

California High-Speed Rail Authority

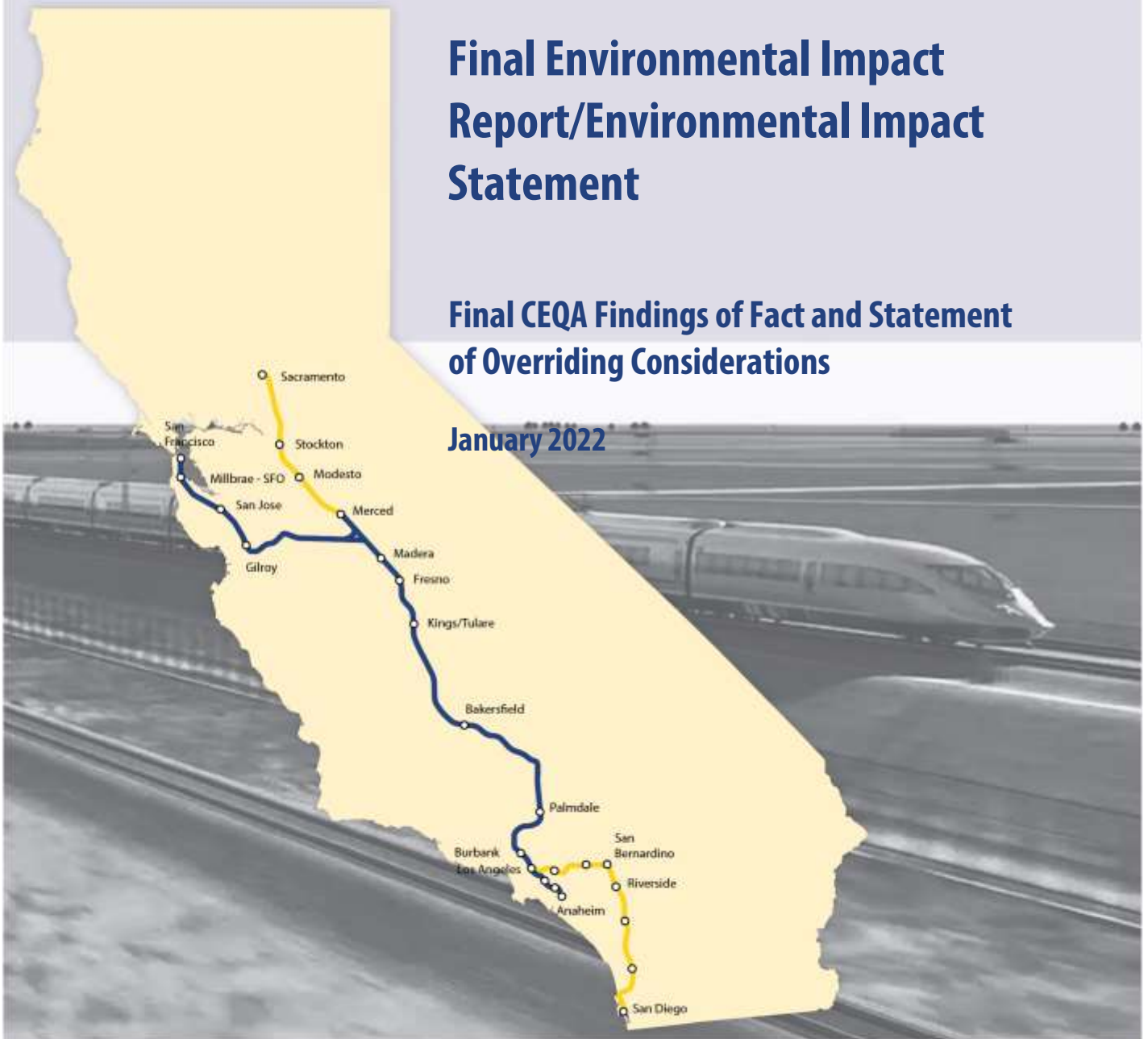
Burbank to Los Angeles

Project Section

Final Environmental Impact Report/Environmental Impact Statement

Final CEQA Findings of Fact and Statement of Overriding Considerations

January 2022



The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being or have been carried out by the State of California pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated July 23, 2019, and executed by the Federal Railroad Administration and the State of California.

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Attachment

A: Mitigation Measures

ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
APE	Area of Potential Effect
ATP	Archaeological Treatment Plan
Authority	California High-Speed Rail Authority
Basin	South Coast Air Basin
BETP	Built Environmental Treatment Plan
BMP	best management practices
Cal. Public Res. Code	California Public Resources Code
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CMF	Central Maintenance Facility
CMP	Compensatory Mitigation Plan
CO	carbon monoxide
CRHR	California Register of Historical Resources
CWA	Clean Water Act
dBA	A-weighted decibel
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EMF	electromagnetic field
EMI	electromagnetic interference
ESA	environmentally sensitive area
FESA	Federal Endangered Species Act
Final EIR/EIS	Burbank to Los Angeles Project Section Final EIR/EIS
Findings and SOC	Findings of Fact and Statement of Overriding Considerations
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
GHG	greenhouse gas
HSR Build Alternative	Burbank to Los Angeles Project Section Build Alternative
I	Interstate
IAMF	Impact Avoidance and Minimization Feature
ISEP	Implementation Stage EMC Program Plan
L_{eq}	equivalent continuous sound level

LADWP	Los Angeles Department of Water and Power
LAUS	Los Angeles Union Station
Metro	Los Angeles County Metropolitan Transportation Authority
mG	milligauss
MOA	memorandum of agreement
NEPA	National Environmental Policy Act
NO ₂	nitrogen dioxide
NO _x	nitrogen oxides
NRHP	National Register of Historic Places
NZE	near-zero emission
PA	Programmatic Agreement
PAA	preliminary alternatives analysis
PEPD	Preliminary Engineering for Project Definition
PM ₁₀	particulate matter 10 microns or less in size
PM _{2.5}	particulate matter 2.5 microns or less in size
RFP	Request for Proposals
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
RSA	resource study area
SAA	Supplemental Alternatives Analysis
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SHPO	State Historic Preservation Office
SR	State Route
SWPPP	Storm Water Pollution Prevention Plan
UPRR	Union Pacific Railroad
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
VMT	vehicle miles traveled
ZE	zero emission

1 INTRODUCTION

These California Environmental Quality Act (CEQA) Findings of Fact and Statement of Overriding Considerations (Findings and SOC) are intended to fulfill the responsibilities of the California High-Speed Rail Authority (Authority) under CEQA for its project approval for the Burbank to Los Angeles Project Section of the California High-Speed Rail (HSR) System. CEQA provides that no public agency shall approve a project or program, as proposed, if it will result in significant environmental effects as identified in an Environmental Impact Report (EIR), unless it adopts and incorporates feasible mitigation to avoid and reduce such effects and adopts appropriate findings.

Section 15091 of the CEQA Guidelines provides as follows:

- a) No public agency shall approve or carry out a project for which an EIR has been certified which identifies one or more significant environmental effects of the project unless the public agency makes one or more written findings for each of those significant effects, accompanied by a brief explanation of the rationale for each finding. The possible findings are:
 - 1) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the final EIR.
 - 2) Such changes or alterations 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.
 - 3) Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the final EIR.

CEQA Guidelines Section 15093 further provides:

- a) CEQA requires the decision-making agency to balance, as applicable, the economic, legal, social, technological, or other benefits, including region-wide or statewide environmental benefits, of a proposed project against its unavoidable environmental risks when determining whether to approve the project. If the specific economic, legal, social, technological, or other benefits, including region-wide or statewide environmental benefits, of a proposed project outweigh the unavoidable adverse environmental effects, the adverse environmental effects may be considered “acceptable.”

This document includes a description of the Preferred Alternative/CEQA Proposed Project for the Burbank to Los Angeles Project Section (HSR Build Alternative), findings of fact concerning significant environmental impacts and mitigation measures to address such impacts, a discussion of cumulative and growth-inducing impacts, and a statement of overriding considerations.

The custodian of the documents and other materials that constitute the record of proceedings upon which the Authority’s decision is based, including these CEQA Findings and SOC, is the California High-Speed Rail Authority, 770 L Street, Suite 620 MS-1, Sacramento, California 95814, (916) 324-1541.

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2 PROJECT DESCRIPTION

2.1 Background – Description of Statewide High-Speed Rail System

The Authority, a state governing board formed in 1996, is responsible for planning, designing, constructing, and operating the California HSR System. Its statutory mandate is to develop an HSR system that coordinates with the state's existing transportation network, which includes intercity rail and bus lines, regional commuter rail lines, urban rail and bus transit lines, highways, and airports. The California HSR System will 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 southern Central Valley, Los Angeles, the Inland Empire, Orange County, and San Diego. The Authority and the Federal Railroad Administration (FRA) prepared two first-tier EIR/Environmental Impact Statement (EIS) documents to select preferred alignments and station locations to advance for more detailed study in second-tier EIRs/EISs. Figure 1 shows the general corridors and the station locations of the statewide HSR system selected by the Authority and FRA following the first-tier EIRs/EISs. The California HSR System will use state-of-the-art, electrically powered, high-speed, steel-wheel-on-steel-rail technology, including contemporary safety, signaling, and automated train control systems, with trains capable of operating up to 220 miles per hour over a fully grade-separated, dedicated track alignment.¹ Following completion of the first-tier, programmatic environmental review and decisions, the Authority and FRA divided the statewide HSR system into individual project sections for second-tier environmental review (Authority 2009). One of these sections is the Burbank to Los Angeles Project Section.

2.2 Description of the Preferred Alternative

2.2.1 HSR Build Alternative

Based on second-tier project planning, the Burbank to Los Angeles Project Section (Figure 2, Figure 3, and Figure 4) is proposed as a blended system, with new and upgraded track, grade separations, drainage improvements, communications towers, security fencing, passenger train stations, and other facilities necessary to bring HSR service into the existing Los Angeles-San Diego-San Luis Obispo corridor. The Preferred Alternative begins below grade as it connects from the Palmdale to Burbank Project Section at the southern edge of San Fernando Boulevard (at Lockheed Drive) at the underground Burbank Airport Station site and consists of two new electrified tracks in a tunnel that would reach the underground portion of the Burbank Airport Station, which includes the train boarding platforms. The Burbank Airport Station would have both underground and above-ground facilities with the above-ground facilities including a station building, pick-up/drop-off facilities, and transit center, and surface parking areas. The primary methods for tunnel construction in the Burbank to Los Angeles Project Section are sequential excavation method and cut-and-cover. The tunnel alignment under the runway and taxiways of the Hollywood Burbank Airport would use sequential excavation method construction to avoid disruptions to airfield operations. After exiting the underground portion of the station, the alignment would travel southeast beneath Hollywood Burbank Airport in a tunnel. The alignment would run under airport property, including under Runway 8-26, Taxiway D, the proposed extended Taxiway C, and critical airport safety zones. The alignment from south of airport Runway 8-26 to where it would join the Metrolink Ventura Subdivision would be built as cut-and-cover, including portions running under surface parking lots on airport property. The alignment would then transition to a trench within the Metrolink Ventura Subdivision. The existing Metrolink Ventura Subdivision tracks would be realigned north within the existing right-of-way, and an existing Union Pacific Railroad (UPRR) siding track between Buena Vista Street and Beachwood Drive would be realigned north of the relocated Metrolink Subdivision tracks within the existing right-of-way.

¹ Second-tier planning and environmental review for the HSR system has resulted in some sections being blended with conventional passenger rail, rather than having dedicated track.



Figure 1 California HSR System



Figure 2 Burbank to Los Angeles Project Section Preferred Alternative



Figure 3 Burbank Airport Station



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

Note: This figure depicts the Burbank to Los Angeles track alignment, which ends at the station platforms at Los Angeles Union Station. Figure 2 depicts the full limits of the HSR Build Alternative termini.

Figure 4 Preliminary Station Elements Plan—Los Angeles Union Station

These non-electrified tracks would remain at-grade. The trench, which would be located south of and parallel to the relocated non-electrified tracks, would be dedicated for HSR tracks only. During construction of the below-grade alignment, shoofly tracks² would be provided to support Metrolink and UPRR operations. The proposed shoofly tracks would be aligned between Hollywood Way and Buena Vista Street outside the existing right-of-way and would result in temporary roadway impacts to Vanowen Street.

The HSR tracks would transition from the trench and emerge to at-grade within the existing railroad right-of-way near Beachwood Drive in the city of Burbank. Near Beachwood Drive, the HSR tracks would curve south out of the existing railroad right-of-way and cross Victory Place on a new railroad bridge, which would be located directly south of the existing Victory Place bridge.

South of Burbank Boulevard, the HSR tracks would re-enter the railroad right-of-way and run parallel to the Metrolink Antelope Valley Subdivision tracks. Between Burbank Boulevard and Magnolia Boulevard, two UPRR industry tracks west of the right-of-way would be removed to accommodate HSR tracks; with the addition of HSR tracks, the existing UPRR industry tracks would become inaccessible. One of the industry tracks is not active; however, the other track serves a single business entity. The business currently served by the UPRR tracks could feasibly be served by trucks.

Continuing south, the HSR alignment would pass the Downtown Burbank Metrolink Station, which would be modified. HSR tracks would be placed within the existing parking lot west of the southbound platforms, and new pedestrian connections and relocated parking would be provided.

Between Olive Avenue to the north end of the Metrolink Central Maintenance Facility (CMF), the existing non-electrified tracks would be shifted east within the right-of-way to accommodate the addition of the electrified tracks within the right-of-way. Throughout this area, both sets of tracks would be at-grade, with a retained-fill segment between Western Avenue and State Route (SR) 134.

Continuing south, the alignment would cross Verdugo Wash, where an existing railroad bridge would be rebuilt as a new clear-span structure to accommodate the additional set of electrified tracks. The alignment would continue south within the existing railroad right-of-way, which follows the Glendale and Los Angeles city borders. Between SR 134 and Chevy Chase Drive, a UPRR siding track would be realigned to the east of the non-electrified tracks, for a total of five tracks within the right-of-way in this area. This siding track is currently at the Metrolink CMF, but it would need to be relocated to accommodate HSR operations at the CMF.

The alignment would pass by the Glendale Metrolink Station. No modifications would be necessary for the Glendale Metrolink Station. At Tyburn Street, the alignment would enter the city of Los Angeles. Continuing south, the two sets of tracks would diverge at the north end of the Metrolink CMF. The electrified tracks would travel along the west side of the CMF, and the non-electrified, mainline tracks would travel along the east side of the facility.

The CMF is Southern California Regional Rail Authority's major daily servicing location and maintenance facility in the region. It is used for Metrolink maintenance only and would not service HSR trains. The Burbank to Los Angeles Project Section proposes reconfiguring the various yard and maintenance facilities within the CMF to accommodate the HSR system while maintaining the existing yard operations. Additionally, several facilities would need to be relocated within the CMF, including a progressive maintenance and wheel truing facility, train washing/reclamation building, a yard pump house, and two service and inspection tracks. Utilities would also need to be relocated with the CMF, including domestic and fire water, underdrains and reconstructed catch basins, power facilities including emergency generator and electrical substation, fueling facilities and storage tanks, oil water separator, and sanitary sewer systems. The construction work at the CMF would be phased to minimize the disruption to the existing operations and to maintain the key operational facilities.

² A shoofly track is a temporary track used to avoid an obstacle that blocks movement on the normal track section.

At the south end of the CMF, the two electrified and two non-electrified tracks would converge briefly within the right-of-way and then diverge again south of Figueroa Street. The electrified tracks would cross over the west bank of the Los Angeles River on the existing Metrolink Downey Bridge. The existing tracks on the Downey Bridge would be electrified, which would allow for both HSR and passenger rail operations. The non-electrified tracks would remain on the east bank of the Los Angeles River and cross the Arroyo Seco on an existing railroad bridge, which would not require modifications. The non-electrified tracks would connect with the existing tracks on the east bank, which currently serve UPRR and nonrevenue trains.

South of Main Street, on the east bank of the Los Angeles River, the existing tracks would be modified at Mission Junction to be usable by freight and passenger rail. They would cross the river on the existing Mission Tower Bridge to join the electrified tracks within the railroad right-of-way. The existing Mission Tower Bridge has two tracks, but currently only one track is functional and utilized by Metrolink. The HSR Build Alternative would replace the trackwork to conform to the most current design standards and specifications, which may require a retrofit to the bridge.

The two sets of tracks would continue south to terminate at Los Angeles Union Station (LAUS). The electrified tracks and HSR station platforms would be located on the west side of the station, while the non-electrified tracks would merge with the Metrolink and Amtrak tracks. The HSR Build Alternative footprint ends at the northern edge of U.S. Route 101 (between Alameda Street and Ramirez Street).

Chapter 2 of the Final EIR/EIS further describes the Preferred Alternative and includes the following features:

- **System Design Performance, Safety, and Security:** The HSR system will be a fully grade-separated and access-controlled guideway with intrusion-detection and monitoring systems. All aspects of the HSR system will conform with industry standards, federal and state safety regulations, and federal requirements regarding transportation security and safety.
- **Train Vehicles:** Train vehicles, although not selected as part of this project, are anticipated to be an electric multiple unit concept with a computer-based automatic train-control system. The HSR trainsets (i.e., train cars) will be pressure-sealed to maintain passenger comfort regardless of aerodynamic change, much like an airplane body.
- **Stations:** Stations include station platforms and trackway, arrival and departure facilities, and parking. As part of these Findings, one new station is proposed for the Burbank to Los Angeles Project Section: the Burbank Airport Station. Improvements will be made to the existing LAUS as part of the Preferred Alternative.
- **Track:** The HSR track will run from Burbank to Los Angeles, generally within the existing railroad right-of-way. The track, or guideway, would include multiple differing vertical profiles.
- **Grade Separations:** The HSR will be fully grade-separated from all crossing traffic through roadway overcrossings or undercrossings.
- **Access Roads:** Access roads will provide emergency and maintenance access from public roadways to HSR facilities in between tunnels or bridges, providing access to every segment of at-grade track.
- **Traction Power Distribution:** The Burbank to Los Angeles Project Section will not include the construction of a separate power source, although it will include the extension of underground or overhead power transmission lines to a series of power substations positioned along the HSR corridor. Trains will draw electric power from an overhead catenary system, which will consist of a series of mast poles with contact wires suspended from the mast poles. The catenary system will connect to traction power substations spaced at approximately 30-mile intervals. Switching and paralleling stations will be required at approximately 15-mile intervals, at the midpoint between the traction power substations. Signaling and train-control elements include small huts within the right-of-way that will house signal relay and microprocessor components and related equipment.

- **Signaling and Train-Control Elements:** The enhanced automated train control system will comply with FRA-mandated positive train control requirements, including safe separation of trains, over-speed prevention, and work-zone protection. The system will use a radio-based communications network that will include a fiber-optic backbone and communications towers at intervals of approximately 3 miles or less, depending on the terrain selected, radio frequency, and locations of other facilities.
- **Track Structure:** The track structure would consist of either a direct fixation system (with track, rail fasteners, and slab) or ballasted track, depending on local conditions and decisions to be made in later design. For purposes of environmental review, slab track is assumed for tunnel and trench sections and ballasted track is assumed for all other sections, except where clearance requirements restrict the type of track construction assumed.
- **Maintenance Facilities:** The design and spacing of maintenance facilities along the HSR system will not require the Burbank to Los Angeles Project Section to include any of the maintenance facilities within the limits of the project section.

2.2.2 Impact Avoidance and Minimization Features

The Authority has committed to implementing programmatic impact avoidance and minimization features (IAMF) consistent with the (1) *2005 Statewide Program Environmental Impact Report/ Environmental Impact Statement (EIR/EIS)*, (2) *20012 Bay Area to Central Valley Program EIR/EIS*, and (3) *2012 Partially Revised Final Program EIR* into the HSR project. The Authority, in consultation with federal and state agencies, has developed a set of standardized IAMFs that it is applying to the statewide HSR system, including the Burbank to Los Angeles Project Section. The IAMFs represent practices that are standard in the construction industry, and they are incorporated into the project definition. The Authority will implement these IAMFs during project design and construction of the Burbank to Los Angeles Project Section.

The Preferred Alternative incorporates IAMFs as identified and discussed in the Final EIR/EIS and described in detail in Appendix 2-B. The Preferred Alternative's compliance with regulatory requirements, including permitting and coordination with regulatory agencies for many project-related activities, provide additional assurance that certain potential adverse environmental impacts will be avoided, or at least minimized.

The applicable regulatory requirements and IAMFs that are considered a part of the Preferred Alternative are described for the following issue areas in more detail in the corresponding chapters of the Final EIR/EIS and are also listed in Table S-4 of the Final EIR/EIS:

- Transportation – Sections 3.2.2 and 3.2.4.2
- Air Quality and Global Climate Change – Sections 3.3.2 and 3.3.4.3
- Noise and Vibration – Sections 3.4.2 and 3.4.4.2
- Electromagnetic Interference and Electromagnetic Fields – Sections 3.5.2 and 3.5.4.2
- Public Utilities and Energy – Sections 3.6.2 and 3.6.4.2
- Biological and Aquatic Resources – Sections 3.7.2 and 3.7.4.4
- Hydrology and Water Resources – Sections 3.8.2 and 3.8.4.2
- Geology, Soils, Seismicity, and Paleontological Resources – Sections 3.9.2 and 3.9.4.2
- Hazardous Materials and Wastes – Sections 3.10.2 and 3.10.4.2
- Safety and Security – Sections 3.11.2 and 3.11.4.2
- Socioeconomics and Communities – Sections 3.12.2 and 3.12.4.2
- Station Planning, Land Use, and Development – Sections 3.13.2 and 3.13.4.2
- Parks, Recreation, and Open Space – Sections 3.15.2 and 3.15.4.2
- Aesthetics and Visual Quality – Sections 3.16.2 and 3.16.4.2
- Cultural Resources – Sections 3.17.2 and 3.17.5.3
- Regional Growth – Section 3.18.2
- Cumulative Impacts – Section 3.19.2

These IAMFs are an enforceable component of the Preferred Alternative. Their implementation will be monitored along with other elements of the project.

3 FINDINGS REGARDING THE NEED FOR FURTHER RECIRCULATION

Public Resources Code Section 21092.1 and CEQA Guidelines Section 15088.5 provide that a lead agency is required to recirculate an EIR when “significant new information” is added to the EIR after circulation of a Draft EIR for comment, and prior to certification. As used in Guidelines Section 15088.5, “information” can include changes to a proposed project or its environmental setting as well as the addition of data or other information. Section 15088.5 also provides that new information added to an EIR is not “significant” unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect that the project’s proponent has declined to implement.

The Authority makes the following findings of fact related to the need for further recirculation:

- The Final EIR/EIS includes changes to the proposed project in the form of engineering and design refinements (see Summary, section S.2.1.1), which were included in the Final EIR/EIS in response to stakeholder comments on the Draft EIR/EIS, to reduce environmental impacts or to further improve the safety of the design.
- The Final EIR/EIS includes changes to the environmental impacts analysis in Chapters 3–5 (see Summary, section S.2.1.2) resulting from the engineering and design refinements, and/or in response to the public comment on the Draft EIR/EIS.
- The new information included in the Final EIR/EIS is adequately and transparently summarized in the Preface, the Summary, and in Chapter 2, and the design refinements are specifically described in more detail in Appendix 3.1-C.
- The engineering and design refinements refine the features of the Preferred Alternative evaluated in the Draft EIR/EIS, but they do not change the fundamental project description of the construction, operation, and maintenance of an electrified high-speed train between Burbank and Los Angeles as presented in Chapter 2 of the Draft EIR/EIS.
- Although the Final EIR/EIS includes new information, including revised impact data and calculations, the overall analysis, conclusions, and CEQA significance determinations have not changed from those presented in the Draft EIR/EIS.
- The engineering and design refinements do not cause new significant environmental impacts or a substantial increase in the severity of a previously identified impact.
- The engineering and design refinements are impact-lessening overall and resulted in an overall reduction of approximately 14 acres of permanent and temporary impacts (approximately 2 percent of the total impacts) compared to the Preferred Alternative analyzed in the Draft EIR/EIS.

Based on these facts, the Authority finds that the new information included in the Final EIR/EIS related to the engineering and design refinements and changes to impacts analysis based on the engineering and design refinements and public comments do not require further circulation for additional public review and comment.

Continued coordination with the USACE has led to a slight revision to the design post publication of the Final EIR/EIS. That revision keeps the HSR tracks at the existing grade and removes the proposed retaining walls near the Metro Gold Line and Broadway. The Authority finds that this revision does not require further circulation for public review and comment because the revision involves no new significant impacts or a substantial increase in the severity of previously identified impacts.

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4 FINDINGS ON SPECIFIC IMPACTS AND MITIGATION MEASURES

The environmental effects of the Preferred Alternative that will be significant are described in Chapter 3 of Volume 1 of the Final EIR/EIS. These impacts are set forth and summarized below for the Preferred Alternative, along with mitigation measures the Authority adopts that will avoid or substantially lessen those significant impacts. Mitigation measures PUE-MM#1, PUE-MM#2, and BIO-MM#62 have been revised since publication of the Final EIR/EIS to provide more detail on how the measures will effectively mitigate impacts. These mitigation measures would not change the CEQA determinations resulting in the need for recirculation per CEQA Guidelines Section 15088.5. The impact and mitigation measure findings below depend upon, and therefore incorporate by reference, the full analysis and conclusions contained within the Final EIR/EIS.

These Findings also set forth those impacts that the Authority finds cannot with certainty be avoided or reduced to a less than significant level even with the adoption of all feasible mitigation measures identified in the Final EIR/EIS. In adopting these Findings and mitigation measures, the Authority also adopts a Statement of Overriding Considerations. The Statement of Overriding Considerations describes the economic, social, and other benefits of the Preferred Alternative that will render these significant unavoidable environmental impacts acceptable.

The Authority is not required to make findings or adopt mitigation measures or policies as part of this decision for impacts that are less than significant or beneficial. The resource areas that include one or more less than significant impacts without mitigation, or beneficial impacts, include the following:

- Transportation
- Air Quality and Global Climate Change
- Noise and Vibration
- Electromagnetic Fields/Electromagnetic Interference
- Public Utilities and Energy
- Biological and Aquatic Resources
- Hydrology and Water Resources
- Geology, Soils, Seismicity, and Paleontological Resources*
- Hazardous Materials and Wastes
- 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
- Regional Growth
- Cumulative Impacts

Resource areas for which all impacts in the Final EIR/EIS were identified as less than significant without mitigation measures are designated by an asterisk (*) and are not discussed further in this Findings and SOC document. Regional Growth was found to have beneficial effects and is included below.

4.1 Transportation

As described in the Burbank to Los Angeles Project Section Final EIR/EIS (Section 3.2), one construction-related transportation impact associated with the Preferred Alternative (Impact TR #5: Design Feature Hazards, Incompatible Uses, or Conflict with Transit, Airport, Pedestrian, and Bicycle Plans during Construction) will be significant, and would remain significant even after the implementation of Mitigation Measure PR-MM#4 for one bicycle path as described below.

For operations impacts (i.e., impacts that are permanent due to redirection of existing traffic because of permanent network road changes required by the Preferred Alternative and impacts

that are permanent due to traffic generated at the Burbank Airport Station), all impacts will be less than significant. Adherence to IAMFs and compliance with applicable regulatory requirements will address potential geometric design feature or incompatible use hazards and potential hazards for public transit, pedestrians, or bicyclists and emergency access.

4.1.1 Impact TR #5: Design Feature Hazards, Incompatible Uses, or Conflict with Transit, Airport, Pedestrian, and Bicycle Plans during Construction

There is a potential for the Preferred Alternative to result in construction activities that may create temporary hazards for users of pedestrian areas where existing sidewalks, paths, and bus stops need to be temporarily closed or relocated to allow construction of new facilities. The Preferred Alternative will affect land planned for the San Fernando Railroad Bike Path. If the planned San Fernando Railroad Bike Path does not exist at the time of HSR construction, the Preferred Alternative will permanently convert land planned for this bike path in the city of Glendale and would preclude the development of this resource in its current alignment. However, 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 will result in a permanent impact from the conversion of this resource. SS-IAMF#1, SS-IAMF#5, SS-IAMF#6, TR-IAMF#2, TR-IAMF#4, TR-IAMF#5, TR-IAMF#9, TR-IAMF#11, TR-IAMF#12, and PK-IAMF#1 will reduce the potential for impacts related to pedestrians, bicyclists, transit, airport, and freight or passenger rail through implementation of IAMFs to reduce hazards and conflict with transit, pedestrian, and bicycle plans during construction. However, even with implementation of these IAMFs, permanent construction impacts related to safety risks and conflict with bicycle plans due to incompatible uses are significant because construction of the Preferred Alternative will require conversion of land planned for three bike paths (the San Fernando Bike Path, the San Fernando Railroad Bike Path, and the Los Angeles River Bike Path) to rail right-of-way. Mitigation Measure PR-MM#4 will require the Authority to coordinate with officials with jurisdiction over the planned bike paths to identify alternative routes for these bicycle facilities. It is anticipated that the San Fernando Bike Path (Phase 3) and Los Angeles River Bike Path can feasibly be rerouted. However, the San Fernando Railroad Bike Path may not be able to be rerouted, resulting in a loss of connectivity of a planned bicycle network and potentially leading to safety risks for pedestrians and bicycles. Therefore, even with mitigation, impacts on the San Fernando Railroad Bike Path are significant and unavoidable.

Because of text length, mitigation measures are presented separately in Attachment A, Mitigation Measures, to these CEQA Findings.

- **PR-MM#4: Replacement of Property Acquired from Existing or Planned Bicycle Routes**

Mitigation Measure PR-MM#4 requires identification of alternative routes for permanent impacts on property containing existing or planned bicycle paths. The specific alternative routes identified will be determined based on negotiations with the agency with jurisdiction over the affected bicycle route(s). Potential impacts of the provided land will depend on the affected land/uses and how/where the affected land/uses could be replaced. Future development of alternative bicycle routes could be subject to its own CEQA analysis, once the details of the project are known. As a result, it is not possible to determine whether land identified for alternative bicycle routes for the Preferred Alternative will result in environmental impacts beyond those already described in this section.

The Authority finds that Mitigation Measure PR-MM#4 is required in the Preferred Alternative and that implementation of this mitigation measure will reduce the project's significant transportation impacts caused by conflict with bicycle plans. The Authority finds that while the Preferred Alternative will require conversion of land planned for three bike paths (the San Fernando Bike Path, the San Fernando Railroad Bike Path, and the Los Angeles River Bike Path) to rail right-of-way, two of the three bike paths (San Fernando Bike Path [Phase 3] and Los Angeles River Bike Path) can be feasibly rerouted. The Authority therefore finds that implementation of PR-MM#4 will reduce transportation impacts for the San Fernando Bike Path (Phase 3) and Los Angeles River Bike Path to a less than significant level.

The San Fernando Railroad Bike Path may not be able to be rerouted, however, resulting in a loss of connectivity of a planned bicycle network and potentially leading to safety risks for pedestrians and bicycles, despite adoption of PR-MM#4. The Authority finds that there are no other feasible mitigation measures or alternatives that could be adopted to reduce the remaining impacts to less than significant levels. The Authority finds that despite the otherwise significant and unavoidable impact to the San Fernando Railroad Bike Path, specific economic, social, and other considerations identified in the Statement of Overriding Considerations (Section 8 of this document) support approval of the project.

4.2 Air Quality and Global Climate Change

As described in the Burbank to Los Angeles Project Section Final EIR/EIS (Section 3.3), construction of the Preferred Alternative will result in air quality impacts. Specifically, Impact AQ #1 (Regional Air Quality Impacts during Construction), Impact AQ #2 (Compliance with Air Quality Plans), Impact AQ #5 (Localized Air Quality Impacts during Alignment Construction [NO₂ Concentrations]), and Impact AQ #6 (Localized Air Quality Impacts on School Children and Other Sensitive Receptors during Construction) will be significant and will remain significant even after implementation of feasible mitigation measures.

4.2.1 Impact AQ #1: Regional Air Quality Impacts during Construction

The construction emissions for the Preferred Alternative under this impact assume implementation of the Authority’s standard requirements as described in AQ-IAMF#1, AQ-IAMF#2, AQ-IAMF#4, AQ-IAMF#5, and AQ-IAMF#6. Even with implementation of these IAMFs, construction emissions will exceed the daily emission South Coast Air Quality Management District (SCAQMD) CEQA thresholds for carbon monoxide (CO) during 3 years and nitrogen oxides (NO_x) during 5 years out of the 9-year construction period; therefore, construction emissions of these pollutants may cause significant air quality impacts related to the release of criteria pollutant emissions for which the project region is in nonattainment.

NO_x and CO emissions will be offset and/or reduced through AQ-MM#1 and AQ-MM#2. Because of text length, mitigation measures are presented separately in Attachment A, Mitigation Measures, to these CEQA Findings.

- **AQ-MM#1: Offset Project Construction Emissions through an SCAQMD Emission Offsets Programs.**
- **AQ-MM#2: Construction Emissions Reduction – Requirements for use of Zero Emission and/or Near Zero Emission Vehicles and Off-Road Equipment.**

Mitigation Measure AQ-MM#1 requires the purchase of emission offsets through an anticipated contractual agreement between the Authority and the SCAQMD (Authority/SCAQMD 2021). Emission reduction credits are anticipated to be obtained from the SCAQMD to offset emissions associated with the construction of the Preferred Alternative. Purchase of emission offsets through the anticipated agreement as described in Mitigation Measure AQ-MM#1 will offset NO_x emissions to net zero, as measured in tons per year. There are no available offset programs to reduce CO emissions.

Mitigation Measure AQ-MM#2 will require the Authority and all construction contractors to require that a minimum of 25 percent, with a goal of 100 percent of all light-duty on-road vehicles (e.g., passenger cars, light-duty trucks) associated with the project (e.g., on-site vehicles, contractor vehicles) use zero emission (ZE) or near-zero emission (NZE) technology to reduce NO_x, CO, and both PM₁₀ and PM_{2.5} emissions.³

Through an anticipated contractual agreement, the Authority will participate in an applicable SCAQMD emission offset program by funding equivalent NO_x emissions reductions that achieve

³ PM₁₀ and PM_{2.5} levels would not exceed the SCAQMD thresholds for daily emissions or the General Conformity thresholds for annual emissions for any construction year.

reductions in the same years as the construction emissions occur, thus offsetting project-related air quality impacts to net zero, as measured in tons per year.

The Authority finds that Mitigation Measures AQ-MM#1 and AQ-MM#2 have been required in the Preferred Alternative and that they will avoid or substantially lessen the project's significant air quality impacts due to construction emissions of NO_x. However, while the offsets in Mitigation Measure AQ-MM#1 will reduce NO_x emissions on an annual basis to net zero as measured in tons per year, it is not possible to conclude that daily emissions will be reduced to below the SCAQMD CEQA thresholds as measured in pounds per day. The Authority therefore finds that construction emissions of NO_x will remain significant and unavoidable for some construction years.

The Authority further finds that construction emissions of CO will be reduced by AQ-MM#2; however, it is not possible to conclude that daily emissions will be reduced to below the SCAQMD CEQA thresholds. The Authority therefore finds that construction CO emissions will remain significant and unavoidable for some construction years.

The Authority considered a potential mitigation measure for construction emissions that would extend the construction schedule and limit construction equipment and usage, thereby reducing hourly/daily emission concentrations. However, the Authority finds that this is not a feasible mitigation measure, as increasing the length of the construction schedule will delay the opening year of the Burbank to Los Angeles Project Section and extend the duration of impacts that affect other railroad locomotive operators in the right-of-way, such as Metrolink, Amtrak, and UPRR.

The Authority finds that there are no other feasible mitigation measures or alternatives that could be adopted to reduce these remaining impacts to less than significant levels. The Authority finds that despite these otherwise significant and unavoidable impacts, specific economic, social, and other considerations identified in the Statement of Overriding Considerations (Section 8 of this document) support approval of the project.

4.2.2 Impact AQ #2: Compliance with Air Quality Plans

Emissions from construction of the Preferred Alternative will be temporary. Annual NO_x emissions associated with the Preferred Alternative would exceed the general conformity applicability levels, whereas annual CO, volatile organic compound, PM₁₀, and PM_{2.5} emissions would be below the general conformity applicability levels. In addition, although volatile organic compounds, PM₁₀, and PM_{2.5} emissions will be below the SCAQMD thresholds, CO and NO_x emissions associated with the Preferred Alternative will exceed the SCAQMD thresholds and impede the implementation of the respective air quality plans, including plans prepared to attain the national ambient air quality standards. AQ-IAMF#1 through AQ-IAMF#6 are included as part of the Preferred Alternative and will be implemented to avoid or minimize effects. These IAMFs will reduce potential adverse effects resulting from factors related to criteria pollutants during construction.

However, even with the implementation of AQ-IAMF#1 through AQ-IAMF#6, and federal, state, and SCAQMD regulatory requirements, CO and NO_x impacts under CEQA are significant. The Authority will offset emissions that are equal to or exceed general conformity *de minimis* levels by obtaining, through purchase of emission reduction credits or another mechanism approved by SCAQMD, a sufficient quantity of NO_x offsets to demonstrate general conformity and further achieve net zero emissions as measured in tons per year. The Authority will also require a minimum percentage of ZE and NZE and equipment as described below. (Because of text length, mitigation measures are presented separately in Attachment A, Mitigation Measures, to these CEQA Findings.)

- **AQ-MM#1: Offset Project Construction Emissions through an SCAQMD Emission Offsets Programs.**
- **AQ-MM#2: Construction Emissions Reduction – Requirements for use of Zero Emission and/or Near Zero Emission Vehicles and Off-Road Equipment.**

Mitigation Measure AQ-MM#1 requires the purchase of offset emissions through an anticipated contractual agreement between the Authority and SCAQMD. Emission reduction credits are anticipated to be obtained from the SCAQMD to offset emissions associated with the construction of the Preferred Alternative. Purchase of emission offsets through the anticipated agreement as described in Mitigation Measure AQ-MM#1 will offset and/or decrease NO_x emissions to net zero as measured in tons per year. There are no available offset programs to reduce CO emissions.

Mitigation Measure AQ-MM#2 would require the Authority and all construction contractors to require that a minimum of 25 percent, with a goal of 100 percent of all light-duty on-road vehicles (e.g., passenger cars, light-duty trucks) associated with the project (e.g., on-site vehicles, contractor vehicles) use ZE or NZE technology. This measure would reduce construction emissions of NO_x, CO, and PM.

The Authority finds that Mitigation Measures AQ-MM#1 and AQ-MM#2 have been required in the Preferred Alternative and that they will avoid or substantially lessen the project's significant air quality impacts by reducing the pollutants emitted from construction vehicles and offsetting NO_x emissions to net zero as measured in tons per year. However, it is not possible to conclude that daily emissions will be reduced to below the SCAQMD CEQA thresholds. The Authority therefore finds that construction emissions of CO and NO_x will remain significant for some construction years. The Authority finds that there are no other feasible mitigation measures or alternatives that could be adopted to reduce these remaining impacts to less than significant levels. The Authority finds that despite these otherwise significant and unavoidable impacts, specific economic, social, and other considerations identified in the Statement of Overriding Considerations (Section 8 of this document) support approval of the project.

4.2.3 Impact AQ #5: Localized Air Quality Impacts during Construction of Rail Alignment and Train Stations

Maximum concentrations associated with construction will exceed the California ambient air quality standards at the localized level for the 1-hour average NO₂ concentrations. AQ-IAMF#1 through AQ-IAMF#6 are included as part of the Preferred Alternative and will be implemented to avoid or minimize effects. However, even with implementation of these IAMFs, the maximum concentrations associated with construction will still exceed the California ambient air quality standards at the localized level for the 1-hour average NO₂ concentrations and are considered significant under CEQA.

The Authority will offset emissions that are equal to or exceed general conformity *de minimis* levels by obtaining, through purchase of emission reduction credits or another mechanism approved by SCAQMD, a sufficient quantity of NO_x offsets to demonstrate general conformity and reduce emissions to net zero. The Authority will also require a minimum percentage of zero emission and near zero emission vehicles and equipment as described below.

Because of text length, mitigation measures are presented separately in Attachment A, Mitigation Measures, to these CEQA Findings.

- **AQ-MM#1: Offset Project Construction Emissions through an SCAQMD Emission Offsets Programs.**
- **AQ-MM#2: Construction Emissions Reduction – Requirements for use of Zero Emission and/or Near Zero Emission Vehicles and Off-Road Equipment.**

Mitigation Measure AQ-MM#1 requires the purchase of offset emissions through an anticipated contractual agreement between the Authority and SCAQMD. Emission reduction credits are anticipated to be obtained from the SCAQMD to offset emissions associated with the construction of the Preferred Alternative. Purchase of emission offsets through the anticipated agreement as described in Mitigation Measure AQ-MM#1 will offset NO_x emissions to net zero. There are no available offset programs to reduce CO emissions.

Mitigation Measure AQ-MM#2 requires the Authority and all construction contractors to require that a minimum of 25 percent, with a goal of 100 percent of all light-duty on-road vehicles (e.g.,

passenger cars, light-duty trucks) associated with the project (e.g., on-site vehicles, contractor vehicles) use ZE or NZE technology to reduce NO_x, CO, and PM emissions.

The Authority finds that Mitigation Measure AQ-MM#1 has been required in the Preferred Alternative and that it will avoid or substantially lessen the project's significant air quality impacts. However, construction emissions (NO₂) will remain significant and unavoidable for some construction years.

The Authority further finds that construction emissions of CO will be reduced by AQ-MM#2, however, due to uncertainty, the Authority finds that construction CO emissions will remain significant and unavoidable for some construction years.

The Authority considered a potential mitigation measure for construction emissions that would extend the construction schedule and limit construction equipment and usage, thereby reducing hourly/daily emission concentrations. However, the Authority finds that this is not a feasible mitigation measure, as increasing the length of the construction schedule will delay the opening year of the Burbank to Los Angeles Project Section and extend the duration of impacts that affect other railroad locomotive operators in the right-of-way, such as Metrolink, Amtrak, and UPRR.

The Authority finds that there are no other feasible mitigation measures or alternatives that could be adopted to reduce these remaining impacts to less than significant levels. The Authority finds that despite these otherwise significant and unavoidable impacts, specific economic, social, and other considerations identified in the Statement of Overriding Considerations (Section 8 of this document) support approval of the project.

4.2.4 Impact AQ #6: Localized Air Quality Impacts on School Children and Other Sensitive Receptors during Construction

The annual ambient concentrations of NO₂ already exceed the California ambient air quality standards. It is anticipated that the Preferred Alternative will further contribute to this exceedance, even with implementation of AQ-IAMF#1 through AQ-IAMF#6, resulting in a significant impact under CEQA. AQ-IAMF#1 requires the preparation of a fugitive dust control plan for the project. The Authority's Design Criteria Manual will be amended to include an environmental construction considerations section that includes the mandatory components of the dust control plan. Until such revisions are made, all construction Requests for Proposals will include the following requirements for elements of the dust control plan:

- The dust control plan will require the construction contractor to post a publicly visible sign on the construction site with the telephone number and person to contact at the Authority for any dust or other air quality complaints. The person will be required to take corrective action within 48 hours. The phone number for the local air district must also be visible to ensure compliance with applicable regulations.
- Provisions in the dust control plan will allow school administrators and/or their designated representative(s) to notify the Authority if construction-related air emission levels generated by the project are adversely impacting the learning environment. All notices will be investigated by the Authority and corrective action will be taken within 48 hours.

The short-term construction activities of the Preferred Alternative will have a significant and unavoidable impact on local air quality and sensitive receptors under CEQA.

Because of text length, mitigation measures are presented separately in Attachment A, Mitigation Measures, to these CEQA Findings.

- **AQ-MM#1: Offset Project Construction Emissions through an SCAQMD Emission Offsets Programs.**
- **AQ-MM#2: Construction Emissions Reduction – Requirements for use of Zero Emission and/or Near Zero Emission Vehicles and Off-Road Equipment.**

Mitigation Measure AQ-MM#1 requires the purchase of offset emissions through an anticipated contractual agreement between the Authority and SCAQMD. Emission reduction credits are

anticipated to be obtained from the SCAQMD to offset emissions associated with the construction of the Preferred Alternative. Purchase of emission offsets through the anticipated agreement as described in Mitigation Measure AQ-MM#1 will offset NO_x emissions to net zero. There are no available offset programs to reduce CO emissions.

Mitigation Measure AQ-MM#2 requires the Authority and all construction contractors to require that a minimum of 25 percent, with a goal of 100 percent of all light-duty on-road vehicles (e.g., passenger cars, light-duty trucks) associated with the project (e.g., on-site vehicles, contractor vehicles) use ZE or NZE technology to reduce NO_x, CO, and PM emissions.

The Authority finds that Mitigation Measures AQ-MM#1 and AQ-MM#2 have been required in the Preferred Alternative and that these measures will avoid or substantially lessen the project's significant air quality impacts. However, construction emissions (NO_x) will remain significant for some construction years.

The Authority considered a potential mitigation measure for construction emissions that would extend the construction schedule and limit construction equipment and usage, thereby reducing hourly/daily emission concentrations. However, the Authority finds that this is not a feasible mitigation measure, as increasing the length of the construction schedule will delay the opening year of the Burbank to Los Angeles Project Section and extend the duration of impacts that affect other railroad locomotive operators in the right-of-way, such as Metrolink, Amtrak, and UPRR.

The Authority finds that there are no other feasible mitigation measures or alternatives that could be adopted to reduce these remaining impacts to less than significant levels. The Authority finds that despite these otherwise significant and unavoidable impacts, specific economic, social, and other considerations identified in the Statement of Overriding Considerations (Section 8 of this document) support approval of the project.

