in the resource study area would be entirely on an elevated structure. It would cross over the existing railroad corridor on the west side of Coyote Creek, cross over Coyote Creek to run along the east side of the channel, and then cross over Stage Road. The bikeway would then continue to run adjacent to Coyote Creek in Buena Park in Orange County. This portion of the bikeway would be constructed within Los Angeles Flood Control District right-of-way via an agreement, and subsequently operated and maintained by the County of Orange. The County of Orange is the OWJ over OC Loop Segments O, P, and Q. The project alignment would cross under the bikeway (see Attachment A, Impacts to OC Loop Segments O, P, and Q [Planned]).

The Draft EIR/EIS evaluates potential impacts that would occur due to construction and operation of Shared Passenger Track Alternatives A and B, as well as potential impacts associated with the option for an intermediate HSR station at either Norwalk/Santa Fe Springs or Fullerton. No land from the planned OC Loop Segments O, P, and Q would be permanently incorporated into the project footprint under Shared Passenger Track Alternatives A and B, the Norwalk/Santa Fe Springs HSR Station Option, or the Fullerton HSR Station Option. Therefore, no permanent use would result. Project impacts are shown in Attachment A. The project would require a TCE for a connection to the relocated Buena Park Metrolink

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Station and TCE for installation of protective barriers on the bridge on the OC Loop Segments O, P, and Q. Solid barriers on the bridge are required on either side, extending to the edge of the rail right-of-way at a minimum height of 8 feet. The protective barriers would be permanent safety features and would not close the bikeway or impact use of it.

The Authority is committed to continuing coordination with the County of Orange to design a connection for the Buena Park Metrolink Station that can be built with minimal impacts to users of the bikeway. If temporary closure of the bikeway at the connection point is necessary during construction of the connection, the Authority will continue to work with the County of Orange to determine the best detour route if necessary. A temporary closure and detour would not alter the normal use of the bikeway in a disruptive way by blocking access to key facilities or removing mature vegetation, therefore, the temporary closure and detour would not disqualify impacts from the TCE for the connection to the Buena Park Metrolink Station from meeting the five conditions for temporary occupancy under Section 4(f) as described below.

Further, the detour would be coordinated with the County of Orange and the Authority would follow existing impact avoidance and minimization features for detours such as TR-IAMF#2 (Construction Transportation Plan, Provisions for safe pedestrian and bicycle passage or convenient detour), TR-IAMF#4 (Maintenance of Pedestrian Access), TR-IAMF#5 (Maintenance of Bicycle Access), TR-IAMF#12 (Pedestrian and Bicycle Safety), and PR-MM#1 (Temporary Restricted Access to Park Facilities During Construction) to minimize impacts to users of the bikeway (see Attachment B, Impact Avoidance and Minimization Features). The design of the connection is approximately 15 percent complete and as it progresses, HSR will focus on minimizing disruptions to users of the bikeway to the maximum extent practicable. Required TCEs that are not directly within the boundaries of the OC Loop Segments O, P, and Q, would not be obtained from the County of Orange, but rather from the appropriate fee owner of the impacted parcel.

After project implementation, HSR trains would run beneath the planned OC Loop Segments O, P, and Q. If the planned OC Loop Segments O, P, and Q are completed before construction begins, the Authority has determined that the impacts of Shared Passenger Track Alternatives A and B on the planned OC Loop Segments O, P, and Q would meet the following five conditions under 23 CFR Section 7713(d), and the temporary occupancy would, therefore, not constitute a use under Section 4(f):

1. *Duration of occupancy must be temporary (i.e., less than the time needed for construction of the project).*

   The use of the bikeway would be of short duration (defined as less than the time needed for the construction of the project). The duration of construction of the connection to the relocated Buena Park Metrolink Station and installation of protective barriers on the bridge is anticipated at this time to be a few days, which would be less than the total time needed to build the entire project (approximately 10 years or more). Throughout construction of the protective barriers, one direction of bikeway traffic would be open for use allowing for continuous access to the bikeway. The Authority will coordinate with the County of Orange as final design of the project progresses and in advance of construction with estimated duration of days. The Authority is committed to continuing coordination with the County of Orange to design a connection for the Buena Park Metrolink Station that can be built with minimal impacts to users of the bikeway. If temporary closure of the bikeway at the connection point is necessary during construction of the connection, the Authority will continue to work with the County of Orange to determine the best detour route if necessary.

   A temporary closure and detour would not alter the normal use of the bikeway in a disruptive way by blocking access to key facilities or removing mature vegetation. Further, the detour would be

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coordinated with the County of Orange and the Authority would follow existing impact avoidance and minimization features for detours such as TR-IAMF#2 (Construction Transportation Plan, Provisions for safe pedestrian and bicycle passage or convenient detour), TR-IAMF#4 (Maintenance of Pedestrian Access), TR-IAMF#5 (Maintenance of Bicycle Access), TR-IAMF#12 (Pedestrian and Bicycle Safety), and PR-MM#1 (Temporary Restricted Access to Park Facilities During Construction) to minimize impacts to users of the bikeway (see Attachment B, Impact Avoidance and Minimization Features). The design of the connection is approximately 15 percent complete and as it progresses, the Authority will focus on minimizing disruptions to users of the bikeway to the maximum extent practicable. There would be no change in ownership or operation of the bikeway as a result of the project. Required TCEs that are not directly within the boundaries of the OC Loop Segments O, P, and Q, would not be obtained from the County of Orange, but rather from the appropriate fee owner of the impacted parcel. Therefore, the duration of the occupancy would be temporary.

2. *Scope of the work must be minor (i.e., both the nature and magnitude of the changes to the 4(f) resource must be minimal).*

   The scope of the work would be minor. The relocated Buena Park Metrolink Station design accommodates a connection to OC Loop Segments O, P, and Q, such as a bicycle ramp up to the elevated structure or other connection. A minor portion of the bikeway would be temporarily utilized to make this connection. The Authority is committed to continuing coordination with the County of Orange to design a connection for the Buena Park Metrolink Station that can be built with minimal impacts to users of the bikeway. A temporary closure and detour would not alter the normal use of the bikeway in a disruptive way by blocking access to key facilities or removing mature vegetation, therefore, the temporary closure and detour. Further, the detour would be coordinated with the County of Orange and the Authority would follow existing impact avoidance and minimization features for detours such as TR-IAMF#2 (Construction Transportation Plan, Provisions for safe pedestrian and bicycle passage or convenient detour), TR-IAMF#4 (Maintenance of Pedestrian Access), TR-IAMF#5 (Maintenance of Bicycle Access), TR-IAMF#12 (Pedestrian and Bicycle Safety), and PR-MM#1 (Temporary Restricted Access to Park Facilities During Construction) to minimize impacts to users of the bikeway (see Attachment B, Impact Avoidance and Minimization Features). The Authority will coordinate with County of Orange and relevant parcel owners involved to ensure that the connection can be made and impacts on the bikeway minimized.

   Solid barriers on the bridge are required on either side of the bridge, extending to the edge of the rail right-of-way at a minimum height of 8 feet. The installation of protective barriers on the bridge to increase safety by preventing people or objects from entering the HSR right-of-way would be constructed without interruption to users of the bikeway. One direction of bikeway traffic would be open for use throughout construction of the protective barriers.

   The work in the TCE for the connection to the relocated Buena Park Metrolink Station and TCE for installation of protective barriers on the bridge would not result in substantial changes or result in permanent closures of the bicycle path therefore, the scope of work would be minor.

3. *There are no anticipated permanent adverse physical impacts, nor will there be interference with the activities or purposes of the resource, on either a temporary or permanent basis.*

   At-grade rail construction is anticipated to occur for 36 months over the course of the project. If construction activities require equipment or other materials to be placed directly on or in proximity of the bikeway, the bikeway may be closed intermittently for a few days to support construction of

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the bikeway connection to the Buena Park Metrolink Station. The Authority will coordinate with the County of Orange in advance of construction with estimated duration of days. Detours using existing roadways or other public rights-of-way would be provided during construction, and would include adequate notice, signage, lighting, and other measures to meet public safety requirements to maintain access to and use of the bikeway. The Authority is committed to continuing coordination with the County of Orange to design a connection for the Buena Park Metrolink Station that can be built with minimal impacts to users of the bikeway. If temporary closure of the bikeway at the connection point is necessary during construction of the connection, the Authority will continue to work with the County of Orange to determine the best detour route if necessary. A temporary closure and detour would not alter the normal use of the bikeway in a disruptive way by blocking access to key facilities or removing mature vegetation. Further, the detour would be coordinated with the County of Orange and the Authority would follow existing impact avoidance and minimization features for detours such as TR-IAMF#2 (Construction Transportation Plan, Provisions for safe pedestrian and bicycle passage or convenient detour), TR-IAMF#4 (Maintenance of Pedestrian Access), TR-IAMF#5 (Maintenance of Bicycle Access), TR-IAMF#12 (Pedestrian and Bicycle Safety), and PR-MM#1 (Temporary Restricted Access to Park Facilities During Construction) to minimize impacts to users of the bikeway (see Attachment B, Impact Avoidance and Minimization Features). The design of the connection is approximately 15 percent complete and as it progresses, the Authority will focus on minimizing disruptions to users of the bikeway to the maximum extent practicable.

Installation of protective barriers is anticipated to be completed within a few days and would not require the full closure of the bicycle path. Construction would be phased so that only the east or west side of the bicycle path would be closed at a time to install the protective barriers and access through the area would be maintained at all times. In addition, the Authority would be required to return the planned OC Loop Segments O, P, and Q to its original condition or better after completion of construction if there were any unanticipated changes to the bikeway during construction. Therefore, there would be no temporary or permanent adverse changes to the activities, features, or attributes of the planned OC Loop Segments O, P, and Q.

4. *The land being used must be fully restored (i.e., the resource must be returned to a condition which is at least as good as that which existed prior to the project).*

   As discussed in responses #2 and #3, the Authority would be required to return the planned OC Loop Segments O, P, and Q to its original condition or better after completion of construction. In addition, the Authority's project engineer would require the Authority to document that access to and connectivity of the planned OC Loop Segments O, P, and Q were restored.

5. *There must be documented agreement of the appropriate federal, state, or local OWJ over the resource regarding the above conditions.*

   The County of Orange is the OWJ over this segment of the planned OC Loop Segments O, P, and Q. Prior to applying the Section 4(f) exception, the County of Orange must agree in writing that the project meets the conditions outlined above. A signature block is provided in this letter for the County of Orange's concurrence.

Should you have questions concerning this matter, please contact Jennifer Gallerani, Senior CEQA/NEPA Manager, at (650) 515-1381 or jennifer.gallerani@hsr.ca.gov, or me at (916) 908-1230 or brett.rushing@hsr.ca.gov.

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Sincerely,



Brett Rushing
NEPA Assignment Manager, Environmental Services
California High-Speed Rail Authority

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County of Orange Concurrence: OC Loop Segments O, P, and Q (Planned)

The provisions of Section 4(f) require documented agreement from the County of Orange that states that the temporary occupancy of the OC Loop Segments O, P, and Q (planned) would meet all five conditions of the temporary occupancy exception and do not constitute a Section 4(f) use. The Authority acknowledges that the County's concurrence herein is based on the preliminary project design (15%) and the temporary occupancy parameters described in this letter. As the Authority's project is still in the early design phase, detailed construction planning and detours will require the County's review in future design submittals. The Authority agrees to continue to coordinate with the County of Orange as planning and design progresses related to OC Loop Segments O, P, and Q and the relocated Buena Park Metrolink station.

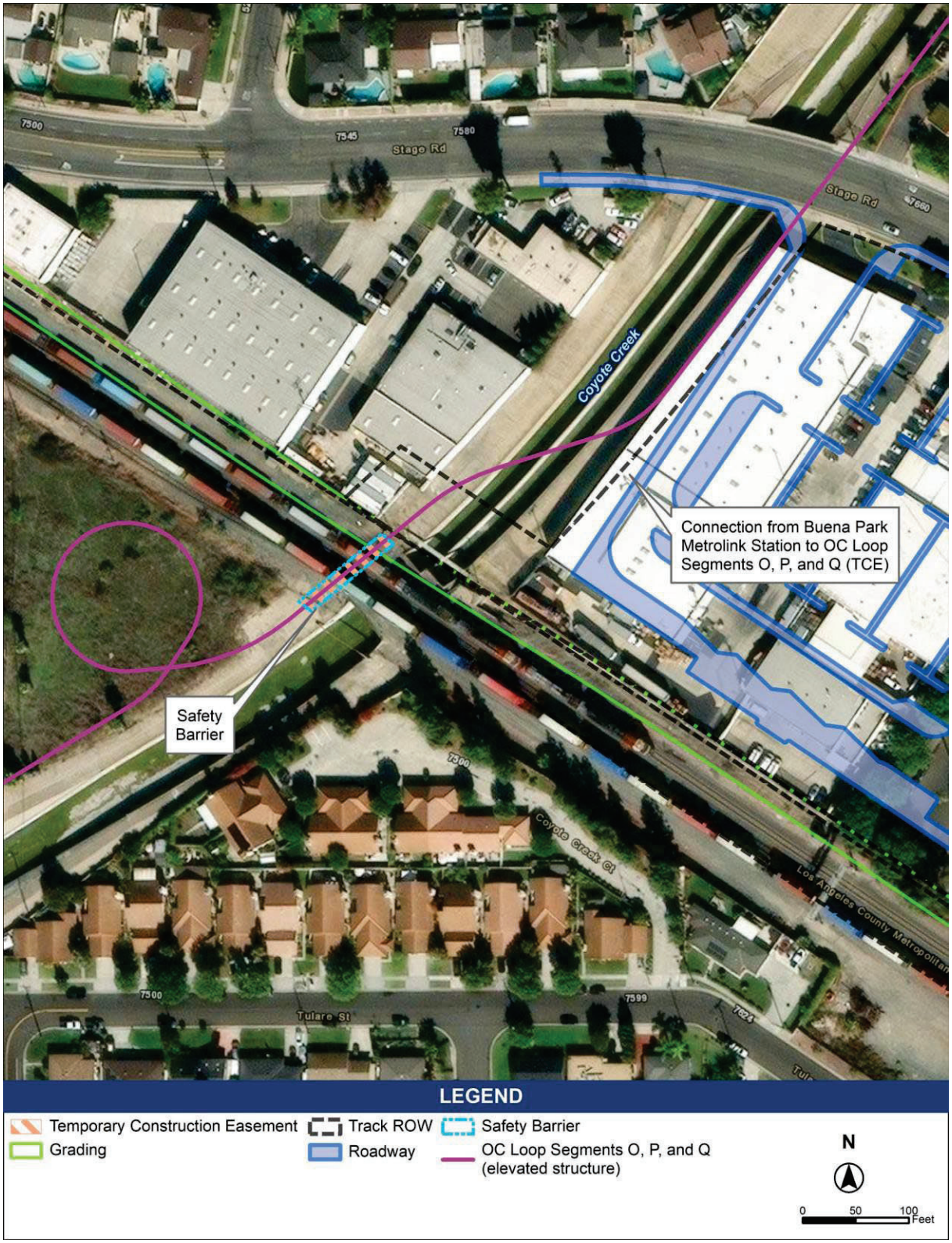
The County concurs with the Temporary Occupancy determination provided that conditions 1 through 4 listed in this letter are met.

Concurrence: DocuSigned by: Andrea Echeverria 8AA4B4C8950F4DA... Date 10/8/2026 | 8:14 AM PDT

Andrea Echeverria, PE
Senior Civil Engineer
County of Orange
OC Construction - Capital Project Management

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Attachment A: Impacts to OC Loop Segments O, P, and Q (Planned)



Attachment B: Impact Avoidance and Minimization Features

TR-IAMF#2: Construction Transportation Plan

The Authority-designated contractor shall prepare a detailed CTP for the purpose of minimizing the impact of construction and construction traffic on adjoining and nearby roadways in close consultation with the local jurisdiction or property owners having authority over the site. The Authority must review and approve the CTP before the Authority-designated contractor commences any construction activities. This plan will address, in detail, the activities to be carried out in each construction phase, with the requirement of maintaining traffic flow during peak travel periods. Such activities include, but are not limited to, the routing and scheduling of materials deliveries, materials staging and storage areas, construction employee arrival and departure schedules, employee parking locations, and temporary road closures, if any. The CTP will provide traffic controls pursuant to the California Manual on Uniform Traffic Control Devices sections on temporary traffic controls (Caltrans 2017) and will include a traffic control plan that includes, at a minimum, the following elements:

- Temporary signage to alert drivers and pedestrians to the construction zone.
- Flag persons or other methods of traffic control.
- Traffic speed limitations in the construction zone.
- Temporary road closures and provisions for alternative access during the closure.
- Detour provisions for temporary road closures—alternating one-way traffic will be considered as an alternative to temporary closures where practicable and where it will result in better traffic flow than will a detour.
- Identified routes for construction traffic.
- Provisions for safe pedestrian and bicycle passage or convenient detour.
- Provisions to minimize access disruption to residents, businesses, customers, delivery vehicles, and buses to the extent practicable. Where road closures are required during construction, limit to the hours that are least disruptive to access for the adjacent land uses.
- Provisions for 24-hour access by emergency vehicles.
- Safe vehicular and pedestrian access to local businesses and residences during construction. The plan will provide for scheduled transit access where construction will otherwise impede such access. Where an existing bus stop is within the work zone, the Authority-designated contractor will provide a temporary bus stop at a safe and convenient location away from where construction is occurring in close coordination with the transit operator. Adequate measures will be taken to separate students and parents walking to and from the temporary bus stop from the construction zone.
- Advance notification to the local school district of construction activities and rigorously maintained traffic control at all school bus loading zones, to provide for the safety of schoolchildren. Review existing or planned Safe Routes to Schools with school districts and emergency responders to incorporate roadway modifications that maintain existing traffic patterns and fulfill response route and access needs during project construction and HSR operations.
- Identification and assessment of the potential safety risks of project construction to children, especially in areas where the project is near homes, schools, daycare centers, and parks.
- Promotion of child safety within and near the resource study area. For example, crossing guards could be provided in areas where construction activities are near schools, daycare centers, and parks.

CTPs will consider and account for the potential for overlapping construction projects.

TR-IAMF#4: Maintenance of Pedestrian Access

The Authority-designated contractor will prepare specific Construction Management Plans (CMPs), as part of the CTP, to address maintenance of pedestrian access during the construction period, to the extent feasible, in accordance with design, safety, and Americans with Disabilities Act requirements. Construction actions that limit pedestrian access will include, but not be limited to, sidewalk closures, bridge closures, crosswalk closures or pedestrian rerouting at intersections, placement of construction related material within pedestrian pathways or sidewalks, and other actions that may affect the mobility or safety of pedestrians during the construction period. If sidewalks are maintained along the construction site frontage, the Authority-designated contractor will provide covered walkways and fencing.

TR-IAMF#5: Maintenance of Bicycle Access

The Authority-designated contractor will prepare specific CMPs to address maintenance of bicycle access during the construction period, to the extent feasible, in accordance with design, safety, and Americans with Disabilities Act requirements. Construction actions that limit bicycle access will include, but not be limited to, bike lane closures or narrowing, closure or narrowing of streets that are designated bike routes, bridge closures, placement of construction-related materials within designated bike lanes or along bike routes, and other actions that may affect the mobility or safety of bicyclists during the construction period.

TR-IAMF#12: Pedestrian and Bicycle Safety

Prior to construction, the Authority-designated contractor will provide a technical memorandum describing how, during operation, pedestrian and bicycle accessibility and safety will be provided and supported across the HSR corridor, to and from stations and on station property. Priority of safety for pedestrians and bicycles and vulnerable populations over motor vehicle access will be carried out in a manner to encourage maximum potential access from nonmotorized modes. Local access programs, such as Safe Routes to Schools, will be maintained or enhanced. Access to community facilities for vulnerable populations will be maintained or enhanced.

PR-MM#1: Temporary Restricted Access to Park Facilities During Construction

Prior to construction (any ground-disturbing activity affecting trails), the contractor shall prepare a technical memorandum documenting how connections to the unaffected trail portions and nearby roadways are maintained during construction. In coordination with the park facility owner, the contractor will identify and provide alternative access via a temporary detour of the trail using existing roadways or other public rights-of-way. The contractor will provide detour signage and lighting and will provide that the alternative routes meet public safety requirements. The technical memorandum shall be submitted to the Authority for review and approval.

APPENDIX E: GENERAL CONFORMITY DETERMINATION FOR AIR QUALITY

DRAFT

California High-Speed Rail Authority

Los Angeles to Anaheim Project Section

Final Federal General Conformity Determination

September 2026



CALIFORNIA High-Speed Rail Authority

The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being or have been carried out by the State of California pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated July 22, 2024, and executed by the Federal Railroad Administration and the State of California.

