ERRATA: SECTION 3.1, INTRODUCTION

Errata No.	Draft EIR/EIS Reference		Errata Final EIR/EIS	
	Section	Page	Correction and Rationale	Errata Page Reference
1	Section 3.1.5.5	3.1-12	Removed reference to U.S. Department of Transportation's Procedures for Considering Environmental Impacts dated July 2025	16-14
2	Section 3.1.5.6	3.1-16	Added a footnote about ridership data from the 2023 Project Update Report, 2024 Business Plan, and 2026 Business Plan	16-14

EIR/EIS = environmental impact report/environmental impact statement; No. = number

3 AFFECTED ENVIRONMENT, ENVIRONMENTAL CONSEQUENCES, AND MITIGATION MEASURES

3.1 Introduction

Chapter 3, Affected Environment, Environmental Consequences, and Mitigation Measures, addresses existing environmental conditions and the project's potential impacts of the Los Angeles to Anaheim Project Section (project section) corridor and evaluates impacts of building and operating each of the two alternatives (Shared Passenger Track Alternatives A and B). This chapter examines each resource topic in a separate subsection. Section 3.1, Introduction, describes the federal and State of California requirements that address environmental impacts, the overall purpose of Chapter 3, the environmental resources considered, and the organization and content of each resource topic subsection. Sections 3.2, Transportation, through 3.18, Regional Growth, of this chapter examine each environmental resource topic, and Section 3.19, Cumulative Impacts, provides an analysis of the project section's contribution to cumulative impacts.

The two build alternatives are summarized below. Build alternatives presented in this Draft environmental impact report (EIR)/environmental impact statement (EIS) reflect design refinements and modifications to avoid and minimize impacts on known environmental and community resources. The two build alternatives lie entirely within Los Angeles and Orange Counties, including the incorporated cities of Los Angeles, Vernon, Bell, Commerce, Montebello, Pico Rivera, Santa Fe Springs, Norwalk, La Mirada, Buena Park, Fullerton, and Anaheim and the unincorporated area of Los Angeles County known as West Whittier–Los Nietos. Resource study areas (RSA) for the build alternatives also extend into the city of Orange. Although neither build alternatives' footprint lies within the city of Orange, some RSAs extend into this city to analyze potential indirect effects. The analyses in Chapter 3 present information relative to each of these cities and communities, as appropriate.

3.1.1 Federal and State Regulatory Context

The California High-Speed Rail Authority (Authority) has prepared this Draft EIS for this project section of the California High-Speed Rail (HSR) System under the National Environmental Policy Act (NEPA) and this Draft EIR under the California Environmental Quality Act (CEQA). The State CEQA Guidelines (14 California Code of Regulations 15000 et seq.[1]) encourage the preparation of joint NEPA/CEQA documents and the use of an EIS to satisfy CEQA requirements, where possible and appropriate. The Authority has used its best judgment in preparing this combined Draft EIR/EIS to satisfy both NEPA and CEQA requirements.

NEPA requires federal agencies to consider the potential environmental effects in the evaluation of any proposed federal agency action. NEPA also obligates federal agencies to consider the environmental consequences and costs in their projects and programs as part of the planning process. Pursuant to the NEPA Assignment Memorandum of Understanding, the Authority has assumed the Federal Railroad Administration's (FRA) obligations under NEPA and has prepared

[1] All citations in this document to the "State CEQA Guidelines" are references to California Code of Regulations Title 14, Division 6, Chapter 3, Sections 15000–15387.

this EIR/EIS in compliance with the FRA's Procedures for Considering Environmental Impacts (64 *Federal Register* 28545)[2] and applicable NEPA regulations and guidance.[3,4]

CEQA (California Public Resources Code 21000 et seq.) and the State CEQA Guidelines (14 California Code of Regulations 15000 et seq.) require state and local agencies to identify the significant environmental impacts of their actions and to avoid or mitigate those impacts, when feasible. California Public Resources Code 21100(b)(3) provides that an EIR shall include a statement setting forth the mitigation measures proposed to minimize the significant impacts on the environment.

The requirements of NEPA and CEQA are not necessarily the same. Similar requirements found in both statutes may have different performance criteria, and some requirements that appear in one statute may not appear in the other. In addition to NEPA and CEQA, the project is subject to additional federal and state environmental statutes and regulations, which also require analyses that must be incorporated into the EIR/EIS. For example, construction and operation of the project would require compliance with both federal and state regulations protecting endangered species. In circumstances where more than one regulation or statute might apply, this joint Draft EIR/EIS has been prepared in compliance with the more stringent or inclusive set of requirements, whether federal or state. The timeline for construction of the project is provided in Section 2.10, Construction Plan and Phased Implementation Strategy.

The Authority has focused on avoiding and minimizing potential impacts through rigorous planning and thoughtful design, informed by the decisions it made at the conclusion of the first-tier EIR/EIS process,[5] including the adopted mitigation strategies. The project alternatives described in Chapter 2, Alternatives, and analyzed in Chapter 3 incorporate as part of their description measures known as impact avoidance and minimization features (IAMF). IAMFs are means to avoid and minimize impacts through design, compliance with applicable laws and regulations, and compliance with established industry standards, as reflected in Appendix 2-B, Applicable Design Standards. The project-level environmental analysis conducted for this Draft EIR/EIS includes consideration of means to avoid, minimize, and mitigate potential adverse environmental impacts. In balance with other considerations, the Authority has defined alignments along existing transportation corridors and rights-of-way to the extent feasible, while accommodating the appropriate features and design standards for the project section, to minimize overall impact potential. When necessary, this chapter identifies site-specific mitigation

[2] 64 *Federal Register* 28545-28556 (May 26, 1999) ("Although only certain portions of the [Council on Environmental Quality] regulations or [Department of Transportation] Order are specifically referenced in these Procedures, the unreferenced portions also apply."), as modified by 78 *Federal Register* 2713–2718 (January 14, 2013).

[3] While this EIR/EIS was being prepared, the FRA adopted new NEPA compliance regulations (23 Code of Federal Regulations Part 771). Those regulations only apply to actions initiated after November 28, 2018. Refer to 23 Code of Federal Regulations Part 771.109(a)(4). Because this EIR/EIS was initiated prior to that date (Notice of Intent dated March 15, 2007, and revised August 25, 2020), it remains subject to the FRA's Environmental Procedures rather than the Part 771 regulations.