4.3 Noise and Vibration

As described in the Burbank to Los Angeles Project Section Final EIR/EIS (Section 3.4), two construction and one operational noise and vibration significant impacts associated with the Preferred Alternative have been identified (Impact N&V #1: Temporary Exposure of Sensitive Receivers to Construction Noise, Impact N&V #2: Temporary Exposure of Sensitive Receivers to Construction Vibration, and Impact N&V #5: Vibration Impacts from Project Operation) that will be reduced to less than significant levels with the implementation of mitigation measures. One operational noise and vibration significant impact associated with the Preferred Alternative has been identified (Impact N&V #4: Project Noise Impacts) that will remain significant and unavoidable after mitigation.

4.3.1 Impact N&V #1: Temporary Exposure of Sensitive Receivers to Construction Noise

Three types of short-term noise impacts would occur during the rail corridor construction. Noise impacts would result from construction traffic activities, heavy-equipment operations during rail corridor construction, and heavy-equipment operations during roadway modifications in the project footprint. The Final EIR/EIS estimated the screening distances for construction noise impacts using the FRA construction impact noise methodology and criteria (see Table 3.4-5 in the Final EIR/EIS), and estimates of typical equipment noise for rail construction (see Table 3.4-6 in the Final EIR/EIS). The FRA noise criteria are 80 A-weighted decibels (dBA) for daytime noise levels for the 8-hour equivalent continuous sound level (L_{eq}), and 70 dBA for nighttime noise levels for residential uses, 85 dBA for both daytime and nighttime noise levels for commercial uses, and 90 dBA for both daytime and nighttime industrial uses. As shown in Table 3.4-13 of the Final EIR/EIS, residences and schools within 113 to 199 feet of the construction boundary will be exposed to noise levels greater than the detailed FRA construction noise criterion of 80 dBA L_{eq} during daytime hours. Residences within 356 to 629 feet of the construction boundary will be exposed to noise levels greater than the detailed FRA construction noise criterion of 70 dBA L_{eq} during nighttime hours.

The construction-related impacts under CEQA will be significant due to the resulting noise levels exceeding the FRA construction noise levels. Implementation of the following mitigation measure mitigates this impact.

Because of text length, mitigation measures are presented separately in Attachment A, Mitigation Measures, to these CEQA Findings.

- **N&V-MM#1: Construction Noise Mitigation Measures.**

Mitigation Measure N&V-MM#1 requires the Authority's construction contractor to employ commonly used and effective noise control measures during construction to meet the FRA construction noise limits. N&V-MM#1 includes various examples of nighttime and daytime noise control measures. The contractor will have the flexibility to use the most efficient and cost-effective measures that meet the FRA construction noise limits.

The Authority finds that Mitigation Measure N&V-MM#1 has been required in the Preferred Alternative and that implementation of this mitigation measure will reduce construction noise below the FRA construction noise limits; therefore, this impact will be reduced to a less than significant impact under CEQA.

4.3.2 Impact N&V #2: Temporary Exposure of Sensitive Receivers to Vibration from Construction

The Preferred Alternative has the potential to cause construction vibration impacts should construction activities take place within the distances shown in Table 3.4-16 and Table 3.4-17 of the Final EIR/EIS relative to sensitive uses because construction will generate vibration exceeding federal criteria for annoyance and building damage, respectively. During construction, activities that may cause ground-borne vibration leading to structure damage include driving, excavation for trenching, and vibro-compaction for ground improvements, though it is unlikely that such equipment would be used close enough to sensitive structures to have any substantial damage impacts. However, there could be some potential for vibration annoyance or interference with vibration-sensitive equipment at various uses. Therefore, construction vibration impacts will be a significant impact under CEQA. Impacts will be greatly reduced by implementing Mitigation Measure N&V-MM#2, which requires the contractor to utilize vibration reduction methods to meet the FRA standards for construction vibration. By implementing Mitigation Measure N&V-MM#2, the impact under CEQA is expected to be less than significant after mitigation.

Because of text length, mitigation measures are presented separately in Attachment A, Mitigation Measures, to these CEQA Findings.

- **N&V-MM#2: Construction Vibration Mitigation Measures.**

Implementation of the requirements in N&V-MM#2 will reduce construction-related vibration levels or construction-related vibration impacts by using effective vibration reduction methods to meet the FRA standards for construction vibration. If pile driving takes place more than 25 to 50 feet from buildings, or if alternative methods such as push piling or auger piling are used, damage from construction vibration is not expected to occur. When a construction scenario has been established, pre-construction surveys will be conducted by the contractor at locations within 50 feet of pile driving to document the existing condition of buildings in case damage is reported during or after construction. If building damage does occur, the contractor is required to repair the damage or compensate the property owner.

The Authority finds that Mitigation Measure N&V-MM#2 has been required in the Preferred Alternative and that implementation of this mitigation measure will reduce the project's construction vibration impacts to less than significant levels under CEQA.

4.3.3 Impact N&V #4: Permanent Exposure of Sensitive Receivers to Noise from Project Operation

The exposure of persons or generation of noise in excess of FRA standards for a severe impact is a significant impact under CEQA. A noise analysis was conducted for the long-term and short-

term measurement locations to show potential noise impacts from operation of the Preferred Alternative in the resource study area (RSA). The measured existing noise level and project noise levels were used to determine the total noise level and the project-related noise level increase at each measurement location. Table 3.4-18 of the Final EIR/EIS summarizes the results of the noise analysis by reporting the number of total affected noise-sensitive receivers under the Preferred Alternative based on their land use category and noise impact classification (either moderate or severe impact). Severe noise impacts are projected at 210 single-family residences due to the proximity of the receivers to the proposed track and the speed of the train. The results also indicate severe noise impacts to the ATX Arts and Innovation Complex, a theater at 3191 Casitas Avenue in the city of Los Angeles, and Atwater Village Theatre, a theater at 3265 Casitas Avenue in the city of Los Angeles. No churches or schools would be severely impacted.

Additionally, the analysis accounts for project-related changes in the existing trackwork in areas such as Taylor Yard. As stated in the *Burbank to Los Angeles (B-LA) Project Section—Vibration Assessment of Track Modifications near the Taylor Yard Homes in the Final EIR/EIS* (Authority 2021a), the existing freight lines would be relocated closer to the existing residences, creating a potential increase in noise over existing levels; however, the proposed trackwork is designed to have the potential to reduce noise levels overall. The number of switches in the area close to the Taylor Yard residences would be reduced from three to two. The existing crossover provided for movements between tracks at higher speeds and the existing left-hand turnout allowed movements to a siding track at similar speeds. However, this siding track (Glendale Slide) would be relocated north between SR 134 and Chevy Chase Boulevard on the east side of the corridor, so the Taylor Yard community would not be exposed to noise from this siding track. Based on the proposed design, the existing UPRR trains would no longer use turnouts in this area, so there would be reduced noise exposure from UPRR trains.

Figure 3.4-7 (Sheets 1 and 2) of the Final EIR/EIS shows land use Category 2 noise-sensitive receivers under the Preferred Alternative that will experience either moderate or severe impacts as a result of operations under the Preferred Alternative. Figure 3.4-8 (Sheets 1 and 2) shows land use Category 1 and Category 3 noise-sensitive receivers that will experience either moderate or severe impacts as a result of operations under the Preferred Alternative. An inventory of all severely impacted receivers is provided in Table D-1 of the *Burbank to Los Angeles Project Section Noise and Vibration Technical Report* (Authority 2019a).

Noise impacts from operation of the Preferred Alternative to sensitive receivers that are categorized as severe under FRA standards as shown on Figure 3.4-2 of the Final EIR/EIS are a significant impact under CEQA. Mitigation Measures N&V-MM#3 through N&V-MM#5 will reduce, but not fully avoid, the noise impacts. Table 3.4-21 of the Final EIR/EIS shows that even with the implementation of sound barriers as prescribed in Mitigation Measures N&V-MM-#3, severe residual noise impacts will remain at 68 residences and 2 theaters. These impacts are considered significant and unavoidable.

Because of text length, mitigation measures are presented separately in Attachment A, Mitigation Measures, to these CEQA Findings.

- **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**

Mitigation Measure N&V-MM#3 will reduce operation-related noise from the Preferred Alternative through the use of sound barriers, which will be effective at reducing exterior noise levels at many of the sensitive receptors. All severely impacted receptors located behind recommended barriers will be reduced to less than severe with barrier heights of 12 feet or more. For those sensitive receptors for which no sound barrier is proposed, N&V-MM # 3 provides for the use of building sound insulation or compensating the property owner through noise easements in some

circumstances. Building sound insulation will reduce interior noise levels but will not reduce exterior noise.

Mitigation Measure N&V-MM#4 will reduce impacts on sensitive receivers from operational vibration and ground-borne noise by requiring HSR locomotives to meet federal regulations (40 Code of Federal Regulations Part 201.12/13).

Mitigation Measure N&V-MM#5 will require special types of trackwork to eliminate gaps, which create noise impacts, to reduce noise levels generated from rail turnouts.

Mitigation Measure N&V-MM#6 requires a reassessment of noise and vibration impacts and recommendations for mitigation if there are changes in assumptions during final design of the project infrastructure or final vehicle specifications.

The Authority finds that Mitigation Measures N&V-MM#3 through N&V-MM#6 have been required in the Preferred Alternative and that they will avoid or substantially lessen some, but not all, of the project's significant noise impacts. Severe noise impacts at sensitive receivers will remain. The Authority finds that there are no other feasible mitigation measures or alternatives that could be adopted to reduce these remaining impacts to less than significant levels. The Authority finds that despite these otherwise significant and unavoidable impacts, specific economic, social, and other considerations identified in the Statement of Overriding Considerations (Section 8 of this document) support approval of the project.

4.3.4 Impact N&V #5: Permanent Exposure of Sensitive Receivers and Buildings to Vibrations from Project Operation

The assessment of ground-borne vibration and noise impacts from the Preferred Alternative's operation are summarized in Table 3.4-20 of the Final EIR/EIS, based on the criteria presented in Section 3.4.4.3. These results indicate that ground-borne vibration levels will exceed the FRA impact criteria at vibration-sensitive residences nearest to the track. The vibration assessment accounts for project-related changes in the existing trackwork in areas such as Taylor Yard. The locations of ground-borne noise and vibration impacts caused by operation of the Preferred Alternative are shown on Figure 3.4-9 of the Final EIR/EIS. These impacts will be permanent. The impacts are therefore significant, and CEQA requires mitigation. To reduce impacts on sensitive receivers from operational vibration and ground-borne noise, the Authority will implement Mitigation Measures N&V-MM#4 through N&V-MM#6 based on information taken from Section 9.4 of the Federal Transit Administration's (FTA) *Transit Noise and Vibration Impact Assessment Manual, FTA Report No. 0123* (FTA 2018), which includes vehicle suspension enhancements, special track support systems, and building modifications, etc. In particular, special track support systems such as resiliently supported ties, ballast mats, high-resilience fasteners, and floating track slabs are standard techniques used in the railroad industry to reduce vibration effects and have been used successfully in many railroad and transit system projects worldwide. These mitigation measures provide vibration reduction that will be applied as needed to reduce the vibration impacts to the FRA threshold criteria. Therefore, with implementation of Mitigation Measures N&V-MM#4 through N&V-MM#6, impacts on sensitive receivers from operational vibration are less than significant after mitigation.

- **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.**

Mitigation Measure N&V-MM#4 will reduce impacts on sensitive receivers from operational vibration and ground-borne noise by requiring HSR locomotives to meet federal regulations (40 Code of Federal Regulations Part 201.12/13).

Mitigation Measure N&V-MM#5 will reduce impacts on sensitive receivers from operational vibration and ground-borne noise. Implementation of Mitigation Measure N&V-MM#5 will require special types of trackwork to eliminate gaps, which create noise impacts, to reduce noise levels generated from rail turnouts.

Mitigation Measure N&V-MM#6 requires that the contractor provide the Authority with an HSR operation noise technical report for review and approval. If final design or final vehicle specifications result in changes to the assumptions underlying the noise technical report, the Authority will prepare necessary environmental documentation, as required by CEQA and the National Environmental Policy Act (NEPA), to reassess noise impacts and mitigation measures.

The Authority finds that Mitigation Measures N&V-MM#4, N&V-MM#5, and N&V-MM#6 have been required in the Preferred Alternative and that they will reduce the project's permanent exposure of sensitive receivers and buildings to vibration from project operations to a less than significant level under CEQA.

4.4 Electromagnetic Interference and Electromagnetic Fields

As described in the Burbank to Los Angeles Project Section Final EIR/EIS (Section 3.5), two significant electromagnetic interference and electromagnetic fields (EMI/EMF) construction impacts associated with the Preferred Alternative have been identified (Impact EMI/EMF #1: Temporary Impacts from Use of Heavy Construction Equipment and Impact EMI/EMF #3: Temporary Impacts from Operation of Electrical Equipment) that will be reduced to a less than significant level with the implementation of mitigation measures. One significant operational EM/EMF impact associated with the Preferred Alternative has been identified (Impact EMI/EMF #6: Interference with Sensitive Equipment). All three significant impacts will be reduced to a less than significant level with the implementation of mitigation measures.

4.4.1 Impact EMI/EMF #1: Temporary Impacts from Use of Heavy Construction Equipment

Construction of the Preferred Alternative will require the use of heavy equipment, trucks, and light vehicles which, like all motor vehicles, generate EMF. Movement of large construction vehicles could 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 closely to the equipment in question to cause interference. As an example, articulated buses (approximately 50,000 pounds) produce magnetic field shifts of approximately 0.5 milligauss (mG) at a distance of 70 feet (Electric Research & Management 2007). For a construction vehicle of twice this mass, the magnetic field shift would be 1 mG at 70 feet or at the threshold level of 2 mG at 50 feet. A vehicle with half the mass would need to be within 25 feet to generate the same field shift. 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.

Even with implementation of EMI/EMF-IAMF#2, the possibility of construction-related impacts could remain and the impact under CEQA is significant at one receptor, Receptor Site 5 (Baxter Healthcare), where magnetic fields may exceed the numerical threshold of 2 mG. Implementation of the following measure mitigates this impact:

- **EMI/EMF-MM#1: Protect Sensitive Equipment.**

EMI/EMF-MM#1 will require the Authority to contact 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. Where necessary to avoid interference, the final design will include suitable design provisions to prevent interference. These design provisions may include establishing magnetic field shielding walls around sensitive equipment or installing radio frequency filters into sensitive equipment. Radio frequency filters, when correctly specified and installed, can be equally effective in reducing EMI compared to shielding, and can be an effective alternative to providing a shielded enclosure for equipment.

The Authority finds that Mitigation Measure EMI/EMF-MM#1 has been required in the Preferred Alternative and that it will reduce the project's construction related EMI/EMF impacts to a less than significant level by preventing the interference with sensitive equipment.

4.4.2 Impact EMI/EMF #3: Temporary Impacts from Operation of Electrical Equipment

Construction of the Preferred Alternative may require the use of electric welding equipment, which may generate substantial magnetic fields. Welders with implanted medical devices and using high welding currents (greater than 225 amperes) should work with caution (Fetter 1996), but others, including those with implanted medical devices, are not at risk. Regarding sensitive equipment, magnetic field strengths from large electric welders could be in the range of 1 to 5 mG at a distance of 50 feet, so transient interference with magnetically sensitive equipment is possible. In such instances, EMI/EMF-IAMF#2 would be employed to minimize impacts. As part of the Implementation Stage EMC Program Plan (ISEP), the Authority would monitor field conditions to determine if such electromagnetic compatibility issues arise and provide the necessary coordination with affected third parties and the construction contractor to resolve the interference.

Even with implementing EMI/EMF-IAMF#2, the impact under CEQA could still be significant at Receptor Site 5 (Baxter Healthcare) because construction-generated magnetic fields could exceed 2 mG. Implementation of the following measure mitigates this impact:

- **EMI/EMF-MM#1: Protect Sensitive Equipment.**

EMI/EMF-MM#1 will require the Authority to contact affected third parties to explore the possibility of either relocating or shielding affected equipment and the Authority would implement the measures to eliminate the interference.

The Authority finds that Mitigation Measure EMI/EMF-MM#1 has been required in the Preferred Alternative and that it will reduce the project's constructed related EMI/EMF impacts from the operation of high-current electrical welding equipment during construction to a less than significant level by preventing interference with sensitive equipment.

4.4.3 Impact EMI/EMF #6: Interference with Sensitive Equipment

Operation of the Preferred Alternative has the potential to cause interference with equipment sensitive to small variations in the surrounding magnetic field (e.g., medical MRI scanners, NMR spectrometers) and focused-beam devices (e.g., electron microscopes, ion-writing systems). Other forms of equipment sensitive to EMI include fire and police radio services, which could be affected by radio frequency interference. The potential for interference is a significant impact at one receptor location (Receptor Site 5, Baxter Healthcare) because HSR-generated magnetic fields would exceed 2 mG. Implementation of the following measure mitigates this impact:

- **EMI/EMF-MM#1: Protect Sensitive Equipment.**

EMI/EMF-MM#1 requires the Authority to contact affected third parties to explore the possibility of either relocating or shielding affected equipment and the Authority would implement the measures to eliminate the interference.

The Authority finds that Mitigation Measure EMI/EMF-MM#1 has been required in the Preferred Alternative and that it will reduce the project's impacts from operations to a less than significant level by preventing the interference with sensitive equipment.

4.5 Public Utilities and Energy

As described in the Burbank to Los Angeles Project Section Final EIR/EIS (Section 3.6), one significant public utilities and energy construction impact associated with the Preferred Alternative has been identified (Impact PU&E #4: Effects from Water Demand during Construction) that will be reduced to a less than significant level with the implementation of mitigation measures. One significant operational public utilities and energy impact associated with the Preferred Alternative has been identified (Impact PU&E #11: Operational Water Demand) that will remain significant and unavoidable after mitigation.

4.5.1 Impact PU&E #4: Effects from Water Demand during Construction

Construction activities related to the Preferred Alternative will 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. Table 3.6-12 in the Final EIR/EIS estimates the existing water use within the project footprint as 267.15 acre-feet annually, and estimated construction water demand of 228.29 acre-feet annually. The projected demand for construction water use represents an approximately 14 percent decrease in water use compared to existing use. This reduction is a result of acquisition of existing land within the project footprint, which will eliminate water use associated with existing land uses during the construction of the project. Therefore, the water use during construction of the Preferred Alternative will be offset by the reduction in water use from the acquired local land uses.

Because the precise sources of construction water are not yet known, the Final EIR/EIS considered a worst-case scenario in which all construction water may be obtained from a single municipal source. Table 3.6-13 in the Final EIR/EIS compares 100 percent of construction water demand to available surpluses in 2020, 2030, and 2040 for Glendale and Los Angeles. Construction water use within the cities of Glendale and Los Angeles will increase annual water usage from existing conditions. However, annual construction water usage will account for less than 0.04 percent of the surplus water supply in both water districts in the years 2020, 2030, and 2040. In the city of Burbank, construction water use will make up 118 percent of the existing annual water usage (Jacobs Engineering 2017). The Burbank Urban Water Management Plan does not include surplus information. Because construction water use will exceed water use in the city, it is anticipated that there will not be sufficient water supplies available to serve the Preferred Alternative from existing entitlements and additional water could be required for construction in a worst-case scenario. The worst-case construction water use of the Preferred Alternative will result in increased water usage from existing conditions that may not be served from existing supplies within the independent city jurisdictions, resulting in a significant impact. Implementation of the following measure mitigates this impact:

- **PUE-MM#1: Water Supply Analysis for Construction.**

Mitigation Measure PUE-MM#1 requires the Authority to prepare an updated water supply analysis for the Preferred Alternative prior to project construction that identifies the detailed water supply needs for the construction of the Preferred Alternative.

Based on the results of this water supply analysis, the Authority will coordinate with the water agencies to determine if allocations for additional water supply are needed for project construction. Reallocation of water resources from other city jurisdictions or other local groundwater or water project resources will affect water surplus in these areas; however, overall impacts of water usage during construction will be reduced to less than significant levels. Proper processes for water conservation, reallocation of water resources from other jurisdictions, and compensatory payment will be followed to provide adequate water supply during normal, dry, and multiple dry years for the project from existing sources such as local groundwater, water imported through the State Water Project (and water imported through the Colorado River Aqueduct). In the event that additional water supply is needed from the local groundwater or the State Water Project, the Authority shall pay the water agencies its fair share of the State Water Project fees (per acre-foot of their allocations), which are used for constructing the State Water Project conservation facilities.

In addition, the Authority's contractor will be required to use best management practices during construction to reduce the need for water. These efforts will include using non-potable water during construction, to the extent feasible. Water used for tunnel construction and water coming out of tunnel construction areas will be recycled/reused for construction purposes and will be treated to reduce turbidity. This water used during construction for lubrication and cooling purposes would be used several times, thus reducing demand from municipal water sources.

The Authority finds that Mitigation Measure PUE-MM#1 has been required in the Preferred Alternative and that implementation of this mitigation measure will reduce the project's impacts related to construction water demand to a less than significant level.

4.5.2 Impact PU&E #11: Operational Water Demand

The project-related increase in water demand at LAUS will be approximately 168 acre-feet per year, approximately 0.02 percent of Los Angeles Department of Water and Power's (LADWP) annual supply in normal, dry, and multiple dry year scenarios. Although this increase is a small fraction of LADWP's total supply, the project-generated increase in water demand has the potential to exceed LADWP's existing and projected future supply during normal, dry, and multiple dry years, and potentially result in impacts to Los Angeles LADWP's existing service commitments. In the absence of the verification of future supply by LADWP, the sufficiency of water supply to serve the Preferred Alternative at LAUS cannot be confirmed at this time. The impact is therefore significant. Implementation of the following measure mitigates this impact, but does not reduce it below a level of significance:

- **PUE-MM#2: Water Demand Analysis for LADWP Supplies at LAUS for Operation.**

Mitigation Measure PUE-MM#2 requires the Authority to coordinate with LADWP to determine if allocations for additional water supply are needed for project operation at LAUS and, if necessary, fund the expansion of water supplies and infrastructure necessary to reduce impacts related to operational water use at LAUS. This would be consistent with California Water Code Sections 10910-10915, which requires water supply planning. However, even with implementation of Mitigation Measure PUE-MM#2, the impact of an increased water demand at LAUS will not necessarily be reduced to a less than significant impact under CEQA. Therefore, this impact is conservatively identified as significant and unavoidable.

Implementation of Mitigation Measure PUE-MM#2 will not be expected to result in secondary effects, as it relates to the allocation of existing LADWP water supplies that will be transported to the project at LAUS via the associated infrastructure (existing and planned) that was fully evaluated as a physical impact of the Burbank to Los Angeles Project Section. Therefore, the impact of the mitigation measure will not be significant. If, during third-party negotiations and final design, it is determined that new LADWP utility infrastructure is needed to convey water supplies to serve project construction, additional environmental analysis will be conducted as necessary. Ultimately, it will be the responsibility of the Authority to ensure that the operational water demand required to serve the Preferred Alternative at LAUS will not cause impacts to LADWP's existing service commitments.

The Authority finds that Mitigation Measure PUE-MM#2 has been required in the Preferred Alternative and that it will mitigate the project's significant impact related to increased operational water demand at LAUS. However, an impact related to water usage during operation of LAUS will remain. The Authority finds that there are no other feasible mitigation measures or alternatives that could be adopted to reduce these remaining impacts to less than significant levels. The Authority finds that despite these otherwise significant and unavoidable impacts, specific economic, social, and other considerations identified in the Statement of Overriding Considerations (Section 8 of this document) support approval of the project.

4.6 Biological and Aquatic Resources

As described in the Burbank to Los Angeles Project Section Final EIR/EIS (Section 3.7), six significant biological resources construction impacts (Impact BIO #1 through Impact BIO #6) and four significant biological resources operation impacts (Impact BIO #7 through Impact BIO #10) associated with the Preferred Alternative have been identified that will be reduced to a less than significant level with the implementation of mitigation measures.

4.6.1 Impact BIO #1: Construction Effects on Special-Status Plant Species

4.6.1.1 Temporary Impacts

Although no special-status plant species have been documented within the Botanical RSA, construction of the Preferred Alternative will result in direct and indirect impacts on potentially suitable habitat for southern tarplant, a nonlisted special-status plant species with a low to moderate probability of occurring in parts of the Botanical RSA. Potential habitat for southern tarplant is restricted to isolated sites throughout the Botanical RSA (e.g., undeveloped lots and ruderal areas along the margins of waterways and other mesic, disturbed sites). Potentially suitable habitat for southern tarplant that will be directly affected by the Preferred Alternative is shown on Figure 3.7-5 of the Final EIR/EIS. Table 3.7-9 of the Final EIR/EIS provides further details regarding each of these sites. Due to the highly disturbed and developed urban conditions prevalent throughout the entire RSA, construction of the proposed project is not expected to directly or indirectly affect any other special-status plant species.

Temporary direct effects on southern tarplant, if present within the project footprint during construction, could occur due to the clearing, grubbing, covering, undercutting, and damaging of roots, or the unearthing of individual plants. Dust and airborne soil, which may settle on southern tarplant individuals, may inhibit their ability to photosynthesize or reproduce through pollination. Soil compaction and the placement of fill may directly affect southern tarplant by causing decreased fitness or death by root compaction, decreased germination from the seed bank, or covering of the plants with soil. Chemical spills have the potential to contaminate the soil and groundwater, resulting in mortality, habitat degradation, or reduced reproductive success of any potential southern tarplant. Temporary construction activities (e.g., grading and excavation) will also alter existing drainage patterns and redirect stormwater runoff, potentially altering suitable southern tarplant habitat in the Botanical RSA.

Multiple IAMFs included as part of the Preferred Alternative will be implemented to minimize temporary construction effects on potentially suitable southern tarplant habitat and avoid effects on adjacent habitats and individual plants (if present). These include BIO-IAMF#1, BIO-IAMF#3, BIO-IAMF#8, BIO-IAMF#9, BIO-IAMF#10, BIO-IAMF#11, AQ-IAMF#1, HMW-IAMF#6, and HYD-IAMF#1. Implementation of these IAMFs will effectively minimize temporary construction effects on potentially suitable southern tarplant habitat and avoid effects on adjacent habitats and individual plants (if present) by designating qualified biologists to implement monitoring for compliance with applicable IAMFs and avoidance of impacts on special-status species (where feasible), training construction crews on special-status species identification and applicable standards/regulations, limiting construction equipment and personnel from entering areas where special-status plants may be affected, minimizing the disturbance area needed for construction spoils and waste and the potential for construction activities to generate excessive dust and airborne soil, and ensuring that best management practices (BMPs) are implemented to avoid soil and water contamination and hydrological alterations.

In addition, temporary effects associated with accidental spills of hazardous materials or erosion and sedimentation resulting from construction will be minimized or avoided through implementation of HYD-IAMF#3 (Prepare and Implement a Construction SWPPP), which has been integrated into the project design. The Storm Water Pollution Prevention Plan (SWPPP) includes spill prevention and response planning, as well as erosion-control specifications.

4.6.1.2 Permanent Impacts

Although no special-status plant species have been documented as occurring within the Botanical RSA, construction of the Preferred Alternative would result in direct construction-period effects on potentially suitable southern tarplant habitat, including the conversion of undeveloped lots to project infrastructure (refer to Figure 3.7-5 and Table 3.7-9 in the Final EIR/EIS for specific locations). Should southern tarplant individuals be present within the permanent project footprint, the construction of tracks, stations, maintenance and equipment storage areas, access roads, road overcrossings, and other permanent facilities will result in a permanent impact on individual plants through direct removal or by placing an impenetrable cap over the seed bank. However,

most suitable habitat for southern tarplant mapped within the Botanical RSA (approximately 17 acres) lies outside of the project footprint and will not be permanently removed during construction of the Preferred Alternative. Approximately 6.31 acres of potentially suitable habitat, which is currently subject to ongoing disturbances associated with the existing urban setting, will be permanently altered by the Preferred Alternative (refer to Figure 3.7-5 and Table 3.7-9 in the Final EIR/EIS).

Indirect permanent effects on potential southern tarplant habitat will occur from the construction of HSR components that alter the landscape and may include changes in habitat due to erosion and sedimentation resulting from construction activities. Displaced sediment and major changes to microtopography could alter the soil and substrate conditions preferred by southern tarplant. Effects on hydrology may affect water availability to support southern tarplant and may inhibit growth, survival during harsh conditions, and germination. Potential habitat fragmentation will result from the construction of permanent features, especially linear features, including track and access roads that bisect suitable habitat for southern tarplant. Such effects could limit population sizes by interrupting seed dispersal. Construction activities will potentially facilitate the introduction and spread of invasive and noxious weeds through the introduction of their seeds by construction equipment, vehicles, and personnel, and could provide ample habitat for colonization where ground-disturbing activities occur. This will result in potential increased competition between invasive, nonnative plant species and the native southern tarplant. In addition to implementing 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, listed above for potential temporary construction effects on southern tarplant, BIO-IAMF#5 and BIO-IAMF#10 will minimize permanent construction effects on potentially suitable southern tarplant habitat and to avoid effects to adjacent suitable habitats and/or individual plants (if present). These IAMFs will reduce the potential for permanent construction effects on southern tarplant by identifying applicable procedures for the protection of special-status species and habitats and by limiting the potential spread of invasive plant species.

While implementation 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 will substantially minimize construction-related impacts on habitat suitable for special-status plant species, the Preferred Alternative will both temporarily and permanently alter approximately 0.33 acre and 6.31 acres of potentially suitable habitat for southern tarplant respectively, and potentially introduce invasive and noxious weeds, which is a significant impact under CEQA. Implementation of the following mitigation measures will reduce Impact BIO #1 to a less than significant level. Because of text length, mitigation measures are presented separately in Attachment A, Mitigation Measures, to these CEQA Findings.

- **BIO-MM#1: Conduct Presence/Absence Pre-Construction Surveys for Special-Status Plant Species and Special-Status Plant 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.**

Implementation of Mitigation Measure BIO-MM#1 will provide verification of the extent and locations of any special-status plant species in the project footprint prior to construction activities (including those potentially existing in suitable habitats where permission to enter was not granted prior to preparation of the Draft EIR/EIS). This mitigation measure will reduce or eliminate the potential for unforeseen impacts on such resources. Mitigation Measure BIO-MM#2 provides a mechanism for further (compensatory) mitigation measures for any impacts on special-status plant species found to occur within the project footprint, including seed collection and the salvage of topsoil to be installed in a suitable and protected off-site location.

To avoid the spread of invasive plant species during construction, Mitigation Measure BIO-MM#55 (Prepare and Implement a Weed Control Plan) will be required. Mitigation Measure BIO-MM#55 will include preparation of a plan that contains applicable specifications and procedures that will

minimize or avoid the spread of invasive weeds during ground-disturbing activities during construction of the Preferred Alternative. With implementation of Mitigation Measures BIO-MM#1, BIO-MM#2, and BIO-MM#55, construction activities will not substantially, temporarily, or permanently alter existing conditions for affecting special-status plant species within the Botanical RSA or result in a substantial adverse effect, either directly or through habitat modifications, on any special-status plant species known to occur in the Botanical RSA.

The Authority finds that implementation of the above-listed mitigation measures have been required in the Preferred Alternative and that implementation of these mitigation measures will substantially lessen the temporary and permanent direct and indirect impacts to special-status plant species and their habits and will reduce the impact to a less than significant level under CEQA.

4.6.2 Impact BIO #2: Construction Impacts on Special-Status Wildlife Species

Construction of the Preferred Alternative will have temporary and permanent direct and indirect impacts on special-status wildlife species.

4.6.2.1 Temporary Impacts

Temporary indirect construction effects on special-status wildlife species may result from activities such as construction vehicle traffic; the temporary use of land for staging and access areas (although these will be sited within areas planned for permanent effects to the maximum extent practicable and most proposed staging areas are located away from habitat that could support special-status wildlife species); noise, light, and vibration from construction activities; and other construction-related activities that are temporary in nature. Such indirect effects will be limited to several isolated areas that contain potentially suitable habitats for special-status wildlife species, including riparian areas along the Los Angeles River and Rio de Los Angeles State Park.

Birds

Construction activities may directly and indirectly affect special-status bird species and migratory birds through the disturbance of potential nesting habitat. Habitat along the Los Angeles River is of greatest concern, where the occurrence of the listed least Bell's vireo has been documented as recently as May 2021 (eBird 2020).⁴ Least Bell's vireo may occur along the Los Angeles River and Verdugo Wash in areas with suitable riparian vegetation cover. Specifically, suitable least Bell's vireo habitat is present within the Wildlife RSA near the following Preferred Alternative footprint locations: (1) the Verdugo Wash Bridge Replacement area, (2) the Metrolink Central Maintenance Facility, and (3) rail alignment work between I-5 and SR 2 (including areas adjacent to Rio de Los Angeles State Park). Temporary construction activities have the potential to have a significant impact on nesting birds, including common and special-status species.

Mammals

Construction activities also have the potential to directly and indirectly affect special-status (or otherwise protected) bat species through the temporary disturbance of suitable roosting habitat. Occupied bridges, culverts, and other structures that contain highly suitable roosting features within the project footprint along the existing railroad right-of-way are of particular concern and include the following:

- Lockheed Channel crossings and modifications (city of Burbank)
- Burbank Western Channel crossings and modifications (city of Burbank)
- Magnolia Boulevard grade separations (city of Burbank)

⁴ A federal Endangered Species Act Section 7 consultation with the USFWS has been completed for potential effects on least Bell's vireo. In the Section 7 consultation letter dated April 12, 2021, the USFWS concluded that the HSR Build Alternative (with the mitigation measures documented herein incorporated) is *Not Likely to Adversely Affect* least Bell's vireo. The project is not anticipated to directly or indirectly affect other listed special-status species.

- Modifications to the existing Burbank Metrolink Station (city of Burbank)⁵
- Olive Avenue overcrossing (city of Burbank)
- Alameda Avenue undercrossing (city of Burbank)
- Various overcrossings near Verdugo Wash (city of Glendale)
- Culverts within the Los Angeles River channel adjacent to the existing railroad right-of-way (city of Los Angeles)
- Various bridges over the Los Angeles River channel adjacent to the existing railroad right-of-way (city of Los Angeles)
- Buildings that would be removed during construction
- Railway and roadway grade separations currently under construction or planned to be constructed for unrelated projects along the existing railroad right-of-way

Temporary effects (e.g., increased noise, dust, and vibration) could indirectly affect bats roosting in adjacent structures during construction activities. Lighted construction areas could disorient bats in the vicinity of such activities and could disrupt nocturnal foraging activities.

Multiple IAMFs included as part of the Preferred Alternative will be implemented to minimize temporary indirect construction impacts on potentially suitable habitats for special-status wildlife species, to avoid impacts on adjacent habitats, and/or direct impacts on special-status animal species (if present). These include BIO-IAMF#1, BIO-IAMF#3, BIO-IAMF#5, BIO-IAMF#8, BIO-IAMF#11, AQ-IAMF#1, HMW-IAMF#6, and HYD-IAMF#1. Each of these IAMFs will effectively minimize temporary indirect construction impacts on potentially suitable habitats for special-status wildlife species, avoid impacts on adjacent habitats, and/or direct impacts on special-status animal species that have potential to occur within the Wildlife RSA by limiting construction equipment and personnel from entering areas where special-status animals may be affected; minimizing the potential for construction activities to generate excessive noise, dust, light, and vibration; and ensuring that BMPs are implemented that will minimize temporary disturbances to special-status animals and their habitats.

Although these IAMFs will reduce the potential for temporary construction effects on special-status wildlife species, construction activities will still have the potential to cause a substantial adverse effect on special-status wildlife species, which is a significant impact under CEQA. Implementation of the following mitigation measures will reduce Impact BIO #2 to a less than significant level. Because of text length, mitigation measures are presented separately in Attachment A, Mitigation Measures, to these CEQA Findings.

- **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.**
- **BIO-MM#56: Conduct Monitoring of Construction Activities.**
- **BIO-MM#61: Establish and Implement a Compliance Reporting Program.**
- **BIO-MM#63: Work Stoppage.**

⁵ The proposed Downtown Burbank Metrolink Station modifications are included as an early action project (refer to Chapter 2, Alternatives, of the Final EIR/EIS for details).

- **BIO-MM#79: Conduct Pre-Construction Protocol-Level Surveys and Construction Monitoring for Least Bell's Vireo.**
- **BIO-MM#80: Implement Impact Avoidance and Minimization Measures for Occupied Least Bell's Vireo Habitat.**

Mitigation Measures BIO-MM#56, BIO-MM#61, and BIO-MM#63 will be required and will cover multiple species and habitats that have potential to be affected during project construction. Mitigation Measure BIO-MM#56 will involve the monitoring of all initial ground-disturbing activities by a qualified biologist, which will provide verification of the extent and locations of any special-status wildlife species present within or near the project footprint and verify compliance with all applicable IAMFs. Mitigation Measure BIO-MM#61 will require documentation of compliance with all IAMFs, mitigation measures, and requirements set forth in regulatory agency authorizations. Implementation of Mitigation Measure BIO-MM#63 will allow the biological monitor to temporarily stop work activities to prevent harm to any special-status wildlife species within or near the work area, as well as to ensure that the project will not adversely affect any Federal Endangered Species Act (FESA) or California Endangered Species Act (CESA)-listed species without proper consultation with the U.S. Fish and Wildlife Service (USFWS) or the California Department of Fish and Wildlife (CDFW), where applicable. Mitigation Measures BIO-MM#56, BIO-MM#61, and BIO-MM#63 will be implemented to offset potential project impacts on multiple types of special-status species (e.g., reptiles, birds, and mammals).

Four mitigation measures pertaining to avian species will be required: BIO-MM#14, BIO-MM#15, BIO-MM#79, and BIO-MM#80.

Mitigation Measures BIO-MM#25, BIO-MM#26, and BIO-MM#27 will be required to reduce the impacts on special-status bats.

4.6.2.2 Permanent Impacts to Special-Status Bats

Permanent construction effects involve the removal of buildings for construction or staging areas, widening an existing rail bridge over Verdugo Wash, modifying various bridges and crossing structures along the existing railroad right-of-way, realignment and partial undergrounding of storm channels, and building new bridges in the southern portion of the RSA. Any of these types of structures that contain suitable roosting features (e.g., hinges, crevices, or perches) may be used by a variety of bat species for roosting. New and expanded bridges and realigned underground storm channels may provide additional habitat for special-status bat species, resulting in a beneficial project effect; however, the potential for permanent removal of suitable habitat for special-status bat species is a significant impact. Implementation of 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; BIO-MM#56, Conduct Monitoring of Construction Activities; BIO-MM#61, Establish and Implement a Compliance Reporting Program; and BIO-MM#63, Work Stoppage, will reduce permanent impacts on bats from removal of roosting habitat.

The Authority finds that the combination of the above list of mitigation measures have been required as part of the Preferred Alternative and that they will substantially lessen the temporary and permanent direct and indirect impacts to special-status wildlife species and will reduce them to a less than significant impact under CEQA.

4.6.3 Impact BIO #3: Construction Impacts on Special-Status Natural Communities

Two special-status natural communities, freshwater-forested and shrub wetland and freshwater emergent wetland, as identified by the National Wetlands Inventory and confirmed during field surveys, occur within the Aquatic RSA and are associated with the Los Angeles River and Verdugo Wash.

4.6.3.1 Temporary and Permanent Impacts

As described in Section 3.7.6.3 of the Final EIR/EIS, while no direct removal of any special-status natural community will occur under the Preferred Alternative, the project has potential to result in temporary indirect disturbance of wetland habitat associated with Verdugo Wash and the Glendale Narrows area within the Los Angeles River. Additionally, construction of the Preferred Alternative has potential to result in permanent indirect significant impacts on special-status natural communities due to the potential introduction or spread of invasive plant species within riparian habitats associated with the Los Angeles River and Verdugo Wash. Invasive plant species could outcompete and displace native plant species and associated ecological processes.

Incorporation of BIO-IAMF#1, BIO-IAMF#3, BIO-IAMF#5, BIO-IAMF#8, BIO-IAMF#9, BIO-IAMF#10, BIO-IAMF#11, HMW-IAMF#6, HYD-IAMF#1, HYD-IAMF#3, and AQ-IAMF#1 will effectively minimize impacts on special-status natural communities. However, the introduction or spread of invasive plant species into special-status natural communities has the potential to have significant impacts on special-status natural communities. Implementation of the following mitigation measure will reduce Impact BIO #3 to a less than significant level. Because of text length, mitigation measures are presented separately in Attachment A, Mitigation Measures, to these CEQA Findings.

- **BIO-MM#55: Prepare and Implement a Weed Control Plan**

Mitigation Measure BIO-MM#55 requires the preparation of a plan that contains applicable specifications and procedures that will minimize or avoid the spread of invasive weeds during ground-disturbing activities during construction. With the implementation of Mitigation Measure BIO-MM#55, the Preferred Alternative will not have a substantial adverse effect on any riparian habitat or other sensitive natural community, including riparian habitats regulated under the California Fish and Game Code.

The Authority finds that Mitigation Measure BIO-MM#55 has been required in the Preferred Alternative and will substantially lessen the temporary and permanent direct and indirect impacts to special-status plant communities and will reduce the impacts to a less than significant level under CEQA.

4.6.4 Impact BIO #4: Construction Impacts on Aquatic Resources

The Preferred Alternative will have temporary and permanent impacts on aquatic resources during construction.

4.6.4.1 Temporary Impacts

Construction of the Preferred Alternative will result in temporary direct impacts on nonwetland aquatic resources (concrete-lined portions of the Los Angeles River and concrete-lined stormwater channels). Direct temporary effects on aquatic resources would result from the temporary placement of fill during construction in and over aquatic resources or falling debris from bridge and channel modifications (e.g., relocating culverts) and construction. Construction access and the temporary placement of materials associated with bridge construction, replacement, and modifications will temporarily affect up to approximately 2 acres of nonwetland (Riverine) waters of the U.S. within channelized, concrete-lined portions of the Los Angeles River and Verdugo Wash. 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 will substantially reduce impacts on these areas, the Preferred Alternative will still result in temporary impacts on aquatic resources under the jurisdiction of the CDFW, the State Water Resources Control Board, and the U.S. Army Corps of Engineers (USACE), which are a significant impact under CEQA. Implementation of the following mitigation measures will reduce Impact BIO #3 to a less than significant level. Because of text length, mitigation measures are presented separately in Attachment A, Mitigation Measures, to these CEQA Findings.

- **BIO-MM#62: Prepare Plan for Dewatering and Water Diversions**

Mitigation Measure BIO-MM#62 will offset project-related temporary impacts on aquatic resources and ensure consistency with applicable regulatory agencies, which require that such impacts result in no more than minimal individual or cumulative adverse environmental effects. With mitigation incorporated, temporary construction impacts on aquatic resources are less than significant under CEQA.

4.6.4.2 **Permanent Impacts**

The Preferred Alternative is expected to result in the discharge of less than 0.5 acre of permanent fill into waters of the U.S. (equal to areas potentially subject to State Water Resources Control Board jurisdiction) at one location: the proposed Main Street roadway bridge that will cross the Los Angeles River. Table 3.7-11 of the Final EIR/EIS provides a breakdown of the Preferred Alternative’s anticipated direct permanent impacts on aquatic resources. Specifically, the Preferred Alternative will have a direct permanent impact on 0.028 acre of nonwetland (Riverine) waters of the U.S. and 0.028 acre of California Fish and Game Code aquatic resources within channelized, concrete-lined portions of the Los Angeles River. It should be noted that the USACE Los Angeles District categorizes direct impacts to concrete-lined channels as “temporary impacts” rather than a permanent loss of waters of the U.S. The Preferred Alternative proposes grade-separating Main Street with a new roadway bridge crossing over the railroad corridor and the Los Angeles River resulting in 0.028 acre of new permanent fill. Additionally, there is a slight chance of indirect permanent effects on jurisdictional waters in the form of water-quality-related effects (i.e., dust/siltation and increased runoff into natural and constructed water features and fill downstream from the project footprint). While implementation 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 will substantially minimize impacts on aquatic resources, the Preferred Alternative will still result in a substantial adverse effect on aquatic resources under the jurisdiction of the CDFW, the State Water Resources Control Board, and the USACE due to the discharge of permanent fill and minimal hydrologic interruption, which is a significant impact under CEQA.

Implementation of the following mitigation measures will reduce Impact BIO #4 to a less than significant level. Because of text length, mitigation measures are presented separately in Attachment A, Mitigation Measures, to these CEQA Findings.

- **BIO-MM#34: Monitor Construction Activities within Aquatic Resources.**
- **BIO-MM#47: Prepare and Implement a Compensatory Mitigation Plan (CMP) for Impacts to Aquatic Resources.**
- **BIO-MM#61: Establish and Implement a Compliance Reporting Program.**
- **BIO-MM#62: Prepare Plan for Dewatering and Water Diversions.**

Mitigation Measures BIO-MM#34, BIO-MM#61, and BIO-MM# 62 will ensure protection of aquatic resources within or adjacent to the project footprint through compliance with applicable avoidance and minimization measures as set forth in regulatory authorizations under the Clean Water Act (CWA) or the Porter-Cologne Water Quality Control Act. If required by the resource agencies, Mitigation Measure BIO-MM#47 will be implemented to provide for compensatory mitigation for impacts to jurisdictional aquatic resources.

The Authority finds that the above-listed mitigation measures are required in the Preferred Alternative and that they will substantially lessen the temporary and permanent direct and indirect impacts to aquatic resources during the construction period to a less than significant level under CEQA.