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Appendices

Appendix A: General Conformity Determination Letter Between the California High-Speed Rail Authority and South Coast Air Quality Management District

ACRONYMS AND ABBREVIATIONS

Term	Definition
Amtrak	National Railroad Passenger Corporation
ARTIC	Anaheim Regional Transportation Intermodal Center
Authority	California High-Speed Rail Authority
BNSF	BNSF Railway
CAA	Clean Air Act
CalEEMod	California Emissions Estimator Model
CARB	California Air Resources Board
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CO	carbon monoxide
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EMFAC	Emission Factors
FRA	Federal Railroad Administration
HSR	High-Speed Rail
IAMF	impact avoidance and minimization feature
LAUS	Los Angeles Union Station
LMF	light maintenance facility
LOSSAN Corridor	Los Angeles – San Diego – San Luis Obispo Rail Corridor
Metro	Los Angeles County Metropolitan Transportation Authority
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NO_2	nitrogen dioxide
NO_X	nitrogen oxides
O_3	ozone
PM_{10}	particulate matter 10 microns or less in diameter
$PM_{2.5}$	particulate matter 2.5 microns or less in diameter
Project	Los Angeles to Anaheim Project Section
RSA	resource study area
SCAQMD	South Coast Air Quality Management District
SIP	State Implementation Plan
SO_2	sulfur dioxide
SO_X	sulfur oxide
TAC	toxic air contaminant

Term	Definition
tpy	tons per year
U.S.C.	U.S. Code
UPRR	Union Pacific Railroad
USEPA	U.S. Environmental Protection Agency
VOC	volatile organic compound
ZE	zero-emission

EXECUTIVE SUMMARY

The California High-Speed Rail (HSR) System, proposed by the California High-Speed Rail Authority (Authority), will provide intercity, high-speed service on more than 800 miles of guideway throughout California, connecting the major population centers of Sacramento, the San Francisco Bay Area, the Central Valley, Los Angeles, the Inland Empire, Orange County, and San Diego. The HSR System will use 100 percent renewable electrically powered, zero-emission high-speed trains and is identified in the California Air Resources Board's 2017 Scoping Plan as part of a sustainable statewide transportation system necessary to achieve the state's climate goals. The Los Angeles to Anaheim Project Section (Project), which is the focus of this General Conformity Determination, is a critical link in Phase 1 of the California HSR System connecting the San Francisco Bay Area to the Los Angeles Basin.[1]

The General Conformity Rule, as codified in Title 40 Code of Federal Regulations (CFR) Part 93, Subpart B, establishes the process by which federal agencies determine conformance of proposed projects that are federally funded or require federal approval with applicable air quality standards. This determination must demonstrate that a project would not cause or contribute to new violations of air quality standards, exacerbate existing violations, or interfere with timely attainment or required interim emissions reductions toward attainment.

This Final General Conformity Determination documents the Federal Railroad Administration's finding that the Project complies with the General Conformity Rule, that it conforms to the purposes of the area's approved State Implementation Plan, and that it is consistent with all applicable requirements. The Draft General Conformity Determination was issued for public review and comment May 15, 2026, through June 14, 2026. This Final General Conformity Determination is also available on the Authority's website at https://hsr.ca.gov/LAAdraftGCD. Compliance is demonstrated herein as follows:

- Operation of the Project would result in a reduction of regional emissions of all applicable air pollutants and would not cause a localized exceedance of an air quality standard; and
- Although emissions generated during construction of the Project would exceed the *de minimis* level for nitrogen oxides in the South Coast Air Basin in the years 2032 through 2034 (construction years 2 through 4), these exceedances would be offset through an agreement between the Authority and the South Coast Air Quality Management District (SCAQMD). The Authority and SCAQMD have developed and executed an agreement to offset, as necessary, any criteria air pollutant emissions exceedances resulting from the Project as described in Section 12.2, Compliance with Conformity Requirements to conform with 40 CFR 93.158(a). The agreement with SCAQMD was executed on May 5, 2026 and is attached in Appendix A, General Conformity Determination Letter Between the California High-Speed Rail Authority and South Coast Air Quality Management District.

[1] As part of its first phase, the California HSR system is currently planned as eight distinct sections from San Francisco in the north to Los Angeles and Anaheim in the south.

1 INTRODUCTION

This document is the Final General Conformity Determination for the Los Angeles to Anaheim Project Section (Project) of the California High-Speed Rail (HSR) System and is required by the implementing regulations of Section 176 of the Clean Air Act (CAA). Section 176(c)(1) of the CAA prohibits federal agencies from engaging in, supporting, or providing financial assistance for licensing, permitting, or approving any activities that do not conform to an approved CAA implementation plan. That approved plan may be a federal, state, or tribal implementation plan.

The CAA defines *nonattainment areas* as geographic regions that have been designated as failing to meet one or more of the National Ambient Air Quality Standards (NAAQS). The CAA requires that each state prepare a State Implementation Plan (SIP) for each nonattainment area, and that a maintenance plan be prepared for each former nonattainment area that subsequently demonstrated compliance with the standards. The SIP is a state's plan for how it will meet the NAAQS by the deadlines established by the CAA.

The General Conformity Rule is codified in Title 40 Code of Federal Regulations (CFR) Part 93, Subpart B, *Determining Conformity of General Federal Actions to State or Federal Implementation Plans*. *Conformity* is defined as "upholding an implementation plan's purpose of eliminating or reducing the severity and number of violations of the NAAQS and achieving expeditious attainment of such standards." 40 CFR Part 93 also establishes the process by which federal agencies determine conformity of proposed projects that are federally funded or require federal approval. This determination must demonstrate that the Project would not cause or contribute to new violations of air quality standards, exacerbate existing violations, or interfere with timely attainment or required interim emissions reductions toward attainment. Because the Project has received federal funds through grants with the Federal Railroad Administration (FRA) and may also receive safety approvals from the FRA, it is an action that may be subject to the General Conformity Rule.

A Draft General Conformity Determination was issued in addition to the *Draft Los Angeles to Anaheim Project Section Draft Environmental Impact Report (EIR)/Environmental Impact Statement (EIS)* (Authority 2025a), which complies with the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). This Final General Conformity Determination is being issued in conjunction with the Final EIR/EIS for the Los Angeles to Anaheim Project Section. Because the analysis used for the Final EIR/EIS also generated the information necessary for the General Conformity Determination, specific analysis may be incorporated herein by reference.

1.1 Regulatory Status of Study Area

On November 24, 1993, the U.S. Environmental Protection Agency (USEPA) promulgated final conformity regulations to address transportation plans, programs, and projects developed, funded, or approved under title 23 U.S. Code (U.S.C.) or the Federal Transit Act, 49 U.S.C. 1601 et seq. (40 CFR Part 93 Subpart A). These regulations have been revised several times since they were first issued. Although the transportation conformity regulations do not apply to this Project (refer to Section 1.2, General Conformity Requirements), many of the transportation planning documents developed under those regulations are helpful in understanding the regional air quality and planning status of the resource study area (RSA).

The RSA for the Project is the South Coast Air Basin. Although Project construction activities would generate construction emissions within the South Coast Air Basin, Mojave Desert Air Basin, and San Joaquin Valley Air Basin, the RSA only includes the South Coast Air Basin because construction-phase emissions (without mitigation) would only exceed General Conformity *de minimis* levels within the South Coast Air Basin, and not the Mojave Desert Air Basin or San Joaquin Valley Air Basin. Most of the emissions-intensive construction activities for the Project would occur within the South Coast Air Basin, as presented in the mass emissions Table 3.3-12 in Section 3.3, Air Quality and Global Climate Change, of the Final EIR/EIS. The construction emissions in the Mojave Desert Air Basin and San Joaquin Valley Air Basin are

solely related to locomotives hauling ballast and haul trucks transporting hazardous waste, respectively. Therefore, because construction activities from the Project would not result in an exceedance of the *de minimis* levels for any applicable criteria pollutant[2] in the Mojave Desert Air Basin or San Joaquin Valley Air Basin, a General Conformity Determination is not required for those basins. Consequently, the Project's RSA for the General Conformity Report is limited to the South Coast Air Basin.

Planning documents for pollutants for which the RSA is classified as federal nonattainment or maintenance are developed by the South Coast Air Quality Management District (SCAQMD) and the California Air Resources Board (CARB) and are approved by USEPA. Table 1-1 lists the planning documents relevant to the Project's RSA.

Table 1-1 Planning Documents Relevant to the Resource Study Area

Type of Plan	Status
SCAQMD 2022 Air Quality Management Plan	Approved by the SCAQMD Board of Directors in December 2022, the 2022 AQMP was developed to address the requirement for meeting the 8-hour O_3 NAAQS established in 2015 of 70 parts per billion. SCAQMD's 2022 AQMP contains districtwide control measures to reduce O_3 precursor emissions (i.e., ROG and NO_X), as well as PM and GHG emissions. The 2022 AQMP proposes 48 aggressive control measures, many of which focus on widespread deployment of ZE and low-NO_X technologies across all mobile sectors and stationary sources.
SCAQMD 2016 Air Quality Management Plan	Approved by the SCAQMD Board of Directors in March 2017, the 2016 AQMP demonstrates attainment for the 8-hour O_3 NAAQS established in 2008, the annual $PM_{2.5}$ NAAQS established in 2012, and the 24-hour $PM_{2.5}$ NAAQS established in 2006. In addition, the 2016 AQMP includes revisions to the attainment demonstrations for the 1997 8-hour O_3 NAAQS and the 1979 1-hour O_3 NAAQS. The 2016 AQMP was submitted to USEPA on April 27, 2017, but no clean air determination has been made to date.
SCAQMD 2012 Air Quality Management Plan	Approved by the SCAQMD Board of Directors in February 2013, the 2012 AQMP was submitted to demonstrate attainment for the 24-hour $PM_{2.5}$ NAAQS established in 2006. On September 30, 2015, USEPA proposed to approve elements of the South Coast 2012 $PM_{2.5}$ Plan and 2015 Supplement, which addressed CAA requirements for the 2006 $PM_{2.5}$ NAAQS, and proposed to reclassify the area as a "Serious" nonattainment area for the 2006 $PM_{2.5}$ standard. USEPA provided a 30-day public comment period from the date of publication in the *Federal Register*. On March 15, 2016, USEPA approved in part and disapproved in part those portions of SCAQMD's 2012 AQMP (2012 $PM_{2.5}$ Plan) that address attainment of the 2006 24-hour $PM_{2.5}$ standards and the 2015 Supplement to the 2012 $PM_{2.5}$ Plan. To correct these deficiencies, the state was required to submit to USEPA a demonstration that the NO_X Regional Clean Air Incentive Market program, either as adopted in 2010 or as subsequently amended, ensures emissions reductions equivalent, in the aggregate, to the reductions anticipated from the direct application of reasonably available control technology on covered sources.

[2] Criteria pollutants are pollutants for which the USEPA and the State of California have set ambient air quality standards or that are chemical precursors to compounds for which ambient standards have been set. The six major criteria pollutants include ozone (O_3), particulate matter (PM_{10} is particulate matter smaller than or equal to 10 microns in diameter and $PM_{2.5}$ is particulate matter smaller than or equal to 2.5 microns in diameter), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead (Pb). The precursor pollutants for O_3 are reactive organic gases (ROG) and nitrogen oxides (NO_X).

Type of Plan	Status
2010 South Coast Air Basin Request for PM_{10} Redesignation Request and Maintenance Plan	On April 28, 2010, CARB submitted the Request for PM_{10} Redesignation and Maintenance Plan to USEPA. On June 12, 2013, USEPA's Regional Administrator signed a final rule to approve the South Coast PM_{10} Redesignation Request and Maintenance Plan. The plan was developed and adopted by SCAQMD and demonstrated how the area would maintain the PM_{10} standard for at least the next 10 years.
2005 South Coast Air Basin Request for CO Maintenance Plan and Redesignation Request	On February 24, 2006, CARB transmitted the Redesignation Request and Maintenance Plan (including the CO budgets) to USEPA for approval. In addition, on August 11, 2006, CARB provided information to USEPA that demonstrates the Smog Check program satisfies federal implementation and maintenance requirements for CO and provides emission reductions necessary for continued improvement in CO air quality. On April 24, 2007, USEPA's Regional Administrator signed a final rule to approve the South Coast Maintenance Plan and Redesignation Request for Carbon Monoxide.

Sources: SCAQMD 2005, 2009, 2013, 2017, 2022
AQMP = Air Quality Management Plan; CAA = Clean Air Act; CARB = California Air Resources Board; CO = carbon monoxide; GHG = greenhouse gas; NAAQS = National Ambient Air Quality Standards; NO_X = nitrogen oxides; O_3 = ozone; PM = particulate matter; PM_{10} = particulate matter smaller than or equal to 10 microns in diameter; $PM_{2.5}$ = particulate matter smaller than or equal to 2.5 microns in diameter; ROG = reactive organic gases; SCAQMD = South Coast Air Quality Management District; USEPA = U.S. Environmental Protection Agency; ZE = zero emission

1.2 General Conformity Requirements

On November 30, 1993, USEPA promulgated final General Conformity regulations at 40 CFR Part 93 Subpart B for all federal activities except highways and transit programs covered by Transportation Conformity. The regulations in Subpart B were subsequently amended in March of 2010. Because the Project will not be funded or require approval(s) under Title 23 U.S.C. or the Federal Transit Act, 49 U.S.C. 1601 et seq., the General Conformity requirements are applicable rather than Transportation Conformity. In general terms, unless a project is exempt under 40 CFR Part 93.153(c) or is not on the agency's presumed-to-conform list pursuant to 40 CFR Part 93.153(f), a General Conformity Determination is required where a federal action in a nonattainment or maintenance area causes an increase in the total of direct and indirect emissions of the relevant criteria pollutants and precursor pollutants that are equal to or exceed certain *de minimis* levels.

During the applicability analysis, the federal agency determines:

- Whether the action will occur in a nonattainment or maintenance area
- Whether one or more of the specific exemptions apply to the action
- Whether the federal agency has included the action on its list of presumed-to-conform actions
- Whether the total direct and indirect emissions are below or above the *de minimis* levels
- Where a facility has an emissions budget approved by the state or tribe as part of the SIP or transportation improvement plan, the federal agency determines that the emissions from the Project are within the budget (USEPA 2022)

The USEPA guidance states that the applicability analysis can be (but is not required to be) completed concurrently with any analysis required under NEPA. The applicability analysis for this Project is described in Section 8, Applicability Analysis. If, after the applicability analysis, the federal agency concludes it should conduct a conformity determination, it may demonstrate conformity by one or more of several prescribed methods. These methods include:

- Demonstrating that the direct and indirect emissions are specifically identified in the relevant implementation plan

- Obtaining a written statement from the entity responsible for the implementation plan that the total indirect and direct emissions from the action, along with other emissions in the area, will not exceed the total implementation plan emission budget
- Fully offsetting the total direct and indirect emissions by reducing emissions of the same pollutant in the same nonattainment or maintenance area

2 DESCRIPTION OF THE FEDERAL ACTION REQUIRING CONFORMITY EVALUATION

In accordance with applicable General Conformity regulations and guidance, when a General Conformity Determination is necessary, the FRA conducts a General Conformity evaluation for the specific federal action associated with the preferred alternative for a project or program (USEPA 1994), and the FRA must issue a positive conformity determination before the federal action is approved. Each federal agency is responsible for determining conformity of those proposed actions over which it has jurisdiction. This Final General Conformity Determination is related only to those activities included in the FRA's federal action pertaining to the proposed action, which is the proposed action's potential approval through a NEPA Record of Decision. The proposed action is described further in Section 3, California High-Speed Rail Project.

General Conformity requirements only apply to federal actions proposed in nonattainment areas (i.e., areas where one or more NAAQS are not being achieved at the time of the proposed action and requiring SIP provisions to demonstrate how attainment would be achieved) and in maintenance areas (i.e., areas recently reclassified from nonattainment to attainment and requiring SIP provisions to demonstrate how attainment would be maintained).

3 CALIFORNIA HIGH-SPEED RAIL PROJECT

3.1 California High-Speed Rail System

The California High-Speed Rail Authority (Authority), a state governing board formed in 1996, is responsible for planning, designing, building, and operating the HSR system. Its mandate is to develop an HSR system connecting the state's major population centers and coordinating with the state's existing transportation network, which includes intercity rail and bus lines, regional commuter rail lines, urban rail and bus transit lines, highways, and airports.

The HSR system will provide intercity, high-speed service on more than 800 miles of railroad throughout California, connecting the major population centers of Sacramento, the San Francisco Bay Area, the Central Valley, Los Angeles, the Inland Empire, Orange County, and San Diego. It will use state-of-the-art, electrically powered, high-speed, steel-wheel-on-steel-rail technology, including contemporary safety, signaling, and automated train-control systems, with trains capable of operating up to 220 miles per hour over a fully grade-separated, dedicated guideway alignment.

The FRA is responsible for oversight and regulation of railroad safety and is also charged with implementation of the High-Speed Intercity Passenger Rail financial assistance program. As part of the High-Speed Intercity Passenger Rail Program, the FRA has provided partial funding for the environmental analysis and documentation required under NEPA, CEQA, and other related environmental laws. Pursuant to 23 U.S.C. 327, under the NEPA Assignment Memorandum of Understanding between the FRA and the State of California, dated July 22, 2024, the Authority is the federal lead agency for environmental reviews for all Authority Phase 1 and Phase 2 California HSR System projects (FRA and State of California 2019, 2024a, 2024b). The FRA performs CAA Conformity Determinations and other federal approvals retained by the FRA under the NEPA Assignment Memorandum of Understanding.

3.2 California High-Speed Rail System: Los Angeles to Anaheim Project Section

The Project extends approximately 30 miles, from immediately south of Los Angeles Union Station (LAUS) in Los Angeles and Anaheim Regional Transportation Intermodal Center (ARTIC) in Anaheim. The Project travels through the cities of Los Angeles, Vernon, Commerce, Bell, Montebello, Pico Rivera, Santa Fe Springs, Norwalk, La Mirada, Buena Park, Fullerton, and Anaheim. The Authority and FRA selected the existing Los Angeles – San Diego – San Luis Obispo Rail Corridor (LOSSAN Corridor) for the Project, with the intent of sharing the existing right-of-way as the alignment. The Authority adopted a strategy of sharing the existing corridor and blending HSR with existing rail systems on shared infrastructure (referred to as "blended operations"[3]) to accelerate and broaden benefits, improve efficiency, minimize community impacts, and reduce construction costs.

This narrow, existing railroad corridor is constrained by the surrounding urban environment and other existing rail operators in the area, including trains operated by the National Railroad Passenger Corporation (Amtrak), Metrolink (governed by the Southern California Regional Rail Authority), Union Pacific Railroad (UPRR), and BNSF Railway (BNSF). Within the existing rail corridor, the Los Angeles County Metropolitan Transportation Authority (Metro) owns the railroad right-of-way from LAUS to Redondo Junction, BNSF owns the railroad right-of-way from Redondo Junction to Fullerton Junction, and Orange County Transportation Authority owns the railroad right-of-way from Fullerton Junction to ARTIC, the end of this Project and Phase I of the HSR system. Southern California Regional Rail Authority operates Metrolink's commuter passenger

[3] California High-Speed Rail Business Plans (http://www.hsr.ca.gov/About/Business_Plans/) suggest blended railroad systems and operations. These terms refer to integrating the HSR system with existing intercity and commuter and regional rail systems through coordinated infrastructure (blended systems) and scheduling, ticketing, and other means (blended operations).

rail service in the corridor, Amtrak provides intercity passenger service, and BNSF operates freight trains throughout this corridor.

The 351-mile LOSSAN Corridor is the second busiest intercity passenger rail corridor in the nation. An 11-member Board of Directors composed of elected officials representing rail owners, operators, and planning agencies along the rail corridor, known as the LOSSAN Rail Corridor Agency, governs the corridor. The LOSSAN Rail Corridor Agency is staffed by the Orange County Transportation Authority. Multiple public and private operators use the corridor (OCTA 2024).

The preferred alternative, Shared Passenger Track Alternative A, proposes new and upgraded track, overhead contact system, maintenance and traction power facilities, grade separations, drainage improvements, communications towers, security fencing, passenger train stations, and other necessary facilities to introduce HSR service into the LOSSAN Corridor from LAUS to ARTIC. The Project footprint would primarily be within the existing railroad right-of-way, typically 100 feet wide, and include both a northbound and southbound electrified track for HSR. The Project footprint includes all Project components and consequential physical changes, including existing stations, planned maintenance sites, wayside and other ancillary HSR facilities, areas needed for construction mobilization and material laydown, roadway and utility relocations, power supply connections, and associated property rights. The Project includes the following components: platform and station facilities at ARTIC, 26th Street light maintenance facility (LMF) and support structures. The project section connects planned passenger stations where HSR service would be provided, at LAUS to the north and ARTIC to the south; however, the HSR station at LAUS was fully evaluated as part of the *Burbank to Los Angeles Project Section EIR/EIS* and corresponding technical reports, which were approved by the Authority Board in January 2022 and evaluated in the Burbank to Los Angeles Final General Conformity Determination, issued in November 2021 (Authority 2021). Additionally, at LAUS, the HSR Project is closely interrelated with Metro's Link Union Station project, of which the Authority is also a lead agency. As part of the Link Union Station project, Metro would implement a run-through tracks configuration and eliminate the current existing stub-end tracks configuration and build a new passenger concourse that meets the multimodal transportation demands at LAUS. The Link Union Station project includes tracks that HSR trains would run on through LAUS to First Street, and it accommodates the space needed for HSR overhead contact system infrastructure, which the Authority would be responsible for when the HSR Project is implemented. Metro released a joint Draft EIS/Supplemental EIR for the Link Union Station project in June 2024 (Metro 2024), and issued a Final Supplemental EIR in October 2025 (Metro 2025) and a Combined Final EIS/Record of Decision in January 2026 (Metro 2026). Throughout the alignment from the northern edge of U.S. Highway 101 to First Street, the Authority would build the overhead contact system over the shared tracks to power HSR trains. Therefore, any information regarding LAUS included in this General Conformity Determination is included only for context and to provide additional information.