[4] While the Council on Environmental Quality rescinded its NEPA implementing regulations at 40 Code of Federal Regulations 1500–1508 on April 11, 2025 (90 *Federal Register* 10610 at 10610), this environmental document contains citations to Council on Environmental Quality regulations. These citations 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.

[5] The Authority and FRA's *Final Program Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the Proposed California High-Speed Train System* was published in August 2005. The FRA's program-level commitments are set forth in the November 2005 Record of Decision (FRA 2005), the *Bay Area to Central Valley High-Speed Train (HST) Final Program Environmental Impact Report/Environmental Impact Statement (EIR/EIS)* (Authority and FRA 2008), and the Bay Area to Central Valley Revised Final EIRs (Authority 2010, 2012); and the Authority's program-level commitments are set forth in the November 2005 Authority Resolution 5-01 (Authority 2005). The Authority's program-level commitments are set forth in the CEQA findings for the Partially Revised Final Program EIR and the Mitigation Monitoring and Reporting Program, both published on April 19, 2012. The FRA's program-level commitments are set forth in the December 2, 2008, Record of Decision for the Bay Area to Central Valley High-Speed Train (HST) Final Program EIR/EIS.

measures to further minimize potential project impacts, including those specific to each alternative alignment, proposed stations, and other facilities.

3.1.2 State and Regional Policy Context

The California HSR System is an integral part of state and regional policy to improve mobility between the major metropolitan areas of the state and reduce statewide greenhouse gas (GHG) emissions. The transportation sector—predominantly the cars, airplanes, and trucks that move people and goods—is the largest contributor to the state's total GHG emissions. The HSR system would provide direct reduction in GHG emissions by moving many people from travel in personal vehicles and airplanes to a more energy-efficient mode of transportation. The HSR system would also reduce GHG emissions indirectly by providing opportunities for low-impact, transit-oriented development around HSR stations in major metropolitan areas.

California legislation to reduce GHG emissions includes Executive Order S-3-05, Assembly Bill 32, Executive Order B-30-15, and Senate Bill 375. For descriptions of these, refer to Draft EIR/EIS Chapter 1, Section 1.2.4.4, Air Quality and Greenhouse Gas Emissions. Executive Order S-3-05 and Assembly Bill 32 set target reductions for GHG emissions and require the California Air Resources Board to design and implement emission limits, regulations, and other measures to reduce statewide GHG emissions to 40 percent below 1990 levels by 2030. Senate Bill 375 built on Assembly Bill 32 by requiring regional transportation agencies to develop sustainable communities strategies to reduce GHG emissions from auto trips. Sustainable communities strategies are now a component of each regional transportation plan in the state and a requirement of all local general plans.

Draft EIR/EIS Chapter 1, Section 1.3, Relationship to Other Agency Plans, Policies, and Programs, describes how the HSR system supports other state, regional, and local plans and policies. Although the HSR system is intended and designed to implement state, regional, and local policies and laws related to transportation, GHG emissions, and sustainable communities, the project may not be consistent with some adopted regional or local policies or laws. Pursuant to the State CEQA Guidelines (Section 15125(d)) and the FRA's Procedures for Considering Environmental Impacts (64 *Federal Register* 28545, 14(n)(15)), each resource section in this chapter addresses inconsistencies or conflicts between the project and adopted regional or local plans or policies pertaining to particular resources. Where inconsistences are found, these discussions describe efforts to reconcile inconsistencies or conflicts and explain the rationale for proceeding if full reconciliation is not feasible. Refer to Appendix 3.1-A, Regional and Local Policy Inventory and Consistency Analysis, in Volume 2 of this Draft EIR/EIS.

3.1.3 Chapter 3 Purpose

Each resource section of this chapter describes the following eight primary categories of environmental information:

- **Laws, Regulations, and Orders:** Discussion of the federal, state, regional, and local plans, policies, and regulations related to the assessment of potential environmental impacts for the specific resource
- **Consistency with Plans and Laws:** Discussion of HSR project consistency with adopted regional and local plans, policies, and laws
- **Methods for Evaluating Impacts:** Methods used to analyze potential environmental impacts that would be caused by the HSR project alternatives and to determine the significance of those impacts
- **Affected Environment:** Existing environmental conditions in the areas that would be affected by the proposed Los Angeles to Anaheim Project Section
- **Environmental Consequences:** Potential environmental impacts associated with building and operating the Shared Passenger Track Alternatives or implementing the No Project Alternative

- **Mitigation Measures:** Site-specific mitigation measures where impacts cannot be otherwise avoided or reduced through project features and design standards, best management practices during construction, or project operations
- **Impacts from Implementing Mitigation Measures:** Potential secondary impacts of implementing mitigation
- **Impacts Summary:** Discussion of the NEPA and CEQA impacts for the specific resource

The analyses address the impacts of the alternatives (the No Project Alternative and the Shared Passenger Track Alternatives), two HSR station options, and other related HSR facilities described in Chapter 2. They identify key differences among the impacts of the two build alternatives and two HSR station options.

The analyses also identify and evaluate impacts associated with related infrastructure changes required to accommodate the HSR system, such as roadway and interchange modifications, utility relocation, and addition of power substations. Chapter 3 resource sections and their appendices include analysis of mitigation, impacts resulting from mitigation, and feasibility of mitigation.

The Authority used many sources to prepare this document. Chapter 12, References/Sources Used in Document Preparation, lists these sources.

3.1.4 Chapter 3 Organization

Chapter 3 presents the environmental resource topics as follows:

- Section 3.2, Transportation*
- Section 3.3, Air Quality and Global Climate Change*
- Section 3.4, Noise and Vibration*
- Section 3.5, Electromagnetic Fields and Electromagnetic Interference
- Section 3.6, Public Utilities and Energy
- Section 3.7, Biological Resources and Wetlands*
- Section 3.8, Hydrology and Water Resources*
- Section 3.9, Geology, Soils, Seismicity, and Paleontological Resources*
- Section 3.10, Hazardous Materials and Wastes*
- Section 3.11, Safety and Security
- Section 3.12, Socioeconomics and Communities*
- Section 3.13, Station Planning, Land Use, and Development
- Section 3.14, Agricultural Farmland and Forest Land
- Section 3.15, Parks, Recreation, and Open Space
- Section 3.16, Aesthetics and Visual Quality*
- Section 3.17, Cultural Resources*
- Section 3.18, Regional Growth
- Section 3.19, Cumulative Impacts

The asterisks (*) in the list of Chapter 3 sections indicate environmental topics that are supported by a technical report providing additional detailed analyses and data. Technical reports are available in electronic format by request on the Authority's website. In addition, Volume 2, Technical Appendices, provides detailed, resource-specific background information, data, and other evidence supporting some of the analysis and conclusions in this chapter.