4.6.5 **Impact BIO #5: Construction Effects on Wildlife Movement**

The upland and riparian connections from Verdugo Wash to the surrounding mountain areas are among the few connections throughout the Los Angeles Basin that may be used as wildlife movement corridors. These “corridors” are not located on the alignment for the Preferred Alternative, but are several areas of open space (e.g., parks, golf courses) that connect Verdugo

Wash to the mountains, well upstream of the alignment. Wildlife known to inhabit urban areas, such as coyote, skunk, opossum, and raccoon, may move throughout the Supplemental Habitat Study Area (a 3-mile buffer around the project footprint) as part of their daily activities, using roads, drainage channels, and backyards. The Burbank Western Channel, the Los Angeles River, Verdugo Wash, and Arroyo Seco have been identified as the primary terrestrial wildlife movement corridors in the Wildlife RSA. Construction of the Preferred Alternative has the potential to result in temporary localized impacts on urban wildlife movement from the placement of temporary barriers (e.g., temporary fencing), construction staging areas, increased vehicular traffic, and construction laydown that would temporarily restrict wildlife movement from their previous daily and seasonal patterns, which will be a direct effect. The noise, vibration, light, dust, and other human disturbance within construction areas would temporarily deter wildlife from using areas in the immediate vicinity of construction activities, which will be an indirect effect. These direct and indirect effects could alter migration behaviors, territories, and foraging habitats in select areas. 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 will minimize these impacts. Despite the minimization that will occur through the implementation of these IAMFs, temporary construction activities will have the potential to interfere substantially with wildlife movement within known wildlife movement corridors (the Los Angeles River, Verdugo Wash, Burbank Western Channel, and Arroyo Seco). This is a significant impact.

Implementation of the following mitigation measure will reduce Impact BIO #5 to less than significant. Because of text length, mitigation measures are presented separately in Attachment A, Mitigation Measures, to these CEQA Findings.

- **BIO-MM#37: Minimize Effects to Wildlife Movement Corridors During Construction.**

Implementation of Mitigation Measure BIO-MM#37 will involve avoidance of direct and indirect adverse effects on known wildlife movement corridors during construction activities by minimizing nighttime lighting and avoiding placement of barriers (such as fencing) within such areas, to the extent feasible. With the implementation of this mitigation measure, the Preferred Alternative will not interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, and it will not impede the use of native wildlife nursery sites.

The Authority finds that the above-listed mitigation measure has been included in the Preferred Alternative and will substantially lessen the temporary impacts to wildlife crossings and habitat linkages during the construction period for the Preferred Alternative and will reduce the impacts to a less than significant level under CEQA.

4.6.6 Impact BIO #6: Construction Effects on Protected Trees

Construction of the Preferred Alternative will not result in the removal of any large groves of trees or trees protected as part of any special-status natural community (e.g., oak or sycamore woodland), but will result in temporary and permanent effects on individual trees protected under county and local plans and ordinances. Most protected trees within the public right-of-way and along the existing railroad corridor are landscape, ornamental, or nonnative trees, which are less ecologically significant because they do not provide natural habitat and are less likely to provide habitat preservation value for native wildlife species than naturally occurring native trees.

Temporary direct effects on protected trees from construction activities will occur from trimming or pruning trees for stations, tracks, equipment storage areas, access roads, and road overcrossings. Additionally, temporary direct effects from construction activities could also include unintentional contamination, dust, debris, and other airborne pollutants, and soil compaction. Indirect effects on protected trees could result from temporary changes in hydrology and topography (as a result of temporary staging areas; access roads; equipment storage; and foot, vehicle, and machine traffic), which may alter water and nutrient intake and thereby inhibit growth or cause leaf mortality.

Construction of the Preferred Alternative will also have a permanent impact on trees covered under local ordinances, including tree removal. Direct permanent effects on protected trees are

anticipated in areas where permanent infrastructure (e.g., rail track and road overcrossings and undercrossings and the proposed Burbank Airport Station) or temporary activities would require clearing (e.g., materials staging, temporary access roads, and construction rights-of-way). Direct effects from construction activities could also result from unintentional contamination, such as chemical leaks and spills, which could affect water or soils used by protected trees, potentially resulting in their death. These effects could be temporary if contaminants are properly removed and tree loss is prevented. Indirect permanent effects on protected trees could occur as a result of changes in erosion and sedimentation. Displaced sediment and alterations to microtopography could change the soil and substrate conditions required by protected trees. Permanent changes in hydrology and topography could damage the soil environment surrounding a tree's roots by affecting the level of necessary symbionts in the soil (e.g., mycorrhizae for oaks), or lead to fungal infections, root rot, lack of proper drainage, and difficulty in obtaining oxygen or other necessary elements. These factors ultimately affect the growth of roots and vegetation and could lead to the death of protected trees.

While the incorporation of BIO-IAMF#1, BIO-IAMF#3, BIO-IAMF#5, BIO-IAMF#8, BIO-IAMF#9, BIO-IAMF#10, BIO-IAMF#11, HMW-IAMF#6, HYD-IAMF#1, HYD-IAMF#3, and AQ-IAMF#1 will reduce temporary and permanent construction impacts on protected trees, the impacts on protected trees have the potential to result in the significant loss of individual trees, which may conflict with local policies and ordinances for tree preservation. This is a significant impact.

Implementation of the following mitigation measure will reduce Impact BIO #6 to a less than significant level. Because of text length, mitigation measures are presented separately in Attachment A, Mitigation Measures, to these CEQA Findings.

- **BIO-MM#35: Implement Transplantation and Compensatory Mitigation Measures for Protected Trees.**

Implementation of Mitigation Measure BIO-MM#35 provides consistency with local regulations and laws pertaining to protected trees and multiple ways to compensate for permanent direct impacts on protected trees through compensation (including transplanting protected trees to outside of the impact area, planting replacement trees, or contributing to a tree-planting fund) as applicable and in accordance with local laws and regulations.

The Authority finds that the above-listed mitigation measure has been included in the Preferred Alternative and will substantially lessen the temporary and permanent impacts to protected trees during the construction period to a less than significant level under CEQA.

4.6.7 Impact BIO #7: Operational Effects on Special-Status Plant Species

While no direct permanent effects on special-status plant species are anticipated during the operation phase of the Preferred Alternative, maintenance activities could introduce or spread invasive plant species harmful to southern tarplant, if present. BIO-IAMF#4 and BIO-IAMF#5 reduce the potential for the impact to occur. BIO-IAMF#4 includes training to ensure personnel understand the regulatory agency requirements and procedures necessary to protect special-status plant species. BIO-IAMF#5 includes preparation and implementation of a Biological Resources Management Plan. Nevertheless, this is a significant impact.

Implementation of the following mitigation measure will reduce Impact BIO #7 to a less than significant level. Because of text length, mitigation measures are presented separately in Attachment A, Mitigation Measures, to these CEQA Findings.

- **BIO-MM#55: Prepare and Implement a Weed Control Plan.**

Implementation of Mitigation Measure BIO-MM#55 includes the preparation of a plan that contains applicable specifications and procedures to minimize and avoid the spread of invasive weeds during ground-disturbing activities during construction and operations and maintenance.

The Authority finds that the above-listed mitigation measure is included in the Preferred Alternative and will substantially lessen the project impacts to special-status plant species to a less than significant level under CEQA.

4.6.8 Impact BIO #8: Operation Effects on Special-Status Wildlife Species

Routine maintenance activities associated with the Preferred Alternative (e.g., vegetation maintenance or structural maintenance requiring equipment that would generate noise, dust, and vibration) have the potential to result in temporary direct and indirect impacts on bats and nesting birds, including common and special-status species, through habitat modification (disturbance of potential roosting and nesting habitat). Habitat along the Los Angeles River is of greatest concern, where the occurrence of the listed least Bell's vireo has been documented. This is a significant impact under CEQA.

Implementation of the following mitigation measures will reduce Impact BIO #8 to less than significant. Because of text length, mitigation measures are presented separately in Attachment A, Mitigation Measures, to these CEQA Findings.

- **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.**
- **BIO-MM#80: Implement Impact Avoidance and Minimization Measures for Occupied Least Bell's Vireo Habitat.**

Three specific mitigation measures pertaining to avian species are required to be implemented when maintenance activities involving vegetation removal or trimming or use of heavy equipment is required: BIO-MM#14, BIO-MM#15, and BIO-MM#80. When maintenance activities involving bridge/culvert work, or use of heavy equipment adjacent to such areas, is required, three specific mitigation measures pertaining to bat species are required to be implemented: BIO-MM#25, BIO-MM#26, and BIO-MM#27. With incorporation of these mitigation measures, temporary operations impacts on special-status wildlife species are less than significant under CEQA because active bird nests and bat roosts will be identified, appropriate noise-reduction/attenuation techniques and noise monitoring shall be implemented within 500 feet of habitat occupied by least Bell's vireo, and measures will be implemented to avoid, minimize, or compensate for impacts (and comply with relevant California Fish and Game Code requirements) during maintenance activities. If compensatory bat roosting habitat creation is required, the alternative roosting structure will be constructed in accordance with CDFW guidance and be designed to be comparable in size and quality to the impacted habitat.

The Authority finds that the combination of the above-listed mitigation measures are included in the Preferred Alternative and will substantially lessen the temporary direct and indirect impacts to special-status wildlife species to a less than significant level under CEQA.

4.6.9 Impact BIO #9: Operation Effects on Special-Status Natural Communities

Operation and maintenance activities associated with the Preferred Alternative may result in permanent indirect impacts on special-status natural communities. Due to the limited extent of special-status natural communities along the proposed HSR alignment and the spatial separation between such communities and the proposed HSR infrastructure, and because of the ongoing disturbances that currently exist along the railroad transportation corridor, such impacts will be limited to the introduction or spread of invasive plant species during ground-disturbing maintenance activities that will take place adjacent to riparian and wetland communities within the Los Angeles River and Verdugo Wash. This is a significant impact under CEQA.

Implementation of the following mitigation measure will reduce Impact BIO #9 to less than significant. Because of text length, mitigation measures are presented separately in Attachment A, Mitigation Measures, to these CEQA Findings.

- **BIO-MM#55: Prepare and Implement a Weed Control Plan.**

Implementation of Mitigation Measure BIO-MM#55 includes the preparation and implementation of a plan that contains applicable specifications and procedures to effectively minimize and avoid the spread of invasive weeds during ground-disturbing activities during operations and maintenance.

The Authority finds that the above-listed mitigation measure has been included in the Preferred Alternative and will substantially lessen the permanent indirect impacts to special-status plant communities from project activities to a less than significant level under CEQA.

4.6.10 Impact BIO #10: Operation Effects on Aquatic Resources

Operation of the Preferred Alternative will require 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. These activities may temporarily alter drainage patterns within the footprint of these activities, and they 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. In addition, these maintenance activities may temporarily modify flow patterns by obstructing flow, changing the direction or velocity of water circulation, or increasing erosion, siltation, or runoff. Increased sedimentation through erosion, as well as accidental spills from trains or maintenance vehicles and equipment could introduce contaminants or pollutants into aquatic resources. This is a significant impact.

Implementation of the following mitigation measures will reduce Impact BIO #10 to a less than significant level. Because of text length, mitigation measures are presented separately in Attachment A, Mitigation Measures, to these CEQA Findings.

- **BIO-MM#34: Monitor Construction Activities within Aquatic Resources.**
- **BIO-MM#62: Prepare Plan for Dewatering and Water Diversions.**

Mitigation Measure BIO-MM#62 will establish procedures for minimizing turbidity, siltation, and other water quality-related impacts, provide for the monitoring of dewatering and water diversion sites, and require pre-activity surveys to determine the presence or absence of special-status species within the affected waterbody. Mitigation Measure BIO-MM#34 will require the project biologist to monitor construction activities that take place within or adjacent to aquatic resources, including activities associated with the installation of protective barriers (e.g., silt fencing, sandbags, fencing), installation or removal of creek material to accommodate crossings, construction of access roads, and removal of vegetation. As part of this effort, the project biologist will document compliance with applicable avoidance and minimization measures, including measures set forth in applicable regulatory authorizations issued under the California Fish and Game Code, the CWA, and the Porter-Cologne Water Quality Control Act.

The Authority finds that the above-listed mitigation measures have been included in the Preferred Alternative and will substantially lessen the periodic operations impacts to aquatic resources from the Preferred Alternative to a less than significant level under CEQA.

4.7 Hydrology and Water Resources

As described in the Burbank to Los Angeles Project Section Final EIR/EIS (Section 3.8), the Preferred Alternative would cause two significant hydrology and water resources construction impacts (Impact HWR #3: Temporary Impacts on Surface Water Quality during Construction and Impact HWR #5: Temporary Impacts on Groundwater Volume, Quality, and Recharge during Construction) that would be reduced to a less than significant level with the implementation of mitigation measures.

4.7.1 Impact HWR #3: Temporary Impacts on Surface Water Quality during Construction

Construction activities associated with the Preferred Alternative will disturb approximately 594 acres of soil (both upland and within waterbodies), which would include work within three waterbodies (the Lockheed Channel, the Burbank Western Channel, and the Los Angeles River). Pollutants of concern during construction include sediments, trash, petroleum products, concrete waste (dry and wet), sanitary waste, and chemicals. During construction activities, excavated soil will be exposed, and there will be an increased potential for soil erosion compared to existing conditions. In addition, chemicals, liquid products, petroleum products (such as paints, solvents, and fuels), and concrete-related waste may be spilled or leaked during construction. Any of these pollutants have the potential to be transported via storm runoff into receiving waters and could have a detrimental effect on surface water quality.

Implementation of HYD-IAMF#3, HMW-IAMF#1, HMW-IAMF#6, HMW-IAMF#7, HMW-IAMF#8, BIO-IAMF#9, BIO-IAMF#10, BIO-IAMF#11, and GEO-IAMF#1 will reduce temporary impacts on surface water quality because IAMFs to manage stormwater and prevent the potential for introduction of pollutants to surfaces will be implemented during construction activities, as described in the Final EIR/EIS. Even after implementation of IAMFs, there will, nevertheless, be the potential for violation of water quality standards and waste discharge requirements, degradation of water quality, and the creation of additional sources of polluted runoff, and conflict with the implementation of a water quality control plan from dewatering and diversion of surface waters because dewatering activities may contain sediments and contaminants that could degrade water quality. This is a significant impact under CEQA.

Implementation of Mitigation Measure BIO-MM#62 mitigates this impact. Because of text length, mitigation measures are presented separately in Attachment A, Mitigation Measures, to these CEQA Findings.

- **BIO-MM#62: Prepare Plan for Dewatering and Water Diversions.**

Mitigation Measure BIO-MM#62 requires 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. The plan will incorporate measures to minimize turbidity and siltation, such as the use of silt fences, fiber rolls, and/or temporary sediment basins or settling ponds. The dewatering plan would identify how to divert water from the work area in a manner that avoids or minimizes effects on resources to the maximum extent practicable, including monitoring of water quality. The Authority would obtain review and approval from the applicable regulatory agency (e.g., the Regional Water Quality Control Board, the USACE). These efforts would minimize any changes to overall water quality so that dewatering and diversion of surface waters would not contribute to a violation of regulatory standards or waste discharge requirements. Because construction of the Preferred Alternative would take place within the channel of surface waters, within waters of the U.S. and the state, a Nationwide Permit 14 under Section 404 permitting would be required from the USACE and a Section 401 Permit would be required from the State Water Resources Control Board. These permits would include any additional necessary conditions to reduce effects to surface water quality. With implementation of Mitigation Measure BIO-MM#62, the Preferred Alternative will not result in the violation of any water quality standards or discharge requirements, degrade water quality, create additional sources of polluted runoff, or conflict with the implementation of a water quality control plan.

The Authority finds that Mitigation Measure BIO-MM#62 has been required in the Preferred Alternative and that implementation of this mitigation measure will reduce the project's temporary surface water quality impacts during construction to a less than significant level.

4.7.2 Impact HWR #5: Temporary Impacts on Groundwater Volume, Quality, and Recharge during Construction

Shallow groundwater (less than 50 feet below ground surface) occurs within the direct RSA, especially in locations where the direct RSA is adjacent to the Los Angeles River. Groundwater was detected approximately 25 feet below ground surface at the southern end of the direct RSA, near the Los Angeles River. Historically, groundwater has been as shallow as 20 feet below ground surface. Therefore, shallow groundwater may be encountered during construction activities associated with the Main Street bridge crossing over the Los Angeles River. Implementation of GEO-IAMF#1 and HYD-IAMF#3 will reduce the potential for temporary impacts to groundwater during construction by requiring measures to control the amount of groundwater withdrawal and construction BMPs to minimize pollutants that could infiltrate groundwater. Even with implementation of GEO-IAMF#1 and HYD-IAMF#3, impacts to groundwater levels and quality during construction of the below-grade sections will still be significant because of the potential for substantially depleting groundwater supplies and substantial interference with groundwater recharge.

In addition, contaminated groundwater may be encountered during the removal and replacement of three extraction wells used to extract contaminated groundwater from the San Fernando Valley Groundwater Basin Superfund site. HMW-IAMF#1 will avoid or minimize potential groundwater quality effects associated with construction near the San Fernando Valley Groundwater Basin Superfund site because properties affected by construction of the Preferred Alternative will be investigated and remediated prior to construction. HMW-IAMF#11 will also require the Authority to coordinate with relevant stakeholders regarding groundwater quality impacts related to the San Fernando Valley Groundwater Basin Superfund sites.

Implementation of the following measure mitigates temporary impacts on groundwater. Because of text length, mitigation measures are presented separately in Attachment A, Mitigation Measures, to these CEQA Findings.

- **HWR-MM#1: Below-Grade Section Constructability and Hydrogeological Monitoring.**

Mitigation Measure HWR-MM#1 will be implemented to reduce impacts to groundwater levels and quality through a variety of methods, including construction methods to reduce inflow of groundwater into the below-grade sections, waterproofing of the below grade sections, groundwater monitoring, and inspections of the below-grade sections. If groundwater is affected, monitoring of groundwater will continue until the groundwater system has normalized to pre-construction conditions.

The Authority finds that Mitigation Measure HWR-MM#1 has been required in the Preferred Alternative and that implementation of this mitigation measure will reduce the project's construction-related temporary impacts to water quality, hydrology, and water resources impacts associated with groundwater to less than significant levels under CEQA.

4.8 Hazardous Materials and Wastes

As described in the Burbank to Los Angeles Project Section Final EIR/EIS (Section 3.10), one significant hazardous materials and wastes construction impacts (Impact HMW #5: Emit Hazardous Emissions or Handle of Hazardous or Acutely Hazardous Materials, Substances, or Waste within 0.25 Mile of a School during Construction) associated with the Preferred Alternative has been identified that will be reduced to a less than significant level with the implementation of mitigation measures.

4.8.1 Impact HMW #5: Emit Hazardous Emissions or Handle of Hazardous or Acutely Hazardous Materials, Substances, or Waste within 0.25 Mile of a School during Construction

Potentially hazardous materials and items containing potentially hazardous materials commonly used in railway construction and demolition of existing structures will be used or stored within the project footprint, in some cases within 0.25 mile of a school. Additionally, hazardous wastes such

as asbestos-containing materials and lead-based paint could be generated during demolition of existing structures within the project footprint. Construction and excavation activities will potentially emit hazardous air emissions or handle extremely hazardous wastes above threshold quantities referenced in Public Resources Code section 21151.4 and described in Health and Safety Code section 25532(j). As noted in Table 3.10-5 of the Final EIR/EIS, 30 existing educational facilities, defined as colleges, high schools, middle schools, elementary schools, after-school programs, or charter schools, are within 0.25 mile of the project footprint for the Preferred Alternative. HMW-IAMF#6, HMW-IAMF#7, and HMW-IAMF#8 are part of the Preferred Alternative and 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, even with implementation of IAMFs and compliance with applicable regulatory requirements during construction of the Preferred Alternative, the potential impact of hazardous emissions or handling of hazardous substances within 0.25 mile of a school will still be a significant impact under CEQA due to the potential for inadvertent release of unrestricted extremely hazardous substances during storage, use, or transport.

Implementation of the following mitigation measure mitigates the potential for hazardous emissions within 0.25 mile of a school. Because of text length, mitigation measures are presented separately in Attachment A, Mitigation Measures, to these CEQA Findings.

- **HMW-MM#1: Limit Use of Extremely Hazardous Materials near Schools during Construction.**

Mitigation Measure HMW-MM#1 will be implemented to further limit and control use of extremely hazardous materials near schools during construction by requiring the contractor to monitor all extremely hazardous substances and avoid the handling of these substances within 0.25 mile of schools.

The Authority finds that Mitigation Measure HMW-MM#1 has been required in the Preferred Alternative and that implementation of this mitigation measure will substantially reduce or avoid the project's impacts associated with temporary hazardous material and waste activities near schools; therefore, with implementation of Mitigation Measure HMW-MM#1, this impact is reduced to less than significant under CEQA.

4.9 Safety and Security

As described in the Burbank to Los Angeles Project Section Final EIR/EIS (Section 3.11), one significant safety and security operational impact (Impact S&S #11: Need for Expansion of Existing Fire, Rescue, and Emergency Services Facilities) associated with the Preferred Alternative has been identified that will be reduced to a less than significant level with the implementation of mitigation measures.

4.9.1 Impact S&S #11: Need for Expansion of Existing Fire, Rescue, and Emergency Services Facilities

The associated development and economic activity that will indirectly result from the presence of the Preferred Alternative could increase demand for local emergency responders during project operations. Additionally, operation of the Preferred Alternative will increase traffic at intersections around the HSR stations during project operations. The Preferred Alternative includes SS-IAMF#2, implementation of the fire and life safety program, which will include coordination with local emergency response organizations to provide them with an understanding of the HSR system, facilities, and operations, and to obtain their input for modifications to emergency response operations and facilities. However, this IAMF will not avoid significant impacts entirely. Therefore, the impact of the Preferred Alternative on the existing need for fire, rescue, and emergency service facilities under CEQA is potentially significant.

Implementation of the following measures mitigates this impact. Because of text length, mitigation measures are presented separately in Attachment A, Mitigation Measures, to these CEQA Findings.

- **TRAN-MM#1: Intersection Improvements for Construction Impacts.**
- **TRAN-MM#2: Intersection and Roadway Improvements for Operational 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.**

Mitigation Measures TRAN-MM#1 and TRAN-MM#2 will reduce the Preferred Alternative's impacts on emergency response times by improving traffic circulation in the vicinity of the Preferred Alternative (both alignment and stations) and constructing intersection improvements that reduce congestion that can impede emergency vehicle movement.

Mitigation Measure S&S-MM#1 will also reduce the impacts on existing fire, rescue, and emergency services facilities by monitoring the response of providers to incidents at stations and providing a fair share of the cost of service to address the impacts due to the increased demand for local emergency responders. Local fire, rescue, and emergency service providers may use the funding for additional emergency response equipment (e.g., additional fire vehicles, on-site defibrillators) or in other ways that will allow the providers to maintain acceptable service ratios, response times, or other performance objectives without the need for new or physically altered facilities. Although funding could also be used for new or expanded facilities, whether that will take place, and the environmental impacts from any such construction, is speculative. With the implementation of Mitigation Measures TRAN-MM#1, TRAN-MM#2, and S&S-MM#1 during operation of the Preferred Alternative, the impact on the existing need for fire, rescue, and emergency service facilities under CEQA is less than significant.

The Authority finds that Mitigation Measures TRAN-MM#1, TRAN-MM#2, and S&S-MM#1 have been required in the Preferred Alternative and will substantially lessen or avoid the impact on the existing need for fire, rescue, and emergency service facilities; therefore, with implementation of Mitigation Measures TRAN-MM#1, TRAN-MM#2, and S&S-MM#1, this impact is reduced to less than significant under CEQA.

4.10 Socioeconomics and Communities

As described in the Burbank to Los Angeles Project Section Final EIR/EIS (Section 3.12), one significant socioeconomics and communities construction impact (Impact SOCIO #1: Temporary Disruption to Community Cohesion or Division of Existing Communities from Project Construction) and one significant socioeconomics and communities operational impact (Impact SOCIO #15: Permanent Disruption to Community Cohesion or Division of Existing Communities from Project Operation) associated with the Preferred Alternative have been identified that will be reduced to a less than significant level with the implementation of mitigation measures.

4.10.1 Impact SOCIO #1: Temporary Disruption to Community Cohesion or Division of Existing Communities from Project Construction

Construction activities would generally take place in areas divided by an existing rail corridor and at the edges of neighborhoods in urban areas of Burbank, Glendale, and Los Angeles except for the segment in Burbank from the Burbank Airport Station to the existing railroad tracks near Vanowen Street and Buena Vista Street where the Preferred Alternative deviates from the existing railroad corridor. The Preferred Alternative will result in a temporary new physical barrier from tunnel construction south of the Burbank Airport Station at Hollywood Way to Beachwood Drive in the city of Burbank and temporarily increased noise and vibration impacts. The Preferred Alternative will also result in temporary visual changes and parking and circulation impacts from construction and alteration of the function of communities and neighborhoods. Even with implementation of N&V-IAMF#1, and N&V-IAMF#1, which will avoid noise and vibration impacts; TR-IAMF#2 through TR-IAMF#8, TR-IAMF#11, and TR-IAMF#12, which will avoid and minimize impacts related to temporary disruptions to community circulation patterns and parking from construction; and SS-IAMF#1, which will minimize the Preferred Alternative's temporary impacts on emergency response times during construction, the physical division of existing communities under CEQA, although temporary, is a significant impact.

Implementation of the following measures mitigates this impact. Because of text length, mitigation measures are presented separately in Attachment A, Mitigation Measures, to these CEQA Findings.

- **N&V-MM#1: Construction Noise Mitigation Measures.**
- **AVQ-MM#1: Minimize Visual Disruption from Construction Activities.**

Mitigation Measures N&V-MM#1 and AVQ-MM#1 will minimize the community-division impacts from temporary noise and visual changes during construction. Specifically, to minimize the contribution of construction noise to the temporary physical division of the community, Mitigation Measure N&V-MM#1 requires that prior to construction (any ground disturbing activities), the contractor shall prepare a noise-monitoring program for Authority approval and implement the approved measures to meet required noise limits. The noise-monitoring program shall describe how during construction the contractor will monitor construction noise to verify compliance with the noise limits (An 8-hour L_{eq} dBA of 80 during the day and 70 at night for residential land use, 85 for both day and night for commercial land use, and 90 for both day and night for industrial land use). The contractor would be given the flexibility to meet the FRA construction noise limits in the most efficient and cost-effective manner using the effective options described in N&V-MM#1.

To minimize potential aesthetic impacts associated with temporary construction staging and laydown areas during the construction period, the construction contractor will prepare a technical memorandum identifying how it will minimize construction-related aesthetic and visual quality disruption, per the requirements included in Mitigation Measure AVQ-MM#1. This technical memorandum will include the requirement that, to the extent feasible, contractors shall not locate construction staging sites within the immediate foreground distance (0 to 500 feet) of existing residential neighborhoods, recreational areas, or other land uses that include high-sensitivity viewers. This technical memorandum will be reviewed and approved by the Authority, and the measure and performance standards will be implemented by the contractor.

The Authority finds that Mitigation Measures N&V-MM#1 and AVQ-MM#1 have been required in the Preferred Alternative and that they will substantially lessen or avoid impacts related to community cohesion or construction-related physical division of the community to less than significant level under CEQA.

4.10.2 Impact SOCIO #15: Permanent Disruption to Community Cohesion or Division of Existing Communities from Operation

Operation of the Preferred Alternative will take place primarily within an existing railroad corridor adjacent to residential, commercial, and industrial communities, and it will not create a new physical barrier that will bisect or isolate established communities. The grade separations will not result in the permanent division of existing communities during operation of the Preferred Alternative because these improvements will not permanently introduce a new barrier or disrupt access to or from neighborhoods. Grade separations will improve the circulation of local streets by eliminating wait times at crossings. Bicycle and pedestrian facilities, including sidewalks, will be preserved. The street configuration changes during operation will generally improve access and community circulation, possibly improving community cohesion as well, by eliminating the rail corridor as a barrier or impediment to travel.

However, operation of the Preferred Alternative could have impacts related to noise, long-term parking losses and associated altered function of communities, and visual changes. Impacts from operation of the Preferred Alternative that could result in the division of existing communities include parking loss, increases in noise and traffic, disruption of access, pedestrian or cyclist safety hazards, visual changes, altered function of communities or neighborhoods, and disruption of established patterns of interactions among community members. AVQ-IAMF#1 and AVQ-IAMF#2 require design and construction of structures that are in visual harmony with and have aesthetic character matching the surrounding environment, and they define the process to follow when implementing the Authority's aesthetic review process. However, after compliance with these IAMFs, long-term parking losses, associated altered function of communities, and visual

changes from operation of the Preferred Alternative will still represent a long-term impact on community character and cohesion contributing to community division. The impact is significant.

Implementation of the following measures mitigates this impact. Because of text length, mitigation measures are presented separately in Attachment A, Mitigation Measures, to these CEQA Findings.

- **AVQ-MM#3: Incorporate Design Aesthetic Preferences into Final Design and Construction of Nonstation Structures.**
- **AVQ-MM#4: Provide Vegetation Screening along At-Grade and Elevated Guideways Adjacent to Residential Areas.**

Mitigation Measures AVQ-MM#3 and AVQ-MM#4 will incorporate Authority-approved aesthetic preferences for nonstation structures into final design and will provide vegetation screening along at-grade and elevated guideways adjacent to residential areas. These mitigation measures will mitigate permanent visual changes by reducing the prominence of the Preferred Alternative structure, thereby reducing visual impacts below a level that will cause an impact on community character and cohesion.

The Authority finds that Mitigation Measures AVQ-MM#3 and AVQ-MM#4 have been required in the Preferred Alternative and they will substantially lessen or avoid the permanent disruption to community cohesion or division of existing communities associated with the Preferred Alternative and reduce the impact to less than significant under CEQA.

4.11 Station Planning, Land Use, and Development

As described in the Burbank to Los Angeles Project Section Final EIR/EIS (Section 3.13), one significant station planning, land use, and development operational impact (Impact LU #4: Potential for Operations to Conflict with Land Use Patterns) associated with the Preferred Alternative has been identified that will be reduced to a less than significant level with the implementation of mitigation measures.

4.11.1 Impact LU #4: Potential for Operations to Conflict with Land Use Patterns

Operation of the Preferred Alternative will result in a variety of impacts, including noise, EMI/EMF, demand for parking, and population and employment growth, which could conflict with existing and planned land use patterns. As explained in the Final EIR/EIS, for Impact LU #4, the only operations impact that is anticipated to lead to changes in land use patterns is operational noise. As described in Section 3.4 of the Final EIR/EIS, there will be severe noise impacts on 2 theaters and 210 residences, and there will be moderate noise impacts on 1 recording studio, 1 nursing home, 1 church, 3 schools, and 712 residences. While there are existing noise-sensitive land uses close to existing transportation (rail and highway) rights-of-way, these land uses will be affected by increased noise levels that will result in direct permanent land use conflicts ~~that could lead to a substantial change in land use patterns incompatible with adjacent uses~~. These impacts are significant under CEQA.

Implementation of the following measures mitigates this impact: Because of text length, mitigation measures are presented separately in Attachment A, Mitigation Measures, to these CEQA Findings.

- **N&V-MM#3: Implement Proposed California High-Speed Rail Project Noise Mitigation Guidelines.**
- **N&V-MM#4: Vehicle Noise Specification.**

Mitigation Measures N&V-MM#3 and N&V-MM#4 will reduce the Preferred Alternative’s long-term noise and vibration impacts on nearby properties. Mitigation Measure N&V-MM#3 will ensure that sound barriers will be designed and installed in appropriate locations along the proposed alignment, consistent with the Authority’s Guidelines included at Appendix 3.4-A. Sound barriers would be required at three locations: (1) along the southbound HSR track between Fernando

Court and south of Glendale Boulevard; (2) along the northbound HSR track between Glendale Boulevard and Tyburn Avenue; and (3) along the southbound HSR track between Arvia Court and the I-5 overpass.

Mitigation Measure N&V-MM#4 will reduce impacts on sensitive receivers from operational vibration by providing vehicle suspension enhancements, special track support systems, or building modifications. Even with implementation of the mitigation measures, severe residual noise impacts will remain at 68 residences and 2 theaters (Figure 5). While these remaining impacts represent a permanent land use conflict, these conflicts are not expected to result in any changes to existing land use patterns because most of the affected uses have been located near an existing railroad corridor for at least 50 years and, therefore, have been exposed to elevated noise and vibration levels due to railroad operations for a long time. After implementation of the mitigation measures described above, permanent operations impacts related to direct land use conflicts are less than significant under CEQA because the anticipated conflicts will not cause a substantial change in land use patterns that will be incompatible with adjacent land uses.

The Authority finds that Mitigation Measures N&V-MM#3 and N&V-MM#4 have been required in the Preferred Alternative and will substantially lessen or avoid the potential for operation of the Preferred Alternative to conflict with land use patterns. Therefore, with implementation of Mitigation Measures N&V-MM#3 and N&V-MM#4, this impact is reduced to less than significant under CEQA.

4.12 Parks, Recreation and Open Space

As described in the Burbank to Los Angeles Project Section Final EIR/EIS (Section 3.15), three significant parks, recreation, and open space construction impacts (Impact PK #1: Temporary Impact Areas, Temporary Access Restrictions, Temporary Facility Closures, or Temporary Detours during Construction; Impact PK #3: Permanent Easements or Acquisition of Property from Parks, Recreation, and School Play Area Resources Due to Construction; and Impact PK #4: Changes to Planned Parks and Recreational Resources Due to Construction) associated with the Preferred Alternative have been identified. Additionally, one significant parks, recreation, and open space operational impact (Impact PK #5: Changes to Park or Recreation Facility Use or Character Due to Operation) associated with the Preferred Alternative has been identified. Impact PK #1 will be reduced to a less than significant level with the implementation of mitigation measures and Impact PK #3 through Impact PK #5 will remain significant and unavoidable after implementation of mitigation measures.



Figure 5 Residual Severe Noise Impacts

4.12.1 Impact PK #1: Temporary Impact Areas, Temporary Access Restrictions, Temporary Facility Closures, or Temporary Detours during Construction

Construction of the Preferred Alternative will involve demolition of existing structures; clearing and grubbing; reduction of permeable surface area; handling, storing, hauling, excavating, and placing fill; possible pile driving; and construction of aerial structures, bridges, road modifications, utility upgrades and relocations, HSR electrical systems, and railbeds. Temporary impact areas require the temporary use of land from a limited number of recreation areas, bike paths, or trails.

Construction of the Preferred Alternative could require temporary closures of those resources and/or temporary detours of bike paths and trails; create a temporary barrier for access to/from a resource; or temporarily prevent the use of the established recreational resource. The Preferred Alternative will require a temporary construction easement on a 0.4-mile portion of the planned Phase 3 of the San Fernando Bike Path, a 0.16-mile portion of the proposed alignment for the planned Chandler Road Bikeway extension, temporary construction easements on portions of the planned extension of the Los Angeles River Bike Path, and a 0.12-acre portion of the Albion Riverside Park for temporary construction activities. The impact to these resources will be significant because construction of the Preferred Alternative will result in diminished access as a result of temporary construction easements, temporary impact areas, temporary closures, and temporary detours, and because the diminished access to these resources could influence users of these resources to use other nearby recreational resources, increasing their use and potentially leading to substantial physical deterioration. Even with implementation of TR-IAMF#2, TR-IAMF#4, TR-IAMF#5, TR-IAMF#7, and PK-IAMF#1, construction of the Preferred Alternative will result in potentially significant impacts under CEQA. The diminished access to these resources could influence users of these resources to use other nearby recreational resources. The increased use of other nearby recreational resources could result in their substantial physical deterioration.

Implementation of the following measures mitigates these impacts. Because of text length, mitigation measures are presented separately in Attachment A, Mitigation Measures, to these CEQA Findings.

- **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.**

Mitigation Measure PR-MM#1, Temporary Restricted Access to Park Facilities during Construction, will require the contractor to prepare a technical memorandum documenting how connections to the unaffected park portions and nearby roadways are maintained during construction, and to implement the techniques used to maintain those connections. Mitigation Measure PR-MM#3, Temporary Closures and Detours of Existing Trails and Bicycle Lanes, will require the contractor to develop a Trail and Bicycle Lane Facilities Plan addressing the short-term project impacts on existing trails and bicycle lanes within the construction limits of the project. Mitigation Measure PR-MM#5, Temporary Use of Land from Park, Recreation, or School Play Areas during Construction, will also be implemented to reduce the size of temporary impact areas, restrict access to temporary impact areas for public safety, provide signing at fenced-off areas with information on the completion date of the use of the land, require consultation with the property owner/operator on the temporary replacement of recreational uses, and return the land used for each temporary impact area to the owner in its original or better condition when construction in an area has been completed and the temporary impact area is no longer needed. Implementation of these mitigation measures will ensure access to recreational facilities is maintained during construction such that any increase in use of nearby recreational resources will be minimal and will not result in substantial physical deterioration.

The Authority finds that Mitigation Measures PR-MM#1, PR-MM#3, and PR-MM#5 have been required in the Preferred Alternative and that implementation of Mitigation Measures PR-MM#1, PR-MM#3, and PR-MM#5 will substantially lessen or avoid impacts associated with temporary impact areas, temporary access restrictions, temporary facility closures, or temporary detours

during construction; therefore, with mitigation these impacts are reduced to less than significant under CEQA.

4.12.2 Impact PK #3: Permanent Easements or Acquisition of Property from Parks, Recreation, and School Play Area Resources Due to Construction

The permanent acquisition of and/or permanent easements over property from recreational resources could prevent the use of the remaining recreational resources at those properties. Depending on the size and location of the property acquisition and/or easement, that acquisition and/or easement could potentially reduce the capacity, function, and/or value of the resource. The Preferred Alternative will require:

- A permanent easement on a 0.28-mile portion of the planned Phase 3 of the San Fernando Bike Path in the City of Burbank, between Burbank Boulevard and Chandler Boulevard where the bike path is planned to run adjacent to the Lockheed Channel and to the east of the Burbank Water Reclamation Plant. In this area, the addition of HSR tracks would allow no room to accommodate the Class I bike path.
- A permanent easement within the Los Angeles County Metropolitan Transportation Authority (Metro)-owned right-of-way, along the entire 4.5-mile planned San Fernando Railroad Bike Path precluding its implementation in the planned location; and
- Permanent easements along the planned extension of the Los Angeles River Bike Path.

The impact under CEQA will be significant for these three recreation resources because the permanent easements required for construction of the Preferred Alternative will prevent the use of recreational activities for the San Fernando Bike Path and the LA River Bike Path if these planned resources exist at the time of construction and will acquire the planned San Fernando Railroad Bike Path, which will result in a diminished capacity to use that resource if the planned resource exists at the time of construction. Even with implementation of PK-IAMF#1, which requires the contractor to provide safe and attractive access for present travel modes to the portions of the existing or planned parks that would not be acquired or converted for construction of the Preferred Alternative, the permanent easements required for construction of the Preferred Alternative are significant under CEQA because they would prevent the use of recreational activities, if these planned resources exist at the time of construction.

Implementation of the following measures mitigates impacts to the planned Phase 3 of the San Fernando Bike Path and the Los Angeles River Bike Path (Planned Extension). However, implementation of the following mitigation measures will lessen but not fully avoid impacts to the planned San Fernando Railroad Bike Path.

Because of text length, mitigation measures are presented separately in Attachment A, Mitigation Measures, to these CEQA Findings.

• **PR-MM#4: Replacement of Property Acquired from Existing or Planned Bicycle Routes.**

Mitigation Measure PR-MM#4 requires identification of alternative routes for permanent impacts on property containing existing or planned bicycle paths.

Mitigation Measure PR-MM#4 will be implemented to reduce construction-related permanent easement impacts by requiring the Authority to consult with the officials with jurisdiction to identify an alternative route for the continuation of the lost use and functionality of the resource, including maintaining connectivity for existing and planned bicycle routes. As stated in Section 3.15.6.3 of the Final EIR/EIS, with implementation of Mitigation Measure PR-MM#4, construction impacts on the planned Phase 3 of the San Fernando Bike Path and Los Angeles River Bike Path (Planned Extension) due to the permanent conversion of property from recreational resources to rail right-of-way associated with the Preferred Alternative will be reduced to less than significant level because they can be feasibly rerouted.

If the planned San Fernando Railroad Bike Path already exists at the time of HSR construction, construction impacts due to the permanent conversion of property from recreational resources to

rail right-of-way associated with the permanent easement required for construction and operation of the Preferred Alternative will remain significant and unavoidable pursuant to CEQA because this recreational resource cannot be feasibly re-routed. Table 3.15-6 in Section 3.15.9 of the Final EIR/EIS provides details for each resource impacted by the Preferred Alternative and the level of significance pursuant to CEQA.

The Authority finds that Mitigation Measure PR-MM#4 has been required in the Preferred Alternative and that implementation of this mitigation measure will substantially reduce permanent partial acquisition impacts to planned Phase 3 of the San Fernando Bike Path and the Los Angeles River Bike Path (Planned Extension). With mitigation, this impact is less than significant as to these two recreational resources. However, significant impacts will remain at the planned San Fernando Railroad Bike Path. The Authority finds that there are no other feasible mitigation measures or alternatives that could be adopted to reduce the remaining impacts at this resource to less than significant levels. The Authority finds that despite these otherwise significant and unavoidable impacts, specific economic, social, and other considerations identified in the Statement of Overriding Considerations (Section 8 of this document) support approval of the project.

4.12.3 Impact PK #4: Changes to Planned Parks and Recreational Resources Due to Construction

Conflicts between the Preferred Alternative and a planned recreational resource could prevent the use of the planned resource or result in a diminished capacity, function, and/or value of the planned resource. Diminished capacity, function, and/or value of planned resources may influence users to utilize nearby recreational resources, which may lead to physical deterioration of those nearby resources. If not operational at the time of HSR construction, the Preferred Alternative will result in the permanent conversion of 0.73 acre of land planned for the Phase 3 of the San Fernando Bike Path, all of the land for the planned San Fernando Railroad Bike Path (6.46 acres), and portions of the currently proposed alignments for the planned extension of the Los Angeles River Bike Path. Therefore, the impact under CEQA is significant for these resources as a result of the changes to planned parks and recreational facilities required for construction of the Preferred Alternative because it will diminish the capacity, function, and/or value of these planned resources.

Implementation of the following measure mitigates impacts to the planned Phase 3 of the San Fernando Bike Path and the Los Angeles River Bike Path (Planned Extension). However, implementation of the following mitigation measure will lessen but not fully avoid impacts to the planned San Fernando Railroad Bike Path. Because of text length, mitigation measures are presented separately in Attachment A, Mitigation Measures, to these CEQA Findings.

- **PR-MM#4: Replacement of Property Acquired from Existing or Planned Bicycle Routes.**

Mitigation Measure PR-MM#4 requires identification of alternative routes for permanent impacts on property containing existing or planned bicycle paths. The specific alternative routes identified will be determined based on negotiations with the agency with jurisdiction over the affected bicycle route(s) to identify an alternative route for the continuation of the lost use and functionality of the resource, including maintaining connectivity for existing and planned bicycle routes. Therefore, through implementation of Mitigation Measure PR-MM#4, construction impacts on the planned Phase 3 of the San Fernando Bike Path and the Los Angeles River Bike Path (Planned Extension) due to permanent easements required of property planned for publicly owned recreational resources associated with the Preferred Alternative are less than significant pursuant to CEQA. Construction impacts on the planned San Fernando Railroad Bike Path due to the permanent conversion of property from recreational resources to rail right-of-way associated with the Preferred Alternative will remain significant and unavoidable pursuant to CEQA.

The Authority finds that Mitigation Measure PR-MM#4 has been required in the Preferred Alternative and that implementation of this mitigation measure will substantially reduce permanent acquisition impacts to planned Phase 3 of the San Fernando Bike Path and the Los Angeles River Bike Path (Planned Extension). With mitigation, this impact is less than significant as to

these two resources. However, even with application of PR-MM#4, significant impacts will remain at the planned San Fernando Railroad Bike Path. The Authority finds that there are no other feasible mitigation measures or alternatives that could be adopted to reduce the remaining impacts at this resource to less than significant levels. The Authority finds that despite these otherwise significant and unavoidable impacts, specific economic, social, and other considerations identified in the Statement of Overriding Considerations (Section 8 of this document) support approval of the project.

4.12.4 Impact PK #5: Changes to Park or Recreation Facility Use or Character Due to Operation

The operation of the Preferred Alternative in the long term could result in access, noise, and/or visual impacts at recreation areas in a park or a school, and/or along a bike path or trail. The resource patrons could experience increased noise from high-speed train operations and/or visual degradation of views to and from the recreational resource. The impact under CEQA will be significant for the planned Phase 3 of the San Fernando Bike Path, planned San Fernando Railroad Bike Path, and Los Angeles River Bike Path (Planned Extension) because operation of the Preferred Alternative will impact access to these recreational resources. The impact under CEQA will also be significant for Griffith Manor Park, Pelanconi Park, Rio de Los Angeles State Park, and Albion Riverside Park because operation of the Preferred Alternative will result in significant visual changes. Even with implementation of PK-IAMF#1, AVR-IAMF#1, and AVR-IAMF#2, potential impacts related to the physical deterioration of nearby recreational facilities due to changes to recreational facility use or character from Preferred Alternative operation will be potentially significant under CEQA.

Implementation of the following measures mitigate impacts to the planned Phase 3 of the San Fernando Bike Path, Los Angeles River Bike Path (Planned Extension), Griffith Manor Park, Rio de Los Angeles State Park, and Albion Riverside Park. However, implementation of the following mitigation measures will lessen but not fully avoid impacts to the planned San Fernando Railroad Bike Path and Pelanconi Park. Because of text length, mitigation measures are presented separately in Attachment A, Mitigation Measures, to these CEQA Findings.