The Project begins immediately south of LAUS at the northern edge of U.S. Highway 101, where the viaduct built as part of the Metro Link Union Station project would begin. The Project includes a combination of at-grade, elevated, and below-grade track, depending on corridor and design constraints. The at-grade track segments would consist of track set on ballasted railroad ties, compacted earth, or retained fill (contained earth with retaining walls). Fill material would be obtained from permitted sites and quarries. The elevated track segments would consist of concrete columns and concrete box girder either cast in place or precast. The height of the elevated track section would vary and could be up to 65 feet high, with columns spaced approximately 90 feet apart. Track centers would have a minimum spacing of 14 feet. The below-grade track segments would vary in depth from 4 feet to 30 feet. Tracks would be set between two retaining walls with the greatest depth at Fullerton Airport. Track centers would have a minimum spacing of 15 feet. The train speed would vary along the Project corridor, depending on design and land use constraints, from 45 to 90 miles per hour. As this Project is not on the route between the San Francisco Bay Area and the Los Angeles Basin, lower speeds would not have an effect on travel times mandated by Proposition 1A.

The majority of the existing railroad in the Project alignment is currently at grade. However, many of the crossings of roads, railroads, and other transportation facilities are already grade separated from each other, except the roadway crossings in Anaheim. This is to prevent conflicts with other modes of transport, including automobile, bicycle, and pedestrian, and ensure optimal passenger and freight rail operations. For certain proposed at-grade crossings, this Project would include safety improvements, such as pedestrian undercrossings or overcrossings.

The Project would build a new mainline track in some locations and would realign existing tracks. Within the corridor, the railroad right-of-way would consist of up to six tracks, but the majority of the corridor would consist of four mainline tracks. Additionally, secondary type tracks (e.g., industry spurs, yard storage, layover tracks, branch lines) and ancillary facilities (e.g., traction power substations, radio towers) would be installed adjacent to the tracks and could require the acquisition of additional right-of-way. Furthermore, two layover tracks are proposed along the west bank of the Los Angeles River (near LAUS) and in Anaheim (near ARTIC) to support layover functions. Drainage improvements to capture runoff would be included only where the Project would expand the railroad right-of-way to accommodate HSR.

The Project proposes an LMF between 26th Street and a BNSF spur on the south side of the BNSF Hobart Yard, also used by Amtrak, along the west bank of the Los Angeles River. HSR operations in Southern California would require a Level III LMF for fleet storage, cleaning, repair, overnight layover accommodations, and servicing facilities, including the necessary water cistern and power facilities. The LMF would accommodate 24 single trainsets and would be double ended, providing trains access from the mainline to both ends of the facility, which allows for greater operational flexibility in the event of train backups. Additionally, storage and support tracks located along the BNSF corridor would be shifted adjacent to the southern portion of Hobart Yard, resulting in the construction of approximately 101,094 feet of support and storage tracks adjacent to the southern portion of Hobart Yard. The existing container parking in the southern portion of Hobart Yard would be built in the northern portion of Hobart Yard and beyond, requiring the demolition of approximately 47.71 acres of existing commercial and industrial uses to the north of Hobart Yard and south of Washington Boulevard.

The Project would connect two HSR stations: LAUS and ARTIC. Station configurations would optimize access to the California HSR System, particularly to allow for intercity travel and connections to local transit, airports, highways, and the bicycle and pedestrian network. As stated above, the Authority evaluated and approved an HSR station at LAUS as an element of the Burbank to Los Angeles Project Section. The proposed HSR station at the existing ARTIC would be at grade, with two new HSR tracks and a single 1,410-foot center platform for HSR, south of and parallel to the existing Metrolink/Amtrak tracks and platforms. The HSR platform would be accessed through an extension of ARTIC's existing pedestrian bridge from the northeast and through an extension of two existing pedestrian tunnels on the western end of the ARTIC platforms. The new station building would be at the southern end of the pedestrian bridge. The existing Metrolink/Amtrak parking lot north of Angel Stadium would be reconfigured into a pick-up/drop-off area and connected to the existing access road from Katella Avenue. The Project would maintain the two existing access points between the Santa Ana River Trail and ARTIC. The existing pick-up/drop-off area and bus bays around the outside of the existing ARTIC building would be shared with HSR passengers. The Authority also would work with the City of Anaheim, as the ARTIC passenger terminal owner, to share the passenger amenities such as ticketing offices, waiting areas, and food and beverage services inside ARTIC in the near term. Once ridership increases enough that combined HSR and local-provider passenger volumes exceed the design capacity of the ARTIC passenger terminal building, then the Authority would build a separate HSR passenger terminal.

Additionally, the Project would include modifications to the Norwalk/Santa Fe Springs Metrolink Station and Fullerton Metrolink/Amtrak Station. At the Norwalk/Santa Fe Springs Metrolink Station, the existing platforms are in an area that would not be able to accommodate an additional mainline track and shared operations and, in order to shift them, they would need to be located in an area with a straight section of track. Therefore, the Metrolink platforms would be moved to be served by the shared tracks on the new elevated structure, approximately 350 feet

to the east of the existing alignment (at their farthest points). The modified station would be elevated, with two 680-foot side platforms, capable of future extension to 1,000 feet. At the Fullerton Metrolink/Amtrak Station, a fourth mainline track would need to be added on the southern side of the corridor, outside of the existing railroad right-of-way, to allow HSR trains to pass through the stations. A new railroad bridge would be built over Highland Avenue to accommodate the new shared track, which requires Walnut Avenue to be slightly realigned to the south, and the intersection of Walnut Avenue and Highland Avenue would need to be redesigned. Additionally, several modifications would occur for the Fullerton Metrolink/Amtrak Station tracks and platforms, as well as the tracks east to Fullerton Junction. However, some of these proposed HSR modifications could be completed as an early action project. The early action project would consist of the same modifications described above to the Fullerton Metrolink/Amtrak Station, except the fourth mainline track on the southern side of the corridor would end at Highland Avenue, instead of extending farther west. All other modifications would be included: the removal of the southern side platforms, addition of a new center platform over Harbor Boulevard, new pedestrian underpass, and realignment and modifications to Walnut Avenue. If the HSR Project is implemented later, the southern track would be extended west past Highland Avenue to connect to the fourth mainline track of the HSR alternatives.

The Project further evaluates early action projects including grade separations, track enhancements, and improvements at passenger rail stations. The potential temporary construction and permanent operational environmental effects associated with these early action projects are analyzed in site-specific detail and included in the total evaluation of the Project. The potential grade separations are proposed at Pioneer Boulevard, Norwalk Boulevard, Los Nietos Road, Cerritos Avenue, and State College Boulevard. Additionally, existing Metrolink passenger rail stations in Commerce and Buena Park would be relocated in the vicinity of their current location. Furthermore, the Project requires new or modified BNSF facilities in order to add and electrify tracks in the existing right-of-way between Los Angeles and Fullerton. The track and right-of-way currently uses or is planned for future use by BNSF for train storage and intermodal operations must be modified and leased for primary use by HSR and other passenger rail. This requires BNSF's plans for expansion at its yards in Vernon and Commerce to be implemented differently than originally planned. These modifications are primarily in the following areas: Commerce Flyover in Commerce, Hobart Yard in Vernon and Commerce, and Commerce Yard in Commerce and Bell.

The Project would also build ancillary features including electric power utility improvements as well as signaling and train-control elements. The Project would not include construction of a separate power source, although it would include the extension of underground or overhead transmission lines to a series of power substations positioned along the railroad corridor. The transformation and distribution of electricity would occur in three types of stations: traction power substations, switching stations, and paralleling stations. Signaling and train-control elements would include a positive train control train safety system designed to automatically implement safety protocols and provide communication with other trains to reduce the risk of a potential collision. Positive train control infrastructure consists of integrated command, control, communications, and information systems for controlling train movements. This Project would use a radio-based communications network including a fiber optic backbone and communications towers approximately every 2 to 3 miles, depending on the terrain and selected radio frequency.

For additional information regarding the modifications proposed by the Project, refer to Final EIR/EIS Chapter 2, Alternatives, Section 2.6.2, High-Speed Rail Build Alternatives, and Section 2.6.3, Shared Passenger Track Alternative A.

4 AIR QUALITY CONDITIONS IN THE STUDY AREA

4.1 Meteorology and Climate

Air quality is affected by both the rate and location of pollutant emissions, and by meteorological conditions that influence movement and dispersal of pollutants in the atmosphere. Atmospheric conditions, such as wind speed, wind direction, and air temperature gradients, along with local topography, provide the link between air pollutant emissions and local air quality levels. Elevation and topography can affect localized air quality.

The South Coast Air Basin covers 6,745 square miles and includes all of Orange County, Los Angeles County except for the Antelope Valley, the nondesert portion of western San Bernardino County, and the western and Coachella Valley portions of Riverside County.

Low average wind speeds, together with a persistent temperature inversion, limit the vertical dispersion of air pollutants throughout the South Coast Air Basin. Strong, dry, north or northeasterly winds, known as Santa Ana winds, occur during the fall and winter months, dispersing air contaminants. The Santa Ana conditions tend to last for several days at a time.

The combination of stagnant wind conditions and low inversions produces the greatest pollutant concentrations. On days of no inversion or high wind speeds, ambient air pollutant concentrations are the lowest. During periods of low inversions and low wind speeds, air pollutants generated in urbanized areas are transported into Riverside and San Bernardino Counties. In the winter, the greatest pollution problems are carbon monoxide (CO) and nitrogen oxides (NO_X), because of extremely low inversions and air stagnation during the night and early morning hours. In the summer, the longer daylight hours and the brighter sunshine combine to cause a reaction between hydrocarbons and NO_X to form photochemical smog.

The annual average temperature varies little throughout the South Coast Air Basin, ranging from the low- to mid-60s degrees Fahrenheit. With a more pronounced oceanic influence, coastal areas demonstrate less variability in annual minimum and maximum temperatures than inland areas. Much of the annual rainfall in the South Coast Air Basin occurs between November and April. Summer rainfall is minimal and is generally limited to scattered thundershowers in coastal regions and slightly heavier showers in the eastern portion of the South Coast Air Basin and along the coastal side of the mountains. Average monthly rainfall during that period varies from 3.80 inches in February to 0.01 inch or less between June and July, with an annual total of 16.35 inches. Patterns in monthly and yearly rainfall totals are unpredictable because of fluctuations in the weather (SCAQMD 2011).

The South Coast Air Basin intermittently experiences a temperature inversion (increasing temperature with increasing altitude) because of the Pacific High. This inversion limits the vertical dispersion of air contaminants, holding them relatively near the ground. As the sun warms the ground and the lower air layer, the temperature of the lower air layer approaches the temperature of the base of the inversion (upper) layer until the inversion layer finally breaks, allowing vertical mixing with the lower layer. This phenomenon is observed in mid-afternoon to late afternoon on hot summer days when the smog appears to clear up suddenly. Winter inversions frequently break by midmorning.

4.2 Ambient Air Quality in the Study Area

CARB maintains ambient air monitoring stations for criteria pollutants throughout California. Three monitoring stations nearest to the local RSA—near the northern, central, and southern Project limits—were selected to represent conditions along the corridor: Los Angeles: N Main Street, Pico Rivera: 4144 San Gabriel River Parkway, and Anaheim: Pampas Lane. Monitoring data from these stations are presented in Table 4-1 for the most recent 3 years of available data (CARB 2025; SCAQMD 2025; USEPA 2025a). This 3-year period is between 2020 and 2022 for the Los Angeles, Pico Rivera, and Anaheim monitoring stations. Locations for the monitoring stations are depicted on Figure 4-1. The stations monitor CO, ozone (O_3), nitrogen dioxide (NO_2), particulate matter 10 microns or less in diameter (PM_{10}), particulate matter 2.5 microns or less in

diameter ($PM_{2.5}$), and sulfur dioxide (SO_2). A summary of the monitoring data includes the following:

- CO, NO_2, and SO_2 concentrations did not exceed the federal or state standards at any of the three monitoring locations from 2021 through 2023.
- State and federal standards for O_3 were exceeded at all three monitoring stations in 2022 and 2023. In 2021, state and federal standards for O_3 were exceeded at the Los Angeles and Pico Rivera air monitoring stations, but not at the Anaheim air monitoring station.
- The state standard for PM_{10} was exceeded at the Los Angeles and Anaheim air monitoring stations each year from 2021 to 2023; however, the federal standard for PM_{10} was not exceeded from 2021 to 2023. The Pico Rivera air monitoring station did not report PM_{10} concentrations from 2021 to 2023.
- The federal standard for $PM_{2.5}$ was exceeded at all three monitoring stations in 2021. In 2022, the federal standard for $PM_{2.5}$ was only exceeded at the Pico Rivera monitoring station. In 2023, the federal standard for $PM_{2.5}$ was exceeded at the Pico Rivera and Anaheim air monitoring stations.

Table 4-1 Ambient Criterial Pollutant Concentrations at Air Quality Monitoring Stations Along the Los Angeles to Anaheim Project Section

Air Pollutant	Standard/Exceedance	Los Angeles: N Main St			Pico Rivera: 4144 San Gabriel River Pkwy			Anaheim: Pampas Lane		
		2021	2022	2023	2021	2022	2023	2021	2022	2023
CO	Year coverage	100%	100%	99%	99%	98%	96%	100%	99%	96%
	Max. 1-hour concentration (ppm)	2.0	1.7	1.4	1.8	1.6	1.8	2.1	2.4	2.5
	Max. 8-hour concentration (ppm)	1.6	1.5	1.2	1.5	1.5	1.3	1.5	1.4	1.6
	# days>federal 1-hour standard of 35 ppm	0	0	0	0	0	0	0	0	0
	# days>federal 8-hour standard of 9 ppm	0	0	0	0	0	0	0	0	0
	# days>California 8-hour standard of 9 ppm	0	0	0	0	0	0	0	0	0
O_3	Year coverage[1]	93%	98%	98%	98%	95%	92%	97%	98%	93%
	Max. 1-hour concentration (ppm)	0.099	0.138	0.097	0.104	0.123	0.120	0.089	0.102	0.089
	Max. 8-hour concentration (ppm)	0.085	0.090	0.082	0.074	0.091	0.090	0.068	0.076	0.076
	# days>federal 8-hour standard of 0.070 ppm	2	6	7	3	2	7	0	1	2
	# days>California 1-hour standard of 0.09 ppm	1	1	1	0	0	7	0	1	0
	# days>California 8-hour standard of 0.07 ppm	2	6	7	3	2	9	0	1	2
NO_2	Year coverage	98%	100%	99%	99%	99%	99%	98%	100%	96%
	Max. 1-hour concentration (ppm)	0.0778	0.0751	0.0643	0.0722	0.0645	0.0581	0.0671	0.0530	0.0509
	Annual average (ppm)	0.0177	0.0185	0.0162	0.0175	0.0170	0.0152	0.0124	0.0118	0.0105
	# days>federal 1-hour standard of 0.100 ppm	0	0	0	0	0	0	0	0	0
	# days>federal annual standard of 0.053 ppm	0	0	0	0	0	0	0	0	0
	# days>California 1-hour standard of 0.180 ppm	0	0	0	0	0	0	0	0	0

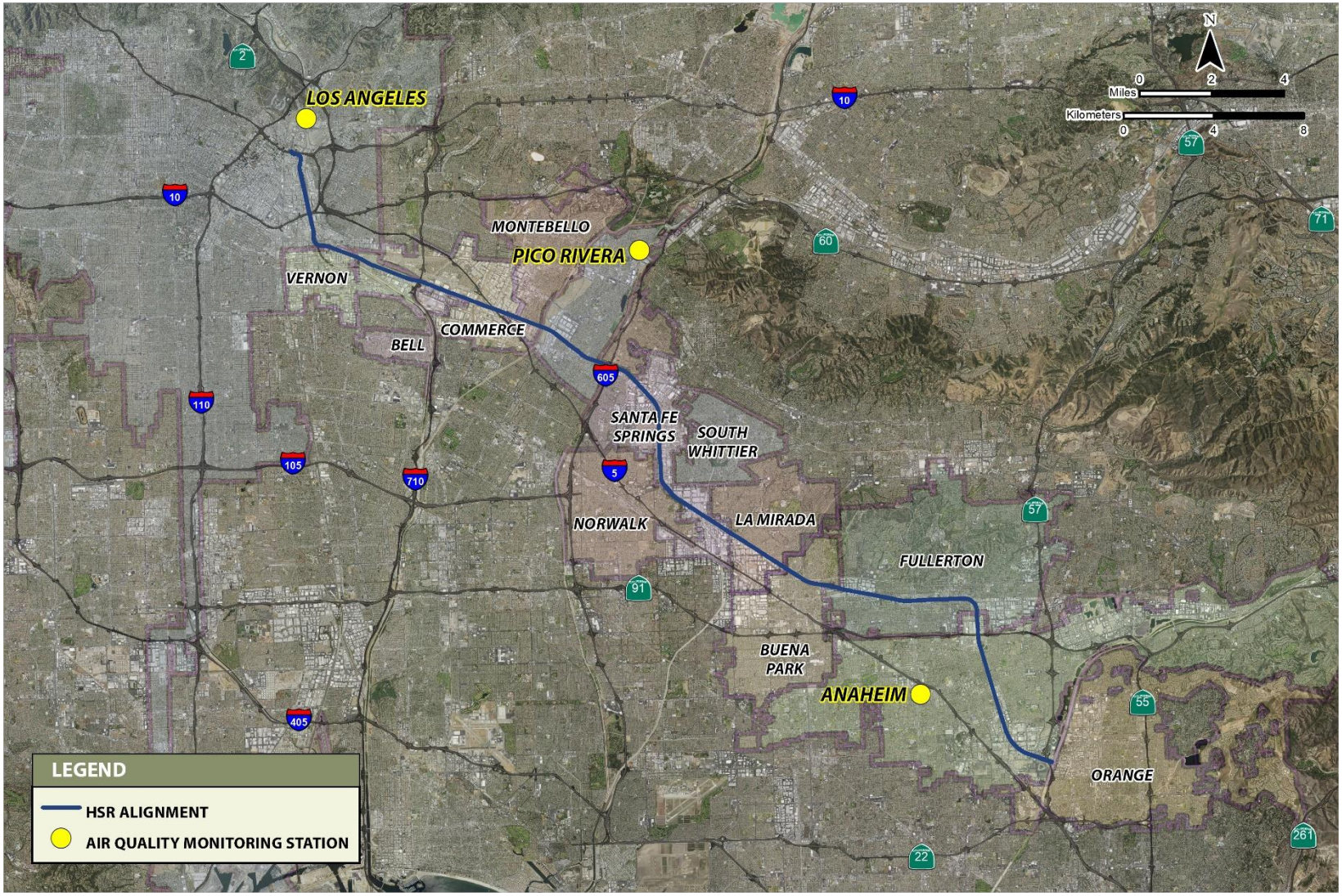
Air Pollutant	Standard/Exceedance	Los Angeles: N Main St			Pico Rivera: 4144 San Gabriel River Pkwy			Anaheim: Pampas Lane		
		2021	2022	2023	2021	2022	2023	2021	2022	2023
PM_{10}	Year coverage[2]	16%	100%	99%	N/A	N/A	N/A	100%	95%	88%
	Max. 24-hour concentration (µg/m^3)	64	60	57	N/A	N/A	N/A	63.3	66.7	99.4
	Annual average[2] (µg/m^3)	25.5	28.9	24.3	N/A	N/A	N/A	23.4	20.9	20.6
	# days>federal 24-hour standard of 150 µg/m^3	0	0	0	N/A	N/A	N/A	0	0	0
	# days>California 24-hour standard of 50 µg/m^3	3	4	2	N/A	N/A	N/A	1	1	1
$PM_{2.5}$	Year coverage	100%	99%	97%	100%	92%	98%	100%	100%	97%
	Max. 24-hour concentration (µg/m^3)	61.1	38.0	30.6	66.0	53.8	60.7	54.4	33.1	45.6
	California annual average (µg/m^3)	14.8	11.1	10.2	13.3	11.1	10.4	11.6	9.9	N/A
	Federal annual average[2] (µg/m^3)	12.8	10.9	10.1	13.0	11.3	10.4	11.5	9.8	9.1
	# days>federal 24-hour standard of 35 µg/m^3	13	0	0	3	1	1	10	0	1
SO_2	Year coverage[1]	100%	99%	98%	N/A	N/A	N/A	N/A	N/A	N/A
	Max. 1-hour concentration (ppm)	0.0022	0.0065	0.0077	N/A	N/A	N/A	N/A	N/A	N/A
	Max. 24-hour concentration (ppm)2	0.0012	0.0012	0.0023	N/A	N/A	N/A	N/A	N/A	N/A
	# days>federal 1-hour standard of 0.075 ppm	0	0	0	N/A	N/A	N/A	N/A	N/A	N/A
	# days>California 1-hour standard of 0.25 ppm	0	0	0	N/A	N/A	N/A	N/A	N/A	N/A
	# days>California 24-hour standard of 0.04 ppm	0	0	0	N/A	N/A	N/A	N/A	N/A	N/A

Sources: CARB 2025; SCAQMD 2025; USEPA 2025a

[1] Coverage is for 8-hour standard or estimated by the number of days of data divided by 365 days per year.

[2] Coverage is for national standard.

> = greater than; µg/m^3 = micrograms per cubic meter; CO = carbon monoxide; max. = maximum; N/A = not available; NO_2 = nitrogen dioxide; O_3 = ozone; PM_{10} = respirable particulate matter; $PM_{2.5}$ = fine particulate matter; ppm = parts per million; SO_2 = sulfur dioxide



Sources: Authority 2020; CARB 2016; Microsoft Corporation 2016; ESRI Streetmap 2013

Figure 4-1 Air Quality Monitoring Stations Closest to the Proposed Action

4.3 Resource Study Area Emissions

CARB maintains an annual emission inventory for select counties and air basins in the state. The inventory for the South Coast Air Basin consists of data submitted to CARB by SCAQMD plus estimates for certain source categories, which are provided by CARB staff. Table 4-2 summarizes the 2024 emissions forecasts for the South Coast Air Basin based on CARB's California Emissions Projection Model (CARB 2019). Note that Table 4-2 presents tons per day, whereas the emissions estimates for the Project are presented in tons per year (tpy).