3.1.5 Chapter 3 Content

To the extent possible, resource topics have been treated in a structurally consistent fashion; however, the particulars of some resources necessitate organizational variation. In general, each resource topic in Chapter 3 includes the sections discussed below.

Content of Resource Sections

Each resource section in Chapter 3 includes the following sections:

1. Introduction
2. Laws, Regulations, and Orders
3. Consistency with Plans and Laws
4. Methods for Evaluating Impacts
5. Affected Environment
6. Environmental Consequences
7. Mitigation Measures
8. NEPA Impacts Summary
9. CEQA Significance Conclusions

3.1.5.1 Introduction

The introduction provides an overview of the topic and the critical issues and concerns considered in the analysis, with definitions of the relevant resource issues as appropriate. This section also identifies separate technical reports and appendices that support the analysis and lists other environmental resource sections with bearing on the subject. Definitions of key resource-specific terms are also provided in the introduction.

3.1.5.2 Laws, Regulations, and Orders

The laws, regulations, and orders discussion identifies the relevant regulatory framework, including topical NEPA and CEQA guidance, as well as other federal, state, regional, and local regulatory agency requirements relevant to approvals or decisions for the resource topic.

3.1.5.3 Consistency with Plans and Laws

This section describes inconsistencies or conflicts between the HSR project and adopted regional or local plans or laws pertaining to the resource topic. The extent of reconciliation and reason for proceeding without full reconciliation are also discussed. Appendix 3.1-A provides a complete inventory of the inconsistencies between the project and adopted regional and local policies, as well as a description of how the Authority has attempted to reconcile the inconsistencies.

3.1.5.4 Methods for Evaluating Impacts

This section defines the methods used to collect data and evaluate impacts. This section also defines the RSAs for each environmental topic (some topics require more than one RSA), describes the methods used to evaluate impacts associated with the build alternatives and the No Project Alternative, and discusses the thresholds used for determining significance under CEQA for each resource topic. In general, the methods for evaluating impacts apply to the analysis for both NEPA and CEQA unless otherwise indicated within each resource topic section.

Definition of Resource Study Area

RSAs are areas in which all environmental investigations specific to each Draft EIR/EIS section are conducted to determine the resource characteristics and impacts. RSAs therefore vary in context by resource topic. Figure 3.1-1 illustrates the components of a typical RSA. A resource topic may have more than one RSA depending on the impacts being analyzed. RSAs are described in each resource section (Sections 3.2 through 3.18) and for cumulative impacts (Section 3.19). The RSAs contain these components:

- All facilities or features within the project footprint, particularly stations, maintenance facilities, and consequential actions that affect the environmental resource

- Areas necessary to determine characteristics and context of the resource area
- Areas specific to each resource to evaluate the intensity and determine the significance of direct and indirect impacts and beneficial and adverse impacts of HSR improvements and activities
- Areas needed to implement, operate, or maintain mitigation measures
- Off-site mitigation measures and mitigation sites (including relocations)
- Areas to identify and analyze potential secondary impacts of implementing mitigation

What is a Project Footprint?

The project footprint is the area required to build, operate, and maintain high-speed rail service based on the following elements of design: station areas, hydrology, track, roadway, structures, systems, and utilities.

Off-site areas needed to implement, operate, or maintain mitigation are discussed in Section 3.1.7, Legal Authority to Implement Off-Site Mitigation.