- **PR-MM#2: Providing Park Access.**
- **PR-MM#4: Replacement of Property Acquired from Existing or Planned Bicycle Routes.**
- **AVQ-MM#3: Incorporate Design Aesthetic Preferences into Final Design and Construction of Non-Station Structures.**

Mitigation Measure PR-MM#2 will mitigate access impacts on recreational resources after construction by requiring connections to the unaffected park portions or nearby roadways to be maintained after construction. Mitigation Measure PR-MM#4 requires 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. With implementation of Mitigation Measure AVQ-MM#3, the contractor will incorporate the Authority-approved aesthetic preferences for nonstation structures into final design and construction to reduce visual impacts during operation.

The Authority finds that Mitigation Measures PR-MM#2, PR-MM#4, and AVQ-MM#3 have been required in the Preferred Alternative and that implementation of these mitigation measures will substantially reduce permanent acquisition impacts to the planned Phase 3 of the San Fernando Bike Path, Los Angeles River Bike Path (Planned Extension), Griffith Manor Park, Rio de Los Angeles State Park, and Albion Riverside Park. With mitigation, the impact for these resources related to the physical deterioration of nearby recreational facilities resulting from changes to the use and character of recreational facilities from the Preferred Alternative is less than significant. However, a significant operations impact will remain at the San Fernando Railroad Bike Path due to the permanent easement and conversion of property from a recreational resource to rail right-of-way. Additionally, a significant operations impact will remain at Pelanconi Park due to the permanent visual changes associated with the Preferred Alternative. The Authority finds that

there are no other feasible mitigation measures or alternatives that could be adopted to reduce the remaining impacts at this resource to less than significant levels. The Authority finds that despite these otherwise significant and unavoidable impacts, specific economic, social, and other considerations identified in the Statement of Overriding Considerations (Section 8 of this document) support approval of the project.)

4.13 Aesthetics and Visual Quality

As described in the Burbank to Los Angeles Project Section Final EIR/EIS (Section 3.16), two significant aesthetics and visual quality construction impacts (Impact AVQ #1: Visual Disturbance during Construction and Impact AVQ #2: Nighttime Lighting during Construction) associated with the Preferred Alternative have been identified. Additionally, one significant aesthetics and visual quality operational impact (Impact AVQ #3: Visual Quality in the Burbank to Los Angeles Project Section) associated with the Preferred Alternative has been identified. Impact AVQ #2 will be reduced to a less than significant level with the implementation of mitigation measures and Impacts AVQ #1 and AVQ #3 will remain significant and unavoidable after implementation of mitigation.

4.13.1 Impact AVQ #1: Visual Disturbance during Construction

Construction activities as a result of the Preferred Alternative will cause potentially significant aesthetic degradation of the existing visual character or quality of the site and its surroundings. This is the case even considering that the Preferred Alternative includes AQ-IAMF#1, which avoids substantial visibility effects due to dust during construction by requiring the contractor to implement standard fugitive dust control measures. Therefore, highly visible construction activities near sensitive viewers are significant under CEQA.

The construction of intrusion protection railings on the three historic bridges is significant under CEQA because the railings will conflict with the visual character of these historic properties and create a significant impact to the scenic values of these visual/cultural resources. The Preferred Alternative includes AVQ-IAMF#1 and CUL-IAMF#6, which will promote context-sensitive visual unity, intactness, and integrity. AVQ-IAMF#1 will promote project-wide aesthetic consistency with the local context, and CUL-IAMF#6, will provide a pre-construction condition assessment. Even with the application of these IAMFs, the impact is significant.

Implementation of the following mitigation measures will lessen but not fully avoid these impacts. Because of text length, mitigation measures are presented separately in Attachment A, Mitigation Measures, to these CEQA Findings.

- **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.**

Mitigation Measure AVQ-MM#1 requires the contractor to implement measures to minimize construction-related aesthetic and visual quality disruption, and to document the approach in a technical memorandum that will be reviewed and approved by the Authority.

Mitigation Measure AVQ-MM#3 requires the contractor to work with the Authority and local jurisdictions to incorporate Authority-approved aesthetic preferences into final design and construction, which will 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 jurisdiction.

Mitigation Measure CUL-MM#12 will also partially mitigate 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 effects on the historic property.

The Authority finds that Mitigation Measures AVQ-MM#1, AVQ-MM#3, and CUL-MM#12 have been required in the Preferred Alternative and that they will avoid or substantially lessen the

project's significant aesthetic and visual quality impacts. However, the visual degradation caused by the intrusion protection railings and the residual impacts after mitigation on the three historic bridges from the Preferred Alternative's security features will remain significant. The Authority finds that there are no other feasible mitigation measures or alternatives that could be adopted to reduce these remaining impacts to less than significant levels. The Authority finds that despite these otherwise significant and unavoidable impacts, specific economic, social, and other considerations identified in the Statement of Overriding Considerations (Section 8 of this document) support approval of the project.

4.13.2 Impact AVQ #2: Nighttime Lighting during Construction

Lighting of temporary structures (e.g., trailers, fencing, and parking) and for nighttime construction will occur throughout the length of the right-of-way. Some of the required construction laydown areas as well as nighttime construction activities will be near sensitive viewers and residential neighborhoods. Some of the lighting could spill over to off-site areas, resulting in a potentially significant visual disturbance affecting viewers, visual character, and visual quality. Therefore, the nighttime lighting impacts of the Preferred Alternative during construction is significant under CEQA.

Implementation of the following measures mitigates this impact. Because of text length, mitigation measures are presented separately in Attachment A, Mitigation Measures, to these CEQA Findings.

- **AVQ-MM#1: Minimize Visual Disruption from Construction Activities.**
- **AVQ-MM#2: Minimize Light Disturbance during Construction.**

Mitigation Measures AVQ-MM#1 and AVQ-MM#2 require the contractor to minimize visual/aesthetic impacts during construction (including the use of solid-material screening of staging areas) and to shield nighttime construction lighting that falls outside the construction boundaries. The contractor will document the measures to be implemented in a technical memorandum to be approved by the Authority.

The Authority finds Mitigation Measures AVQ-MM#1 and AVQ-MM#2 have been required in the Preferred Alternative and that implementation of these mitigation measures will substantially lessen or avoid impacts associated with nighttime lighting during construction; therefore, this impact is reduced to less than significant under CEQA.

4.13.3 Impact AVQ #3: Visual Quality in the Burbank to Los Angeles Project Section

4.13.3.1 Grade Separations

The permanent construction of the Sonora Avenue grade separation, the Grandview Avenue grade separation, and the Flower Street grade separation will introduce prominent visual elements to the existing cultural environment, which will substantially degrade the existing visual character or quality within the visual RSA. The Final EIR/EIS describes these impacts at key viewpoints # 5, # 6, and # 7 within the Upper San Fernando Valley Landscape Unit. The Preferred Alternative includes AVQ-IAMF#1, whereby 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 will 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 will be provided to the Cities of Burbank, Glendale, and Los Angeles that can be applied to nonstandard structures in the project section. The Preferred Alternative also includes AVQ-IAMF#2 (Aesthetic Review Process), whereby the Authority will 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. Even with inclusion of AVQ-IAMF#1 and AVQ-IAMF#2, the visual character and/or visual quality impact will still be significant

because the grade separations will continue to degrade the existing visual character or quality. Therefore, mitigation is required.

Implementation of the following mitigation measures will lessen but not fully avoid impacts related to the proposed grade separations. Because of text length, mitigation measures are presented separately in Attachment A, Mitigation Measures, to these CEQA Findings.

- **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 Guideways Adjacent to Residential Areas.**

Mitigation Measure AVQ-MM#3 requires the contractor to work with the Authority and local jurisdictions to incorporate Authority-approved aesthetic preferences into final design and construction, which will partially alleviate the aesthetic impact of the grade separations by providing the opportunity for design input from the jurisdiction.

Mitigation Measure AVQ-MM#4 requires that the contractor plant trees along the edges of the HSR rights-of-way in locations adjacent to residential areas and to prepare a technical memorandum within 90 days of completing any construction section or segment documenting the species of trees that were incorporated into the edges of the HSR right-of-way adjacent to residential uses.

Even with implementation of Mitigation Measure AVQ-MM#3, the proposed grade separations will be out of scale with the surrounding commercial uses and the project scale will contrast with the existing cultural environment. Therefore, the impact will remain significant and unavoidable under CEQA.

4.13.3.2 Sound Barriers

There is a potential for sound barriers to be visible to residents, pedestrians, and motorists throughout the corridor. The Final EIR/EIS describes these impacts at key viewpoints # 13, # 14, and # 17 within the Lower San Fernando Valley Landscape Unit. The impact at key viewpoints # 13, # 14, and # 17 is significant because there is a potential for a sound barrier to be visible from these key viewpoints.

Implementation of the following measures mitigates impacts related to sound barriers. Because of text length, mitigation measures are presented separately in Attachment A, Mitigation Measures, to these CEQA Findings.

- **AVQ-MM#4: Provide Vegetation Screening along At-Grade and Elevated Guideways Adjacent to Residential Areas.**
- **AVQ-MM#7: Provide Sound Barrier Treatments.**

Mitigation Measure AVQ-MM#4 requires that the contractor plant trees along the edges of the HSR rights-of-way in locations adjacent to residential areas and to prepare a technical memorandum within 90 days of completing any construction section or segment documenting the species of trees that were incorporated into the edges of the HSR right-of-way adjacent to residential uses.

Mitigation Measure AVQ-MM#7 requires that, prior to any ground-disturbing activity, the contractor will design a range of sound barrier treatments for visually sensitive areas, such as those areas where residential views of open landscaped areas will change or in urban areas where sound barriers will adversely affect the existing character and setting. With implementation of Mitigation Measures AVQ-MM#4 and AVQ-MM#7, the impacts of the Preferred Alternative will be less than significant under CEQA because sound barrier treatments will be required and vegetation screening will be required along at-grade and elevated guideways adjacent to key viewpoint #14.

The Authority finds that Mitigation Measure AVQ-MM#3, AVQ-MM# 4, and AVQ-MM# 7 have been required in the Preferred Alternative and that they will mitigate or avoid the project's significant aesthetics and visual quality impacts related to grade separations, the at-grade and elevate guideway, and sound barriers. However, the visual degradation caused by the Sonora Avenue, Grandview Avenue, and the Flower Street grade separations will remain significant. The Authority finds that there are no other feasible mitigation measures or alternatives that could be adopted to reduce these remaining impacts to less than significant levels. The Authority finds that despite these otherwise significant and unavoidable impacts, specific economic, social, and other considerations identified in the Statement of Overriding Considerations (Section 8 of this document) support approval of the project.

4.14 Cultural Resources

This section sets forth the Authority's CEQA findings concerning the impacts of the Preferred Alternative on cultural resources. Because the project is also a federal undertaking, the project is subject to National Environmental Policy Act and Section 106 of the National Historic Preservation Act, which provides considerable protection for cultural resources. The development of the management documents and treatment plans pursuant to Section 106 regulations involve extensive impact analysis, project redesign, consultation with Native Americans, and other consultation with agencies to develop a plan that provides for the best possible preservation planning and other mitigation measures for the resource present at the project site. As described below, the Section 106 process is a separate, but complementary, method for protection for cultural resources, distinct from CEQA.

As explained in the Burbank to Los Angeles Project Section Final EIR/EIS (Section 3.17), a Programmatic Agreement (PA) to satisfy the requirements of Section 106 for the project has been signed by the FRA, the Authority, the Advisory Council on Historic Preservation, the State Historic Preservation Office (SHPO), and consulting parties. The PA provides an overall regulatory framework for conducting the Section 106 process throughout the California HSR System and the documentation process for the Burbank to Los Angeles Project Section was conducted in accordance with the PA.

The PA also presents the approach for treatment of historic properties, including development of a memorandum of agreement (MOA) for each HSR section to address the resolution of adverse effects on historic properties, defined as those cultural objects, sites, or districts that meet the eligibility criteria for listing in the National Register of Historic Places (NRHP). The MOA stipulates the treatment measures that will be applied for cultural resources impacted by the project and calls for the development of two treatment plans: an Archaeological Treatment Plan (ATP) and a Built Environment Treatment Plan (BETP). The ATP and the BETP set forth a prescriptive process by which these treatment measures will be applied to each known resource and will outline measures for the phased identification of historic properties as additional parcel access is obtained and design work is completed. The MOA and treatment plans provide specific performance standards that ensure each impact will be avoided, minimized, or mitigated to the extent possible and provide enforceable performance standards to follow the NRHP and the Secretary of the Interior's standards and guidelines when implementing the mitigation measures (see Stipulations III and VIII in the PA). The treatment plans will conform to the principles of the Advisory Council on Historic Preservation's Treatment Handbook, as well as SHPO Guidelines. These treatment plans dictate how the requirements of Section 106 will be met and also include the mitigation measure requirements.

As described in the Burbank to Los Angeles Project Section Final EIR/EIS (Section 3.17), three significant cultural resources construction impacts (Impact CUL #1: Construction Effects on Known Archaeological Resources, Impact CUL #2: Construction Effects on Unknown Archaeological Resources, and Impact CUL #3: Construction Effects on Historic Built Resources) associated with the Preferred Alternative have been identified. Impacts CUL #1 and CUL #2 will be reduced to a less than significant level with the implementation of mitigation measures and Impact CUL #3 will remain significant and unavoidable after implementation of mitigation.

4.14.1 Impact CUL #1: Construction Effects on Known Archaeological Resources

Construction of the Preferred Alternative would involve demolition of existing structures, clearing, and grubbing; reduction of permeable surface area; handling, storing, hauling, excavating, and placing fill; possible pile driving; and construction of aerial structures, bridges, road modifications, utility upgrades and relocations, HSR electrical systems, and railbeds. As explained in the Final EIR/EIS, the analysis discusses the impacts of the Preferred Alternative after completion of the Link US project.

Resource P-19-101229 (a vestige of a small circular brick wall feature, possibly a cistern or planter, that is partially buried and likely fragmentary) is at the eastern edge of the archaeological APE, where the Preferred Alternative improvements will be confined to the existing railroad right-of-way. The railroad bed and tracks will be realigned and rebuilt to accommodate two new electrified and two new nonelectrified parallel railroad tracks. An improvement to the existing grade-separated railroad bridge over Glendale Boulevard will also be built near this resource. The railroad tracks will be built using conventional railroad construction techniques. A typical construction sequence includes clearing, grubbing, grading, and compacting the railbed; applying crushed rock ballast; laying track; and installing electrical and communications systems. The at-grade track will be laid on an earthen railbed topped with rock ballast approximately 3 feet off the ground; fill and ballast for the railbed will be obtained from permitted borrow sites and quarries. Because field surveys have not been conducted due to lack of access, the exact location of this resource is not known at this time. Therefore, there is a potential that this resource is located within the disturbance area of the Preferred Alternative. Excavation activities and construction of the new railroad bed and tracks and the railroad crossing could result in the partial or total physical destruction and/or removal of the resource.

Even with implementation of CUL-IAMF#1, CUL-IAMF#2, CUL-IAMF#3, CUL-IAMF#4, and CUL-IAMF#5, which will require archaeological sites to be added to construction plans, require a worker training sessions to recognize potential cultural resources, require cultural resource surveys prior to construction, allow for the relocation of project features, and require the preparation of an archaeological monitoring plan, the impact under CEQA is significant because of the potential physical destruction or alteration of the resource, which would cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.

Implementation of the following measure mitigates this impact. Because of text length, mitigation measures are presented separately in Attachment A, Mitigation Measures, to these CEQA Findings.

- **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).**

Mitigation Measure CUL-MM#1 requires compliance with the PA and the MOA and mitigation of adverse effects on properties identified during phased identification. The details of the specific conditions and treatment measures for P-19-101229, as well as their implementation, are stipulated in the *Memorandum of Agreement Among the California High-Speed Rail Authority, the Surface Transportation Board, the California State Historic Preservation Officer, Regarding the Burbank to Los Angeles Project Section of the California High-Speed Rail Program in Los Angeles County, California* (Authority 2021b) and described in detail in the ATP. 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. Construction activities could permanently cause a substantial adverse change in the significance of a known archaeological resource by destruction, damage, alteration, or relocation of the resource. However, the resource could be recorded and data recovery would commence if necessary to avoid effects.

The Authority finds that Mitigation Measure CUL-MM#1 has been required in the Preferred Alternative. Implementation of Mitigation Measure CUL-MM#1 will reduce or eliminate impacts on known archaeological resources and the impact will not be a substantial adverse change to the significance of an historical resource and is considered less than significant.

4.14.2 Impact CUL #2: Construction Impacts on Unknown Archaeological Resources

Construction of the Preferred Alternative could potentially affect unknown archaeological resources. The archaeological APE has not been subject to inventory for archaeological resources because of lack of access to the affected properties. Unknown archaeological resources could be encountered during construction activities, including grading, tunneling, drilling, utility installation, road widening and realignments for construction of grade separations, equipment staging, and travel along access routes to transport materials and personnel to and from construction areas. Construction of the Preferred Alternative will potentially affect any archaeological properties within the archaeological APE due to their partial or total physical destruction and/or removal by project excavation.

The Preferred Alternative includes IAMFs that have been incorporated into the project to reduce the potential for ground disturbance-related impacts on as-yet-undiscovered archaeological sites before and during construction. The IAMFs are intended to prevent or reduce the potential for impacts during pre-construction and include:

- CUL-IAMF#1: Requires that a geospatial layer of any archaeological sites be added to construction drawings.
- CUL-IAMF#2: Requires construction personnel to attend a Worker Environmental Awareness Program training session to be able to recognize potential cultural resources and to follow the appropriate procedures should a discovery be made during construction.
- CUL-IAMF#3: Requires completion of archaeological surveys prior to any ground-disturbing activities.
- CUL-IAMF#4: Allows for the relocation of laydown sites if archaeological sites are discovered during surveys.
- CUL-IAMF#5: Requires the preparation of an archaeological monitoring plan.

These IAMFs will help integrate the location of archaeological sites with construction drawings, ensure that construction personnel are informed of the potential for cultural resources and are aware of procedures to follow in the event of a discovery, and allow for archaeological monitors in certain areas. Per these IAMFs, a phased identification (including additional survey, testing, and evaluation of archaeological resources) will be necessary as property access is granted and the project design is refined. These phased efforts will be conducted pursuant to the MOA and the ATP, and will be documented in Supplemental Archaeological Survey Reports, Extended Phase I Reports, and Archaeological Evaluation Reports. If previously unidentified archaeological historic properties are found during future surveying, testing, or monitoring, effects on these properties will be assessed and addressed.

However, even with implementation of CUL-IAMF#1, CUL-IAMF#2, CUL-IAMF#3, CUL-IAMF#4, and CUL-IAMF#5 the Preferred Alternative will have a significant impact under CEQA, because ground-disturbing activities could permanently cause a substantial adverse change in the significance of unknown archaeological resources by destruction, damage, alteration, or relocation.

Implementation of the following measures mitigates this impact. Because of text length, mitigation measures are presented separately in Attachment A, Mitigation Measures, to these CEQA Findings.

- **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).**
- **CUL-MM#2: Halt Work in the Event of an Archaeological Discovery and Comply with the Programmatic Agreement (PA), Memorandum of Agreement (MOA), Archaeological Treatment Plan (ATP), and all State and Federal Laws, as Applicable.**
- **CUL-MM#3: Other Mitigation for Effects to Archaeological Sites.**

As specified in Section 3.17.8 of the Final EIR/EIS, Mitigation Measure CUL-MM#1 requires compliance with the PA and MOA and mitigation of adverse effects on properties identified during phased identification; Mitigation Measure CUL-MM#2 requires work to be halted in the event of an archaeological discovery; and Mitigation Measure CUL-MM#3 requires field surveys for archaeological resources once site access is granted and require the MOA and the ATP to address protocols for the identification, evaluation, treatment, and data-recovery mitigation of as-yet-unidentified archaeological resources. These mitigation measures are generally accepted measures to address impacts on archaeological sites.

The Authority finds that Mitigation Measures CUL-MM#1, CUL-MM#2, and CUL-MM#3 have been required in the Preferred Alternative and that implementation of these mitigation measures will reduce impacts on archaeological resources due to construction activities to a less than significant level.

4.14.3 Impact CUL #3: Construction Impacts on Historic Built Resources

Construction of the Preferred Alternative will 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 Preferred Alternative will also have both direct and indirect adverse effects on one built-environment historic property (the Main Street Bridge). Even with implementation of CUL-IAMF#1, CUL-IAMF#2, CUL-IAMF#6, CUL-IAMF#7, and CUL-IAMF#8 (which will require cultural resources to be added to construction plans, require worker training sessions to recognize potential cultural resources, require a plan for the protection of historic built resources, require a built environment monitoring plan, and require protection and/or stabilization measures), the construction effects on historic built resources under CEQA will be significant because the physical alteration impacts on Arroyo Seco Parkway, Broadway Viaduct, Spring Street Viaduct, and Main Street Bridge will be a substantial adverse change in the significance of these historic resources. Mitigation Measures CUL-MM#7 and CUL-MM#12 will be implemented for Arroyo Seco Parkway, Broadway Viaduct, and Spring Street Viaduct.

Implementation of the following mitigation measures will lessen but not fully avoid these impacts. Because of text length, mitigation measures are presented separately in Attachment A, Mitigation Measures, to these CEQA Findings.

- **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.**

Mitigation Measure CUL-MM#7 and CUL-MM#13 will be implemented for Main Street Bridge. Mitigation Measure CUL-MM#7 will require the Authority to work with consulting parties to develop interpretive or educational materials for the Main Street Bridge; Mitigation Measure CUL-MM#12 will require the design of intrusion-protection railings for the Arroyo Seco Parkway Historic Bridge, the Broadway Viaduct Bridge, and the Spring Street Viaduct Bridge. Mitigation Measure CUL-MM#13 will require the Authority to develop a feasibility study to explore design options that will maintain the historic use of the Main Street Bridge to the maximum extent feasible while still meeting the safety requirements of the Preferred Alternative.

The Authority finds that Mitigation Measures CUL-MM#7, CUL-MM#12, and CUL-MM#13 have been required in the Preferred Alternative and that it will mitigate or avoid the project's significant

construction impacts on historic built resources. However, physical alteration of Arroyo Seco Parkway, Broadway Viaduct, Spring Street Viaduct, and the Main Street Bridge will occur such that the significance of these historical resources will be materially impaired and the impact will remain significant. The Authority finds that there are no other feasible mitigation measures or alternatives that could be adopted to reduce these remaining impacts to less than significant levels. The Authority finds that despite these otherwise significant and unavoidable impacts, specific economic, social, and other considerations identified in the Statement of Overriding Considerations (Section 8 of this document) support and approval of the project.

4.15 Regional Growth

Construction and operation of the Preferred Alternative will increase the demand for workers above projected employment. Construction-related employment based on local construction expenditures will create 2,810 new construction jobs during the peak year of construction in 2022. This demand for temporary construction workers is approximately 2 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 will move to the RSA looking for employment opportunities. In total, 14,840 construction job-years will be created over the 9 years of construction. In addition, there will be an increase of 14,780 indirect and induced job-years during the construction period in a variety of sectors of the economy. Given the size of the local unemployed civilian labor force (212,600 [California Employment Development Department 2017]), it is anticipated that the available local workforce could absorb these jobs.

These jobs will be only a small increase above forecasted total employment under the No Project Alternative. As such, construction under the Preferred Alternative is not anticipated to result in regional growth that will require the construction of new housing or provision of new public services. Rather, construction will be a short-term benefit to the communities of the RSA in the early construction period, particularly considering historically high unemployment rates in the RSA.

The estimated operations impacts associated with the Preferred Alternative will be small and will not result in regional growth considerably above forecasted employment. Operations jobs will be based at the HSR system stations and the heavy maintenance facilities. As summarized in Table 3.18-10 of the Final EIR/EIS, the Authority estimates operation of the Preferred Alternative will create up to 230 jobs within Los Angeles County. Potential regional growth arising from greatly improved statewide transportation accessibility provided by the HSR system was also evaluated. These jobs will total an estimated 8,940 jobs within the RSA. This incremental increase as a result of accessibility will be slightly greater than 0.1 percent above forecasted 2040 employment within the RSA.

Population growth will 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 will be about 17,470, or less than 1 percent above the 2040 forecasted population for the RSA.

Under the No Project Alternative, increasing population and employment opportunities in the RSA are expected to result in increased development and growth. More specifically:

- The RSA's population is projected to grow at an annual rate of 0.6 percent (approximately 17 percent overall) from 2010 to 2040.
- The RSA's long-range employment projections show a total of 5,226,000 jobs in the RSA by 2040, which represents an approximate 5.8 percent change from 2017 to 2040.
- Housing units within the RSA are projected to increase by 15.5 percent between 2010 and 2040, for a total of 3,997,000 projected housing units in 2040. This is less than the rate projected for the state overall.

The development and presence of HSR stations in Burbank and Los Angeles will help direct a portion of this growth along with the additional induced growth into high-density, sustainable development patterns. This concentration of growth at transit hubs will help achieve the goals of the Southern California Association of Governments' (SCAG) Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) pursuant to SB 375, as well as the general plans for Los Angeles County and the cities of Burbank and Los Angeles. SCAG's 2016 RTP/SCS includes discussion of future integration of the HSR system in the region's transportation infrastructure. Hence, the Preferred Alternative and the resulting concentration of population and employment growth the Preferred Alternative is expected to support will be consistent with SB 375-related plans and programs. It will also assist Los Angeles County and the cities within the county in implementing the goals of those plans.

Under current city and county general plans in the SCAG planning area, communities in Los Angeles County have adequate space to accommodate planned growth by 2040 (under the No Project Alternative) and HSR-induced growth in their current spheres of influence. The RTP/SCS plans and programs that apply to these areas encourage infill development, concentrating growth in urban areas, and provision of transit options and connections for regional residents and workers. The land use patterns prescribed in SCAG's 2016 RTP/SCS have the capacity to accommodate 3.8 million more residents and 1.5 million more households in the SCAG region by 2040 (SCAG 2016). This capacity is beyond what will be required to support the increase of 1.7 million residents in Los Angeles County between 2014 and 2040 when considering anticipated growth without the Preferred Alternative. The Preferred Alternative will reduce the total amount of land required to accommodate both currently projected growth (under the No Project Alternative) and new regional population growth associated with the Preferred Alternative in Los Angeles County. Therefore, there is adequate space available to accommodate planned growth by 2040 as well as HSR-induced growth in this county.

5 CUMULATIVE IMPACTS (SECTION 3.19 OF THE FINAL EIR/EIS)

This section presents the Authority’s findings regarding the cumulative effects of implementing the Preferred Alternative in combination with other closely related past, present, and reasonably foreseeable future projects. Cumulative impacts can result from the combination of individually minor but collectively significant projects over time (CEQA Guidelines, Section 15355). Under CEQA, when a project will contribute to a cumulative impact, an EIR must discuss whether the project’s incremental effect is “cumulatively considerable.” Cumulatively considerable means that the project’s incremental effect is significant when viewed in the context of past, present, and reasonably probable future projects. The discussion of cumulative impacts need not provide as much detail as is provided for the effects attributable to the project alone (CEQA Guidelines, Section 15130, subdivision [b]). As described in the Final EIR/EIS, the focus of the cumulative impacts analysis is on the Preferred Alternative and the regional context appropriate for each resource area, including adjacent sections of the California HSR System (Palmdale to Burbank and Los Angeles to Anaheim).

5.1 Transportation

The cumulative impact analysis for transportation is based on the planned and potential project lists (Appendix 3.19-A of the Final EIR/EIS), as well as plans/projections listed in Table 3.2-2, Local Plans and Applicable Policies in Section 3.2, Transportation of the Final EIR/EIS.

Some level of disruption in traffic will be expected if the construction schedules of the Preferred Alternative and other cumulative projects were to occur simultaneously. Many of the other foreseeable cumulative projects will undergo environmental review and implement a Construction Transportation Plan, or the equivalent, to reduce traffic impacts during construction.

With implementation of the mitigation measures for transportation included in Section 4.1.1 of these Findings, the incremental contribution of the Preferred Alternative to cumulative impacts will not be cumulatively considerable. The Authority therefore finds that mitigation measures have been incorporated in the Preferred Alternative that will reduce the Preferred Alternative’s contribution to cumulatively considerable impacts to transportation to less-than-cumulatively-considerable levels.

As of December 28, 2018, the CEQA Guidelines were amended to include vehicle miles traveled (VMT) thresholds, effective July 1, 2020. The impact under CEQA is less than significant because the Preferred Alternative will not result in a net increase of VMT over the baseline condition. Operation of the Preferred Alternative will reduce VMT, and in combination with cumulative projects will improve long-term circulation in the resource study area and accessibility of the area from other parts of the state, leading to beneficial impacts. The project will also be fully consistent with CEQA Guidelines Section 15064.3. Therefore, the contribution of the Preferred Alternative to traffic impacts will not be cumulatively considerable under CEQA.

5.2 Air Quality and Global Climate Change

Construction of the Preferred Alternative in combination with the other cumulative projects that will be built at the same time will result in a temporary significant cumulative air quality impact because the construction of other cumulative projects may overlap with construction of the Preferred Alternative and exceed significance thresholds for air quality at sensitive receptors. Construction of the Preferred Alternative will contribute to the significant cumulative air quality impact because it will contribute to a violation of air quality standards (i.e., regional CO and NO_x emissions and localized emissions of nitrogen dioxide [NO₂]). Mitigation Measure AQ-MM#1 will reduce the effects of the Preferred Alternative on regional air quality through the purchase of emission offsets for project-level air quality impacts (see Section 4.2.1 of these Findings for information on the mitigation measure) to ensure regional emissions are reduced to a level below the general conformity applicability *de minimis* levels. However, sufficient offset credits may not be available to fully reduce the Preferred Alternative’s daily emissions to below the SCAQMD CEQA thresholds for NO_x and CO. Mitigation Measure AQ-MM# 2, which will require the contractor to utilize a minimum of 25 percent ZE or NZE vehicles, will also reduce NO_x emissions,

but sufficient information is not available to conclude that this measure will reduce NO_x emissions from the Preferred Alternative to below a significant level. There are no additional mitigation measures available to reduce the Preferred Alternative's contribution to regionally significant NO_x emissions. The Preferred Alternative's contribution to significant cumulative impacts for NO_x at a regional level is therefore cumulatively considerable, and a significant and unavoidable cumulative impact.

There are no offset programs applicable to CO emissions. Mitigation Measure AQ-MM# 2, which will require the contractor to utilize a minimum of 25 percent ZE or NZE vehicles, will reduce CO, but sufficient information is not available to conclude that it will reduce CO emissions to a less than significant level. The Preferred Alternative's contribution to significant cumulative impacts for CO at a regional level is therefore cumulatively considerable, and a significant and unavoidable cumulative impact.

When the modeled project emission concentrations are added to the existing background concentrations of NO₂, an exceedance of the 1-hour standard will occur, resulting in a cumulative contribution of project construction emissions of NO₂. Mitigation Measures AQ-MM#1 will only reduce regional air quality impacts. AQ-MM#2 will reduce localized emissions of NO₂; however, sufficient information is not available to conclude that it will reduce localized emissions of NO₂ to a less than significant level. Therefore, even with implementation of the prescribed mitigation measures, the maximum concentrations associated with construction will still exceed the 1-hour NO₂ California ambient air quality standards at the localized level. The Preferred Alternative's contribution to significant localized cumulative impacts for NO₂ is therefore cumulatively considerable and a significant and unavoidable impact. NO₂ is a potential lung irritant and can reduce visibility. There is some indication of a relationship between NO₂ and chronic pulmonary fibrosis. In addition, an increase in bronchitis in children 2 to 3 years old has been observed at very high concentrations. AQ-IAMF#1 requires the preparation of a fugitive dust control plan for the project. The Authority's Design Criteria Manual will be amended to include an environmental construction considerations section that includes the mandatory components of the dust control plan. Until such revisions are made, all construction Requests for Proposals will include the following requirements for elements of the dust control plan:

- The dust control plan will require the construction contractor to post a publicly visible sign on the construction site with the telephone number and person to contact at the Authority for any dust or other air quality complaints. The person will be required to take corrective action within 48 hours. The phone number for the local air district must also be visible to ensure compliance with applicable regulations.
- Provisions in the dust control plan must also be made to allow school administrators and/or their designated representative(s) to notify the Authority if construction-related air emission levels generated by the project are adversely impacting the learning environment. All notices will be investigated by the Authority and corrective action will be taken within 48 hours.

As stated above, no additional mitigation measures are available to further reduce the cumulative impacts for regional CO and NO_x, and localized NO₂, other than the mitigation measure for the Preferred Alternative already identified in Section 4.2.1 of these Findings. The Authority finds that there are no other feasible mitigation measures or alternatives that will reduce this cumulative impact to a less-than-cumulatively-considerable level. To the extent that this cumulatively considerable adverse impact remains significant and unavoidable, the Authority finds that specific economic, social, and other considerations identified in the Statement of Overriding Considerations (Section 8 of this document) support approval of the project.

Construction of the Preferred Alternative in combination with other planned developments will result in amortized GHG emissions (averaged over 30 years) of 1,209 metric tons of carbon dioxide equivalent per year. Total GHG would be 36,277 metric tons of carbon dioxide equivalent and will represent approximately 0.009 percent of the most recently reported total annual statewide GHG emissions. The most recent available GHG emission inventory for California shows that total annual GHG emissions for California in 2017 were 424.1 million metric tons of carbon dioxide equivalent (California Air Resources Board 2019).

As discussed in detail in Section 3.3, Air Quality and Global Climate Change, of the Final EIR/EIS, regulatory agencies have adopted plans and policies to reduce operational air pollutant and GHG emissions. Agencies continue to adopt increasingly stringent standards for criteria pollutants and toxic air contaminants in the atmosphere. Overall, air quality has improved and GHG emissions have decreased since the implementation of plans and policies and are anticipated to continue improving due to current and foreseeable regulations. Additionally, because of improvements in vehicle emissions technology, GHG emissions are anticipated to continue to decrease, which will help achieve the statewide targets to reduce GHG emissions by 2040. The carbon payback period is the time that it takes for the ongoing carbon savings from displacing fossil fuel use to move the HSR system from being a net emitter of carbon emission to a net sequester of carbon. The shorter the payback period, the quicker the project will realize net carbon reductions. Payback periods were estimated by dividing the GHG emissions during construction years by the annual GHG emissions reduction during Preferred Alternative operation. The increase in GHG emissions generated during construction of the Preferred Alternative will be offset by the net GHG reductions from operation of the Preferred Alternative as part of the Phase 1 HSR system (because of automobile and plane trips removed) in less than 14 days. Therefore, the payback period is very short and the Preferred Alternative will reduce GHG emissions long past the horizon year of 2040 used in the analysis. Because air quality in the South Coast Air Basin (Basin) continues to improve, overall GHG emissions will continue to decrease due to statewide plans and policies and improved technology, and the Preferred Alternative will reduce criteria pollutant and GHG emissions, there will not be a significant cumulative operational air quality or GHG impact to which the Preferred Alternative will contribute.

5.3 Noise and Vibration

Construction of the Preferred Alternative will involve activities such as demolishing existing structures; handling, storing, hauling, excavating, and placing fill; and building aerial structures, bridges, HSR electrical systems, and rail beds that include road modifications, and utility upgrades and relocations. All of these activities will introduce new temporary sources of noise and vibration from construction equipment, affecting sensitive receptors. Under the Preferred Alternative, the contractor is required to comply with FRA guidelines for noise and vibration, which will partially minimize impacts on sensitive receptors; however, noise and vibration generated by construction could still exceed thresholds at nearby sensitive receptors during construction of the Preferred Alternative. Mitigation Measures NV-MM#1 and NV-MM#2 require the contractor to meet FRA and FTA construction noise and vibration limits, thereby reducing the impact from construction to less than significant. However, temporary cumulative noise and vibration impacts are anticipated during construction because the construction of reasonably foreseeable future projects in the project vicinity may temporarily overlap with Preferred Alternative construction and combine to create noise levels exceeding FRA and FTA standards. The Preferred Alternative's contribution to the cumulative construction noise and vibration impact is cumulatively considerable.

In addition to the project-level mitigation measures, cumulative Mitigation Measure CUM-N&V-MM#1 will minimize the potential for cumulative noise and vibration impacts from overlapping construction activities in the RSAs:

- **CUM-N&V-MM#1: Consult with Agencies Regarding Construction Noise and Vibration Impacts.**

Mitigation Measure CUM-N&V-MM#1 will minimize the potential for overlapping construction activities in the RSAs by requiring consultation and coordination with agencies regarding the timing of construction activities.

The Authority finds that CUM-N&V-MM#1 has been required in the Preferred Alternative and that it will reduce the Preferred Alternative's cumulatively considerable contribution to the cumulative construction noise and vibration impact, but that the Preferred Alternative in combination with other planned projects would still have the potential to exceed significance thresholds for noise and vibration at sensitive receivers during construction. The Authority finds that there are no other feasible mitigation measures or alternatives that will reduce this impact to a less-than-

cumulatively-considerable level. To the extent that this cumulatively considerable adverse impact remains significant and unavoidable, the Authority finds that specific economic, social, and other considerations identified in the Statement of Overriding Considerations (Section 8 of this document) support approval of the project.

Operation of the Preferred Alternative will result in severe noise impacts at noise-sensitive receptors after implementation of project-level mitigation measures. These noise emissions will combine with the noise emissions of other planned transportation projects to result in significant cumulative operational noise impacts under CEQA because the combined noise exposure will exceed FRA criteria for severe noise impacts. The Preferred Alternative will remove freight train horn noise by implementing grade separations, which will reduce the maximum noise-level impacts experienced by receptors near existing at-grade crossings. Operational noise overall remains a significant impact of the Preferred Alternative, and there are no additional feasible mitigation measures beyond the project-level mitigation measures to reduce this impact. A significant cumulative noise impact will remain. The Preferred Alternative's contribution to the cumulative impact will be considerable because it will cause the largest change in the baseline ambient noise conditions among the many planned transportation projects.

The Authority finds that there are no other feasible mitigation measures or alternatives that will reduce this impact to a less-than-cumulatively-considerable level. To the extent that this cumulatively considerable adverse impact remains significant and unavoidable, the Authority finds that specific economic, social, and other considerations identified in the Statement of Overriding Considerations (Section 8 of this document) support approval of the project.

5.4 Electromagnetic Interference and Electromagnetic Fields

Existing standards for human exposure to EMI or EMF will not be exceeded inside or outside the right-of-way of the Preferred Alternative. During construction and operation, the Preferred Alternative and cumulative projects will comply with standards established to prevent interference and will not combine to result in cumulative EMI/EMF impacts under CEQA. Therefore, no further mitigation measures are necessary.

5.5 Public Utilities and Energy

The Preferred Alternative and other cumulative projects, including the adjacent HSR project sections, will increase demand on utilities and energy supplies. With the exception of water usage for project operations at LAUS, it is anticipated that the additional demand for utility services from construction and operation of the Preferred Alternative will be met by existing providers. As described in PUE-IAMF#1, PUE-IAMF#3, and PUE-IAMF#4, design measures, technical memoranda, and public notifications will be included and adhered to as part of the design of the Preferred Alternative. With the exception of construction water use in the city of Burbank and water supplies from LADWP for project operations at LAUS, the existing utility facilities and water supplies will be sufficient to accommodate future demand of the Preferred Alternative and other cumulative projects, including the adjacent HSR project sections, during normal, dry, and multiple dry years. This includes future water demand in Burbank and Glendale during operation of the Preferred Alternative, which are estimated to have adequate supplies to serve the Preferred Alternative, existing customers, and planned development. PUE-MM#1 requires the Authority to prepare a water supply analysis based upon more detailed project design to identify the detailed water supply needs for construction of the Preferred Alternative, and, based on the findings, proper processes for water conservation and compensatory payment would be followed to provide water for the project. Therefore, with the exception of water supplies from LADWP for project operations at LAUS, there will not be a significant cumulative impact under CEQA related to public utilities and energy systems to which the Preferred Alternative will contribute.

The Preferred Alternative will contribute to the significant cumulative impact resulting from water usage during project operations at LAUS because the sufficiency of future LADWP supplies to meet future project-generated operational water demand at LAUS cannot be verified even with implementation of mitigation measures. Mitigation Measure PUE-MM#2 requires the Authority to prepare a water supply analysis in coordination with LADWP, but it is unknown if that water

supply analysis will confirm that sufficient water supplies are available to serve the Preferred Alternative's increase in water demand at LAUS in normal, dry, and multiple dry years in addition to existing demand and demand associated with cumulative projects. Therefore, the Preferred Alternative's contribution to the significant cumulative impact to water resource supply will be cumulatively considerable.

The Authority finds that there are no other feasible mitigation measures or alternatives that will reduce this impact to a less-than-cumulatively-considerable level. To the extent that this cumulatively considerable adverse impact remains significant and unavoidable, the Authority finds that specific economic, social, and other considerations identified in the Statement of Overriding Considerations (Section 8 of this document) support approval of the project.

5.6 Biological and Aquatic Resources

The cumulative analysis considered the Preferred Alternative in combination with cumulative projects. Portions of adjacent HSR project sections (Palmdale to Burbank and Los Angeles to Anaheim) were considered in the cumulative condition as it pertains to the cumulative RSA for plants and wildlife, defined as the cities of Los Angeles, Burbank, and Glendale, and the cumulative RSA for aquatic resources, defined as the Los Angeles River Watershed. The cities of Los Angeles, Burbank, and Glendale are developed, with limited open space available for future development. Habitats for special-status plants and animals have been lost due to past urbanization. In addition, habitat fragmentation by urbanization creates isolated "islands" of natural habitat and negatively affects wildlife movement by disrupting natural wildlife corridors. As fragmentation continues, connectivity between habitats and the special-status plant and animal populations they support is lost. While development of future projects may have the potential to affect special-status species, there is little potential for cumulative biological and aquatic resource impacts given the existing lack of habitat and connectivity in the cumulative RSAs. Past habitat fragmentation and loss of connectivity has resulted in minimal suitable habitat within the cumulative RSA; therefore, the Preferred Alternative will have little chance to further impact the already fragmented habitat.

The permanent conversion of existing land uses for construction of the Preferred Alternative will result in impacts on biological and aquatic resources. However, due to the nearly complete built environment in the project vicinity and the existing use as a rail corridor, the effects of the Preferred Alternative on biological and aquatic resources will be limited and mitigated to less than significant. The Preferred Alternative includes multiple IAMFs and mitigation measures that have been refined as a result of coordination with federal, state, and local agencies and with implementation of these IAMFs and mitigation measures, there will be no or very limited temporary, construction-related impacts on special-status plant and animal species, natural communities, aquatic resources, and wildlife movement corridors from the construction of the Preferred Alternative. The other cumulative projects in the cities of Burbank, Glendale, and Los Angeles are also in a built-out urban environment where there are limited biological and aquatic resources. Similar to the Preferred Alternative, other cumulative projects will be required to comply with regulatory requirements, including federal, state, and local government laws and regulations that protect special-status plant and animal species, natural communities, aquatic resources, and wildlife movement corridors. The other cumulative projects with a potential to affect biological and aquatic resources will also be required to consult with and obtain permits from the applicable regulatory agencies. Therefore, cumulative impacts associated with these projects (i.e., past, present, and reasonably foreseeable future actions) will be mitigated through consultation and permitting with the appropriate regulatory agencies such that there will be limited impacts on biological and aquatic resources to which construction of the Preferred Alternative will contribute. Accordingly, there will not be a significant cumulative impact under CEQA related to either biological or aquatic resources to which the Preferred Alternative could contribute.

With implementation of the mitigation measures for biological and aquatic resources included in Section 4.7.1 of these Findings, the incremental contribution of the Preferred Alternative to cumulative impacts will be not be cumulatively considerable. The Authority therefore finds that mitigation measures have been incorporated in the Preferred Alternative that will reduce the

Preferred Alternative's contribution to cumulatively considerable impacts to biological and aquatic resources to less-than-cumulatively-considerable levels.

The Preferred Alternative and other cumulative projects (within the cumulative RSA for plants and wildlife) will be in an area that is already heavily developed. Therefore, there will be very limited permanent impacts on special-status plant and animal species (and suitable habitat for such species), natural communities, aquatic resources, and wildlife movement corridors from operation of the Preferred Alternative and other cumulative projects. Indirect temporary impacts (i.e., noise, dust, and vibration) will occur as a result of routine maintenance activities along the HSR alignment that would take place infrequently or temporarily. In addition, permanent operations effects, which include noise, light, vibration, and wind generated from moving trains, would occur daily from operation of the HSR system. The Preferred Alternative will operate within an existing railroad transportation corridor, so these effects will not be new to the RSAs; however, they will be additive to existing conditions.

With the exception of the Palmdale to Burbank Project Section, the other cumulative projects are in a built-out urban environment where there are limited biological and aquatic resources. Although most of the Palmdale to Burbank Project Section will be in a more rural environment, the portion of the Palmdale to Burbank Project Section adjacent to the Burbank to Los Angeles Project Section will be in a built-out urban environment and impacts on aquatic species would be limited. Similar to the Preferred Alternative, other cumulative projects, including the Palmdale to Burbank Project Section, will be required to comply with regulatory requirements such as federal, state, and local government laws and regulations that protect special-status plant and animal species, natural communities, aquatic resources, and wildlife movement corridors. The other cumulative projects with a potential to affect biological and aquatic resources will also be required to consult with and obtain permits from the applicable regulatory agencies. Therefore, cumulative impacts associated with these projects will be mitigated through consultation and permitting with the appropriate regulatory agencies such that there would be limited impacts on biological and aquatic resources to which operation of the Preferred Alternative could contribute.

