S SUMMARY

S.1 Introduction and Background

The California High Speed Rail Authority (Authority), a state governing board formed in 1996, has responsibility for planning, designing, constructing, and operating the California High-Speed Rail (HSR) System. Its mandate is to develop a 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.

High-Speed Rail System

The system that includes the high-speed rail guideways, structures, stations, traction-powered substations, and maintenance facilities.

The California HSR System would provide intercity, high-speed service on more than 800 miles of tracks 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. Figure S-1 shows this system. 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 at speeds up to 220 miles per hour over a fully grade-separated, dedicated track alignment.

The Authority plans to implement the HSR system in two phases.[1] Phase 1 would connect San Francisco to Los Angeles/Anaheim via the Pacheco Pass and the Central Valley with a mandated express travel time of 2 hours and 40 minutes or less. Phase 2 would connect the Central Valley to the state's capital, Sacramento, and would extend the system from Los Angeles to San Diego.

The Burbank to Los Angeles Project Section would be a critical link in Phase 1 of the California HSR System, connecting San Francisco and the Bay Area to Los Angeles and Anaheim. The Burbank to Los Angeles Project Section of the California HSR System, shown on Figure S-2, would be approximately 14 miles long and would cross the cities of Burbank, Glendale, and Los Angeles. The HSR Build Alternative for the Burbank to Los Angeles Project Section would be located primarily within an existing railroad right-of-way. The Los Angeles Metropolitan Transportation Authority (Metro) owns the railroad right-of-way, the Southern California Regional Rail Authority owns the track and operates the Metrolink commuter rail service, the National Railroad Passenger Corporation (Amtrak) provides intercity passenger service on the existing tracks, and the Union Pacific Railroad holds track access rights and operates freight rail in the corridor. The northern terminus of the project section is the Burbank Airport Station; the southern terminus is Los Angeles Union Station (LAUS).

This summary provides an overview of the Burbank to Los Angeles Project Section Draft Project Environmental Impact Report/Environmental Impact Statement (EIR/EIS), specifically presenting:

- The tiered environmental review
- Issues raised during the scoping process
- Purpose and need for the statewide HSR system and the project section
- Development and evaluation of alternatives
  - Description of the No Project Alternative
  - Description of the HSR Build Alternative
- Impact avoidance and minimization features (IAMF) incorporated into the project
- Impacts of the No Project Alternative
- Benefits and impacts of the HSR Build Alternative
  - Summary of impacts and mitigation
  - Capital costs
  - Section 4(f) and Section 6(f) property impacts
  - Environmental justice community benefits and impacts

[1] Phase 1 would be built in stages, dependent on funding availability.

Source: California High-Speed Rail Authority and Federal Railroad Administration, 2017

Figure S-1 California High-Speed Rail System

Source: California High-Speed Rail Authority , 2019

Figure S-2 Burbank to Los Angeles Project Section Alignment

- Areas of controversy
- Next steps in the environmental review process
- Project implementation

The full text of the analysis can be found in the EIR/EIS, available on the Authority's website at www.hsr.ca.gov.

S.2 Tiered Environmental Review—Final Statewide Program EIR/EIS and Burbank to Los Angeles Section Project Section EIR/EIS

The Council on Environmental Quality (CEQ) regulations establish procedures for compliance with the National Environmental Policy Act (NEPA) (42 U.S. Code [U.S.C.] § 4321 et seq.). The CEQ regulations allow a phased process, known as *tiered* decision-making. This phased decision-making process allows for a broad-level programmatic decision at the first tier, with a first-tier EIS, followed by more specific decisions at the second tier, with one or more second-tier EIS documents. The NEPA tiering process allows incremental decision-making for large projects that would be too extensive and cumbersome to analyze in a traditional project EIS. The California Environmental Quality Act (CEQA) (Public Resources Code 21000 et seq.) also encourages tiering and provides for first-tier and second-tier EIRs.

Sequence of California High-Speed Rail Tiered Environmental Documents

Tier 1/Program Documents

- Final Program EIR/EIS for the Proposed California High-Speed Train System (2005)
- Bay Area to Central Valley High-Speed Train Final Program EIR/EIS (2008)
- Bay Area to Central Valley High-Speed Train Partially Revised Final Program EIR (2012)

Tier 2/Project Documents

- Burbank to Los Angeles Project Section Draft EIR/EIS (this document)

The Burbank to Los Angeles Project Section EIR/EIS is a second-tier EIR/EIS that tiers off of two first-tier, program EIR/EIS documents and provides project-level information for decision-making on this portion of the HSR system. The Authority and the Federal Railroad Administration (FRA) prepared the 2005 *Final Program EIR/EIS for the Proposed California High-Speed Train System* (Statewide Program EIR/EIS) (Authority and FRA 2005), which was a first-tier analysis of the general effects of implementing the statewide HSR system. The 2008 *Bay Area to Central Valley High-Speed Train Final Program EIR/EIS* (Bay Area to Central Valley Program EIR/EIS) (Authority and FRA 2008) and the 2012 *Bay Area to Central Valley High-Speed Train Partially Revised Final Program EIR* (Partially Revised Final Program EIR) (Authority 2012) are also first-tier, programmatic analyses that focus on the Bay Area and Central Valley regions. These three first-tier EIR/EIS documents provided the Authority and FRA with the environmental analyses necessary to evaluate the overall California HSR System and to make broad decisions about general HSR alignments and station locations for further study in the second-tier EIRs/EISs. Electronic copies of the Tier 1 documents are available on request by calling the Authority office at (916) 324-1541. The Tier 1 documents may also be reviewed at the Authority's offices during business hours at: 770 L Street, Suite 620, Sacramento, CA 95814 and 355 S Grand Avenue, Suite 2050, Los Angeles, CA.

The Burbank to Los Angeles Project Section EIR/EIS is a second-tier document and analyzes the environmental impacts and benefits of implementing HSR in the more geographically limited area between the proposed Burbank Airport Station and LAUS. It is based on more detailed project planning and engineering than the first-tier analyses. The analysis therefore builds on the earlier decisions and program EIR/EIS documents, and provides more site-specific and detailed analysis.

Pursuant to U.S.C. Title 23, Section 327, under the NEPA Assignment Memorandum of Understanding between FRA and the State of California, effective July 23, 2019, the Authority is the project sponsor and the lead federal agency for compliance with NEPA and other federal environmental laws for the HSR System, including the Burbank to Los Angeles Project Section. The Authority is also the state lead agency under CEQA. There are three cooperating agencies included in the NEPA review process for the Burbank to Los Angeles Project Section: the U.S. Army Corps of Engineers, the Surface Transportation Board (STB), and the Federal Transit

Administration. The U.S. Army Corps of Engineers agreed by letter, dated December 30, 2009, to participate as a cooperating agency under NEPA based on its special expertise and jurisdiction by law pursuant to Section 404 of the Clean Water Act and Sections 10 and 14 of the Rivers and Harbors Act. The STB, by letter dated May 2, 2013, is also participating as a cooperating agency under NEPA. The Federal Transit Administration agreed via email, dated January 12, 2011, to be a cooperating agency. Additionally, the Authority invited several other agencies to be cooperating agencies but has not received a response; these agencies include the Federal Highway Administration, via letter dated May 4, 2018, and the Federal Aviation Administration, via letter dated September 30, 2019.

Responsible agencies under CEQA are defined in Public Resources Code § 21069 as "any public agency, other than the lead agency, which has responsibility for carrying out or approving a project." Responsible agencies under CEQA for the Burbank to Los Angeles Project Section include the following agencies:

- California Department of Fish and Wildlife
- California Department of Transportation (Caltrans)
- California Public Utilities Commission, Los Angeles Office
- California State Lands Commission
- State Water Resources Control Board
- Los Angeles County Flood Control Board

S.3 Issues Raised during the Scoping Process

The Burbank to Los Angeles Project Section was initially considered part of the Palmdale to Los Angeles Project Section. The Authority and FRA announced their intention to prepare a joint EIR/EIS for the Palmdale to Los Angeles Project Section in March 2007. Since then, several alternatives analyses were conducted to refine project-level alternatives, including evaluating the Palmdale to Burbank and Burbank to Los Angeles corridors as separate sections. This was consistent with the 2016 Authority's Business Plan (2016c), which prioritizes an Initial Operating Segment for the HSR system with a temporary southern terminus at Hollywood Burbank Airport. After determining that these portions of the corridor had independent utility and logical termini, and that their respective scopes could properly address environmental impacts, the FRA and Authority initiated separate scoping processes for the Palmdale to Burbank and Burbank to Los Angeles Project Sections, in mid-2014.

The scoping period for the Burbank to Los Angeles Project Section began upon publication of the Notice of Preparation by the State Clearinghouse (No. 2014071073) and the Notice of Intent in the Federal Register (Volume 79, Page 142) on July 24, 2014. The Notice of Preparation and Notice of Intent amended the previous Notice of Preparation and Notice of Intent issued in 2007 for the Palmdale to Los Angeles Project Section. This is further discussed in Chapter 9, Public and Agency Involvement, of this EIR/EIS.

At the start of the public comment period, the Authority conducted public scoping activities between July 24 and September 12, 2014, for the Burbank to Los Angeles Project Section EIR/EIS. Seven public scoping meetings were held between August 5 and August 19, 2014, in Santa Clarita, Burbank, Palmdale, Acton/Agua Dulce, Sylmar, Lake View Terrace, and downtown Los Angeles. In total, 916 attendees participated and 33 comment forms were submitted. The comments received at these meetings are summarized in Section 9.2.3 and fully documented in the *Scoping Report: Burbank to Los Angeles Section* (Authority 2014).

In addition, one federal agency scoping meeting was held on August 8, 2014, at the Authority's offices in downtown Los Angeles. Information provided at this scoping meeting was tailored to the specific resource agencies invited to the meeting. Approximately 20 agency representatives attended.

Prior to the end of the comment period and due date for submittal of comments, several stakeholders requested a deadline extension. The Authority extended the original public scoping comment submittal deadline from its original date of August 31, 2014, to September 12, 2014.

In addition to these formal scoping meetings, the Authority sought public input on the scope of the environmental review through other means, including presentations, briefings, and workshops as described in Chapter 9, Public and Agency Involvement, of this EIR/EIS.

The Burbank to Los Angeles Project Section scoping identified issues with the proposed alignments and stations, suggestions for new or modified alignments and stations, and issues of potential concern related to the proposed project. Overall, the Authority received 81 comment submittals from agencies, organizations, and individuals, including comment forms received at scoping meetings, mailed comment forms, letters, emails, and recorded messages for telephone calls to the scoping voicemail box. These 81 submissions contained approximately 608 individual comments. The full text of all comments is included in Appendix F of the *Scoping Report: Burbank to Los Angeles Section* (Authority 2014).

Major issues identified as a result of scoping include the following topics:

- Routing alignments along existing transportation corridors; tunneling and trench alternatives
- Maximizing connectivity to other transit providers at LAUS and the Burbank Airport Station
- Impacts on the mobility of low-income and minority populations
- Impacts on property value and the potential for property damage
- Impacts on schools, churches, and other community facilities
- Visual impacts, including overhead catenary wires; “green screens” near residences
- Compliance with local and federal air quality regulations and minimization of emissions
- Impacts on and monitoring of Native American and archaeological sites
- Impacts on biological resources, including wetlands
- Electromagnetic field/electromagnetic interference (EMF/EMI) impacts that might affect navigation or other equipment at the Burbank Airport Station
- Evaluation of soils for stability, erosion, sedimentation potential, and how to handle soils removed during construction
- Impacts on the Los Angeles River/Arroyo Seco confluence, storm drains/flood channels, carrying capacity of systems, and waters of the U.S.
- Construction and operational noise and vibration impacts, noise pollution, potential noise abatement, and sensitive receptors
- Impacts on equestrian land uses and parks, and overlap with the planned Los Angeles River Revitalization Project
- Project demands on the electrical system; renewable energy sources
- Tunneling in mountain regions
- Safety corridor buffer size, rail crossing safety, and public and pedestrian safety; potential screens for trains
- Land use changes around station locations, multimodal use potential, and conflicts with existing or future development, including the Burbank Airport Station
- Impacts on transit providers, pedestrian connectivity, and goods movement; traffic management plan and upgrades to existing infrastructure
- Magnetic levitation (maglev) technology
- Overall cost of the project

The Authority and FRA held stakeholder and technical working group meetings throughout the alternatives analysis process to review the alternatives' design details and discuss possible design modifications to avoid key environmental resources. See Table 9-3 in Chapter 9, Public and Agency Involvement, for a list of public meeting dates and topics. All meetings provided information about the project and aimed to collect information about existing conditions and local preferences.

Alternatives Analysis

An alternatives analysis uses preliminary planning, environmental, and engineering information to identify feasible and practicable alternatives to carry forward for environmental review and preliminary engineering design. An alternatives analysis also assists with identification of the range of potentially feasible alternatives to analyze in the EIR/EIS and which alternatives will not be carried forward for further analysis.

At these meetings, the Authority and FRA coordinated with local jurisdictional staff to understand key issues and community concerns related to the project section alignment and design features. Stakeholder and technical working group participants included Caltrans Native American Advisory Committee, U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, Walt Disney Studios, Los Angeles Department of Transportation, U.S. Fish and Wildlife Service, U.S. Bureau of Reclamation, National Marine Fisheries Service, Los Angeles River/Natural Resources Defense Council, U.S. Forest Service, Metrolink, Southern California Association of Governments, and California Native American Heritage Commission.

Separate agency staff meetings supplemented the working group meetings and included briefings, regular coordination meetings, alignment review meetings, and design workshops or environmental justice targeted meetings. Participants in agency staff meetings included the cities of Los Angeles, Burbank, and Glendale.

Stakeholder and Technical Working Groups

Stakeholder working groups are composed of community leaders and organizations representing a broad range of regional and local interests related to land use, transportation, social, and environmental issues.

Technical working groups include staff from county and city public works, transportation, and planning departments, regional planning organizations, and other organizations that have technical expertise in land use, transportation, and infrastructure planning.

The Authority and FRA also held regular coordination meetings with the railroad right-of-way owners and freight and passenger rail service operators that use the Los Angeles-San Diego-San Luis Obispo Corridor. These include Amtrak, Metrolink, and Union Pacific Railroad to discuss how the introduction of HSR service, including track and station improvements, would affect existing rail operations in the corridor and to refine design elements to minimize conflicts.

In April 2016, the Authority released the Burbank to Los Angeles Section Supplemental Alternatives Analysis (SAA) and the Palmdale to Burbank Project Section SAA, each of which covered portions of the Burbank to Los Angeles Project Section (Authority 2016a, 2016b). The Burbank to Los Angeles Project Section SAA recommended carrying forward one HSR Build Alternative, along with the No Project Alternative into the EIR/EIS process.

During the development of this EIR/EIS, the Authority held meetings to consult with federal, state, and local agencies to provide updates and obtaining feedback from these stakeholders. Public information meetings were held to inform the public about the development of alternatives and to provide regular updates on the preparation of this EIR/EIS. In addition, these meetings provided information about various HSR project components and served as forums for obtaining feedback. The Authority and FRA coordinated with Native American tribal representatives through community open house meetings as well as a tribal information meeting. The tribal information meeting was held in Sylmar and offered an opportunity for invitees to discuss issues of concern within either the Palmdale to Burbank and Burbank to Los Angeles Project Sections.

A summary of scoping and public and agency outreach activities related to the environmental review process for the Burbank to Los Angeles Project Section Draft EIR/EIS is provided in Chapter 9, Public and Agency Involvement.

S.4 Purpose of and Need for the Statewide High-Speed Rail System and the Burbank to Los Angeles Project Section

S.4.1 Purpose of the Statewide High-Speed Rail System

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 the state and delivers 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.

S.4.2 Purpose of the Burbank to Los Angeles Project Section

The purpose of the Project is to implement the Burbank to Los Angeles HSR 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 systems, and the highway network in the San Fernando Valley and the Los Angeles Basin; and to connect the Northern and Southern portions of the Statewide HSR system.

S.4.3 Objectives for the High-Speed Rail System Statewide and within the Burbank to Los Angeles Region

The Authority's statutory mandate is to plan, build, and operate an HSR system coordinated with California's existing transportation network, particularly intercity rail and bus lines, commuter rail lines, urban rail lines, highways, and airports. As the CEQA lead agency, the Authority is preparing this Draft EIR/EIS consistent with specific CEQA EIR content and processing requirements. CEQA Guidelines in Section 15124 require an EIR to include a statement of objectives that will support the underlying purpose of the project. The Authority has responded to this statutory mandate by adopting the following objectives and policies for the proposed HSR system:

- Provide intercity travel capacity to supplement critically over-used interstate highways and commercial airports
- Meet future intercity travel demand that will be unmet by current transportation systems and increase capacity for intercity mobility
- Maximize intermodal transportation opportunities by locating stations to connect with local transit systems, airports, and highways
- Improve the intercity travel experience for Californians by providing comfortable, safe, frequent, and reliable high-speed travel
- Provide a sustainable reduction in travel time between major urban centers
- Increase the efficiency of the intercity transportation system
- Maximize the use of existing transportation corridors and rights-of-way to the extent feasible
- Develop a practical and economically viable transportation system that can be implemented in phases by 2040 and generate revenues in excess of operations and maintenance costs
- Provide intercity travel in a manner sensitive to and protective of the region's natural and agricultural resources and reduce emissions and vehicle miles traveled for intercity trips

Figure S-1 shows the location of the Burbank to Los Angeles Project Section within the overall HSR system. The project section contributes significantly to the HSR system statewide and its objectives to improve intercity transportation service that will connect with major population and economic centers and other regions of the state.

Additional objectives that the Authority is pursuing for the Burbank to Los Angeles Project Section include:

- Incorporate HSR into the intermodal transportation hubs at Burbank and Los Angeles, thereby providing interfaces with airports (Hollywood Burbank Airport), mass transit (Metro, Metrolink, and Amtrak), and highways, resulting in local and regional transit and transportation hubs
- Capture a large base of riders in the densely populated San Fernando Valley and the Los Angeles Basin
- Provide station locations with existing and planned transit-oriented development centers

S.4.4 Need for the High-Speed Rail System Statewide and within the Burbank to Los Angeles Region

The approximately 14-mile-long Burbank to Los Angeles Project Section is an essential part of the statewide HSR system. It would provide access to a new transportation mode and would contribute to increased mobility throughout California. This project section would connect to both the Palmdale to Burbank and the Los Angeles to Anaheim Project Sections and would include HSR stations in Burbank and Los Angeles.

The capacity of California's intercity transportation system, including in the cities of Burbank, Glendale, and Los Angeles, is insufficient to meet existing and future travel demand, and the current and projected future congestion of the system 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. The interstate highway system, commercial airports, and conventional passenger rail system that serve the intercity travel market are operating at or near capacity and will require large public investments for maintenance and expansion 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 needed expansions may be impractical or are constrained by physical, political, and other factors. The need for improvements to intercity travel in California, including that between the San Fernando Valley, Los Angeles Basin, San Joaquin Valley, the Bay Area, and Sacramento relates to the following issues:

- Future growth in demand for intercity travel, including the growth in demand in Southern California
- Transportation system capacity constraints that will result in increasing congestion and travel delays
- Unreliability of travel modes 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
- Increasing frequency of accidents on intercity highways and passenger rail lines in congested corridors in Southern California
- Reduced mobility as a result of increasing demand on limited modal connections between major airports, transit systems, and passenger rail in the state
- Poor and deteriorating air quality, pressure on natural resources, and urban development pressures as a result of expanded highways and airports
- Legislative mandates to moderate the effects of transportation on climate change, including required reductions in greenhouse gas (GHG) emissions caused by vehicles powered by the combustion of carbon-based fuels[2]

Geographically, the Burbank to Los Angeles Project Section is in one of the most densely populated areas of California. When completed, this project would provide the public with electric-

[2] The following legislative mandates are described in detail in Section 3.3.2, Laws, Regulations and Orders, for air quality and GHGs: Assembly Bill (AB) 1493 (2002), California Executive Order (EO) S-3-05 (2005), AB 32 (2006), EO S-01-07 (2007), SB 375 (2008), SB 32 and AB 197 (2016), SB 100 (2018), and EO B-55-18 (2018).

powered HSR service that offers predictable and consistent travel times between major urban centers. In addition, the project would provide enhanced connections to airports, mass transit, and the highway network in the cities of Burbank, Glendale, and Los Angeles, and a direct connection to the rest of the HSR system.

Chapter 1, Project Purpose, Need, and Objectives, in this Draft EIR/EIS provides additional information about factors relevant to intercity travel between the Bay Area and Southern California, as well as Merced, Fresno, and the Sacramento Valley.

S.5 Alternatives

This section describes the alternatives evaluated in this project EIR/EIS. All alternatives were evaluated during an alternatives analysis screening process that considered the effects of the alternatives on the social, natural, and built environment, as described in the *Alternatives Analysis Methods for Project EIR/EIS* (Authority 2010). As described in Section S.2, the Authority and FRA relied on program EIR/EIS documents to make decisions on corridors and station locations to advance for further study. Various alternatives were analyzed for the Burbank to Los Angeles Project Section consistent with the train technology, alignment corridor, and station locations selected by the Authority and FRA at the conclusion of the Tier 1 EIR/EIS processes for the HSR System.

After the release of the two SAA reports (Authority 2016a, 2016b), described in Section S.3, project design refinements to the station options at Hollywood Burbank Airport continued based on stakeholder input and public concerns about community impacts, and alternatives and options in the SAA were eliminated. The surface options from Hollywood Burbank Airport to Alameda Avenue (Alignment Option A and Station Option A) were eliminated from consideration because of adverse impacts on right-of-way. The below-grade options from the Burbank Airport Station to Alameda Avenue (Alignment Option B and Station Option B) were refined to minimize potential environmental impacts and reduce cost. The HSR Build Alternative evaluated is the result of the Authority's and FRA's consideration of an extensive array of potential alternatives, all with the benefit of extensive public, stakeholder, and agency input. Therefore, this Tier 2 Draft EIR/EIS evaluates one HSR Build Alternative and the No Project Alternative for the Burbank to Los Angeles Project Section.

S.5.1 No Project Alternative

NEPA requires the evaluation of a "no action" alternative in an EIS (CEQ Regulations Section 1502.14(d)). Similarly, CEQA requires that an EIR include the evaluation of a "no project" alternative (CEQA Guidelines Section 15126.6(e)). The No Project Alternative considers the effects of current land use and transportation plans for the project area, including planned improvements to the highway, aviation, conventional passenger rail, freight rail, and port systems through the 2040 planning horizon for the environmental analysis. The No Project Alternative describes the circumstances that would exist if the lead federal agency, the Authority, does not take the actions necessary to implement HSR service between Burbank to Los Angeles.

The No Project Alternative is the basis for comparison with the HSR Build Alternative.[3] The No Project Alternative represents the existing conditions (baseline) and those that would occur in the 2040 forecast year if the proposed Burbank to Los Angeles Project Section were not implemented. The No Project Alternative reflects the impacts of the forecast growth for the region as presented in city and county planning documents, as well as existing and planned state and regional improvements to the highway, bicycle and pedestrian, aviation, conventional passenger rail, local rail and bus transit, intercity bus, and freight rail systems in the Burbank to Los Angeles Project Section study area. Other reasonably foreseeable projects under the No Project Alternative include transportation projects, residential, commercial, and development projects

[3] The term "No Project Alternative" in this Draft EIR/EIS also refers to the "No Action Alternative" under NEPA.

through the 2040 horizon year. A full list of anticipated future projects is provided in Appendix 3.19-A, Cumulative Projects List, in Volume 2 of this Draft EIR/EIS.[4]

This forecast growth under the No Project Alternative would be substantial. Los Angeles County experienced 3.1 percent growth in population from 2000 to 2010, less than the growth seen in the state overall (10 percent from 2000 to 2010) (U.S. Census Bureau 2011). The population increase of approximately 10 percent for the state was a slowdown from previous years, and likely reflects continued domestic migration from California to other states. Similarly, the increase in population in coastal California areas (including Los Angeles County) was outpaced by more affordable, inland areas. Population growth in Los Angeles County is expected to reach over 17 percent growth from 2010 to 2040, still slightly less than that of the state overall (over 22 percent) (Table 3.18-6 in Chapter 3.18 of this EIR/EIS, data from the U.S. Census Bureau Table DP-1). During the 2017 to 2040 time period, long-range employment is anticipated to grow nearly 6 percent, approximately half the growth rate of the state overall (12 percent) (Table 3.18-4 in Chapter 3.18 of this EIR/EIS, California Employment Development Department 2016b and California Department of Transportation and the California Economic Forecast 2013).

S.5.2 Burbank to Los Angeles Project Section Build Alternative

The Authority's Preferred Alternative for the Burbank to Los Angeles Section is the HSR Build Alternative. The alignment would be about 14 miles in length that would travel between Hollywood Burbank Airport and LAUS. The alignment would travel through the cities of Burbank, Glendale, and Los Angeles, but would be almost entirely within an existing railroad right-of-way owned by Metro. A new HSR station would be constructed near the Hollywood Burbank Airport and new platforms for HSR service would be added within the confines of the LAUS campus. Table S-1 summarizes the design features of the HSR Build Alternative. The HSR Build Alternative would include new and upgraded track, grade separations, drainage improvements, communications towers, security fencing, passenger train stations, and other necessary facilities to introduce HSR service into the Los Angeles-San Diego-San Luis Obispo Corridor. Surface and below-grade portions of the HSR Build Alternative, major roadway and water crossings, and bridges along the alignment are shown in Figure S-3. In portions of the alignment, new and upgraded tracks would allow other passenger trains to share tracks with the HSR system.