In the South Coast Air Basin, mobile-source emissions account for more than 90 and 75 percent of the South Coast Air Basin's CO and NO_X emissions, respectively. Mobile-source emissions also account for almost 40 percent of the South Coast Air Basin's reactive organic gas emissions. Area-source emissions account for approximately 80 percent of the South Coast Air Basin's particulate matter, and stationary sources account for more than 70 and 60 percent, respectively, of the South Coast Air Basin's total organic gases and sulfur oxide (SO_X) emissions.

Table 4-2 Estimated 2024 Annual Average Emissions for the South Coast Air Basin (tons per day)

Source Category	TOG	ROG	CO	NO_X	SO_X	PM	PM_{10}	$PM_{2.5}$
Stationary Sources								
Fuel combustion	20.31	5.35	78.15	33.13	6.16	5.25	5.30	5.21
Waste disposal	724.75	15.34	0.69	1.71	0.49	0.38	0.27	0.25
Cleaning and surface coatings	96.35	37.70	0.05	0.05	0.07	1.68	1.61	1.55
Petroleum production and marketing	65.99	19.06	3.07	0.85	1.81	1.91	1.28	0.91
Industrial processes	11.79	10.82	0.74	0.80	0.63	17.87	10.28	5.21
Total stationary sources	**919.19**	**88.28**	**82.70**	**36.55**	**9.16**	**27.09**	**18.74**	**13.14**
Stationary sources percentage of total	**72.2%**	**23.8%**	**5.2%**	**14.9%**	**64.2%**	**9.5%**	**11.2%**	**22.2%**
Area-Wide Sources								
Solvent evaporation	157.60	127.58	–	–	–	0.03	0.02	0.02
Miscellaneous processes	35.86	11.72	54.94	19.83	0.37	229.12	120.80	32.57
Total area-wide sources	**193.46**	**139.30**	**54.94**	**19.83**	**0.37**	**229.15**	**120.83**	**32.60**
Area-wide sources percentage of total	**15.2%**	**37.6%**	**3.5%**	**8.1%**	**2.6%**	**80.6%**	**72.4%**	**55.0%**
Mobile Sources								
On-road motor vehicles	62.52	52.89	477.61	89.07	1.44	23.09	22.65	9.58
Other mobile sources	98.15	89.73	971.44	99.09	3.29	4.84	4.61	3.92
Total mobile sources	**160.67**	**142.62**	**1449.05**	**188.16**	**4.73**	**27.93**	**27.26**	**13.50**
Mobile sources percentage of total	**12.6%**	**38.5%**	**91.3%**	**76.9%**	**33.2%**	**9.8%**	**16.3%**	**22.8%**
Grand total	**1,273.33**	**370.19**	**1,586.69**	**244.55**	**14.26**	**284.16**	**166.83**	**59.23**

Source: CARB 2019
Rounded to the nearest percentage; category percentages do not sum to 100 percent because of rounding.
CO = carbon monoxide; NO_X = nitrogen oxides; PM = particulate matter; PM_{10} = particulate matter smaller than or equal to 10 microns in diameter; $PM_{2.5}$ = particulate matter smaller than or equal to 2.5 microns in diameter; ROG = reactive organic gas; SO_X = sulfur oxides; TOG = total organic gas

4.4 Resource Study Area Designations

Under the federal criteria, the South Coast Air Basin is currently designated as nonattainment for the federal 8-hour O_3 and $PM_{2.5}$ standards; partial nonattainment for federal lead standards (nonattainment in Los Angeles County only, attainment in rest of the South Coast Air Basin); attainment/unclassified for the federal SO_2 and 1-hour NO_2 standards; attainment/maintenance for the federal annual NO_2 standard; and attainment/maintenance for the federal PM_{10} and CO standards. The South Coast Air Basin is considered in nonattainment for the state 1-hour O_3, 8-hour O_3, $PM_{2.5}$, and PM_{10} standards; in attainment for the state CO, NO_2, SO_2, and lead standards; and in attainment/unclassified for all other state standards (hydrogen sulfide, sulfates, vinyl chloride, and visibility-reducing particles). Refer to Section 8.1, Attainment Status of Project Area, for additional information regarding the attainment designations of the RSA.

5 RELATIONSHIP TO NEPA

The Los Angeles to Anaheim Project Section Final EIR/EIS identified potential environmental impacts of the Project, both adverse and beneficial; identifies appropriate measures to mitigate adverse impacts; and identifies the agencies' preferred alternative. The Final EIR/EIS was prepared to comply with both NEPA and CEQA.

The General Conformity regulations establish certain procedural requirements that must be followed when preparing a General Conformity evaluation and are similar but not identical to those for conducting an air quality impact analysis under NEPA regulations. NEPA requires that the air quality impacts of Project implementation be analyzed and disclosed. For purposes of NEPA, the air quality impacts of the Project were determined by identifying the Project's associated incremental emissions and air pollutant concentrations and comparing them, respectively, to emissions thresholds and to the California Ambient Air Quality Standards and NAAQS. The air quality impacts of the Project under future Build conditions were also compared in the Final EIR/EIS to the future No-Build conditions for NEPA purposes (they were also compared to existing conditions). The General Conformity Determination process and general findings are discussed in several other subsections of the Final EIR/EIS's air quality and global climate change section (3.3): 3.3.2.1, Federal; 3.3.4, Methods for Evaluating Impacts; 3.3.6.3, Project Impacts; 3.3.7, Mitigation Measures; and 3.3.8, NEPA Impacts Summary.

To appropriately document the identification and offset, where necessary, of the emissions resulting from the Project, the FRA is issuing this Final General Conformity Determination. The Authority has executed an agreement with SCAQMD to develop an agreement to offset any criteria air pollutant emissions exceedances of the General Conformity *de minimis* levels that remain after accounting for mitigation measures resulting from the Project as described in Section 12.2, Compliance with Conformity Requirements. The agreement with SCAQMD was executed on May 5, 2026, and is included in Appendix A.

6 AVOIDANCE AND MITIGATION MEASURES TO REDUCE EMISSIONS TO BE INCORPORATED IN THE PROJECT

To reduce impacts on the environment and as required by NEPA and CEQA, the Project includes impact avoidance and minimization features (IAMF) that are features included as part of the Project to avoid or minimize potential air quality impacts. Additionally, the Authority's construction of the Project will include mitigation measures to mitigate any remaining air quality impacts. Furthermore, the IAMFs and mitigation measures will be included in the Mitigation Monitoring and Enforcement Program, which will be issued concurrently with the Authority's Record of Decision and would be enforceable commitments undertaken by the Authority. The Authority will include all the IAMFs and mitigation measures into any future contract it lets for design or construction of the Project, which will create binding and enforceable commitments on any future Authority-hired contractor to implement these design features and mitigation measures. The air quality analysis only includes AQ-IAMF#1 and AQ-IAMF#2 for all BNSF-led construction components. By doing so, the analysis is a conservative estimate of emissions because if BNSF does implement AQ-IAMF#3 through AQ-IAMF#5, emissions would be lower than what was analyzed. In addition, only the mitigation measures that would reduce the Project's construction emissions have been included in this section (AQ-MM#1, Fugitive Dust Emissions; and AQ-MM#2, Use of Zero-Emission or Near-Zero-Emission Vehicles and Off-Road Equipment). However, because the commercial availability of future electric equipment and vehicles is unknown, emissions reductions achieved by AQ-MM#2 cannot currently be quantified or included in the analysis. The Final EIR/EIS also includes two other mitigation measures (AQ-MM#3, Reduce the Potential Impact of Stationary Sources; and AQ-MM#4, Requirement of a Future Operational Health Risk Assessment) that would reduce the Project's operational emissions.

The Authority will be responsible for implementing and overseeing a mitigation monitoring program to ensure that the contractor meets all air quality design features and mitigation measures.

AQ-IAMF#1: Fugitive Dust Emissions

During construction, the contractor will employ the following measures to minimize and control fugitive dust emissions. The contractor will prepare a fugitive dust control plan for each distinct construction segment. At a minimum, the plan will describe how each measure would be employed and identify an individual responsible for ensuring implementation. At a minimum, the plan will address the following components unless alternative measures are approved by the applicable air quality management district. Before finalizing the plan, the contractor shall provide a draft of the plan to any potentially affected public school districts upon their request, for their review and comment.

- Cover all vehicle loads transported on public roads to limit visible dust emissions, and maintain at least 6 inches of freeboard space from the top of the container or truck bed.
- Clean all trucks and equipment before exiting the construction site using an appropriate washing station that does not allow runoff to leave the site or mud to be carried on tires off the site.
- Water exposed surfaces and unpaved roads at a minimum three times daily with adequate volume to result in wetting of the top 1 inch of soil but avoiding overland flow. Rain events may result in adequate wetting of top 1 inch of soil, thereby alleviating the need to manually apply water.
- Limit vehicle travel speed on unpaved roads to 15 miles per hour.
- Suspend any dust-generating activities when instantaneous wind speed exceeds 25 miles per hour.
- Stabilize all disturbed areas, including storage piles that are not being used on a daily basis for construction purposes, by using water, a chemical stabilizer/suppressant, hydro mulch or

by covering with a tarp or other suitable cover or vegetative ground cover, to control fugitive dust emissions effectively. In areas adjacent to organic farms, the Authority will use nonchemical means of dust suppression.

- Stabilize all on-site unpaved roads and off-site unpaved access roads, using water or a chemical stabilizer/suppressant, to effectively control fugitive dust emissions. In areas adjacent to organic farms, the Authority will use nonchemical means of dust suppression.
- Carry out watering or presoaking for all land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities.
- For buildings up to 6 stories in height, wet all exterior surfaces of buildings during demolition.
- Limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at a minimum of once daily, using a vacuum type sweeper.
- After the addition of materials to or the removal of materials from surface or outdoor storage piles, apply sufficient water or a chemical stabilizer/suppressant.
- Before finalizing the plan, the contractor shall provide a draft of the plan to any potentially affected public school districts upon their request, for their review and comment.

AQ-IAMF#2: Selection of Coatings

During construction, the Authority-designated contractor will use:

- Low-volatile organic compound (VOC) paint that contains less than 10 percent of VOC contents (VOC, 10 percent).
- Super-compliant or Clean Air paint that has VOC content consistent with SCAQMD Rule 1113, as applicable. If not available, the Authority-designated contractor will document the lack of availability, recommend alternative measure(s) to comply with Rule 1113 or disclose absence of measure(s) for full compliance and obtain concurrence from the Authority.

AQ-IAMF#3: Renewable Diesel

During construction, the Authority-designated contractor will use renewable diesel fuel to minimize and control exhaust emissions from all heavy-duty diesel-fueled construction diesel equipment and on-road diesel trucks. Renewable diesel must meet the most recent ASTM International D975 specification for Ultra Low Sulfur Diesel and have a carbon intensity no greater than 50 percent of diesel with the lowest carbon intensity among petroleum fuels sold in California. The Authority-designated contractor will provide the Authority with monthly and annual reports, through the Environmental Mitigation Management and Application system, of renewable diesel purchase records and equipment and vehicle fuel consumption. Exemptions to use traditional diesel can be made where renewable diesel is not available from suppliers within 200 miles of the Project site. The construction Authority-designated contractor must identify the quantity of traditional diesel purchased and fully document the availability and price of renewable diesel to meet Project demand. The Authority assumes this measure would not be applicable to BNSF Railway–led Project components.

AQ-IAMF#4: Reduce Criteria Exhaust Emissions from Construction Equipment

Prior to issuance of construction contracts, the Authority or contract administrator will incorporate the following construction equipment exhaust emissions requirements into the contract specifications:

1. All heavy-duty off-road construction diesel equipment used during the construction phase will meet Tier 4 Final engine requirements.
2. A copy of each unit's certified tier specification and any required CARB or air pollution control district operating permit will be made available to the Authority at the time of mobilization of each piece of equipment.

3. The Authority-designated contractor will keep a written record (supported by equipment-hour meters where available) of equipment usage during Project construction for each piece of equipment.
4. The Authority-designated contractor will provide the Authority with monthly reports of equipment operating hours (through the Environmental Mitigation Management and Assessment system) and annual reports documenting compliance.

The Authority assumes this measure would not be applicable to BNSF Railway–led Project components.

AQ-IAMF#5: Reduce Criteria Exhaust Emissions from On-Road Construction Equipment

Prior to issuance of construction contracts, the Authority or contract administrator will incorporate the following material-hauling truck fleet mix requirements into the contract specifications:

1. All on-road trucks used to haul construction materials, including fill, ballast, rail ties, and steel, will consist of an average fleet mix of equipment model year 2020 or newer, but no less than the average fleet mix for the current calendar year as set forth in the database included in the latest USEPA-approved Emission Factors (EMFAC) at the time of emissions inventory development.
2. The Authority-designated contractor will provide documentation to the Authority of efforts to secure such a fleet mix.
3. The Authority-designated contractor will keep a written record of equipment usage during Project construction for each piece of equipment and provide the Authority with monthly reports of vehicle miles traveled (through the Environmental Mitigation Management and Assessment system) and annual reports documenting compliance.

The Authority assumes this measure would not be applicable to BNSF Railway–led Project components.

AQ-MM#1: Offset Project Construction Emissions in the South Coast Air Basin through SCAQMD Emissions Offsets Program

The Project's construction emissions that cannot be reduced by IAMFs and any other mitigation measures will be offset through a SCAQMD rule or contractual agreement to fund equivalent emissions reductions that achieve reductions in the same years (to the extent same-year offsets are available) as construction emissions occur, thus offsetting Project-related air quality impacts in real time as required by the General Conformity Rule. The Project would implement measures and best practices to minimize emissions from Project construction. After implementation of these measures, if emission levels still exceed *de minimis* levels, they will be fully offset to meet the General Conformity Rule, and to meet CEQA thresholds to the extent feasible. As the Project advances toward construction, the Authority will work with SCAQMD to assess the estimated emissions, availability of offsets, and cost.

As part of these offset programs, a copy of each unit's certified tier or model year specification shall be available upon request at the time of mobilization of each applicable equipment unit. Furthermore, the Authority will require periodic reporting and provision of written construction documents by construction contractor(s) to ensure compliance and conduct regular inspections to the maximum extent feasible to ensure compliance with applicable Authority IAMFs and mitigation measures.

AQ-MM#2: Requirements for Use of Zero-Emission or Near-Zero-Emission Vehicles and Off-Road Equipment to Reduce Construction Emissions

This mitigation measure will reduce the impact of construction emissions from Project-related on-road vehicles and off-road equipment. All remaining emissions after implementation of this measure would be offset to conform with 40 CFR Part 93.158(a), with emission credits required under AQ-MM#1.

The Authority will require that all Project construction contractors use a minimum of 25 percent, with a goal of 100 percent, of all light-duty on-road vehicles (e.g., passenger cars, light-duty trucks) associated with the Project (e.g., on-site vehicles, contractor vehicles) with zero-emission (ZE) or near-ZE technology.[4]

The Authority and all Project construction contractors will have the goal that a minimum of 25 percent of all heavy-duty on-road vehicles (e.g., for hauling, material delivery, and soil import/export) associated with the Project use ZE or near-ZE technology.

The Authority and all Project construction contractors will have the goal that a minimum of 10 percent of off-road construction equipment use ZE or near-ZE vehicles.

If local or state regulations mandate a faster transition to using ZE or near-ZE vehicles at the time of construction, the more stringent regulations will be applied. For example, California Executive Order N-79-20, issued by California Governor Gavin Newsom on September 23, 2020, currently states the following:

- Light-duty and passenger car sales be 100 percent ZE vehicles by 2035
- Full transition to ZE short haul/drayage trucks by 2035
- Full transition to ZE heavy-duty long-haul trucks, where feasible, by 2045
- Full transition to ZE off-road equipment by 2035, where feasible

The Project will have a goal of surpassing the requirements of these or other future regulations as a mitigation measure.

Because the commercial availability of future electric equipment and vehicles is unknown, emissions reductions achieved by **AQ-MM#2** cannot currently be quantified or included in the analysis.

[4] According to the CA HSC § 44258 (c) “Near-zero-emission vehicle” means a vehicle that utilizes zero-emission technologies, enables technologies that provide a pathway to zero-emissions operations, or incorporates other technologies that significantly reduce criteria pollutants, toxic air contaminants, and greenhouse gas emissions, as defined by the state board in consultation with the State Energy Resources Conservation and Development Commission consistent with meeting the state's mid- and long-term air quality standards and climate goals.

7 REGULATORY PROCEDURES

The General Conformity regulations establish certain procedural requirements that must be followed when preparing a General Conformity evaluation. This section addresses the major applicable procedural issues and specifies how these requirements are met for the evaluation of the Project. The procedures required for the General Conformity evaluation are similar but not identical to those for conducting an air quality impact analysis pursuant to NEPA regulations. The Draft General Conformity Determination was released for public and agency review pursuant to 40 CFR Part 93.156. This Final General Conformity Determination is being published concurrently with the Authority's Record of Decision for the Project pursuant to 40 CFR Part 93.156.

The Authority identified the appropriate emission estimation techniques and planning assumptions in close consultation with the state entities charged with regulating air pollution in the South Coast Air Basin.

7.1 Use of Latest Planning Assumptions

The General Conformity regulations require the use of the latest planning assumptions for the area encompassing the Project, derived from the estimates of population, employment, travel, and congestion most recently approved by the area's metropolitan planning organization (40 CFR Part 93.159(a)).

The traffic data used in the air quality analysis (refer to Final EIR/EIS Section 3.3) are consistent with the most recent and accurate estimates made by the metropolitan planning organizations for traffic volume growth rates, including forecast changes in vehicle miles traveled and vehicle hours traveled (Authority 2012; STV 2024). The Authority developed these estimates based on the metropolitan planning organizations' traffic assignment models using the baseline and future population, employment, and travel and congestion information available at the time the analysis was prepared. These assumptions are consistent with those in the current conformity determinations for the region's Transportation Plan and Transportation Improvement Plan.

7.2 Use of Latest Emission Estimation Techniques

The General Conformity regulations require the use of the latest and most accurate emission estimation techniques available, unless such techniques are inappropriate (40 CFR Part 93.159(b)). Operational phase vehicular emission factors were estimated by using the CARB emission factor program, EMFAC2021. Parameters were set in EMFAC2021 for each individual county to reflect conditions within each county, and statewide parameters were used to reflect statewide conditions. Operational phase aircraft emissions were estimated using the Federal Aviation Administration's Aviation Environmental Design Tool. In addition, electrical demands caused by propulsion of the trains, and of the trains at terminal stations and in storage depots and maintenance facilities, were estimated using average emission factors for each kilowatt-hour required from CARB statewide emission inventories of electrical and cogeneration facilities data along with USEPA eGRID (USEPA 2024a) electrical generation data. The energy estimates used for the propulsion of the HSR system include the use of regenerative braking power.

Emissions from construction of all components of the Project were calculated using a spreadsheet approach that incorporated the same methodology as the California Emissions Estimator Model (CalEEMod), version 2022.1, which uses emission factors from CalEEMod and EMFAC2021 (CAPCOA 2022). Mobile-source emission burdens from worker vehicle trips and truck trips were calculated using vehicle miles traveled estimates and appropriate emission factors from EMFAC2021. Fugitive dust emissions from dirt and aggregate handling were calculated using emission factors derived from equations from USEPA's AP-42 document (USEPA 2006).

Project construction would generate emissions of the following criteria pollutants: VOC, NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$. Emissions would originate from off-road equipment exhaust, employee and haul truck vehicle exhaust (on-road vehicles), site grading and earth movement, demolition,

paving, and application of architectural coatings. PM_{10} and $PM_{2.5}$ fugitive dust emissions would be generated from on-site material-handling activities and vehicle travel on paved and unpaved surfaces. Construction exhaust emissions from equipment, fugitive dust emissions from grading and earthmoving activities, and emissions from worker vehicle trips, deliveries, and material hauling were calculated and compiled in a spreadsheet tool specific to the HSR Project for each year of construction. Project-specific data, including construction equipment lists and the construction schedule, were used for construction associated with the Project. Construction exhaust emissions were modeled using Tier 4 Final emission rates (**AQ-IAMF#4**) from CalEEMod. Fugitive dust reductions from earthmoving best management practices were applied in the spreadsheet tool (**AQ-IAMF#1**).[5] Particulate matter exhaust and greenhouse gas emission reductions (30 percent and 99.1 percent, respectively) would occur from use of renewable diesel (**AQ-IAMF#3**) in all off-road diesel-powered engines, which were also applied in the spreadsheet tool (California Environmental Protection Agency 2015).

Mobile-source emission burdens from worker trips and truck trips were calculated using vehicle miles traveled estimates and appropriate emission factors from EMFAC2021. Model year 2020 or newer on-road engines in heavy-duty, diesel-powered truck emissions (**AQ-IAMF#5**) were modeled using emission rates derived from CalEEMod. Section 10, Estimated Emissions Rates and Comparison to *De Minimis* Levels, provides further details of the construction emission calculations.