With implementation of the mitigation measures for biological resources included in Section 4.6 of these Findings, the Preferred Alternative's incremental contribution to this cumulatively significant impact will not be cumulatively considerable. The Authority therefore finds that mitigation measures have been incorporated in the Preferred Alternative that will reduce the Preferred Alternative's cumulatively considerable construction impact to biological and aquatic resources to less-than-cumulatively-considerable levels.

5.7 Hydrology and Water Resources

The Preferred Alternative includes a new Main Street bridge and that will include new structures in the Los Angeles River. However, the Preferred Alternative will be consistent with the goals of the Los Angeles River Revitalization Master Plan to maintain the existing flood capacity in the river and the Los Angeles River Ecosystem Project to provide flood storage⁶. The bridge structures will be designed to provide flow conveyance and connectivity and to comply with the hydraulic criteria of the applicable jurisdiction. For these reasons, the Preferred Alternative will be consistent with the goals of the Los Angeles River Revitalization Master Plan to maintain the existing flood capacity in the river and the Los Angeles River Ecosystem Project to provide flood storage. Additionally, the Preferred Alternative includes BMPs to reduce pollutants of concern in stormwater runoff discharged to the Los Angeles River. Therefore, the Preferred Alternative will not degrade water quality in a manner that may impede restoration of the Los Angeles River ecosystem or habitat. For these reasons, the Preferred Alternative will be consistent with the goals of the Los Angeles River Revitalization Master Plan and Los Angeles River Ecosystem

⁶ In the Final EIR/EIS, the HSR Build Alternative included retaining walls near the Metro Gold Line and Broadway, where the HSR tracks would have been depressed 2 feet below existing grade. To avoid future conflicts with the Los Angeles River Ecosystem Restoration Project, the HSR Authority has refined the design in the Preliminary Engineering for Project Definition (PEPD) Volume 3.1 to keep the HSR tracks at the existing grade and remove the proposed retaining walls.

Project to improve water quality and will not impede habitat or ecosystem restoration of the river. Cumulative impacts resulting from these projects and the Preferred Alternative will be negligible.

Further, all cumulative projects, including adjacent HSR project sections, will be required to comply with existing Federal Emergency Management Agency, USACE, and National Pollutant Discharge Elimination System requirements that regulate construction of development projects. Implementation and adherence to HYD-IAMF#1 through HYD-IAMF#3 will minimize impacts to hydrology and water resources under the Preferred Alternative. With compliance with regulatory requirements and implementation of BMPs, there will not be a significant cumulative impact under CEQA related to hydrology and water resources to which the Preferred Alternative will contribute.

Operational activities and pollutants associated with the Preferred Alternative and other cumulative projects, including the adjacent HSR project sections, will be similar to those currently occurring in the RSAs. Additionally, new development will be required to comply with National Pollutant Discharge Elimination System requirements and implement operational BMPs to reduce pollutants of concern in stormwater runoff, which will reduce operations impacts on water resources. Therefore, there will not be a cumulative operations impact on hydrology and water resources to which the Preferred Alternative will contribute.

5.8 Geology, Soils, Seismicity, and Paleontological Resources

Construction of the Preferred Alternative and other cumulative projects, including the adjacent HSR project sections, will require aggregate, ballast rock, concrete, and steel reinforcement, which could reduce available aggregate and mineral resources. However, with implementation of standard design and construction protocols regarding the procurement of mineral resources required for construction (such as sand and gravel), it is anticipated that sufficient aggregate and construction materials will be available for construction of the Preferred Alternative, and there will be no permanent loss of a locally important mineral resource recovery site as a result of the Preferred Alternative. Further, implementation of GEO-IAMF#1 through GEO-IAMF#5 will minimize impacts on geological resources. There will not be a significant cumulative impact under CEQA related to aggregate and mineral resources during project construction to which the Preferred Alternative will contribute.

The Preferred Alternative will not directly or indirectly cause potential risk of loss of life, injuries, or destruction as a result of seismically-induced slope failure associated with cut and fill during construction beyond what people currently experience in the resource hazards RSA. Implementation of GEO-IAMF#10 will minimize the effects should a cut and fill slope fail during a seismic event. This IAMF will involve preparation of a technical memorandum documenting how specific guidelines have been incorporated into the Preferred Alternative design and construction. There will not be a significant cumulative impact under CEQA related to seismic hazards during project construction to which the Preferred Alternative will contribute.

There is potential for a significant cumulative impact under CEQA related to the construction of multiple projects in geologic units considered sensitive for paleontological resources. Compliance with regulatory standards and implementation of IAMFs and BMPs associated with the Preferred Alternative will minimize impacts on paleontological resources. Further, implementation of GEO-IAMF#11 through GEO-IAMF#15 will minimize impacts on paleontological resources. Paleontological resources discovered during construction will be avoided or collected and curated in compliance with regulatory requirements. With these IAMFs in place, construction of the Preferred Alternative will not result in the destruction of unique paleontological resources or sites. Therefore, there will not be a cumulatively considerable contribution to this cumulative impact from the Preferred Alternative.

Operation of the Preferred Alternative and cumulative projects, including the adjacent HSR project sections, could result in geology, soils, and seismicity impacts during project operation. Impacts associated with geology, soils, and seismicity will be reduced through implementation of design standards and building code requirements. Further, implementation of GEO-IAMF#6 through GEO-IAMF#10 will minimize impacts related to geology, soils, and seismicity.

Therefore, there will not be a significant cumulative impact under CEQA related to geology, soils, and seismicity to which the Preferred Alternative will contribute.

No operations impacts on paleontological resources will occur because impacts on paleontological resources only have the potential to occur during the construction phase of the cumulative projects, including the adjacent HSR project sections. Therefore, there will not be a significant cumulative impact under CEQA related to paleontological resources during project operation to which the Preferred Alternative will contribute.

5.9 Hazardous Materials and Wastes

Cumulative development in the RSA will result in an incremental increase in the temporary transportation, storage, use, and disposal of hazardous materials mainly consisting of construction fuels, oils, mechanical fluids, and other transportation-related chemicals. This incremental increase could result in accidental spills and the need for waste disposal. Construction of the Preferred Alternative and other cumulative projects will comply with existing regulations governing the handling, use, and disposal of hazardous waste.

While hazardous materials handling may increase during construction and may in some cases be within 0.25 mile of an existing or proposed school, compliance with federal, state, and local regulations related to the transport, handling, and disposal of hazardous waste will reduce the potential for the Preferred Alternative to result in an impact that could combine with similar impacts of other cumulative projects. Therefore, the Preferred Alternative will not contribute to cumulative impacts related to hazardous materials.

Most of the cumulative projects are residential, commercial, transportation, bridge maintenance, or utility improvements where hazardous materials use will not be frequent or in large quantities compared to the existing industrial uses in the RSA. Routine maintenance activities along the Preferred Alternative and at HSR stations will periodically involve the use of small amounts of hazardous materials (e.g., solvents, paints, vehicle fuels, and pesticides) that are not expected to be acutely hazardous. Substantial amounts of hazardous materials will not be routinely transported, used, or disposed. In addition, operational use of hazardous materials will be similar to that already occurring along the existing railroad corridor. The Preferred Alternative will operate on electric power. As a result, long-term risks associated with intermittent handling and use of hazardous materials near a school during operation of the Preferred Alternative will be negligible. Furthermore, the use and disposal of hazardous materials will comply with existing regulations (e.g., the Resource Conservation and Recovery Act). Because use of hazardous materials during operation of the Preferred Alternative will be similar to existing conditions and because hazardous materials will be handled according to existing regulations, the Preferred Alternative will not result in cumulatively considerable impacts related to use of hazardous materials. Therefore, the Preferred Alternative will not contribute to cumulative impacts related to hazardous materials.

5.10 Safety and Security

Construction of the Preferred Alternative, adjacent HSR project sections, and other planned projects in the cumulative RSA will increase demand for emergency response services, increase response times, and expose workers and residents to airborne transmission of the fungus that causes Valley Fever. To prevent Valley Fever during construction, each cumulative project will incorporate measures to control fugitive dust emissions and therefore will not combine to result in a significant cumulative impact associated with the spread of Valley Fever.

New or expanded development will be designed and constructed to be consistent with local land use plans and will comply with agency approval conditions, including fair-share development fees to pay for additional emergency services required to maintain service standards; therefore, these increases will not combine to result in a significant cumulative impact on emergency services. The Preferred Alternative and other cumulative projects, including adjacent HSR project sections, will be required to implement standard construction and safety plans, construction transportation plans, and traffic control plans, as necessary, to reduce the need for emergency services and reduce impacts on emergency response times. Further, implementation of SS-IAMF#1, SS-

IAMF#2, and SS-IAMF#4 will minimize impacts related to safety and security during construction of the Preferred Alternative. The Preferred Alternative, adjacent HSR project sections, and other cumulative projects will provide lighting and fencing and will implement security measures to deter theft or vandalism to reduce security impacts during construction.

The Preferred Alternative and adjacent HSR project sections include features such as positive train control and grade separations to reduce the potential for rail accidents and to reduce transportation and traffic hazards. Further, implementation of SS-IAMF#3 will require a hazard management program and will minimize impacts related to hazards resulting from the Preferred Alternative. The Preferred Alternative and adjacent HSR sections will also include increased security procedures and improvements to deter crime and terrorism, including vulnerability assessments, intrusion detection, security lighting, and security and training procedures to reduce security impacts during operation. There will not be a significant cumulative impact under CEQA related to safety and security to which the Preferred Alternative will contribute.

5.11 Socioeconomics and Communities

Within the context of CEQA, the analysis of cumulative impacts on communities focuses on the potential for the Preferred Alternative to result in the physical division of established communities and the displacement and relocation of residences and businesses. Construction of the Preferred Alternative in combination with planned projects in the cumulative RSA, including adjacent HSR project sections, could result in temporary and permanent impacts associated with the division of communities and displacements and relocations of residences and businesses. Construction of the Preferred Alternative will require the acquisition of property for right-of-way and facilities that will displace 5 residential units and an estimated 84 commercial, industrial, and retail businesses (1,747 estimated displaced employees) in Los Angeles County. The cumulative RSA includes the adjacent HSR project sections, which also will displace residences and businesses. There are enough suitable replacement locations available for the residences and businesses within the replacement area, which includes neighborhoods in the affected cities of Burbank, Glendale, and Los Angeles. The areas studied and considered for replacement sites are within a 5-mile radius of the areas where displacements will occur. The 5-mile radius was chosen to accommodate all displacees within or near their neighborhoods. In addition, there is a sufficient number of suitable replacement locations available for the industrial, commercial, and retail sectors in the cities of Burbank, Glendale, and Los Angeles. There are two automotive repair businesses or related services proposed to be displaced in the city of Burbank, two automotive repair businesses proposed to be displaced in the city of Glendale, and three automotive repair businesses or related services proposed to be displaced in the city of Los Angeles. Relocating automotive businesses could require modification of equipment or reconfiguration of other properties to meet specifications. The Los Angeles to Anaheim Project Section would require only one displacement within the city of Los Angeles (an industrial building), for which there are suitable replacement properties available. The Palmdale to Burbank Project Section would displace seven businesses within the city of Burbank, for which suitable replacement properties are also available.

The Preferred Alternative will comply with the Uniform Relocation Assistance Act (SOCIO-IAMF#2), which will provide relocation assistance to all residents displaced by the Preferred Alternative, and will establish an appraisal, acquisition, and relocation process in consultation with affected cities, counties, and property owners (SOCIO-IAMF#3). Sufficient replacement locations are available, and the Preferred Alternative will therefore not contribute to cumulative impacts related to displacements and relocations.

The Preferred Alternative will result in a temporary new physical barrier from tunnel construction south of the Burbank Airport Station and temporarily increased noise and vibration impacts. The Preferred Alternative will also result in temporary parking and circulation impacts from construction and alteration of the function of communities and neighborhoods. However, the time-limited nature of these temporary construction impacts and the project mitigation measures will reduce the degree to which temporary circulation and the temporary introduction of a physical barrier south of Burbank Airport Station will divide existing communities. Therefore, there will not

be a significant cumulative impact under CEQA related to socioeconomics and communities during construction of the Preferred Alternative to which the Preferred Alternative will contribute.

Operation of the Preferred Alternative in combination with cumulative projects could result in permanent impacts on communities from visual changes and increased noise levels. Because the Preferred Alternative will operate intermittently and within an existing railroad corridor, there will not be a long-term impact on community character and cohesion. Visual changes will primarily occur at the Sonora Avenue and Grandview Avenue grade separations and the Chevy Chase Drive closure/Goodwin Avenue undercrossing, which will introduce prominent visual elements that conflict with the existing environment. AVQ-IAMF#1, AVQ-IAMF#2, AVQ-MM#3, and AVQ-MM#4, as described in Section 4.19.8.14, will be implemented to address permanent visual changes from operation of the Preferred Alternative. After implementation of these IAMFs and mitigation measures, permanent visual changes from operation of the Preferred Alternative will not affect community character and cohesion. Therefore, operation of the Preferred Alternative will not result in or contribute to cumulative impacts on community character and cohesion. Overall, cumulative effects from operation of the Preferred Alternative and other reasonably foreseeable future projects, including the adjacent HSR project sections, will not divide or isolate established communities, degrade existing community cohesion and character, or substantially affect existing communities and neighborhoods in the vicinity of the Preferred Alternative.

5.12 Station Planning, Land Use, and Development

Construction of the Preferred Alternative in combination with the other planned projects, including the adjacent HSR project sections, will result in temporary and/or permanent conversion of land. The acreage of land that the Preferred Alternative, including the Burbank Airport Station and the HSR station at LAUS, will temporarily and/or permanently convert as a result of construction activities is minimal (153 acres) when compared to the total acreage of land uses in the overall RSA (4,407 acres). In addition, the Preferred Alternative will not result in permanent land use conflicts with unique land uses. Therefore, the Preferred Alternative will not contribute to a significant cumulative impact under CEQA related to station planning, land use, and development.

Operation of the Preferred Alternative in combination with operation of adjacent HSR project sections and other planned projects will result in increased noise levels, EMF, and conflict with existing and planned land uses. With implementation of IAMFs and mitigation measures, operation of the Preferred Alternative will not contribute to significant cumulative impacts related to land use conflicts or conflict with established land use patterns.

With implementation of the mitigation measures for station planning, land use, and development in Section 3.10.1 of these Findings, the incremental contribution of the Preferred Alternative to cumulative impacts will be not be cumulatively considerable. The Authority therefore finds that mitigation measures have been incorporated in the Preferred Alternative that will reduce the Preferred Alternative's contribution to cumulatively considerable impacts to station planning, and use, and development to less-than-cumulatively-considerable levels.

5.13 Parks, Recreation, and Open Space

Construction activities associated with the Preferred Alternative in combination with the other planned projects, including adjacent HSR project sections, will result in temporary cumulative noise, air quality, and visual impacts and will interfere with pedestrian and vehicle access to park and recreational resources. However, these impacts will be localized and will only occur within approximately 300 feet of the Preferred Alternative project footprint. Neither the Preferred Alternative nor any of the other planned and reasonably foreseeable projects will result in permanent noise or visual impacts on park and recreational resources within the cumulative RSA. Furthermore, the Preferred Alternative will not change the character or functions and values of the park and recreational resources. The Preferred Alternative requires the contractor to identify and provide design measures to ensure safe access to existing recreational facilities (PK-IAMF#1) that will reduce impacts related to park access. There will not be a significant cumulative

impact under CEQA related to parks and recreational resources to which the Preferred Alternative will contribute.

With respect to permanent acquisitions, although the Preferred Alternative will require a permanent easement of land from the planned San Fernando Railroad Bike Path, the other cumulative projects, including the Palmdale to Burbank Project Section, will not affect parks nor will they acquire land or require permanent easements from the San Fernando Railroad Bike Path. Therefore, there will not be a significant cumulative impact under CEQA related to the acquisition of park, recreation, and open space resources to which the Preferred Alternative will contribute.

Operation of the Preferred Alternative in combination with the other planned projects, including adjacent HSR project sections, could increase use of park and recreational resources. However, the Preferred Alternative will result in a minor increase in population that will in turn lead to a minor increase in use of park and recreational resources throughout the RSA. Therefore, the Preferred Alternative will not contribute to significant cumulative impacts from increased use of parks or recreational facilities.

Operation of the Preferred Alternative in combination with the other planned projects, including adjacent HSR project sections, could result in access, noise, and visual impacts on park and recreational resources. Noise and visual impacts from the passing high-speed trains for the Preferred Alternative and adjacent HSR project sections will be short in duration and will not contribute to cumulative impacts. Although operation of the Preferred Alternative will result in significant unavoidable access impacts on one planned bike path and visual impacts on one park, none of the other cumulative projects, including the adjacent HSR project sections, will result in access or noise impacts on these same recreational resources. There will not be a cumulative access, noise, or visual impact on parks and recreational facilities to which the Preferred Alternative will contribute.

5.14 Aesthetics and Visual Quality

Construction of the Preferred Alternative will involve construction laydown areas, nighttime construction lighting, and fugitive dust emissions near sensitive viewers. To reduce potential impacts associated with construction laydown areas during the construction period, the construction contractor will prepare a technical memorandum identifying how the proposed project will reduce construction-related aesthetic and visual quality disruption (Mitigation Measure AVQ-MM#1). To reduce disruption to nearby residents and motorists during the construction period, the construction contractor will also prepare a technical memorandum to verify that the construction contractor will shield nighttime construction lighting and direct it downward in such a manner as to reduce the light that falls outside the construction site boundaries (Mitigation Measure AVQ-MM#2). AQ-IAMF#1 will include preparation of a fugitive dust control plan and implementation of dust emissions control requirements to reduce impacts associated with fugitive dust.

Construction of the Preferred Alternative will involve visual disruption from construction and assembly of at-grade, retained-fill, and tunnel segments; clearing of existing vegetation; and demolition of buildings and other structures. Where alignment construction occurs within the foreground distance of residential, recreational, or other high-sensitivity viewers, it may result in substantial changes to visual quality. To reduce disruption to nearby highly sensitive viewers due to the construction and assembly of at-grade, retained-fill, and tunnel segments, the contractor, partnering with the Authority, will coordinate with local jurisdictions on the design of the Preferred Alternative so that these segments are designed appropriately to fit in with the local visual context (Mitigation Measure AVQ-MM#3). To reduce visual disruption from clearing of existing vegetation, the contractor will plant trees or other vegetation along the edges of the HSR right-of-way in locations adjacent to residential areas to visually screen the surface alignment on retained fill from the residential area (Mitigation Measure AVQ-MM#4).

The surface and elevated sections of the Preferred Alternative will be built in an already urban environment within an existing rail corridor. The Authority has adopted design standards and

guidelines that reduce visual impacts through context-sensitive design, as specified in AVQ-IAMF#1, AVQ-IAMF#2, and AVQ-IAMF#3. Additionally, Mitigation Measure AVQ-MM#4 will provide vegetation screening for the surface alignment on retained fill adjacent to residential areas. With implementation of these mitigation measures, the railroad portion of the Preferred Alternative will not alter the existing visual character within the RSA and will be visually compatible with the natural and cultural environments. Therefore, the existing visual quality will not be substantially degraded by the introduction of the railroad alignment and visual effects will be considered neutral.

However, the permanent construction of the Sonora Avenue grade separation, the Grandview Avenue grade separation, and the Flower Street grade separation will introduce prominent visual elements to the existing cultural environment. These grade separations will be out of scale with the surrounding commercial uses and will contrast with the existing cultural environment. Therefore, the overall visual character of these grade separations will be incompatible with the visual character of the existing cultural environment. However, none of the other cumulative projects, including the adjacent HSR project sections, are near these three grade separations. Therefore, the grade separations will not combine with other cumulative projects to create a cumulative visual impact on sensitive viewers, and there will not be a cumulative visual impact to which construction of the Preferred Alternative will contribute.

The addition of intrusion protection railings to the three historic bridges in the visual RSA will conflict with the visual character of these historic properties, create an impact to the scenic values of these visual/cultural resources, and 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. While there will be some added impacts from the Preferred Alternative with respect to visual resources, there are no other visual impacts from cumulative projects that will combine to create a cumulative impact to visual resources as a result of the Preferred Alternative.

Operational activities of the Preferred Alternative will include passenger access to and from stations, use of parking structures or lots, maintenance activities along the Preferred Alternative trackway, and facility security patrols. Maintenance activities will occur around the Burbank Airport Station and LAUS as well as along the trackway periodically. These activities will be similar to maintenance activities that occur for other major infrastructure facilities in the area, such as freeways, the Metrolink rail line, and local major arterial streets. Security patrols will be infrequent and will not introduce new permanent structures. Lighting associated with maintenance and security will be similar to existing sources of nighttime light in the location of the stations and along the trackway. Because the Preferred Alternative will be built within an existing rail corridor, light spillover and glare from HSR trains and structures will be similar to existing conditions. The Preferred Alternative will be compatible with the urban setting and operational activities will be similar to those already occurring in the rail corridor. Therefore, operational activities will not substantially degrade aesthetics or visual quality during operation, and there will not be a cumulative visual impact to which operation of the Preferred Alternative will contribute.

5.15 Cultural Resources

Because field surveys for archaeological resources have not yet been conducted due to lack of access, the exact location of one known archaeological resource (P-19-101229, a vestige of a small circular brick wall feature) is not known at this time. In addition, unknown archaeological resources could be present in the Archaeological Properties RSA. Therefore, there is a potential for construction activities of the Preferred Alternative, portions of the adjacent HSR project sections within the cumulative RSA, and other cumulative projects to result in the partial or total destruction or removal of unknown archaeological resources. However, the Preferred Alternative will implement CUL-IAMF#1 through CUL-IAMF#5, which are generally accepted IAMFs to address impacts on archaeological sites. Implementation of these IAMFs will reduce the impacts on unknown archaeological resources during construction of the Preferred Alternative. In addition, these IAMFs are standard for the California HSR System and apply to the Preferred Alternative

and the adjacent HSR project sections. Therefore, the Preferred Alternative will not contribute to cumulative impacts on archaeological resources.

Construction of the Preferred Alternative and other cumulative projects, including the adjacent HSR project sections, will not be close enough to affect most historic resources in the RSA. However, the North Spring Street Viaduct Widening and Rehabilitation Project and the Preferred Alternative will both affect the North Spring Street Viaduct, but the effects will not diminish the integrity of this resource or prevent it from conveying its historic significance. Therefore, there will not be a significant cumulative impact under CEQA related to historic resources to which construction of the Preferred Alternative will contribute.

Operation of the Preferred Alternative, portions of the adjacent HSR project sections in the cumulative RSA, and other cumulative projects will not generate noise and vibration levels that will affect historic built resources because they are already in an urban environment dominated by vehicular traffic and railroad operation noise, the historic built resources in the RSA do not derive their significance from being located in a quiet setting, and it is extremely rare for vibration from train operations to cause building damage. Therefore, there will not be a significant cumulative operations impact from noise and vibration under CEQA related to historic resources to which the Preferred Alternative will contribute.

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6 FEASIBILITY OF POTENTIAL ALTERNATIVES

CEQA requires the lead agency, the Authority, to consider a reasonable range of potentially feasible alternatives to the proposed project (California Public Resources Code [Cal. Public Res. Code], Sections 21002 and 21081; see also CEQA Guidelines, Section 15126.6). “Feasible” means capable of being accomplished in a successful manner within a reasonable time, taking into account economic, environmental, legal, social and technological factors (CEQA Guidelines, Section 15364). The range of alternatives to be considered is governed by a “rule of reason” that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that will avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project (CEQA Guidelines, Section 15126.6(f)). At the same time, an EIR need not study in detail an alternative that a lead agency “has reasonably determined cannot achieve the project’s underlying fundamental purpose” (In re Bay-Delta Programmatic Environmental Impact Report Coordinated Proceedings [2008] 43 Cal.4th 1143, 1165).

As discussed above, prior to moving forward with the project, CEQA requires that the lead agency find that “specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the project alternatives identified in the environmental impact report” (Cal. Public Res. Code, Section 21081). The determination of infeasibility “involves a balancing of various ‘economic, environmental, social, and technological factors’” (City of Del Mar v. City of San Diego [1982] 133 Cal.App.3d 401, 417). Where there are competing and conflicting interests to be resolved, the determination of infeasibility “is not a case of straightforward questions of legal or economic feasibility,” but rather, based on policy considerations (California Native Plant Society v. City of Santa Cruz [2009] 177 Cal.App.4th 957, 1001-02). “[A]n alternative that is ‘impractical or undesirable from a policy standpoint’ may be rejected as infeasible” (Id. at p. 1002 citing 2 Kostka & Zischke, Practice Under the Cal. Environmental Quality Act, (Cont.Ed.Bar 2010) section 17.29, p. 824).

The key policy considerations that must be balanced in determining the feasibility of the project alternatives include the following:

- The Authority’s statutory responsibility, which is to:
 - “[D]irect the development and implementation of intercity high-speed rail service that is fully integrated with the state’s existing intercity rail and bus network, consisting of interlinked conventional and high-speed rail lines and associated feeder buses. The intercity network in turn shall be fully coordinated and connected with commuter rail lines and urban rail transit lines developed by local agencies, as well as other transit services, through the use of common station facilities whenever possible.” (Public Utilities Code, Section 185030)
- The purpose of the statewide HSR system is to provide reliable high-speed electrified train system that links the major metropolitan areas of the state and that delivers predictable and consistent travel times. A further objective is to provide an interface with commercial airports, mass transit and the highway network and 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.
- The Authority’s prior Tier 1 determination to serve LAUS rather than bypassing it, as reflected in Prop 1a, is an important component of the HSR statewide system.
- The underlying purpose of the Burbank to Los Angeles Project Section is to implement the Burbank to Los Angeles Project Section of the California HSR System to provide the public with electric-powered high-speed rail service that provides predictable and consistent travel times between major urban centers consistent with Proposition 1A, and connectivity to

airports, mass transit, and the highway network connecting the Los Angeles Basin to the rest of the state; and to connect the northern and southern portions of the statewide HSR system.

- The Authority's project objectives are to:
 - Provide intercity travel capacity to supplement critically overused 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, 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 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
 - Incorporate the Burbank to Los Angeles project 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 basin of riders in the densely populated San Fernando Valley and the Los Angeles Basin
 - Provide station locations with existing and planned transit-oriented development potential.
- The characteristics enumerated in Streets and Highways Code section 2704.09 for the statewide high-speed train system as a whole, which include electric trains that can operate at high speeds, specified non-stop service travel times between certain cities, and following existing transportation and utility corridors to the extent feasible, as determined by the Authority, to reduce the potential for environmental impacts.
- The inherent tradeoffs between locating high-speed rail mostly within an existing transportation corridor, thereby minimizing residential and business displacements, but creating more impacts on that corridor, versus creation of an entirely new rail corridor that would have substantially more displacements, but not incrementally increase impacts on the existing rail corridor.

6.1 Alternatives Considered in the Draft EIR/EIS and Not Selected for Approval

The Draft EIR/EIS evaluated the No Project Alternative and the HSR Build Alternative, which is also identified as the CEQA Proposed Project. These two alternatives are described in detail in Chapter 2 of the Final EIR/EIS.

As discussed above in Section 2.2.1 of the Final EIR/EIS, the HSR Build Alternative will provide new and upgraded track, maintenance facilities, 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 from Hollywood Burbank Airport to LAUS. In portions of the alignment, new and upgraded tracks will allow other passenger trains to share tracks with the HSR system. HSR stations will be immediately adjacent to Hollywood Burbank Airport and at LAUS. The alignment will be entirely grade-separated at crossings, meaning that roads, railroads, and other transport facilities will be at different heights so that the HSR system will neither interrupt nor interface with other modes of transport, including vehicle, bicycle, and pedestrian. Importantly, for most of the project section, the HSR alignment will be within the existing railroad right-of-way, which is typically 70 to 100 feet wide.

6.1.1 The No Project Alternative

The No Project Alternative represents the condition of the Burbank to Los Angeles Project Section as it existed in 2015 and the 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 implemented. The No Project Alternative assumes that all currently known programmed and funded improvements to the intercity transportation system (highway, rail, and transit) and reasonably foreseeable local land development projects (with funding sources identified) would be developed by 2040. The No Project Alternative is contrary to the Authority's 2005 programmatic decision to choose the HSR system to meet the state's growing transportation demands instead of expanding airports or freeways, or doing nothing. It is also contrary to the Authority's 2020 Business Plan, which emphasizes establishing an interim early HSR service in the Central Valley and concurrently advancing construction on the bookend projects in the north and south⁷. The No Project Alternative would not meet any of the project objectives, would not meet the project's underlying fundamental purpose, and would not allow the Authority to comply with its statutory mandate to "prepare a plan for the construction and operation of a high-speed train network for the state" (Public Utilities Code, §185032) and of Proposition 1A (Streets and Highways Code Section 2704, et seq.) to develop an HSR project. Further, the No Project Alternative would neither achieve important criteria pollutant emissions reductions that the HSR Build Alternative would contribute to from an operational Phase 1 HSR system, nor would it achieve the GHG reduction goals for the transportation sector as identified in the California Air Resources Board's 2008 Climate Change Scoping Plan. The Authority therefore finds the No Project Alternative fails to achieve the project's underlying fundamental purpose, it is not environmentally superior to the proposed project, and is therefore infeasible and rejects it on that basis. Further findings regarding the No Project Alternative are below in Section 6.4.

6.2 Alternatives Previously Considered and Not Carried Forward for Study in the Draft EIR/EIS

As described in Section 2.4 of the Final EIR/EIS, and summarized in BLA-Response-Chapter 2 Alt-01: Alternatives in the Final EIR/EIS, the Authority undertook an extensive alternatives development and screening process to identify potential alternatives to study in the Burbank to Los Angeles Project Section Draft EIR/EIS. The second-tier alternatives development and screening process was founded on the 2005 Tier 1 decisions that advanced the Metropolitan Transportation Authority/Metrolink corridor between Burbank and Los Angeles for Tier 2 study, along with Los Angeles Union Station and Burbank Metrolink Media City downtown station. The alternatives screening was originally developed for the prior Palmdale to Los Angeles Project Section, followed by additional screening in the context of the more limited Burbank to Los Angeles Project Section. Over the course of alternatives development and refinements, the

⁷ The Authority is currently negotiating the Project Management and Funding Agreement (PMFA) for the Link Union Station (Link US) bookend project with Los Angeles County Metropolitan Transportation Authority. After the PMFA has been executed, this will allow Metro to be reimbursed for Link US project expenditures from Proposition 1A bond funds for an amount of up to \$423 million.

Authority's focus has been on development of alternatives within and adjacent to the Metropolitan Transportation Authority/Metrolink corridor in a manner that minimizes impacts on the communities and resources adjacent to this existing railroad corridor.

6.2.1 Alignment and Station Alternatives Not Carried Forward for Study Based on Palmdale to Los Angeles Alternatives Screening

The alternatives screening for the Palmdale to Los Angeles Project Section took place from 2010 to 2014 in three documents. The 2010 Preliminary Alternatives Analysis began the screening process; it studied potential alternative alignments and station locations, with the Palmdale to Los Angeles section divided into four subsections to account for the varying terrain and context. For the subsections between the San Fernando Valley and LAUS, several alignment options and station locations were screened out during this phase, because of their high impacts on the neighboring communities, impacts to the existing railroad operators, constructability issues, and cost. Screened alignment options included an at-grade option on the west side of the existing railroad right-of-way between Sylmar to SR 2, and two aerial alignments from the Metrolink CMF to LAUS. Station options in the San Fernando Valley area that were withdrawn included stations at the Burbank Metrolink Station and at the Sylmar/San Fernando Metrolink Station.

The 2011 Palmdale to Los Angeles Supplemental Alternatives Analysis (SAA) continued the analysis from the 2010 preliminary alternatives analysis (PAA), with a focus on the subsections from Sylmar to LAUS. The alignment options that were screened out in this phase included two options between SR 2 to the Metrolink CMF: a trench alignment within the right-of-way and a trench alignment along San Fernando Road. The primary reasons for screening these out included high impacts on the community, environment, and other railroad operators. Additionally, a tunnel alignment from Metrolink CMF to LAUS was withdrawn because of its impacts on the community, construction costs and complexity, and strong stakeholder opposition.

Finally, the 2014 SAA reevaluated the entire Palmdale to Los Angeles Project Section, incorporating the conclusions from the 2010 and 2011 reports. The 2014 document narrowed down the station options, by withdrawing the two options in the San Fernando Valley, and carrying forward the one station option at Burbank Airport Station. The 2014 SAA refined a tunnel option at LAUS, but did not withdraw any alignment options. Significantly, the document recommended splitting the project section into two sections, Palmdale to Burbank and Burbank to Los Angeles.

6.2.2 Alignment and Station Alternatives Not Carried Forward for Study Based on Burbank to Los Angeles and Palmdale to Burbank Alternatives Screening

After the project section split in 2014, the Authority began preparing separate analyses for Palmdale to Burbank and Burbank to Los Angeles. The area between Burbank Airport Station and Alameda Avenue was included within the 2015 Palmdale to Burbank SAA, as there were multiple alignment options throughout the Burbank area which converged near Alameda Avenue, making it a logical end point during this alternatives screening phase. The 2015 Palmdale to Burbank SAA eliminated the option of placing HSR along the east side of the railroad right-of-way throughout San Fernando Valley to avoid impacts to the community and historic resources. The 2015 SAA introduced new alignments and station options for the Burbank Airport Station area (Options A, B, and C). These were then narrowed down in the subsequent 2016 Palmdale to Burbank SAA, with one of the tunnel alignment options and its corresponding underground station (Option C) eliminated from study. This resulted in two alignment options and stations being carried forward: an at-grade alignment within the right-of-way and an at-grade station (Option A), and a below-grade alignment under Hollywood Burbank Airport with an underground station (Option B).

The 2016 Burbank to Los Angeles SAA studied the section between Alameda Avenue to LAUS. The alignment option of HSR along the east side of the right-of-way was eliminated for consistency with the same decision made in the 2015 Palmdale to Burbank SAA. The two tunnel alignment options leading to LAUS were withdrawn because of their high impacts on parks and

schools and high construction costs. The elevated station option at LAUS was also eliminated to allow the HSR project to be compatible with Metro’s Link US Project. This ultimately left one alignment with two design options within the existing railroad right-of-way, Shared and Dedicated, and one at-grade station option at LAUS.

Following these SAAs, the Authority continued to refine the alignment and station options. A new underground Burbank Airport Station option (Option B Refined) was developed to minimize impacts in the Burbank area. As a result, the two station options (A and B) that had been recommended in the 2016 Palmdale to Burbank SAA were eliminated. The reasons for their elimination are described in the Draft Burbank Airport Station Options Screening Report (Authority 2018b) and reanalyzed and confirmed in the Burbank Airport Station Options Screening Report: Addendum (Authority 2021e); reasons for their elimination included greater impacts on residential and commercial properties, greater impacts on environmental justice communities, and more intensive soil excavation.

For the area between SR 2 and LAUS, the Authority refined the design for the Shared Option, which initially included a Metrolink flyover structure between Glendale Boulevard and Fletcher Drive. This structure was included to avoid conflicts between northbound high-speed trains and southbound Metrolink trains, and to provide for adequate capacity for passenger rail operations. However, this elevated structure would have resulted in more property impacts than the Dedicated Option, as well as higher costs and constructability concerns. In 2016, the Authority conducted operational modeling which showed that the flyover was not required for HSR and Metrolink to share tracks, which allowed the structure to be eliminated from the design. The Shared Option was refined to be “narrower” and to fit within the existing railroad right-of-way, and as a result, the more impactful Dedicated Option was eliminated.

In summary, the Authority finds that each potential alternative discussed in Chapter 2 and not carried forward into the Final EIR/EIS for detailed study was appropriately eliminated. Such potential alternatives either failed to adequately meet the project purpose and need/project objectives, failed to offer a substantial environmental advantage to the HSR Build Alternative studied in the Draft EIR/EIS, and/or were deemed to not be potentially feasible from a cost, technical, or engineering perspective. The Authority therefore finds all such alternatives to be infeasible.

6.2.3 Alignment and Station Alternatives Not Carried Forward for Study Based on Burbank to Los Angeles and Palmdale to Burbank Alternatives Screening

In summary, the Authority finds that each potential alternative discussed in Chapter 2 and not carried forward into the Final EIR/EIS for detailed study was appropriately eliminated. Such potential alternatives either failed to adequately meet the project purpose and need/project objectives, failed to offer a substantial environmental advantage to the HSR Build Alternative studied in the Draft EIR/EIS, and/or were deemed to not be potentially feasible from a cost, technical, or engineering perspective. The Authority therefore finds all such alternatives to be infeasible.

6.3 Alternatives Suggested by Commenters

Comments on the Draft EIR/EIS suggested additional alternatives that the commenters believed merited consideration and analysis in the EIR/EIS. These include the following general proposals:

- Provide a surface or trench alignment along the Antelope Valley Metrolink line and relying on existing rail services between Burbank and LAUS
- Shift the entire alignment underground into a tunnel
- Provide a tunnel through the San Gabriel Mountains for the best route to downtown Los Angeles
- Provide a monorail system

- Provide an at-grade alignment along Interstate (I) 5 and SR 101
- Provide a four-track right-of-way for shared use by HSR, Metrolink, and Amtrak
- Provide a station at downtown Burbank so connections to Metrolink and Amtrak can be made
- Select Burbank Station Option A
- Provide alternative connections easterly to San Diego or southerly to Anaheim
- Provide an alternative that avoids the Avion Burbank Project site

If an EIR contains a reasonable range of alternatives, it is not deficient for excluding analysis of other potential alternatives suggested in comments by members of the public or agencies. As discussed above, the Burbank to Los Angeles Project Section is substantially constrained by dense urban development and restricted linear rights-of-way. The highly urbanized setting presents significant constraints for introducing a new high-speed rail alignment that meets the Authority design requirements and can connect Burbank and Los Angeles. The setting for the Burbank to Los Angeles Project Section therefore supports the evaluation of the HSR Build Alternative as the CEQA Proposed Project and only a No Project Alternative is reasonable. Therefore, the Authority finds that range of alternatives was sufficient to permit a reasoned choice in the unique circumstances of the Burbank to Los Angeles Project Section and finds that no further alternatives were required to be evaluated in the Final EIR/EIS beyond those presented in the Draft EIR/EIS and Final EIR/EIS.

The Authority further finds that the alternatives suggested in comments are not environmentally superior, do not adequately meet the project purpose/objectives, and/or are infeasible for the reasons summarized below and considering the policy factors discussed above in Section 6.0.

- **Surface or Trench Alignment along the Antelope Valley Metrolink Line/Entire Alignment Underground into a Tunnel/ Tunnel through the San Gabriel Mountains.** Comments received on the Draft EIR/EIS suggest that the Authority should consider some variation of an underground alignment for the HSR Build Alternative. Tunneling introduces constructability and logistical issues and greatly increases capital costs when compared to at-grade construction. According to the 2016 SAA (Authority 2016b), tunnel construction costs generally range from \$200 to \$260 million per mile. As an example, preliminary capital cost estimates for the tunnel in the SR 2 to LAUS subsection (as described in the 2016 SAA) were about four times higher than the cost of constructing an at-grade alternative. As stated in Chapter 6 of the EIR/EIS, the total cost for track structures and track for the HSR Build Alternative would be \$1.471 billion. Although tunnels are planned in limited areas throughout the statewide HSR system and are used in portions of the Burbank to Los Angeles Project Section, provision of the entire 14-mile Burbank to Los Angeles Project Section in an underground tunnel would be economically and logistically infeasible as well as infeasible from a policy perspective because this approach would be unable to benefit from the opportunity to share in planned improvements along the existing rail corridor, as previously discussed. As stated in the Final Program EIR/EIS, the Authority's objective to minimize the amount of tunneling required, particularly the use of long tunnels over 6 miles long, is due to cost, time of construction, and potential for delay (2005 Final Program EIR/EIS, page 2-10). Further, it should be noted that although the HSR Build Alternative evaluated in this EIR/EIS would avoid, reduce, or mitigate impacts when feasible, it is not feasible to avoid every adverse impact. The Authority therefore finds that this suggested alternative is economically and logistically infeasible, is infeasible from a policy perspective, and does not offer a substantial environmental advantage over the Preferred Alternative and therefore rejects this alternative as infeasible.
- **Monorail System.** Comment 664-684 in Chapter 24 of the Final EIR/EIS suggests that the Authority should consider a monorail system for the HSR Build Alternative. The type of technology used to power the HSR system, like maglev, steel-wheel-on-steel-rail, and others, was explored in the Final Program EIR/EIS and the Authority concluded that the technology selected for the HSR system needed to be compatible with existing passenger rail systems.

Maglev and monorail systems require a dedicated guideway or track, which are not compatible with existing passenger rail systems, and the construction of which would have substantially more environmental and right-of-way impacts, and potentially preclude the HSR system from serving densely populated urban centers. For these reasons, the Authority finds that this suggested alternative does not offer a substantial environmental advantage over the Preferred Alternative and would not meet basic project objectives, and therefore rejects this alternative as infeasible.

- **At-grade alignment along I-5 and U.S. Route 101.** Comment 617-636 in Chapter 24 of the Final EIR/EIS suggests that the Authority should consider an at-grade alignment along I-5 and U.S. Route 101. Routing the HSR alignment along existing freeways (specifically, I-5) was explored in the Program EIR/EIS. The 2005 Program EIR/EIS considered but eliminated from study an I-5 alignment, which generally followed the I-5 from Sylmar to LAUS (2005 Final Program EIR/EIS, pages 2-66, 2-70). This alignment would have required substantial property acquisitions, considerable use of aerial structures to pass over freeway overpasses and connector ramps, and also would have passed through several parks. The Program EIR/EIS studied a combined I-5/Metrolink alignment, which primarily followed the existing Metrolink Valley Subdivision right-of-way from Sylmar to Burbank Metrolink Station, before paralleling the I-5 in an aerial alignment and then tunneling under Elysian Park to the LAUS area (2005 Final Program EIR/EIS, pages 2-72, 6A-20 to 6A-21, and Figure 6.4-2). This alignment would have had constructability concerns related to tunneling, as well as impacts to several Section 4(f)/6(f) resources. For these reasons, the Authority eliminated both of these I-5 alignments in the 2005 Program EIR/EIS due to the greater environmental and right-of-way impacts. The Authority therefore finds that this suggested alternative does not offer a substantial environmental advantage over the Preferred Alternative, and therefore rejects this alternative as infeasible.
- **Four-track right-of-way for shared use by HSR, Metrolink, and Amtrak.** Comment 646-667 in Chapter 24 of the Final EIR/EIS suggests providing four tracks for shared use by all passenger operators. The Authority has striven to keep the HSR alignment within the existing railroad corridor to the greatest extent possible to minimize impacts to surrounding communities. The existing railroad right-of-way does not have room to add in four new tracks without requiring extensive property acquisitions along the length of the alignment. The Authority therefore finds that this suggested alternative does not offer a substantial environmental advantage over the Preferred Alternative, and therefore rejects this alternative as infeasible.
- **Station at downtown Burbank.** Comment 658-674 in Chapter 24 of the Final EIR/EIS suggests a station at the Burbank Downtown Metrolink Station. This station option was evaluated in the 2010 PAA, and eliminated for multiple reasons. The Burbank Downtown Metrolink Station is located on a curved section of track. Because the HSR alignment design would require straighter track, adjusting the alignment to make it compatible with the existing Metrolink station would require HSR to leave the existing railroad corridor, resulting in high residential and commercial displacements. The Authority therefore finds that this suggested alternative does not offer a substantial environmental advantage over the Preferred Alternative, and therefore rejects this alternative as infeasible.
- **Select Burbank Station Option A.** Comment 761-1161 in Chapter 24 of the Final EIR/EIS suggests selection of Option A for Burbank Airport Station. In 2016, the Authority prepared the Draft Burbank Airport Station Options Screening Report, which eliminated Option A because of its higher environmental impacts in comparison to Options B and B Refined. Option A would have displaced 124 residential properties (compared to 5 for the other station options), would have had impacts on environmental justice communities, and also would have required the existing Burbank Airport North Metrolink Station to be relocated outside of the existing railroad right-of-way. These findings were reevaluated in 2021 in the Burbank Airport Station Options Screening Report Addenda (Authority 2021e), taking into consideration updated baseline condition information related to the Avion development. The Addenda reaffirmed the findings that both Option A and B were more impactful than Option B

Refined. The Authority therefore finds that this suggested alternative does not offer a substantial environmental advantage over the Preferred Alternative, and therefore rejects this alternative as infeasible.

- **Avoids the Avion Burbank Project site.** Comment 696-784 in Chapter 23 of the Final EIR/EIS suggests that the Authority consider alternative alignments and station options that avoid the need to acquire the Avion Burbank Project. The Authority has been working continuously since the enactment of its enabling legislation in 1997 to explore, develop, and determine the feasibility of multiple alternative alignment and station options at both a Tier 1 program and Tier 2 project level, in compliance with the alternatives analysis requirements of CEQA and NEPA. In evaluating alternatives at the program level, the Authority has withdrawn from further consideration alternatives that potentially have substantial impacts to communities and the environment, or that are impractical or infeasible, thereby also reducing the effort and cost required to perform detailed evaluation and analysis of those alternatives in a project-level EIR/EIS. In the case of the Burbank to Los Angeles Project Section, the 2016 Burbank to Los Angeles SAA (Authority 2016b) included an alignment option (Option A) that was within the Metrolink Valley Subdivision corridor and avoided the Avion Burbank Project site. However, in 2016, the Authority prepared the Draft Burbank Airport Station Options Screening Report, which eliminated Option A because of its higher environmental impacts in comparison to Options B and B Refined. These findings were reevaluated in 2021 in the Burbank Airport Station Options Screening Report Addenda, taking into consideration updated baseline condition information related to the Avion development. The Addenda reaffirmed the findings, that both Option A and B were more impactful than Option B Refined. The Authority therefore finds that this suggested alternative, within the context of the Burbank to Los Angeles Project Section, the Burbank Airport Station option that would avoid the Avion Burbank Project site, in whole or in part, do so at the expense of the communities nearby, and for this reason does not offer a substantial environmental advantage over the Preferred Alternative, and therefore rejects this alternative as infeasible.