Table S-1 Summary of Design Features of the High-Speed Rail Build Alternative

Design Features	High Speed Rail Build Alternative
Total Length (linear miles)	13.66
At-Grade Profile (linear miles)	7.44
Retained Fill Profile (linear miles)	4.26
Below-Grade Profile (linear miles)	1.96
Number of Major Water Crossings[1]	6
Total Number of Roadway Crossings	32
Number of Public and Private Roadway Closures	2
Number of Proposed Roadway Grade Separations[2]	5

Source: California High-Speed Rail Authority, 2018

[1] Major water crossings are Burbank Western Channel, Lockheed Channel, Los Angeles River (crossed at Downey Bridge, Mission Tower Bridge, and the new Main Street bridge), and Verdugo Wash.

[2] All proposed grade-separation configurations are pending California Public Utilities Commission approval.

LAUS = Los Angeles Union Station Metro = Los Angeles County Metropolitan Transportation Authority

[4] As discussed in Section 3.1 of this EIR/EIS, the existing conditions baseline year for this Draft EIR/EIS is generally 2015, the time when the environmental analysis for the Burbank to Los Angeles Project Section began following issuance of the federal Notice of Intent and state Notice of Preparation for the project section. The affected environment discussions, including the descriptions of infrastructure projects and land development projects considered in the cumulative impacts analysis, describe the existing and planned conditions provided in the most recent, publicly available data as of December 31, 2017, or collected during field work conducted in 2015, 2016, and 2017.

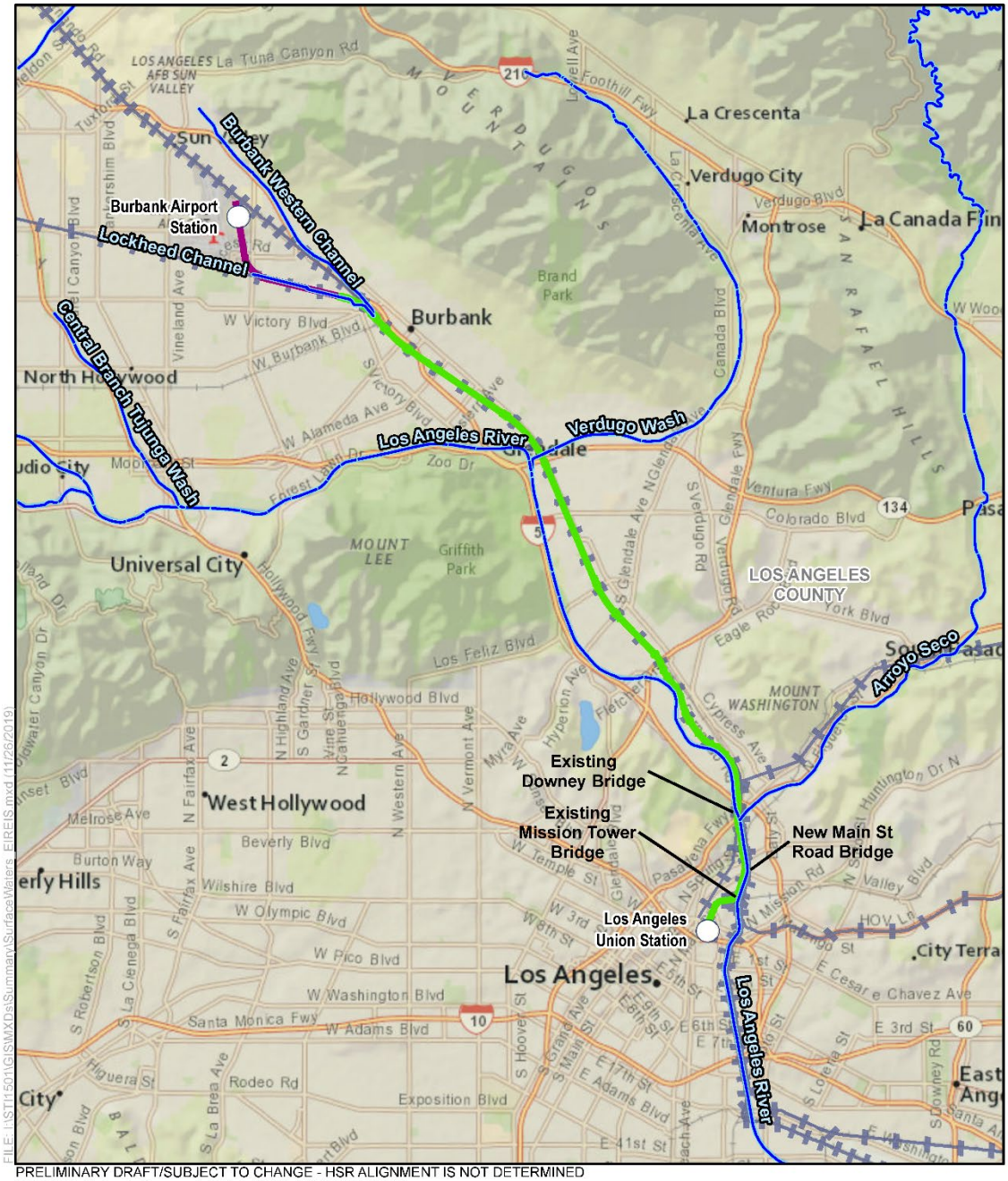


Figure S-3 Key Design Features of the HSR Build Alternative

The HSR Build Alternative was selected based on a balanced consideration of the environmental information presented in this Draft EIR/EIS in the context of CEQA, NEPA, other federal and state laws, local and regional land use plans, community preferences, and cost.

The identification of the Preferred Alternative integrates the Authority's evaluation under Section 4(f) of the Department of Transportation Act (49 U.S.C. § 303) (Section 4(f)), which provides special protection to publicly owned lands of parks, recreation areas, or wildlife and waterfowl refuges or publicly or privately owned lands of national, state, or local significance. Historic sites (whether publicly or privately owned) of national, state, or local significance on or eligible for listing on the National Register of Historic Places may also qualify for protections under Section 4(f). As described in Chapter 4, Sections 4(f) and Section 6(f) Evaluations, Section 4(f) properties can only be used by federally funded transportation projects if there is no feasible and prudent avoidance alternative and all possible planning has been taken to minimize harm to any 4(f) property used by the project, or if a finding of *de minimis* impact is made. For more information on the Authority's evaluation under Section 4(f), please see Chapter 4.

The Authority identified the HSR Build Alternative as the Preferred Alternative by balancing the adverse and beneficial impacts of the project on the human and natural environment. Taking this holistic approach means that there was no single determining factor in identifying the Preferred Alternative in any given geographic area. The Authority weighed the issues, including natural resource and community impacts, the input of the communities along the route, the views of federal and state resource agencies, project costs, and constructability, to identify what it believes is the best alternative to achieve the project's purpose and need.

The HSR Build Alternative in the Burbank to Los Angeles Project Section does not include any heavy or light maintenance facilities. The design and spacing of maintenance facilities along the HSR system do not require the Burbank to Los Angeles Project Section to include any maintenance facilities within its limits. The light maintenance facility closest to the Burbank to Los Angeles Project Section would be close to LAUS, but within the Los Angeles to Anaheim Project Section. The California HSR System would require one heavy maintenance facility for the system, located in the Central Valley within either the Merced to Fresno Project Section or the Fresno to Bakersfield Project Section.

The Burbank to Los Angeles Project Section has the capability to operate as a standalone project in the event the other project sections of the HSR system are not constructed. Because none of the four types of maintenance facilities would be located within the limits of the Burbank to Los Angeles Project Section, all maintenance functions for vehicles and infrastructure would be handled through an independent contractor to achieve independent utility. For system power, one potential location for a traction power substation (TPSS) has been preliminarily identified within the project section. Because the addition of a TPSS would alter the spacing of the other system facilities, further design and environmental study would be required to environmentally clear the TPSS site and the alteration of the other system facilities should the Palmdale to Burbank and Los Angeles to Anaheim Project Sections not be built and operated. Any electrical interconnections between a potential future TPSS site and existing utility providers would also have to be environmentally evaluated and cleared in subsequent documentation.

S.5.3 Station Area Development

The HSR stations for the Burbank to Los Angeles Project Section are proposed in the vicinity of Hollywood Burbank Airport and at LAUS (refer to Figure S-2). Stations would be designed to optimize access to the statewide HSR system, particularly to allow for intercity travel and connections to local transit, airports, highways, and the bicycle and pedestrian networks. All stations would include the following elements:

- Passenger boarding and alighting platforms
- A station head house with ticketing, waiting areas, passenger amenities, vertical circulation, administration and employee areas, and baggage and freight-handling service
- Vehicle parking (short-term and long-term)

- Pick-up and drop-off areas
- Motorcycle/scooter parking
- Bicycle parking
- Waiting areas and queuing space for taxis and shuttle buses
- Pedestrian walkway connections

Detailed information on HSR land use policies is in Section 3.13, Station Planning, Land Use, and Development. The following sections provide details specific to each proposed station as part of the HSR Build Alternative.

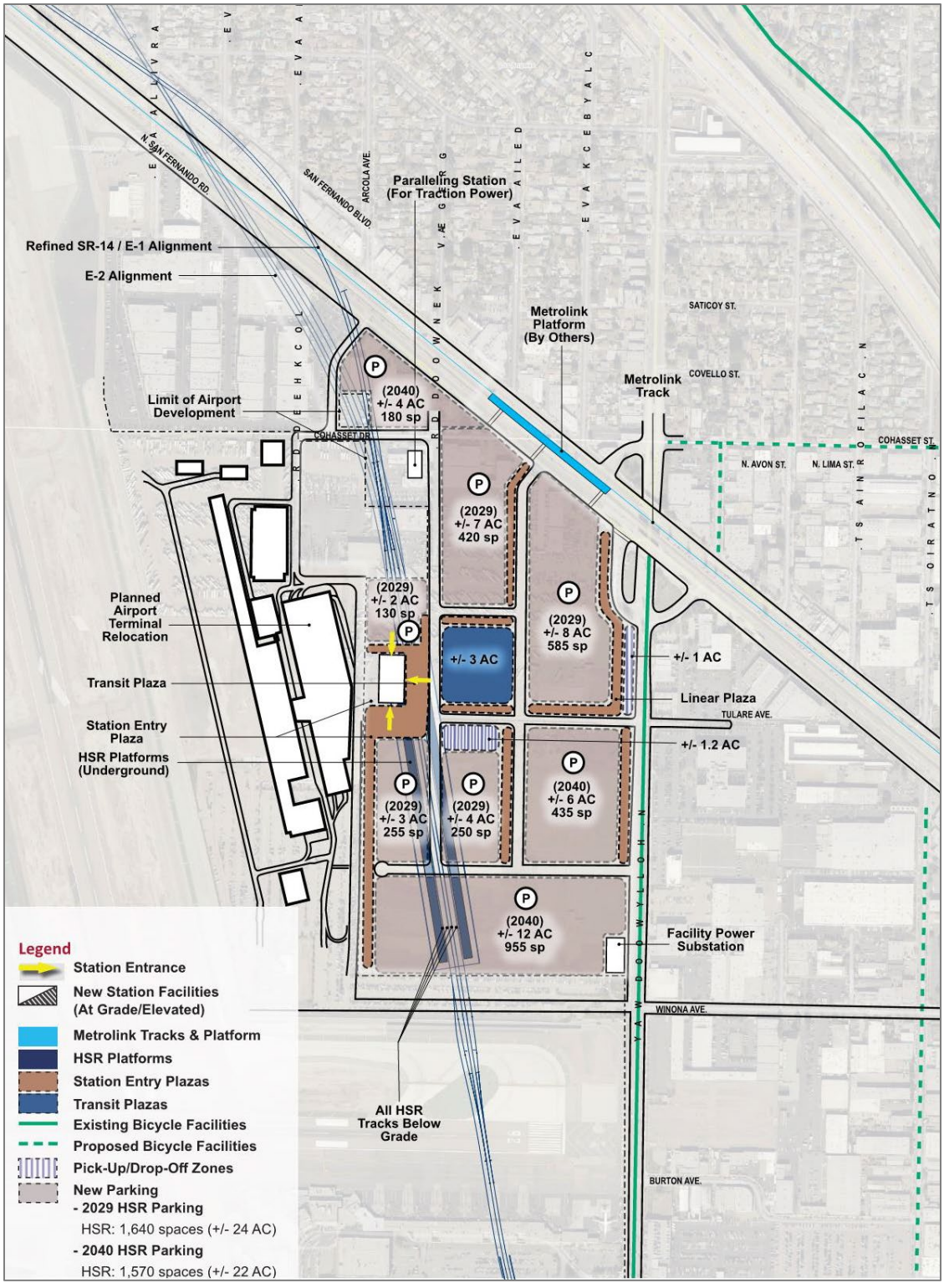
S.5.3.1 Burbank Airport Station

The subsection between the Burbank Airport Station and Alameda Avenue was studied in the 2016 Palmdale to Burbank SAA, which proposed two station options near the Hollywood Burbank Airport and two alignment options for this subsection (Authority 2016b). The alternative analysis documents were prepared with extensive public engagement, including of environmental justice populations. Starting in 2017, after stakeholder input and based on concerns about community impacts, the Authority completed further refinement of the station options at Hollywood Burbank Airport. The refinement included withdrawing one at-grade station option that would have significant community impacts, and revising alignments and the depth of the below-ground station option to reduce the intensity of construction. The refined below-ground station would be adjacent to the relocated Hollywood Burbank Airport terminal, which would provide opportunity to directly link these two important transportation hubs.

The Burbank Airport Station site would be located west of Hollywood Way and east of Hollywood Burbank Airport. The airport and ancillary uses occupy much of the land south of the Burbank Airport Station site, while industrial and light industrial land uses are located to the east and residential land uses are found to the north of the Burbank Airport Station site. Interstate 5 runs parallel to the station site, approximately 0.25 mile north of the Burbank Airport North Metrolink platform.

The Burbank Airport Station would have both underground and above-ground facilities occupying approximately 70 acres. Station facilities would include train boarding platforms, a station building (which would house ticketing areas, passenger waiting areas, restrooms, and related facilities), pick-up/drop-off facilities for private automobiles, a transit center for buses and shuttles, and surface parking areas. Underground portions of the station would be beneath Cohasset Street, along which runs the boundary between the city of Los Angeles to the north and the city of Burbank to the south. There would be two HSR tracks at the Burbank Airport Station.

The Burbank Airport Station would have up to approximately 3,200 surface parking spaces. There would be approximately 2,980 spaces between the proposed Replacement Terminal and N Hollywood Way. An additional approximately 220 spaces would be in surface lots in the area bounded by Lockheed Drive to the west, Cohasset Street to the south, and N San Fernando Boulevard to the north and east. Figure S-4 shows the preliminary station layout concept plan. The Burbank to Los Angeles Project Section EIR/EIS analyzes the Burbank Airport Station project environmental footprint displayed on Figure S-4 as permanently affected because no additional temporary construction easements are identified beyond the permanent area required to build, operate, and maintain the station. This is the assumption based on the current level of design.



Source: California High-Speed Rail Authority , 2019

Figure S-4 Preliminary Station Concept Layout Plan, Burbank Airport Station

S.5.3.2 Los Angeles Union Station

The Burbank to Los Angeles Project Section includes one HSR station at LAUS. The existing LAUS campus and surrounding tracks are being reconfigured as a part of the Metro Link Union Station (Link US) Project.[5] The Link US Project would reconfigure the station entry tracks from north of Mission Junction and would include expansion of the existing pedestrian passageway. Up to 10 new run-through tracks would be constructed on "common" infrastructure to support regional/intercity rail and HSR trains. Depending on funding arrangements, reconfiguration may occur in one continuous phase or could occur over two construction phases. If phased, the first phase (Phase A) would include implementation of early action/interim improvements primarily associated with the regional/intercity rail run-through track infrastructure south of LAUS and necessary signal modifications, roadway modifications, and property acquisitions to facilitate new run-through service that would occur in the interim condition. The second phase (Phase B) would include new lead tracks, the elevated rail yard, and the new modified expanded passageway. The Authority, under NEPA Assignment, is the federal lead agency for the Metro Link US EIS that evaluates these changes. Metro previously certified a Final EIR in June 2019,[6] on which the Authority was a responsible agency under CEQA. These changes would be completed prior to the introduction of HSR service.

The proposed HSR station at LAUS would include up to four HSR tracks and two 870-foot platforms (with the possibility of extending to 1,000 feet). The HSR system would share passenger facilities, such as parking and pick-up/drop-off, with other operators. HSR would require 1,180 parking spaces in 2029 and 2,010 spaces in 2040. This new demand may be met by existing underutilized parking supply within 0.5 mile of LAUS. This parking would be shared with other LAUS service providers and businesses.

Figure S-5 illustrates the proposed location of the HSR tracks and station platforms at LAUS within the context of the Metro Link US project boundaries.

[5] The Link US project will transform LAUS from a "stub-end" station to a "run-through" station by extending tracks south over U.S. Route 101. The Link US project will add a new passenger concourse to provide improved operational flexibility for rail service. More information is available at metro.net/projects/link-us.

[6] The Metro Link US Notice of Determination (June 2019) is available at https://ceqanet.opr.ca.gov/2016051071/3/Attachment/J9R7Bx.

Sources: California High-Speed Rail Authority, 2019; Los Angeles Metropolitan Transportation Authority, 2017

Figure S-5 Preliminary Station Elements Plan, Los Angeles Union Station

S.6 Design Considerations to Avoid and Minimize Impacts

The Authority has committed to integrate programmatic IAMFs into the HSR project consistent with the following: (1) 2005 Statewide Program EIR/EIS, (2) 2008 Bay Area to Central Valley Program EIR/EIS, and (3) 2012 Partially Revised Final Program EIR into the HSR project. Project design includes considerations to avoid and minimize environmental and community impacts through incorporation of the following additional measures:

- Follow existing transportation corridors to the extent feasible
- Span water crossings where practical
- Use shared right-of-way when feasible
- Include passages for wildlife movement
- Include narrowed footprint with elevated or retained cut profile
- Avoid sensitive environmental resources to the extent practical

Table S-4, included at the end of this Summary, lists the IAMFs that would be part of the HSR Build Alternative to further avoid and minimize impacts for each resource topic. The Authority would implement these features during project design and construction, as relevant to the HSR project section, to avoid or reduce impacts. The full text for each IAMF is provided in Appendix 2-B, Impact Avoidance and Minimization Features, in Volume 2 of this Draft EIR/EIS. Chapter 3, Affected Environment, Environmental Consequences, and Mitigation Measures, of the Draft EIR/EIS provides a description of each IAMF as well as its purpose in the context of each resource topic.

S.7 No Project Alternative Impacts

HSR Build Alternative Resource Study Area (RSA)

The RSA contains the following:

1. All facilities or features within the project footprint including stations;
2. Areas necessary to determine characteristics and context for a specific resource area within a project section;
3. Areas specific to each resource to evaluate the intensity and determine direct and indirect impacts of the HSR improvements and activities;
4. Areas needed to implement, operate, or maintain mitigation measures; and
5. Areas to identify and analyze potential secondary impacts of implementing mitigation.

The No Project Alternative forms the basis for comparison of the project alternatives and represents conditions that would occur in the forecast year (in this case, 2040) if the proposed action (in this case, the Burbank to Los Angeles Project Section) were not constructed. The No Project Alternative considers the impacts of growth planned for the region as well as existing and planned improvements to the highway, aviation, conventional passenger rail, local rail and bus transit, intercity bus, and freight rail systems in the Burbank to Los Angeles Project Section area through the year 2040 time horizon of the environmental analysis. Various agencies would implement these planned projects regardless of this project section's construction and operation. Planned and other reasonably foreseeable projects under the No Project Alternative would include transportation projects; aviation improvements; intercity transit improvements; freight and passenger rail improvements; port improvements; residential, commercial, and industrial developments; and utility construction projects. A full list of anticipated future projects is provided in Appendix 3.19-A, Cumulative Projects List, in Volume 2 of this Draft EIR/EIS. Under the No Project Alternative, existing regional transportation systems would continue to operate without the HSR system and current residential, commercial/industrial, and public facility land use development trends would continue to grow, including population and economic growth through 2040. For the purpose of this analysis, the Resource Study Area (RSA) for the No Project Alternative and HSR Build Alternative is generally defined as the area in which all environmental investigations specific to each environmental resource are conducted to determine the resource characteristics and potential impacts of the project section.

Development under the No Project Alternative would result in impacts related to the resources evaluated in this EIR/EIS including transportation; air quality and global climate change; noise and vibration; electromagnetic fields and electromagnetic interference; public utilities and energy;

biological and aquatic resources; hydrology and water resources; geology, soils, seismicity and paleontological resources; hazardous materials and wastes; safety and security; socioeconomics and communities; station planning, land use, and development; agricultural farmland and forest land; parks, recreation, and open space; aesthetics and visual quality; cultural resources; and regional growth.

S.8 High-Speed Rail Build Alternative Evaluation

The following sections provide an overview of the impacts and benefits of the HSR Build Alternative. These impacts are assessed assuming IAMFs have been incorporated as part of the proposed project, though mitigation may also be required to avoid or reduce significant impacts. Capital costs are presented as well as impacts on Section 4(f) and 6(f) resources and environmental justice populations. Table S-1 in Section S.5.2 above provides the key design features associated with the HSR Build Alternative.

S.8.1 High-Speed Rail Project Benefits

For the year 2040, the 2016 Business Plan (Authority 2016c) forecasts 42.8 million and 56.8 million passengers annually using the HSR system under the medium and high ridership scenarios, respectively. Approximately 12,800 passengers would board daily at the proposed Burbank Airport Station. Of the passengers arriving/departing this station, approximately 71.3 percent would travel by car (drop-off/pick-up, drive and park, rental car, or taxi), 23.4 percent would use transit (bus or rail), and 5.3 percent would bike or walk. In 2040, approximately 20,500 passengers would board daily at LAUS. Of the passengers arriving/departing LAUS, approximately 32.1 percent would travel by car (drop-off/pick-up, drive and park, rental car, or taxi), 46.5 percent would use transit (bus or rail), and 21.4 percent would bike or walk. This ridership would bring benefits to the region by reducing long-distance, city-to-city travel along freeways and highways, as well as long-distance, city-to-city aircraft takeoffs and landings, lowering energy consumption and electricity demand throughout the state compared to the No Project Alternative.

The HSR Build Alternative would provide benefits to the regional transportation system by reducing the number of vehicles operating on the regional roadway network through diversion of intercity road trips to HSR. In 2040, implementation of the HSR Build Alternative would result in a net reduction in vehicle miles traveled ranging from about 931 million to 1.28 billion (an approximately 1.1 percent to 1.5 percent reduction) for the medium and high ridership scenarios, respectively, compared to the No Project Alternative. This is a net benefit to transportation and traffic operations because a reduction in vehicle miles traveled helps maintain or potentially improve the operating conditions of regional roadways. This reduction in future vehicle trips would improve the level-of-service (LOS) (i.e. operating quality) of the regional roadway system compared with the No Project Alternative.

The number of intrastate airplane flights would decrease between about 45,200 and 48,000 flights per year with the California HSR System compared to the No Project Alternative. Some travelers would choose to use the HSR system rather than fly to their destinations. Operation of the HSR Build Alternative would reduce Southern California energy consumption from aircraft transportation by approximately 32 to 28 percent for the medium and high ridership scenarios, respectively, compared to the No Project Alternative.

Overall, operation of the Burbank to Los Angeles Project Section would reduce regional energy consumption from transportation by approximately 2.1 to 2.3 percent; and statewide energy consumption from transportation by approximately 2.7 to 3.8 percent, depending on the ridership scenario.

The overall reduction of vehicle trips would also result in a net emission decrease in statewide and regional criteria pollutants and GHG emissions compared to the No Project Alternative, resulting in a long-term beneficial impact on statewide and regional air quality and global climate change. The Burbank to Los Angeles Project Section would contribute to meeting the state's GHG emissions reduction goals as identified in CARB's scoping plan.

Positive train control (PTC) and grade separations included as part of the HSR Build Alternative would provide an overall benefit to rail safety compared to the No Project Alternative. PTC is a train safety system designed to automatically implement safety protocols and provide communication with other trains to reduce the risk of a potential collision. Communication towers and ancillary facilities are included in the Burbank to Los Angeles Project Section in compliance with FRA PTC requirements. PTC infrastructure consists of integrated command, control, communications, and information systems for controlling train movements that improve railroad safety by substantially reducing the probability of collisions between trains, casualties to roadway workers and equipment, and over-speed accidents. PTC is especially important in "blended" corridors, such as in the Burbank to Los Angeles Project Section, where passenger trains need to safely share the same tracks with freight trains.