On June 12, 2025, three Congressional Resolutions disapproved USEPA's decisions to grant California waivers for several regulations reflected in the EMFAC2021 version 1.0.2 baseline, including Advanced Clean Trucks, Zero-Emission Airport Shuttle, Heavy-Duty Vehicle and Engine Emission Warranty and Maintenance Provisions, and Heavy-Duty Omnibus regulations (U.S. Congress 2025). CARB published off-model adjustment factors to remove Advanced Clean Trucks, Heavy-Duty Vehicle and Engine Emission Warranty and Maintenance Provisions, and Heavy-Duty Omnibus waivers from EMFAC2021 version 1.0.2, and USEPA approved those factors on November 21, 2025 (USEPA 2025b). The EMFAC2021 emission rates used for this conformity analysis have been adjusted using the USEPA-approved off-model factors. The estimated annual average emissions summarized in Table 10-1 of this report have been adjusted using the USEPA-approved off-model factors.

On May 6, 2026, USEPA approved additional EMFAC off-model adjustment factors that account for the estimated emission benefits attributed to California's Heavy-Duty Inspection and Maintenance Regulation, also known as California's Clean Truck Check regulation (USEPA 2026). Because these correction factors were published after the Draft EIR/EIS was circulated, the Authority reviewed these factors to determine whether the use of these updated factors would change the analysis in this General Conformity Determination. After review, the Authority concluded that the application of these additional factors would result in a reduction of the Project's regional on-road truck emissions. Therefore, because the analysis herein is more conservative, the emission calculations included in this Final General Conformity Determination do not include the May 2026 EMFAC off-model adjustment factors.

7.3 Major Construction-Phase Activities

Project-specific data, including construction equipment lists and the construction schedule, were used to calculate emissions from construction of the Project. Calculations were performed for each year of construction.

Major activities were grouped into the following categories (described in more detail in Section 9, Construction Activities Considered, of this report):

- Site preparation
- Earthmoving

[5] The IAMF requires watering on all unpaved surfaces, which would achieve additional reductions (up to 61 percent).

- Construction of road crossings[6]
- Construction of aerial structures[7]
- Construction of underground structures
- Track laying
- Systems
- HSR station modifications and station relocations

These major construction activities are used in the construction emission estimates described in Section 10 of this report.

7.4 Emission Scenarios

The General Conformity regulations require that the evaluation reflect certain emission scenarios (40 CFR Part 93.159(d)). Specifically, these scenarios generally include the evaluation of the direct and indirect emissions from a project for the following years: (1) for nonattainment areas, the attainment year specified in the SIP or, if the SIP does not specify an attainment year, the latest attainment year possible under the CAA, and for maintenance areas, the furthest year for which emissions are projected in the approved maintenance plan; (2) the year during which the total of direct and indirect emissions for the federal action are projected to be the greatest on an annual basis; and (3) any year for which the applicable SIP specifies an emissions budget. Both the operational and construction phases of the action have to be analyzed, and the following applies to the Project.

- Emissions generated during the operational phase of the Project would meet the emission requirements for the years associated with Items 1 and 3, because the emissions generated during the operational phase of the Project would be less than those emitted in the No-Build scenario. In addition, microscale analyses conducted for the Final EIR/EIS demonstrate that the operational phase of the Project would not cause or exacerbate a violation of the NAAQS for all applicable pollutants.
- Emissions generated during the Project's construction phase, which would include the year with the greatest amount of total direct and indirect emissions, may be subject to General Conformity regulations because regional emissions would increase and, as such, have the potential to cause or exacerbate an exceedance of a NAAQS. Therefore, analyses were conducted to estimate the amounts of emissions that would be generated during the construction phase (for comparison with the General Conformity *de minimis* rate and the potential impacts of these emissions on local air quality levels. Emissions generated at the construction sites (e.g., tailpipe emissions from the on-site heavy-duty diesel equipment, fugitive dust emissions generated by vehicles traveling within the construction sites) and on the area's roadways by vehicles traveling to and from these sites (by vehicles transporting materials and the workers traveling to and from work) were considered.
- Air quality dispersion modeling would be required for this conformity analysis to estimate the Project's localized impacts on $PM_{2.5}$ and CO concentrations if the annual emissions of the pollutants generated during construction were to exceed the General Conformity *de minimis* levels.

Annual emissions were estimated for each year of the Project's construction period. These emissions, which are the maximum values for the Project, are described in more detail in Section 10 of this report.

[6] This construction category includes construction of the LMF.
[7] This construction category includes construction of the LMF.

8 APPLICABILITY ANALYSIS

The first step in a General Conformity evaluation is an analysis of whether the requirements apply to a proposed federal action in a nonattainment or a maintenance area. Unless exempted by the regulations or otherwise presumed to conform, a federal (nontransportation) action requires a General Conformity Determination for each pollutant where the total of direct and indirect emissions caused by the federal action would equal or exceed an annual *de minimis* emission rate.

8.1 Attainment Status of Project Area

USEPA and CARB designate each county (or portions of counties) within California as attainment, maintenance, or nonattainment based on the area's ability to meet ambient air quality standards. Regions are designated as attainment for a criteria pollutant when the concentration of that pollutant is below the ambient air standard. If a criteria pollutant concentration is above the ambient air standard, the area is in nonattainment for that pollutant. Areas previously designated as nonattainment that subsequently demonstrated compliance with the ambient air quality standards are designated as a maintenance area. Table 8-1 summarizes the federal (under NAAQS) and state (under California Ambient Air Quality Standards) attainment status for the South Coast Air Basin.

Table 8-1 Federal and State Attainment Status of the South Coast Air Basin

Pollutant	Federal Classification	State Classification
O_3 1-hour	N/A	Nonattainment
O_3 8-hour	Extreme Nonattainment (2008 and 2015 standards)	Nonattainment
$PM_{2.5}$	Serious Nonattainment (2006 and 2012 standard) Moderate Nonattainment (1997 standard)	Nonattainment
PM_{10}	Attainment/Maintenance	Nonattainment
CO	Attainment/Maintenance	Attainment
NO_2 1-hour	Attainment/Unclassified	Attainment
NO_2 annual	Attainment/Maintenance	Attainment
SO_2	Attainment/Unclassified	Attainment
Lead	Nonattainment (partial Los Angeles County only), Attainment (rest of South Coast Air Basin)	Attainment
All others	N/A	Attainment/Unclassified

Sources: CARB 2024; USEPA 2024b
CO = carbon monoxide; N/A = not applicable; NO_2 = nitrogen dioxide; O_3 = ozone; PM_{10} = particulate matter 10 microns or less in diameter; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter; SO_2 = sulfur dioxide

Under the federal criteria, the South Coast Air Basin is currently designated as nonattainment/extreme for the federal 8-hour O_3[8] standard; unclassifiable for the federal 1-hour NO_2 and SO_2 standards; attainment/maintenance for the federal PM_{10}, CO, and annual NO_2 standards; nonattainment/serious for the federal $PM_{2.5}$ standard; and attainment (except part of Los Angeles County) for the federal lead standard. As such, the FRA is required to demonstrate Project-level compliance with the General Conformity Rule for NO_X and VOCs (O_3 precursors),

[8] It should be noted that because O_3 is a secondary pollutant (i.e., it is not emitted directly into the atmosphere, but it formed in the atmosphere from the photochemical reactions of VOCs and NO_X in the presence of sunlight), its *de minimis* level is based on the primary emissions of its precursor pollutants, NO_X and VOCs. If the net emissions of either NO_X or VOCs exceed the *de minimis* levels (USEPA 1994), the Project is subject to a general conformity evaluation for O_3.

$PM_{2.5}$, PM_{10}, CO, NO_2, and SO_2 ($PM_{2.5}$ precursor[9]) by comparing Project-related emissions of these pollutants against the General Conformity *de minimis* levels.[10]

8.2 Exemptions from General Conformity Requirements

As noted previously, the General Conformity Rule requirements apply to a federal action if the net Project emissions equal or exceed certain *de minimis* levels. The only exceptions to this applicability criterion are if the activity is on the federal agency's presumed-to-conform list (40 CFR Part 93.153(f)), meets the narrow exemption for federal actions in response to an emergency or disaster (40 CFR Part 93.153(e)), or is one of the following topical exemptions:

- Actions that would result in no emissions increase or an increase in emissions that is clearly below the *de minimis* levels (40 CFR Part 93.153(c)(2)). Examples include administrative actions and routine maintenance and repair.
- Actions where the emissions are not reasonably foreseeable (40 CFR Part 93.153(c)(3))
- Actions that implement a decision to conduct or carry out a conforming program (40 CFR Part 93.153(c)(4))
- Actions that include major new or modified sources requiring a permit under the New Source Review program (40 CFR Part 93.153(d)(1))
- Actions in response to emergencies or natural disasters (40 CFR Part 93.153(d)(2))
- Actions that include air quality research not harming the environment (40 CFR Part 93.153(d)(3))
- Actions that include modifications to existing sources to enable compliance with applicable environmental requirements (40 CFR Part 93.153(d)(4))
- Actions that include emissions from remedial measures carried out under the Comprehensive Environmental Response, Compensation and Liability Act that comply with other applicable requirements (40 CFR Part 93.153(d)(5))

However, the Project does not meet any of the exemption categories described above. In addition, the FRA has not established a presumed-to-conform list of activities at the time of this evaluation, and the Project does not meet the requirements of 40 CFR Part 93.153(e).

8.3 Applicability for the Project

After determining that the Project is not otherwise exempt, the applicability of the General Conformity requirements to the Project is evaluated by comparing the total direct and indirect emissions for the calendar year of greatest emissions to the General Conformity *de minimis* levels. Where the total of direct and indirect emissions attributable to the Project is found to be below the *de minimis* levels for a pollutant, that pollutant is excluded from General Conformity requirements, and no further analysis is required. However, when the emissions of an applicable pollutant are at or above a *de minimis* level, that pollutant must undergo a General Conformity evaluation.

8.4 *De Minimis* Emission Levels

The General Conformity requirements would apply to the Project for each pollutant for which the total of direct and indirect emissions caused by the Project equal or exceed the *de minimis* levels presented in Table 8-2. These emission levels are expressed in units of tons per year for the Project in the South Coast Air Basin for the calendar year. The General Conformity *de minimis*

[9] Ammonia is also a precursor to $PM_{2.5}$. However, neither the construction nor operation of the Project would result in material emissions of ammonia.

[10] Lead emissions from mobile sources in the urban environment have decreased largely because of the federally mandated switch to lead-free gasoline, and these levels are expected to continue to decrease. An analysis of lead emissions from transportation projects is, therefore, not warranted and was not conducted for this Project.

levels are based on the federal attainment status of the RSA. The applicable levels for the pollutants for which General Conformity is required in the RSA are presented in Table 8-2. A comparison of the total annual estimated emissions generated within the South Coast Air Basin during the Project's construction period to the *de minimis* levels is presented in Section 10 of this report.

Table 8-2 *De Minimis* Levels for Determining Applicability of General Conformity Requirements to Federal Actions

Air Basin	General Conformity *De Minimis* Levels (tpy)						
	VOC	CO	NO_X	NO_2	SO_2	PM_{10}	$PM_{2.5}$
South Coast Air Basin	10	100	10	100	70	100	70

Source: 40 Code of Federal Regulations Section 93.153
CO = carbon monoxide; NO_2 = nitrogen dioxide; NO_X = nitrogen oxides; PM_{10} = particulate matter 10 microns or less in diameter; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter; SO_2 = sulfur dioxide; tpy = tons per year; VOC = volatile organic compound

9 CONSTRUCTION ACTIVITIES CONSIDERED

As discussed in Section 3.3.6.3 of the Final EIR/EIS, the Project is predicted to reduce annual regional roadway vehicle miles traveled as a result of travelers using HSR instead of driving. The total operational emissions analysis included the indirect emissions from regional vehicle travel and power plants and direct project operational emissions from HSR stations, maintenance facilities, and train movements. The results of the regional analyses conducted for the Project demonstrate that emissions generated during the operational phase would be less than those emitted in the No-Build and existing conditions scenarios, and the microscale analyses demonstrate that the Project would not cause or exacerbate a violation of the NAAQS for these pollutants. As such, no further analysis of the operational period emissions is necessary for this General Conformity Determination. Section 10 focuses on the emissions generated from the construction period for the Project.

Construction of the Project—which includes early action projects involving grade separations, Metrolink station relocations, and freight yard improvements—would involve demolition of existing structures; clearing and grubbing; reduction of permeable surface area; handling, storing, hauling, excavating, and placing fill; possible pile driving; construction of aerial structures and bridges; road modifications; utility upgrades and relocations; pole installation; construction of HSR electrical systems; and relocation of railbeds.

The analysis conducted for the Final EIR/EIS to estimate potential air quality impacts caused by on-site (e.g., construction equipment operations and truck movements) and off-site (e.g., motor vehicle traffic effects from truck trips) construction-phase activities included:

- Estimation of emissions generated by construction activities (e.g., site preparation, track laying, construction of underground and aerial structures), including fugitive dust emissions and emissions released from diesel-powered equipment, locomotives, and trucks based on the hours of operation of each piece of equipment
- Identification of heavily traveled truck routes to estimate the cumulative effects of on-site construction activity emissions and off-site traffic emissions
- An on-site dispersion modeling analysis of the major construction areas
- An off-site dispersion modeling analysis of the roadway intersections/interchanges adjacent to the construction areas using traffic data that include construction-related vehicles and background traffic
- A comparison of the on-site and off-site modeling results to the applicable NAAQS for the applicable pollutants

Emission rates for these activities were estimated based on the following:

- The number of hours per day and duration of each construction activity
- The number and type of construction equipment to be used
- Horsepower, load factors, and utilization rates (hours per day) for each piece of equipment
- The quantities of construction/demolition material produced and removed from each site
- The number of truck trips needed to remove construction/demolition material, and to bring the supply materials to each site

The following sections discuss the major activities considered, the timing of these activities, and the procedures used to estimate emission rates. Emissions were calculated using emission

factors[11] from CalEEMod with EMFAC2021 vehicle emission factors using the Project-specific equipment list (CAPCOA 2022).

A full description of construction analysis methodology can be found in Section 6.9, Construction Phase, of the *Los Angeles to Anaheim Project Section Air Quality and Global Climate Change Technical Report* (Authority 2025b). In addition, the equipment counts, horsepower, hours of operation, and load factors used in the analysis are included in Appendix A, Construction Emissions, of the *Los Angeles to Anaheim Project Section Air Quality and Global Climate Change Technical Report* (Authority 2025b).

Construction activities associated with the Project would result in criteria pollutant emissions. Construction emissions for the Project are quantified and analyzed in Section 3.3.6.3 of the Final EIR/EIS. The analysis assumed that Project construction would take place from the first quarter of 2031 to the fourth quarter of 2037.

9.1 Early Action Projects

As described in Chapter 2 of the Final EIR/EIS, early action projects could be completed in collaboration with local and regional agencies. The types of projects include grade separations, track enhancements, and improvements at passenger rail stations, which would increase capacity, improve safety and air quality, and provide immediate mobility and reliability benefits for existing freight and passenger rail operations. These projects are described in more detail in Section 2.6.5 of the Final EIR/EIS.

The potential temporary construction and permanent operational environmental effects associated with these early action projects, including the emissions of criteria air pollutants, are included in the total evaluation of the Project. Because these early action projects may be carried out by local and regional agencies or the Authority, it will be the responsibility of the implementing agency to conduct preconstruction verification calculations of emissions. The implementing agency may rely on the findings from the Authority's environmental analysis, provided that the implementing agency apply the mitigation measures outlined in Section 3.3 of the Final EIR/EIS and secure any offsets, as necessary. Therefore, potential early action projects relevant to this Project are analyzed to allow these agencies to adopt the findings and mitigation measures as needed to build the projects.

9.2 Project Construction

For the Project, specific construction elements would include surface and elevated track, track work, grade-separated roadway crossings, and installation of train signaling and interlocking improvements. Surface track sections would be built using conventional railroad construction techniques. A typical construction sequence includes clearing, grubbing, grading, and compacting the railbed; applying crushed rock ballast; laying track; and installing electrical and communications systems.

Elevated track sections would use the precast, segmented construction method. In this construction method, large concrete bridge segments are mass-produced at an on-site, temporary casting yard. Precast segments are then elevated atop the already completed portions of the elevated viaduct or embankment and installed using a special gantry crane positioned on the aerial structure. Although the precast segmental method is the favored technique for aerial structure construction, other methods may be used, including cast-in-place, box girder, or precast, span-by-span techniques.

Preconstruction activities would occur during final design and would include geotechnical investigations, identification of laydown and staging areas, initiation of site preparation and demolition, relocation of utilities, implementation of temporary, long-term, and permanent road

[11] EMFAC vehicle emission rates shown in the Draft General Conformity Determination were adjusted for this Final General Conformity Determination using factors approved by USEPA on November 21, 2025.

closures, and locating temporary batch plants. Additional studies and investigations to develop construction requirements and worksite traffic control plans would occur as needed.

Major construction activities for the Project would include earthwork and excavation support, systems construction, bridge and aerial structure construction, and railway systems construction (including trackwork, traction electrification, signaling, and communications).

During peak construction periods, work would be under way at several locations along the route simultaneously, with overlapping construction of various Project elements. Working hours and the number of workers present at any time would vary depending on the activities being performed.

The major construction activities provided in the sections below would account for the vast majority of earthwork, the largest amount of diesel-powered off-road construction equipment, and the majority of material to be hauled along public streets compared with the other minor construction activities of the Project. Therefore, the regional emissions and localized emissions from these major activities would account for the vast majority of construction emissions that would be generated by construction of the Project. Regional and localized emissions from minor construction activities, such as mobilization and demobilization, were quantified and would contribute fewer emissions than the major construction activities discussed below. The estimated construction emissions from these major as well as minor activities were used to evaluate the air quality impacts from construction of the Project.

9.2.1 Site Preparation

Site preparation activities would include demolition; utilities relocation; clearing and grubbing the right-of-way; establishment of detours and haul routes; and preparation of construction equipment yards, stockpile materials, and the precast concrete segment casting yard. Such activities were estimated to start in January 2031 and end in January 2034. Emissions from site preparation activities were calculated using CalEEMod and EMFAC2021 emission factors using the Project-specific equipment list.

9.2.2 Earth Moving

Earth-moving activities would include excavation and construction of earth support structures. Such activities were estimated to start in April 2031 and end in October 2036. Emissions from earth moving activities were calculated using CalEEMod and EMFAC2021 emission factors using the Project-specific equipment list.

9.2.3 Construction of Road Crossings

Activities associated with the construction of road crossings would include surface street modifications and grade separations, including those related to the LMF. Such activities were estimated to start in July 2031 and end in July 2037. Emissions from activities associated with the construction of road crossings were calculated using CalEEMod and EMFAC2021 emission factors using the Project-specific equipment list.

9.2.4 Construction of Aerial Structures

Activities associated with construction of aerial structures would include construction of aerial structures, LMF structures, and bridge foundations, substructures, and superstructures. Such activities were estimated to start in July 2032 and end in July 2036. Emissions from activities associated with construction of aerial structures were calculated using CalEEMod and EMFAC2021 emission factors using the Project-specific equipment list.

9.2.5 Construction of Underground Structures

Activities associated with construction of underground structures would include construction of the braced trench. Such activities were estimated to start in October 2032 and end in April 2036. Emissions from activities associated with the construction of underground structures were calculated using CalEEMod and EMFAC2021 emission factors using the Project-specific equipment list.

9.2.6 Track Laying

Track-laying activities would include construction of track, as well as backfilling operations and construction of drainage facilities. Such activities were estimated to start in July 2033 and end in December 2037. Emissions from track-laying activities were calculated using CalEEMod and EMFAC2021 emission factors using the Project-specific equipment list.

Additionally, the Project would require ballast for installation of at-grade tracks. Ballast-hauling activities would include the transport of ballast using locomotives and haul trucks for the installation of at-grade tracks. Such ballast would be delivered to the Project area via train from outside of California and may be obtained from quarries in the Midwest. Locomotives emission factors were developed using USEPA's Emission Factors for Locomotives (USEPA 2009) and locomotive fleet mix information from BNSF. Locomotive emissions were estimated based on the locomotive horsepower, load factor, and daily usage (hours). On-road haul trucks would also be used to haul ballast within the RSA. Emissions associated with on-road haul truck travel were calculated using CalEEMod and EMFAC2021 emission factors using the Project-specific equipment list.

9.2.7 Systems

Activities associated with construction of systems would include construction of train control systems, the overhead contact system, the communication system, and signaling equipment. Such activities were estimated to start in October 2035 and end in October 2037. Emissions from activities associated with construction of systems were calculated using CalEEMod and EMFAC2021 emission factors using the Project-specific equipment list.

9.2.8 High-Speed Rail Station Modifications and Station Relocations

Construction activities associated with HSR station modifications and station relocations would occur at several locations and include the following: demolition, site preparation, foundations, structural frame, electrical and mechanical systems, and finishes. Such activities were estimated to occur at the following locations during the following times: Commerce Metrolink Station Relocation (January 2031 to January 2032), Buena Park Metrolink Station Relocation (January 2034 to March 2035), Norwalk/Santa Fe Springs Metrolink Station Modifications (July 2033 to July 2036), Fullerton Metrolink/Amtrak Station Modifications (January 2033 to June 2035), and Anaheim HSR Station (ARTIC) Platform and Facilities (October 2034 to September 2037). Emissions from activities associated with construction of station modifications and station relocations were calculated using CalEEMod and EMFAC2021 emission factors using the Project-specific equipment list.

10 ESTIMATED EMISSIONS RATES AND COMPARISON TO *DE MINIMIS* LEVELS

Total annual estimated emissions generated within the South Coast Air Basin during the Project's construction period, as presented in Table 3.3-15 in Section 16.5.3 of the Final EIR/EIS, are provided in Table 10-1. As presented in Table 10-1, direct emissions from the construction phase of the Project would exceed the General Conformity applicability (i.e., *de minimis*) level for NO_X in the South Coast Air Basin in the years 2032 through 2034 (construction years 2 through 4). All other pollutants would be below applicable *de minimis* levels during the construction phase.