6.4 Preferred Alternative

In the Draft EIR/EIS and Final EIR/EIS for the Burbank to Los Angeles Project Section, the Authority has studied one build alternative (HSR Build Alternative) and has identified it as the Preferred Alternative and CEQA Proposed Project. The Authority makes the following findings about the Preferred Alternative:

- The Preferred Alternative, with its blended system approach contained mostly within the existing rail corridor, represents a feasible alternative to bringing high-speed rail from Burbank to Los Angeles in a manner that has the fewest environmental impacts possible, while still achieving the project objectives and underlying purpose.
- The Preferred Alternative is a product of stakeholder input during alternatives screening and Authority staff refinements to address community concerns, particularly concerns regarding residential, business, and community facility displacements.
- Despite exhaustive consideration of potential alternatives during alternatives screening, as described in Section 6.2, including different horizontal alignment locations and different vertical profile variations, and variations for the stations at Burbank and at LAUS, those previously considered alternatives did not meet the project objectives and underlying purpose, were not even potentially feasible for economic, logistics, technical, and social reasons, and/or were more environmentally impactful than the Preferred Alternative and did not offer a substantial environmental advantage.
- The Preferred Alternative is therefore the only feasible build alternative for this project section.

In light of the heavily urbanized and constrained environment of the Burbank to Los Angeles Project Section, the Authority finds that the determination of a preferred alternative between the No Project Alternative and the HSR Build Alternative appropriately focuses on the relative

benefits over the long-term of bringing high-speed rail to this corridor. Specifically, the Authority finds:

- The Preferred Alternative would have temporary regional and localized air quality effects from construction, however, once operational as part of the Phase 1 HSR system, the Preferred Alternative would have long-term net beneficial effects by reducing criteria pollutants and greenhouses gases, benefits the No Project Alternative does not offer.
- The Preferred Alternative would offer grade separations that would improve traffic circulation, emergency response times, and public safety generally, benefits the No Project Alternative does not offer.
- The Preferred Alternative would result in some residential and business displacements due to construction (12 residential units and 84 businesses); however, there are offsetting benefits that the Preferred Alternative offers for local residents and businesses from having a new, clean transportation option that will connect to other parts of the state, benefits the No Project Alternative does not offer.

6.5 Conclusion on Alternatives

In summary, the Authority finds that there are no feasible alternatives that would avoid or substantially lessen the significant adverse impacts of the Preferred Alternative that will remain after application of mitigation measures, while still meeting the project's underlying purpose and project objectives. Because adverse environmental impacts remain, the Authority will adopt a Statement of Overriding Considerations, as discussed in the Section 8 of these Findings.

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7 MITIGATION MEASURES SUGGESTED BY COMMENTERS

Some of the comments on the Burbank to Los Angeles Project Section Draft EIR/EIS suggested additional mitigation measures and/or modifications to the mitigation measures recommended in the Draft EIR/EIS. Some comments also suggested additions to the project that are not necessarily connected to an adverse environmental impact. The mitigation measures recommended in the Burbank to Los Angeles Project Section Draft EIR/EIS represent the professional judgment of subject matter experts on reasonable and feasible approaches to reduce significant adverse environmental impacts. Nevertheless, in some instances, the Authority has incorporated suggestions from comments to refine or improve mitigation measures in the Final EIR/EIS. This discussion explains the reasons for not incorporating certain of the mitigation measures suggested in comments made on the Draft EIR/EIS. The Authority considered the following points in determining whether to include a mitigation measure suggested in comments:

- Whether the suggestion relates to a significant and unavoidable environmental effect of the project, or instead relates to an effect that is already less than significant or can be mitigated to less than significant levels by proposed mitigation measures in the Burbank to Los Angeles Project Section Draft EIR/EIS
- Whether the proposed language represents clear improvement, from an environmental standpoint, over the draft language that a commenter seeks to replace
- Whether the proposed language is sufficiently clear to be easily understood by those who will implement the mitigation as finally adopted
- Whether the language might be too inflexible to allow for pragmatic implementation
- Whether the suggestions are feasible from an economic, technical, legal, policy, or other standpoint
- Whether the measure addresses an impact not caused by the HSR project
- Whether the measure addresses a social or economic impact, as opposed to an impact on the physical environment

Authority staff, with assistance from subject matter experts, has carefully considered mitigation measures proposed in comments. The following identifies suggestions for mitigation measures that the Authority has not incorporated and the rationale for not including those measures. The list below is not intended to be exhaustive; to the extent that suggestions on mitigation measures that were rejected are not identified below, the Authority finds, based on the analysis contained in the Burbank to Los Angeles Project Section Final EIR/EIS and the record as a whole, that such suggestions are appropriately rejected for one or more of the reasons identified above.

7.1 Chapter 2

7.1.1 Measure Addresses an Impact That is Less Than Significant

The following mitigation measures were not adopted because the impact was identified as less than significant.

- Proper mitigation measures to address the HSR Build Alternative's impact to the Central Maintenance Facility

In an effort to maintain existing operations, the Preferred Alternative will reconfigure and relocate the various yard and maintenance facilities within the CMF to accommodate HSR, while maintaining the existing yard operations and train storage capacity. The construction work at the CMF would be phased to minimize the disruption to existing operations and to maintain the key operational facilities. Overall, the project would maintain all impacted facilities to meet existing or additional functionality. The suggested mitigation measures are therefore not necessary.

7.1.2 Measures That Do Not Represent Clear Improvements, from an Environmental Standpoint, over the Draft Language That the Commenter Seeks to Replace

The following mitigation measure was not adopted because it does not offer clear environmental benefits over the mitigation measures already incorporated and adopted by the Authority.

- Mitigation measure that requires the Authority to obtain construction permits from the City of Burbank.

Table 2-21 in the Final EIR/EIS shows the major environmental reviews, permits, and approvals required for the HSR project, including those needed for the City of Burbank. The Authority, as a state agency, is not required by law to obtain local government permission for work on local roads. However, as a policy matter, the Authority has generally required its contractors to obtain encroachment permits from local agencies, and anticipates doing so in the future for construction of the Burbank to Los Angeles Project Section. The suggested mitigation measure is therefore not necessary. Further, the mitigation measure is not necessary to lessen an environmental impact.

7.2 Section 3.2, Transportation

7.2.1 Measure Addresses an Impact Not Caused by the HSR Project

The following mitigation measures were not adopted because the impact will not be caused by the HSR project.

- Provision of shuttle service for Atwater Village residents to access the proposed stations in Burbank and Los Angeles.

The Preferred Alternative will have no adverse impact on existing transit services that provide access between Atwater Village and Burbank and Los Angeles. The suggested mitigation measure is therefore not necessary to mitigate a significant impact of the Preferred Alternative.

- Provision of multi-use pedestrian and bicycle trail on the west side of the HSR corridor right-of-way to connect to the future park at the Bowtie Parcel.

The Preferred Alternative does not include additional bicyclist/pedestrian improvements at this location and does not acquire property on the west side of the HSR alignment to provide for construction of a bike path. The suggested mitigation measure is therefore not necessary.

- Restored access of bus service from Glenfeliz Elementary to Chevy Chase Recreation Center to mitigate impacts to pedestrians from construction.

The Preferred Alternative will maintain transit and pedestrian access during construction (TR-IAMF#2, Construction Transportation Plan, and TR-IAMF#4, Maintenance of Pedestrian Access) and therefore there is no impact to pedestrian circulation. The suggested mitigation measure is therefore not necessary.

- Installation of street/sidewalk improvements throughout the neighborhood that follow the Atwater Village Community Plan/Los Angeles River Master Plan and that those improvements include permeable pavement/impactful flood mitigation.

Improved street and/or sidewalk improvements would be developed only where such facilities will be affected by the Preferred Alternative. It is outside of the Authority's purview to install improvements through the Atwater Village community because the HSR project does not affect existing facilities in this area. The suggested mitigation measure is therefore not necessary.

- Provision of a "First Responders substation" to provide safety and emergency services.

This suggestion is directed towards the impact on emergency vehicle response times created by project construction, which the Authority determined to be a less than significant impact under CEQA. The suggested mitigation measure is therefore not necessary to mitigate a significant impact of the Preferred Alternative.

7.2.2 Measure Addresses an Impact That is Less Than Significant

The following mitigation measures were not adopted because the Preferred Alternative incorporates standardized and effective approaches for ensuring construction-period traffic circulation, traffic safety, truck haul routes, emergency access, and post-construction street repair, such that impact was identified as less than significant.

- Various mitigation measures to address construction traffic impacts for the Main Street bridge related to schools.

TR-IAMF#2 will require the contractor to prepare a detailed Construction Transportation Plan for minimizing the impact of construction and construction traffic on adjoining and nearby roadways while maintaining traffic flow during peak travel periods. School locations and safety will be incorporated into the Construction Transportation Plan, including truck haul routes, for the Main Street bridge construction. TR-IAMF #2 specifically requires advance notification to local school districts of construction activities, to provide rigorously maintained traffic control at all school bus loading zones, and to provide for the safety of schoolchildren.

- Mitigation measure to identify how emergency access will be maintained with detours.

TR-IAMF#2 will require the contractor to prepare a detailed Construction Transportation Plan for minimizing the impact of construction and construction traffic on adjoining and nearby roadways while maintaining traffic flow during peak travel periods. Specific detour routes and the duration of street closures will be identified during final design when more specific construction durations can be defined. This will provide an opportunity for input from local officials and for incorporation of any field conditions that may have changed before construction begins. SS-IAMF#1, the Construction Safety Transportation Management Plan, will require that the contractor develop a detailed Construction Safety Transportation Management Plan that will require coordination with local jurisdictions on emergency vehicle access. Like the mitigation measures provided in the EIR/EIS, IAMFs are a condition of project approval and must be implemented by the Authority during design, construction, and operation of the project. With the inclusion of these IAMFs as part of the project description, additional mitigation measures are not required.

- Mitigation measure to limit construction traffic to specified detour routes, to minimize the movement of construction vehicles, and to repair pavement caused by construction.

TR-IAMF#1 specifically requires that the Authority's contractor will be responsible for the repair of any structural damage to public roadways caused by HSR construction or construction access, returning any damaged sections to the equivalent of their original pre HSR construction structural condition or better.

- Mitigation measure to identify a plan for how to detour transit and cyclists during construction to ensure that the project does not cause a significant construction impact.

SS-IAMF#1, the Construction Safety Transportation Management Plan, will be developed in coordination with local jurisdictions. Similarly, TR-IAMF#5: Maintenance of Bicycle Access, will require the preparation of specific construction management plans to address maintenance of bicycle access during the construction period. All construction management plans will be developed in coordination with the Authority and agencies with jurisdiction. The duration of any closures of transit or bicycle routes will be identified during final design when more specific construction durations can be defined. With the inclusion of these IAMFs as part of the Preferred Alternative, additional mitigation measures are not required.

7.2.3 Measures That Do Not Represent Clear Improvements, from an Environmental Standpoint, over the Draft Language That the Commenter Seeks to Replace

The following mitigation measure was not adopted because it does not offer clear environmental benefits over the measures already incorporated and adopted by the Authority.

- Mitigation program to include at least the commitment to produce a Neighborhood Traffic Management Plan as part of the Main Street Overpass project.

The Authority will produce traffic control plans as part of the final design package for the Main Street bridge and will be completed as part of TR-IAMF#2, Construction Transportation Plan, which is a standardized and effective approach for construction traffic management. TR-IAMF#2 will require the contractor to prepare a detailed Construction Transportation Plan for minimizing the impact of construction and construction traffic on adjoining and nearby roadways while maintaining traffic flow during peak travel periods

7.3 Section 3.3, Air Quality and Global Climate Change

7.3.1 Measure Addresses an Impact That is Less Than Significant

The following mitigation measures were not adopted because the impact was identified as less than significant.

- Require at least six percent of the Proposed Project's 5,210 vehicle parking spaces (or 313 parking spaces) at the Burbank Airport Station and the Los Angeles Union Station to provide electric vehicle (EV) charging stations, or at a minimum, require the Proposed Project to be constructed with the appropriate infrastructure to facilitate sufficient electric charging for passenger vehicles to plug-in. The Authority should quantify emissions from generating additional electricity for the EV charging stations and combine them with emissions from energy consumption for the electrified trains to analyze the Proposed Project's operational air quality impacts in the Final EIR/EIS. The Authority should also evaluate and identify sufficient power available for passenger vehicles and supportive infrastructures (e.g., EV charging stations) in Section 3.6, Public Utilities and Energy, of the Final EIR/EIS, where appropriate..
- Consider implementation of Smart Parking systems to reduce vehicle idling time in parking facilities.
- Collaborate with local and regional agencies and transportation providers to develop incentive programs or other methods to increase ridership.

Based on the findings of the EIR/EIS Impact AQ #9, once operational, the Preferred Alternative will result in a net benefit for all criteria pollutants. The parking lots at the Burbank Airport and LAUS train stations are under the control of the City of Burbank, the City of Glendale, the Pasadena Airport Authority, and Metro. Due to the reconstruction of the parking areas for HSR and non-HSR-related projects, the Authority will work with these two agencies to explore and implement electric vehicle charging stations consistent with current and future local and state guidelines. The suggested mitigation measures have not been incorporated into the Final EIR/EIS because the Authority believes that the existing measures presented in Section 3.3.7 of the Final EIR/EIS are sufficient to mitigate impacts that can be mitigated.

7.3.2 Measures That Do Not Represent Clear Improvements, from an Environmental Standpoint, over the Draft Language That the Commenter Seeks to Replace

The following mitigation measure was not adopted because it does not offer clear environmental benefits over the environmentally protective standardized project elements already incorporated into the Preferred Alternative.

- Provisions shall be made to allow school administrators and/or their designated representative(s) to notify the contractor if construction-related air emission levels are adversely impacting the learning environment. In this event, the contractor must implement additional dust attenuation measures such as watering or using soil stabilizers or reschedule dust-generating activities to a time when school is not in session.

Section 3.3.2.3 of the Final EIR/EIS describes the rules and regulations of the SCAQMD that will be applicable to the HSR project. Rule 402, Nuisance, restricts the discharge of any contaminant in quantities that cause or have a natural ability to cause injury, damage, nuisance, or annoyance

to businesses, property, or the public. Additionally, Rule 403, Fugitive Dust, requires the prevention, reduction, or mitigation of fugitive dust emissions from a project site. The Authority and/or contract administrator will incorporate all applicable SCAQMD requirements into the contract specifications for construction contractors and subcontractors. AQ-IAMF#1 requires the preparation of a fugitive dust control plan for the project. The Authority's Design Criteria Manual will be amended to include an environmental construction considerations section that includes the mandatory components of the dust control plan. Until such revisions are made, all construction Requests for Proposals will require the construction contractor to post a publicly visible sign on the construction site with the telephone number and person to contact at the Authority for any dust or other air quality complaints. The person will be required to take corrective action within 48 hours. The phone number for the local air district must also be visible to ensure compliance with applicable regulations. In addition, provisions in the dust control plan must also be made to allow school administrators and/or their designated representative(s) to notify the Authority if construction-related air emission levels generated by the project are adversely impacting the learning environment. All notices will be investigated by the Authority and corrective action will be taken within 48 hours. The suggested mitigation measure is therefore not necessary.

7.4 Section 3.4, Noise and Vibration

7.4.1 Measure Addresses an Impact That is Less Than Significant

The following recommended mitigation measure revision was not adopted because the impact was identified as less than significant.

- Provide displacement mitigations for structures impacted by vibration

The introduction of HSR service will not generate high enough vibration levels to affect columns, railings, and supports on bridges. The suggested mitigation measure is therefore not necessary.

- Mitigation measures to lower construction noise to the noise standards at the Sotomayor Learning Academies.

Although it may not be possible to meet local noise standards, Mitigation Measure N&V-MM#1, requires the contractor to prepare a noise monitoring program for Authority approval and requires that construction noise not exceed the FRA standard. The Preferred Alternative ultimately meets the overall objectives of the local policies to limit noise in the context of a developed rail corridor. Therefore, potential construction noise impacts will be less than significant under CEQA.

- Installation of a permanent sound barrier between the rail corridor and the Sotomayor Learning Academy capable of keeping post-project ambient noise levels within 2 dBA of the pre-project ambient level.

The applicable standards appropriately used within the Final EIR/EIS are found within the FRA's *High-Speed Ground Transportation Noise and Vibration Impact Assessment Manual* (FRA 2012). While the FRA Manual does not incorporate a fixed noise level increase like LAUSD to determine potential noise impacts, the methodology of comparing existing noise levels to with project noise level assesses the noise level increase and accounts for different existing noise environments more appropriately. Existing noise levels at the Sotomayor Learning Academy were measured at 62.1 dBA L_{eq} and projected project-related noise levels are estimated to be 66.2 dBA L_{eq} resulting in a moderate impact, which will not require mitigation. Additionally, because the project is being undertaken by a state agency (the Authority), the project must conform to the policies and objectives of the statutes and regulations under which the Authority and FRA operate. Since an agency of the State of California is the project proponent, the project is not subject to local government general plan policies, zoning regulations, or standards.

- Noise barriers extending the full length of Atwater Village.

While there is a noise barrier proposed along the southbound side of the HSR alignment in a portion of Atwater Village, the noise impact analysis determined that, in areas where noise barriers are not proposed, none of the impacts to the residences will be classified as severe. The suggested mitigation measure is therefore not necessary.

- Mitigation measure for operational noise impacts associated with HSR infrastructure such as switching stations.

Mitigation Measure N&V-MM#6 requires during final design that specific noise analyses be completed. More specifically, sources of potential noise that have not been fully designed will be assessed such that compliance with the appropriate noise criteria will be met. Any specific impact from switching stations and other mechanical equipment will follow required criteria in Mitigation Measure N&V-MM#3 and, if applicable, mitigation measures will be applied. The suggested mitigation measure is therefore not necessary.

7.4.2 Measure is not feasible from an economic, technical, legal, policy, or other standpoint

The following mitigation measure was not adopted because it is not feasible from an economic, technical, legal, policy, or other standpoint.

- Provide a mitigation measure that constructs portions of the HSR alignment underground near sensitive land uses.

Tunneling introduces constructability and logistical issues and greatly increases capital costs when compared to at-grade construction. According to the 2016 Burbank to Los Angeles SAA, tunnel construction costs generally range from \$200 to \$260 million per mile. Although tunnels are used where necessary throughout the statewide alignment, provision of an underground tunnel for the entire length of the Burbank to Los Angeles alignment (14 miles) would be considered infeasible due to cost, time of construction, and potential for delay as well as the inability to benefit from the opportunity to share in planned improvements along the existing rail corridor. In addition, the Final EIR/EIS proposes sound barriers in areas of severe noise impacts resulting from the project, where the barriers meet the cost-effectiveness criteria consistent with the Authority's Noise and Vibration Mitigation Guidelines. The suggested mitigation measure is therefore not necessary.

7.5 Section 3.6, Public Utilities and Energy

7.5.1 Measures That Do Not Represent Clear Improvements, from an Environmental Standpoint, over the Draft Language That the Commenter Seeks to Replace

The following mitigation measure was not adopted because it does not offer clear environmental benefits over the Preferred Alternative and the energy efficient design that prevents a significant impact.

- Mitigation measures to offset potential significant impacts to public electric utilities including:
 - Water mains in conflict with the proposed project shall be relocated while the existing mains remain active in order to provide uninterrupted service.
 - The preferred method for water main relocation (while maintaining existing mains in service) is the Jack & Bore method per Metrolink Engineering Standard #2201.
 - The HSR Authority shall prepare the plans for Burbank Water and Power review and approval. All design and specifications shall be per Burbank Water and Power and American Water Works Association standards.
 - Geotechnical report, design and construction costs for any utility relocations or modifications shall be paid for by the HSR Authority.

As discussed in Section 3.6.6.3 of the Final EIR/EIS, where the Preferred Alternative conflicts with low-risk utilities the utilities will either be relocated or protected in place to ensure no disruption of service. PUE-IAMF#4 includes measures to avoid utility conflicts by entering into agreements negotiated between the Authority and the utility owners prior to construction of the Preferred Alternative. If new impacts cannot be avoided, additional environmental evaluation will be conducted as necessary.

In addition, design characteristics of the Preferred Alternative will include effective measures to minimize temporary interruption of utility service by adhering to PUE-IAMF#3 and PUE-IAMF#4. PUE-IAMF#3 will require the construction contractor to notify the public of any planned outages through a combination of media and as described in PUE-IAMF#4, prior to construction, the contractor will prepare a technical memorandum documenting how construction activities will be coordinated with service providers to minimize or avoid interruptions. The potential for accidental disruption of utility systems, is low due to the established practices of utility identification and notification.. The suggested mitigation measure is therefore not necessary.

7.6 Section 3.7, Biological and Aquatic Resources

7.6.1 Measures That Do Not Represent Clear Improvements, from an Environmental Standpoint, over the Draft Language That the Commenter Seeks to Replace

The following mitigation measures were not adopted because they do not offer clear environmental benefits over the mitigation measures already incorporated and adopted by the Authority.

- Any vegetation planted should be appropriate for the region and native species, if possible.

IAMFs defined in Appendix 2-B of the Final EIR/EIS along with mitigation measures included in Section 3.7.7 of the Final EIR/EIS include appropriate best management practices and measures to minimize and avoid the spread of invasive weeds during ground disturbing activities during construction and operation and maintenance. In areas of temporary vegetation disturbance (which is primarily nonnative and/or ornamentally planted vegetation), invasive plant species will be controlled to be less than or equal to the pre-disturbance conditions. The Preferred Alternative will not result in the permanent removal of any sensitive native vegetation communities. The suggested mitigation measure is therefore not necessary.

- Provide a mitigation measure that includes providing written notification to the CDFW, pursuant to Section 1600 et seq. of the Fish and Game Code, for potential impacts on jurisdictional aquatic resources.
- Provide a mitigation measure that states that additional measures may be included in a California Fish and Game Code lake and streambed alteration agreement issued for the HSR project.

Section 3.7.6.3 of the Final EIR/EIS acknowledges that measures included as part of resource agency permitting requirements will be implemented. These mitigation measures are therefore not necessary.

- Provide a mitigation measure to cover pre-construction nesting bird surveys during the avian nesting season.
- Provide a mitigation measure to cover the delineation and avoidance of active avian nest buffers.

Mitigation Measures BIO-MM#14 and BIO-MM#15 defined in Section 3.7.7 of the Final EIR/EIS require pre-construction surveys for nesting birds and raptors. The suggested mitigation measures are therefore not necessary.

- Provide a mitigation measure to cover monitoring by a qualified biologist during vegetation clearing and grubbing activities when birds are likely to be nesting

Mitigation Measures BIO-MM#14, BIO-MM#15, BIO-MM#34, BIO-MM#56, BIO-MM#61, and BIO-MM#63 defined in Section 3.7.7 of the Final EIR/EIS cover nesting birds, biological resources monitoring, and compliance reporting during construction activities. The suggested mitigation measure is therefore not necessary.

- Provide a mitigation measure to include pre-construction surveys to detect bat species, use of bat roost installations, and preparation of a bat protection and relocation plan to be

submitted to CDFW for approval prior to commencement of HSR project activities. The measure should also include pre-construction bat surveys that will take place for at least 3 or 4 months prior to ground-disturbing activities.

The suggested measure is very similar to the mitigation measure included in Section 3.7.7 (Mitigation Measure BIO-MM#25), and includes each of the suggested measure components based on actual survey findings and the status of roosting bats within the HSR project vicinity at the time of construction activities. Therefore, the survey timing set forth in the existing mitigation measures is considered sufficient and the required pre-construction timing included in Mitigation Measure BIO-MM#25 has not been altered. The suggested mitigation measure is therefore not necessary.

- Provide a mitigation measure that states that the HSR project should avoid any tree or structure occupied by any species of bat. The recommended measure also provides specifications for necessary tree removal activities when a bat specialist determines that roosting bats may be present at any time of year, and provides recommendations for the demolition of buildings and ensuring that bat roosting habitat remains available for evicted bats or loss of bat habitat resulting from the HSR project.

Measures BIO-MM#25, BIO-MM#26, and BIO-MM#27 are included in Section 3.7.7 the Final EIR/EIS for impacts on bats, which include provisions for the development of a bat relocation plan (and construction of alternate roosting habitat of comparable in size and quality to the impacted habitat) as applicable and in accordance with CDFW guidance. It should also be noted that avoidance of any area that may be suitable for bat roosting is not feasible for any project involving tree removal or bridge/culvert structural work in the HSR Project vicinity. The HSR project has adopted industry-standard best practices and practicable measures related to the avoidance and minimization of impacts on suitable bat habitat and compensation where necessary. The suggested measure will not demonstrably increase or replace the effectiveness of mitigation and avoidance measures already included in the Final EIR/EIS. The suggested mitigation measure is therefore not necessary.

- Provide a mitigation measure that states that if take of Least Bell's vireo would occur as a result of the HSR project, then the project would require an incidental take permit or consistency determination in accordance with the California Fish and Game Code.

Section 3.7.6.3 of the Final EIR/EIS contains specific impact analyses related to direct and indirect impacts on least Bell's vireo, along with measures included to avoid, reduce, and minimize such impacts. Table 2-21 in Chapter 2 of the Final EIR/EIS contains the anticipated environmental reviews, permits, and approvals. The Authority will comply with all permitting requirements as underscored in Table 2-21. The suggested measure will not result in any actual impact avoidance, minimization, or compensation, and will not increase or replace the effectiveness of measures included in Section 3.7.6.3 of the Final EIR/EIS. The suggested mitigation measure is therefore not necessary.

- Provide a mitigation measure that would lower the HSR tracks in specific areas for avoidance of bird strikes (with specific reference to least Bell's vireo near Rio de Los Angeles State Park and the Taylor Yard property).

BIO-IAMF#11 requires that the project be designed to be bird-safe in accordance with applicable standards. While the mitigation measure suggestion is acknowledged, the lowering of the track profile in this area will likely result in additional direct impacts related to the removal of vegetation and potential bird habitat, along with additional construction-related noise and other environmental impacts associated with the additional ground disturbance. The suggested mitigation measure is therefore not necessary.

- Mitigation Measure BIO-MM#47 should be edited to state that there are agency preferences for the purchase of mitigation credits over other forms of compensatory mitigation.

There is no state or federal requirement for any project proponent to implement one acceptable form of mitigation over another. The Authority has worked closely with state and federal resource

agencies throughout multiple tiers of environmental analysis for the HSR Project, and has established project-specific permitting procedures and memoranda of understanding with various agencies. The suggested revision to the mitigation measure is therefore not necessary.

7.6.2 Measure is not feasible from an economic, technical, legal, policy, or other standpoint

The following mitigation measure was not adopted because it is not feasible from an economic, technical, legal, policy, or other standpoint.

- Provide a mitigation measure that prohibits all construction for 8 months during the calendar year to protect nesting birds that may occur on-site.

The suggested mitigation measure is both infeasible and not proportional to the potential impact because (1) it will prohibit construction when and where no direct or indirect impacts on nesting birds will occur, and (2) it will not be possible to construct the HSR project within a 4-month period (during the typical rainy season) due to other required work windows (that prohibit certain construction activities during wet weather conditions) and costs associated with extending the overall construction schedule by over 60 percent (and related prolonged construction-related environmental impacts). The recommended measure is not feasible and will not increase or replace the effectiveness of measures already included in the Draft EIR/EIS (which require pre-construction surveys for nesting birds during the avian nesting season and the avoidance of direct and indirect impacts to actual nesting birds).

7.7 Section 3.8, Hydrology and Water Resources

7.7.1 Measure Addresses an Impact That is Less Than Significant

The following recommended mitigation measure was not adopted because the impact was identified as less than significant.

- Authority should collaborate with the USACE to clean out the Los Angeles River and maintain the riverbed.

The Authority has worked with USACE as a federal cooperating agency for the project to ensure that impacts of the project to the Los Angeles River are minimized to the greatest extent feasible, and will continue to do so during project design, construction, and operation⁸. Long-term maintenance and clean out of the Los Angeles River will continue to be the responsibility of the USACE in coordination with the Los Angeles County Flood Control District. Therefore, the suggested mitigation measure is not necessary.

- Alternative designs to address project impacts on flood control and hydrology within the floodplain in further detail.

Construction activities within floodplains will be short-term, and equipment and materials will be required to be stored outside of the floodplain to minimize the potential flood risk. Additionally, consistent with typical SWPPP requirements, weather conditions will be monitored for heavy storms (and potential flood flows) so that construction equipment can be relocated out of the floodplain prior to the storm event. Additionally, as it is not feasible or practical to continue construction during storm events, all construction activities will cease during storm events. As such, construction workers will not be exposed to risk from flooding during storm events. Additionally, no operation or maintenance activities are anticipated to be required within floodplains. The tracks and stations will be elevated above the floodplain and will therefore not expose passengers to flooding risk during storm events. As such, workers and riders of the HSR will not be exposed to risk from flooding during storm events. The suggested mitigation measure is therefore not necessary.

⁸ In the Final EIR/EIS, the HSR Build Alternative included retaining walls near the Metro Gold Line and Broadway, where the HSR tracks would have been depressed two feet below existing grade. To avoid future conflicts with the Los Angeles River Ecosystem Restoration Project, the HSR Authority has refined the design in the PEPD Volume 3.1 to keep the HSR tracks at the existing grade and remove the proposed retaining walls.

7.8 Section 3.12, Socioeconomics and Communities

7.8.1 Measure Addresses an Impact That is Less Than Significant

The following recommended mitigation measures were not adopted because the impact was identified as less than significant.

- Provide mitigation measure for loss of parking on Casitas Avenue between Glendale Boulevard and Fletcher Drive in a way that protects the residents and businesses, but does not encourage additional vehicle use. An example of such a mitigation would be a hybrid metered/permit zone, where residents can buy annual permits, and visitors would pay at metered parking which is right-priced to achieve an average 7 percent availability during peak times. Additionally, increased access to transit, especially during evening hours when theaters and restaurants are most in use, will assist in mitigating the loss of parking.

The replacement of lost parking as a result of property acquisitions will be addressed as part of the right of way acquisition process as required by SOCIO-IAMF #2, Compliance with the Uniform Relocation Act. The suggested mitigation measure is therefore not necessary.

- Develop and implement a disposition and improvement strategy, for review and approval by the City of Los Angeles that details what strategy will be used to either dispose of the properties to private owners and/or develop the parcels as improved public rights of way or landscaped areas.

As described in Impact LU #2, following construction of the Preferred Alternative, the Authority will evaluate whether all acquired land extending outside the area required for operation and maintenance of the Preferred Alternative will be needed long term. If not, the Authority may declare the property excess so the land may be disposed. To do so, the Authority will need to follow procedures set forth in Public Utilities Code Section 185040, which regulates the sale or exchange of property owned by State agencies. The sale and redevelopment of any land declared excess (i.e., remnant parcels) will allow such land to revert to its previous existing use or developed with uses in accordance with applicable local government land use plans and regulations. Pursuant to Public Utilities Code Section 185040, the Authority may sell the property to an adjoining landowner if it makes certain findings. The Authority may also sell the property to municipalities or other local agencies at their request upon a determination that the intended use is for a public purpose. These uses may include improved public rights of way or landscaped areas. The suggested mitigation measure is therefore not necessary.

7.8.2 Measure Does Not Address an Impact on the Environment

The following mitigation measure was not adopted because the impact is not an impact on the environment.

- Provide mitigation measure for People Experiencing Homelessness that may use HSR infrastructure for shelter within the Los Angeles County Flood Control District.

This request is not required to mitigate an environmental impact of the Preferred Alternative. The EIR/EIS is not required under CEQA or NEPA to evaluate the Preferred Alternative's potential to construct infrastructure that could shelter People Experiencing Homelessness encampments. Although not evaluated in the EIR/EIS, the Preferred Alternative's overpasses would not attract illegal trespassing (People Experiencing Homelessness encampments) to a greater extent than other projects that would include similar features. The suggested mitigation measure is therefore not necessary.

7.9 Section 3.15, Parks, Recreation, and Open Space

7.9.1 Measure Addresses an Impact That is Less Than Significant

The following recommended mitigation measures were not adopted because the impact was identified as less than significant.

- Provide mitigation measure for the HSR Build Alternative's impact to the *Los Angeles River Revitalization Master Plan*

The Preferred Alternative will not result in a loss of parkland but may preclude implementation of recreational resources (i.e., planned bikeways) inconsistent with the objective for increased regional recreational trails and improved recreation as identified in the *Los Angeles River Revitalization Master Plan* under objectives related to the Taylor Yard Opportunity Area. However, through implementation of mitigation measure PR-MM#4, Replacement of Property Acquired from Existing or Planned Bicycle Routes, the Authority will provide alternative routes where existing or planned bicycle routes are impacted. Where property that contains existing or planned bicycle paths required for HSR improvements involves the establishment of a permanent easement or permanent conversion to rail right-of-way from lands owned by Metro, the Authority will consult with the officials with jurisdiction to identify an alternative route for the continuation of the lost use and functionality of the resource, including maintaining connectivity. As such, additional mitigation measures to minimize impacts to planned improvements to the Los Angeles River's western bank are not required. The suggested mitigation measure is therefore not necessary.

- Upgrades to Chevy Chase Recreation Center to offset project impacts

The HSR Project will not result in direct impacts related to temporary construction easements or permanent displacement or access impacts on the Chevy Chase Recreation Center. The suggested mitigation measure is therefore not necessary.

7.9.2 Measure Does not Represent Clear Improvements, from an Environmental Standpoint, over the Draft Language That the Commenter Seeks to Replace

The following mitigation measure was not adopted because it does not offer clear environmental benefits over the mitigation measures already incorporated and adopted by the Authority:

- Provide a mitigation measure to construct a Class IV raised, protected Bike Lane along Victory Boulevard in existing sidewalk right of way between Lake Street and Cypress Avenue, and a Class IV raised, protected two-way cycle track on the north side of Cypress Avenue between Victory Boulevard and the Burbank Western Channel.

As stated in Section 3.15.7 of the Final EIR/EIS, Mitigation Measure PR-MM#4 will reroute the San Fernando Road Bike Path (Planned Phase 3) to maintain connectivity. Based on Mitigation Measure PR-MM#4 the Authority made a preliminary determination that the High-Speed Rail (HSR) Project will not adversely affect the activities, features, or attributes that qualify the San Fernando Road Bike Path (Planned Phase 3) for protection under Section 4(f); therefore, the Preferred Alternative was preliminarily determined to result in a *de minimis* impact on this resource under Section 4(f). The suggested mitigation measure is therefore not necessary.

7.9.3 Measure Addresses an Impact not Caused by the HSR Project.

The following mitigation measures were not adopted because they do not address impacts caused by the HSR Project.

- Provide a mitigation measure to minimize the impact to the use of North Atwater Park and Chevy Chase Park by funding the design and permitting for undercrossings of the East Bank Riverway to allow access to these resources.

The permanent closure at Chevy Chase Drive will be part of the Goodwin Avenue/Chevy Chase Drive Grade Separation, which is an early action project and currently includes the provision of a new pedestrian overcrossing. All early action projects will be planned in collaboration with local and regional agencies. Local and regional agencies may take the lead on coordinating the construction of these early action projects. When the final construction design of the Goodwin Avenue/Chevy Chase Drive grade separation is initiated after certification of the environmental documentation by the Authority, more detailed designs will be produced and coordination will be made with local agencies. The suggested mitigation measure is therefore not necessary.

- Mitigation measure for impacts to habitat restoration opportunities within the planned Taylor Yard River Park area.

There are no impacts of the Preferred Alternative on wildlife and a new measure to increase habitat density in the planned Taylor Yard River Park area is not warranted. The HSR Project will neither preclude nor conflict with the restoration activities proposed under the Los Angeles River Revitalization Master Plan or the Los Angeles River Ecosystem Restoration Final Feasibility Report. The Authority will engage with local restoration proponents to seek transportation corridor and habitat restoration synergies. The suggested mitigation measure is therefore not necessary.

7.10 Section 3.16, Aesthetics and Visual Quality

7.10.1 Measure Addresses an Impact That is Less Than Significant

The following recommended mitigation measures were not adopted because the impacts were identified as less than significant.

- Mitigate construction impacts related to visual quality in consultation with low-income communities of color.

Mitigation Measure AVQ-MM#1 includes provisions to: limit the removal of buildings to only those that will conflict with project components; preserve existing vegetation, particularly vegetation along the edge of construction areas that may help screen views; and not locate construction staging sites within the immediate foreground distance (0 to 500 feet) of existing residential neighborhoods, recreational areas, or other land uses that include highly sensitive viewers. The suggested mitigation measure is therefore not necessary.

- Planting of greenery near proposed project structures in residential areas.

Mitigation Measure AVQ-MM#4 provides that the contractor will plant trees along the edges of the HSR rights-of-way in locations adjacent to residential areas to visually screen the elevated guideway and the residential area. In areas where the Preferred Alternative is not adjacent to the residential areas of Atwater Village, Mitigation Measure AVQ-MM#4 will not be required since the Preferred Alternative will introduce a moderate-low visual change in the area due to the industrial land uses separating Atwater Village from the railroad.

- Creation of a long-term maintenance plan along the rail corridor to prevent dumping and to realize benefits through beautification and ongoing maintenance along the corridor, overpasses, underpasses, and closed streets.

The Authority will enter into maintenance agreements with the agencies with jurisdiction over any right-of-way acquired as part of the HSR project. The HSR corridor will be access-controlled with fencing which should prevent unauthorized public dumping. In addition, Mitigation Measures AVQ-MM#3 through AVQ-MM#7 include beautification efforts as part of the Preferred Alternative. The suggested mitigation measure is therefore not necessary.

- Relocation of overhead utilities impacted by the project underground to mitigate visual impacts.

The Preferred Alternative will conflict with existing utilities and require the protection or relocation of some of these utilities. Where the Preferred Alternative will conflict with existing underground utilities, the Authority will protect these utilities in place or relocate them to a suitable underground location. Where overhead utilities will conflict with the Preferred Alternative, the utility owner may determine that the overhead utilities should be relocated underground and placed in a conduit. However, final plans for the relocation of utility infrastructure will be prepared in coordination with respective providers during final design. Mitigation Measure AVQ-MM#3, Incorporate Design Aesthetic Preferences into Final Design and Construction of Non-Station Structures, and Mitigation Measure AVQ-MM#6, Screen Traction Power Distribution Stations and Radio Communication Towers, will reduce impacts to the visual landscape related to the implementation of supports and electrical lines necessary for HSR Project construction and operation. The suggested mitigation measure is therefore not necessary.

- Recycled water be extended to the sidewalks so trees could be irrigated after they are planted.

Mitigation Measure AVQ-MM#1 requires that vegetation removed during construction will be replaced at a 1:1 or 2:1 ratio, depending on the maturity of the tree. Additionally, Mitigation Measure AVQ-MM#4 requires the provision of vegetation screening along at-grade and elevated guideways adjacent to residential areas and Mitigation Measure AVQ-MM#6 requires the screening of traction power distribution stations and radio communication towers. The details of these design features will be defined further as the design progresses. The suggested mitigation measure is therefore not necessary.

- Commitment to public art to reduce the chance of graffiti on the HSR structures.

Impact AVQ # 3 addresses the potential for impacts to visual quality during HSR operations. Mitigation Measures AVQ-MM#4 and AVQ-MM#6 require vegetative screening for at-grade and elevated guideways adjacent to residential areas and for radio tower sites, which will effectively deter graffiti. Further, Mitigation Measure AVQ-MM#7 provides for sound barrier treatments that include designs to deter graffiti and materials that are easily maintained for graffiti removal. In addition, the Authority will work with affected communities to develop aesthetic treatments for HSR Project structures consistent with Technical Memorandum 200.6, Aesthetic Guidelines for Non- Station Structures. The suggested mitigation measure is therefore not necessary to further mitigate a project impact.

7.11 Section 3.17, Cultural Resources

7.11.1 Measure Relates to a Significant and Unavoidable Environmental Effect of the Project

The following mitigation measure was not adopted because it is similar to, and does not otherwise offer clear environmental benefits over, the mitigation measures already incorporated and adopted by the Authority.

- Additional mitigation measure that if the study undertaken for a reuse of bridge fails to identify a reuse acceptable to the City of Los Angeles, CHSR (or such other public agency that undertakes the Main Street overcrossing project) will enter into a perpetual access, maintenance and security agreement (or similar agreement) with the City for maintenance and security of the historic bridge such that it does not deteriorate and become an attractive nuisance and burden to the Lincoln Heights community.

This proposed mitigation measure is directed to a cultural resources impact (Impact CUL #3) that the Draft EIR/EIS identifies as significant and unavoidable under CEQA. However, the existing Mitigation Measure CUL-MM#13 is sufficiently similar in effectiveness to what is proposed by the commenter so as to address this concern because it requires the Authority to maintain the historic use of the Main Street Bridge to the maximum extent feasible while still meeting the safety requirements of the HSR. The suggested mitigation measure is therefore not necessary.

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8 STATEMENT OF OVERRIDING CONSIDERATIONS

The Burbank to Los Angeles Project Section Final EIR/EIS and the CEQA Findings of Fact conclude that implementing the Preferred Alternative for the Burbank to Los Angeles Project Section of the California HSR System will result in certain significant impacts to the environment that cannot be avoided or substantially lessened with the application of feasible mitigation measures or feasible alternatives. This Statement of Overriding Considerations is therefore necessary to comply with CEQA, Cal. Public Res. Code Section 21081, and CEQA Guidelines Section 15093. The significant and unavoidable impacts and the benefits related to the Preferred Alternative are described below. The Authority Board has carefully weighed these impacts and benefits and finds that each of the benefits of implementing the Preferred Alternative, independently of the other described benefits, outweigh the significant and unavoidable environmental impacts.

8.1 General Findings on Significant and Unavoidable Impacts Associated with the Preferred Alternative

Based upon the Burbank to Los Angeles Project Section Final EIR/EIS, the CEQA Findings of Fact contained herein, and the evidentiary materials supporting these documents, the Authority finds that implementing the Preferred Alternative could result in the following list of significant and unavoidable impacts to the environment:

- **Transportation**
 - Impact TR # 5 Design Feature Hazards, Incompatible Uses, or Conflict with Transit, Airport, Pedestrian, and Bicycle Plans during Construction (conflict with planned San Fernando Railroad Bicycle Path)
- **Air Quality and Global Climate Change⁹**
 - Impact AQ # 1: Regional Air Quality Impacts During Construction (CO and NO_x emissions in some construction years)
 - Impact AQ #2: Compliance with Air Quality Plans During Construction (CO and NO_x emissions in some construction years)
 - Impact AQ #5: Localized Air Quality Impacts during Alignment Construction (NO₂ concentrations)
 - Impact AQ #6: Localized Air Quality Impacts on School Children and Other Sensitive Receptors during Construction (NO₂ concentrations)
- **Noise and Vibration**
 - Impact N&V #4: Project Noise Impacts (residual noise impacts at 68 residences and 2 theaters)
- **Public Utilities and Energy**
 - Impact PU&E #11: Operational Water Demand at Los Angeles Union Station (potential for insufficient supplies to serve project-generated increase in demand at LAUS during normal, dry, and multiple dry years)
- **Parks, Recreation, and Open Space**
 - Impact PK #3: Permanent Easements or Acquisition of Property from Parks, Recreation, and School Play Area Resources Due to Construction (permanent conversion of property from the planned San Fernando Railroad Bike Path)

⁹ Impacts AQ #1, AQ #2, AQ #5, and AQ #6 could result in significant and unavoidable impacts for CO, NO_x, and NO₂ emissions within the South Coast Air Basin for some construction years as discussed in Section 3.2 of this Findings document.

- Impact PK #4: Changes to Planned Parks and Recreational Resources Due to Construction (permanent conversion of property from the planned San Fernando Railroad Bike Path)
- Impact PK #5: Changes to Park or Recreation Facility Use or Character Due to Operation (permanent easement and conversion of property from the planned San Fernando Railroad Bike Path and operations impacts on Pelanconi Park due to permanent visual changes)
- **Aesthetic and Visual Quality**
 - Impact AVQ #1: Visual Disturbance during Construction (addition of intrusion protection railings to Arroyo Seco Parkway Historic District Bridge, Broadway Viaduct Bridge, and Spring Street Viaduct Bridge)
 - Impact AVQ #3: Visual Quality in the Burbank to Los Angeles Project Section (visual quality degradation at Key Viewpoints 5, 6, and 7)
- **Cultural Resources**
 - Impact CUL #3: Construction Effects on Historic Built Resources (addition of intrusion protection railing to Arroyo Seco Parkway Historic District Bridge, Broadway Viaduct Bridge, and Spring Street Viaduct Bridge and alteration of Main Street Bridge would occur such that the significance of these historical resources would be materially impaired)
- **Cumulative Impacts**
 - The Preferred Alternative will make a cumulatively considerable contribution to a violation of air quality standards (i.e., regional CO and NO_x emissions and localized emissions of NO₂, PM₁₀, and PM_{2.5}).
 - The Preferred Alternative will make a cumulatively considerable contribution to an exceedance of significance thresholds for noise and vibration at sensitive receivers during construction.
 - The Preferred Alternative will make a cumulatively considerable contribution to a cumulative noise impact because it would cause the largest change in the baseline ambient noise conditions among the many planned transportation projects.
 - The Preferred Alternative will have a cumulatively considerable contribution to a cumulative impact on water supplies at LAUS during operation.