Additionally, rail service would be enhanced by the grade separations for existing rail lines under the HSR Build Alternative. Grade separations would provide safer travel where roadways currently cross railroad corridors at grade by eliminating the potential for train and automobile/bicycle/pedestrian conflicts that would continue under the No Project Alternative. In addition, the grade separations would improve connectively between communities and neighborhoods currently divided by the existing rail corridor with at-grade roadway crossings. The grade separations would also provide a benefit to emergency access because passing trains and active grade-crossing safety equipment would no longer cause travel delays to emergency vehicles.

The HSR Build Alternative is consistent with the goals and policies of the Cities of Burbank, Glendale, and Los Angeles that support development of an HSR station. Compared with the No Project Alternative, the HSR Build Alternative would be a stronger catalyst for transit-oriented development envisioned in local planning documents. Residential and commercial property values in the vicinity of HSR stations could appreciate because of access to the HSR transportation system and the associated intensification of development that could occur around station locations. Operation of the HSR Build Alternative would encourage compact, efficient land use by increasing property values and providing an economic driver for high-density, infill development around stations. Employment growth from construction and operation of the HSR Build Alternative would be a net benefit for the region. The benefits of the HSR Build Alternative related to sales tax gains, regional employment, regional transportation, transportation safety, and regional air quality would affect all populations, including low-income and minority populations, compared to the No Project Alternative.

By applying required federal and state regulations and engineering standards, construction and operation of the HSR Build Alternative would have impacts of negligible intensity on agricultural farmland and forest land because there is no agricultural farmland or forest land in the RSA.

S.8.2 Adverse Effects of the High-Speed Rail Build Alternative

This section summarizes the impacts of the HSR Build Alternative, focusing on potentially significant impacts. The impact analysis includes effects that would result from construction and operation of the HSR Build Alternative. Construction impacts that occur for a limited time during the construction period are considered temporary, and impacts that result in long-term changes to the physical environment are considered permanent. Operations impacts are those that occur once the project is built and result from ongoing operational activities of the HSR system, including train pass-bys, passenger arrival and departure from the HSR stations, and maintenance activities along the HSR alignment and at specialized facilities.

The impact analysis takes into account project design features, IAMFs, and compliance with regulatory requirements to avoid or reduce impacts prior to application of mitigation measures. Table S-3 included at the end of this document summarizes the IAMFs mentioned in the discussions. Many regulations require standard measures to avoid and minimize environmental impacts. The Authority will comply with these regulations, and therefore, such measures are not summarized here. Feasible mitigation measures would be applied to avoid or reduce impacts from construction and operation of the HSR Build Alternative. A determination of the level of significance before and after mitigation measures are applied is required under CEQA. In most cases, these mitigation measures would reduce impacts to a less than significant level. In

addition, the Authority will strive to avoid and further minimize impacts as design progresses to final plans and specification are developed to guide construction activities.

The following sections summarize the impacts associated with the HSR Build Alternative for each environmental resource topic, under both NEPA and CEQA. Table S-4, included at the end of this Summary, list the significant CEQA impacts, mitigation measures to avoid or reduce significant impacts, and unavoidable significant impacts that remain.

S.8.2.1 Transportation

Construction

Under the Burbank to Los Angeles Project Section, access and circulation disruptions would occur throughout the construction period with various intensities, depending on the type of construction activities that take place. These disruptions may affect emergency responders and other modes of transportation using the affected roadways and intersections. SS-IAMF#1, TR-IAMF#2, TR-IAMF#3, TR-IAMF#6, and TR-IAMF#7 would reduce construction impacts on signalized intersections through implementation of a Construction Safety Transportation Management Plan and Construction Transportation Plan and limitations on construction worker trips and parking and materials deliveries. However, circulation disruptions would remain even with implementation of IAMFs. Under TRAN-MM#1 improvements to intersections along the alignment such as restriping or traffic signalization would be identified to reduce the delay and improve LOS for affected intersections[7]. Even with implementation of TRAN-MM#1, construction intersection delays would remain at the following 11 locations in 2040, shown on Figure S-6 (Sheets 1 through 4):

Level of Service (LOS)

LOS is a term used to qualitatively describe the operating conditions of an intersection or roadway based on factors such as speed, travel time, maneuverability, delay, and safety. The LOS of a facility is designated with a letter (A to F), with A representing the best operating conditions and F representing the worst operating conditions.

Peak Hour

Peak hour is the part of the day when roadway traffic congestion is at its highest. The a.m. peak period is 3 hours (6:00 a.m. to 9:00 a.m.), and the p.m. peak period is 4 hours (3:00 p.m. to 7:00 p.m.).

- Intersection #15: Strathern Street/Clybourn Avenue at San Fernando Road (LOS E in the a.m. peak hour)
- Intersection #41: Hollywood Way at Victory Boulevard (LOS F in the a.m. and p.m. peak hours)
- Intersection #63: Buena Vista Street at San Fernando Road (LOS F in the a.m. and p.m. peak hours)
- Intersection #67: Buena Vista Street at Victory Boulevard (LOS F in the a.m. and p.m. peak hours)
- Intersection #85: Magnolia Boulevard at 1st Street (LOS E in the p.m. peak hours)
- Intersection #86: Magnolia Boulevard at Victory Boulevard (LOS F in the a.m. and p.m. peak hours)
- Intersection #89: Olive Ave at 1st Street (LOS E in the a.m. peak hour and LOS F in the p.m. peak hour)
- Intersection #134: San Fernando Road at Chevy Chase Drive (LOS E in the p.m. peak hours)
- Intersection #5: Sunland Boulevard at I-5 northbound ramps (LOS E in the a.m. and p.m. peak hours)
- Intersection #65: Buena Vista Street at Empire Avenue (LOS F in the a.m. peak hour)
- Intersection #75: Empire Avenue at San Fernando Road (LOS F in the p.m. peak hour)

[7] Impacts on signalized intersections and roadway segments related to delay increase and level-of-service are only under NEPA because level-of-service is no longer the performance standard for transportation impacts under CEQA.

Due to limited available right-of-way and adjacent land uses, no mitigation was considered feasible to reduce the impacts (under NEPA) at the following six locations, shown on Figure S-6:

- Roadway Segment H: Hollywood Way south of Thornton Avenue (LOS F in a.m. and p.m. peak hours)
- Roadway Segment I: Hollywood Way north of Avon Street (LOS F in a.m. and p.m. peak hours)
- Roadway Segment J: Hollywood Way north of Victory Boulevard (LOS F in a.m. and p.m. peak hours)
- Roadway Segment U: Victory Place west of Empire Street (LOS E in a.m. peak hour; LOS F in p.m. peak hour)
- Roadway Segment AA: Victory Boulevard east of Hollywood Way (LOS E in a.m. peak hour; LOS F in p.m. peak hour)

Roadway Segment AB: San Fernando Road-West of Arvilla Avenue (LOS F in a.m. peak hour; LOS E in p.m. peak hour)

Law enforcement, fire, and emergency services would experience increased response times as a result of construction-related road closures, detours, and increased traffic congestion, particularly in the locations listed above. However, emergency vehicle access for police and fire protection services would always be maintained and construction would be phased to prevent concurrent closures from limiting emergency access. TR-IAMF#1, TR-IAMF#2, TR-IAMF#3, TR-IAMF#6, TR-IAMF#7, and SS-IAMF#1 would minimize impacts related to emergency access.

Project-related construction would result in disruption to pedestrians and bicyclists and bus service where existing sidewalks, paths, and bus stops need to be temporarily closed or relocated to allow for construction of new facilities. Similarly, construction activities may create temporary hazards for users of these pedestrian areas. These hazards would include heavy truck traffic as materials are brought to the project site and as demolished or excavated materials are hauled out. Additionally, lane closures and detours could create delays to pedestrians, cyclists, and transit users. SS-IAMF#1, TR-IAMF#2, TR-IAMF#4, TR-IAMF#5, TR-IAMF#11, and TR-IAMF#12 would reduce impacts related to pedestrians, bicyclists, and transit users through implementation of measures to reduce hazards and conflict during construction.

Project construction activities that would restrict existing roadway capacity or create full detours for temporary tunnel sections, new overhead roadway structures, grade separation replacements, and new grade separation elements would also affect public bus transit service. The effects would range from potential schedule delays where capacity is restricted to rerouting of service and providing temporary replacement bus stops where roadway closures take place. Project construction would potentially affect the following bus lines based on their existing service, grouped by the locations of major project construction elements.

- **Tunnel Section under Hollywood Way:**
  - Burbank Bus Golden State Circulator
  - Burbank Bus – NoHo to Airport
  - Metro Bus Line 94
  - Metro Bus Line 165
  - Metro Bus Line 169
  - Metro Bus Line 222
  - Metro Bus Line 794
- **Burbank Boulevard/I-5 Overhead Structure:**
  - Metro Bus Line 154
  - Metro Bus Line 164

- **Victory Place Reconfiguration:**
  - Metro Bus Line 94
  - Metro Bus Line 165
  - Metro Bus Line 794
- **Alameda Avenue Railroad Bridge Modification:**
  - Metro Bus Line 96
  - Glendale Beeline Line 7
- **Sonora Avenue Grade Separation:**
  - Metro Bus Line 94
  - Metro Bus Line 183
  - Metro Bus Line 794
- **Grandview Avenue Grade Separation:**
  - Metro Bus Line 94
  - Metro Bus Line 183
  - Metro Bus Line 794
  - Glendale Beeline Line 12
- **Flower Street-Pelanconi Avenue Grade Separation:**
  - Metro Bus Line 94
  - Metro Bus Line 183
  - Metro Bus Line 794
  - Glendale Beeline Line 12
- **Chevy Chase Drive-Goodwin Avenue Grade Separation:**
  - Metro Bus Line 94
  - Metro Bus Line 201
  - Metro Bus Line 603
  - Metro Bus Line 794
  - Glendale Beeline Line 12
- **Main Street Bridge:**
  - Metro Bus Line 76
  - LADOT Dash Lincoln Heights/Chinatown Shuttle

Construction of the new HSR track would not create hazards to freight or passenger rail. A section of existing railroad track within the Metrolink Ventura subdivision would be temporarily closed during construction of the below-grade portion of the HSR alignment; a temporary "shoofly" track (i.e., a temporary track used to avoid an obstacle that blocks movement on the existing track) would be built prior to closure of the existing railroad track to allow Union Pacific Railroad, Amtrak, and Metrolink trains to continue to operate without interference. Additionally, the Downtown Burbank Metrolink Station would be reconfigured and would provide pedestrian overhead structures and other safety features to allow the safe passage of Metrolink and HSR train traffic. TR-IAMF#9 (Protection of Freight and Passenger Rail during Construction) would reduce impacts on other freight and passenger rail operators by repairing any structural damage to freight and public railways during construction and building shoofly track areas to allow existing trains to bypass construction.

Construction of the HSR Build Alternative would not create hazards to airport operations or disrupt air travel. A portion of the HSR Build Alternative crosses under Runway 8-26, Taxiway D, the proposed extended Taxiway C and critical airport safety zones at Hollywood Burbank Airport. For the portion of the tunnel alignment under the Hollywood Burbank Airport runway/taxiways, the preferred method of construction would be the sequential excavation method, which would avoid disruption to airfield operations during construction. The runway and taxiways systems are expected to remain fully operational during construction because the sequential excavation method minimizes surface disruption, which would be limited to the tunnel entry and exit points. All areas needed for construction, including the tunnel launch box and staging areas, would be outside of the critical airport safety zones. To prevent the potential for disruption of airfield and

airspace operations at Hollywood Burbank Airport as a result of construction of the HSR Build Alternative, the HSR Build Alternative incorporates SS-IAMF#5 (Aviation Safety), which requires the Authority and/or the construction contractor(s) to submit construction plans, and/or information to the Federal Aviation Administration for approval as required by Code of Federal Regulations, Title 14, Part 77.

Construction of the HSR Build Alternative would affect 0.28 mile of the planned San Fernando Bike Path (Planned Phase 3) in the city of Burbank and 4.5 miles of the San Fernando Railroad Bike Path[8] in the city of Glendale. Mitigation measure PR-MM#4 requires the Authority to consult with the officials with jurisdiction over the planned bike paths to identify an alternative route. Preliminary engineering shows that the Class I San Fernando Bike Path (Planned Phase 3) could feasibly be rerouted as an unprotected Class II bike lane along N Lake Street. Construction of the HSR Build Alternative may result in the loss of a section of the planned San Fernando Railroad Bike Path in its current alignment if a feasible alternative route is not identified, which would result in a loss of connectivity of the planned bicycle network and change the benefits of the adopted bicycle plans, resulting in an incompatible use.

Operations

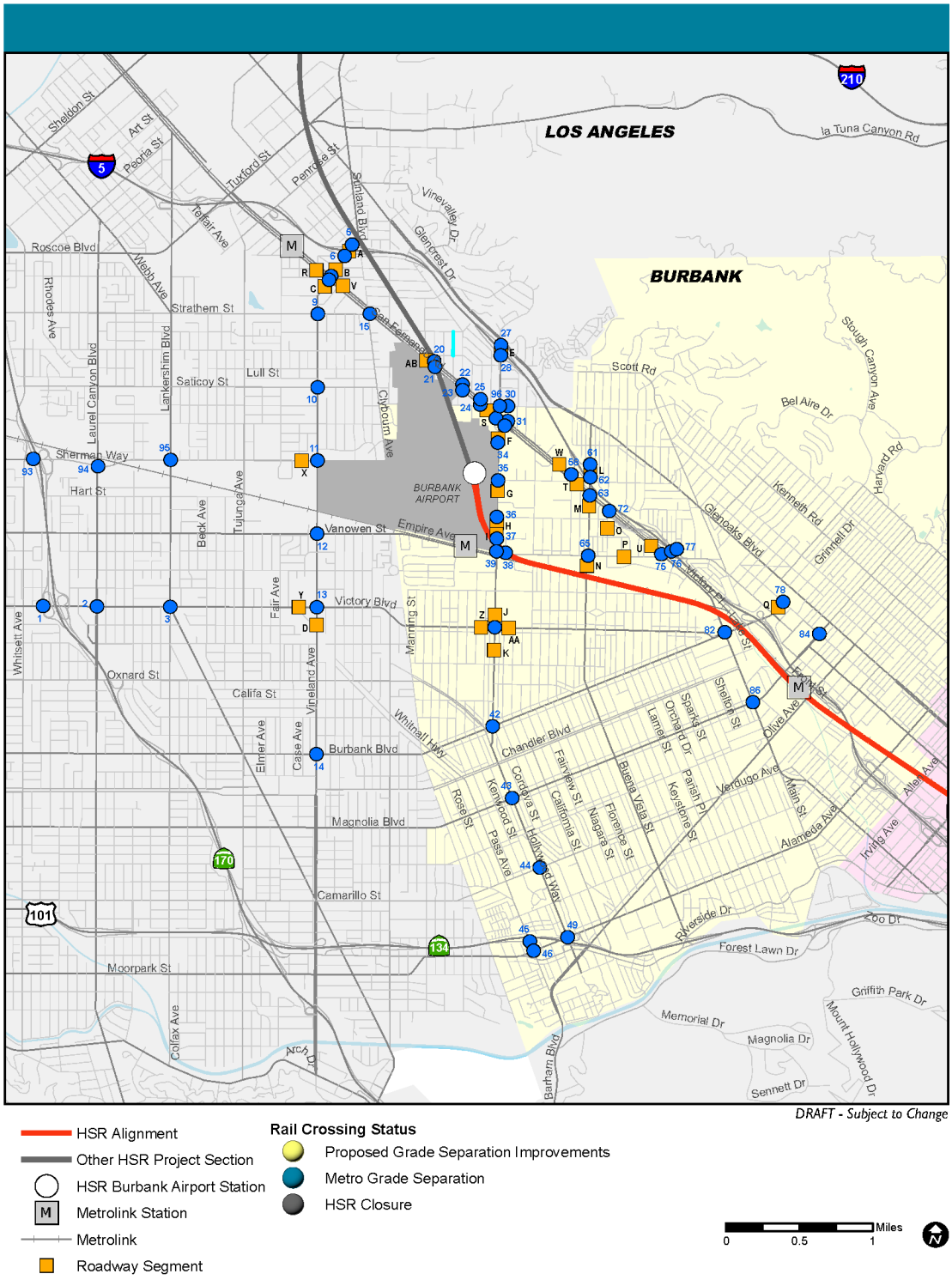
The HSR Build Alternative would provide a beneficial effect on the regional transportation system by reducing vehicle trips on the freeways through the diversion of intercity trips from road trips to HSR. This reduction in future vehicle trips would improve the LOS of the regional roadway system compared with the No Project Alternative. However, the HSR Build Alternative would result in impacts on 24 intersections and 7 roadway segments along the alignment. TRAN-MM#1 would minimize traffic and parking impacts associated with the HSR stations by supporting alternative transportation modes. Additionally, under TRAN-MM#2 improvements to intersections and roadways along the alignment by providing additional lanes or traffic signalization would be identified to reduce the delay and improve LOS (under NEPA) for affected intersections along the alignment. However, due to limited available right-of-way and adjacent land uses, no mitigation was considered feasible to reduce the impacts (under NEPA) at the following seven intersections in 2040 (shown on Figure S-6):

- Intersection #134: San Fernando Road at Chevy Chase Drive (a.m. and p.m. peak hours)
- Intersection #214: Pasadena Avenue at Broadway (a.m. peak hour)
- Intersection #226: Mission Road at Cesar E. Chavez Avenue (a.m. and p.m. peak hours)
- Intersection #190: Alameda Street at Aliso Street-Commercial Street (p.m. peak hour)
- Intersection #191: Vignes Street at Gateway Plaza-Ramirez Street (p.m. peak hour)
- Intersection #239: U.S. Route 101 southbound on-ramp-Pecan Street at Fourth Street (a.m. and p.m. peak hours)
- Intersection #240: U.S. Route 101 southbound off-ramps at Fourth Street (a.m. peak hours)

In addition, due to limited available right-of-way and adjacent land uses, no mitigation was considered feasible to reduce the impacts on the following roadway segments (shown on Figure S-6):

- Roadway Segment Z: Victory Boulevard West of Hollywood Way (p.m. peak hour)
- Roadway Segment E: Hollywood Way South of I-5 northbound ramp (2040 a.m. and p.m. peak hours)

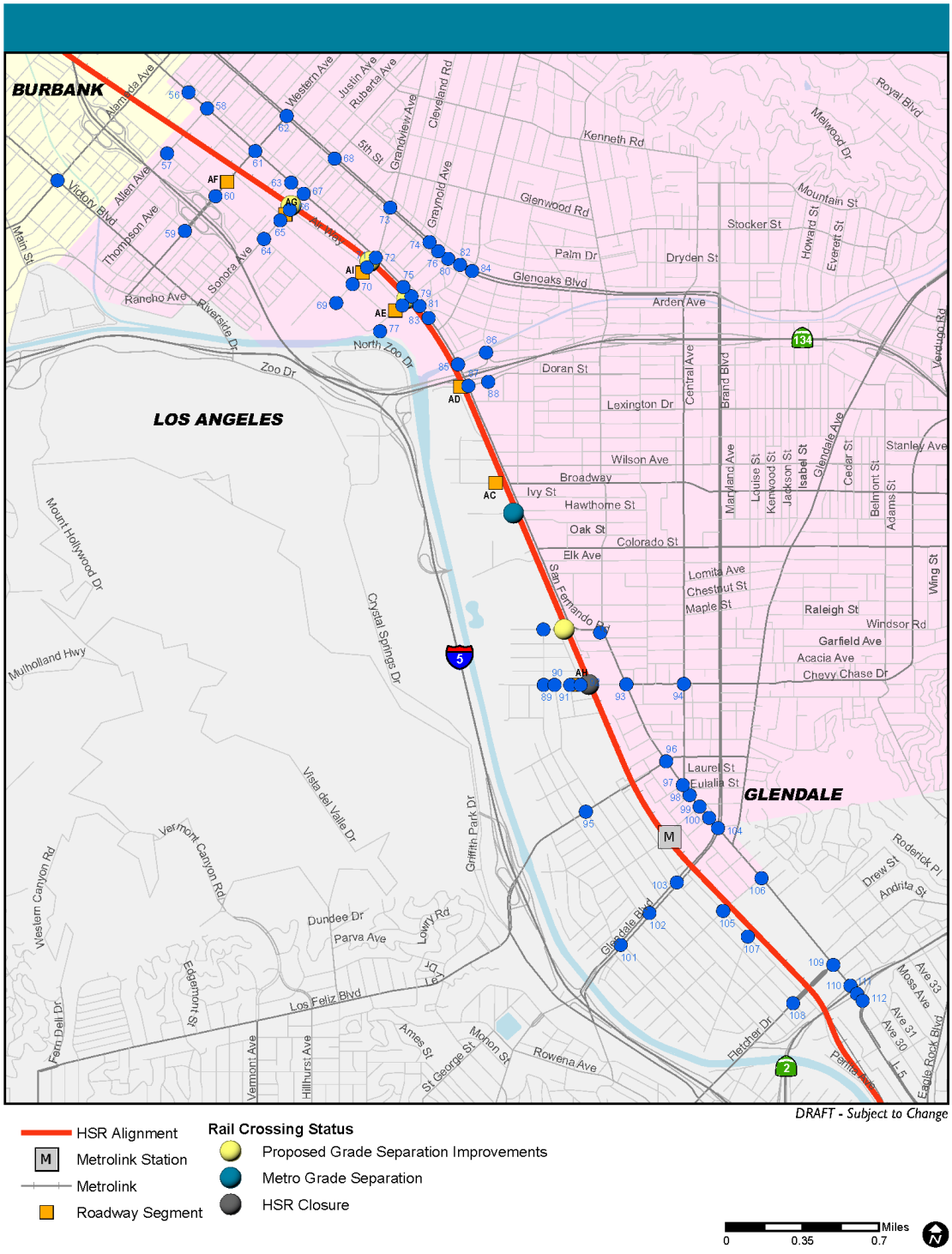
[9] In accordance with Section 15064(e) of the CEQA Guidelines, “economic and social changes resulting from the project shall not be treated as significant effects on the environment.” Therefore, no CEQA conclusions are made related to economic impacts.