The following are the maximum estimated annual values of each pollutant for construction of the Project.

- VOC: 3.11 tpy
- CO: 57.59 tpy
- NO_X/NO_2: 29.47 tpy
- SO_2: less than 1 tpy
- PM_{10}: 10.78 tpy
- $PM_{2.5}$: 2.90 tpy

Table 10-1 Estimated Annual Average Emissions

Pollutants	Emissions (Tons/Construction Year)							Conformity Applicability Level (tpy)[2]
	1	2	3	4	5	6	7	
VOC[3]	1.01	2.00	3.11	1.67	1.02	<1	<1	10
CO	15.77	36.99	57.59	57.27	30.50	15.82	6.93	100
NO_X	8.85	**24.64**	**29.47**	**18.41**	9.58	6.85	5.77	10
NO_2[4]	8.85	24.64	29.47	18.41	9.58	6.85	5.77	100
SO_2[5]	<1	<1	<1	<1	<1	<1	<1	70
PM_{10}[1]	2.98	5.87	10.78	7.81	4.84	2.71	1.36	100
$PM_{2.5}$[1]	<1	1.71	2.90	2.03	1.16	<1	<1	70

Source: Authority 2026

[1] The PM_{10} and $PM_{2.5}$ emissions consist of exhaust and fugitive dust emissions.

[2] Pursuant to the National Environmental Policy Act, effects on air quality would be considered an impact if the proposed action criteria pollutant emissions would be equal to or exceed the General Conformity *de minimis* levels in a nonattainment or maintenance area. It is currently assumed that General Conformity would apply only to construction of the proposed action, because operation of the proposed action is expected to decrease regional emissions of criteria pollutants.

[3] Table 3.3-15 in Section 16.5.3 of the Final Environmental Impact Report/Environmental Impact Statement reports the emissions as ROG. ROG and VOC are terms used interchangeably. For the purposes of this analysis, the VOC emissions are assumed to be equal to the ROG emissions.

[4] For the purposes of this analysis, the NO_2 emissions are assumed to be equal to the NOx emissions.

[5] The conformity level for SO_2 (a subset of SO_X) is provided as a precursor of $PM_{2.5}$, which is in nonattainment in the South Coast Air Basin.

Bold values exceed the *de minimis* levels

CO = carbon monoxide; N/A = not applicable; NO_2 = nitrogen dioxide; NO_X = nitrogen oxides; PM_{10} = particulate matter 10 microns or less in diameter; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter; ROG = reactive organic gases; SO_2 = sulfur dioxide; SO_X = sulfur oxides; tpy = tons per year; VOC = volatile organic compound

11 REGIONAL EFFECTS

As discussed in Section 3.3.6.3 of the Final EIR/EIS, the total regional emissions for all of the applicable pollutants would be lower during the operational phase of the Project than under No-Build conditions (and would therefore not exceed the *de minimis* emission level). As such, only emissions generated during the construction phase were compared to the conformity levels to determine conformity compliance. As presented in Table 10-1, construction-phase emissions, compared to the General Conformity *de minimis* rates, are discussed below:

- Annual estimated VOC emissions in the South Coast Air Basin are less than the *de minimis* rate of 10 tpy for construction in 2031 through 2037 (construction years 1 through 7) for the Project.
- Annual estimated CO emissions in the South Coast Air Basin are less than the *de minimis* rate of 100 tpy for construction in 2031 through 2037 (construction years 1 through 7) for the Project.
- Annual estimated NO_X emissions are greater than the *de minimis* rate of 10 tpy in 2032 through 2034 (construction years 2 through 4) for the Project.
- Annual estimated NO_2 emissions are less than the *de minimis* rate of 100 tpy for construction in 2031 through 2037 (construction years 1 through 7) for the Project.
- Annual estimated SO_2 emissions are less than the *de minimis* rate of 70 tpy for construction in 2031 through 2037 (construction years 1 through 7) for the Project.
- Annual estimated PM_{10} emissions are less than the *de minimis* rate of 100 tpy for construction in 2031 through 2037 (construction years 1 through 7) for the Project.
- Annual estimated $PM_{2.5}$ emissions are less than the *de minimis* rate of 70 tpy for construction in 2031 through 2037 (construction years 1 through 7) for the Project.

As such, a General Conformity Determination is required for this Project for NO_X for the years during construction where the emissions would exceed the *de minimis* levels and do not meet any of the exceptions cited in 40 CFR Part 93.154(c).

12 GENERAL CONFORMITY EVALUATION

For federal actions subject to a General Conformity evaluation, the regulations delineate several ways an agency can demonstrate conformity (40 CFR Part 93.158). This section summarizes the findings used to make the determination for the Project.

12.1 Conformity Requirements of the Project

Based on the results presented in Table 10-1, conformity determinations are required for construction-phase emissions for NO_X because annual estimated emissions are greater than the *de minimis* rate of 10 tpy for NO_X in the South Coast Air Basin.

12.2 Compliance with Conformity Requirements

NO_X emissions caused by the construction of the Project would not result in an increase in regional NO_X emissions in the South Coast Air Basin because exceedances would be mitigated by offsets. This would be achieved by additional on-site controls and offsetting remaining NO_X emissions generated by the construction of the Project in a manner consistent with the General Conformity regulations. The requirements for offsets (as described below) would be implemented as part of the Project and are included in the mitigation measures in the Final EIR/EIS. Any required offsets will be accomplished by complying with the agreement with SCAQMD that was executed on May 5, 2026 (Appendix A).

AQ-MM#1: Offset Project Construction Emissions in the South Coast Air Basin through SCAQMD Emissions Offsets Program

The Project's construction emissions that cannot be reduced by IAMFs and any other mitigation measures will be offset through a SCAQMD rule or contractual agreement to fund equivalent emissions reductions that achieve reductions in the same years (to the extent same-year offsets are available) as construction emissions occur, thus offsetting Project-related air quality impacts in real time as required by the General Conformity Rule. The Project would implement measures and best practices to minimize emissions from Project construction. After implementation of these measures, if emission levels still exceed *de minimis* levels, they will be fully offset to meet the General Conformity Rule, and to meet CEQA thresholds to the extent feasible. As the Project advances toward construction, the Authority will work with SCAQMD to assess the estimated emissions, availability of offsets, and cost.

As part of these offset programs, a copy of each unit's certified tier or model year specification shall be available upon request at the time of mobilization of each applicable equipment unit. Furthermore, the Authority will require periodic reporting and provision of written construction documents by construction contractor(s) to ensure compliance and conduct regular inspections to the maximum extent feasible to ensure compliance with applicable Authority IAMFs and mitigation measures.

AQ-MM#2: Requirements for Use of Zero-Emission or Near-Zero-Emission Vehicles and Off-Road Equipment to Reduce Construction Emissions

This mitigation measure will reduce the impact of construction emissions from Project-related on-road vehicles and off-road equipment. All remaining emissions after implementation of this measure would be offset to conform with 40 CFR 93.158(a), with emission credits required under AQ-MM#1.

The Authority will require that all Project construction contractors use a minimum of 25 percent, with a goal of 100 percent, of all light-duty on-road vehicles (e.g., passenger cars, light-duty trucks) associated with the Project (e.g., on-site vehicles, contractor vehicles) with ZE or near-ZE technology.

The Authority and all Project construction contractors will have the goal that a minimum of 25 percent of all heavy-duty on-road vehicles (e.g., for hauling, material delivery and soil import/export) associated with the Project use ZE or near-ZE technology.

The Authority and all Project construction contractors will have the goal that a minimum of 10 percent of off-road construction equipment use ZE or near-ZE vehicles.

If local or state regulations mandate a faster transition to using ZE or near-ZE vehicles at the time of construction, the more stringent regulations will be applied. For example, California Executive Order N-79-20, issued by California Governor Gavin Newsom on September 23, 2020, currently states the following:

- Light-duty and passenger car sales be 100 percent ZE vehicles by 2035
- Full transition to ZE short haul/drayage trucks by 2035
- Full transition to ZE heavy-duty long-haul trucks, where feasible, by 2045
- Full transition to ZE off-road equipment by 2035, where feasible

The Project will have a goal of surpassing the requirements of these or other future regulations as a mitigation measure.

Because the commercial availability of future electric equipment and vehicles is unknown, emissions reductions achieved by **AQ-MM#2** cannot currently be quantified or included in the analysis.

12.3 Consistency with Requirements and Milestones in the Applicable State Implementation Plan

The General Conformity regulations state that notwithstanding the other requirements of the rule, a federal action may not be determined to conform unless the total of direct and indirect emissions from the federal action is in compliance or consistent with all relevant requirements and milestones in the applicable SIP (40 CFR Part 93.158(c)). This includes but is not limited to such issues as reasonable further progress schedules, assumptions specified in the attainment or maintenance demonstration, prohibitions, numerical emission limits, and work practice standards. This section briefly addresses how the construction emissions for the Project were assessed for SIP consistency for this evaluation.

12.3.1 Applicable Requirements from the U.S. Environmental Protection Agency

USEPA promulgates numerous requirements to support the goals of the CAA with respect to the NAAQS. Typically, these requirements take the form of rules regulating emissions from significant new sources, including emission standards for major stationary point sources and classes of mobile sources, as well as permitting requirements for new major stationary point sources. Because states have the primary responsibility for implementation and enforcement of requirements under the CAA and can impose stricter limitations than USEPA, USEPA requirements often serve as guidance to the states in formulating their air quality management strategies.

12.3.2 Applicable Requirements from the California Air Resources Board

In California, to support the attainment and maintenance of the NAAQS, CARB is primarily responsible for regulating emissions from mobile sources. In fact, USEPA has delegated authority to CARB to establish emission standards for on-road and some nonroad vehicles separate from the USEPA vehicle emission standards, although CARB is preempted by the CAA from regulating emissions from many nonroad mobile sources, including marine craft. Only USEPA can set emission standards for preempted equipment.

12.3.3 Applicable Requirements from SCAQMD

To support the attainment and maintenance of the NAAQS in the South Coast Air Basin, SCAQMD is primarily responsible for regulating emissions from stationary sources. SCAQMD develops and updates its Air Quality Management Plan regularly to support the California SIP. Although the Air Quality Management Plan contains rules and regulations geared to attain and maintain the NAAQS, these rules and regulations also have the much more difficult goal of attaining and maintaining the California Ambient Air Quality Standards.

12.3.4 Consistency with Applicable Requirements for the Authority

The Authority already complies with, and will continue to comply with, a number of rules and regulations implemented and enforced by federal, state, regional, and local agencies to protect and enhance ambient air quality in the South Coast Air Basin.

The Authority will continue to comply with all existing applicable air quality regulatory requirements for activities over which it has direct control and will meet in a timely manner all regulatory requirements that become applicable in the future.

These are appropriate USEPA, CARB, and SCAQMD rules and regulations that are standard practice and best management practices for construction in the SCAQMD and include control of emissions and exhaust.

Regulation II: Permits

This regulation requires that a permit be obtained from SCAQMD prior to construction and operation of certain stationary equipment and facilities that emit air pollutants.

Regulation IV: Prohibitions

This regulation sets forth the restrictions for visible emissions, odor nuisance, fugitive dust, various air pollutant emissions, fuel contaminants, and startup/shutdown exemptions.

- **SCAQMD Rule 401, Visible Emissions:** This rule states that a person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant for a period or periods aggregating more than 3 minutes in any 1 hour that is as dark or darker in shade as that designated No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines.
- **SCAQMD Rule 402, Nuisance:** This rule restricts the discharge of any contaminant in quantities that cause, or have a natural ability to cause, injury, damage, nuisance, or annoyance to businesses, property, or the public. The Project does not plan to discharge any contaminants in quantities that would cause injury to the public or property.
- **SCAQMD Rule 403, Fugitive Dust:** This rule requires the prevention, reduction, or mitigation of fugitive dust emissions from a project site. Rule 403 restricts visible fugitive dust to a project property line, restricts the net PM_{10} emissions to less than 50 micrograms per cubic meter, and restricts the tracking out of bulk materials onto public roads. Additionally, Rule 403 requires an applicant to use one or more of the best available control measures (identified in the tables within the rule). Mitigation measures may include adding freeboard to haul vehicles, covering loose material on haul vehicles, using dust suppressants such as watering or chemical soil stabilizers, or ceasing all activities.

Regulation XI: Source-Specific Standards

Regulation XI sets emissions standards for various stationary sources.

- **SCAQMD Rule 1108, Cutback Asphalt:** This rule limits the emissions of vapors of organic compounds from the use of cutback and emulsified asphalts.
- **SCAQMD Rule 1110.2, Emissions from Gaseous and Liquid Fueled Engines:** This rule helps reduce NO_X, VOC, and CO emissions from all stationary and portable spark- or compression-ignited internal combustion engines rated over 50 brake horsepower.
- **SCAQMD Rule 1113, Architectural Coatings:** This rule limits the amount of VOCs from architectural coatings and solvents, which lowers the emissions of odorous compounds.
- **SCAQMD Rule 1166, Volatile Organic Compound Emissions from Decontamination of Soil:** This rule requires that an approved mitigation plan be obtained from SCAQMD prior to commencing any of the following activities:
    - The excavation of an underground storage tank or piping that has stored VOCs

  - The excavation or grading of soil containing VOC material including gasoline, diesel, crude oil, lubricant, waste oil, adhesive, paint, stain, solvent, resin, monomer, or any other material containing VOCs
  - The handling or storage of VOC-contaminated soil (soil that registers greater than 50 parts per million or greater using an organic vapor analyzer calibrated with hexane) at or from an excavation or grading site
  - The treatment of VOC-contaminated soil at a facility
- **SCAQMD Rule 1171, Solvent Cleaning Operations:** This rule limits the amount of VOCs from use of solvents for cleaning parts and equipment, which lowers the emissions of O_3-forming compounds.

Regulation XIII: New Source Review

This regulation sets forth preconstruction review requirements for new, modified, or relocated stationary facilities to ensure that the operation of such facilities does not interfere with progress toward attainment of the NAAQS, and that future economic growth within the South Coast Air Basin is not unnecessarily restricted. The specific air quality goal of this regulation is to achieve no net increases from new or modified permitted sources of nonattainment air contaminants or their precursors.

In addition to nonattainment air contaminants, this regulation will also limit emission increases of ammonia and O_3-depleting compounds from new, modified, or relocated facilities by requiring the use of best available control technology.

Regulation XIV: Toxics and Other Non-Criteria Pollutants

- **Rule 1401, New Source Review of Toxic Air Contaminants:** This rule specifies limits for maximum individual cancer risk, cancer burden, and noncancer acute and chronic hazard index from new permit units, relocations, or modifications to existing permit units that emit toxic air contaminants (TAC).
- **Rule 1403, Asbestos Emissions from Demolition/Renovation Activities:** The purpose of this rule is to limit emissions of asbestos, a TAC, from structural demolition/renovation activities. The rule requires people to notify SCAQMD of proposed demolition/renovation activities and to survey these structures for the presence of asbestos-containing materials. The rule also includes notification requirements for any intent to disturb asbestos-containing materials; emission control measures; and asbestos-containing material removal, handling, and disposal techniques. All proposed structural demolition activities associated with proposed construction would need to comply with the requirements of Rule 1403.
- **Rule 1466, Control of Particulate Emissions from Soils with Toxic Air Contaminants:** The purpose of this rule is to minimize the amount of off-site fugitive dust emissions containing TACs by reducing particulate emissions in the ambient air as a result of earth-moving activities, including dredging, excavating, grading, earth-cutting and filling, loading, unloading, handling, mechanized land clearing, treating, stockpiling, transferring, and removing of soil that contains applicable TACs, from sites that meet the applicability requirements of subdivision (b).
- **Rule 1470, Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines:** This rule outlines specific requirements for any person who owns or operates a stationary compression ignition engine in SCAQMD jurisdiction with a rated brake horsepower greater than 50 (greater than 50 brake horsepower), except as provided in subdivision (h). The purpose of these requirements is to help reduce criteria pollutant and TAC emissions, as well as health risk impacts, from diesel-fueled internal combustion and other diesel-fueled compression ignition engines.

13 REPORTING AND PUBLIC COMMENTS

To support a decision concerning the Project, the Authority issued a Draft General Conformity Determination for public and agency review for a 30-day period as required by 40 CFR Parts 93.155 and 93.156. In developing the analysis underlying this General Conformity Determination, the Authority consulted with SCAQMD on a variety of technical and modeling issues. The Authority also consulted with USEPA and CARB on the overall approach to General Conformity.

The Authority provided copies of the Draft General Conformity Determination to the appropriate regional offices of USEPA, CARB, and SCAQMD, advised them of the availability of the draft for a 30-day review period, or both. The Authority published, on behalf of FRA, a notice in the *Los Angeles Times* announcing the availability of the Draft General Conformity Determination and requesting written public comments during a 30-day period (May 15 through June 14, 2026). The Draft and this Final General Conformity Determination have been made available on the Authority's website at https://hsr.ca.gov/LAAdraftGCD.

During the public comment period, one nonsubstantive comment was received on the Draft General Conformity Determination. The commenter expressed support for the Project; however, the comment was not germane to the FRA's air quality analysis or determination. Therefore, there were no public comments to address in this Final General Conformity Determination.

14 FINDINGS AND CONCLUSIONS

The FRA conducted a General Conformity evaluation pursuant to 40 CFR Part 93 Subpart B, and based on the Authority's coordination with USEPA, SCAQMD, and CARB. The General Conformity regulations apply at this time to this Project because the Project is in an area that is currently designated as nonattainment for the federal 8-hour O_3, $PM_{2.5}$, and lead standards and attainment/maintenance for the federal annual NO_2, PM_{10}, and CO standards. The FRA has determined that during the construction phase, the Project will result in exceedances of the *de minimis* levels for NO_X emissions. However, the FRA has determined that the Project will conform to the approved SIP, based on the following commitments between the Authority and SCAQMD to ensure that construction phase NO_X emissions will be offset to meet the General Conformity regulations:

- Coordinated with SCAQMD and committed to ensuring the lowest levels of construction emissions are generated through the use of IAMFs and mitigation measures, outlined in this report, and rolling review of best available technologies, with priority given first to the use of ZE technology such as electric construction equipment and then to near-ZE technology.
- Executed a letter with SCAQMD (Appendix A, General Conformity Determination Letter Between the California High-Speed Rail Authority and South Coast Air Quality Management District) that describes a commitment between the Authority and SCAQMD to develop and execute an agreement after receipt of construction funding but prior to construction start that includes:
  - A review of emission estimates, coordination with appropriate agencies, revisions (if warranted) of emissions estimates before construction start, and a final estimate for review and use by SCAQMD. At the time of preparing the General Conformity Determination, the Authority estimates that the only exceedances of the General Conformity *de minimis* levels would include NO_X emissions in the South Coast Air Basin from Project construction in the years 2032 through 2034 (construction years 2 through 4).
  - A commitment that, if criteria air pollutants will exceed General Conformity *de minimis* levels, the Authority or the implementing entity will offset all remaining emissions to conform with 40 CFR 93.158(a), after incorporation of the IAMFs and implementation of on-site mitigation measures. The Authority or the implementing entity and SCAQMD will specify the applicable criteria air pollutant emission-reduction program(s), which will be funded by the Authority or the implementing entity and administered by SCAQMD. Applicable emission-reduction programs may include state or federal incentive programs that achieve emissions reductions by providing incentive funds for the incremental cost of cleaner-than-required engines and equipment.
  - A commitment that the Authority or the implementing entity will not start construction until any necessary agreements are executed.

15 REFERENCES

California Air Pollution Control Officers Association (CAPCOA). 2022. California Emissions Estimator Model (CalEEMod) Version 2022. https://caleemod.com/ (accessed October 2024).

California Air Resources Board (CARB). 2016. *Annual Network Plan*. https://www.epa.gov/sites/production/files/2017-12/documents/caplan2016-carb.pdf (accessed October 2024).

———. 2019. California Emissions Projection Analysis Model, Version CEPAM2019v1.03. 2022 Estimated Annual Average Emissions. South Coast Air Basin. https://ww2.arb.ca.gov/applications/cepam2019v103-standard-emission-tool. (accessed October 2024)

———. 2024. Maps of State and Federal Area Designations. https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations. (accessed October 2024).

———. 2025. iADAM: Air Quality Data and Statistics. Top 4 Summary. https://www.arb.ca.gov/adam/topfour/topfour1.php (accessed June 2025).

California Environmental Protection Agency. 2015. *Staff Report: Multimedia Evaluation of Renewable Diesel*. https://ww2.arb.ca.gov/sites/default/files/2018-08/Renewable_Diesel_Multimedia_Evaluation_5-21-15.pdf (accessed December 2024).

California High-Speed Rail Authority (Authority). 2012. *Traffic Impact Assessment for Los Angeles to Anaheim Project Section.*

———. 2020. *California High-Speed Rail Program, 2020 Business Plan*. April. https://hsr.ca.gov/wpcontent/uploads/2021/04/2020_Business_Plan.pdf (accessed October 2024).

———. 2021. *Burbank to Los Angeles Project Section Final General Conformity Determination*. November. https://railroads.dot.gov/sites/fra.dot.gov/files/2021-12/Final%20GCD_Report_Burbank%20to%20LA.pdf (accessed March 2025).

———. 2023. 2023 Project Update Report. March. https://hsr.ca.gov/wp-content/uploads/2023/03/2023-Project-Update-Report-FINAL-022823.pdf (accessed October 2024).