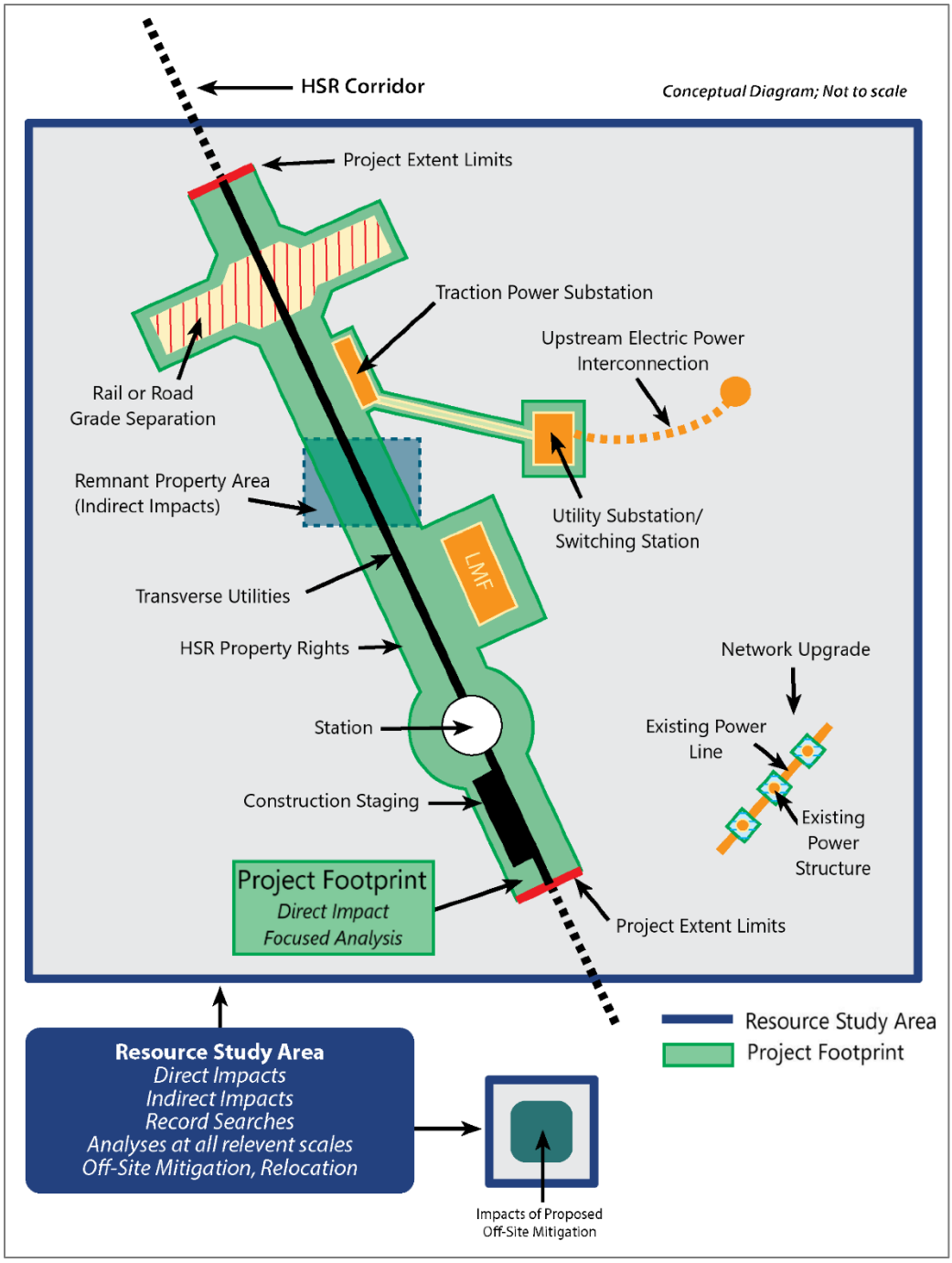


Figure 3.1-1 Typical Resource Study Area

All RSAs encompass the project footprint, which is a more focused area that includes all project components and right-of-way needed to build and operate the HSR project. The project footprint components include the proposed HSR right-of-way and associated facilities, such as traction power substations and switching and paralleling stations, as well as the shifts in roadway rights-of-way associated with those facilities that would be modified or shifted to accommodate the HSR project, as described in Chapter 2. The project footprint includes areas of permanent impact (e.g., areas occupied by HSR infrastructure or permanent changes to roadways or rail tracks), as well

as areas of temporary impact (e.g., construction staging areas or construction easements). The project footprint area of permanent effect would include the following:

- **Right-of-Way:** The project section would be implemented largely within the existing railroad right-of-way, which is generally 100 feet wide in this urban corridor. In constrained areas along the corridor, the width is reduced to 50 feet. Additional right-of-way would be required beyond the existing right-of-way in certain areas. Alignment details are illustrated in Draft EIR/EIS Volume 3 (Alignments and Other Plans).
- **HSR Guideway:** HSR would travel on different track types with varying profiles: low, near-the-ground tracks would be at grade; higher tracks would be elevated or on retained fill (earth); and below-grade tracks would be in a trench. Types of bridges that would be built include full channel spans, large box culverts, or, for some wider river crossings, limited piers within the ordinary high-water channel.
- **Grade Separations:** A safely operating HSR system consists of grade-separation work that could include roadway profiling and striping, utility relocation, structural work, and an access-controlled guideway. The proposed new grade separations would include roadway undercrossings, with the railroad tracks on a bridge structure.
- **Traction Power Substations:** There would be two traction power substations, one in Los Angeles and another in Anaheim; each would require a 32,000-square-foot (200 feet by 160 feet) site adjacent to the HSR alignment.
- **Switching and Paralleling Stations:** One switching station is proposed in Santa Fe Springs and two paralleling stations are proposed, one in Montebello and one in Fullerton. The Santa Fe Springs switching station would need a site of approximately 9,600 square feet (generally 120 by 80 feet). Each paralleling station would need a site of approximately 8,000 square feet (generally 100 by 80 feet) adjacent to the proposed HSR alignment.
- **Communications Facilities:** Most communications equipment and 100-foot-tall radio towers would be co-located with traction power and train control facilities. Radio towers would be located approximately every 2 to 3 miles, depending on the terrain and selected radio frequency.
- **Network upgrades:** Network upgrades to support the project's electrical load requirements would involve modifications to existing infrastructure such as expansion of existing substations and reconductoring of existing electrical lines (i.e., replacement of power structures [poles and lattice steel towers] and electrical conductors with taller structures and more efficient electrical wires or new electrical lines). Power to the two traction power substations from the receiving station would be supplied via two 115-kilovolt circuits.
- **Utility Connections:** The right-of-way required for new power transmission lines to provide a utility connection between electrical power substations and station switching facilities would be included in the project footprint.
- **Utility Relocations:** HSR construction would require the relocation of existing utility lines, accommodation of which could require additional right-of-way.
- **HSR Stations:** The Shared Passenger Track Alternatives would include HSR station facilities at Anaheim Regional Transportation Intermodal Center. The Draft EIR/EIS also studies two locations for an HSR station option at Norwalk/Santa Fe Springs (at a modified Metrolink Norwalk/Santa Fe Springs Station) or Fullerton (at a modified Fullerton Transportation Center). These HSR station options are considered separately from the Shared Passenger Track Alternatives. If the Authority decides to include an HSR station between Los Angeles and Anaheim, only one of these two HSR station option locations would be selected. The Authority may also decide not to include an HSR station between Los Angeles and Anaheim.
- **Metrolink Station Relocations and Modifications:** In Buena Park, track design would necessitate the relocation of the existing Buena Park Metrolink Station. The project would relocate the existing station less than a mile to the northwest, between South Coyote Creek

and Beach Boulevard. The existing Commerce Metrolink Station would also be relocated less than a mile to the east of its current location to minimize conflicts with the reconfiguration of the nearby intermodal yard and track changes required by HSR. The existing Norwalk/ Santa Fe Springs Metrolink Station would need to be modified to be elevated and to accommodate the passenger rail tracks shifting slightly to the west. The existing Fullerton Metrolink/Amtrak Station currently has three mainline tracks; a fourth mainline track would be added along the southern side of the corridor in the vicinity of the station and the existing southern side platforms would be modified. These modifications in Norwalk/Santa Fe Springs and Fullerton are required irrespective of whether the Authority decides to locate a station between Los Angeles and Anaheim at one of these locations.

- **Maintenance Facilities:** The California HSR System includes four types of maintenance facilities: maintenance of infrastructure facilities, maintenance of infrastructure siding facilities, light maintenance facilities, and a single heavy maintenance facility. One maintenance facility, a light maintenance facility, would be needed as part of this project section (refer to Section 2.4.9, Maintenance Facilities, in Chapter 2). The project evaluates two alternative sites for a light maintenance facility: one at 26th Street associated with Shared Passenger Track Alternative A, and one at 15th Street associated with Shared Passenger Track Alternative B.
- **BNSF Railway (BNSF) Storage and Intermodal Facility Modifications:** To add and electrify tracks within the existing right-of-way, right-of-way either currently used or planned for future use by BNSF for train storage would be modified for use primarily by passenger rail, including HSR. These modifications would be primarily in Hobart Yard (Vernon and Commerce) and Commerce Yard (Commerce and Bell), but also include modifications to other BNSF support tracks and yards along the corridor.
- **Project-Related Roadway Modifications:** These changes would have varying rights-of-way and distances from the HSR right-of-way, as illustrated on Figure 3.1-2, and would include access roads to facilities, realignment of roadway crossings, and modifications to bridges.
- **Temporary Construction Areas:** The project footprint includes the identification of areas needed during construction, such as construction staging areas and temporary construction easements, as well as the location of areas that may be necessary for temporary relocation of facilities during the construction process, such as shoo-fly tracks (temporary alignment to facilitate construction activities on the main track).