Source: California High-Speed Rail Authority, 2019

Figure S-6 Transportation Resource Study Area

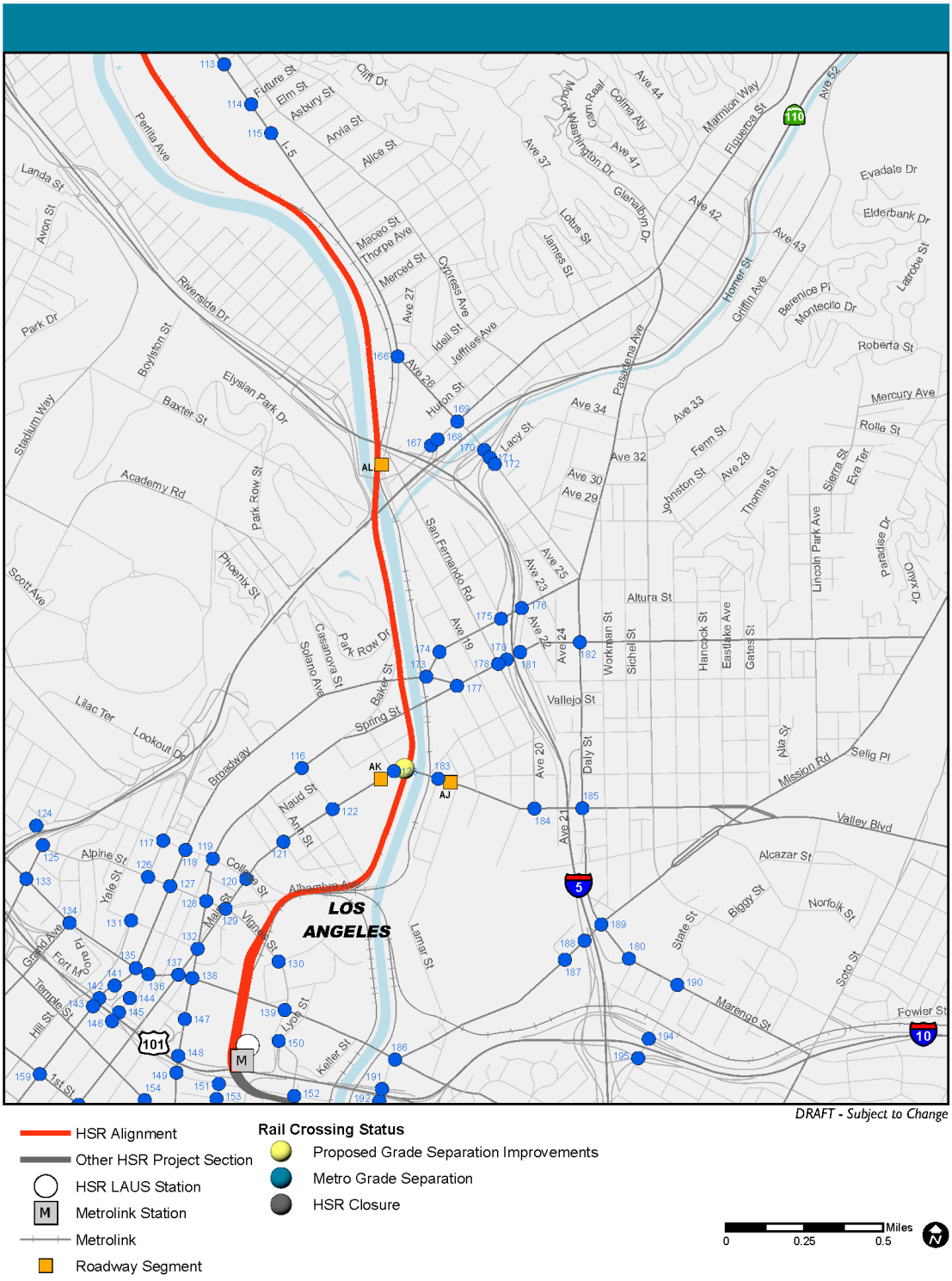
(Sheet 1 of 4)



Source: California High-Speed Rail Authority, 2019

Figure S-6 Transportation Resource Study Area

(Sheet 2 of 4)



DRAFT - Subject to Change

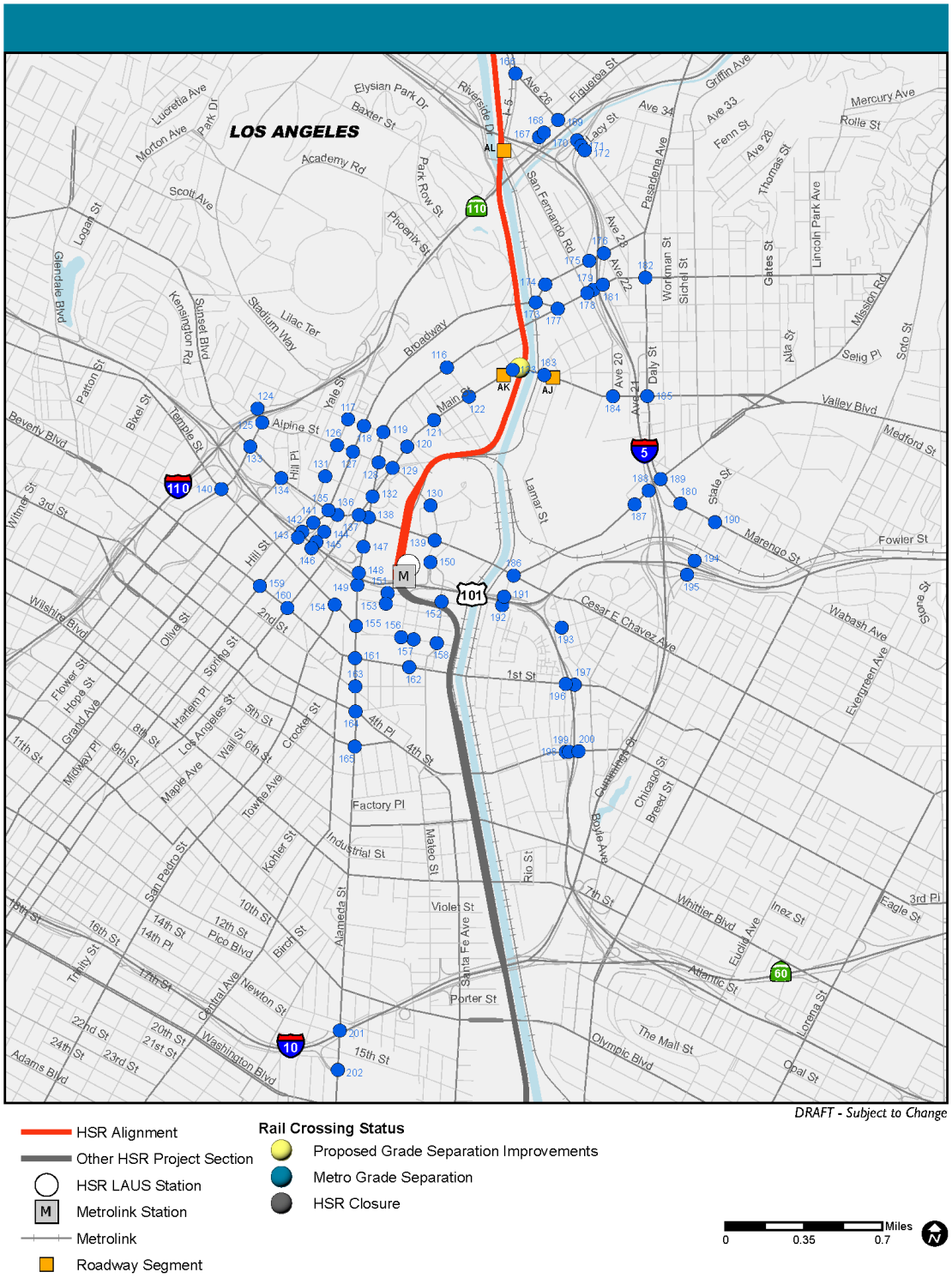
HSR Alignment
Other HSR Project Section
HSR LAUS Station
M Metrolink Station
Metrolink
Roadway Segment

Rail Crossing Status
Proposed Grade Separation Improvements
Metro Grade Separation
HSR Closure

Miles
0 0.25 0.5

Source: California High-Speed Rail Authority, 2019

Figure S-6 Transportation Resource Study Area
(Sheet 3 of 4)



Source: California High-Speed Rail Authority, 2019

Figure S-6 Transportation Resource Study Area

(Sheet 4 of 4)

- Roadway Segment G: Hollywood Way South of Winona Avenue (2040 p.m. peak hour)
- Roadway Segment H: Hollywood Way South of Thornton Avenue (2040 a.m. and p.m. peak hours)
- Roadway Segment I: Hollywood Way North of Avon Street (2040 a.m. and p.m. peak hours)
- Roadway Segment J: Hollywood Way North of Victory Boulevard (2040 a.m. and p.m. peak hours)
- Roadway Segment K: Hollywood Way South of Victory Boulevard (2040 a.m. and p.m. peak hours)
- Roadway Segment AB: San Fernando Road West of Arvilla Avenue (2040 a.m. and p.m. peak hours)

The HSR Build Alternative was designed to provide adequate emergency access and would therefore not result in operational impacts on emergency access.

There would be no impacts related to design feature hazards or incompatible uses during operation. As a rail facility, the HSR project is subject to specific design and safety requirements to prevent conflicts with other modes of transportation. In addition, most of the HSR Build Alternative would be built in an existing rail corridor and would not conflict with the existing rail uses.

The PTC and grade separations included as part of the HSR Build Alternative would be beneficial to rail safety. PTC infrastructure to control train movements would improve 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. In addition, travel delays would no longer be caused by passing trains and active grade-crossing safety equipment.

S.8.2.2 Air Quality and Global Climate Change

Criteria pollutants are pollutants for which the U.S. Environmental Protection Agency 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, particulate matter, CO, nitrogen dioxide, sulfur dioxide, and lead. Under the federal criteria, the South Coast Air Basin is currently designated as nonattainment for the federal 8-hour ozone, $PM_{2.5}$, and lead standards; unclassified for the federal nitrogen dioxide and sulfur dioxide standards; attainment/maintenance for the federal particulate matter smaller than or equal to 10 microns in diameter (PM_{10}) and carbon monoxide (CO) standards; and attainment/unclassified for all other standards.

Construction

Volatile organic compound, PM_{10}, particulate matter smaller than or equal to 2.5 microns in diameter ($PM_{2.5}$), and sulfur dioxide emissions would be below the general conformity threshold during construction with the application of mitigation measures and control measures for all years. CO and NO_X emissions would exceed general conformity applicability thresholds and the South Coast Air Quality Management District

Attainment Designations

The U.S. Environmental Protection Agency and California Air Resources Board designate each county (or portions of counties) within California as attainment, maintenance, nonattainment, or unclassified based on the area's ability to meet ambient air quality standards. The four designations are defined as:

- Nonattainment—Assigned to areas where monitored pollutant concentrations consistently violate the standard in question
- Maintenance—Assigned to areas where monitored pollutant concentrations exceeded the standard in question in the past but are no longer in violation of that standard
- Attainment—Assigned to areas where pollutant concentrations meet the standard in question over a designated period
- Unclassified—Assigned to areas were data are insufficient to determine whether a pollutant is violating the standard in question

(SCAQMD) thresholds for most of the construction phase with or without on-site mitigation. AQ-IAMF#1, AQ-IAMF#2, AQ-IAMF#3, AQ-IAMF#4, AQ-IAMF#5, and AQ-IAMF#6 are included as part of the HSR Build Alternative and would be implemented to avoid or minimize impacts. These IAMFs would reduce potential adverse impacts resulting from factors related to criteria pollutants during construction. However, direct emissions from the construction phase of the HSR Build Alternative would exceed the general conformity applicability thresholds for CO and NO_X in certain calendar years, in which construction would occur. CO and NO_X emissions that exceed the general conformity thresholds are therefore considered to have the potential to cause adverse air quality impacts. General conformity thresholds would not be exceeded for any of the other criteria pollutants.

Mitigation measure AQ-MM#1 would require the purchase of emission offsets through an anticipated SCAQMD Emission Offsets program. Purchase of emission offsets through an anticipated SCAQMD emission offset program or SCAQMD Air Quality Investment Program, emission reduction credits, or another mechanism, subject to discussion with and approval by SCAQMD would offset and/or decrease NOx emissions to below the general conformity applicability *de minimis* levels. There are no available offset programs to reduce CO emissions. The Authority is committing to the purchase of additional offsets to net all criteria pollutant emissions to levels that are below the SCAQMD daily emissions thresholds for each calendar year that exceedances occur. However, consultation with SCAQMD (SCAQMD 2018) has suggested that a sufficient quantity of NOx emissions offsets may not be available to achieve this goal. The Authority will participate in the SCAQMD emission offset program to the maximum extent that offsets are available to reduce construction period NOx emissions. One mitigation measure that was considered would extend the construction schedule and limit construction equipment and usage, which would reduce hourly/daily emission concentrations. However, this would not be a feasible measure, because increasing the length of the construction schedule would delay the opening year of the Burbank to Los Angeles Project Section and extend the duration of impacts that affect other railroad operators in the right-of-way, such as Metrolink, Amtrak, and Union Pacific Railroad. Therefore, this impact would be significant and unavoidable under CEQA.

Short-term construction activities would have a localized impact on regional air quality and sensitive receptors because the 1-hour average nitrogen dioxide concentrations near sensitive and residential receptors would exceed the National Ambient Air Quality Standards during alignment construction with or without on-site mitigation.

Sensitive Receptors

Some locations are considered more sensitive to adverse impacts from air pollution than others. These locations are termed sensitive receptors and include residences, schools, day-care facilities, elderly-care establishments, medical facilities, active recreational uses, and other areas that are populated with people considered more vulnerable to the effects of poor air quality.

Operations

Implementation of the HSR Build Alternative under medium and high ridership scenarios would result in a net emission decrease of operational criteria pollutants (i.e., between approximately -62 and -64 tons per year of reactive organic gases, -926 to -1,050 tons per year of CO, -507 to -522 tons per year of NOx, -54 to -56 tons per year of sulfur oxides, -126 to -183 tons per year of PM_{10}, and -43 to -57 tons per year of $PM_{2.5}$) and GHG emissions (i.e., -1.0 to -1.5 million metric tons per year of carbon dioxide [CO_2] equivalents) compared to the No Project Alternative for horizon year 2040, resulting in beneficial impacts on regional air quality and global climate change. Additionally, the operation of the HSR Build Alternative would have no impact on localized PM_{10} and $PM_{2.5}$ emissions and no impact on localized air quality for sensitive receptors.

S.8.2.3 Noise and Vibration

Construction

Construction of the HSR Build Alternative would result in temporary increases in noise and vibration levels at sensitive receivers near construction areas. Noise-sensitive receivers within

311 feet of a construction zone may be exposed to noise levels exceeding the FRA criteria for daytime hours (between 7:00 a.m. to 10:00 p.m.) for one or more phases of construction. Noise-sensitive receivers within 973 feet of a construction zone may be exposed to noise levels exceeding the FRA criteria for nighttime hours (10:00 p.m. to 7:00 a.m.) for one or more phases of construction. This increase in noise levels would result in a temporary adverse impact. NV-IAMF#1 would require the contractor to document how federal guidelines for minimizing noise and vibration would be employed when construction occurs near sensitive receivers such as hospitals, residential neighborhoods, and schools. In addition, mitigation measure N&V-MM#1 would require the contractor to provide noise control measures as necessary to meet the FRA construction noise limits.

Pile driving has substantial potential for damaging effects and could affect structures at distances of up to 30 feet for the least sensitive buildings, and at distances of up to 75 feet for the most sensitive buildings. Human annoyance or interference from construction vibration would be expected within a distance of up to 500 feet, depending on the type of land use and type of equipment used. This increase in vibration levels would result in a temporary impact. NV-IAMF#1 would require the contractor to provide the Authority with a vibration technical memorandum documenting how federal guidelines for minimizing noise and vibration would be implemented prior to the start of construction. Mitigation measure N&V-MM#2 would reduce the impact from increased vibration levels by requiring the contractor to use vibration reduction methods to meet FRA standards for construction vibration, thus resulting in no effect after mitigation.

Operations

The HSR Build Alternative would have no operations impacts related to noise effects associated with stationary facilities and traffic noise or on wildlife and domestic animal noise.

Operation of the HSR Build Alternative would result in noise impacts on sensitive receivers. Although the implementation of mitigation measures N&V-MM#3 through N&V-MM#5 would reduce HSR Build Alternative noise impacts, with implementation of the noise barrier portion of N&V-MM#3 severe residual noise impacts would still remain at 68 residences and 2 theaters. Ground-borne vibration and ground-borne noise impacts would occur at 14 locations.

S.8.2.4 Electromagnetic Fields and Electromagnetic Interference

Construction

Construction of the HSR Build Alternative would require the temporary use of heavy equipment, trucks, and light vehicles. Movement of large construction vehicles would result in transient changes to the static (DC) magnetic field. While such changes can interfere with some sensitive equipment, construction vehicles must be both very large and operate very close to the equipment in question to cause problems. Because the magnitude of this disturbance decreases with distance, all but the largest construction vehicles pose no reasonable risk to magnetically sensitive equipment at pass-by distances greater than 50 feet. EMF fluctuations caused by construction vehicle movements would be limited to within 50 feet of the construction easement and, with implementation of EMI/EMF-IAMF#2 and, when necessary, mitigation measure EMI/EMF-MM#1, impacts would be minimized. The Authority would implement EMI/EMF-MM#1 by contacting affected third parties to explore the possibility of either relocating or shielding the affected equipment, and the Authority would implement such measures to eliminate the interference. As the only site within the RSA that houses sensitive equipment, the potential for this impact applies only at Baxter Healthcare in Los Angeles.

Regarding sensitive equipment, magnetic field strengths from large electric welders used during construction of the HSR Build Alternative could be in the range of 1 to 5 milligauss at a distance of 50 feet, so transient interference with magnetically sensitive equipment is possible. As the only site within the RSA that houses sensitive equipment, the potential for this impact applies only at Baxter Healthcare in Los Angeles. It is unlikely that the conditions described above would occur during construction. If they do, measures implemented as part of EMI/EMF-IAMF#2 would fully avoid and minimize any environmental impacts. Any remaining impacts would then be addressed by implementing EMI/EMF-MM#1, which would require the Authority to contact the affected third

parties and determine how best to protect sensitive equipment, either through relocation or shielding in place.

Operations

Through compliance with EMI/EMF-IAMF#2, EMF generated during operation of the HSR Build Alternative might interfere with sensitive equipment, including high-tech electronic devices, but not with police and fire radio services. Interference with police and fire radio services would be avoided because the HSR Build Alternative includes use of dedicated frequency blocks and procurement of communications equipment meeting Federal Communications Commission regulations. The potential for interference with high-tech electronic devices would be minimized through project design intended to prevent EMI with identified neighboring uses. In addition, with implementation of EMI/EMF-MM#1, the Authority would contact affected third parties and explore the possibility of either relocating or shielding the affected equipment.

The HSR Build Alternative could result in impacts associated with corrosion of underground metal structures from ground currents generated by HSR operation. However, project features incorporated into EMI/EMF-IAMF#2 of the HSR Build Alternative, including arranging for the grounding of nearby underground linear metal structures or insulating metallic pipes to prevent current flow, would avoid or minimize corrosion risks to underground metal structures.

S.8.2.5 Public Utilities and Energy

Construction

Construction could require the temporary shutdown of utility lines, such as water, sewer, electricity, telecommunications, fuel/petroleum, or gas, to safely move or extend these lines. PUE-IAMF#3 and PUE-IAMF#4 would include effective measures to minimize temporary interruption of utility service during construction of the HSR Build Alternative.

During construction of the HSR Build Alternative, the potential for accidental disruption of utility systems, including overhead utility lines (e.g., telephone and cable television) and buried utility lines (e.g., water, sewer, and natural gas pipelines) would be low due to the established practices of utility identification and notification. However, as described in PUE-IAMF#4, prior to construction, the contractor would prepare a technical memorandum documenting how construction activities would be coordinated with service providers to minimize or avoid interruptions.

The HSR Build Alternative would conflict with high-risk and major utilities, with other significant utility facilities, and with low-risk utilities. For low-impact conflicts, the HSR Build Alternative would have a minimal impact because the utility would remain unchanged after temporary relocation or adjustment. Other relocations could create lengthy and harmful interruptions of service for major linear and nonlinear fixed facilities, which would result in a high-impact conflict. PUE-IAMF#4 would require effective measures to avoid utility conflicts by entering into agreements negotiated between the Authority and the utility owners prior to construction of the HSR Build Alternative.

Construction activities related to the HSR Build Alternative would use water to prepare concrete; to increase the water content of soil to optimize compaction for dust control and to reseed disturbed areas; for earthwork; and for tunnel construction and excavation. Because construction water use would result in increased water usage from existing conditions in all water districts (assuming total water demand is supplied from a single provider), mitigation measure PUE-MM#1 would be implemented. PUE-MM#1 would require the Authority to prepare a water supply analysis for the HSR Build Alternative to identify the detailed water supply needs for the construction of the Burbank to Los Angeles Project Section. Reallocation of water resources from other city jurisdictions or other local groundwater or water project resources would affect water surplus in these areas; however, overall impact of water usage during construction would be reduced. Additionally, construction of the HSR Build Alternative would have minimal impacts related to from stormwater, waste generation, and energy consumption, because a significant utility expansion under the existing local resources is not anticipated.

HSR Build Alternative construction activities such as grading and excavation could redirect stormwater runoff by altering the existing drainage pattern. Soil would be compacted during ground-disturbing activities, resulting in a decrease in infiltration and an increase in the volume and rate of stormwater runoff, which could exceed the capacity of storm drains during storm events. HYD-IAMF#3 includes effective measures to avoid or minimize temporary hydraulic impacts associated with construction activities at all construction sites and in adjacent areas during construction by requiring the contractor to comply with the State Water Resources Control Board Construction General Permit.

Construction of the HSR Build alternative would not place a substantial demand on regional energy supply or require additional capacity, nor would it substantially increase peak or base period electricity demand. However, the Authority has adopted a sustainability policy under PUE-IAMF#1, which establishes project design and construction requirements to avoid and minimize energy consumption.

Operations

The operational water use for the HSR Build Alternative would decrease water usage for the proposed Burbank Airport Station area and increase water usage for LAUS when compared to existing conditions in the project footprint within Burbank and Los Angeles. However, the increase at LAUS would account for approximately 0.02 percent of the total water supply by 2040 in the city of Los Angeles. According to the city's Urban Water Management Plan (City of Los Angeles 2015), the Los Angeles Department of Water and Power would have sufficient supply to adequately serve its existing service area during normal, dry, and multiple dry years. However, it is not yet determined if the project-generated increase in operational water demand at LAUS is within the existing and future service capacity of the Los Angeles Department of Water and Power.

The project-related increase in water demand at LAUS would be approximately 168 acre-feet/year. Although this increase is a small fraction of Los Angeles Department of Water and Power's total supply, the project-generated increase in water demand has the potential to exceed Los Angeles Department of Water and Power's existing and projected future supply during normal, dry, and multiple dry years, and potentially result in impacts to Los Angeles Department of Water and Power's existing service commitments. In the absence of the verification of future supply by Los Angeles Department of Water and Power, the sufficiency of water supply to serve the HSR Build Alternative at LAUS cannot be confirmed at this time. The Authority would implement mitigation measure PUE-MM#2; however, even with implementation of mitigation measure PUE-MM#2 the increased water demand would not necessarily be reduced to a less than significant impact under CEQA. Therefore, this impact is conservatively identified as significant and unavoidable under CEQA. The Authority will coordinate with Los Angeles Department of Water and Power to verify the sufficiency of water supplies and fund the expansion of water supplies and infrastructure necessary to reduce impacts related to operational water use at LAUS.

Additionally, operation of the HSR Build Alternative would have minimal impacts related to reduced access to existing utilities in the HSR right-of-way, wastewater service demand, effects on storm drain facilities, effects on waste generation, effects from hazardous waste generation, and energy demand. Although, the operations of the HSR Build Alternative would require utilities, energy, and other public utility facilities, existing local utility and energy resources would not need to significantly expand. The HSR Build Alternative would increase impervious surface area, which could increase the rate and volume of stormwater runoff reaching receiving waters. However, storm drain hydraulics would be reviewed to identify whether the existing drainage systems are sufficient to support the changes in drainage proposed as part of the HSR Build Alternative. HYD-IAMF#1 would avoid or minimize impacts on existing storm drain facilities, and HYD-IAMF#2 would reduce impacts of additional storm drains and drainage channels during operation.

Routine maintenance of the proposed HSR stations would produce small quantities of hazardous waste, which may consist of welding materials, fuel and lubricant containers, batteries, and paint and solvent residues and containers. Hazardous wastes would be handled, stored, and disposed

of in accordance with applicable requirements, including the Resource Conservation and Recovery Act. A certified hazardous waste collection company would deliver the waste to an authorized hazardous waste management facility for recycling or disposal, as required by HMW-IAMF#7.

PUE-IAMF#1 would be implemented during operation and would require the design-build contractor to incorporate utilities and design elements that minimize electricity consumption. Therefore, no expansion of energy production would be required.

S.8.2.6 Biological and Aquatic Resources

Approximately 98 percent of the land within the HSR Build Alternative footprint consists of urban development and hardscape. Other areas that would be directly affected include ornamental vegetation, nonnative grassland, and ruderal (disturbed) areas.

Construction

Although no special-status plant species have been documented as occurring within the Botanical RSA, project construction would result in direct and indirect impact on suitable habitat for southern tarplant, a nonlisted special-status plant species that has a low to moderate probability of occurring within the Botanical RSA. No listed plant species are expected to occur within the Botanical RSA or to be adversely affected by the HSR Build Alternative. While BIO-IAMF#1, BIO-IAMF#3, BIO-IAMF#5, BIO-IAMF#8, BIO-IAMF#9, BIO-IAMF#10, BIO-IAMF#11, AQ-IAMF#1, HMW-IAMF#6, HYD-IAMF#1, and HYD-IAMF#3 would substantially minimize construction-related impacts on habitat suitable for special-status plant species, construction of the HSR Build Alternative would be temporarily and permanently alter potentially suitable habitat for southern tarplant. Therefore, mitigation measures BIO-MM#1 and BIO-MM#2 would require special-status plant surveys and a special-status plant relocation plan.

Construction of the HSR Build Alternative has the potential to introduce or spread invasive plant species that could compete with special-status plant species and/or degrade the quality of adjacent habitat areas. To avoid the spread of invasive plant species during construction, mitigation measure BIO-MM#55 would require a weed control plan.

Construction would result in direct and indirect impacts on suitable roosting habitat (e.g., bridge and culvert hinges and crevices) for common and special-status (nonlisted) bat species and could result in temporary indirect impacts (e.g., noise, lighting, dust, and vibration) on suitable habitat for special-status species that have potential to occur along the Los Angeles River. Therefore, mitigation measures BIO-MM#56, BIO-MM#61, and BIO-MM#63 would require monitoring of construction activities, implementation of a compliance reporting program, and work stoppage as necessary and would cover multiple species and habitats that have potential to be affected during project construction. In addition, mitigation measures BIO-MM#25, BIO-MM#26, and BIO-MM#27 would be implemented to minimize and avoid potential temporary construction impacts on special-status bat species and maternity roosting colonies. While the federally and state-listed least Bell's vireo has been documented as occurring within riparian habitats in the Wildlife RSA, no direct impacts on this species or associated suitable habitat would occur under the HSR Build Alternative. Due to the potential for indirect impacts on this species, such as increased noise, vibration, and lighting during construction, a Biological Assessment is currently being prepared in accordance with Section 7 of the Federal Endangered Species Act and provided to the U.S. Fish and Wildlife Service. The Authority anticipates requesting the U.S. Fish and Wildlife Service's concurrence with a *May Affect, Not Likely to Adversely Affect* determination for least Bell's vireo. The project would not have direct or indirect impacts on any other listed special-status species. The HSR Build Alternative would not affect designated Critical Habitat or lands identified within an adopted Habitat Conservation Plan or Recovery Plan. Additionally, two specific mitigation measures pertaining to surveys and monitoring of avian species and their nests would be required to be implemented when activities involving vegetation removal or trimming, or use of heavy equipment, would occur during the bird and raptor breeding seasons: BIO-MM#14 and BIO-MM#15.