With the approval of the Preferred Alternative and the adoption of the CEQA Findings of Fact, the Authority is committing to implement the mitigation measures identified for the Preferred Alternative to ensure that significant impacts are mitigated to a less than significant level to the extent feasible, and that the project's contribution to cumulative impacts is minimized and mitigated to the extent feasible. The Authority finds that the mitigation measures adopted with the Findings are the appropriate measures to approve at this time because they apply to the Preferred Alternative.

The Authority further finds that while the mitigation measures it adopts will substantially lessen or avoid many of the significant environmental impacts discussed in the Final EIR/EIS and mitigation measures adopted to address one area may result in beneficial effects in other subject areas, the above impacts will not be mitigated to a less than significant level and will remain significant and unavoidable.

The Authority finds that each of the following specific economic, legal, social, technological, environmental and other considerations and benefits of the Preferred Alternative, separately and independently, outweigh the unavoidable adverse environmental effects of the project, and each one is an overriding consideration independently warranting project approval. The Authority finds that the significant unavoidable impacts of the project are overridden by each of these individual considerations standing alone. The significant unavoidable environmental effects remaining after

adoption of mitigation measures are considered acceptable in light of these significant benefits of the Preferred Alternative, as described in this Statement of Overriding Considerations.

8.2 Overriding Considerations for the Preferred Alternative as Part of the Phase 1 High-Speed Rail System Between San Francisco and Los Angeles/Anaheim

There are numerous benefits of the Preferred Alternative, when considered as an integral part of the Phase 1 HSR system between San Francisco and Los Angeles/Anaheim. These benefits, viewed both individually and collectively, outweigh the significant and unavoidable adverse effects of implementing the Preferred Alternative. These benefits are in the areas of transportation, the environment, economics, and employment benefits, and are set forth below.

8.2.1 Environmental Benefits

As discussed in the Final EIR/EIS, the benefits of the HSR system include reduced VMT, reduced energy for transportation, reduced air pollution from transportation sources, including reduced emissions of GHGs (see the Final EIR/EIS Section 3.2, Transportation, Section 3.3, Air Quality and Global Climate Change, and Section 3.6, Public Utilities and Energy, of the Final EIR/EIS), and rail safety (see Section 3.11, Safety and Security). These benefits were derived based on the assumption in the Burbank to Los Angeles Project Section Final EIR/EIS that the Burbank to Los Angeles Project Section would be operational as part of the Phase 1 HSR system between San Francisco and Los Angeles/Anaheim. The following summarizes the conclusions of specific benefits that were disclosed in the Final EIR/EIS.

8.2.1.1 Benefits from a Reduction in Vehicle Miles Traveled

The Final EIR/EIS concluded that the HSR Phase 1 system will divert automobile trips to HSR trips, thus reducing statewide, regional, and local VMT. The reduction in both automobile and air travel VMT will provide benefits in the form of reduced congestion on both the state's highway system as well as at airports. In 2040, implementation of the Preferred Alternative will result in a net reduction in daily VMT 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, based on an assumption that the Burbank to Los Angeles Project Section Preferred Alternative was operating as part of Phase 1. In the Opening Year of Phase 1 HSR operations, VMT reductions will be less than in 2040, but still beneficial (Final EIR/EIS, Section 3.2, Impact TR # 6).

8.2.1.2 Benefits from a Reduction in Air Pollution and Greenhouse Gas Emissions

The transportation sector is responsible for about 40 percent of California's GHG emissions (CARB 2020). In the South Coast Air Quality Management District, mobile-source emissions account for over 90 and 85 percent of the Basin's CO and NO_x emissions, respectively. Mobile-source emissions also account for over 50 percent of the Basin's reactive organic gas emissions. Area-source emissions account for over 80 percent of the Basin's particulate matter, and stationary sources account for over 65 and 50 percent, respectively, of the Basin's volatile organic compounds and sulfur oxide emissions. The Basin is currently designated as nonattainment for the federal 8-hour ozone, PM_{2.5}, and lead standards; unclassified for the federal NO₂ and sulfur dioxide standards; attainment/maintenance for the federal PM₁₀ and CO standards; and attainment/unclassified for all other standards. The Basin is considered in nonattainment for the state 1-hour ozone, 8-hour ozone, and PM_{2.5}, and PM₁₀ standards; unclassified for the state CO standards; in attainment for the state NO₂, sulfur dioxide, and lead standards; and in attainment/unclassified for all other state standards. The projected growth in Los Angeles County will result in daily VMT that are expected to reach over 220 million and the daily vehicle hours traveled that are expected to reach 6.8 million by the year 2040. Particulate matter levels are a direct function of the amount of driving, with road dust caused by moving vehicles accounting for 60 to 80 percent of particulate emissions from mobile sources. The continued increase in traffic will exacerbate the existing air quality problem and impede the

region's ability to attain state and federal ambient air quality standards. Therefore, offering effective transportation choices (such as the HSR system) that can reduce VMT is critical for reducing these emissions.

Compared to travel by car or by air, an electric-powered HSR system will reduce carbon dioxide emissions. The California HSR System will provide a more energy-efficient travel mode; a trip on the HSR system will use one-third the energy of a similar trip by air, and one-fifth the energy of a trip made by car (Bay Area Economic Council Institute 2008). In addition, the HSR System affords a new opportunity to serve as the backbone of a comprehensive transportation network with connectivity between the statewide, regional, and local transit systems. Providing an interconnected network of alternative transportation options that support more concentrated development around major transit access points establishes a new framework for the state to integrate land use and transportation decision-making.

The Final EIR/EIS considered the air quality emissions associated with the Burbank to Los Angeles Preferred Alternative. As shown in Tables 3.3-27 through 3.3-30 in the Final EIR/EIS, emission results indicate the Preferred Alternative, operating as part of the Phase 1 HSR System, will result in a net regional decrease in emissions of criteria pollutants. These decreases will be beneficial to the Basin and help the basin meet its attainment goals.

The analysis in the Final EIR/EIS included the estimated change in emissions due to projected reductions of on-road VMT and intrastate air travel, and increases in electrical demand (required to power the HSR system) from Phase 1 HSR operations. Compared to the No Project Alternative in 2040, all air pollution emissions analyzed (i.e., CO, PM₁₀, PM_{2.5}, NO_x, and volatile organic compounds) will be substantially reduced at both statewide and regional levels. In the opening year of Phase 1 HSR operations, pollutant emissions reductions will be less than in 2040, but still beneficial. (Final EIR/EIS, Section 3.3, Impact AQ #8, Tables 3.3-23 through 3.3-26)

The potential to substantially reduce GHG emissions from the transportation sector was a foundational basis for the HSR system being included in the Assembly Bill (AB) 32 Scoping Plan as Measure #T-9 to help the state meet GHG emission reduction targets. The Phase 1 HSR system's statewide reduction in GHG emissions was estimated to be approximately 1.0 to 1.5 million metric tons per year of carbon dioxide emissions compared to the No Project Alternative in 2040. In the opening year of Phase 1 HSR operations, GHG emissions reductions will be less than in 2040, but still beneficial. (Final EIR/EIS, Section 3.3, Impact AQ #10, Table 3.3-32) The Preferred Alternative will further the GHG emissions reductions goals in AB 32, and will also be consistent with and help achieve the policy goals of Executive Order S-3-05 and SB 375.

SB 375 is one major tool being used to meet the AB 32 goals. SB 375 sets priorities to help California meet GHG reduction goals and requires that regional transportation plans prepared by metropolitan planning organizations include a "sustainable communities strategy" that supports the GHG emission reduction targets set by the California Air Resources Board (CARB). Because of the potential for increased transit-oriented development-type development and other land use planning benefits from HSR implementation in the project area, the HSR system will be supportive of the Southern California Association of Governments' sustainable communities strategy document by providing an HSR system as a transportation opportunity with its associated benefits to land use patterns, which will contribute to the document goals to meet SB 375 GHG reduction targets. The Regional Transportation Plan/Sustainable Communities Strategy completed by the Southern California Association of Governments (2012) includes a California HSR System that will connect with a robust network of intercity and commuter rail, subway and light rail, and fixed-route transit systems and therefore includes the analysis performed to demonstrate that the Southern California Association of Governments' 2016 Regional Transportation Plan/Sustainable Communities Strategy meets the GHG emission reduction targets set by the CARB per the requirements of SB 375.

8.2.1.3 Benefits from a Reduction in Energy Use

The Final EIR/EIS acknowledges that the Phase 1 HSR system will require electricity to operate, but it will nevertheless result in permanent net reduction in energy use because it will divert trips

from transportation modes with higher energy use (commercial air flights and automobiles) to HSR, which has lower energy use. In addition, as stated in the Authority's 2021 Sustainability Report (Authority 2021c), the Authority has committed to powering the HSR trains with 100 percent renewable energy, although the EIR/EIS analysis does not assume this is the case for the purpose of a conservative analysis.

The net change in energy use associated with the Preferred Alternative, as part of the Phase 1 HSR system, will be an energy savings of 15,503 million British thermal units per year in 2040 under the medium ridership scenario and 23,952 million British thermal units per year in 2040 under the high ridership scenario compared to the No Project scenario in 2040. In the opening year of Phase 1 HSR operations, energy use reductions will be less than in 2040, but still beneficial. (Final EIR/EIS, Section 3.6, Impact PU&E #16)

8.2.1.4 Other Environmental Benefits

The Authority has planned the Phase 1 HSR system by following existing transportation corridors to the maximum extent feasible as a way to avoid and minimize the potential for environmental impacts, while still meeting the project's fundamental purpose and objectives. The Burbank to Los Angeles Project Section meets the purpose and need and project objectives for improving the state's transportation options and meeting growing transportation demand, while doing so in an environmentally sensitive way.

The Authority's studies have shown that the HSR system can be constructed with less land and with fewer natural and community impacts than providing a similar level of mobility through expanded highways and airports (Authority 2012b; Authority 2019b). The 2019 Equivalent Capacity Analysis found that it would cost an estimated \$122 billion–\$199 billion to provide the equivalent level of transportation capacity in highway lane miles (4,196 lane miles) and airport capacity (91 gates and 2 runways) that the Phase 1 HSR system would provide. Compared to the Phase 1 cost estimates ranging from \$69 billion to \$99 billion, investment in high-speed rail is the more affordable choice (Authority 2019c, pp.1-2.).

8.2.2 Transportation Benefits

8.2.2.1 Increases Mobility and Reduces Congestion and Travel Delays by Providing a Safe, Reliable, and High-Speed New Travel Mode

As described in the Final EIR/EIS, Chapter 1, the Phase 1 HSR system and the Preferred Alternative as part of the Phase 1 HSR system will meet the need for a safe, reliable mode of travel that will link the major metropolitan areas of the state and deliver predictable, consistent travel times sustainable over time, even as the state's population grows. The capacity of California's intercity transportation system is insufficient to meet existing and future demand and the current and projected future congestion of the system will continue to result in deteriorating transportation conditions, reduced reliability, and increased travel times. The system has not kept pace with the tremendous increase in population, economic activity, and tourism in the state, including in the vicinity of the Burbank to Los Angeles Project Section. The interstate highway system, commercial airports, and conventional passenger rail serving the intercity travel market are at or near capacity and will require major public investments to maintain and expand capacity. The feasibility of expanding capacity for major highways and airports is uncertain due to cost, political, and physical constraints. The HSR mode will divert trips from highway and air travel, and consequently reduce vehicle miles traveled, congestion, and travel delays on freeways and at airports. A key transportation benefit of the Preferred Alternative is reducing congestion and travel delays at local intersections.

The Preferred Alternative operating as part of the Phase 1 HSR system also will provide quick, competitive travel times between California's major intercity markets. By providing a new intercity, interregional, and regional passenger mode, the HSR system will improve connectivity and accessibility to other existing transit modes and airports. Travel options for areas of the state with limited bus, rail, and air service for intercity trips, such as from the southern San Joaquin Valley to the Los Angeles area, will be substantially improved. The change from vehicles to HSR will

reduce daily auto trips and corresponding vehicle delay and congestion. The HSR system also provides system redundancy in cases of extreme events such as adverse weather or petroleum shortages (HSR trains are powered by electricity, which can be generated from non-petroleum-fueled sources; automobiles and airplanes currently require petroleum). The HSR system will provide a predominantly separate transportation system that will be less susceptible to many factors influencing reliability, such as capacity constraints, congestion, and incidents that disrupt service.

The Preferred Alternative operating as part of the Phase 1 HSR system will add capacity to the state's transportation infrastructure and reduce traffic on certain intercity highways and around airports to the extent that intercity trips are diverted to the HSR system. Within Los Angeles County, reduction in vehicle miles traveled is anticipated to range 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 (Final EIR/EIS, Section 3.2, Impact TR # 6). The HSR system also will decrease injuries and fatalities due to diversion of trips from highways, will improve connectivity, and will add a variety of connections to existing modes, additional frequencies, and greater flexibility.

The state's growing population and the growing demand on the state's transportation system were the early factors for high-speed rail in California. The same trends that motivated the state to investigate, support, and proceed to plan the HSR system are just as compelling today as in the last two decades. The state's need for an expanded safe, reliable, and fast mode of intercity travel to meet its growing transportation demands continues to be a critical policy basis for moving the project forward.

8.2.2.2 Provides Connectivity Between Northern California and Los Angeles

Another benefit of the Preferred Alternative is that it contributes to connecting the northern California and southern California portions of the statewide HSR system. The Preferred Alternative will provide Burbank, Glendale, Los Angeles, and other communities near the proposed HSR stations in the Burbank to Los Angeles Project Section access to a new transportation mode. The Preferred Alternative will provide the public with electric-powered HSR service that offers predictable and consistent travel times between major urban centers. In addition, the Preferred Alternative will 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.

8.2.3 Intermodal Opportunities and Land Use Planning Benefits in Burbank and Los Angeles

In the vicinity of HSR stations, the HSR system will generally be compatible with local, regional, and state plans and policies that support rail systems, including the HSR system, and transit-oriented development. It will offer opportunities for increased infill development and redevelopment of downtown centers. The HSR system will promote transit-oriented, higher-density development around transit nodes as the key to stimulate infill development that makes more efficient use of land and resources. The increased density of development in and around urban HSR stations yields the additional public benefit of making public infrastructure improvements more cost effective.

The HSR system will also meet the need for improved intermodal connectivity with existing local and commuter transit systems. The existing LAUS campus and surrounding tracks are being reconfigured as a part of the Metro Link US Project. The Link US Project will reconfigure the station entry tracks from north of Mission Junction and will include expansion of the existing pedestrian passageway. Up to 10 new run-through tracks will be constructed on "common" infrastructure to support regional/intercity rail and HSR trains. Additionally, the Burbank Airport Station will be a multimodal transportation hub and will provide linkage with local and regional transit, airports, and highways. In particular, convenient links to other rail services (heavy rail, commuter rail, light rail, and conventional intercity) will promote transit-oriented development at stations by increasing ridership and pedestrian activity at these "hub" stations. A high level of

accessibility and activity at the stations can make the nearby areas more attractive for additional economic activity.

8.2.4 Economic and Social Benefits

8.2.4.1 Provides Economic and Employment Benefits

The Phase 1 HSR system will generate economic benefits related to revenue generated by the system, economic growth and jobs generated by construction and operation of the system, benefits from reduced delays to air and auto travelers, and economic advantages related to proximity to the HSR system's stations.

Operation of the Phase 1 HSR system will generate the equivalent of approximately 624,000 job years of employment, \$46 billion in labor income, and nearly \$131 billion in economic output (Authority 2020 p.4). Operations and maintenance of the Phase 1 HSR system will directly employ about 3,400 people by 2040 (Authority 2014, p. 60), and the potential statewide creation of about 400,000 long-term permanent jobs. Operation of the Phase 1 HSR system is estimated to create up to 3,800 direct jobs (Authority 2016a, page 90), and overall about 47,500 new jobs within the region. In addition, the HSR system will improve the economic productivity of workers engaging in intercity travel by providing an option to avoid the delays and unpredictability associated with air and highway travel. These economic benefits are in marked contrast to the cost of expanding airports and highways, which will be approximately twice the cost of the HSR system to meet the future transportation demand, assuming this type of expansion is even feasible (Authority 2012, page 3-15).

The HSR system as a whole will generate temporary and permanent gains in sales tax revenues because of project spending during construction and operation of the HSR system. During construction, the Preferred Alternative will create temporary construction-related jobs, and during operations, the Preferred Alternative will provide circulation and economic benefits, including the creation of permanent operation-related jobs.

As described in the Burbank to Los Angeles Project Section Final EIR/EIS, the Preferred Alternative will also result in benefits related to socioeconomics and communities. The HSR project will generate temporary and permanent gains in sales tax revenues because of project spending during construction and operation of the HSR system. During construction, the Preferred Alternative will create temporary construction-related jobs, and during operations, the Preferred Alternative will provide circulation and economic benefits, including the creation of permanent operation-related jobs. Approximately 17 percent of the total HSR spending on construction equipment and materials for the Preferred Alternative will occur within Los Angeles County, with an estimated increase in county tax revenue of \$1,167,900. These sales tax revenue gains will increase local government revenues during the construction period and provide an economic benefit (Final EIR/EIS, Section 3.12, Impact SOCIO #10).

Employment from construction of the Preferred Alternative will provide employment benefits in the region. Construction of the Preferred Alternative has the potential to create an estimated 27,923 additional direct, indirect, and induced jobs in Los Angeles County during construction. It could also have spillover impacts in neighboring Orange County during the construction period. Most (22,350) of the jobs created by construction of the Preferred Alternative will be centered in Los Angeles County. The largest job growth is expected in the construction industry, followed by the retail trade sector. The Preferred Alternative will support approximately 5,987 direct and 5,906 indirect jobs, for a total of 11,893 jobs, during the peak years of construction. The 1,497 direct jobs in the peak construction years (2022 and 2023) will represent a 1.05 percent increase in construction jobs projected for the year 2022 in Los Angeles County. (Final EIR/EIS, Section 3.18.6.3)

Businesses that locate near an HSR station can operate more efficiently than businesses elsewhere (Final EIR/EIS, Section 3.12, Impact SOCIO #16). This competitive advantage may be pronounced in high-wage employment sectors that are frequently in high demand in many communities. HSR is a mode of transportation that can strengthen urban centers. In combination

with supportive local land use policies, the increased accessibility afforded by the HSR system will encourage more intensive urban development and lead to higher property values around stations.

Experiences in other countries have shown that an HSR system will provide a location advantage to those areas near an HSR station because the HSR system will improve accessibility to labor and customer markets, potentially improving the competitiveness of the state's industries and the overall economy (SPUR Report 2011; Authority 2021d). However, estimating the number, magnitude, and distribution of households that may economically benefit from proximity to an HSR station would be speculative, because it involves many economic factors and individual preferences.

8.2.5 Benefits May be Lower Initially than in 2040, but Will Build Over Time

The Authority's 2016, 2018, and 2020 Business Plans (Authority 2016a, 2018a, 2020) describe a phased implementation strategy for construction of the Phase 1 HSR system that acknowledge funding constraints. Because the system may be constructed and implemented more slowly over time than assumed in the Final EIR/EIS for purposes of environmental analysis (the Final EIR/EIS assumed 520-mile Phase 1 statewide HSR system with mature operations by 2040), based on funding availability, benefits of the system may also accrue more slowly over time. The Final EIR/EIS assumed a time horizon for analysis of 2040, and prepared analysis of project benefits for that horizon year. An operational HSR system, however, will continue to provide VMT reduction, air pollutant reduction, and GHG reduction benefits long past the 2040 time horizon of the Final EIR/EIS, and these benefits will build over time as ridership on the system increases.

As discussed in the 2020 Business Plan, over time, the average annual GHG emissions savings of the Phase 1 HSR system, 1.9 million metric tons of carbon dioxide equivalent is projected to be the equivalent of taking 400,000 passenger vehicles off the road every year. (Authority 2020, page 10).

In addition, the Authority has previously committed to power the high-speed train with an energy portfolio of 100 percent renewable sources and confirmed the feasibility of this approach with industry (Authority 2008, 2014). This commitment was reaffirmed in the 2018 and 2020 Business Plans (Authority 2018a, 2020). The environmental benefit of powering the high-speed train with 100 percent renewable energy is substantial in terms of carbon dioxide reduction benefits. Over time, a 100 percent renewable portfolio has potential to increase the GHG reduction benefits from high-speed train operations over a non-renewable portfolio (CARB 2018).

In summary, although benefits of the HSR system in the areas of VMT reduction, air pollution and GHG reduction, and reduced transportation energy use may be lower initially than described in the Final EIR/EIS because of a phased implementation strategy, the benefits will still be significantly positive, the benefits will still continue to accrue and grow over time, and they will eventually achieve and exceed the level of benefit the Final EIR/EIS describes. These benefits therefore still outweigh the significant and unavoidable adverse environmental impacts described in the Final EIR/EIS and CEQA Findings of Fact.

8.3 Benefits of the Preferred Alternative on its Own

The Preferred Alternative offers the greatest benefits when viewed as part of the Phase 1 HSR system between San Francisco and Los Angeles/Anaheim. These benefits, however, are further augmented by the benefits that the Preferred Alternative offers on its own, even in advance of connecting to the Phase 1 HSR system.

8.3.1 Transportation, Safety, and Noise Reduction Benefits of Grade Separations

The design of the Preferred Alternative will create a shared rail corridor in Burbank, Glendale, and Los Angeles with three railroads (HSR, Metrolink, and UPRR) operating alongside one another. The Preferred Alternative includes grade separation for five existing, at-grade, roadway/railroad crossings:

- Sonora Avenue
- Grandview Avenue
- Flower Street
- Goodwin Avenue
- Main Street

These grade separations will separate roadways and bicycle/pedestrian facilities from not only HSR, but also Metrolink and UPRR as well. The Preferred Alternative eliminates five at-grade railroad crossings from Burbank Airport Station to LAUS, improving traffic flow across the rail corridor and reducing noise through the elimination of train horn and crossing gate noise. Elimination of the at-grade railroad crossings will also improve the reliability of emergency vehicle response times in many areas within Burbank, Glendale, and Los Angeles.

In addition, as described in the Burbank to Los Angeles Project Section Final EIR/EIS, positive train control included as part of the Preferred Alternative will provide an overall benefit to passenger rail travel safety compared to the No Project Alternative. Positive train control is a train safety system designed to automatically implement safety protocols and provide communication with other trains to reduce the risk of a potential collisions between trains, casualties to roadway workers and equipment, and over-speed accidents. Positive train control 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.

8.3.2 Benefits of the Preferred Alternative to other Rail Operators

As stated in Chapter 2 and Section 3.2, the Downtown Burbank Metrolink Station would be reconfigured as part of the HSR Build Alternative and would provide pedestrian overhead structures and other safety features to allow the safe passage of Metrolink and HSR train traffic. Therefore, the HSR Build Alternative provides for enhanced station safety for Metrolink travelers.

In addition, as stated in Chapter 2 of the EIR/EIS, the Preferred Alternative provides track capacity and flexibility by increasing the existing two tracks to four tracks (south of Alameda Ave to LAUS) which provides greater operational reliability and capacity for all operators. The shared track in strategic locations results in increased flexibility of train movements during rail operations. Moreover, the East Bank (LA River) Mission Junction Expansion provides greater operational reliability and capacity for all rail operators.

8.3.3 Benefits of the Preferred Alternative to the Los Angeles River and Urban Mobility Corridor Opportunities

The Authority recognizes the key interface areas between the Preferred Alternative and the Los Angeles River which include Verdugo Wash, Taylor Yard/CMF, Arroyo Seco confluence, Main Street, and the Mission Junction Bridge. These key interface areas will allow the Authority to multiply the benefits of the Preferred Alternative by identifying opportunities with applicable agencies such as Metro, the Southern California Regional Rail Authority, and the cities of Glendale and Los Angeles. These opportunities would include concurrent projects along the corridor, creative funding and financing/grant opportunities, active transportation, opportunities for remnant properties, joint public outreach opportunities, and accelerated implementation through early investment.

The Authority has objectives for the urban corridor within the Burbank to Los Angeles project section that include protecting existing rail service, protecting communities, and meeting sustainability goals. In addition, the Authority has set goals to phase infrastructure development to support future service needs and improvements, complete early projects with independent utility, improve efficiency for all operators, support economic growth in Southern California, and use early implementation to help mobilize concurrent projects along the Los Angeles River. As stated previously in Section 8.3.1, the Preferred Alternative will improve corridor safety and reliability through separating freight and passenger rail operations, grade separating the rail from the roadway, and installing intrusion and earthquake warning systems. The Authority has a programmatic approach to improve the urban corridor within the Burbank to Los Angeles Project

Section and will develop long-term partnerships to reduce and/or share costs and maximize each partner's strengths, achieve broader mobility, safety, and air quality goals through access to a wider range of funding sources, and develop a phased approach that delivers service and safety improvements each step along the way.

8.4 Conclusion

The Preferred Alternative for the Burbank to Los Angeles Project Section of the California HSR System will result in certain significant impacts to the environment that cannot be avoided or substantially lessened with the application of feasible mitigation measures or feasible alternatives, as identified in Section 8.1, above, and as disclosed in the Final EIR/EIS. The Authority finds, however, that the above-enumerated benefits of the Preferred Alternative for the Burbank to Los Angeles Project Section as part of the Phase 1 HSR system (Section 8.2), and viewed on its own (Section 8.3), outweigh the unavoidable adverse environmental effects. This finding is based on the Authority's careful consideration of and balancing of the unavoidable adverse environmental effects against the Preferred Alternative's substantial environmental benefits, which render the unavoidable adverse environmental effects acceptable.

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ATTACHMENT A: MITIGATION MEASURES

The following presents the full text of each mitigation measure listed and discussed above.

A.1 Referenced Mitigation Measures for Transportation

TRAN-MM#1: Intersection Improvements for Construction Impacts. The following improvements are available for consideration to address construction-related traffic delay impacts under NEPA for the project. No mitigation is required under CEQA.

- Sunland Boulevard at San Fernando Road Minor—Change the westbound approach to one left-turn only lane and one through/right lane through restriping.
- Sunland Boulevard at San Fernando Road—Provide southbound exclusive left-turn lane with protected phasing. Remove split phasing for northbound and southbound movements. Switch northbound left-turn lane to permissive phasing. Restripe the eastbound approach to add a second eastbound left-turn lane.
- Vineland Avenue at Vanowen Street—Restripe eastbound and westbound approaches.
- Strathern Street/Clybourn Avenue at San Fernando Road—Restripe eastbound approach and slightly restripe the striped median to provide a second through lane (two through lanes and one shared through-right lane).
- Hollywood Way Southbound at San Fernando Road—Modify northbound approach from one left-turn and one right-turn lane to one shared left-right lane and one right-turn lane.
- Hollywood Way at Victory Boulevard—Restripe the northbound approach, including removal of the southbound through lane, to provide two right-turn lanes and two left-turn lanes. Increase signal cycle length from 90 to 120 seconds
- Buena Vista Street at San Fernando Boulevard—Increase signal cycle length from 90 to 120 seconds and optimize splits.
- Buena Vista Street at Thornton Avenue—Restripe the southbound approach, assuming the existing curb lane functions as a right-turn lane at this approach.
- Buena Vista Street at Vanowen Street—Change northbound left-turn signal phasing from protected to permissive.
- Buena Vista Street at Victory Boulevard—Restripe the eastbound and westbound approaches to provide a second left-turn lane. Add a right-turn overlap for the southbound right-turn movement. The southbound (Burbank Boulevard) approach already has two through lanes and one right-turn lane.
- Burbank Boulevard at San Fernando Boulevard—Restripe and redesignate lanes to provide two left-turn lanes in the southbound (Burbank Boulevard) direction, two dedicated right-turn lanes and two through lanes in the westbound (San Fernando Boulevard) direction, and protected-permissive left-turn phasing at the eastbound approach.
- Burbank Boulevard at Victory Boulevard—Restripe the eastbound (Victory Boulevard) approach to provide two through lanes and one right-turn lane. Restripe the westbound (Victory Boulevard) approach to provide three left-turn lanes and two through lanes. Restripe the northbound (Burbank Boulevard) approach to provide two left-turn lanes and two right-turn lanes. These designations assume that all approach and receiving movements on the north leg (Burbank Boulevard) would be closed off due to construction. Increase the signal cycle length to 120 seconds.
- Magnolia Boulevard at 1st Street—Restripe the westbound (1st Street) approach to provide two left-turn lanes, two through lanes, and one shared through-right lane. Restripe the eastbound (1st street) approach by decreasing the width of the two receiving lanes to provide a second right-turn lane. Increase the signal cycle length to 120 seconds.

- Magnolia Boulevard at Victory Boulevard—Restripe the eastbound approach (by narrowing the receiving lane widths), changing the right-turn lane to a shared through-right lane, and removing an exclusive through lane and adding a second left-turn lane. Restripe the northbound approach to provide a dual left-turn lane, one through lane, and a shared through-right lane. Increase the signal cycle length from 90 to 120 seconds.
- Olive Avenue at 1st Street—The westbound (1st Street) and northbound (Olive Avenue) approaches leave sufficient room for the existing curb lanes to act as right-turn lanes. Maintain a right-turn overlap phase on the eastbound approach (1st Street) as in the existing condition. Add right-turn overlap phases on the westbound (1st Street), southbound (Olive Avenue), and reconfigured northbound approaches.
- Olive Avenue at Victory Boulevard—Restripe the eastbound (Victory Boulevard) approach to convert one of the through lanes to a left-turn lane with lead-lag phasing and to convert the right-turn lane to a shared through-right lane. Restripe the westbound (Victory Boulevard) approach to convert the right-turn lane to a shared through-right lane. Implement a right-turn overlap phase on the southbound (Olive Avenue) approaches. Increase the signal cycle length to 120 seconds.
- San Fernando Road at Chevy Chase Drive—Change the westbound through/right-turn lane to a right-only lane, add one westbound right-turn only lane, change the eastbound left-turn lane and the westbound left-turn lane to protected phasing, and add westbound right-turn overlap phase.
- Hollywood Way at I-5 Southbound Ramps—Signalize the intersection.
- Sotello Street at Main Street—Signalize the intersection.

TRAN-MM#2: Intersection Improvements for Operational Impacts. The following improvements are available for consideration to address operation-related traffic delay impacts under NEPA for the 2029 opening year. No mitigation is required under CEQA.

- Sunland Boulevard at San Fernando Road Minor—Widen westbound approach from westbound left-turn through lane and westbound right-turn pocket to westbound left-turn and westbound right through lanes. Optimize cycle length and splits.
- Sunland Boulevard at San Fernando Road—Provide exclusive southbound lane with protected-permitted phasing and westbound right-turn lane with overlap phasing. Provide protected-permitted phasing for northbound left-turn lane. Optimize cycle length and splits.
- Hollywood Way at I-5 Southbound Ramps—Signalize the intersection.
- SR 170 Southbound Ramp at Victory Boulevard—Signalize the intersection, provide northbound and southbound right-turn protected phasing.
- Hollywood Way at Cohasset Street E—Signalize the intersection.
- Broadway at Cesar E. Chavez Avenue—Add one southbound left-turn lane; no widening but some parking would be removed.
- Garey Street – U.S. Route 101 Southbound On-/Off-Ramps at Commercial Street—Change westbound through/right-turn lane to a right-turn only lane; add one westbound right-turn only lane.
- U.S. Route 101 Northbound Off-Ramp at 4th Street—Add one northbound left-turn lane.
- Sotello Street at Main Street—Signalize the intersection.
- Center Street at Commercial Street—Signalize the intersection.

The signalized intersections listed below would meet the impact thresholds by 2040, but the impact thresholds may or may not be met at earlier dates. The following improvements are available for consideration to address operation-related traffic delay impacts under NEPA that

could occur when the delay and LOS reach a level where the impact thresholds are exceeded (between 2029 and 2040). No mitigation is required under CEQA.

- State Street at Marengo Street—Add one westbound turn lane and remove parking.
- Hollywood Way at Thornton Avenue—Optimize cycle length and splits.
- Grand Avenue at Cesar E. Chavez Avenue—Change the eastbound right-turn only lane to a through/right-turn lane, add one receiving lane on Cesar E. Chavez, remove parking, and restripe.
- Figueroa Street at Temple Street—Change the southbound right-turn only lane to a through/right-turn lane, and restripe the ramp south of the intersection to provide two receiving lanes.

The unsignalized intersections listed below would meet the traffic signal warrants by the year 2040, but the warrant criteria may or may not be met at earlier dates. The following improvements are available for consideration to address operation-related traffic delay impacts under NEPA that could occur when the warrant is met (between 2029 and 2040). No mitigation is required under CEQA.

- Main Street at College Street - Signalize the intersection.
- Elmyra Street at Main Street - Signalize the intersection.
- Alameda Street at Main Street-Ord Street - Signalize the intersection.
- Pleasant Avenue at I-10 eastbound on-/off-ramps/Kearny Street - Signalize the intersection.

A.2 Referenced Mitigation Measures for Air Quality and Global Climate Change

AQ-MM#1: Offset Project Construction Emissions through an SCAQMD Emission Offsets Programs. The project’s construction emissions that cannot be reduced by IAMFs and any other mitigation measures would be offset through a South Coast Air Quality Management District (SCAQMD) rule or contractual agreement by funding equivalent emissions reductions that achieve reductions in the same years as construction emissions occur, thus offsetting project-related air quality impacts in real time. The project will implement measures and best practices to minimize emissions from project construction. After implementation of these measures, emission levels that still exceed General Conformity de minimis thresholds will be offset to net zero as measured in tons per year.

AQ-MM#2: Construction Emissions Reduction – Requirements for use of Zero Emission and/or Near Zero Emission Vehicles and Off-Road Equipment. This mitigation measure would reduce the impact of construction emissions from project-related on-road vehicles and off-road equipment. All remaining emissions after implementation of this measure would be offset with emission credits required under Mitigation measure AQ-MM#1.

The Authority and all project construction contractors will require that a minimum of 25 percent, with a goal of 100 percent, of all light-duty on-road vehicles (e.g., passenger cars, light-duty trucks) associated with the project (e.g., on-site vehicles, contractor vehicles) use zero emission (ZE) or near-zero emission (NZE) technology.

The Authority and all project construction contractors will have the goal that a minimum of 25 percent of all heavy-duty on-road vehicles (e.g., for hauling, material delivery and soil import/export) associated with the project use ZE or NZE technology.

The Authority and all project construction contractors will have the goal that a minimum of 10 percent of off-road construction equipment use ZE or NZE vehicles.

If local or state regulations mandate a faster transition to using ZE and/or NZE vehicles at the time of construction, the more stringent regulations will be applied. For example, Executive Order (EO) N-79-20, issued by California Governor Newsom on September 23, 2020, currently states the following:

- Light duty and passenger car sales be 100 percent ZEV by 2035
- Full transition to ZEV short-haul/drayage trucks by 2035
- Full transition to ZEV heavy-duty long-haul trucks, where feasible, by 2045
- Full transition to ZE off-road equipment by 2035, where feasible.

The project will have a goal of surpassing the requirements of these or other future regulations as a mitigation measure.

A.3 Referenced Mitigation Measures for Noise and Vibration

N&V-MM#1: Construction Noise Mitigation Measures. Prior to construction (any ground disturbing activities), the contractor shall prepare a noise-monitoring program for Authority approval. The noise-monitoring program shall describe how during construction the contractor will monitor construction noise to verify compliance with the noise limits (An 8-hour Leq, dBA of 80 during the day and 70 at night for residential land use, 85 for both day and night for commercial land use, and 90 for both day and night for industrial land use). The contractor would be given the flexibility to meet the FRA construction noise limits in the most efficient and cost-effective manner. This can be done by either prohibiting certain noise-generating activities during nighttime hours or providing additional noise control measures to meet the noise limits. In addition, the noise-monitoring program will describe the actions required of the contractor to meet required noise limits. These actions will include the following nighttime and daytime noise control mitigation measures, as necessary:

- Install a temporary construction site sound barrier near a noise source.
- Avoid nighttime construction in residential neighborhoods.
- Locate stationary construction equipment as far as possible from noise-sensitive sites.
- Re-route construction truck traffic along roadways that will cause the least disturbance to residents.
- During nighttime work, use smart back-up alarms, which automatically adjust the alarm level based on the background noise level, or switch off back-up alarms and replace with spotters.
- Use low-noise-emission equipment.
- Implement noise-deadening measures for truck loading and operations.
- Monitor and maintain equipment to meet noise limits.
- Line or cover storage bins, conveyors, and chutes with sound-deadening material.
- Use acoustic enclosures, shields, or shrouds for equipment and facilities.
- Use high-grade engine exhaust silencers and engine-casing sound insulation.
- Prohibit aboveground jackhammering and impact pile driving during nighttime hours.
- Minimize the use of generators to power equipment.
- Limit use of public address systems.
- Grade surface irregularities on construction sites.
- Use moveable sound barriers at the source of the construction activity.
- Limit or avoid certain noisy activities during nighttime hours.
- To mitigate noise related to pile driving, the use of an auger to install the piles instead of a pile driver would reduce noise levels substantially. If pile driving is necessary, limit the time of day that the activity can occur.
- The Authority will establish and maintain in operation until completion of construction a toll-free “hotline” regarding the HSR Build Alternative construction activities. The Authority shall arrange for all incoming messages to be logged (with summaries of the contents of each

message) and for a designated Authority representative to respond to hotline messages within 24 hours (excluding weekends and holidays). The Authority shall make a reasonable good-faith effort to address all concerns and answer all questions, and shall include on the log its responses to all callers. The Authority shall make the log of the incoming messages and the Authority’s responsive actions publicly available on its website.

- The contractor shall provide the Authority with an annual report by January 31 of the following year documenting how it implemented the noise-monitoring program.

N&V-MM#2: Construction Vibration Mitigation Measures. Prior to construction involving impact pile driving within 80 feet of any building, the contractor shall provide the Authority with a vibration technical memorandum documenting how project pile driving criteria will be met. Upon approval of the technical memorandum by the Authority, and where a noise-sensitive receiver is present, the contractor shall comply with the vibration reduction methods described in that memorandum. Potential construction vibration building damage is only anticipated from impact pile driving at very close distances from buildings. If pile driving occurs more than 25 to 50 feet from buildings, or if alternative methods such as push piling or auger piling are used, damage from construction vibration is not expected to occur. When a construction scenario has been established, pre-construction surveys will be conducted by the contractor at locations within 50 feet of pile driving to document the existing condition of buildings in case damage is reported during or after construction. The contractor will arrange for the repair of damaged buildings or will pay compensation to the property owner.

N&V-MM#3: Implement California High-Speed Rail Project Noise Mitigation Guidelines. The Authority has developed Noise Mitigation Guidelines for the statewide HSR system that sets forth three categories of mitigation measures to reduce or offset severe noise impacts from HSR operations: sound barriers, sound insulation, and noise easements. The Guidelines also set forth an implementation approach that considers multiple factors for determining the reasonableness of sound barriers as mitigation for severe noise impacts, including structural and seismic safety, cost, number of affected receptors, and effectiveness. Sound barrier mitigation would be designed to reduce the noise level from HSR operations from severe to moderate according to the provisions of the FRA (FRA 2012).

Sound Barriers

Prior to operation of the HSR Project, the Authority will install sound barriers where they can achieve between 5 and 15 decibels (dB) of noise reduction, depending on their height and location relative to the tracks. The primary requirements for an effective sound barrier are that the barrier must: (1) be high enough and long enough to break the line of sight between the sound source and the receiver; (2) be of an impervious material with a minimum surface density of 4 pounds per square foot; and (3) not have any gaps or holes between the panels or at the bottom. Because many materials meet these requirements, aesthetics, durability, cost, and maintenance considerations usually determine the selection of materials for sound barriers. Depending on the situation, sound barriers can become visually intrusive. Typically, the sound barrier’s style is selected with input from the local jurisdiction to reduce the visual effect of barriers on adjacent lands uses (refer to Aesthetic Options for Non-Station Structures [Authority 2017b]). For example, sound barriers could be solid or transparent, and made of various colors, materials, and surface treatments.

Recommended sound barriers must meet the following criteria:

- Achieve a minimum of 5 decibels (dB) of noise reduction.
- The minimum number of affected sites should be at least 10.
- The length should be at least 800 feet.
- Must be cost-effective, defined as mitigation not exceeding \$95,000 per benefited receptor.

The maximum sound barrier height would be 14 feet for at-grade sections; however, all sound barriers would be designed to be as low as possible to achieve a substantial noise reduction. Berm and berm/wall combinations are the preferred types of sound barriers where space and other environmental constraints permit. On aerial structures, the maximum sound barrier height

would also be 14 feet, but barrier material would be limited by engineering weight restrictions for barriers on the structure. Sound barriers on the aerial structure will still be designed to be as low as possible to achieve a substantial noise reduction. Sound barriers on both aerial structures and at-grade structures could consist of solid, semitransparent, or transparent materials as defined in the Aesthetic Options for Non-Station Structures (Authority 2017b).

Table 3.4 21 [of the Final EIR/EIS] shows the reasonableness of each feasible sound barrier along with its height, approximate length, number of benefited receivers, total construction cost, number of unmitigated severe impacts, and number of residual impacts (with mitigation). Consistent with Caltrans guidelines, sound barriers were determined to be feasible because the barrier is capable of providing a noise level reduction of 5 dBA or more, and sound barriers were determined to be reasonable because the cost to construct the barrier would not exceed the cost allowance per benefited receiver approved by the Authority. Figure 3.4 10 shows the sound barrier locations. Table 3.4 22 [of the Final EIR/EIS] shows the residual severe impacts based on each land use in each category that were not evaluated with a sound barrier because they are in areas that do not meet the minimum number of 10 severely impacted receivers and the minimum barrier length of 800 feet.

Building Sound Insulation

If sound barriers are not proposed for receptors with severe impacts, or if proposed sound barriers do not reduce sound levels to below a severe impact level, the Authority will consider building sound insulation as a potential additional mitigation measure on a case-by-case basis. Sound insulation of residences and institutional buildings to improve the outdoor-to-indoor noise reduction is a mitigation measure that can be provided when the use of sound barriers is not feasible in providing a reasonable level (5 to 7 dB) of noise reduction. Although this approach has no effect on noise in exterior areas, it may be the best choice for sites where sound barriers are not feasible or desirable and for buildings where indoor sensitivity is of most concern. Substantial improvements in building sound insulation (on the order of 5 to 10 dB) can often be achieved by adding an extra layer of glazing to windows, by sealing holes in exterior surfaces that act as sound leaks, and by providing forced ventilation and air conditioning so that windows do not need to be opened. The considered sound insulation would also be required to provide a reduction of at least 5 dBA.

Noise Easements

If a substantial noise reduction cannot be achieved through installation of sound barriers or building sound insulation, the Authority will consider acquiring a noise easement on properties with a severe impact on a case-by-case basis. This approach is usually taken only in isolated cases where other mitigation options are infeasible, impractical, or too costly. If all mitigation efforts are found to be not effective or reasonable and feasible, property acquisitions may occur.

N&V-MM#4: Vehicle Noise Specification. In the procurement of an HSR vehicle technology, the Authority will request bidders to provide information regarding technology development, if any, that might allow trainsets to be procured that would be more quiet than the European Technical Specification for Interoperability Standard.

The analysis in this EIR/EIS does not assume for its quantitative calculations of post-mitigation impacts that trainsets will be able to comply with the US EPA standard (40 Code of Federal Regulations Part 201.12/13), if applicable, cited earlier in this chapter, due to lack of currently available compliant technology.

N&V-MM#5: Special Track Work. Prior to construction, the contractor shall provide the Authority with an HSR operation noise technical report for review and approval. The report shall address the minimization/elimination of rail gaps at turnouts. Because the impacts of HSR wheels over rail gaps at turnouts increases HSR noise by approximately 6 dB over typical operations, turnouts can be a major source of noise impact. If the turnouts cannot be moved from sensitive areas, the noise technical report will recommend the use special types of track work that eliminate the gap. The Authority will require the project design to follow the recommendations in the approved noise impact report.

N&V-MM#6: Additional Noise and Vibration Analysis Following Final Design. Prior to construction, the contractor shall provide the Authority with an HSR operation noise technical report for review and approval. If final design or final vehicle specifications result in changes to the assumptions underlying the noise technical report, the Authority shall prepare necessary environmental documentation, as required by the CEQA and NEPA, to reassess noise impacts and mitigation. Table 3.4 23 [of the Final EIR/EIS] shows potential vibration mitigation procedures.

A.4 Referenced Mitigation Measures for Public Utilities and Energy

PUE-MM#1: Water Supply Analysis for Construction. The Authority would prepare an updated water supply analysis for the HSR Build alternative that identifies the detailed water supply needs for the construction of the Burbank to Los Angeles Project Section. While the Burbank to Los Angeles Section includes connections to the water supply infrastructure in the area, the project may not rely entirely on the existing and planned local water supply allocations, particularly in the event of a dry year.

Based on the results of the water supply analysis, the Authority will coordinate with the water agencies to determine if allocations for additional water supply are needed for project construction. In the event that additional water supply is needed from the local groundwater or the State Water Project, the Authority shall pay the water agencies its fair share of the State Water Project fees (per acre-foot of their allocations), which are used for constructing the State Water Project conservation facilities.