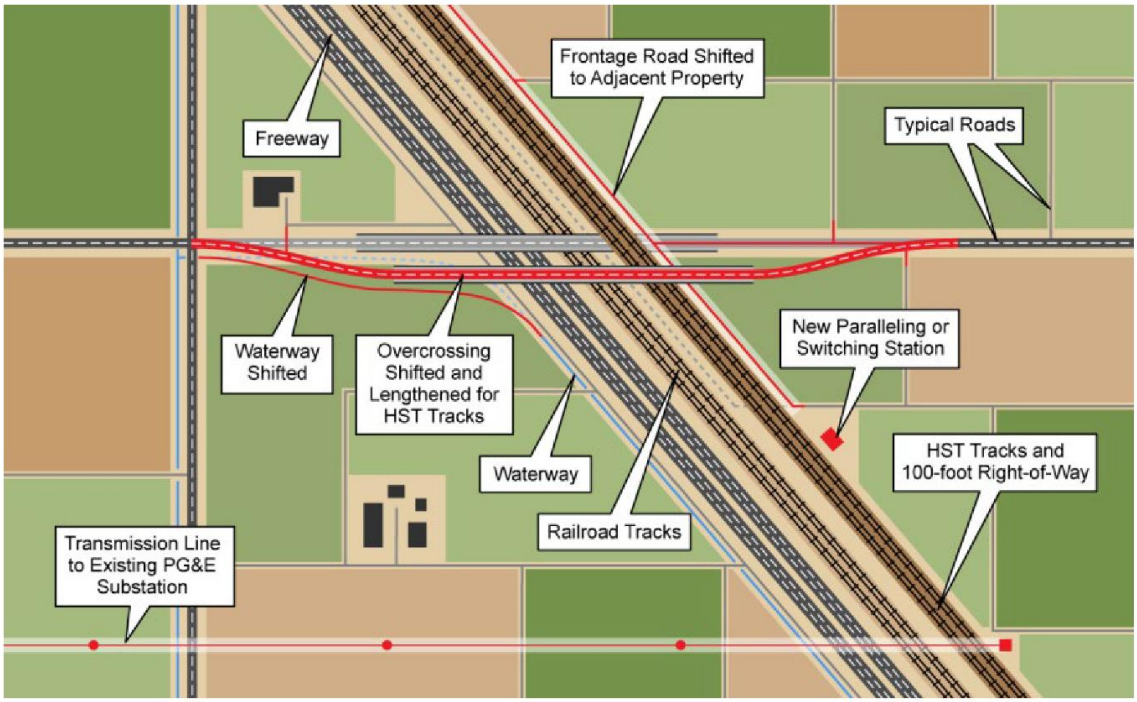


Figure 3.1-2 Shifts of Roadways and Other Infrastructure

The Shared Passenger Track Alternatives would require acquisition of property necessary for project operation. When the remnant portion of an acquired parcel beyond the right-of-way is too small to sustain current use without other modifications, or where access to a property cannot be provided, it would also be acquired. An example of a remnant portion of a property is depicted on Figure 3.1-1. These remnant parcels may be used temporarily for construction and would be considered for sale after project construction if the Authority determines it has no long-term need for them. They would not be part of the finished project, nor would they be within the HSR right-of-way limits. However, the Authority may conduct various management and maintenance activities (e.g., vegetation management, site security) on such parcels. Property management activities would be designed to avoid impacts; if, once the actual site conditions are known, there would be potential for an impact, a separate environmental evaluation would be triggered.

The Authority would not acquire temporary construction staging areas through the right-of-way acquisition process. It would be the responsibility of the contractor to negotiate with property owners to secure access and temporary use of their properties for staging or laydown areas. To provide the contractor with sufficient potential staging areas, this Draft EIR/EIS includes an evaluation of the environmental impacts of various parcels adjacent to or near parts of each of the build alternatives that would require construction staging and laydown areas to accommodate personnel mobilization, materials stockpiles, and equipment storage for building HSR or related improvements. Including the impacts of potential construction staging areas results in a conservative analysis because the limits of impacts for each site are identified by parcel boundaries rather than by the number of acres that may be necessary for staging or materials storage. The Los Angeles County Metropolitan Transportation Authority Link Union Station project environmental document evaluates the impacts of track infrastructure from Los Angeles Union Station to First Street, which would be used by HSR. This environmental document evaluates the impacts of overhead contact system to be installed on the Link Union Station track infrastructure and HSR operations.

Impact Avoidance and Minimization Features

Each of the build alternatives incorporates standardized HSR features to avoid and minimize impacts. These features are referred to as IAMFs. IAMFs are standard practices and design features that provide specific means to avoid and reduce impacts. IAMFs may involve the development of a plan or program (such as a dust control plan to reduce impacts on air quality) or require or restrict an action (such as limiting construction material delivery hours to minimize impacts on traffic during peak travel times) to achieve a specific outcome. Under the direction of the Authority, as part of the IAMFs, the contractor will perform a variety of tasks during construction and operation, including, but not limited to, submitting technical reports or construction logs for Authority review, monitoring and managing construction activities, and preparing final design plans.

IAMFs are part of the build alternatives and will be incorporated by the Authority as integral components during design and construction of any alternative that may be approved. Therefore, the analysis of impacts of the alternatives and HSR station options in each subsection factors in all applicable IAMFs. The IAMFs that will be applied to the build alternatives are abbreviated "IAMF" and numbered in the order identified in the section (e.g., AVQ-IAMF#1). Appendix 2-A, Impact Avoidance and Minimization Features, provides a detailed description of the IAMFs included as part of the build alternatives' design.

Each resource section in Chapter 3 provides a list of applicable IAMFs relevant to the resource in the Methods for Evaluating Impacts section, and the mechanisms by which the IAMFs will avoid and minimize impacts are described briefly in the individual impact discussions.

As discussed below, mitigation measures will further reduce, compensate for, or offset impacts of the project. If adopted at the conclusion of the environmental review process, mitigation measures also would be implemented as part of the Shared Passenger Track Alternatives (Section 3.1.5.7, Mitigation Measures).