———. 2025a. *Los Angeles to Anaheim Project Section Draft Environmental Impact Report/Environmental Impact Statement*. October 2025.

———. 2025b. *Los Angeles to Anaheim Project Section Air Quality and Global Climate Change Technical Report*. October 2025.

———. 2026. *Los Angeles to Anaheim Project Section Final Environmental Impact Report/Environmental Impact Statement*. October 2026.

Environmental Systems Research Institute (ESRI) Streetmap. 2013. City Boundary, Roads. www.arcgis.com/home/item.html?id=e8a316cc5ab44da8962108ff8c59dc6c.

Federal Railroad Administration (FRA) and State of California. 2019. *Memorandum of Understanding between the Federal Railroad Administration and the State of California Acting Through Its California State Transportation Agency and Its California High-Speed Rail Authority, for the State of California's Participation in the Surface Transportation Project Delivery Program Pursuant to 23 U.S.C. 327*. July 23, 2019.

———. 2024a. Federal Railroad Administration [Docket No. FRA–2024–0039] Renewal Package From the State of California to the Surface Transportation Project Delivery Program and Proposed Memorandum of Understanding (MOU) Assigning Environmental Responsibilities to the State. https://railroads.dot.gov/regulations/federal-register-documents/2024-07615 (accessed December 2024).

———. 2024b. State of California approved NEPA Assignment Memorandum of Understanding. https://hsr.ca.gov/2024/07/23/news-release-renewed-federal-partnership-helps-expedite-environmental-reviews-for-rail-projects/ (accessed December 2024).

Los Angeles County Metropolitan Transportation Authority (Metro). 2024. *Link Union Station Draft Environmental Impact Statement/Supplemental Environmental Impact Report*. June 2024. https://linkunionstation.com/virtual-meeting/docs/Volume_I-Draft_EIS-SEIR/Link_US_-_Draft_Environmental_Impact_Statement_Supplemental_Environmental_Impact_Report.pdf (accessed June 2026).

———. 2025. *Link Union Station Final Supplemental Environmental Impact Report*. October 2025. https://linkunionstation.com/docs/20251012/Link_US-Final_Supplemental_EIR.pdf (accessed June 2026).

———. 2026. *Link Union Station Combined Final Environmental Impact Statement/Record of Decision*. January 2026. https://linkunionstation.com/docs/20260311/Volume_I_Environmental_Impact_Statement.pdf (accessed June 2026).

Microsoft Corporation. 2016. Bing Maps aerial and web mapping service. www.bing.com/maps.

Orange County Transportation Authority (OCTA). 2024. *LOSSAN Rail Corridor Agency*. https://www.octa.net/about/leadership/lossan-agency/overview/ (accessed October 2024).

South Coast Air Quality Management District (SCAQMD). 2005. *Carbon Monoxide Redesignation Request and Maintenance Plan.* February. https://ww2.arb.ca.gov/resources/documents/2005-south-coast-carbon-monoxide-plan. (accessed October 2024).

———. 2009. *2010 South Coast Air Basin Request for PM_{10} Redesignation Request and Maintenance Plan.* December 2009. https://ww2.arb.ca.gov/resources/documents/2010-south-coast-air-basin-pm10-redesignation-request-maintenance-plan-and (accessed October 2024).

———. 2011. *Final Program Environmental Assessment for: Re-adoption of Proposed Rule 1315 – Federal New Source Review Tracking System*. Page 3.3-2. https://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2011/re-adoption-of-proposed-rule-1315/volume-i.pdf (accessed October 2024).

———. 2013. *Final 2012 Air Quality Management Plan*. February. https://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan/final-2012-air-quality-management-plan (accessed October 2024).

———. 2017. *Final 2016 Air Quality Management Plan*. March. www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf?sfvrsn=15 (accessed October 2024).

———. 2022. *2022 Air Quality Management Plan*. Available: https://www.aqmd.gov/home/air-quality/air-quality-management-plans/air-quality-mgt-plan (accessed October 2024).

———. 2025. Historical Data by Year, 2020, 2021, and 2022 Air Quality Data Tables. https://www.aqmd.gov/home/air-quality/air-quality-data-studies/historical-data-by-year (accessed June 2025).

STV, Incorporated (STV). 2024. *Los Angeles to Anaheim Section – Approach to Updating Vehicle Miles Traveled in the Technical Reports and EIR/EIS*. July 25.

U.S. Congress. 2025. House Joint Resolution 87 (H.J. Res.87). https://www.congress.gov/bill/119th-congress/house-joint-resolution/87/text (accessed April 2026).

U.S. Environmental Protection Agency (USEPA).1994. *General Conformity Guidance: Questions and Answers*. July 13. https://www.epa.gov/sites/default/files/2016-03/documents/gcgqa_940713.pdf (accessed October 2024).

———. 2006. Emission Factors & AP 42. https://www.epa.gov/air-emissions-factors-and-quantification/ap-42-compilation-air-emissions-factors (accessed October 2024).

———. 2009. Emission Factors for Locomotives. EPA-420-F-09-025. April 2009. nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100500B.pdf (accessed January 2025).

———. 2022. *Federal Register* Part 93 – Determining Conformity of Federal Actions to State or Federal Implementation Plans. https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-93 (accessed October 2024).

———. 2024a. eGRID Data Explorer. https://www.epa.gov/egrid/data-explorer (accessed October 2024).

———. 2024b. Criteria Pollutant Nonattainment Summary Report. https://www3.epa.gov/airquality/greenbook/ancl3.html (accessed October 2024).

———. 2025a. *Monitor Values Report*. https://www.epa.gov/outdoor-air-quality-data/monitor-values-report (accessed June 2025).

———. 2025b. EPA Off-Model Adjustment Factors Approval Letter. November 21. https://ww2.arb.ca.gov/sites/default/files/2025-12/EPA%20Off-Model%20Adjustment%20Factors%20Approval%20Letter.pdf (accessed April 2026).

———. 2026. Heavy-Duty Inspection and Maintenance Regulation Off-Model Adjustment Factors Approval Letter. May 6. https://ww2.arb.ca.gov/sites/default/files/2026-05/hd_im_off-model_adjustment_factors_approval_letter.pdf (accessed June 2026).

16 PREPARER QUALIFICATIONS

Keith Lay, Managing Director Air Quality and Climate Change. Mr. Lay has a B.S. in Civil Engineering from the University of Manitoba, Canada. With over 20 years of experience, Mr. Lay serves as a senior air quality and greenhouse gas emissions specialist qualified to conduct analyses for a variety of infrastructure and transportation projects. Mr. Lay is the technical lead on air quality and climate change impact analyses documents and oversees the research and preparation of technical reports. He is skilled in air quality assessment models, including CalEEMod, Emission Factor models (EMFAC/OFFROAD), Road Construction Estimator Model (RoadMod), and Line Dispersion Models (CALINE).

Ryan Hallman, Air Quality and Climate Specialist. Mr. Hallman has a B.S. in Environmental Science with a minor in Environmental Engineering from University of California, Los Angeles. At ICF, Mr. Hallman provides technical assistance on a variety of planning and environmental documents including environmental assessments, initial studies, technical reports, and EIRs. He has contributed to CEQA air quality and greenhouse gas analyses for transportation, commercial, and infrastructure projects. Mr. Hallman is skilled in air quality assessment models and air dispersion models, including CalEEMod, Emission Factor models (EMFAC/MOVES), and AERMOD.

APPENDIX A: GENERAL CONFORMITY DETERMINATION LETTER BETWEEN THE CALIFORNIA HIGH-SPEED RAIL AUTHORITY AND SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

CALIFORNIA High-Speed Rail Authority

Gavin Newsom
GOVERNOR

Ian Choudri
CHIEF EXECUTIVE OFFICER

April 22, 2026

Mr. Michael A. Cacciotti, Chair
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Re: General Conformity for the Los Angeles to Anaheim Project Section of the California High-Speed Rail System

Dear Mr. Cacciotti:

Thank you for your active participation with the California High-Speed Rail Authority (Authority) to address the General Conformity requirements of the Los Angeles to Anaheim Project Section of the California High-Speed Rail (HSR) System, which is primarily within the jurisdiction of the South Coast Air Quality Management District (SCAQMD).[1] The HSR system will provide intercity, high-speed train service on more than 800 miles of guideway throughout California, connecting the major population centers of Sacramento, the San Francisco Bay Area, the Central Valley, Los Angeles, the Inland Empire, Orange County, and San Diego. The approximately 30-mile-long Los Angeles to Anaheim Project Section (also referred to as the Project) would connect Los Angeles Union Station (LAUS) in Los Angeles and Anaheim Regional Transportation Intermodal Center (ARTIC) in Anaheim (LAUS was previously approved by the Authority as part of the Burbank to Los Angeles Project Section).

Air Quality and Public Health Benefits of the High-Speed Rail System

The HSR system will use 100 percent renewable, electrically powered, zero-emission (ZE) high-speed trains and is identified in the California Air Resources Board's 2017 Scoping Plan as part of a sustainable statewide transportation system necessary to achieve the state's climate goals. The HSR system is predicted to help achieve that goal by reducing 2040 greenhouse gas (GHG) emissions by approximately 1.5 million metric tons. The HSR system would also result in a net reduction of criteria pollutant emissions.

The Los Angeles to Anaheim Project Section is a critical link in Phase 1 of the HSR system, bringing the HSR system to Anaheim. Operation of the Project and the HSR system within the

[1] Construction activities for the Los Angeles to Anaheim Project Section would occur within the jurisdictions of SCAQMD, Mojave Desert Air Quality Management District (MDAQMD), and San Joaquin Valley Air Pollution Control District (SJVAPCD). However, the construction emissions in MDAQMD's and SJVAPCD's jurisdictions are solely related to locomotives hauling ballast and haul trucks transporting hazardous waste, respectively, as discussed in Section 1.1, Regulatory Status of the Study Area, in the Draft General Conformity Determination. Project construction emissions within MDAQMD's and SJVAPCD's jurisdictions would not result in an exceedance of the *de minimis* levels for any applicable criteria pollutant.

South Coast region would result in a net decrease in regional emissions of criteria pollutants and associated public health impacts, and emissions levels during Project operations would be less than the general conformity *de minimis* levels. This overall net decrease in emissions during Project operations would help the South Coast Air Basin meet its attainment goals of federal ambient air quality standards for ozone (O_3) by reducing precursor emissions of nitrogen oxides (NO_X), reactive organic gases (ROG), and particulate matter (PM) and will result in long-term air quality and public health benefits. However, the Authority currently estimates that construction of the Project is expected to result in a temporary net increase in criteria pollutant emissions of NO_X in the South Coast Air Basin in excess of general conformity *de minimis* levels during some of the construction years. As such, the Authority and SCAQMD have agreed to the commitments in this letter to track and mitigate construction emissions from the Project to meet General Conformity requirements.

General Conformity Rule

The General Conformity Rule, as codified in Title 40 Code of Federal Regulations Part 93, Subpart B, establishes the process by which federal agencies determine conformance of proposed projects that are federally funded or require federal approval with applicable air quality standards. This determination must demonstrate that a proposed project would not cause or contribute to new violations of air quality standards, exacerbate existing violations, or interfere with timely attainment or required interim emissions reductions toward attainment. The Authority, as the Project proponent, is receiving federal grant funds through the Federal Railroad Administration's (FRA) High-Speed Intercity Passenger Rail program. The Project may also receive FRA safety approvals. Because of the federal funding and potential safety approvals, the Project is subject to the General Conformity Rule; and because construction-phase emissions (without mitigation) would exceed General Conformity *de minimis* levels, the Project is not exempt and must demonstrate conformity.

Emissions for the Los Angeles to Anaheim Project Section

The Authority has not yet secured construction funding for the Los Angeles to Anaheim Project Section and has not yet set a final construction schedule for this project section. The Authority explains that the emission numbers provided in the Environmental Impact Report/Environmental Impact Statement (EIR/EIS) are reasonable estimates based on the available information to date. The methodology used in creating these estimates is similar to what was used for estimating the emissions for the EIR/EISs for the Merced to Fresno, Fresno to Bakersfield, Palmdale to Burbank, and Burbank to Los Angeles Project Sections of the HSR system. After 10 years of construction of the HSR system in the Central Valley, it has become clear that the estimates in the EIR/EISs for the HSR system are conservative and actual emissions from construction are currently lower than estimates in the EIR/EISs for the Merced to Fresno and Fresno to Bakersfield Project Sections by 50 to 70 percent.

The Authority has not yet secured funding for final design or construction of the Project, and the Authority cannot reasonably anticipate when Project construction may actually occur. It is therefore difficult for the Authority to completely engage with SCAQMD on implementing available or future mechanisms for the reduction of construction emissions. Although the construction schedule has not been firmly established for this section, the Authority agrees with SCAQMD's encouragement to reduce emissions locally by avoiding and minimizing emissions from Project

construction prior to funding incentive programs or offsets to fully mitigate remaining construction emissions.

The Authority has a long history of being proactive toward reducing construction emissions. As shown in Figure 1, the Authority has continually updated its policies and procedures to ensure that the HSR system embraces and pushes the boundaries toward reducing emissions.

2008	• Board adopts 100 percent renewable energy for operations
2011	• Incorporated in California Air Resources Board (ARB) Scoping Plan for Assembly Bill (AB) 32
2012	• Net-zero direct GHG emissions for construction • Net-zero air quality emission for construction • Proactive construction requirement, including Tier 4 vehicles and 100 percent recycling requirements
2013	• Chief Executive Officer signs Sustainability Policy • Incorporated in California ARB Scoping Plan Update
2014	• First infrastructure project to require disclosure on major materials, informed AB 262 Buy Clean California Act • Environmental Mitigation Management Application (EMMA) developed to track and monitor program and contractor progress
2016	• Board adopts Sustainability Policy
2017	• Incorporated in California ARB Scoping Plan Update
2019	• Required performance targets for embodied energy (concrete and steel) • ZE fleet vehicles (25 percent of on-road fleet) for contractors • Required use of renewable diesel • Direct GHG emissions target set for construction tied to bonus/penalty
2020	• Board adopts Sustainability Policy Updates • Achieving net-zero tailpipe GHG emissions in construction through carbon sequestration projects
2021	• Required future construction contracts to use only ZE vehicles for on-road project fleets (100% by 2035)

Figure 1. History of Environmental Commitments Designed to Reduce Emissions

Impact Avoidance and Minimization Features

Avoiding and minimizing emissions is a strategy that is consistent with the net-zero GHG objectives of the Authority's Sustainability Policy. As such, the Authority has incorporated the following impact avoidance and minimization features (IAMF) into the Los Angeles to Anaheim Project Section (full text of these IAMFs is in Appendix 2-A of the Los Angeles to Anaheim Project Section EIR/EIS):[2]

- AQ-IAMF#1: Fugitive Dust Emissions: During construction, the Authority-designated contractor will employ measures to minimize and control fugitive dust emissions. The contractor will prepare a fugitive dust control plan for each distinct construction segment. At a minimum, the plan will describe how each measure would be employed and identify an individual responsible for ensuring implementation.

- AQ-IAMF#2: Selection of Coatings: During construction, the Authority-designated contractor will use low-volatile organic compound (VOC) paint that has VOC content consistent with SCAQMD Rule 1113, as applicable.

- AQ-IAMF#3: Renewable Diesel: During construction, the Authority-designated contractor will use renewable diesel fuel to minimize and control exhaust emissions from all heavy-duty diesel-fueled construction diesel equipment and on-road diesel trucks.

- AQ-IAMF#4: Reduce Criteria Exhaust Emissions from Construction Equipment: All heavy-duty off-road construction diesel equipment used during the construction phase will meet Tier 4 Final engine requirements.

- AQ-IAMF#5: Reduce Criteria Exhaust Emissions from On-Road Construction Equipment: All on-road trucks used to haul construction materials, including fill, ballast, rail ties, and steel, will consist of an average fleet mix of equipment model year 2020 or newer, but no less than the average fleet mix for the current calendar year as set forth in the database included in the latest U.S. EPA approved EMFAC at the time of emissions inventory development.

These IAMFs have helped to reduce the construction emissions generated by the HSR project sections currently under construction, which are outside SCAQMD's jurisdiction. For example, Figure 2 highlights the substantial criteria pollutant emission reductions resulting from incorporation of AQ-IAMF#4 demonstrated by the Central Valley portions of the HSR system currently under construction.

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[2] For the purposes of this agreement, a shortened version of the IAMFs are presented here. The full IAMFs for purposes of CEQA and NEPA will be presented in the Final EIR/EIS. In addition, the Authority complies with all applicable SCAQMD Rules.

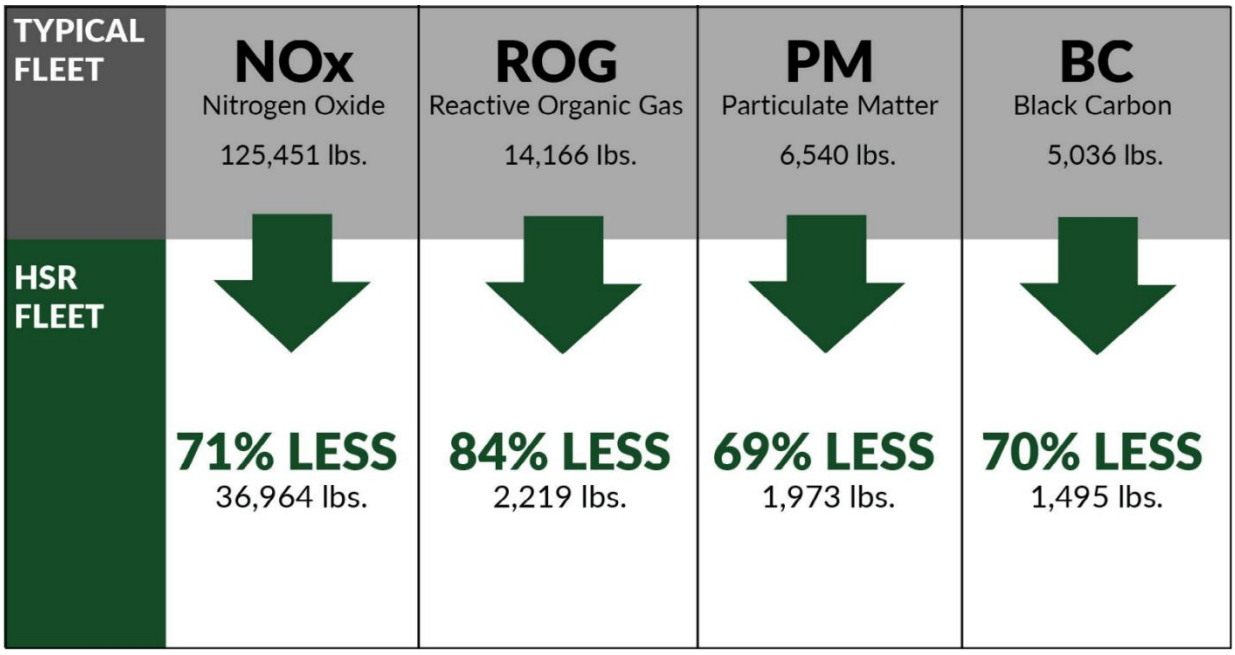


Figure 2. 2023 Criteria Air Pollutants Emitted and Avoided (Typical California Fleet Comparison)

Mitigation Measures

The Authority is continually incorporating mitigation measures that would reduce the generation of construction emissions in construction contracts and practices. For example, the Authority incorporated the following mitigation measure into the Los Angeles to Anaheim Project Section EIR/EIS and is already incorporating portions of these measures into existing contracts.

> **AQ-MM#2: Requirements for Use of Zero-Emission or Near-Zero-Emission Vehicles and Off-Road Equipment to Reduce Construction Emissions**
>
> This mitigation measure, as included in the EIR/EISs, will reduce the impact of construction emissions from Project-related on-road vehicles and off-road equipment. All remaining emissions after implementation of this measure would be offset to conform with 40 CFR 93.158(a) with emission credits required under AQ-MM#1.
>
> The Authority will require that all Project construction contractors use a minimum of 25 percent, with a goal of 100 percent, of all light-duty on-road vehicles (e.g., passenger cars,

light-duty trucks) associated with the Project (e.g., on-site vehicles, contractor vehicles) with ZE or near-ZE technology.[3]

The Authority and all Project construction contractors will have the goal that a minimum of 25 percent of all heavy-duty on-road vehicles (e.g., for hauling, material delivery, and soil import/export) associated with the Project use ZE or near-ZE technology.

The Authority and all Project construction contractors will have the goal that a minimum of 10 percent of off-road construction equipment use ZE or near-ZE vehicles.

If local or state regulations mandate a faster transition to using ZE or near-ZE vehicles at the time of construction, the more stringent regulations will be applied. For example, California Executive Order N-79-20, issued by California Governor Gavin Newsom on September 23, 2020, currently states the following:

- Light-duty and passenger car sales be 100 percent ZE vehicles by 2035
- Full transition to ZE short haul/drayage trucks by 2035
- Full transition to ZE heavy-duty long-haul trucks, where feasible, by 2045
- Full transition to ZE off-road equipment by 2035, where feasible

The Project will have a goal of surpassing the requirements of these or other future regulations as a mitigation measure.

Because the commercial availability of future electric equipment and vehicles is unknown, emissions reductions achieved by AQ-MM#2 cannot currently be quantified or included in the analysis.

In addition to the above AQ-MM#2, the Authority already mandates that all such equipment meet the most stringent emission standard codified by the U.S. Environmental Protection Agency: Tier 4 Final. This has had a substantial positive impact on emission reductions, because 42,651 pounds of criteria air pollutants in 2023 would have otherwise been released based on Figure 2 above. This implementation strategy will go further, mandating that 10 percent of off-road equipment be ZE, not just Tier 4 Final, at the start of construction, and sets the goal of 100 percent ZE for such equipment by 2035.