While there would be no direct impacts on special-status natural communities under the proposed HSR Build Alternative, there is potential for indirect impacts (e.g., dust and the spread or introduction of nonnative plant species) on wetland habitats associated with Verdugo Wash and the Glendale Narrows area within the Los Angeles River. With incorporation of BIO-IAMF#1, BIO-IAMF#3, BIO-IAMF#5, BIO-IAMF#8, BIO-IAMF#9, BIO-IAMF#10, BIO-IAMF#11, AQ-IAMF#1, HMW-IAMF#6, HYD-IAMF#1, and HYD-IAMF#3, along with mitigation measure BIO-MM#55 (Prepare and Implement a Weed Control Plan), such indirect impacts would be effectively minimized. Existing wetland habitats in the Aquatic RSA are currently affected by trash and other disturbances stemming from unauthorized access and pollution (e.g., homeless encampments, urban runoff). Nonnative species components currently constitute up to 50 percent of the vegetative cover within these areas.

Project construction would result in direct and indirect impacts on nonwetland, concrete-lined aquatic resources (e.g., storm channels) under the jurisdiction of the U.S. Army Corps of Engineers, the State Water Resources Control Board, and the California Department of Fish and Wildlife. While incorporation of BIO-IAMF#1, BIO-IAMF#2, BIO-IAMF#3, BIO-IAMF#5, BIO-IAMF#8, BIO-IAMF#9, BIO-IAMF#10, BIO-IAMF#11, AQ-IAMF#1, HMW-IAMF#6, HYD-IAMF#1, and HYD-IAMF#3 would substantially reduce impacts in these areas, project construction would still result in temporary and permanent impacts on aquatic resources under the jurisdiction of the California Department of Fish and Wildlife, the State Water Resources Control Board, and the U.S. Army Corps of Engineers. Therefore, BIO-MM#34, BIO-MM#61, and BIO-MM#62 would be required and would offset project-related temporary and permanent impacts on aquatic resources and ensure consistency with applicable regulatory agency requirements.

Project construction may temporarily and locally affect the movement of wildlife habituated to the urban setting of the RSAs. The implementation of BIO-IAMF#1, BIO-IAMF#3, BIO-IAMF#5, BIO-IAMF#6, BIO-IAMF#7, BIO-IAMF#8, BIO-IAMF#9, BIO-IAMF#11, and AQ-IAMF#1 would minimize these impacts. However, temporary construction activities with potential to adversely affect wildlife movement would still take place within known wildlife movement corridors (e.g., the Los Angeles River and flood control channels). Therefore, mitigation measure BIO-MM#37 would be required to further reduce the impacts. Additionally, no permanent barriers would be placed within any designated wildlife movement corridors. Because the HSR Build Alternative would not place any permanent barriers to wildlife movement within known corridors and would have little or no regional effects, and due to the highly urbanized setting, there would be minimal permanent construction impacts on wildlife movement.

Project construction would result in direct and indirect impacts on trees protected under local ordinances. However, the HSR Build Alternative would not result in the removal of any large groves of trees or trees protected as part of a special-status natural community, and impacts on heritage trees or trees of biological significance are not anticipated. Nevertheless, impacts on trees within the public right-of-way may require compensation in accordance with local policies and ordinances. Therefore, mitigation measure BIO-MM#35 and locally specified procedures related to the trimming or removal of such trees would be implemented.

Operations

During the operational phase of the project, potentially suitable habitat for southern tarplant may be subjected to disturbance and the spread or introduction of nonnative plant species during project maintenance activities. With incorporation of BIO-IAMF#4 and BIO-IAMF#5, applicable avoidance measures would be implemented to avoid or reduce potential indirect impacts on adjacent areas, including applicable erosion control measures.

Special-status wildlife species, particularly protected bat and avian species, may be subjected to direct and indirect operational and maintenance impacts (e.g., vegetation trimming/removal, structural maintenance work within or near bat roosting habitat, increased dust, wind, noise, lighting, and vibration). Two mitigation measures pertaining to avian species would be implemented when maintenance activities involving vegetation removal or trimming, or use of heavy equipment, is required during the bird and raptor breeding seasons: BIO-MM#14 and BIO-MM#15. Three specific mitigation measures pertaining to bat species are required to be

implemented when maintenance activities involving bridge/culvert work, or use of heavy equipment adjacent to such areas, is required: BIO-MM#25, BIO-MM#26, and BIO-MM#27. There is also potential for an increase in mortality from vehicle strikes. However, most wildlife currently occupying habitats adjacent to the existing railroad corridor are likely to be habituated to frequent wind, noise, vibration, and other indirect impacts associated with the urban setting and existing rail system operations. BIO-IAMF#12 would limit the potential for bird strikes by ensuring that the HSR catenary system, masts, and other structures for designs are bird- and raptor-safe in accordance with applicable guidance published by the Avian Powerline Interaction Committee.

While not in proximity to the proposed HSR infrastructure, special-status natural communities present in the Wildlife RSA may be subjected to operational and maintenance impacts (e.g., increased dust, wind, noise, lighting, vibration, and the spread or introduction of nonnative plant species). Such infrequent and isolated impacts would not substantially alter the existing condition, which is already heavily disturbed (e.g., trains, cars, litter, and urban runoff). The incorporation of BIO-IAMF#4 and BIO-IAMF#5 would minimize and avoid impacts, where possible. Nevertheless, maintenance activities involving ground disturbance adjacent to riparian and wetland communities within the Los Angeles River and Verdugo Wash could introduce or spread invasive and nonnative plant species, which could have a negative impact (e.g., decreased cover by native plants, increased competition for water and sunlight) on adjacent special-status natural communities. Therefore, BIO-MM#55 would be required.

Wetlands and other aquatic resources within the Aquatic RSA may be subjected to indirect operational and maintenance impacts, including increased dust and the spread or introduction of nonnative plant species. However, such impacts would not substantially alter current levels of sedimentation from dust caused by the operation of other vehicles and trains in the project vicinity. Operation and maintenance activities associated with the HSR Build Alternative would involve periodic inspections of rail and ancillary facilities sited within aquatic resources, infrequent maintenance of structures (e.g., repairs to piers and maintenance access roads), and removal of sediment and vegetation from the vicinity of structures sited within aquatic resources, which may temporarily alter drainage patterns within the footprint of these activities. These activities may also alter downstream waters through the use of surface water diversions and dewatering equipment, as well as through the removal of sediment and vegetation. Any maintenance activities requiring dewatering or water diversion would require implementation of mitigation measures BIO-MM#62 and BIO-MM#34 to reduce effect and ensure compliance with applicable resource agency requirements, which would further avoid and minimized impacts on aquatic resources.

Maintenance activities associated with the HSR Build Alternative could result in temporary, localized interference with urban wildlife movement patterns. Such impacts would be short-term and would not result in substantial changes from existing biological conditions in the heavily urbanized setting. With incorporation of BIO-IAMF#4 and BIO-IAMF#5, temporary impacts on wildlife movement from project operations and routine maintenance activities would be reduced. While maintenance activities may temporarily and locally affect the movement of wildlife, no permanent barriers would be placed within any designated wildlife movement corridors. Wildlife species within the RSAs are habituated to a highly urbanized setting, and the operation of the HSR Build Alternative would not substantially alter wildlife movement patterns.

While project maintenance activities and operation could affect trees covered under local ordinances through direct trimming and indirect disturbances, given the spatial separation between protected trees and the railroad right-of-way as well as the developed and heavily disturbed setting, operation of the HSR Build Alternative is not expected to have permanent adverse impacts on protected trees.

S.8.2.7 Hydrology and Water Resources

Construction

Construction activities associated with the HSR Build Alternative, such as grading and excavation, would alter existing drainage patterns and redirect stormwater runoff. Soil would be

compacted during ground-disturbing activities, resulting in a decrease in infiltration and an increase in the volume and rate of stormwater runoff during storm events. With implementation of HYD-IAMF#3, HMW-IAMF#8, BIO-IAMF#11, and GEO-IAMF#1, which would require implementation of construction best management practices (BMP) and would limit work within surface waters, no temporary effects related to changes in drainage patterns, stormwater runoff, or hydraulic capacity during construction would occur.

Construction of the HSR Build Alternative would increase impervious surface area, alter drainage patterns, and increase stormwater runoff. Implementation of HYD-IAMF#1 and HYD-IAMF#2, which would require implementation of post-construction BMPs (including those for flow attenuation) and compliance with applicable National Pollutant Discharge Elimination System permits, no permanent effects related to drainage patterns, stormwater runoff, or hydraulic capacity from construction would occur.

Construction activities would increase pollutants of concern in stormwater runoff. In addition, surface water dewatering or diversion and discharge of groundwater during dewatering activities could introduce pollutants to surface waters. HYD-IAMF#3, HMW-IAMF#1, HMW-IAMF#6, HMW-IAMF#7, HMW-IAMF#8, BIO- IAMF#9, BIO-IAMF#11, and GEO-IAMF#1 would reduce temporary impacts on surface water quality. Additionally, mitigation measure BIO-MM#10 would minimize surface water quality impacts by requiring the Authority to prepare a dewatering plan for review and approval by regulatory agencies for construction dewatering or work requiring a water diversion where open or flowing water is present.

Construction of the HSR Build Alternative would increase impervious surface area and pollutants in stormwater runoff. With implementation of HYD-IAMF#1, which would require implementation of post-construction BMPs to minimize pollutants in stormwater and compliance with applicable National Pollutant Discharge Elimination System permits, no permanent effects related to surface water quality from construction would occur.

Groundwater dewatering, particularly during construction of the below-grade sections, could reduce groundwater levels and mobilize pollutant plumes. In addition, construction activities could decrease infiltration and contribute pollutants of concern to groundwater. GEO-IAMF#1 and HYD-IAMF#3 would reduce the potential for temporary impacts on groundwater during construction. However, even with implementation of these IAMFs, impacts on groundwater levels and quality during construction of the below-grade sections would still exist because of the potential for substantially depleting groundwater supplies and substantial interference with groundwater recharge. Therefore, mitigation measure HWR-MM#1 would be implemented to reduce impacts on groundwater levels and quality, including construction methods to reduce inflow of groundwater into, waterproofing of, and inspections of the below-grade sections, as well as groundwater monitoring.

Construction of the HSR Build Alternative would increase impervious surface area, which would reduce infiltration. However, this reduction in infiltration would be negligible in comparison to the size of the groundwater basins. The HSR Build Alternative would also increase pollutants of concern, which could infiltrate groundwater. With implementation of HYD-IAMF#1, which would require implementation of post-construction BMPs to minimize pollutants in stormwater that could infiltrate groundwater, no permanent effects related to groundwater quality or quantity from construction would occur. Construction of the HSR Build Alternative would take place in or over Federal Emergency Management Agency-designated floodplains and could temporarily impede or redirect flood flows, which has the potential to increase flood elevations, redefine flood hazard areas, and cause flooding in areas previously not at risk from a 100-year flood. In addition, construction workers would be exposed to potential risk associated with floods. However, with implementation of HYD-IAMF#3, which would require flood protection measures that minimize effects to 100-year floodplain water surface elevations, as well as compliance with the requirements set forth in U.S. Executive Order 11988 and the Federal Emergency Management Agency regulations, no permanent effects to designated floodplains from construction would occur.

Construction of the HSR Build Alternative would place new structures within the 100-year floodplain, which would permanently alter floodplain elevations. However, HYD-IAMF#2 would require flood protection measures that would minimize impacts on 100-year floodplain water surface elevations, as well as compliance with the requirements set forth in U.S. Presidential Executive Order 11988 and the Federal Emergency Management Agency regulations. Therefore, no permanent effects to designated floodplains from construction would occur.

Operation and maintenance of the HSR Build Alternative would increase generation of pollutants of concern, particularly from train braking. With implementation of HYD-IAMF#1, HMW-IAMF#9, and HMW-IAMF#10, which would require implementation of operational BMPs to treat stormwater and remove pollutants of concern as well as compliance with applicable National Pollutant Discharge Elimination System permits, no effects to surface water quality during operation would occur.

Operations

Operation and maintenance of the HSR Build Alternative would not substantially deplete groundwater volumes compared to existing condition because the project would not include extraction of groundwater. The HSR Build Alternative would not adversely affect groundwater volumes in the city of Burbank because the anticipated demand for water to serve the Burbank Airport Station would be less than the existing uses on the same areas. Furthermore, the HSR Build Alternative would not adversely affect groundwater volumes in the city of Los Angeles because the increase in demand to serve the LAUS represents a small fraction of the total supply available. Operation and maintenance activities could introduce pollutants to stormwater that could infiltrate groundwater. With implementation HYD-IAMF#1 and PUE-MM#1, which include implementation of operational BMPs to treat stormwater and remove pollutants of concern before they can reach groundwater and preparation of a Water Supply Assessment, no effects to groundwater quality or quantity would occur during operation of the HSR Build Alternative.

Operations and maintenance would have no effect on drainage patterns, stormwater runoff, hydraulic capacity, or floodplains. With implementation of IAMFs, no effects from the release of pollutants or from inundation would occur during operation of the HSR Build Alternative.

S.8.2.8 Geology, Soils, Seismicity, and Paleontological Resources

Geological hazards (e.g., ground subsidence and expansive soils), primary seismic hazards (e.g., seismic ground motion), secondary seismic hazards (e.g., liquefaction and lateral spreading), geological resources (e.g., mineral resources and fossil fuel resources), and paleontological resources have the potential to affect or be affected by construction and/or operation of the HSR Build Alternative. As such, construction and/or operation activities could result in an impact. However, all of these impacts would be effectively avoided or minimized through IAMFs, such as complying with the latest seismic design criteria and halting operations of the HSR system in the event of an earthquake. While the effects from some hazards, such as seismic ground shaking, cannot be completely avoided, the project design and project features would not increase the risk to passengers, workers, or the general public from these hazards.

Construction

Geological hazards (e.g., ground subsidence and expansive soils), primary seismic hazards (e.g., seismic ground motion), secondary seismic hazards (e.g., liquefaction and lateral spreading), geological resources (e.g., mineral resources and fossil fuel resources), and paleontological resources have the potential to affect or be affected by construction of the HSR Build Alternative. All of these impacts would be effectively avoided or minimized through IAMFs. Although the effects from some hazards, such as seismic ground shaking, cannot be completely avoided, the project design and project features would not increase the risk to passengers, workers, or the general public from these hazards.

During construction of the HSR Build Alternative, changes to vegetation cover from ground-disturbing activities could expose unprotected soils to erosive forces of wind and water. However, the alignment is in an urban area with no agricultural or farmland present. GEO-IAMF#1, GEO-

IAMF#10, and HYD-IAMF#3 would avoid substantial soil erosion or loss of topsoil. The HSR Build Alternative's design would include adoption of BMPs, including revegetation and covering areas with geotextiles, along with the use of riprap and check dams.

Construction of the HSR Build Alternative would not create or exacerbate existing hazards involving ground subsidence or slope failure associated with landslides that could result in injury to people or damage to property. GEO-IAMF#1 addresses the existing potential for subsidence through design and construction processes implemented prior to and during construction. Hazards associated with cut-and-fill slopes during construction would be addressed through the implementation of GEO-IAMF#10. In addition, although poor soil conditions, including expansive, corrosive, collapsible, or erodible soils may exist within the alignment, construction of the HSR Build Alternative would not aggravate those existing conditions or the hazards posed by those conditions that could result in injury to people or damage to property.

During construction of the HSR Build Alternative, GEO-IAMF#10 would address risk factors associated with difficult excavation conditions, such as hardpan or the presence of cobbles or boulders.

Construction of the HSR Build Alternative would not increase the risk of exposing people or structures to potential impacts of seismic hazards, including surface fault rupture, liquefaction, dam failure, or seismic-related ground motion, beyond the existing level. Implementation of GEO-IAMF#1, GEO-IAMF#6, GEO-IAMF#7, and GEO-IAMF#10 prior to and during construction would reduce the potential effects from seismic hazards.

Construction of the HSR Build Alternative may temporarily reduce the availability to access zoned mineral resources, as well as access to existing mining facilities near the alignment. However, through implementation of GEO-IAMF#1 prior to construction, the contractor would prepare a CMP addressing how construction would minimize or avoid affected access to locations of existing or future mines. In addition, per SS-IAMF#4, the contractor would evaluate historic and/or abandoned mines to determine if cleanup or stabilization of mine tailings is required.

Construction of the HSR Build Alternative could potentially encounter subsurface gases should any of the below-ground components be proposed in the oil fields in the southern portion of the RSA, posing a safety risk to workers and others in the vicinity. Implementation of GEO-IAMF#3 and SS-IAMF#4 would avoid an increase in the effects related to potential loss of productivity and safety from construction near active oil and gas wells. With the implementation of standard design and construction protocols (see GEO-IAMF#4), potential issues related to the availability of access to zoned mineral resources during construction of the HSR Build Alternative would not increase beyond those that currently exist.

Construction of the HSR Build Alternative would involve ground-disturbing activities that have the potential to affect geologic units with a high sensitivity for paleontological resources. GEO-IAMF#11, GEO-IAMF#12, GEO-IAMF#13, GEO-IAMF#14, and GEO-IAMF#15 include provisions for avoiding the loss of paleontological resources in areas of high paleontological sensitivity.

Operations

During operation, no additional changes to vegetation cover or ground disturbance would occur. Therefore, operation of the HSR Build Alternative would not exacerbate exposure of unprotected soils to erosion.

GEO-IAMF#2 and GEO-IAMF#9 include effective practices to address the effects of ongoing settlement and subsidence through slope monitoring and subsidence monitoring so that any ground movement can be addressed before it can damage track integrity during operation. In addition, although poor soil conditions, including expansive, corrosive, collapsible, or erodible soils, may exist within the corridor, GEO-IAMF#1 and GEO-IAMF#10 would avoid potential impacts on personal safety of passengers and HSR infrastructure.

Operation of the HSR Build Alternative would not involve ground disturbance and therefore would not cause or exacerbate existing poor soil conditions, nor would it create or exacerbate difficult excavation conditions or any hazards posed by difficult excavation.

Operation of HSR Build Alternative would not increase the risk of exposing people or structures to potential impacts of seismic hazards, including surface fault rupture, liquefaction, dam failure, or seismic-related ground motion, beyond the existing level. GEO-IAMF#2, GEO-IAMF#6, and GEO-IAMF#8 would minimize the potential impacts of surface fault rupture, seismically induced ground shaking, displacements, and liquefaction on HSR operations.

Operation of the HSR Build Alternative would not affect the availability of zoned mineral resources or hinder access to existing mining facilities near the alignment. In addition, GEO-IAMF#3 would minimize impacts related to encounter subsurface gases on people and structures during operations.

Operational activities associated with the HSR Build Alternative would not involve ground disturbance in geologic units sensitive to paleontological resources. Therefore, operation would not affect significant paleontological resources.

S.8.2.9 Hazardous Materials and Wastes

Construction

Transport, storage, use, and disposal of hazardous materials and generation, storage, or disposal of hazardous wastes during construction of the HSR Build Alternative could result in the release of hazardous materials or wastes. Implementation of HMW-IAMF#6, HMW-IAMF#7, HMW-IAMF#8, and HMW-IAMF#9 would minimize impacts from the release of hazardous materials or wastes by ensuring that hazardous materials and wastes are transported in compliance with state and federal regulations, BMPs for hazardous materials storage and handling are followed, procedures for spill prevention are in place prior to construction, and the full inventory of hazardous materials in use during construction of the HSR Build Alternative is available to first responders. Additionally, construction of the HSR Build Alternative would involve the transport, storage, and use of hazardous substances or mixtures within 0.25 mile of schools, a health or safety hazard to students or employees in the event of a release of hazardous materials or wastes. HMW-IAMF#6, HMW-IAMF#7, and HMW-IAMF#8 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 spill prevention and remediation plan. However, these IAMFs would not completely avoid the potential of a release. Mitigation measure HMW-MM#1 would further limit the use of extremely hazardous materials within 0.25 mile of a school.

Construction of the HSR Build Alternative could inadvertently release hazardous materials and wastes as a result of accidents or spills related to the transport, shipping, and use of hazardous materials. With implementation of HMW-IAMF#6, HMW-IAMF#7, HMW-IAMF#8, and HMW-IAMF#9, the potential for inadvertent release of hazardous materials and wastes would be reduced.

During construction of the HSR Build Alternative, trenching and other ground-disturbing activities could encounter or disturb previously undocumented or unknown hazardous materials or contamination. Implementation of HMW-IAMF#4, HMW-IAMF#7 and HMW-IAMF#5 would minimize the potential for hazardous materials exposure of workers or the public and release into the environment as a result of inadvertent disturbance of undocumented contamination.

Construction of the HSR Build Alternative on or near potential environmental concern sites could expose workers, the public, or the environment to hazardous materials or wastes. Implementation of HMW-IAMF#1, HMW-IAMF#3, HMW-IAMF#4, HMW-IAMF#6, and HMW-IAMF#9 would minimize impacts associated with construction on or near these sites.

Demolition of roadways, track modification, and dismantling and removal of building or other structure components or debris could accidently release lead and asbestos, exposing workers and the public to hazardous materials and wastes during demolition prior to construction of the HSR Build Alternative. HMW-IAMF#1 and HMW-IAMF#5 include measures that would ensure the safe demolition and removal of materials and debris, preventing the accidental release of lead and asbestos.

Construction of the HSR Build Alternative on or near active or closed landfills and oil and gas wells could increase the risk of exposure or accident associated with hazardous materials and wastes to the public and workers. Implementation of HMW-IAMF#2, HMW-IAMF#4, SS-IAMF#4, and GEO-IAMF#3 would minimize the potential risk of exposure or accident associated with hazardous materials and wastes to the public and workers.

Operations

Operation and maintenance of the HSR Build Alternative has the potential to affect the environment and the public through the transport, use, storage, and disposal of hazardous materials and wastes for the maintenance of the HSR trains, track, light maintenance facility, and stations. The transport, use, storage, and disposal of hazardous materials and wastes would primarily occur at the light maintenance facility, although smaller quantities of hazardous materials could be intermittently used on tracks or at stations. Implementation of an environmental management system and hazardous materials monitoring plans would reduce or avoid impacts, as addressed in HMW-IAMF#7, HMW-IAMF#9, and HMW-IAMF#10.

Operation and maintenance of the HSR Build Alternative would require limited and intermittent handling of small amounts of hazardous materials, substances, or wastes within 0.25 mile of schools. A hazardous materials plan; a spill prevention, containment, and control plan; and an Environmental Management System would be prepared and implemented, also as part of HMW-IAMF#7, HMW-IAMF#9, and HMW-IAMF#10. HSR trains would operate on electric power with no hazardous air emissions, and the single at-grade crossing is not within 0.25 mile of any schools, eliminating the potential for accidents between the train and vehicles transporting hazardous materials.

Additionally, operation and maintenance of the HSR Build Alternative could result in the accidental release of hazardous materials and wastes, presenting health and safety risks to the public and workers, and contamination of the environment. IAMFs include measures that require preparation of a hazardous materials plan; a spill prevention, containment, and control plan; and an Environmental Management System that would limit the risks of upsets and accident conditions (HMW-IAMF#7, HMW-IAMF#9, and HMW-IAMF#10).

Operation and maintenance of the HSR Build Alternative on or near sites of undocumented or known contamination and associated risks would be negligible because these types of sites would be identified, tested, and remediated prior to construction (HMW-IAMF#1). In addition, operations and maintenance activities would have limited potential for ground disturbance.

S.8.2.10 Safety and Security

Construction

Throughout construction of the HSR Build Alternative, workers could be exposed to hazards associated with construction sites, including those related to operation of heavy equipment and activities. Implementation of SS-IAMF#2, AQ-IAMF#1, and HMW-IAMF#2 would require safety measures during construction to prevent impacts related to these hazards.

Construction of the HSR Build Alternative would require roadway closures and detours. Implementation of SS-IAMF#1, TR-IAMF#4, and TR-IAMF#5 during construction would provide specific plans and procedures for dealing with safety hazards during construction.

Road closures and modified traffic routing along the HSR Build Alternative during construction could result in increased response times for emergency responders. These road closures would necessitate detours to local streets, which would create delays for emergency responders and other parties using these routes. SS-IAMF#1 and TR-IAMF#2 would create plans to address safety hazards created by these detours during construction.

A portion of the HSR Build Alternative crosses under Runway 8-26, Taxiway D, the proposed extension of Taxiway C, and critical airport safety zones at Hollywood Burbank Airport. This section of the HSR alignment would be constructed by using the sequential excavation method, working under the runway and taxiway systems to avoid disruptions to airfield operations. The

runway and taxiway systems are expected to remain fully operational during construction because the sequential excavation method minimizes surface disruption, which would be limited to the tunnel entry and exit points outside of the runway safety limits, and all construction would take place outside of the critical airport safety zones. To address the potential for disruption to airfield operations at Hollywood Burbank Airport as a result of construction of the HSR Build Alternative, the HSR Build Alternative incorporates SS-IAMF#5, which requires the Authority and/or the construction contractor(s) to submit construction plans and/or information to the Federal Aviation Administration as required by Code of Federal Regulations, Title 14, Part 77. Additionally, SS-IAMF#5 requires the implementation of measures required by the Federal Aviation Administration to ensure continued safety of air navigation during HSR construction.