In addition, the Authority's contractor will be required to use best management practices during construction to reduce the need for water. These efforts will include using non-potable water during construction, to the extent feasible. Water used for tunnel construction and water coming out of tunnel construction areas will be recycled/reused for construction purposes and will be treated to reduce turbidity. This water used during construction for lubrication and cooling purposes would be used several times, thus reducing demand from municipal water sources.

PUE-MM#2: Water Demand Analysis for LADWP Supplies at LAUS for Operation. The Authority would prepare an updated water demand analysis in coordination with LADWP for the HSR Build Alternative that identifies the detailed water supply needs for the operation of the Burbank to Los Angeles Project Section at LAUS. This would be consistent with California Water Code Sections 10910-10915, which requires water supply planning. While the Burbank to Los Angeles Section includes connections to the water supply infrastructure in the area, the project may not rely entirely on the existing and planned local water supply allocations, particularly in the event of a dry year.

Based on the results of the water demand analysis, the Authority will coordinate with LADWP to determine if allocations for additional water supply are needed for project operation at LAUS. In the event that additional water supply is needed from the local groundwater or the State Water Project, the Authority shall pay LADWP its fair share of the State Water Project fees (per acre-foot of their allocations), which are used for constructing and operating the State Water Project conservation facilities.

A.5 Referenced Mitigation Measures for Biological and Aquatic Resources

BIO-MM#1: Conduct Presence/Absence Pre-construction Surveys for Special-Status Plant Species and Special-Status Plant Communities. Prior to any ground-disturbing activity, the project biologist will conduct presence/absence botanical field surveys for special-status plant species and special-status plant sensitive natural communities in all potentially suitable habitats within a Work Area. The surveys shall be consistent with Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018) and Guidelines for Conducting and Report Botanical Inventories for Federally Listed, Proposed and Candidate Plants (USFWS 2001). The project biologist will flag and record in GIS the locations of any observed special-status plant species and special-status plant sensitive natural communities.

BIO-MM#2: Prepare and Implement Plan for Salvage and Relocation of Special-Status Plant Species. Prior to any ground-disturbing activity, the project biologist will collect seeds and plant materials and stockpile and segregate the top 4 inches of topsoil from locations within the work area where species listed as threatened or endangered under the FESA, threatened, endangered, or candidate for listing under CESA, state-designated “Rare” species, and California Rare Plant Rank 1B and 2 species were observed during surveys for use on off-site locations. Suitable sites to receive salvaged material include Authority mitigation sites, refuges, reserves, federal or state lands, and public/private mitigation banks.

If relocation or propagation is required by authorizations issued under the FESA and/or CESA, the project biologist will prepare a plant species salvage plan to address monitoring, salvage, relocation, and/or seed banking of federal or state-listed plant species

The plan will include provisions that address the techniques, locations, and procedures required for the collection, storage, and relocation of seed or plant material, and collection, stockpiling, and redistribution of topsoil and associated seed. The plan will also include requirements related to outcomes such as percent absolute cover of highly invasive species, as defined by the California Invasive Plant Council (less than documented baseline conditions), maintenance, monitoring, implementation, and the annual reporting. The plan will reflect conditions required under regulatory authorizations issued for federal or state-listed species. The project biologist will submit the plan to the Authority for review and approval.

BIO-MM#14: Conduct Pre-construction Surveys and Delineate Active Nest Exclusion Areas for Breeding Birds. Prior to any ground-disturbing activity, including vegetation removal, scheduled to occur during the bird breeding season (February 1 to September 1), the project biologist will conduct visual pre-construction surveys within the work area for nesting birds and active nests (nests with eggs or young) of nonraptor species listed under the MBTA or the Fish and Game Code.

In the event that active bird nests are observed during the pre-construction survey, the project biologist will delineate no-work buffers. No-work buffers will be set at a distance of 75 feet, unless a larger buffer is required pursuant to regulatory authorizations issued under the FESA and/or CESA. No-work buffers will be maintained until nestlings have fledged and are no longer reliant on the nest or parental care for survival or the project biologist determines that the nest has been abandoned. In circumstances where it is not feasible to maintain the standard no-work buffer, the no-work buffer may be reduced, provided that the project biologist monitors the active nest during the construction activity to ensure that the nesting birds do not become agitated. Additional measures that may be used when no-work buffers are reduced include visual screens and sound barriers.

BIO-MM#15: Conduct Pre-construction Surveys and Monitoring for Raptors. If construction or other vegetation removal activities are scheduled to occur during the breeding season for raptors (January 1 to September 1), no more than 14 days before the start of the activities, the project biologist will conduct pre-construction surveys for nesting raptors in areas where suitable habitat is present. Specifically, such surveys will be conducted in habitat areas within the project footprint and, where access is available, within 500 feet of the boundary of the project footprint. If breeding raptors with active nests are found, the project biologist will delineate a 500-foot buffer (or as modified by regulatory authorizations for species listed under the FESA and/or CESA) around the nest to be maintained until the young have fledged from the nest and are no longer reliant on the nest or parental care for survival or until such time as the project biologist determines that the nest has been abandoned. Nest buffers may be adjusted if the project biologist determines that smaller buffers would be sufficient to avoid impacts on nesting raptors.

BIO-MM#25: Conduct Pre-construction Surveys for Special-Status Bat Species. No earlier than 30 days prior to the start of ground-disturbing activities in a work area, the project biologist will conduct a visual and acoustic survey (over the course of 1 day and 1 evening at a minimum) for roosting bats in the work area and extending 500 feet from the boundary of the work area, where access is available. Such surveys will be conducted only in those areas in which bridges,

abandoned structures, culverts, trees with large cavities, or dense foliage are present within a half mile of the boundary of the work area.

BIO-MM#26: Implement Bat Avoidance and Relocation Measures. Prior to any ground-disturbing activity, the project biologist shall survey for active hibernacula or maternity roosts. If active hibernacula or maternity roosts are identified in the work area or 500 feet extending from the work area during pre-construction surveys, they will be avoided to the extent feasible. If avoidance of a hibernacula is not feasible, the project biologist will prepare a relocation plan to remove the hibernacula and provide for construction of an alternative bat roost outside of the work area with CDFW guidance. Compensation would include the installation of nearby suitable alternative roosting structures if displacements are long-term or permanent. The alternative roosting structure, if required, would be constructed in accordance with CDFW guidance and would be designed to be comparable in size and quality to the impacted habitat.

The project biologist will implement the relocation plan before the commencement of any ground-disturbing activities that will occur within 500 feet of the hibernacula. Removal of roosts will be guided by accepted exclusion and deterrent techniques.

BIO-MM#27: Implement Bat Exclusion and Deterrence Measures. If nonbreeding or nonhibernating individuals or groups of bats are found roosting within the work area, the project biologist will facilitate the eviction of the bats by either opening the roosting area to change the lighting and airflow conditions or installing one-way doors or other appropriate methods.

To the extent feasible, the Authority will leave the roost undisturbed by project activities for a minimum of 1 week after implementing exclusion and/or eviction activities. Steps will not be taken to evict bats from active maternity or hibernacula; instead such features may be relocated pursuant to a relocation plan.

BIO-MM#34: Monitor Construction Activities within Aquatic Resources. The project biologist will monitor construction activities that occur within or adjacent to aquatic resources, including activities associated with the installation of protective barriers (e.g., silt fencing, sandbags, fencing), installation and/or removal of creek material to accommodate crossings, construction of access roads, and removal of vegetation. As part of this effort, the project biologist will document compliance with applicable avoidance and minimization measures, including measures set forth in applicable regulatory authorizations issued under the California Fish and Game Code, CWA, and/or the Porter-Cologne Water Quality Control Act.

BIO-MM#35: Implement Transplantation and Compensatory Mitigation Measures for Protected Trees. Prior to ground-disturbing activities, the project biologist will conduct surveys in the work area to identify protected trees.

The project biologist will establish environmentally sensitive areas (ESA) around protected trees with the potential to be affected by construction activities, but that do not require removal. The ESAs will extend outward 5 feet from the drip lines of such protected trees.

The Authority will provide compensatory mitigation for impacts on protected trees, including impacts associated with removing or trimming a protected tree. Compensation will be based on requirements set out in applicable local government ordinances, policies, and regulations. Compensatory mitigation may include, but is not limited to, the following:

- Transplantation of protected trees to areas outside of the work area
- Replacement of protected trees at an offsite location, based on the number of protected trees affected, at a ratio not to exceed 3:1 for native trees or 1:1 for ornamental trees, unless higher ratios are required by local government ordinances or regulations
- Contribution to a tree-planting fund

BIO-MM#37: Minimize Effects to Wildlife Movement Corridors during Construction. To the extent feasible, the Authority will avoid placing fencing, either temporarily or permanently, within known wildlife movement corridors in those portions of the alignment where the tracks are elevated (e.g., viaducts, bridges). The Authority will avoid conducting ground-disturbing activities

in wildlife movement corridors during nighttime hours, to the extent feasible, and will shield nighttime lighting to avoid illuminating wildlife movement corridors in circumstances where avoidance of such activities is not feasible.

BIO-MM#47: Prepare and Implement a Compensatory Mitigation Plan (CMP) for Impacts on Aquatic Resources. The Authority will prepare and implement a Compensatory Mitigation Plan (CMP) that identifies mitigation to address temporary and permanent loss, including functions and values, of aquatic resources as defined as waters of the U.S. under the federal Clean Water Act (CWA) and/or waters of the State under the Porter-Cologne Act. Compensatory mitigation may involve the restoration, establishment, enhancement, and/or preservation of aquatic resources through one or more of the following methods:

- Purchase of credits from an agency-approved mitigation bank.
- Preservation of aquatic resources through acquisition of property.
- Establishment, restoration, or enhancement of aquatic resources.
- In lieu fee contribution determined through consultation with the applicable regulatory agencies.

The following ratios will be used for compensatory mitigation unless a higher ratio is required pursuant to regulatory authorizations issued under Section 404 of the CWA and/or the Porter-Cologne Act:

- Vernal pools: 2:1.
- Seasonal wetlands: between 1.1:1 and 1.5:1 based on impact type, function and values lost.
- 1:1 offsite for permanent impacts.
- 1:1 onsite and 0.1:1 to 0.5:1 offsite for temporary impacts.

For mitigation involving establishment, restoration, enhancement, or preservation of aquatic resources by the Authority, the CMP will contain the following information:

- **Objectives.** A description of the resource types and amounts that will be provided, the type of compensation (i.e., restoration, establishment, enhancement, and/or preservation), and the manner in which the resource functions of the compensatory mitigation project will address the needs of the watershed or ecoregion.
- **Site selection.** A description of the factors considered during the term sustainability of the resource.
- **Adaptive management plan.** A management strategy to address changes in site conditions or other components of the compensatory mitigation project.
- **Financial assurances.** A description of financial assurances that will be provided to ensure that the compensatory mitigation will be successful.

In circumstances where the Authority intends to fulfill compensatory mitigation obligations by securing credits from approved mitigation banks or in-lieu fee programs, the CMP need only include the name of the specific mitigation bank or in-lieu fee program to be used and the method for calculating credits.

BIO-MM#55: Prepare and Implement a Weed Control Plan. Prior to any ground-disturbing activity during the construction phase, the project biologist will develop a weed control plan (WCP), subject to review and approval by the Authority. The purpose of the WCP is to establish approaches to minimize and avoid the spread of invasive weeds during ground-disturbing activities during construction and operations and maintenance.

The WCP will include, at a minimum, the following:

- A requirement to delineate ESAs in the field prior to weed control activities.
- A schedule for weed surveys to be conducted in coordination with the Biological Resources Management Plan.
- Success criteria for invasive weed control. The success criteria would be linked to the Biological Resources Management Plan standards for on-site work during ground-disturbing activities. In particular, the criteria would establish limits on the introduction and spread of invasive species, as defined by the California Invasive Plant Council, to less than or equal to the pre-disturbance conditions in the area temporarily affected by ground-disturbing activities. If invasive species cover is found to exceed pre-disturbance conditions by greater than 10 percent or is 10 percent greater than levels at a similar, nearby reference site, a control effort will be implemented. If the target, or other success criteria identified in the WCP, has not been met by the end of the WCP monitoring and implementation period, the Authority will continue the monitoring and control efforts, and remedial actions will be identified and implemented until the success criteria are met.
- Identification of weed control treatments, including permitted herbicides and manual and mechanical removal methods.
- Timeframes for weed control treatment for each plant species.
- Identification of fire prevention measures.

BIO-MM#56: Conduct Monitoring of Construction Activities. During any initial ground disturbing activity, the Project Biologist will be present in the Work Area to verify compliance with avoidance and minimization measures.

BIO-MM#61: Establish and Implement a Compliance Reporting Program. The project biologist will prepare monthly and annual reports documenting compliance with all IAMFs, mitigation measures, and requirements set forth in regulatory agency authorizations. The Authority will review and approve all compliance reports prior to submittal to the regulatory agencies. Reports will be prepared in compliance with the content requirements outlined in the regulatory agency authorizations.

Pre-activity survey reports will be submitted within 15 days of completing the surveys and will include:

- Location(s) of where pre-activity surveys were completed, including latitude and longitude, Assessor Parcel Number, and HSR parcel number.
- Written description of the surveyed area. A figure of each surveyed location will be provided that depicts the surveyed area and survey buffers over an aerial image.
- Date, time, and weather conditions observed at each location.
- Personnel who conducted the pre-activity surveys.
- Verification of the accuracy of the Authority's habitat mapping at each location, provided in writing and on a figure.
- Observations made during the survey, including the type and locations (written and GIS) of any sensitive resources detected.
- Identification of relevant measures from the Biological Resources Management Plan to be implemented as a result of the survey observations.

Daily compliance reports will be submitted to the Authority via Environmental Mitigation Management and Assessment (EMMA) within 24 hours of each monitoring day. Noncompliance events will be reported to the Authority the day of the occurrence. Daily compliance reports will include:

- Date, time, and weather conditions observed at each location where monitoring occurred.
- Personnel who conducted compliance monitoring.

- Project activities monitored, including construction equipment in use.
- Compliance conditions implemented successfully.
- Noncompliance events observed.

Daily compliance reports will also be included in the monthly compliance reports, which will be submitted to the Authority by the 10th of each month and will include:

- Summary of construction activities and locations during the reporting month, including any noncompliance events and their resolution, work stoppages, and take of threatened or endangered species.
- Summary of anticipated project activities and work areas for the upcoming month.
- Tracking of impacts on suitable habitats for each threatened and endangered species identified in USFWS and CDFW authorizations, including:
 - An accounting of the number of acres of habitats for which the Authority provides compensatory mitigation that has been disturbed during the reporting month, and
 - An accounting of the cumulative total number of acres of threatened and endangered species habitat that has been disturbed during the project period.
- Up-to-date GIS layers, associated metadata, and photo documentation used to track acreages disturbed.
- Copies of all pre-activity survey reports, daily compliance reports, and noncompliance/work stoppage reports for the reporting month.

Annual reports will be submitted to the Authority by January 20 and will include:

- Summary of all monthly compliance reports for the reporting year.
- A general description of the status of the project, including projected completion dates.
- All available information about project-related incidental take of threatened and endangered species.
- Information about other project impacts on the threatened and endangered species.
- A summary of findings from pre-construction surveys (e.g., number of times a threatened or endangered species or a den, burrow, or nest was encountered, location, if avoidance was achieved, if not, what other measures were implemented).
- Written description of disturbances to threatened and endangered species habitat within work areas, both for the preceding 12 months and in total since issuance of regulatory authorizations by USFWS and CDFW, and updated maps of all land disturbances and updated maps of identified habitat features suitable for threatened and endangered species within the project area.

In addition to the compliance reporting requirements outlined above, the following items will be provided for compliance documentation purposes:

- If agency personnel visit the project footprint in accordance with BIO-IAMF#2, the project biologist will prepare a memorandum within 1 day of the visit that memorializes the issues raised during the field meeting. This memorandum will be submitted to the Authority via EMMA. Any issues regarding regulatory compliance raised by agency personnel will be reported to the Authority and the contractor.
- Compliance reporting will be submitted to the Authority via EMMA in accordance with the report schedule. The project biologist will prepare and submit compliance reports that document the following:

- Compliance with BIO-IAMF#6: Monofilament Restrictions
- Compliance with BIO-IAMF#7: Prevent Entrapment in Construction Materials and Excavations
- Compliance with BIO-IAMF#8: Delineate Equipment Staging Areas and Traffic Routes
- Compliance with BIO-IAMF#10: Clean Construction Equipment
- Compliance with BIO-IAMF#12: Design the Project to be Bird Safe
- Compliance with BIO-IAMF#9: Dispose of Construction Spoils and Waste
- BMP field manual implementation and any recommended changes to construction site housekeeping practices outlined in BIO-IAMF#11: Maintain Construction Sites
- Work stoppages and measures taken under Mitigation Measure BIO-MM#63: Work Stoppage (see below) will be documented in a memorandum prepared by the project biologist and submitted to the Authority within two business days of the work stoppage.

BIO-MM#62: Prepare Plan for Dewatering and Water Diversions. Prior to initiating any construction activity that occurs within open or flowing water, the Authority will prepare a dewatering plan, which will be subject to the review and approval by the applicable regulatory agencies. The plan will incorporate measures to minimize turbidity and siltation, such as the use of silt fences, fiber rolls, and/or temporary sediment basins or settling ponds. The project biologist will monitor the dewatering and/or water diversion sites, including collection of water quality data, as applicable. Prior to the dewatering or diverting of water from a site, the project biologist will conduct pre-activity surveys to determine the presence or absence of special-status species within the affected waterbody. In the event that special-status species are detected during pre-activity surveys, the project biologist will relocate the species (unless the species is fully protected under state law), consistent with any regulatory authorizations applicable to the species.

BIO-MM#63: Work Stoppage. In the event that any special-status wildlife species is found in a work area, the project biologist will have the authority to halt work to prevent the death or injury to the species. Any such work stoppage will be limited to the area necessary to protect the species and work may be resumed once the project biologist determines that the individuals of the species have moved out of harm's way or the project biologist has relocated them out of the work area.

If any fully protected or FESA/CESA-listed species are observed within the work area at any time, work will not occur in the occupied area until appropriate measures to avoid or reduce take of any listed wildlife species are established through consultation with the USFWS and/or CDFW.

Any such work stoppages and the measures taken to facilitate the removal of the species, if any, will be documented in a memorandum prepared by the project biologist and submitted to the Authority within 2 business days of the work stoppage.

BIO-MM#79: Conduct Pre-Construction Protocol-Level Surveys and Construction Monitoring for Least Bell's Vireo. Protocol surveys will be conducted for least Bell's vireo during the breeding season at least 2 years prior to the commencement of HSR project activities within a 500-foot buffer of the HSR footprint at the following locations: (1) the Verdugo Wash Bridge Replacement area, (2) the Metrolink Central Maintenance Facility, and (3) rail alignment work between I-5 and SR 2 (including areas adjacent to Rio de Los Angeles State Park). Protocol surveys will be repeated within 1 year prior to the commencement of vegetation clearing and construction activities in these locations to ensure that survey information for the HSR project remains up to date. The protocol surveys will be conducted by a qualified designated biologist(s) in accordance with the most recent USFWS guidelines. All survey results will be submitted to the USFWS Carlsbad Fish and Wildlife Office.

Weekly surveys and monitoring of suitable least Bell's vireo habitat within 500 feet of the HSR footprint will be conducted by the designated biologist(s) if construction activities are occurring in these areas during the vireo breeding season (March 15 to September 15).

BIO-MM#80: Implement Impact Avoidance and Minimization Measures for Occupied Least Bell's Vireo Habitat. The following measures will be implemented to avoid and minimize HSR project impacts on suitable least Bell's vireo habitat occurring within a 500-foot buffer of the HSR footprint at (1) the Verdugo Wash Bridge Replacement area, (2) the Metrolink Central Maintenance Facility, and (3) rail alignment work between I-5 and SR 2 (including areas adjacent to Rio de Los Angeles State Park):

- HSR construction activities will be limited to daylight hours during the vireo breeding season.
- For any work proposed within 500 feet of vireo occupied habitat during the vireo breeding season, the occupied habitat shall be clearly delineated and no work shall occur within occupied habitat without the USFWS' written approval. In addition, onsite noise-reduction/attenuation techniques shall be incorporated, as appropriate, to avoid impacts on least Bell's vireo from elevated construction noise levels during the breeding season. Noise monitoring will be implemented by the designated biologist(s) during the breeding season to ensure that elevated construction noise levels are appropriately attenuated at the edge of vireo occupied habitat to a level that is not expected to adversely affect nesting bird behavior (i.e., not to exceed an hourly average of 3 dBA above existing ambient levels at the edge of vireo occupied habitat). If specific HSR project construction noise levels would exceed this threshold within 500 feet of occupied least Bell's vireo habitat during the vireo breeding season, the USFWS Carlsbad Fish and Wildlife Office will be contacted for guidance on additional noise-reduction measures and written approval, which must be received before such activities are performed.

A.6 Referenced Mitigation Measures for Hydrology and Water Resources

HWR-MM#1: Below-Grade Section Constructability and Hydrogeological Monitoring. The Authority would implement the following mitigation measures to reduce hydrogeological impacts associated with construction of the below grade sections:

- Excavation of the below grade sections would include continuous probing to assess the ground and groundwater conditions.
- Pre-excavation grouting would be used to control groundwater inflows and provide face stability where applicable.
- Should areas of abnormally high flow be encountered, drilling would stop and methods reevaluated to minimize potential impacts to surface water features and groundwater aquifers.
- All below grade sections would be waterproofed. The lining of the below grade section would be designed to withstand construction, ground, seismic, and hydrostatic loads.
- The lining of the below grade sections would be inspected regularly throughout the construction phase to monitor for potential leaks. Should leaks be found, the lining would be repaired. Groundwater infiltration would be treated and disposed of in accordance with state and local regulations.
- If it is determined that the below grade sections will be below the groundwater table, a groundwater monitoring plan would be prepared and implemented. Monitoring may include measurements of water levels in wells, inflows into the below grade sections, probe-hole flow, and portal discharges. Monitoring of groundwater, if impacted, would continue until the groundwater system has normalized to pre-construction conditions.
- The Authority would develop a plan to inspect the below grade sections after seismic events to assess and seal leaks exceeding set inflow criteria.

A.7 Referenced Mitigation Measures for Hazardous Materials and Wastes

HMW-MM#1: Limit Use of Extremely Hazardous Materials near Schools during Construction. Prior to construction, the Contractor will prepare a memorandum establishing BMPs regarding hazardous materials best management practices related to construction activity

for approval by the Authority. The memorandum and a signed agreement as well as the CMP will confirm that the Contractor will not handle or store an extremely hazardous substance (as defined in California Public Resources Code § 21151.4) or a mixture containing extremely hazardous substances in a quantity equal to or greater than the state threshold quantity specified pursuant to subdivision (j) of Section 25532 of the Health and Safety Code within 0.25 mile of a school. The memorandum, signed agreement, and Construction Management Plan will acknowledge that prior to construction activities, signage would be installed to delimit all work areas within 0.25 mile of a school, informing all personnel associated with construction of the Project not to bring extremely hazardous substances into the area. The Contractor would be required to monitor all use of extremely hazardous substances as delineated in the CMP. This construction mitigation measure for hazardous materials and wastes is consistent with California Public Resources Code Section 21151.4. The memorandum, signed agreement, and CMP will be submitted to the Authority prior to any construction.

A.8 Referenced Mitigation Measures for Safety and Security

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. During operation of the HSR system, the Authority would monitor the response of the local fire rescue and emergency service providers to incidents at the HSR stations and provide a fair share of cost of service.

During the first 3 years of operation and maintenance, the Authority shall begin monitoring response of local fire, rescue, and emergency service providers to incidents at stations and provide a fair share of cost of service. Monitoring should begin 1 year prior to planned opening of an HSR station. Service levels consist of the monthly volume of calls for fire and police protection, as well as county-, city- or fire protection district-funded emergency medical technician/ ambulance calls that occur in the station site service areas. Prior to operation of the stations for HSR service, the Authority would enter into an agreement with the public service providers of fire, police, and emergency services to fund the Authority's fair share of services above the average baseline service demand level for the station service areas (as established during the monitoring period). The fair share would be based on projected passenger use for the first year of operations, with a growth factor for the first 5 years of operation. This cost-sharing agreement would include provisions for ongoing monitoring and future negotiated amendments as the stations are expanded or passenger use increases. Such amendments would be made on a regular basis for the first 5 years of station operation, as would be provided in the agreement. To make sure that services are made available, impact fees would not constitute the sole funding mechanism, although impact fees may be used to fund capital improvements or fixtures (e.g., police substation, additional fire vehicle, on-site defibrillators) necessary to service delivery. After the first 5 years of operation, the Authority would enter into a new or revised agreement with the public service providers of fire, police, and emergency services to fund the Authority's fair share of services. The fair share would take into account the volume of ridership, past record and trends in service demand at the stations, new local revenues derived from station area development, and any services that the Authority may be providing at the station.

A.9 Referenced Mitigation Measures for Parks, Recreation, and Open Space

PR-MM#1: Temporary Restricted Access to Park Facilities During Construction. Prior to construction (any ground-disturbing activity impacting trails), the contractor will prepare a technical memorandum documenting how connections to the unaffected trail portions and nearby roadways will be maintained during construction. The contractor will provide alternative access via a temporary detour of the trail using existing roadways or other public rights-of-way. The contractor will be required to provide detour signage and lighting and will provide that the alternative routes meet public safety requirements. The technical memorandum will be submitted to the California High-Speed Rail Authority (Authority) for review and approval.

PR-MM#2: Providing Park Access. Prior to construction (any ground-disturbing activity affecting park access), the contractor will prepare a technical memorandum documenting how the

contractor will ensure that connections to the unaffected park portions or nearby roadways will be maintained after construction. If a proposed linear park closure restricts connectivity, the contractor would provide permanent access via existing roadways or other public rights-of-way. The technical memoranda will be submitted to the Authority for review and approval.

PR-MM#3: Temporary Closures and Detours of Existing Trails and Bicycle Lanes. Trail and Bicycle Lane Facilities Plan—During final design, the Authority’s project engineer will require the design/build contractor to develop a Trail and Bicycle Lane Facilities Plan addressing the short term project impacts on existing trails and bicycle lanes within the construction limits of the project. That plan will address:

- Identifying trails and bicycle lanes that will be closed temporarily and detoured during construction
- Preparing a public awareness and notification plan
- Temporarily closing trails and bicycle lanes during construction
- Developing and implementing detours for temporarily closed trails and bicycle lanes
- Phasing of temporary trail and bicycle lane closures to allow for effective detours to maintain connectivity of these facilities around the construction areas
- Coordinating the trail and bicycle lane closures and detours with the local jurisdictions with authority over those facilities
- Criteria for identifying detour routes and facilities
- Information signing for closures and detours
- Requirements for compliance with the Americans with Disabilities Act during construction
- Maintaining signing for closures and detours throughout the closure period and replacing lost or damaged signing
- Restoring trails and bicycle lanes to their original or better condition at the completion of project construction
- Temporary Closures of Trails and Bicycle Lanes—Prior to any temporary closures of trails and bicycle lanes, the Authority’s project engineer will require the design/build contractor to coordinate with the directors of the appropriate jurisdictions’ public works and/or parks departments, or their representatives, to review the location of and need for each temporary trail or bicycle lane closure. The Authority’s Project Engineer will require the design/build contractor to develop detours for each closure in consultation with the public works and/or parks department directors or their representatives. Prior to and during construction activities that will require the temporary closure of a trail or bicycle lane, the Authority’s project engineer will require the design/build contractor to comply with and implement the procedures in the Trail and Bicycle Lane Facilities Plan, described above, for the affected trails and bicycle lanes.
- Signing for Trail and Bicycle Lane Detours and Closures—The Authority’s project engineer will require the design/build contractor to develop detour signs, in consultation with the appropriate jurisdictions’ public works and/or parks departments, notifying trail and bike lane users of the upcoming temporary facility closure and directing the trail and bicycle lane users to the temporary detour routes with estimated timeframes. Appropriate directional and informational signage will be provided by the project design/build contractor prior to each closure and far enough in advance of the closure so trail and bicycle lane users will not have to backtrack to get to the detour routes.
- Contact Information at Trail and Bicycle Lane Detours—The Authority’s project engineer will require the design/build contractor to provide detour signing that includes contact information for the Authority’s project engineer and the design/build contractor, and that informs trail

users to contact the project engineer and/or the design/build contractor with questions or concerns regarding upcoming or active temporary trail and bicycle lane closures.

- **Restoration of Impacted Trail and Bicycle Lane Segments**—The Authority’s project engineer will require the design/build contractor to return trail and bike path segments closed temporarily during construction to their original, or better, condition after completion of construction, prior to their return to the control of the applicable public works or parks department. After project construction, the Authority’s project engineer will require the design/build contractor to document that access to and connectivity of the affected trails and bicycle lanes were restored.
- **Compliance with the Trails and Bicycle Lane Facilities Plan**—Compliance with the Trails and Bicycle Lane Facilities Plan will be documented in the environmental commitments record with text, photographs, maps, and correspondence, as appropriate.

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.

During the right-of-way acquisition process, the Authority will consult with the public agency with jurisdiction over any existing or planned bicycle routes regarding the specific conditions of acquisition and replacement of the land that will be acquired.

Where property that contains existing or planned bicycle paths required for HSR improvements involves the establishment of a permanent easement or permanent conversion to rail right-of-way from lands owned by the Metro, the Authority will consult with the officials with jurisdiction to identify an alternative route for the continuation of the lost use and functionality of the resource, including maintaining connectivity. The identification of the alternative route must be determined to be feasible for the intended use by the respective Public Works Department, or Parks and Recreation Department or other equivalent authority within the affected City prior to the establishment of the permanent easement or permanent conversion of the Metro-owned lands.

PR-MM#5: Temporary Use of Land from Park, Recreation, or School Play Areas during Construction.

Temporary Impact Areas—During final design, the California High-Speed Rail Authority’s (Authority) Project Engineer will evaluate all proposed temporary impact areas in parks, recreational resources, and school play areas and will identify opportunities to further reduce the sizes of those temporary impact areas. All temporary impact areas in parks, recreational resources, and school play areas shown on the project plans and specifications will include notes that the design/build contractor cannot increase the size of any of those areas without consultation with and approval by the project engineer and appropriate subsequent environmental review.

Compensation for Temporary Impact Areas—During final design, the Authority’s project engineer will consult with the affected jurisdictions and property owners to discuss the temporary impact areas needed for construction of the High-Speed Rail (HSR) Build Alternative and to determine the appropriate level of compensation for the use of land from park, recreation, or school play areas for the established temporary impact areas. It is anticipated that the compensation would be payments for the temporary use of land from those resources for the period of time that land is used for temporary impact areas during project construction.

Access Restrictions at Temporary Impact Areas—The Authority’s project engineer will require the design/build contractor to fence and gate all land in parks, recreation facilities, and school play areas used for temporary impact areas. The temporary impact areas will be appropriately signed to restrict access to those areas by park and recreational resource patrons and users of school play areas. The Authority’s project engineer will require the design/build contractor to maintain the fencing throughout the time period each temporary impact area is used and to remove the fencing only after all construction activity in an area is completed, the temporary impact area is no longer needed, and the land is ready to be returned to the property owner.

Signing of Fenced Temporary Impact Areas—The Authority’s project engineer will require the design/build contractor to provide signing at each temporary impact area explaining why the area is fenced and access to the temporary impact area is restricted, the anticipated completion date of the use of the land for the temporary impact area, and contact information (for both the Authority’s project engineer and the design/build contractor) for the public to solicit further information regarding the temporary impact area and the project.

Modifications to Recreation Uses—In the event a temporary impact area requires the temporary use of land at a park, recreational resource, or school play area that is used for recreation purposes, the Authority’s project engineer will consult with the property owner/operator on: (1) whether the property owner/operator wants those recreation uses replaced temporarily elsewhere on the property, and (2) if temporary replacement of those recreation uses is desired, modifications that could be made to the remaining recreation area on the property to temporarily replace the recreation uses displaced by the temporary impact area. Any modifications to recreation areas outside the limits of a temporary impact area will be constructed/implemented prior to fencing and use of the temporary impact area.

Return of Land Used by Temporary Impact Areas to the Property Owners—The Authority’s project engineer will require the design/build contractor to return the land used for each temporary impact area to the owner in its original or better condition when construction in an area has been completed and the temporary impact area is no longer needed. The Authority’s project engineer will require the design/build contractor to coordinate the restoration of the affected land with the property owner and the project engineer.

A.10 Referenced Mitigation Measures for Aesthetics and Visual Quality

AVQ-MM#1: Minimize Visual Disruption from Construction Activities. Prior to construction (any ground-disturbing activity), the contractor shall prepare a technical memorandum identifying how the project will minimize construction-related visual/aesthetic disruption and include the following activities:

- Minimize pre-construction clearing to that necessary for construction.
- Limit the removal of buildings to those that would conflict with project components.
- When possible, preserve existing vegetation, particularly vegetation along the edge of construction areas that may help screen views.
- After construction, regrade areas disturbed by construction, staging, and storage to original contours and revegetate with plant material similar in numbers and types to that that was removed, based upon local jurisdictional requirements. If no local jurisdictional requirements exist, replace removed vegetation at a 1:1 replacement ratio for shrubs and small trees, and a 2:1 replacement ratio for mature trees. For example, if the contractor removes 10 mature trees in an area, replant 20 younger trees that within 5 to 15 years (depending upon the growth rates of the trees) would be of a height and spread to provide visual screening similar to the visual screening provided by the trees that were removed for construction. Replaced shrubs shall be a minimum 5 gallons and replaced trees shall be a minimum 24-inch box and minimum 8 feet in height.
- To the extent feasible, do not locate construction staging sites within the immediate foreground distance (0 to 500 feet) of existing residential neighborhoods, recreational areas, or other land uses that include highly sensitivity viewers. Where such siting is unavoidable, screen staging sites from viewers using appropriate solid screening materials such as temporary fencing and walls. Paint over or remove any graffiti or visual defacement of temporary fencing and walls within 5 business days of it occurring.

The technical memorandum will be submitted to the Authority for review and approval.

AVQ-MM#2: Minimize Light Disturbance during Construction. Prior to construction (any ground-disturbing activity requiring nighttime construction), the Contractor shall prepare a technical memorandum verifying how they will shield nighttime construction lighting and direct it

downward in such a manner to minimize the light that falls outside the construction site boundaries.

The technical memorandum shall be submitted to the Authority for review and approval.

AVQ-MM#3: Incorporate Design Aesthetic Preferences into Final Design and Construction of Non-Station Structures. Prior to construction (any ground disturbing activity), the Contractor shall work with the Authority and local jurisdictions to incorporate the Authority-approved aesthetic preferences for non-station structures into final design and construction. A technical memorandum will be submitted to the Authority to document compliance.

AVQ-MM#4: Provide Vegetation Screening along At-Grade and Elevated Guideway Adjacent to Residential Areas. Prior to operation and maintenance of HSR, the Contractor will plant trees (minimum 24-inch box and 8 feet in height) along the edges of the HSR rights-of-way in locations adjacent to residential areas to visually screen the elevated guideway and the residential area. The species of trees to be installed will be selected based on their mature size and shape, growth rate, hardiness, and drought tolerance. No species on the Invasive Species Council of California’s list will be planted. Upon maturity, the crowns of trees used will be tall enough to partially, or fully, to screen views of the elevated guideway from adjacent at-grade areas. Upon maturity, trees will allow ground-level views under the crowns (with pruning if necessary) and will not interfere with the 15-foot clearance requirement for the guideway. The trees will be maintained. Irrigation systems will be installed within the tree planting areas.

The Contractor shall prepare a technical memorandum within 90 days of completing any construction section or segment documenting the species of trees that were incorporated into the edges of the HSR right-of-way adjacent to residential uses. The technical memorandum will be submitted to the Authority to document compliance.

AVQ-MM#7: Provide Sound Barrier Treatments. Prior to Construction (any ground-disturbing activity), the Contractor shall design a range of sound barrier treatments for visually sensitive areas, such as those areas where residential views of open landscaped areas would change or in urban areas where sound barriers would adversely affect the existing character and setting. The Contractor shall develop the treatments during the final design process and integrate them into the final project design. The treatments shall include, but are not limited to, the following:

- Sound barriers along elevated guideways that may incorporate transparent materials where sensitive views would be adversely affected by opaque sound barriers.
- Sound barriers made with nonreflective materials and of a neutral color.
- Surface design enhancements and vegetation appropriate to the visual context of the area shall be installed with the sound barriers. Vegetation shall be installed consistent with the provisions of project Mitigation Measure AVQ-MM#5. Surface enhancements shall be consistent with the design features developed for project Mitigation Measure AVQ-MM#3 and shall include architectural elements (e.g., stamped patterns, surface articulation, decorative texture treatment), as determined acceptable to the local jurisdiction. Surface coatings shall be used on wood and concrete sound barriers to facilitate cleaning and the removal of graffiti.

The Contractor shall prepare a technical memorandum documenting implementation and submit it to the Authority to demonstrate compliance.

A.11 Referenced Mitigation Measures for Cultural 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). Once parcels are accessible and surveys have been completed, including consultation as stipulated in the MOA, additional archaeological resources may be identified. All built environment resources were adequately visible from the public right-of-way and will not likely require phased identification. For newly identified eligible

properties that would be adversely affected, the following process would be followed, which is presented in detail in the BETP and ATP:

- The Authority would consult with the MOA signatories and concurring parties to determine the preferred treatment of the properties/resources and appropriate mitigation measures.
- For CRHR-eligible archaeological resources, the Authority would determine if these resources can feasibly be preserved in place or if data recovery is necessary. The methods of preservation in place would be considered in the order of priority provided in CEQA Guidelines § 15126.4(b)(3). If data recovery is the only feasible treatment, the Authority would adopt a Data Recovery Plan as required under CEQA Guidelines § 15126.4(b)(3)(C).
- Should data recovery be necessary, the Contractor's Principal Investigator, in consultation with the MOA signatories and consulting parties, would prepare a Data Recovery Plan for approval from the Authority, also in consultation with the MOA signatories. Upon approval, the Contractor's Principal Investigator would implement the plan.
- For archaeological resources, the Authority would also determine if the resource is a unique archaeological site under CEQA. If the resource is not a historical resource but is an archaeological site the resource would be treated as required in Cal. Public Res. Code 21083.2 by following protection, data recovery, and other appropriate steps outlined in the ATP. The review and approval requirements for these documents are outlined in the ATP.

CUL-MM#2: Halt Work in the Event of an Archaeological Discovery and Comply with the Programmatic Agreement, Memorandum of Agreement, Archaeological Treatment Plan, and all State and Federal Laws, as applicable. During construction (i.e., any ground-disturbing activities, including clearing and grubbing) should there be an unanticipated discovery, the Contractor shall follow the procedures for unanticipated discoveries as stipulated in the PA, MOA, and associated ATP. The procedures must also be consistent with the following: the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation (48 *Federal Register* 44716-42), as amended (National Park Service); and Guidelines for the Implementation of CEQA, as amended (Title 14 California Code of Regulations Chapter 3, Article 9, Sections 15120-15132). In the event of a discovery in California Department of Transportation (Caltrans) right-of-way, the Authority would notify appropriate Caltrans staff in accordance with any provisions of the ATP. Should the discovery include human remains, the Contractor, the Authority, and the FRA shall comply with federal and state regulations and guidelines regarding the treatment of human remains, including relevant sections of Native American Graves Protection and Repatriation Act (§ 3(c)(d)); California Health and Safety Code, Section 8010 et seq.; and Cal. Public Res. Code Section 5097.98; and consult with the Native American Heritage Commission, tribal groups, and the SHPO.

In the event of an unanticipated archaeological discovery, the contractor would cease work in the immediate vicinity of the find, based on the direction of the archaeological monitor or the apparent location of cultural resources if no monitor is present. If no qualified archaeologist is present, no work can commence until it is approved by the qualified archaeologist in accordance with the MOA, ATP, and monitoring plan. The Contractor's qualified archaeologist would assess the potential significance of the find and make recommendations for further evaluation and treatment as necessary. These steps may include evaluation for the CRHR and NRHP and necessary treatment to resolve significant effects if the resource is an historical resource or historic property. If, after documentation is reviewed by the Authority, and they determine it is a historic property, and the SHPO concurs that the resource is eligible for the NRHP, or the Authority determines it is eligible for the CRHR, preservation in place would be considered by the Authority in the order of priority provided in CEQA Guidelines § 15126.4(b)(3) and in consultation with the signatories and consulting parties to the MOA. If data recovery is the only feasible mitigation, the Contractor's qualified Principal Investigator would prepare a data recovery plan as required under CEQA Guidelines § 15126.4(b)(3)(C), the MOA, and ATP for the Authority's approval.

If human remains are discovered on state-owned or private lands the contractor would contact the relevant county coroner to allow the coroner to determine if an investigation regarding the

cause of death is required. If no investigation is required and the remains are of Native American origin, the Authority would contact the Native American Heritage Commission to identify the most likely descendant. The most likely descendant would be empowered to reinter the remains with appropriate dignity. If the most likely descendant fails to make a recommendation, the remains would be reinterred in a location not subject to further disturbance and the location would be recorded with the Native American Heritage Commission and relevant information center of the CHRIS.

If human remains are part of an archaeological site, the Authority and contractor would, in consultation with the most likely descendant and other consulting parties, consider preservation in place as the first option, in the order of priority called for in CEQA Guidelines Section 15126.4(b)(3).

In consultation with the relevant Native American tribes, the Authority may conduct scientific analysis on the human remains if called for under a Data Recovery Plan and amenable to all consulting parties. The Authority would work with the most likely descendant to satisfy the requirements of Cal. Public Res. Code Section 5097.98. Performance tracking of this mitigation measure will be based on successful implementation and acceptance of the documentation by the SHPO and appropriate consulting parties.

CUL-MM#3: Other Mitigation for Effects to Archaeological Sites. Due to limited access to private properties during the environmental review phase of this project, the Authority's ability to fully identify and evaluate archaeological resources within the APE has, correspondingly, also been limited. Thus, the majority of the project APE has not been subject to archaeological field inventories. As pedestrian field surveys are a necessary component of the archaeological resource identification and evaluation effort, the commitment to complete the field surveys, prior to ground-disturbing activities associated with the project, would be codified in the MOA that would be executed as a condition of this Final EIR/EIS.

Access to previously inaccessible properties to complete the archaeological resource identification effort is expected to be available after the Record of Decision, during the design-build phase of the project. However, due to the design constraints associated with constructing an HSR system, the ability to shift the alignment to avoid any newly identified archaeological resources at this late phase of the project delivery process would be substantially limited and/or unlikely, because the alignment would already be established. As such, impacts/effects on as-yet-identified significant archaeological resources as a result of this project are anticipated; however, the nature and quantity of such effects remains unknown until completion of the archaeological field identification and evaluation effort.

Protocols for the identification, evaluation, treatment, and data-recovery mitigation of as-yet-identified archaeological resources are addressed in the MOA and ATP. Efforts to develop meaningful mitigation measures for effects on as-yet-identified Native American archaeological resources or historic-era archaeological resources that cannot be avoided would be negotiated with the tribal consulting parties or other interested parties, as appropriate. Measures that are negotiated among the MOA signatories and tribal consulting parties would be the responsibility of the Authority to implement.

CUL-MM#7: Prepare Interpretive or Educational Materials. The Authority-prepared MOA and BETP would identify historic properties and historical resources that would be subject to historic interpretation or preparation of educational materials. Interpretive and educational materials would address the significance of the properties that would be affected by the project. Interpretive or educational materials could include, but are not limited to, brochures, videos, websites, study guides, teaching guides, articles or reports for general publication, commemorative plaques, or exhibits. The agreed-upon method of interpretation would be specified in the BETP for each property, resulting from consultation with the SHPO, MOA signatories, and concurring parties. The Contractor would be responsible for assembling the appropriate interdisciplinary team to fulfill the mitigation. The required professionals and their qualifications would be specified in the BETP.

In the preparation of the interpretive or educational materials, the Contractor's team would use previous research included in the environmental technical documents, images, narrative history, drawings, or other material produced for the mitigation described above. The interpretive or educational materials should be made available to the public in physical or digital formats, at local libraries, historical societies, or public buildings, as specified in the BETP.

CUL-MM#12: Design of Intrusion Protection Railing for Historic Bridges. A property-specific mitigation measure is proposed, requiring the Authority to work with consulting parties to develop a design for an intrusion-protection railing that would minimize the potential direct adverse effect to the maximum extent feasible. A new intrusion-protection railing would be built on the historic bridge decks above the HSR alignment to prevent people and objects from entering the right-of-way from the bridge. This would apply to three historic resources: the Arroyo Seco Parkway Historic District (specifically the Los Angeles River Bridge), the Broadway Viaduct, and the Spring Street Viaduct.

CUL-MM#13: Main Street Bridge Access Feasibility Study. Requires the Authority to facilitate the development of a feasibility study to explore design options that would maintain the historic use of the Main Street Bridge to the maximum extent feasible while still meeting the safety requirements of the HSR Build Alternative.

A.12 Referenced Mitigation Measures for Cumulative Impacts

CUM-N&V-MM#1: Consult with Agencies Regarding Construction Noise and Vibration Impacts. To reduce the potential overlapping noise- and vibration-generating construction activities in the same area, the Authority would consult with local city and county planning departments and other agencies with projects anticipated to be constructed concurrently with the Burbank to Los Angeles Section of the California HSR System. Consultation would entail notifying the departments/agencies regarding the anticipated HSR construction schedule and would allow for adjustment of construction schedules for adjacent projects or projects near the HSR Build Alternative.