Methods for Impact Analysis

Each resource section describes the methods and data sources the Authority used for identifying impacts on that environmental resource topic. The methods for analysis vary by resource and rely on both quantitative and qualitative techniques. Where appropriate to evaluating the impacts, fieldwork was conducted to collect data. These methods apply to both NEPA and CEQA analyses unless otherwise indicated.

Method for Evaluating Impacts Under NEPA

Under NEPA, if a federal agency determines its proposed federal action, when considered as a whole, has the potential to "significantly affect the quality of the human environment," it must prepare an EIS (42 U.S. Code 4332). Under the FRA's NEPA implementing procedures, significance is determined based on an evaluation of an impact's context and intensity. Once an agency has determined an EIS is required because a project has the potential for significant impacts, the EIS must evaluate the significance of the project's impacts but is not required to conclude whether a specific impact itself is significant.

The FRA's NEPA implementing procedures, regulations, and guidance provide the basis for evaluating project effects (as described in Section 3.1.1, Federal and State Regulatory Context). The criteria of context and intensity are considered together when determining the severity of the change introduced by the project:

- *Context* refers to the affected environment in which a proposed project occurs and may include affected interests or resources, the specific locality, the region, or society depending on the resource.
- *Intensity* refers to the severity of the impact; its analysis encompasses the type, quality, and sensitivity of the resource involved; location and extent of the effect; duration of the effect (short- or long-term); whether the action threatens a violation of state or federal law or

requirements imposed for the protection of the environment; and other intensity considerations set forth in NEPA and NEPA regulations.

Method for Determining Significance Under CEQA

In contrast to NEPA, CEQA requires the identification of each "significant effect on the environment" resulting from a project and uses a threshold-based approach to determine significance (State CEQA Guidelines Sections 15064(a) and 15126.4). One of the primary differences between NEPA and CEQA is that CEQA requires a threshold-based impact analysis. All significant impacts on the environment must be disclosed and mitigated, if feasible. For each resource topic, the Authority uses impact thresholds based predominantly on the State CEQA Guidelines to determine whether impacts are significant (e.g., above the impact threshold). If impacts are significant, the Authority also uses the impact thresholds to determine whether proposed mitigation measures would be capable of reducing the magnitude and severity of significant adverse impacts to a less-than-significant level (e.g., below the impact threshold). These impact thresholds, also called *significance criteria*, generally describe whether impacts would be considered significant because there would be a substantial, or potentially substantial, adverse change in any of the physical conditions in the area affected by the project. Where possible, significance criteria use state or federal standards. For example, air quality significance criteria follow the state and federal ambient air quality standards; noise significance criteria use thresholds defined by the FRA. In other cases, for example visual resources analysis, the significance criteria rely on guidelines and policies, assessment methodologies such as those used by the FRA, and standards of professional practice. Because of the difference in the approach to the determinations of significance under NEPA and CEQA, impacts determined to be significant under CEQA will not have a similar label under NEPA.

The Authority has established thresholds in each resource category based on Appendix G of the State CEQA Guidelines to determine the level of significance of impacts under CEQA and, where appropriate, the requirement for mitigation measures to reduce the magnitude and severity of impacts. If a threshold is exceeded, the impact is considered significant under CEQA. For significant impacts, feasible mitigation measures are identified. For example, in Section 3.4, Noise and Vibration, the first significant impact discussed is "Impact N&V-1: Temporary Exposure of Sensitive Receivers to Construction Noise," and mitigation measure "N&V-MM#1: Construction Noise Mitigation Measures" is provided to reduce the impacts. If mitigation does not reduce an impact below the threshold, the impact remains significant and unavoidable after mitigation. Relevant CEQA thresholds of significance are presented in each resource topic section.

3.1.5.5 Affected Environment

The description of the affected environment summarizes existing, baseline conditions of resources that are sensitive or protected, or could be affected by the HSR project and associated physical changes. The information focuses on environmental commitments, data, and issues for analyzing potential effects. Information in the affected environment discussion is presented for the entire project section, including a discussion of the regional context.

Both NEPA and CEQA require discussion of the areas affected by the project as well as nearby areas. CEQA requires an EIR to include a description of the existing physical environmental conditions in the vicinity of the project and states that those conditions will "normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant" (State CEQA Guidelines Section 15125(a)). The U.S. Department of Transportation's Procedures for Considering Environmental Impacts note that "the potentially affected environment should encompass the geographic scale, the physical resources and the socioeconomic characteristics appropriate for the specific action" (U.S. DOT 2025). The description of the affected environment summarizes the existing conditions of resources that are sensitive or protected or could be affected by the HSR project and associated physical changes. The information focuses on environmental commitments, data, and issues for analyzing impacts and includes a discussion of the regional context.

The existing conditions baseline year for this Draft EIR/EIS is generally 2023 for the HSR alignment and associated project elements. This year represents the latest set of data available for the various environmental analyses for the project section, or as otherwise noted. The affected environment discussions describe the existing conditions available in data collected during field work for the project as a whole between 2015 and 2025 as the most recent, publicly available data. Field visits were conducted in September and November 2023 to validate and update land use information and verify resource elements in the public right-of-way. Where appropriate and not overly speculative, the anticipated 2040 conditions that would pertain without the project are used as the No Project condition.

Prior to implementation of HSR, the California Department of Transportation would complete the High Desert Operational Efficiency Project, which proposes two freight rail staging tracks and a third main track to extend the existing triple track by 11 miles on the BNSF Cajon Subdivision in San Bernardino County, in the city of Hesperia and unincorporated areas of San Bernadino County. Because the High Desert Operational Efficiency Project will be implemented before HSR, it will be considered part of the No Project Alternative. As required by Section 15126.6(e) of the State CEQA Guidelines, the No Project condition considers “what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services.” Projected 2040 conditions that have been adopted by regional or local planning agencies are discussed where relevant to particular resources, such as transportation and air quality.

3.1.5.6 Environmental Consequences

The environmental consequences discussion describes the potential environmental impacts of the Shared Passenger Track Alternatives and the HSR station options. The discussion of potential impacts includes the context, intensity, and duration of an impact. Each impact is identified by a name and number (e.g., Impact LU#1: Impacts on Land Use Patterns). Impacts are organized by construction and operations according to when and under what conditions impacts are expected to occur. Figures illustrating the impacts and summary tables that convey the key differences among the Shared Passenger Track Alternatives supplement the impact narrative.