Operations

Under the HSR Build Alternative, implementation of PTC, grade separations, and fencing would provide a safe means of intercity and regional travel and would therefore have a beneficial impact with regard to motor vehicle, pedestrian, and bicycle accidents associated with train operations.

The HSR Build Alternative would incorporate TR-IAMF#12 and construction of grade-separated crossings during operation of the HSR Build Alternative, which would reduce operational interactions with trains. This IAMF would require that prior to construction, the contractor provide a technical memorandum describing how pedestrian and bicycle accessibility would be provided and supported across the HSR corridor. Through adherence this IAMF and construction of grade-separated crossings during operation of the HSR Build Alternative, the impacts associated with pedestrians and bicyclist accidents with trains would be minimized.

Potential operations impacts include HSR system accidents, accidents attributable to external factors, and train derailment. SS-IAMF#2 would require the Authority to implement all safety and security plans related to HSR operation, and SS-IAMF#3 would include the identification of hazards, assessment of associated risk, and application of control measures to reduce the risk to an acceptable level that is protective of public safety.

Motor vehicle, pedestrian, and bicycle accidents may occur as a result of HSR operations. TR-IAMF#12 and construction of grade-separated crossings during operation of the HSR Build Alternative which would reduce operational interactions with trains. TR-IAMF#12 would also require that, prior to construction, the contractor provide a technical memorandum describing how pedestrian and bicycle accessibility would be provided and supported across the HSR corridor.

Sections of the HSR alignment and infrastructure would be located in seismically sensitive areas and may cross certain fault zones (i.e., the Verdugo Fault Zone and Hollywood-Raymond Fault Zone), as discussed in Section 3.9, Geology, Soils, Seismicity, and Paleontological Resources. Therefore, these sections would be constructed to specifications capable of withstanding defined levels of seismic activity without incurring structural failure. GEO-IAMF#10 would require that prior to construction, the contractor document through issuance of a technical memorandum how guidelines and standards from the following organizations have been incorporated into facility design and construction: American Association of State Highway and Transportation Officials, Federal Highway Administration, American Railway Engineering and Maintenance-of-Way Association, California Building Code, International Building Code and American Society of Civil Engineers, Caltrans Design Standards, Caltrans Construction Manuals, and American Society for Testing and Materials. In addition, the HSR system would have a seismic monitoring system that would automatically stop trains approaching areas of seismic activity to minimize the possibility of a derailment due to a seismic event. The monitoring system would be connected to an alert warning system at the Operations Control Center so that Operations Control Center staff and train crews could take action to reduce damage from a seismic event.

The HSR Build Alternative would include project elements that have a potential risk of fire and related hazards, including passenger vehicles, traction power stations, and paralleling stations. These elements have electrical equipment or combustible materials and represent a fire and explosion risk. SS-IAMF#2, GEO-IAMF#10, NFPA Standard 130, the California Building Code, and the International Building Code would reduce the possibility and risk of fire during operation

of the HSR Build Alternative. Further, implementation of design features and standard operating provisions would preclude project occupants from pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire caused by slopes, prevailing winds, and other factors and would also preclude project occupants from impacts associated with downslope or downstream flooding or landslides resulting from post-fire slope instability or drainage changes.

Implementation of the HSR Build Alternative would result in the closure or modification of at-grade crossings into overcrossings or undercrossings. Some modifications could result in decreased emergency response times from a reduction in delay associated with the elimination of at-grade crossings. The HSR Build Alternative would incorporate the SS-IAMF#2 during operation, which would include coordination with emergency responders to incorporate roadway modifications that maintain existing traffic patterns. The response times of emergency vehicles would not be significantly reduced during the operation of the HSR Build Alternative. The HSR Build Alternative would not substantially impair any adopted emergency response plans or emergency evacuation routes.

The associated development and economic activity that would indirectly result from the presence of the HSR Build Alternative could increase demand for local emergency responders. Additionally, operation of the HSR Build Alternative would increase traffic at intersections around the HSR stations. SS-IAMF#2 would implement the fire and life safety program, which would include coordination with local emergency response organizations 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.

Although SS-IAMF#2 would reduce impacts, it would not avoid impacts entirely. The authority would implement TRAN-MM#1 and TRAN-MM#2 to reduce the impacts of the HSR Build Alternative on affected intersections by reducing the amount of traffic on streets near the stations and by building intersection improvements. S&S-MM#1 would also reduce the impacts on existing fire, rescue, and emergency services facilities by monitoring the response of providers to incidents at stations and providing compensation for the expansion of facilities necessary to serve the HSR Build Alternative.

Though unlikely, hazards to HSR passengers and employees from extreme weather conditions may occur. HYD-IAMF#2, state and national regulations, and automatic train control would require adequate safety measures for extreme weather events which would protect passengers and employees from possible safety hazards resulting from extreme weather and floods during operation.

S.8.2.11 Socioeconomics and Communities

Construction

Construction of the HSR Build Alternative would cause temporary parking loss, increased noise and traffic, increased emergency response times, disruption of access, the introduction of a new temporary physical barrier, pedestrian and cyclist safety hazards, visual changes, disruption of established patterns of interaction among community members, and altered function of communities or neighborhoods before implementation of IAMFs. Even with implementation of TR-IAMF#2, TR-IAMF#3, TR-IAMF#4, TR-IAMF#5, TR-IAMF#6, TR-IAMF#7, TR-IAMF#8, TR-IAMF#11, TR-IAMF#12, NV-IAMF#1, and SS-IAMF#1, impacts associated with temporary parking losses, increased noise and traffic, changes in visual quality, alteration of function of communities and neighborhoods would still result in adverse effects to community character and cohesion. However, impacts on community character and cohesion from pedestrian and cyclist safety hazards and increased emergency response times would be minimized with implementation of these IAMFs. With implementation of mitigation measures N&V-MM#1, AVQ-MM#1, and AVQ-MM#2, impacts on community character and cohesion from temporary increases in noise and visual changes would be fully minimized.

Although temporary parking losses in communities and the temporary introduction of a physical barrier south of Burbank Airport Station would not divide existing communities, no feasible mitigation is available to fully minimize or avoid the temporary disruption of community character

and cohesion from temporary parking losses and the associated altered function of communities and neighborhoods.

Figure S-7 shows the cities and communities adjacent to the HSR Build Alternative. Construction of the HSR Build Alternative would disrupt community cohesion in the Lincoln Heights Neighborhood Council Area within the city of Los Angeles because the removal of businesses and residences would change the nature and character of this community. SOCIO-IAMF#2 and SOCIO-IAMF#3 would minimize the potential for construction of the HSR Build Alternative to permanently disrupt community cohesion. However, construction of the HSR Build Alternative would still permanently disrupt community cohesion.

The HSR Build Alternative would displace approximately 19 residents in the city of Burbank and approximately 15 residents in the city of Los Angeles, but there is sufficient replacement housing available that is comparable to the displaced residential units. SOCIO-IAMF#2 and SOCIO-IAMF#3 would minimize potential impacts related to residential displacements.

Construction of the HSR Build Alternative would result in substantial number of business displacements in Burbank, Glendale, and Los Angeles. Implementation of SOCIO-IAMF#2 and SOCIO-IAMF#3 would minimize the potential for construction of the HSR Build Alternative to displace and relocate local businesses outside their existing communities.

The HSR Build Alternative would result in 12 residential displacements and relocations in the Lincoln Heights and Sun Valley neighborhood council areas (within the City of Los Angeles) which could affect households with sensitive populations, including elderly, disabled, female heads of households, and linguistically isolated residents. However, there is sufficient replacement housing available that is comparable to the displaced residential units. SOCIO-IAMF#2 and SOCIO-IAMF#3 would minimize potential impacts related to residential displacements.

Parcel acquisitions and business displacements associated with the HSR Build Alternative would result in property and sales tax revenue losses for the Cities of Burbank, Glendale, and Los Angeles, and for Los Angeles County. Given the small percentage of the total revenue that could be lost by those jurisdictions (0.06 percent or less in property tax revenue loss for each jurisdiction and 0.01 percent or less in sales tax revenue loss for each jurisdiction), construction of the HSR Build Alternative is not anticipated to result in a broad long-term impact on the regional tax base under NEPA[9]. Nevertheless, construction of the HSR Build Alternative would result in permanent property and sales tax losses.

Construction of the HSR Build Alternative would result in the displacement of seven residential units in Burbank and five residential units in Los Angeles. The potential small losses in student enrollment from these displacements would affect Burbank Unified School District and Los Angeles Unified School District. In addition, property acquisitions associated with the HSR Build Alternative would result in the loss of property tax revenue for Burbank Unified School District, Glendale Unified School District, and Los Angeles Unified School District. Given the small percentage of the total revenue that could be lost at each affected school district (0.15 percent for Burbank Unified School District, 0.01 percent for Glendale Unified School District, and less than 0.01 percent for Los Angeles Unified School District), construction of the HSR Build Alternative is not anticipated to result in a broad long-term impact on the regional revenue base under NEPA. However, localized impacts could occur at Burbank Unified School District, which would experience the highest revenue loss ($189,929). Overall, construction of the HSR Build Alternative would result in some permanent changes in school district funding.

[9] In accordance with Section 15064(e) of the CEQA Guidelines, “economic and social changes resulting from the project shall not be treated as significant effects on the environment.” Therefore, no CEQA conclusions are made related to economic impacts.

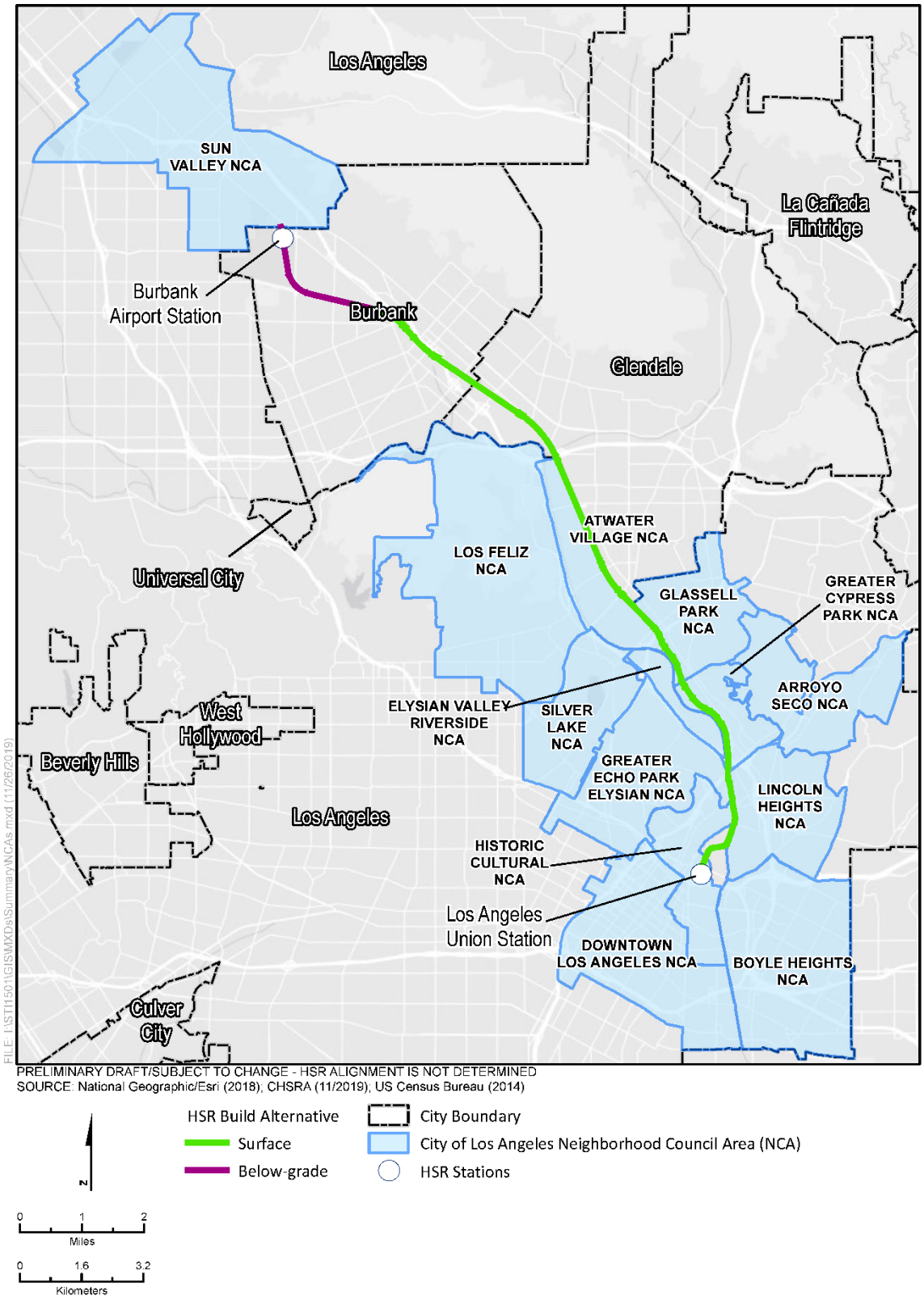


Figure S-7 Cities and Communities Adjacent to the High-Speed Rail Build Alternative

Construction of the HSR Build Alternative would have the potential to displace businesses and residents, disrupt existing communities, and change local tax revenues. However, the HSR Build Alternative would not result in considerable residential migration, closures in key "anchor" businesses, or large reductions in property and sales tax revenues under NEPA. Construction of the HSR Build Alternative would not result in physical deterioration of area communities.

Construction of the HSR Build Alternative would result in temporary impacts on children's health and safety during construction. Construction activities may temporarily disrupt circulation patterns in some communities and could affect school bus transportation routes and the safety of children bicycling or walking to school. Fugitive dust, exhaust, noise, and vibration from construction and on-road vehicles could have potential localized impacts on children near construction sites. The construction of the HSR Build Alternative could also potentially result in accidental spills or releases of hazardous materials and wastes and result in temporary hazards to schools. Mitigation measures N&V-MM#1, N&V-MM#2, HMW-MM#1, and AQ-MM#1 would reduce construction noise and vibration, the use of extremely hazardous materials around schools, and would offset project construction emissions through a SCAQMD Regional Clean Air Incentives Market to address impacts on children's health and safety. Implementation of the mitigation measures would address the temporary impacts on children's health and safety.

Operations

Operation of the HSR Build Alternative would cause permanent parking loss, alter the function of communities or neighborhoods, increase noise, and change visual quality that could affect community character and cohesion. After implementation of AVQ-IAMF#1 and AVQ-IAMF#2, visual changes from operation of the HSR Build Alternative would still represent a long-term impact on community character and cohesion. After implementation of mitigation measures AVQ-MM#3 and AVQ-MM#4, impacts on community character and cohesion from visual changes would remain.

The existing unemployed workforce is expected to fill most of the jobs that would be generated from operation of the HSR Build Alternative. Therefore, operation of the HSR Build Alternative would not result in the need to build new or expand existing community facilities. The temporary increase in employment associated with construction of the HSR Build Alternative would not result in a noticeable economic change within Los Angeles County.

Operation of the HSR Build Alternative would require a road access easement at a public high school. This impact would not affect structures or access to the properties, and would not permanently disrupt community facilities.

Permanent changes in municipal funding from property and sales tax losses would occur during the construction phase of the HSR Build Alternative. Although some of the impacts on municipal funding from construction of the HSR Build Alternative would continue during operation of the HSR Build Alternative under NEPA, operation would not result in property and sales tax revenue losses.

Operation of the HSR Build Alternative would not cause indirect impacts on children's health from changes in air quality, hazardous impacts, or safety issues, but it would result in impacts from increased noise levels. There are no IAMFs that would avoid or minimize indirect impacts on children's health from increases in noise levels. Mitigation measures N&V-MM#3, N&V-MM#4, N&V-MM#5, and N&V-MM#6 would reduce operational noise and vibration impacts by requiring the implementation of proposed HSR Noise Mitigation Guidelines, vehicle noise specifications, special track work at crossovers and turnouts, and additional noise analysis following final design. However, localized noise impacts would remain, which could affect children.

S.8.2.12 Station Planning, Land Use, and Development

Construction

The HSR Build Alternative would be consistent with all local planning documents. Construction of the HSR Build Alternative, including the Burbank Airport Station and the HSR station at LAUS, would cause temporary and intermittent disruption of access to some properties, would cause

temporary inconvenience to nearby residents and businesses, and would result in the direct temporary conversion of approximately 113 acres of existing and planned land uses between the Burbank Airport Station and LAUS. Project construction would also require the temporary use of some vacant land for construction activities. Several IAMFs would be implemented as part of the HSR Build Alternative and would minimize these effects: LU-IAMF#3, TR-IAMF#2, TR-IAMF#3, SOCIO-IAMF#2, and TR-IAMF#11. The potential for project construction to temporarily alter existing land use patterns would be mostly minimized through implementation of IAMFs.

Construction of the HSR Build Alternative, including the Burbank Airport Station and the HSR station at LAUS, would result in the direct permanent conversion of approximately 153 acres of existing and planned land uses to transportation use for HSR purposes. However, this amount of land is negligible compared to the overall total acreage of similar land uses within the RSA. Most of this land conversion would occur adjacent to an existing railroad corridor and is spread over a distance of 14 miles between the proposed Burbank Airport Station and LAUS. There are no IAMFs or mitigation measures that would avoid or minimize the direct impacts from permanent land use conversion related to the construction of the HSR Build Alternative between the two proposed stations. However, the magnitude of the impacts would be limited because of the overall amount of similar land uses within the RSA.

Operations

Operation of the HSR Build Alternative may conflict with land use patterns. Operation of the HSR Build Alternative would result in increased noise levels adjacent to residential and noise-sensitive commercial uses, as well as at nearby parks and schools and other sensitive land uses. The HSR Build Alternative operation would also generate EMFs that could interfere with magnetically sensitive equipment at one facility along the alignment, cause radio frequency interference with radio systems at one police station, and interfere with radio and other electronic systems at Hollywood Burbank Airport. Mitigation measures N&V-MM#3 and N&V-MM#4 would minimize the potential for operation of the HSR Build Alternative to result in direct permanent conflicts with surrounding land uses; however, severe residual noise impacts would remain at 48 locations and ground-borne vibration and ground-borne noise impacts would remain at 12 locations. EMI/EMF-IAMF#2 would help prevent EMI with identified neighboring uses and to prevent EMFs from resulting in permanent land use conflicts.

Operation of the HSR Build Alternative would also induce growth, albeit small compared to the forecasted growth, but it could accelerate implementation of local plans in Burbank and Los Angeles around the proposed HSR stations. Implementation of the station-area planning efforts set forth in LU-IAMF#1 and LU-IAMF#2 would reduce the potential indirect impacts of the stations on surrounding land use patterns by ensuring that the stations would be compatible with surrounding development and vice versa.

S.8.2.13 Parks, Recreation, and Open Space

Construction

During construction of the HSR Build Alternative, increases in noise and fugitive dust from construction activity would be produced at or near recreational resources, which could influence users of these resources to use alternative, nearby resources. Adherence to AQ-IAMF#1 would reduce generation of fugitive dust. Temporary visual changes would occur under the HSR Build Alternative. However, because the resources are used for active recreation, users of the resources would not be sensitive to visual changes, and the presence of HSR construction equipment and activity would not detract from regular use of the resources. Furthermore, adherence to AVQ-IAMF#1 and AVQ-IAMF#2 would reduce the visual changes experienced by users of recreational resources within the project section.

The HSR Build Alternative would have temporary and permanent construction impacts related to recreational resources as it would affect the planned Phase 3 of the San Fernando Bike Path, the planned San Fernando Railroad Bike Path, and the planned extension of the Los Angeles River Bike Path. If the planned Phase 3 of the San Fernando Bike Path and Los Angeles River Bike Path (Planned Extension) do not exist at the time of HSR construction, the HSR Build Alternative

would result in the permanent conversion of land planned for these resources and the planned alignment for these resources would be rerouted. Furthermore, if the planned Phase 3 of the San Fernando Bike Path and Los Angeles River Bike Path (Planned Extension) exist at the time of HSR construction, permanent acquisitions and easements on portions of these paths would impact access and connectivity. In addition, if the planned San Fernando Railroad Bike Path does not exist at the time of HSR construction, the HSR Build Alternative would result in the permanent conversion of land planned for this bike path in Glendale and would preclude the development of this resource in its current alignment. If the planned San Fernando Railroad Bike Path exists at the time of HSR construction, permanent acquisition of the entire alignment of the bike path would result in a permanent impact from the conversion of this resource. The impacts on these resources from permanent conversion of land would result in a loss of connectivity and recreation use.

Construction of the HSR Build Alternative would also result in the permanent use of lands within Rio de Los Angeles State Park and Albion Riverside Park. However, the area of permanent use within each of these resources is minimal in size (permanent acquisition of 0.56 acre within Rio de Los Angeles State Park and a 0.12-acre permanent easement within Albion Riverside Park) and would not adversely affect the activities, features, or attributes of the recreational resources.

Through adherence to PK-IAMF#1, temporarily diminished access from construction of the HSR Build Alternative would be reduced. Furthermore, implementation of mitigation measures PR MM#1, PR-MM#2, PR-MM#3, PR-MM#5, and AVR MM#3 would further reduce temporary and permanent impacts on recreational facilities.

Operations

During operation of the HSR Build Alternative, noise from passing trains and maintenance activities would be audible. However, because these resources are used for active recreation, users of the resources would only be exposed to operational noise for a relatively short duration as they pass through or near the area. Visual changes would also occur as a result of operations of the HSR Build Alternative. However, because the resources are used for active recreation, users of the resources are not sensitive to visual changes, and the presence of HSR infrastructure would not detract from the regular use of the resource. In addition, adherence to AVQ-IAMF#1 and AVQ-IAMF#2 would minimize visual changes experienced by users of recreational resources during operation. However, even with implementation of AVR-MM#3, the proposed grade separations visible at Pelanconi Park would be out of scale with the surrounding uses and the project scale would contrast with the existing visual environment. The project's overall visual character would be incompatible with the visual character. Increases in resident and worker population would occur, which could increase the utilization of recreational resources in within the project section during operation of the HSR Build Alternative.

Operation of the HSR Build Alternative would impact access to the planned Phase 3 of the San Fernando Bike Path, planned San Fernando Railroad Bike Path, and Los Angeles River Bike Path (Planned Extension). PR-MM#2 would further address access impacts on recreational resources after construction by requiring connections to the unaffected park portions or nearby roadways to be maintained after construction. PR-MM#4 would also be implemented to require that the Authority consult with the official with jurisdiction to identify an alternative route for the continuation of the lost use and functionality of the resource, including maintaining connectivity. However, even with PR-MM#2 and PR-MM#4, the permanent easement and conversion of property from a recreational resource to rail right-of-way associated with operation of the HSR Build Alternative would impact the planned San Fernando Railroad Bike Path.

S.8.2.14 Aesthetics and Visual Quality

Construction Impacts

Construction of the HSR Build Alternative would involve the temporary use of two types of facilities in various locations: large construction staging areas and small construction laydown areas. Highly visible construction activities near sensitive viewers would cause temporary degradation of the existing visual character or quality of the site and its surroundings.

Implementation of AVQ-MM#1 would minimize potential impacts associated with construction staging and laydown areas during the construction period. Additionally, implementation of AQ-IAMF#1 would avoid substantial visibility effects during construction from dust.

Construction of the HSR Build Alternative would result in direct impacts on aesthetics and visual quality. Construction activities and the addition of intrusion protection railings to the three historic bridges in the RSA would cause aesthetic degradation of existing visual quality. The three historic bridges are the Arroyo Seco Parkway Historic District, the Broadway Viaduct, and the Spring Street Viaduct, shown on Figure S-8. Implementation of AVQ-IAMF#1 and CUL-IAMF#6 would promote context-sensitive visual unity, intactness, and integrity. AVQ-IAMF#1 would promote project-wide aesthetic consistency with the local context, and CUL-IAMF#6 would provide a pre-construction condition assessment.

The following mitigation measures would partially alleviate construction impacts on the historic bridges that would substantially degrade the existing visual character or quality of the site and its surroundings: AVQ-MM#3 and CUL-MM#12. AVQ-MM#3 would require that, prior to any ground-disturbing activity, the contractor would work with the Authority and local jurisdictions to incorporate Authority-approved aesthetic preferences into final design and construction. This mitigation measure would partially alleviate aesthetic degradation to the existing character or quality of the three affected bridges and their surroundings by providing the opportunity for design input from the jurisdictions. CUL-MM#12 would also partially alleviate construction impacts on the historic bridges by requiring consultation with interested parties to achieve a barrier design that meets safety goals while introducing the minimum physical and visual impacts on the historic property. However, as a result of unavoidable visual degradation caused by the safety barriers, the residual impacts after mitigation on the three historic bridges from the HSR Build Alternative's security features would remain.

Lighting of temporary structures (e.g., trailers, fencing, and parking) and for nighttime construction of the HSR Build Alternative would occur throughout the length of the right-of-way. Some of the required construction laydown areas as well as nighttime construction activities would be near sensitive viewers and residential neighborhoods. Some of the lighting could spill over to off-site areas, resulting in a visual disturbance affecting viewers, visual character, and visual quality. Mitigation measures AVQ-MM#1 and AVQ-MM#2 would be implemented to minimize disruption from lighting around construction laydown areas and nighttime construction activities to nearby residents and motorists.