This is the most recent step the Authority is taking to ensure the California HSR System is the greenest infrastructure project in both operation and construction. The Authority has captured or avoided more than 143,000 metric tons of GHG emissions through planting more than 7,000 trees and other forest projects. The HSR system has also prevented more than 300,000 tons of

[3] According to the CA HSC § 44258 (c) "Near-zero-emission vehicle" means a vehicle that utilizes zero-emission technologies, enables technologies that provide a pathway to zero-emissions operations, or incorporates other technologies that significantly reduce criteria pollutants, toxic air contaminants, and greenhouse gas emissions, as defined by the state board in consultation with the State Energy Resources Conservation and Development Commission consistent with meeting the state's mid- and long-term air quality standards and climate goals.

construction materials from being sent to landfills with its 95 percent construction waste recycling rate.

The Authority will continue to work with contractors to encourage and mandate the use of ZE vehicles and off-road equipment. In addition, the Authority will encourage contractors to use available tools that will aid decision makers in their purchases of new equipment and include the use of ZE technologies in applicable bid documents, purchase orders, and contracts with contractors. For example, a current tool that the Authority has presented to contractors is Argonne National Laboratory's Alternative Fuel Life-Cycle Enviromnental and Economic Transportation (AFLEET) Tool (https://greet.es.anl.gov/afleet). This tool examines both the environmental and economic costs and benefits of alternative fuel and advanced vehicles and provides output to the user quantifying specific case scenarios based on user input (Figure 3).

Payback Output Sheet – Annual Energy Use and Emissions Summary Table

	Gasoline	Diesel	Gasoline HEV	Gasoline PHEV	Gasoline EREV	EV	G.H2 FCV	Diesel HEV	Diesel HHV	B20	B100	E85	LPG	CNG	LNG / Diesel LNG Pilot Ignition
Annual Life-Cycle Petroleum Use (barrels)															
LD Petroleum Use	449.4		321.0		93.6	6.1	2.9				17.1		150.5	2.4	
HD Petroleum Use		16,928.0				266.7			13,119.2		742.1			97.5	
Annual Life-Cycle Greenhouse Gas Emissions (short tons)															
LD GHG Emissions	253.3		181.0		144.5	145.0	170.2				56.2		222.9	225.4	
HD GHG Emissions		9,278.7				6,303.0			7,191.0		2,442.0			9,128.4	
Vehicle Operation Air Pollutant Emissions (lb)															
LD Passenger Car Fleet															
CO	2,424.6		1,816.3		518.0	0.0	0.0				3,248.1		2,532.4	1,754.8	
NOx	101.0		65.0		18.5	0.0	0.0				200.3		104.6	84.4	
PM10	33.3		33.3		28.3	26.2	26.2				30.5		33.3	33.3	
PM2.5	12.1		12.1		8.4	6.9	6.9				11.3		12.1	12.1	
VOC	129.8		99.4		28.3	0.0	0.0				62.3		145.0	73.0	
HD Refuse Truck Fleet															
CO		1,640.9				0.0			1,640.9		1,640.9			21,331.7	
NOx		4,232.0				0.0			4,232.0		4,232.0			2,962.4	
PM10		394.4				309.5			394.4		394.4			394.4	
PM2.5		161.1				80.0			161.1		161.1			161.1	
VOC		259.2				0.0			259.2		259.2			880.9	

Figure 3. AFLEET Sample Output

Future Steps

The Authority will continue to pursue construction methods, materials, and equipment that will reduce the generation of air pollutants. Even with these measures, however, some pollution will be emitted during the construction phase. To ensure that the Los Angeles to Anaheim Project Section of the HSR system meets all the General Conformity requirements, the following steps will be taken once construction funding is established.

- A construction schedule will be developed. The analysis in the EIR/EIS for the Project assumed that Project construction would take place from the first quarter of 2031 to the fourth quarter of 2037. Based on the new schedule, a construction plan will be developed and analyzed to determine the emission burdens generated by construction.

- At the time of the analysis, the IAMFs and mitigation measures will be revisited and updated as discussed above, and in consultation with SCAQMD, to include technologies and methodologies that were not considered in the earlier analysis. This review and implementation of updated measures will aid the Project in reducing the generation of emissions from construction.

- Once emission estimates are calculated using the revised IAMFs and mitigation measures, it will be determined if the estimates are above the applicable General Conformity *de minimis* levels. If emissions estimates determine that emissions will be reduced to below the General Conformity *de minimis* levels, those estimates will be provided to SCAQMD for review and approval.

- SCAQMD will be notified via email or letter of the emission levels and consulted to determine if emission-reduction programs could be applied as needed prior to the start of construction activities for the Project.

If emission reduction programs are required, the Authority will present a detailed plan, developed with SCAQMD, to ensure that the program has in place a procedure to adequately account for and reduce emissions generated by the Project. The emission accounting program that the Authority currently uses to track emissions for the project sections of the HSR system currently being built will be presented as a possible mechanism to quantify the construction emissions generated by the Los Angeles to Anaheim Project Section.

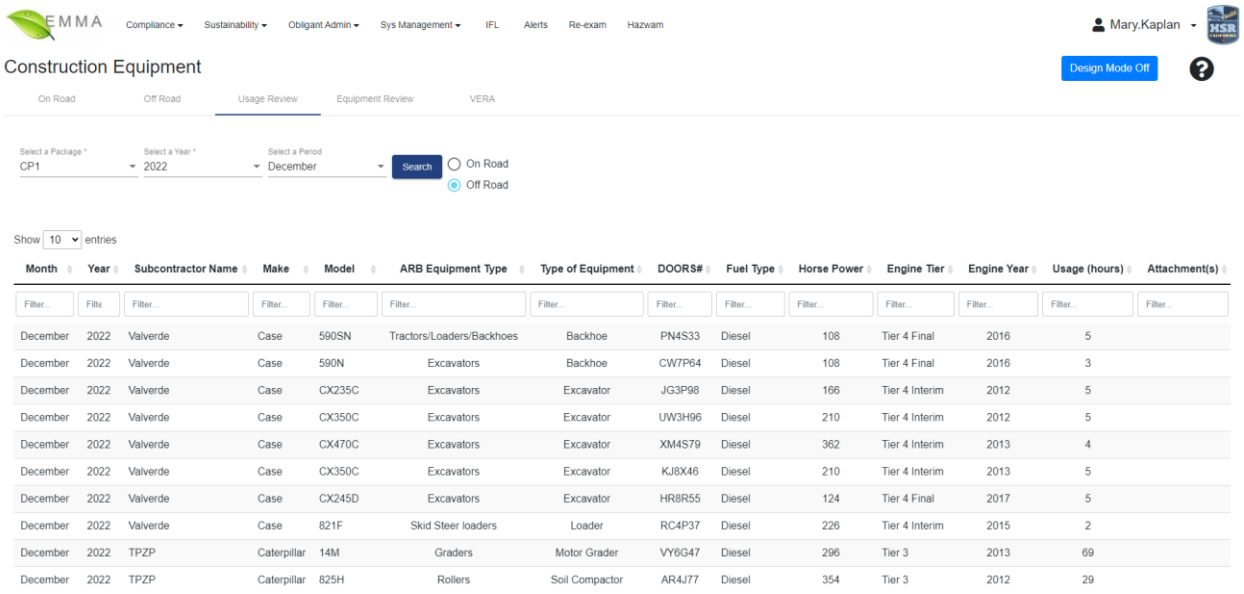
Emissions Tracking and Mitigation

In addition to AQ-MM#2, the Los Angeles to Anaheim Project Section EIR/EIS identifies the following mitigation measure to mitigate construction emissions in the South Coast Air Basin:

> **AQ-MM#1: Offset Project Construction Emissions in the South Coast Air Basin through SCAQMD Emission Offset Programs.**[4] The Project's construction emissions that cannot be reduced by IAMFs and any other mitigation measures will be offset through a SCAQMD rule or contractual agreement to fund equivalent emissions reductions that achieve reductions in the same years (to the extent same-year offsets are available) as construction emissions occur, thus offsetting Project-related air quality impacts in real time as required by the General Conformity Rule.
>
> As the Project advances toward construction, the Authority will work with SCAQMD to assess the estimated emissions, availability of offsets, and cost for achieving the Authority's Sustainability Policy goal to the extent possible.
>
> As part of these offset programs, a copy of each unit's certified tier or model year specification shall be available upon request at the time of mobilization of each applicable equipment unit. Furthermore, the Authority will require periodic reporting and provision of written construction documents by construction contractor(s) to ensure compliance and conduct regular inspections to the maximum extent feasible to ensure compliance with applicable Authority IAMFs and mitigation measures.

[4] For the purposes of this agreement, a shortened version of the mitigation measure is presented here. The full mitigation measure for purposes of CEQA and NEPA will be presented in the Final EIR/EIS.

The Authority currently mitigates emissions in the San Joaquin Valley through a Voluntary Emission Reduction Agreement with the San Joaquin Valley Air Pollution Control District (SJVAPCD). Through the use of the Environmental Mitigation Management Application (EMMA) tool, developed by the Authority, construction activity is input by the contractor and applicable emission rates are applied to calculate the emission burdens generated by off-road and on-road construction equipment and activity. Figure 4 highlights some of the data input and calculations in EMMA. As previously noted, actual emission burdens have been substantially lower than the burdens estimated in the corresponding EIR/EIS.



Month	Year	Subcontractor Name	Make	Model	ARB Equipment Type	Type of Equipment	DOORS#	Fuel Type	Horse Power	Engine Tier	Engine Year	Usage (hours)	Attachment(s)
December	2022	Valverde	Case	590SN	Tractors/Loaders/Backhoes	Backhoe	PN4S33	Diesel	108	Tier 4 Final	2016	5	
December	2022	Valverde	Case	590N	Excavators	Backhoe	CW7P64	Diesel	108	Tier 4 Final	2016	3	
December	2022	Valverde	Case	CX235C	Excavators	Excavator	JG3P98	Diesel	166	Tier 4 Interim	2012	5	
December	2022	Valverde	Case	CX350C	Excavators	Excavator	UW3H96	Diesel	210	Tier 4 Interim	2012	5	
December	2022	Valverde	Case	CX470C	Excavators	Excavator	XM4S79	Diesel	362	Tier 4 Interim	2013	4	
December	2022	Valverde	Case	CX350C	Excavators	Excavator	KJ8X46	Diesel	210	Tier 4 Interim	2013	5	
December	2022	Valverde	Case	CX245D	Excavators	Excavator	HR8R55	Diesel	124	Tier 4 Final	2017	5	
December	2022	Valverde	Case	821F	Skid Steer loaders	Loader	RC4P37	Diesel	226	Tier 4 Interim	2015	2	
December	2022	TPZP	Caterpillar	14M	Graders	Motor Grader	VY6G47	Diesel	296	Tier 3	2013	69	
December	2022	TPZP	Caterpillar	825H	Rollers	Soil Compactor	AR4J77	Diesel	354	Tier 3	2012	29	

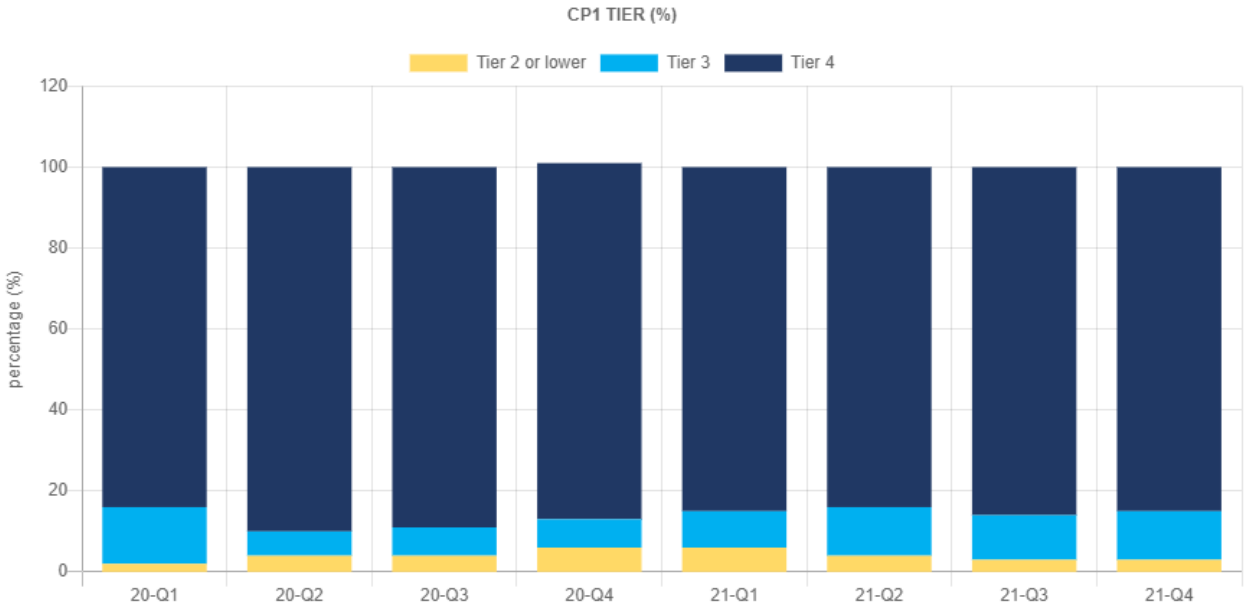


Figure 4. EMMA Tracking Tool: Sample Data and Infographics

Conclusion

The Authority is committed to serving as a model of sustainable development. The HSR system was recognized with a Platinum Envision level award in 2020 from the Institute for Sustainable Infrastructure. The Platinum Envision award achieved by the Authority and its program partners demonstrates that sustainability is achievable across large-scale and complex transportation systems.

Given the documented history of the HSR system's successful implementation of emission-reduction strategies that the Authority has demonstrated for sections outside SCAQMD's jurisdiction, the robust emission tracking and mitigation program, along with the Authority's vision for the California HSR System being the greenest infrastructure project in the country, it is the Authority's firm commitment to partner with SCAQMD to ensure that all General Conformity requirements specified in 40 CFR Part 93 are met.

By signing this letter, SCAQMD agrees to work with the Authority or the implementing entity, using available mechanisms as appropriate, to reduce construction emissions and satisfy General Conformity for the Los Angeles to Anaheim Project Section of the HSR system.

- The Authority or the implementing entity will work with SCAQMD to ensure that the lowest levels of construction emissions are generated through the use of IAMFs and mitigation measures outlined in its Final EIR/EIS (reproduced in this document for reference) and rolling review of best available technologies to the extent feasible, with priority given first to the use of ZE technology such as electric construction equipment and then to near-ZE technology.

- After receipt of construction funding but prior to commencing construction, the Authority or the implementing entity will review emission estimates, revise if warranted, and present a final estimate for review and use by SCAQMD for purposes of emission-reduction contributions and monitoring for the Los Angeles to Anaheim Project Section.

- If emissions exceed General Conformity *de minimis* levels, all remaining emissions after implementation of the IAMFs and on-site mitigation measures will be offset to conform with 40 CFR 93.158 through SCAQMD's emission-reduction programs. Applicable emission-reduction programs may include state or federal incentive programs that achieve emissions reductions by providing incentive funds for the incremental cost of cleaner-than-required engines and equipment. The Authority or the implementing entity agrees to provide funding at the cost-effectiveness level or amount established by the program(s) mutually selected by SCAQMD and the Authority or the implementing entity.

- After receipt of construction funding but prior to commencing construction, the Authority or the implementing entity and SCAQMD will enter into a contractual agreement to offset all remaining construction emissions for criteria air pollutant emissions that exceed General Conformity *de minimis* levels for the Los Angeles to Anaheim Project Section, to meet General Conformity regulations, by providing funds for the mutually selected emission-reduction program(s) to fund grants for projects that achieve the necessary emission reductions. At the time of preparing the General Conformity Determination, the Authority estimates[5] that the only exceedances of the General Conformity *de minimis* levels would be NO_X emissions in the South Coast Air Basin from Project construction in the years 2032 through 2034 (construction years 2 through 4).

- The Authority or the implementing entity and SCAQMD will work together to identify opportunities and mechanisms to prioritize use of Authority or implementing entity funds for emission reductions locally at construction activities sites where the Los Angeles to Anaheim Project Section takes place; to the extent local emission reductions are unavailable, the parties will work together to develop other strategies.

- The Authority or the implementing entity will contribute to SCAQMD's actual costs of administration for implementation of the necessary emissions reductions for the Los Angeles to Anaheim Project Section, and SCAQMD will seek and implement the necessary emission-reduction measures, using Authority or other funds.

- SCAQMD will serve in the role of administrator of the emission-reduction projects and verifier of the successful mitigation effort; respective Authority, implementing entity, or SCAQMD responsibilities in that effort; and related emission quantification/verification needs will be defined in a contractual agreement.

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[5] Authority estimates are based on the Los-Angeles to Anaheim Project Section Draft EIR/EIS released in December 5, 2025. As noted in the second bullet on Page 11, the Authority will review emission estimates after receipt of construction funding and present a final estimate to SCAQMD.

- The commitments in this letter are independent of any requirements related to any future SCAQMD facility-based mobile-source measure regulating freight rail yards or other, similar non-ZE rail operations.

- The contractual agreement developed pursuant to this letter will be limited to the HSR system's Los Angeles to Anaheim Project Section General Conformity Determination.

Thank you for your continuing partnership with the Authority to advance the California HSR System.



Michael Cacciotti, Chair of the Governing Board

South Coast Air Quality Management District
Date: May 5, 2026



Ian Choudri, Chief Executive Officer

California High-Speed Rail Authority
Date: April 22, 2026

APPENDIX F: SECTION 408 CONCURRENCE AND PRELIMINARY RECOMMENDATION LETTER

DRAFT

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, LOS ANGELES DISTRICT
915 WILSHIRE BLVD, SUITE 1109
LOS ANGELES, CALIFORNIA 90017-3409

September 10, 2026

California High-Speed Rail Authority
Attn: Stefan Galvez-Abadia
Director of Environmental Services
770 L Street, Suite 620
Sacramento, California 95814

Dear Mr. Galvez-Abadia:

I am writing in response to your September 2026, Checkpoint C Section 408 Request for Preliminary Recommendation report and appendices for the proposed California High-Speed Rail (CHSR) Program, Los Angeles to Anaheim (LA-A) Project Section located in Los Angeles and Orange Counties, California. This letter constitutes the U.S. Army Corps of Engineers, Los Angeles District's (Corps) formal response to your Checkpoint C request in accordance with our "*National Environmental Policy Act/Clean Water Act Section 404/Rivers and Harbors Act of 1899 Section 14 Integration Process for the California High-Speed Train Program Memorandum of Understanding*", dated November 2010 ("NEPA/404/408 MOU").

As a cooperating agency under the National Environmental Policy Act (NEPA) on the preparation of the project's joint Environmental Impact Report/Environmental Impact Statement (EIR/EIS) and in fulfillment of our responsibilities under the NEPA/404/408 MOU, we reviewed the drafts and final versions of the Checkpoint C documents, dated January 2026, June 2026, and September 2026, respectively, and provided written comments regarding information anticipated for the Section 14 of the Rivers and Harbors Act of 1899 ("Section 408"; 33 U.S.C. § 408) permission request. We also participated in a site visit of the LA-A alignment with stops at all water crossings on October 9, 2024, with California High-Speed Rail Authority's (Authority), your consultants, and the U.S. Environmental Protection Agency followed by check-in meetings between January 2025 and August 2026.

Following our August 6, 2026, formal Checkpoint C meeting and our independent review of the information and analyses presented in the Checkpoint C Summary Report and appendices, we do not object to the preliminary recommendation of carrying forward the preferred alternative for further coordination and review under Section 408.

Please note, our concurrence and preliminary recommendation reflect the Corps' professional judgment in light of the limitations documented in the Checkpoint C Section 408 Request for Preliminary Recommendation report and are based on conditions and information existing at the time the Checkpoint C documents were provided to us.

Therefore, our responses do not take into account any subsequent changes the Authority may make in the future. Should new or additional data come forward that would have a material bearing on the preferred alternative or the preliminary 408 recommendation that was not previously considered by the Corps, we may revisit, modify, or rescind one or both responses.

This preliminary 408 recommendation is valid for 5 years from the date of this letter. If the design changes such that the preferred alternative is no longer a minor, low-impact modification to the Corps' flood risk reduction projects, this recommendation is no longer valid and may require approval from Corps Headquarters.

Thank you for your continued collaboration on the CHSR LA-A Project Section. We value our partnership and appreciate the Authority's efforts to work with us in reaching Checkpoint C concurrence and a preliminary 408 recommendation. If you have questions, please contact Clayton Lay at (323) 394-3850 or via email at clayton.j.lay@usace.army.mil.

Sincerely,

TURANITZA.MICHAEL.RAY.1175703035

Digitally signed by TURANITZA.MICHAEL.RAY.1175703035
Date: 2026.09.11 10:59:44 -07'00'

Michael R. Turanitza, PhD
Chief, Operations Division

cc:
Scott Rothenberg, California High-Speed Rail Authority (scott.rothenberg@hsr.ca.gov)
Sue Meyer, California High-Speed Rail Authority (sue.meyer@hsr.ca.gov)

APPENDIX G: COMMENTS RECEIVED BETWEEN OCTOBER 16, 2026, AND ISSUANCE OF THE FINAL ENVIRONMENTAL IMPACT STATEMENT

To be compiled as part of the final executed ROD

DRAFT