The evaluation of impacts reflects integration of project features to avoid or minimize impacts (IAMFs), as well as programmatic mitigation commitments derived from the *Final Program Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the Proposed California High-Speed Train System* (Authority and FRA 2005), the *Bay Area to Central Valley High-Speed Train (HST) Final Program Environmental Impact Report/Environmental Impact Statement (EIR/EIS)* (Authority and FRA 2008) and Bay Area to Central Valley Partially Revised Final EIR (Authority 2012), because they may apply to the project section. This evaluation of direct and indirect project impacts occurs with consideration of IAMFs, but before implementation of project mitigation measures.

This Draft EIR/EIS evaluates the impacts of the Shared Passenger Track Alternatives based on the existing environmental conditions in the RSA. This Draft EIR/EIS also evaluates the impacts of the Shared Passenger Track Alternatives based on the projected 2040 future environmental conditions under the No Project Alternative, which is the horizon year for analysis of HSR operations. Projected future environmental conditions without the Shared Passenger Track Alternatives are described under the heading “No Project Alternative” in the Environmental Consequences portion of each resource section. Some resources include additional discussion of the impacts of the Shared Passenger Track Alternatives in the opening year, or “date of implementation,” of HSR operations which is described more specifically in the individual resource sections.

Evaluating impacts under NEPA includes an evaluation of the context, intensity, and duration of the impact and other impact characteristics as appropriate (e.g., direct, indirect, adverse, or beneficial). Each impact discussion that addresses a CEQA threshold also includes a subsection titled CEQA Conclusion. The CEQA Conclusion sections identify the relevant CEQA threshold and describe how project impacts would either exceed or not exceed the threshold (e.g.,

significant, less than significant, or no impact). If necessary, mitigation measures are identified, followed by the impact's level of significance under CEQA after mitigation.

The Environmental Consequences section for each resource begins with a list of all impacts, each identified by a name and number (e.g., Impact N&V-1: Temporary Exposure of Sensitive Receivers to Construction Noise), followed by impact analyses for the No Project Alternative (i.e., Shared Passenger Track Alternatives A and B would not be built) and then impact analyses for the Shared Passenger Track Alternatives and the HSR station options. Note that the No Project Alternative serves as a baseline of comparison. Before the individual impacts are described for the Shared Passenger Track Alternatives, there is a brief summary of the general types of impacts and benefits that could result from construction and operation of the project. This summary also identifies the IAMFs and mitigation measures that are discussed with these impacts. This summary is followed by specific impact discussions for both Shared Passenger Track Alternatives A and B and HSR station options. Shared Passenger Track Alternative B is discussed in comparison to Shared Passenger Track Alternative A. The HSR station options are discussed in comparison to the Shared Passenger Track Alternatives within just the station area.

The analysis for the Shared Passenger Track Alternatives is organized under a section title based on the impact number and the name of the alternative and HSR station options.

Construction Impacts

The Environmental Consequences discussion addresses construction impacts compared to the baseline conditions for each of the areas identified in the Affected Environment section. Both temporary (short-term) and permanent (long-term) impacts are associated with construction of each of the two build alternatives. Construction impacts that occur for a limited time only are considered temporary (e.g., short-term ground disturbance, construction staging and activities, construction associated with implementing mitigation measures). Construction impacts that continue over the long term are permanent (e.g., land conversion, removal of habitat, elimination of at-grade crossings, construction of permanent structures). For each alternative, these impacts are discussed in comparison to the other build alternative, as well as the existing condition or No Project Alternative.

Operational Impacts

The Environmental Consequences discussion addresses operational impacts compared to baseline conditions for each of the areas identified in the Affected Environment section. Operational impacts are permanent impacts related to operation and maintenance of the build alternative alignments. California HSR System operations and related improvements, such as modified roadway traffic flow and maintenance of power supply components, are included in the operational impacts discussion. For each build alternative, these impacts are discussed in comparison to the existing condition or No Project Alternative.

Cumulative Impacts

To fully understand a proposed project's environmental implications, NEPA and CEQA also require that the project impacts be examined in conjunction with the impacts of cumulative projects. Section 3.19 discusses these cumulative impacts for each resource and the relative importance of each alternative's contribution to any substantial or significant cumulative impacts.

Ridership Forecasts and Impacts Analysis

The California HSR System ridership forecasts used in this environmental analysis correspond to forecasts developed as part of the Authority's 2023 Project Update Report issued March 1, 2023, and are based on probability of occurrence. Table 3.1-1 depicts the ridership for the Shared Passenger Track Alternatives with the two HSR station options at Norwalk/Santa Fe Springs and Fullerton. Note that the location of the light maintenance facility, which is the differentiator between Shared Passenger Track Alternatives A and B, would not affect ridership. Therefore, the two build alternatives are not listed separately in the table.

Table 3.1-1 Los Angeles to Anaheim Project Section Ridership Forecast

Location	No Build		SPTA A/B		SPTA A/B Norwalk Option		SPTA A/B Fullerton Option	
	HSR	Rail	HSR	Rail	HSR	Rail	HSR	Rail
Los Angeles	---	12,730,332	10,822,593	12,286,676	10,200,541	12,215,496	10,482,466	12,286,676
Norwalk	---	2,532,897	---	2,906,834	2,734,364	4,147,561	---	2,906,834
Fullerton	---	2,414,262	---	5,828,337	---	3,774,261	2,713,133	5,828,337
Anaheim	---	6,989,617	6,466,267	5,499,441	6,173,944	4,068,521	5,013,995	5,499,441

Source: Authority 2023
HSR = high-speed rail; SPTA = Shared Passenger Track Alternative

Business Plans and Impacts Analysis

As described in Chapter 1, Purpose and Need, the analysis in this Draft EIR/EIS uses assumptions developed as part of the 2023 Project Update Report.

As described in Appendix 1-A, Changes in Project Benefits and Impacts, the Authority's ridership projections have been decreasing with each Business Plan Update, primarily because of a decrease in California population projections. Phase 1 medium ridership is now forecast at 28.4 million in 2040, which is a 9 percent reduction from the projection from the 2023 Project Update Report. Despite this meaningful reduction, the Authority continues to conclude that building the electrified system in California remains economically beneficial.

Because lower ridership levels are projected in the 2024 Business Plan compared to the 2023 Project Update Report, this would result in fewer trains operating in 2040. Therefore, the impacts associated with train operations in 2040 would be somewhat less than the impacts presented in this Draft EIR/EIS, and the benefits accruing to the project section (e.g., reduced vehicle miles traveled, reduced GHG emissions, reduced energy consumption) also would be somewhat less than the benefits presented in this Draft EIR/EIS.