Operation Impacts

The permanent construction of the Sonora Avenue grade separation, the Grandview Avenue grade separation, and the Flower Street grade separation would introduce prominent visual elements to the existing cultural environment, which would substantially degrade the existing visual character or quality within the visual RSA. Through implementation of AVQ-IAMF#1, the Authority seeks to balance a consistent aesthetic throughout the state with the local context for the nonstation structures in the Burbank to Los Angeles Project Section. To reduce impacts on the existing natural and cultural environments, the contractor would work with the Authority and local jurisdictions to incorporate the Authority-approved aesthetic preferences for nonstation structures into final design and construction. Examples of aesthetic options would be provided to the Cities of Burbank, Glendale, and Los Angeles that can be applied to nonstandard structures in the project section. Through implementation of AVQ-IAMF#2 (Aesthetic Review Process), the Authority would consult with local jurisdictions on how best to involve the community in the process and work with the contractor and local jurisdictions to review designs and local aesthetic preferences and incorporate them into final design and construction. AVQ-MM#3 requires the contractor to submit a technical memorandum to the Authority to document compliance. However, even with implementation of AVQ-MM#3, the proposed grade separations would be out of scale with the surrounding commercial uses and the project scale would contrast with the existing cultural environment. Therefore, the project's overall visual character would be incompatible with the visual character of the existing cultural environment.

Figure S-8 Historic Bridges within the Resource Study Area

S.8.2.15 Cultural Resources

Construction

Construction of the HSR Build Alternative would have a direct adverse effect on three built-environment historic properties (Arroyo Seco Parkway Historic District [including the Los Angeles River Bridge], the Broadway Viaduct, and the Spring Street Viaduct). Construction of the project would also have both direct and indirect adverse effects on one built-environment historic property (the Main Street Bridge). Implementation of CUL-IAMF#1, CUL-IAMF#2, CUL-IAMF#6, CUL-IAMF#7, and CUL-IAMF#8 would reduce the potential for impacts on these built environment resources.

Additionally, CUL-MM#7 and CUL-MM#13 would be implemented for Main Street Bridge and would require preparation of interpretive or educational information for the historic resource and development of a study to explore options to maintain the historic use of the bridge. CUL-MM#12 would be implemented for the Arroyo Seco Parkway Historic District, the Broadway Bridge, and the Spring Street Viaduct, which it would require the Authority to work with consulting parties to develop a design for the intrusion protection railing. Even with the implementation of these mitigation measures, the HSR Build Alternative would result in direct and indirect effects on these historic built properties and would result in a significant impact under CEQA.

Construction of the HSR Build Alternative would have a direct potential effect on archaeological resource P-19-101229 (a vestige of a small circular brick wall feature) that is assumed eligible for the National Register of Historic Places and California Register of Historical Resources at this time. If P-19-101229 is determined ineligible, then there would be no impact on this resource. Because the exact location of archaeological resource P-19-101229 is not known at this time, there remains a potential that construction activities could result in the partial or total destruction or removal of this resource. CUL-MM#1 would require compliance with the Programmatic Agreement[10] and Memorandum of Agreement and mitigation of adverse effects on properties identified during phased identification. However, because of the nature of the HSR project and the design requirements, an established alignment may not be able to be altered to avoid archaeological site P-19-101229 by the time property access is granted and the exact location of this resource is determined. Therefore, until the exact location of this resource can be determined, it is assumed that construction of the HSR Build Alternative would result in an impact to this resource.

In addition, there is a potential for construction to affect unknown archaeological resources if they are discovered during site surveys and cannot be avoided, or if they are discovered during construction. Because of limited access to private lands in the Area of Potential Effects (APE), it is possible that as-yet unknown National Register of Historic Places-eligible archaeological sites could be identified within the APE as part of the historic property survey effort that would be conducted when property access becomes available, prior to ground-disturbing activities. If such sites are identified, found to be eligible, and cannot be avoided, impacts on archaeological properties would occur. The HSR Build Alternative also has the potential to damage previously unidentified archaeological sites that may not be identified through survey prior to construction. While cultural resource inventories would be completed once legal access is secured, no inventory can ensure that all resources are identified. Furthermore, surveys cannot be conducted in areas that are paved.

Implementation of IAMFs CUL-IAMF#1, CUL-IAMF#2, CUL-IAMF#3, CUL-IAMF#4, and CUL-IAMF#5 would reduce the potential for ground disturbance-related impacts on known and as-yet undiscovered archaeological sites to occur before and during construction. Implementation of mitigation measures CUL-MM#1, CUL-MM#2, and CUL-MM#3 would reduce the potential for impacts on archaeological resources should they be known or discovered before or during construction activities. However, an established alignment may not be able to be altered to avoid

[10] Formally known as 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.

archaeological sites discovered by the time property access is granted. Therefore, the HSR Build Alternative could result in an impact on unknown archaeological resources.

Operations

Operations and maintenance effects to the 25 historic built resources identified in the Burbank to Los Angeles Project Section APE include noise or vibration. However, the anticipated noise from the HSR Build Alternative would not indirectly affect any of the historic properties within the APE because they do not derive their National Register of Historic Places significance from being located in a quiet setting. According to the *High-Speed Ground Transportation Noise and Vibration Impact Assessment* (FRA 2012), it is extremely rare for vibration from train operations to cause any sort of building damage, even minor cosmetic damage. However, there is sometimes concern about damage to fragile historic buildings, such as the Valley Maid Creamery, located near the right-of-way. Even in these cases, damage is unlikely except when the track would be very close to the structure. Therefore, vibration from operation of the HSR Build Alternative would not damage any of the historic resources within the APE, including the Valley Maid Creamery.

Activities that affect archaeological resources are typically associated only with project construction. During operation, access would be restricted to maintenance persons or vehicles within the fenced right-of-way. Thus, it is unlikely that operation of the HSR Build Alternative would affect known or unknown archaeological sites.

S.8.2.16 Regional Growth

Construction and operation of the HSR Build Alternative would result in temporary and permanent impacts related to regional growth within the RSA (which is comprised of Los Angeles County).

Construction

Construction of the HSR Build Alternative would increase the demand for workers above projected employment. Construction-related employment based on local construction expenditures would create 3,600 new construction jobs during the peak year of construction in 2022. This demand for temporary construction workers is approximately 2.5 percent above forecasted construction-sector employment. Because this is a very small portion of the total construction employment in the RSA, and taking into consideration the ongoing established worker training and certification programs related to HSR system construction activities within the RSA, it is not anticipated that a large number of workers would move to the RSA looking for employment opportunities. In total, 14,410 annual construction job years would be created over the 6 years of construction. In addition, there would be an increase of 14,220 indirect and induced annual job years during the construction period in a variety of sectors of the economy.

These jobs would be only a small increase above forecasted total employment under the No Project Alternative. As such, construction under the HSR Build Alternative is not anticipated to result in regional growth that would require the construction of new housing or provision of new public services.

Operations

The estimated operations impacts associated with the HSR Build Alternative would be small and would not result in regional growth considerably above forecasted employment. Operations jobs would be based at the HSR system stations and the heavy maintenance facilities. The Authority estimates operation of the HSR system would create up to 250 jobs within Los Angeles County. Potential regional growth arising from greatly improved statewide transportation accessibility provided by the HSR system was also evaluated. These would total an estimated 8,960 jobs within the RSA. This incremental increase as a result of accessibility would be slightly greater than 0.1 percent above forecasted 2040 employment within the RSA.

Population growth would be associated with the estimated increase in operations employment associated with direct, indirect, and induced employment as well as employment stimulated by the operation of the HSR system. The operations-related population growth associated with

direct, indirect, and induced employment would be about 17,470, or about 0.15 percent above the 2040 forecasted population for the RSA.

The HSR Build Alternative would have beneficial effects related to long-term operational employment effects due to economic activity related to operation of the HSR Build Alternative. The HSR Build Alternative would induce housing demand in the RSA, which would be met with available land supply and housing capacity in the short and long term. The demand would be met given the existing and projected housing units.

S.8.2.17 Cumulative Impacts

The HSR Build Alternative in combination with other past, present, and reasonably foreseeable probable future actions or projects (cumulative projects), listed in Appendix 3.19-A, Cumulative Projects List, in Volume 2 of this Draft EIR/EIS, would result in the following significant cumulative construction-period impacts under CEQA: air quality and global climate change; noise and vibration; socioeconomics and communities (community character and cohesion); and cultural (archaeological) resources. In addition, the HSR Build Alternative in combination with other cumulative projects would result in cumulative transportation impacts, noise impacts, and public utilities impacts during long-term operation of the HSR Build Alternative.

S.8.3 Capital and Operational Costs

Table S-2 provides the costs comprising the capital cost estimate for the HSR Build Alternative. The cost estimate is presented in 2018 dollars and includes the total labor and materials necessary to construct the project, but it does not include the statewide system costs associated with acquiring vehicles. Finance charges also are excluded but would be developed prior to project construction. To help evaluate project construction costs, the FRA and the Authority developed 10 standardized capital cost categories, which are reflected in Table S-2 below. Chapter 6, Project Costs, provide more detailed information about the Burbank to Los Angeles Project Section capital costs.

Table S-2 Capital Costs of the High-Speed Rail Build Alternative for the Burbank to Los Angeles Project Section (2018 dollars in millions[1])

FRA Standard Cost Categories	HSR Build Alternative
10 Track Structures and Track	$1,286
20 Stations, Terminals, Intermodal	$134
30 Support Facilities: Yards, Shops, Administration, Buildings	$57
40 Site Work, Right-of-Way, Land, Existing Improvements	$1,516
50 Communications and Signaling	$51
60 Electric Traction	$65
70 Vehicles	(Considered a system-wide cost and not included as part of the High-Speed Rail Build Alternative)
80 Professional Services	$318
90 Unallocated Contingency	$127
100 Finance Charges	Estimate to be developed prior to project construction
Total	**$3,554**

Source: Appendix 6-B: Preliminary Engineering for Project Definition Record Set Capital Cost Estimate Report
All costs are in first-quarter 2018 dollars. Allocated contingency is included in the unit costs.
[1] For the purposes of this Environment Impact Report/Environmental Impact Statement, values have been rounded to the nearest million.

Operating and maintenance costs in 2015 dollars as apportioned to the Burbank to Los Angeles Project Section are shown in Table S-3 and are based on the Phase 1 HSR System, total cost per route mile[11]. The costs associated with operating and maintenance are apportioned on the basis of trainset miles[12] operated in the Burbank to Los Angeles Project Section. The costs associated with the maintenance of infrastructure are apportioned as a ratio of 14 miles to the 520 Phase 1 total route miles.

Table S-3 Annual Operations and Maintenance Costs, Apportioned to the High-Speed Rail Burbank to Los Angeles Project Section (2015 dollars in millions)

Operating and Maintenance Activity	2040 Medium Ridership Forecast	2040 High Ridership Cost
Train Operations	$7.98	$8.71
Dispatching	$0.84	$0.92
Maintenance of Equipment	$3.75	$4.10
Maintenance of Infrastructure	$3.42	$3.72
Station and Train Cleaning	$1.99	$2.16
Commercial	$2.44	$2.88
General and Administrative	$1.48	$1.62
Insurance	$1.46	$1.60
Unallocated Contingency	$0.98	$1.06
Total	**$24.34**	**$26.77**

Source: Appendix 6-A, High-Speed Rail Operating and Maintenance Cost for use in EIR/EIS Project-Level Analysis
The 2040 medium cost is based on a rate of $1.75 million/mile; the 2040 high cost is based on a rate of $1.91 million/mile.

S.8.4 Section 4(f) and Section 6(f) Impacts

S.8.4.1 Section 4(f)

Under Section 4(f) of the U.S. Department of Transportation Act (codified at 49 U.S.C. 303), an operating administration of the U.S. Department of Transportation may not approve a project that uses properties protected under this section of the law unless there are no prudent or feasible avoidance alternatives and the project includes all possible planning to minimize harm to such properties, or a finding of *de minimus* impact is made. Properties protected under Section 4(f) are publicly owned lands that are a part of a park, recreation area, or wildlife and waterfowl refuge, or land belonging to a historic site (publicly or privately owned) of national, state, or local significance as determined by the federal, state, regional, or local officials having jurisdiction over the resource.

Based on analysis presented in this Draft EIR/EIS, the implementation of the HSR Build Alternative would result in the permanent use of five Section 4(f) resources. These include one recreational facility, the planned San Fernando Railroad Bike Path, and the following four historic sites:

- The Arroyo Seco Parkway Historic District
- The Broadway (Buena Vista) Viaduct
- The Spring Street Viaduct
- The Main Street Bridge

The HSR Build Alternative would also result in *de minimis* impacts on five Section 4(f) resources. These include four recreational facilities: the planned Phase 3 of the San Fernando Bike Path, the

[11] Route mile is defined as the distance traveled over tracks between two points. Route miles may have one or multiple sets of parallel tracks.

[12] A trainset mile is defined as the movement of a train 1 mile.

planned extension of the Los Angeles River Bike Path, Rio de Los Angeles State Park, and Albion Riverside Park (currently under construction). They also include one historic site: the Los Angeles River Channel.

None of the temporary occupancies of, or indirect effects on, other resources in the RSA under the HSR Build Alternative would constitute a use under Section 4(f).

S.8.4.2 Section 6(f)

Section 6(f) properties are recreation resources funded by the Land and Water Conservation Fund Act. The funds can be used to purchase land or improve recreation properties. These properties cannot be used for a transportation use unless there is no prudent or feasible alternative, and the use must be fully mitigated to the satisfaction of the National Park Service and the local jurisdiction administering the recreation resource. Approval requires coordination with the National Park Service and mitigation includes provision of replacement parkland of "reasonably equivalent usefulness and location."

There are no Section 6(f)-protected properties that would be subject to a use under the HSR Build Alternative. Therefore, the HSR Build Alternative would not result in any Section 6(f) impacts.

S.8.5 Environmental Justice Effects

Environmental justice can be defined as the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income. For a proposed transportation project, this means involvement from the early stages of transportation planning and decision-making through project construction, operations, and maintenance. The decision-making process must evaluate, to the extent practicable and permitted by law, the potential disproportionately high and adverse human health and/or environmental impacts of programs, policies, and activities on racial and ethnic minority and low-income populations. A disproportionately high and adverse effect on minority populations and low-income populations is generally defined as an effect that:

- Would be predominantly borne by minority populations or low-income populations, or
- Would be suffered by minority populations and low-income populations and would be appreciably more severe or greater in magnitude than the adverse effect suffered by the non-low-income and non-minority populations in the affected area and the reference community.

The Authority's Title VI policy and plan and a Limited English Proficiency policy and plan address the Authority's commitment to nondiscrimination on the basis of race, color, national origin, age, sex, or disability, and commitment to provide language assistance to individuals with limited English proficiency.

The HSR Build Alternative has the potential to result in temporary and permanent construction-phase and operational adverse effects that would be experienced by nearby populations, including minority and low-income populations. These adverse effects include those for the following environmental resources: air quality, noise and vibration, transportation/traffic, displacements/relocations and community cohesion, and aesthetics/visual resources.

After proposed mitigation measures were applied equally throughout the project footprint, construction effects were considered an adverse impact on minority and low-income populations for the following environmental resource topics:

- Temporary localized traffic impacts
- Short-term localized air quality impacts
- Temporary noise and vibration impacts
- Temporary impacts on community cohesion
- Temporary use of parks and recreation facilities
- Short-term air quality, noise, and/or visual impacts on parks and recreation facilities

- Permanent conversion of land planned for a bicycle path, loss of this planned recreational resource, and loss of connectivity
- Permanent business and residential displacements
- Temporary and permanent aesthetic and visual construction impacts

In addition, the following operations effects would be considered an impact to minority and low-income populations

- Permanent traffic impacts
- Permanent noise impacts
- Increased operation air quality emissions at the Burbank Airport Station and at LAUS
- Operations impacts on community character and cohesion from changes in air quality, traffic and access, aesthetics, and noise
- Permanent alteration of existing land use patterns
- Permanent impacts on recreational facilities

All populations close to the project footprint, including minority and low-income populations as well as nonminority and non-low income populations, would experience these impacts. The context and intensity of these impacts would be similar for minority and low-income populations as well as non-minority and non-low income populations. Therefore, the HSR Build Alternative would not result in any disproportionate impacts on low-income and minority populations.

Laws and Regulations that Govern Environmental Justice:

- Title VI of the Civil Rights Act (Public Law 88-352)
- Presidential Executive Order 12898, known as the Federal Environmental Justice Policy and the Presidential Memorandum accompanying Executive Order 12898
- Improving Access to Services for Persons with Limited English Proficiency (Presidential Executive Order 13166)
- U.S. Department of Transportation Order 5610.2(a), which updates the original Environmental Justice Order
- The Council on Environmental Quality's Environmental Justice Guidance under NEPA (CEQ 1997)
- Americans with Disabilities Act (42 U.S.C. § 12101 et seq.)
- Uniform Relocation Assistance and Real Property Program (42 U.S.C. § 4601 et seq.)
- California Government Code Section 65040.12(e)
- California Global Warming Solutions Act of 2006: Greenhouse Gas Reduction Fund (Assembly Bill 32, Chapter 488, Statutes of 2006)

S.9 Areas of Controversy

Based on the scoping meetings and public outreach efforts throughout the environmental review process, the following are known areas of controversy:

- Noise/vibration impacts on adjacent communities, especially at residences and sensitive receptors (e.g., schools, churches, and community centers)
- Air quality impacts from moving diesel trains closer to homes and businesses
- Visual impacts need to be minimal and, when possible, mitigated by walls or landscaping
- Sound walls may be a necessary mitigation to reduce noise
- Impacts from the eminent domain process and relocation
- Electromagnetic impacts to the surrounding community
- Impacts from construction activities, staging areas, and truck traffic
- Community disruption impacts from grade separations, especially during construction
- Isolating impacts from street closures on adjacent communities (e.g., Atwater Village)
- Impacts on the Los Angeles River
- Impacts on pedestrian and bicycle safety, especially at bridges and crossings

- Residential displacements will be a major problem from the lack of affordable housing in the area
- Outreach needs to be done in languages that reflect the surrounding community
- The railroad serves as a physical barrier that splits communities
- Metro's Metrolink service has not kept all the mitigation promises it made when building the maintenance yard; landscaping to minimize visual impacts, reduced horns, and a pedestrian bridge are top priorities.
- HSR will limit the community's access to the Los Angeles River and Rio de Los Angeles Park
- The communities along the HSR alignment are already burdened with much of the area's existing and planned infrastructure
- The Authority needs to coordinate with other projects, especially Metro's Link US project and Regional Connector, in order to minimize impacts
- Gentrification as a result of the HSR project, especially around the station areas

S.10 Environmental Process

The following discussion outlines the steps in the environmental process, from public and agency comment on the Draft EIR/EIS to construction and operation.

S.10.1 Identification of Preferred Alternative

The Preferred Alternative for the Burbank to Los Angeles Project Section is the HSR Build Alternative. The Preferred Alternative includes stations at Hollywood Burbank Airport and LAUS. This Preferred Alternative was selected based on a balanced consideration of the environmental information presented in this Draft EIR/EIS in the context of purpose and need; project objectives; CEQA and NEPA; local and regional land use plans; community preferences; and cost. The Preferred Alternative is estimated to have capital costs of approximately $3.554 billion (in first-quarter 2018 dollars) (Appendix 6-B: Preliminary Engineering for Project Definition Record Set Capital Cost Estimate Report).

While other alignment alternatives outside of the existing railroad right-of-way have been evaluated throughout the Statewide Program EIR/EIS (Authority and FRA 2005) and alternatives analyses development process (as described in Section S.5 above), the Authority determined that the alternative located within the existing railroad corridor would have the least environmental impacts. Unlike other project sections in the HSR system, the Burbank to Los Angeles Project Section does not have a broad range of alignment alternatives with separate impacts. Therefore, the HSR Build Alternative is the Preferred Alternative. The Burbank to Los Angeles Project Section would provide blended service within the existing railroad corridor, meaning the HSR Build Alternative would share right-of-way as well as tracks with other passenger rail and freight operators.

The Authority Board reviewed the Burbank to Los Angeles Project Section during a meeting in November 2018. The alternatives considered were the HSR Build Alternative and the No Project Alternative. On November 15, 2018, the Authority Board concurred with the staff recommendation that the HSR Build Alternative be identified as the Preferred Alternative in the Burbank to Los Angeles Project Section Draft EIR/EIS

The HSR Build Alternative would meet the program and project purpose and need, as stated in the 2005 Statewide Program EIR/EIS and Chapter 1 of this EIR/EIS, respectively, and is described in more detail in Chapter 8 of this EIR/EIS. In addition, the HSR Build Alternative would meet the program and project CEQA objectives described in Chapter 1 of this Draft EIR/EIS. The No Project Alternative would not meet the program and project purpose and need, nor would it meet CEQA objectives.

S.10.2 Next Steps in the Environmental Process

The following discussion outlines the steps in the environmental process, from public and agency comment on the Draft EIR/EIS to construction and operation.

S.10.2.1 Public and Agency Comment

The Authority is circulating the Draft EIR/EIS to affected local jurisdictions, state and federal agencies, tribes, community organizations, other interest groups, interested individuals, and the public for a 45-day comment period. The comment period will include a public hearing. Information about the schedule for the public hearing is available on the Authority's website at www.hsr.ca.gov. The document also is available at the Authority offices and on the Authority's website. After considering public and agency comments, the Authority will prepare a Burbank to Los Angeles Project Section Final EIR/EIS that will include responses to comments.

S.10.2.2 California High-Speed Rail Authority Decision-Making

The Authority will prepare the Burbank to Los Angeles Project Section Final EIR/EIS, which will include responses to comments on this Draft EIR/EIS. After publication of the Final EIR/EIS, the Authority will consider whether to certify the Final EIR/EIS for compliance with CEQA and approve the project and to issue a Record of Decision pursuant to the NEPA Assignment Memorandum of Understanding.

Once the Authority certifies the Final EIR/EIS, it can approve the project and make related CEQA decisions (findings, mitigation plan, and potential statement of overriding considerations). The required CEQA findings prepared for each significant impact will be one of the following:

- Changes or alternatives have been required or incorporated into the project that avoid or substantially lessen the significant environmental impact as identified in the Final EIR/EIS.
- Changes or alternatives are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.
- Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or HSR Build Alternative identified in the Final EIR/EIS.

If the Authority proceeds with approval of the project, the Authority will file a Notice of Determination that describes the project and whether the project will have a significant impact on the environment. If the Authority approves a project that will result in the significant impacts identified in the Final EIR/EIS but that will not be avoided or substantially lessened, CEQA requires the preparation of a Statement of Overriding Considerations. This provides specific reasons to support the project, including economic, legal, social, technological, or other benefits of the proposed project that outweigh adverse environmental impacts. If such a statement is prepared, the Authority's Notice of Determination will reference the statement.

For purposes of this Burbank to Los Angeles Project Section EIR/EIS, project approval would include selection of an alignment alternative and selection of station locations.

S.10.2.3 Federal Railroad Administration Decision-Making

Pursuant to the NEPA Assignment Memorandum of Understanding, the FRA retains responsibility for certain critical activities including making project-level Clean Air Act conformity determinations and conducting formal government-to-government tribal consultations.

S.10.2.4 U.S. Army Corps of Engineers Decision-Making

The Burbank to Los Angeles Project Section qualifies for the U.S. Army Corps of Engineers Nationwide Permit Program, specifically, Nationwide Permit 14, Linear Transportation Projects. The Nationwide Permit Program is a streamlined permitting program for categories of activities expected to result in minimal adverse effects to aquatic resources within the U.S. Army Corps of Engineers' jurisdiction. As the Authority has committed to meet the stringent requirements of this

program, including impact thresholds and mandatory mitigation measures, compliance with the Clean Water Act 404(b)(b)(1) Guidelines is achieved on a programmatic basis rather than on the project level.

Because the HSR Build Alternative qualifies for Section 404 Nationwide Permits, an individual Section 404 permit is not required for this project. As a result, the U.S. Army Corps of Engineers does not need to use this EIR/EIS to support a Section 404 permit decision. However, the U.S. Army Corps of Engineers may still use the Final EIR/EIS as the NEPA document to support its Section 408 permit decisions (as applicable) for alteration/modification of completed federal flood risk management facilities and any associated operation and maintenance, and real estate permissions or instruments (as applicable).

S.10.2.5 Surface Transportation Board Decision-Making

On completion of the environmental process and issuance of a Record of Decision by the Authority, and in response to an Authority filing related to constructing the project, STB will issue a final decision on whether to approve the HSR Build Alternative. The final decision also will serve as the STB's Record of Decision under NEPA. Any required STB approvals for construction and/or operation of the Section would be sought at some point after the Authority (under NEPA Assignment) approves a ROD.

S.11 Project Implementation

After the issuance of the Record of Decision and Notice of Determination, the Authority would complete final design, obtain construction permits, and acquire property prior to construction.

Tables

On the following pages, Table S-4 lists the IAMFs that would be implemented as part of project design and construction. Refer to Appendix 2-B in the Draft EIR/EIS for full descriptions of the IAMFs listed in Table S-4. Table S-5 summarizes the impacts that would be significant under CEQA and applicable mitigation measures for the HSR Build Alternative. The following environmental resources would not have significant impacts under CEQA and therefore are not included in Table S-5.