With the HSR as a backbone for the state's transportation infrastructure, there are also new opportunities for transit connectivity and refocusing land use patterns that can take advantage of mass transit investment and other alternatives to automobile travel, reducing GHG emissions and moving the state closer to the "sustainable community" goals contained in Assembly Bill 1279 (i.e., achieve an 85 percent reduction in statewide anthropogenic [human-made] GHG emissions [from 1990 levels] by 2045).

3.1.5.7 Mitigation Measures

NEPA requires federal agencies to identify potentially adverse effects and discuss measures to mitigate those impacts. Mitigation measures to address certain adverse effects associated with the two alternatives are discussed in the Draft EIR/EIS. CEQA requires that each significant impact of a project be identified and that feasible mitigation measures be stated and implemented. Mitigation measures are identified for significant construction- and operations-related impacts. In addition, IAMFs as outlined above have been developed for the project section and will be incorporated as part of the Shared Passenger Track Alternatives to avoid, minimize, and reduce significant impacts. Project-specific mitigation measures are referenced throughout Chapter 3.

The Mitigation Measures section identifies feasible measures to avoid, minimize, rectify, reduce, eliminate, or compensate for significant adverse effects. If no mitigation measures are required, this section states that no mitigation is proposed. In contrast to the IAMFs discussed in the Impact Avoidance and Minimization Features section description, mitigation measures are not project design features, but rather are measures to avoid, minimize, and compensate for impacts that would be caused by the project.

The mitigation measures are based on the strategies presented in the *Final Program Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the Proposed California High-Speed Train System* (Authority and FRA 2005), the Bay Area to Central Valley Final Program EIR/EIS (Authority and FRA 2008), and the Bay Area to Central Valley High-Speed Train Partially Revised Final Program EIR (Authority 2012), because they may apply to the Los Angeles to Anaheim Project Section. The programmatic mitigation strategies in the Program EIR/EISs provided a foundation for crafting project-specific mitigation measures, and additional mitigation measures specific to the project section are identified where appropriate. The mitigation measures proposed for the project are abbreviated "MM" and numbered. For example, the first mitigation measure for air quality impacts is AQ-MM#1 and for aesthetics and visual quality is AVQ-MM#1.

3.1.5.8 Impacts from Implementing Mitigation Measures

A discussion of potential secondary impacts resulting from implementation of each mitigation measure follows the full text of the mitigation measures. If, during construction and operation of one of the build alternatives, changing circumstances render mitigation infeasible, additional environmental review may be required. Should mitigation occur on property not owned by the Authority, coordination with the property owners involved or with the jurisdiction that regulates the property would be required as described in Section 3.1.7.

3.1.5.9 Early Action Projects

This section discusses the mitigation measures required for the individual early action projects, as described in Chapter 2.

3.1.5.10 NEPA Impacts Summary

This section summarizes, in a table format, the environmental consequences specific to NEPA requirements for each resource. Based on the discussion of the context and intensity (including duration) of the potential impacts, this section summarizes the impact under NEPA, both before and after implementation of mitigation.

3.1.5.11 CEQA Significance Conclusions

This section lists, in a table format, the significant impacts identified in the environmental consequences section for each resource, reports the level of significance prior to mitigation, and indicates mitigation measures available to reduce the level of significance for each impact. Under CEQA, the impacts of project actions are evaluated against thresholds to determine whether a project action would result in no impact, a less-than-significant impact, or a significant impact.

If implementing a mitigation measure would reduce the potentially significant impact below the applicable significance threshold, the impact would be considered less than significant after mitigation. If, however, implementing a mitigation measure cannot reduce the level of impact below the significance threshold, the impact would be considered significant and unavoidable even after mitigation.

The CEQA Significance Conclusions section includes a table that lists the impacts, mitigation measures, and CEQA levels of significance for the project. The table is a summary of the significance conclusions presented in each CEQA Conclusion subsection, as described previously in Section 3.1.5.6, Environmental Consequences. For each impact, the table identifies the level of significance after IAMFs are considered but before any mitigation measures are applied, lists applicable mitigation measures, and then provides the level of significance after the mitigation measures are implemented. When there is no impact or a less-than-significant impact is expected before mitigation, and therefore no mitigation is required, then the level of significance after mitigation is considered “not applicable.” The CEQA significance conclusion table provides the CEQA determination of significance for all construction and operational impacts, along with any required mitigation measures, for the Shared Passenger Track Alternatives. Because the Shared Passenger Track Alternatives are evaluated as individual alternatives although they share similar project footprints, each level of impact provided in this table is based on the significance findings for the build alternatives and HSR station options (as applicable) with any differentiation of impact noted. Therefore, this table includes a column identifying the alternative and HSR station options where the impact would occur.

3.1.6 Outreach to Local Agencies

Meetings and other outreach activities were conducted with the staff of local public agencies in the project section throughout preparation of the Draft EIR/EIS. These meetings and other outreach activities have helped the Authority discern the on-the-ground conditions and the local environmental issues, recognize the concerns of local agencies and the public, facilitate reconciliation of substantive concerns, and design effective and feasible mitigation measures. Chapter 9, Public and Agency Involvement, is an inventory of outreach activities undertaken

during preparation of this Draft EIR/EIS. Specific resource-related issues also are discussed in the respective resource sections of the document.

3.1.7 Legal Authority to Implement Off-Site Mitigation

Chapter 3 analyzes the project's potential physical environmental effects on various resource areas. If a potential significant effect is found, mitigation measures are proposed. Most mitigation measures identified are within the Authority's jurisdiction and control. Some of the proposed mitigation measures would need to occur on property the Authority would not own as part of its right-of-way acquisitions. These are sometimes referred to as "off-site" mitigation measures. Mitigation that would occur on property not owned by the Authority would require working with the property owners involved, with the jurisdiction that regulates the property to accomplish that mitigation, or both.

The Authority has identified any off-site mitigation measures that are considered to be feasible. The Authority will continue its current practice of developing memoranda of understanding and funding agreements with local governments to facilitate agreement on implementation of off-site mitigation measures on property owned at the local agency level.

The existing rail corridor in which the project section is proposed to be built and operated is expected to remain in its current ownership (Los Angeles County Metropolitan Transportation Authority, BNSF, and Orange County Transportation Authority). The Authority would enter into the necessary agreements with the current owners of the rail corridor, and current existing operators within the corridor, to allow for construction and operation of the project.