- Transportation (operation)
- Air Quality and Global Climate Change (operation)
- Public Utilities and Energy (construction)
- Hydrology and Water Resources (operation)
- Geology, Soils, Seismicity, and Paleontological Resources (construction and operation)
- Hazardous Materials and Wastes (operation)
- Safety and Security (construction)
- Station Planning, Land Use, and Development (construction)
- Agricultural Farmland and Forest Land (construction and operation)
- Cultural Resources (operation)
- Regional Growth (construction and operation)

Table S-4 Impact Avoidance and Minimization Features

IAMF Number	IAMF Title
Transportation	
TR-IAMF#1	Protection of Public Roadways During Construction
TR-IAMF#2	Construction Transportation Plan
TR-IAMF#3	Off-Street Parking for Construction-Related Vehicles
TR-IAMF#4	Maintenance of Pedestrian Access
TR-IAMF#5	Maintenance of Bicycle Access
TR-IAMF#6	Restriction on Construction Hours
TR-IAMF#7	Construction Truck Routes
TR-IAMF#8	Construction During Special Events
TR-IAMF#9	Protection of Freight and Passenger Rail During Construction
TR-IAMF#11	Maintenance of Transit Access
TR-IAMF#12	Pedestrian and Bicycle Safety
SS-IAMF#1	Construction Safety Transportation Management Plan
SS-IAMF#5	Aviation Safety
PK-IAMF#1	Parks, Recreation, and Open Space
Air Quality and Global Climate Change	
AQ-IAMF#1	Fugitive Dust Emissions
AQ-IAMF#2	Selection of Coatings
AQ-IAMF#3	Renewable Diesel
AQ-IAMF#4	Reduce Criteria Exhaust Emissions from Construction Equipment
AQ-IAMF#5	Reduce Criteria Exhaust Emissions from On-Road Construction Equipment
AQ-IAMF#6	Reduce the Potential Impact of Concrete Batch Plants
Noise and Vibration	
NV-IAMF#1	Noise and Vibration

IAMF Number	IAMF Title
Electromagnetic Interference and Electromagnetic Fields	
EMI/EMF-IAMF#1	Preventing Interference with Adjacent Railroads
EMI/EMF-IAMF#2	Controlling Electromagnetic Interference/Electromagnetic Fields
Public Utilities and Energy	
PUE-IAMF#1	Design Measures
PUE-IAMF#3	Public Notifications
PUE-IAMF#4	Utilities and Energy
HYD-IAMF#1	Storm Water Management
HYD-IAMF#2	Flood Protection
HYD-IAMF#3	Prepare and Implement a Construction Stormwater Pollution Prevention Plan (SWPPP)
SS-IAMF#4	Oil and Gas Wells
Biological and Aquatic Resources	
BIO-IAMF#1	Designate Project Biologist, Designated Biologists, Species-Specific Biological Monitors and General Biological Monitors
BIO-IAMF#2	Facilitate Agency Access
BIO-IAMF#3	Prepare WEAP Training Materials and Conduct Construction Period WEAP Training
BIO-IAMF#4	Conduct Operation and Maintenance Period WEAP Training
BIO-IAMF#5	Prepare and Implement a Biological Resources Management Plan
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-IAMF#12	Design the Project to Be Bird Safe
AQ-IAMF#1	Fugitive Dust Emissions
HMW-IAMF#6	Spill Prevention

IAMF Number	IAMF Title
HYD-IAMF#1	Stormwater Management
HYD-IAMF#3	Prepare and Implement a Construction Stormwater Pollution Prevention Plan
Hydrology and Water Resources	
BIO-IAMF#9	Dispose of Construction Spoils and Waste
BIO-IAMF#11	Maintain Construction Sites
GEO-IAMF#1	Geologic Hazards
HMW-IAMF#1	Property Acquisition Phase 1 and Phase 2 Environmental Site Assessments
HMW-IAMF#6	Spill Prevention
HMW-IAMF#7	Transport of Materials
HMW-IAMF#8	Permit Conditions
HMW-IAMF#9	Environmental Management Systems
HMW-IAMF#10	Hazardous Materials Plans
HYD-IAMF#1	Stormwater Management
HYD-IAMF#2	Flood Protection
HYD-IAMF#3	Prepare and Implement a Construction Stormwater Pollution Prevention Plan
SS-IAMF#2	Safety and Security Management Plan
SS-IAMF#3	Hazards Analyses
Geology, Soils, Seismicity, and Paleontological Resources	
GEO-IAMF#1	Geologic Hazards
GEO-IAMF#2	Slope Monitoring
GEO-IAMF#3	Gas Monitoring
GEO-IAMF#4	Historic or Abandoned Mines
GEO-IAMF#5	Hazardous Minerals
GEO-IAMF#6	Ground Rupture Early Warning Systems
GEO-IAMF#7	Evaluate and Design for Large Seismic Ground Shaking
GEO-IAMF#8	Suspension of Operations During an Earthquake
GEO-IAMF#9	Subsidence Monitoring
GEO-IAMF#10	Geology and Soils

IAMF Number	IAMF Title
GEO-IAMF#11	Engage a Qualified Paleontological Resources Specialist
GEO-IAMF#12	Perform Final Design Review and Triggers Evaluation
GEO-IAMF#13	Prepare and Implement Paleontological Resources Monitoring and Mitigation Plan (PRMMP)
GEO-IAMF#14	Provide WEAP Training for Paleontological Resources
GEO-IAMF#15	Halt Construction, Evaluate, and Treat if Paleontological Resources Are Found
HYD-IAMF#3	Prepare and Implement a Construction Stormwater Pollution Prevention Plan
SS-IAMF#4	Oil and Gas Wells
Hazardous Materials and Wastes	
HMW-IAMF#1	Property Acquisition Phase 1 and Phase 2 Environmental Site Assessments
HMW-IAMF#2	Landfill
HMW-IAMF#3	Work Barriers
HMW-IAMF#4	Undocumented Contamination
HMW-IAMF#5	Demolition Plans
HMW-IAMF#6	Spill Prevention
HMW-IAMF#7	Transport of Materials
HMW-IAMF#8	Permit Conditions
HMW-IAMF#9	Environmental Management System
HMW-IAMF#10	Hazardous Materials Plans
SS-IAMF#4	Oil and Gas Wells
GEO-IAMF#3	Gas Monitoring
HYD-IAMF#3	Prepare and Implement an Industrial Stormwater Pollution Prevention Plan
Safety and Security	
SS-IAMF#1	Construction Safety Transportation Management Plan
SS-IAMF#2	Safety and Security Management Plan
SS-IAMF#3	Hazards Analyses
SS-IAMF#4	Oil and Gas Wells
SS-IAMF#5	Aviation Safety
AQ-IAMF#1	Fugitive Dust Emissions

IAMF Number	IAMF Title
AQ-IAMF#2	Selection of Coatings
EMI/EMF-IAMF#1	Preventing Interference with Adjacent Railroads
EMI/EMF-IAMF#2	Controlling Electromagnetic Interference/Electromagnetic Fields
HMW-IAMF#2	Landfill
GEO-IAMF#10	Geology and Soils
TR-IAMF#2	Construction Transportation Plan
TR-IAMF#4	Maintenance of Pedestrian Access
TR-IAMF#5	Maintenance of Bicycle Access
HYD-IAMF#2	Flood Protection
Socioeconomics and Communities	
SOCIO-IAMF#1	Construction Management Plan
SOCIO-IAMF#2	Compliance with Uniform Relocation Assistance and Real Property Acquisition Policies Act
SOCIO-IAMF#3	Relocation Mitigation Plan
AQ-IAMF#1	Fugitive Dust Emissions
AQ-IAMF#2	Selection of Coatings
AVQ-IAMF#1	Aesthetic Options
AVQ-IAMF#2	Aesthetic Review Process
HMW-IAMF#7	Transport of Materials
LU-IAMF#3	Restoration of Land Used Temporarily During Construction
NV-IAMF#1	Noise and Vibration
SS-IAMF#1	Construction Safety Transportation Management Plan
SS-IAMF#2	Safety and Security Management Plan
TR-IAMF#2	Construction Transportation Plan
TR-IAMF#3	Off-Street Parking for Construction-Related Vehicles
TR-IAMF#4	Maintenance of Pedestrian Access
TR-IAMF#5	Maintenance of Bicycle Access
TR-IAMF#6	Restriction on Construction Hours
TR-IAMF#7	Construction Truck Routes

IAMF Number	IAMF Title
TR-IAMF#8	Construction During Special Events
TR-IAMF#11	Maintenance of Transit Access
TR-IAMF#12	Pedestrian and Bicycle Safety
Station Planning, Land Use, and Development	
LU-IAMF#1	HSR Station Area Development: General Principles and Guidelines
LU-IAMF#2	Station Area Planning and Local Agency Coordination
LU-IAMF#3	Restoration of Land Used Temporarily During Construction
AQ-IAMF#1	Fugitive Dust Emissions
AQ-IAMF#2	Selection of Coatings
EMI/EMF-IAMF#2	Controlling Electromagnetic Interference/Electromagnetic Fields
NV-IAMF#1	Noise and Vibration
SOCIO-IAMF#2	Compliance with Uniform Relocation Assistance and Real Property Acquisition Policies Act
TR-IAMF#2	Construction Transportation Plan
TR-IAMF#3	Off-Street Parking for Construction-Related Vehicles
TR-IAMF#11	Maintenance of Transit Access
Parks, Recreation, and Open Space	
PK-IAMF#1	Parks, Recreation, and Open Space
AQ-IAMF#1	Fugitive Dust Emissions
AQ-IAMF#2	Selection of Coatings
AQ-IAMF#3	Renewable Diesel
AQ-IAMF#4	Reduce Criteria Exhaust Emissions from Construction Equipment
AQ-IAMF#5	Reduce Criteria Exhaust Emissions from On-Road Construction Equipment
AVQ-IAMF#1	Aesthetic Options
AVQ-IAMF#2	Aesthetic Review Process
NV-IAMF#1	Noise and Vibration
TR-IAMF#2	Construction Transportation Plan
TR-IAMF#4	Maintenance of Pedestrian Access
TR-IAMF#5	Maintenance of Bicycle Access

IAMF Number	IAMF Title
TR-IAMF#7	Construction Truck Routes
TR-IAMF#12	Pedestrian and Bicycle Safety
Aesthetics and Visual Quality	
AVQ-IAMF#1	Aesthetic Options
AVQ-IAMF#2	Aesthetic Review Process
AQ-IAMF#1	Fugitive Dust Emissions
CUL-IAMF#6	Pre-Construction Conditions Assessment, Plan for Protection of Historic Architectural Resources, and Repair of Inadvertent Damage
Cultural Resources	
CUL-IAMF#1	Geospatial Data Layer and Archaeological Sensitivity Map
CUL-IAMF#2	WEAP Training Session
CUL-IAMF#3	Preconstruction Cultural Resource Surveys
CUL-IAMF#4	Relocation of Project Features when Possible
CUL-IAMF#5	Archaeological Monitoring Plan and Implementation
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 and/or Stabilization Measures

HSR = high-speed rail
IAMF = impact avoidance and minimization features
WEAP = Worker Environmental Awareness Program

Table S-5 CEQA Summary of Resources with Significant Impacts and Applicable Mitigation Measures for the HSR Build Alternative

Resource Category	Summary of Significant (CEQA) Impacts before Mitigation	Summary of Mitigation Measures	CEQA Level of Significance after Mitigation
Transportation			
Construction	▪ Design Feature Hazards, Incompatible Uses, or Conflict with Transit, Pedestrian, and Bicycle Plans During Construction	▪ PR-MM#4 – Replacement of Property Acquired from Existing or Planned Bicycle Routes under the California Park Preservation Act or from Existing or Planned Bicycle Routes	Significant and Unavoidable
Air Quality and Global Climate Change			
Construction	▪ Regional Air Quality Impacts during Construction (CO and NO_X)	▪ AQ-MM#1: Offset Project Construction Emissions through a SCAQMD Emissions Offsets Program	Significant and Unavoidable (CO and NO_X)
	▪ Compliance with Air Quality Plans (CO and NO_X)	▪ AQ-MM#1: Offset Project Construction Emissions through a SCAQMD Emission Offsets Program	Significant and Unavoidable (CO and NO_X)
	▪ Localized Air Quality Impacts during Alignment Construction (NO_2 concentrations)	▪ AQ-MM#1: Offset Project Construction Emissions through an SCAQMD Emission Offsets Program	Significant and Unavoidable (NO_2 concentrations)
	▪ Localized Air Quality Impacts on School Children and Other Sensitive Receptors during Station Construction (NO_2 concentrations)	▪ AQ-MM#1: Offset Project Construction Emissions through an SCAQMD Emission Offsets Program	Significant and Unavoidable (NO_2 concentrations)
Cumulative – Construction[1]	▪ Exceedances of Thresholds for Air Quality at Sensitive Receptors	▪ AQ-MM#1: Offset Project Construction Emissions through an SCAQMD Emission Offsets Program	Significant and Unavoidable
Noise and Vibration			
Construction	▪ Temporary Exposure of Sensitive Receivers to Construction Noise	▪ N&V-MM #1: Construction Noise Mitigation Measures	Less than Significant
	▪ Temporary Exposure of Sensitive Receivers to Vibration from Construction	▪ N&V-MM #2: Construction Vibration Mitigation Measures	Less than Significant

Resource Category	Summary of Significant (CEQA) Impacts before Mitigation	Summary of Mitigation Measures	CEQA Level of Significance after Mitigation
Operations	▪ Project Noise Impacts	▪ N&V-MM #3: Implement Proposed California High-Speed Rail Project Noise Mitigation Guidelines ▪ N&V-MM #4: Vehicle Noise Specification ▪ N&V-MM #5: Special Trackwork ▪ N&V-MM #6: Additional Noise and Vibration Analysis Following Final Design	Significant and Unavoidable at Some Locations Residual Severe Impacts: ▪ 68 Residences ▪ 2 Theaters
	▪ Vibration Impacts from Project Operation	▪ N&V-MM #4: Vehicle Noise Specification ▪ N&V-MM #5: Special Trackwork ▪ N&V-MM #6: Additional Noise and Vibration Analysis Following Final Design	Less than Significant
Cumulative – Construction[1]	▪ Noise Impact for Sensitive Receivers	▪ CUM-N&V-MM#1: Consult with Agencies Regarding Construction Noise and Vibration Impacts	Significant and Unavoidable
Electromagnetic Fields/Electromagnetic Interference			
Construction	▪ Temporary Impacts from Use of Heavy Construction Equipment	▪ EMI/EMF-MM #1: Protect Sensitive Equipment	Less than Significant
	▪ Temporary Impacts from Operation of Electrical Equipment		
Operations	▪ Interference with Sensitive Equipment	▪ EMI/EMF-MM #1: Protect Sensitive Equipment	Less than Significant
Public Utilities and Energy			
Construction	▪ Effects from Water Demand during Construction	▪ PU&E-MM #1: Water Supply Analysis for Construction	Less than Significant
Operations	▪ Operational Water Demand	▪ PUE-MM #2: Water Demand Analysis for LADWP Supplies at LAUS for Operation	Significant and Unavoidable

Resource Category	Summary of Significant (CEQA) Impacts before Mitigation	Summary of Mitigation Measures	CEQA Level of Significance after Mitigation
Biological and Aquatic Resources			
Construction	▪ Construction Effects on Special-Status Plant Species	▪ BIO-MM #1: Conduct Presence/Absence Pre-Construction Surveys for Special-Status Plant Species and Special-Status Natural Communities ▪ BIO-MM#2: Prepare and Implement Plan for Salvage and Relocation of Special-Status Plant Species ▪ BIO-MM#55: Prepare and Implement a Weed Control Plan	Less than Significant
	▪ Construction Effects on Special-Status Wildlife Species	▪ BIO-MM#56: Conduct Monitoring of Construction Activities ▪ BIO-MM#61: Establish and Implement a Compliance Reporting Program ▪ BIO-MM#63: Work Stoppage ▪ BIO-MM#14: Conduct Pre-Construction Surveys and Delineate Active Nest Buffers Exclusion Areas for Breeding Birds ▪ BIO-MM#15: Conduct Pre-Construction Surveys and Monitoring for Raptors ▪ BIO-MM#25: Conduct Pre-Construction Surveys for Special-Status Bat Species ▪ BIO-MM#26: Implement Bat Avoidance and Relocation Measures ▪ BIO-MM#27: Implement Bat Exclusion and Deterrence Measures	Less than Significant
	▪ Construction Effects on Special-Status Natural Communities	▪ BIO-MM#55: Prepare and Implement a Weed Control Plan	Less than Significant
	▪ Construction Effects on Wetlands and Other Aquatic Resources	▪ BIO-MM#34: Monitor Construction Activities within Aquatic Resources ▪ BIO-MM#61: Establish and Implement a Compliance Reporting Program ▪ BIO-MM#62: Prepare Plan for Dewatering and Water Diversions	Less than Significant
	▪ Construction Effects on Wildlife Movement	▪ BIO-MM#37: Minimize Effects to Wildlife Movement Corridors during Construction	Less than Significant
	▪ Construction Effects on Protected Trees	▪ BIO-MM#35: Implement Transplantation and Compensatory Mitigation Measures for Protected Trees	Less than Significant

Resource Category	Summary of Significant (CEQA) Impacts before Mitigation	Summary of Mitigation Measures	CEQA Level of Significance after Mitigation
Operations	▪ Operation Effects on Special-Status Plant Species	▪ BIO-MM#55: Prepare and Implement a Weed Control Plan	Less than Significant
	▪ Operation Effects on Special-Status Wildlife (nesting birds and roosting bats)	▪ BIO-MM#14: Conduct Pre-Construction Surveys and Delineate Active Nest Buffers Exclusion Areas for Breeding Birds ▪ BIO-MM#15: Conduct Pre-Construction Surveys and Monitoring for Raptors ▪ BIO-MM#25: Conduct Pre-Construction Surveys for Special-Status Bat Species ▪ BIO-MM#26: Implement Bat Avoidance and Relocation Measures ▪ BIO-MM#27: Implement Bat Exclusion and Deterrence Measures	Less than Significant
	▪ Operation Effects on Special-Status Natural Communities	▪ BIO-MM#55: Prepare and Implement a Weed Control Plan	Less than Significant
	▪ Operation Effects on Wetlands and Other Aquatic Resources	▪ BIO-MM#34: Monitor Construction Activities within Aquatic Resources ▪ BIO-MM#62: Prepare Plan for Dewatering and Water Diversions	Less than Significant
Hydrology and Water Resources			
Construction	▪ Temporary Impacts on Surface Water Quality during Construction	▪ BIO-MM #10: Prepare Plan for Dewatering and Water Diversions	Less than Significant
	▪ Temporary Impacts on Groundwater Volume, Quality, and Recharge during Construction	▪ HWR-MM #1: Tunnel Constructability and Hydrogeological Monitoring	Less than Significant
Hazardous Materials and Wastes			
Construction	▪ Emit Hazardous Emissions or Handle of Hazardous or Acutely Hazardous Materials, Substances, or Waste within 0.25 mile of a School during Construction	▪ HMW-MM#1: Limit Use of Extremely Hazardous Materials near Schools During Construction	Less than Significant

Resource Category	Summary of Significant (CEQA) Impacts before Mitigation	Summary of Mitigation Measures	CEQA Level of Significance after Mitigation
Safety and Security			
Operations	▪ Need for Expansion of Existing Fire, Rescue, and Emergency Services Facilities	▪ TRAN-MM#1: In-Lieu Traffic and Parking Improvements ▪ TRAN-MM#2: Intersection Improvements for Construction Impacts ▪ S&S-MM #1: Monitor Response of Local Fire, Rescue, and Emergency Service Providers to Incidents at Stations and Provide a Fair Share Cost of Service	Less than Significant
Socioeconomics and Communities			
Construction	▪ Temporary Disruption to Community Cohesion or Division of Existing Communities from Project Construction	▪ N&V-MM#1: Construction Noise Mitigation Measures ▪ AVQ-MM#1: Minimize Visual Disruption from Construction Activities	Less than Significant
Operations	▪ Permanent Disruption to Community Cohesion or Division of Existing Communities from Operation	▪ AVQ-MM#3: Incorporate Design Aesthetic Preferences into Final Design and Construction of Non-Station Structures ▪ AVQ-MM#4: Provide Vegetation Screening along At-Grade and Elevated Guideway Adjacent to Residential Areas	Less than Significant
Cumulative – Construction[1]	▪ Impacts on communities from traffic disruption	▪ CUM-S&C-MM#11: Cumulative Construction Impacts on Communities ▪ CUM-TRAN-MM#1: Consult with Agencies Regarding Construction Traffic Impacts	Significant and Unavoidable
Station Planning, Land Use, and Development			
Operations	▪ Potential for Operations to Conflict with Land Use Patterns	▪ N&V-MM#3: Implement Proposed California High-Speed Rail Project Noise Mitigation Guidelines ▪ N&V-MM#4: Vehicle Noise Specification	Less than Significant

Resource Category	Summary of Significant (CEQA) Impacts before Mitigation	Summary of Mitigation Measures	CEQA Level of Significance after Mitigation
Parks, Recreation and Open Space			
Construction	▪ Temporary Impact Areas, Temporary Access Restrictions, Temporary Facility Closures, or Temporary Detours during Construction	▪ PR-MM#1: Temporary Restricted Access to Park Facilities during Construction ▪ PR-MM#3: Temporary Closures and Detours of Existing Trails and Bicycle Lanes ▪ PR-MM#5: Temporary Use of Land from Park, Recreation, or School Play Areas during Construction	Less than Significant
	▪ Acquisition of Property from Parks, Recreation, and School Play Area Resources from Construction	▪ PR-MM#4: Permanent Easement or Acquisition of Property from Publicly Owned Parks under the California Park Preservation Act or from Existing or Planned Bicycle Routes	▪ Significant and Unavoidable at the Planned San Fernando Railroad Bike Path ▪ Less than Significant at other locations
	▪ Changes to Planned Parks and Recreational Resources from Construction	▪ PR-MM#4: Permanent Acquisition of Property from Publicly Owned Parks under the California Park Preservation Act or from Existing or Planned Bicycle Routes	▪ Significant and Unavoidable at the Planned San Fernando Railroad Bike Path ▪ Less than Significant at other locations
Operations	▪ Changes to Park or Recreation Facility Use or Character from Operation	▪ PR-MM#2: Providing Park Access ▪ PR-MM#4: Permanent Easement or Acquisition of Property from Publicly Owned Parks under the California Park Preservation Act or from Existing or Planned Bicycle Routes ▪ AVQ-MM#3: Incorporate Design Aesthetic Preferences into Final Design and Construction of Non-Station Structures	▪ Significant and Unavoidable at the Planned San Fernando Railroad Bike Path and Pelanconi Park ▪ Less than Significant at other locations
Aesthetics and Visual Quality			
Construction	▪ Visual Disturbance during Construction	▪ AVQ-MM#1: Minimize Visual Disruption from Construction Activities ▪ AVQ-MM#3: Incorporate Design Aesthetic Preferences into Final Design and Construction of Non-Station Structures ▪ CUL-MM#12: Design of Intrusion Protection Railing for Historic Bridges	Significant and Unavoidable
	▪ Nighttime Lighting during Construction	▪ AVQ-MM#1: Minimize Visual Disruption from Construction Activities ▪ AVQ-MM#2: Minimize Light Disturbance during Construction	Less than Significant

Resource Category	Summary of Significant (CEQA) Impacts before Mitigation	Summary of Mitigation Measures	CEQA Level of Significance after Mitigation
Operations	▪ Visual Quality in the Burbank to Los Angeles Project Section	▪ AVQ-MM#3: Incorporate Design Aesthetic Preferences into Final Design and Construction of Non-Station Structures ▪ AVQ-MM#4: Provide Vegetation Screening along At-Grade and Elevated Guideway Adjacent to Residential Areas ▪ AVQ-MM#6: Screen Traction Power Distribution Stations and Radio Communication Towers	Significant and Unavoidable
Cultural Resources			
Construction	▪ Construction Effects on Known Archaeological Resources	▪ CUL-MM#1: Mitigate Adverse Effects to Archaeological and Built Environment Resources Identified During Phased Identification. Comply with the Stipulations Regarding the Treatment of Archaeological and Historic Built Resources in the Programmatic Agreement (PA) and Memorandum of Agreement (MOA)	Less than Significant
	▪ Construction Effects on Unknown Archaeological Resources	▪ CUL-MM#1: Mitigate Adverse Effects to Archaeological and Built Environment Resources Identified During Phased Identification. 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. ▪ CUL-MM#3: Other Mitigation for Effects to Archaeological Sites	Less than Significant
	▪ Construction Effects on Historic Built Resources	▪ CUL-MM#7: Prepare Interpretive or Educational Materials ▪ CUL-MM#12: Design of Intrusion Protection Railing for Historic Bridges ▪ CUL-MM#13: Main Street Bridge Access Feasibility Study	Significant and Unavoidable

[1] Significant impact determinations for the cumulative analysis are "cumulatively significant" impacts before mitigation and "cumulatively considerable" after mitigation.
CEQA = California Environmental Quality Act
SCAQMD = South Coast Air Quality Management District

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