3.2 Transportation

Since publication of the Palmdale to Burbank Project Section Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS), the following substantive changes have been made to this section:

- Table 3.2-8, Intersection Level of Service (LOS) in the Central Subsection, Existing (2015) No Project Condition, was updated to correct the names of San Fernando Road Minor and San Fernando Road.
- Section 3.2.4.1, Definition of Resource Study Areas, Section 3.2.4.3, Methods for National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) Impact Analysis, and Section 3.2.5.6, Spoils Hauling, were updated to reflect refined hazardous materials spoils hauling assumptions. No changes were made to Impact TR#4: Spoils Hauling Effects on Freeway Segments, because the new spoils assumptions would not result in significant effects to LOS.
- Section 3.2.4.3, Methods for NEPA and CEQA Impact Analysis, was updated to provide more information regarding the baseline. This section was also updated to include additional information about the 2020 and 2024 Business Plans.
- Section 3.2.4.3, Methods for NEPA and CEQA Impact Analysis, was revised under the Existing (2015) Plus Construction Conditions subheading to add a footnote explaining the fluctuation in traffic volumes during the COVID-19 pandemic.
- Section 3.2.5.4, Burbank Subsection of Affected Environment, was updated to reflect current status of the Burbank Airport North Metrolink Station as completed and operational.
- Section 3.2.5.6, Spoils Hauling, was updated to include a footnote stating that the addition of spoils hauling trucks on State Route 58 (SR-58) during construction would not substantially affect traffic conditions.
- Section 3.2.6, Environmental Consequences, under Impact TRA#11 Project Construction Effects on Rail and Transit Services, was updated to provide coordination with the Southern California Regional Rail Authority regarding compliance with Metrolink's Design Criteria Manual.
- Table 3.2-9 was updated to correct the name of Lincoln Street.
- Section 3.2.7, Mitigation Measures, was updated to include coordination with relevant stakeholders related to TR-MM#10 and TR-MM#12.
- The names and status of Metrolink's Burbank Airport Stations were revised throughout this section.
- Figure 3.2-2 through Figure 3.2-7 have been added to show spoil haul route locations.

The revisions and clarifications provided in this section do not change the impact conclusions pertaining to transportation presented in the Draft EIR/EIS.

3.2.1 Introduction

Transportation

Because the implementation of a high-speed rail project is a major capital investment, it is important to identify how the project improves mobility, at both the local and regional level, compared to the No Project Alternative. It is also important to evaluate the impacts of the proposed project to the existing and future transportation system.

This section describes the regulatory setting and affected environment for the transportation analysis and transportation impacts that would result from implementation of the Palmdale to Burbank Project Section, and mitigation measures to reduce impacts. The discussion of California Environmental Quality Act (CEQA) impacts reflects California's shift in transportation impacts analysis away from a focus on automobile delay (most commonly analyzed in terms of level of service or LOS), to a focus on vehicle miles traveled (VMT). This shift is intended to promote reduction in greenhouse gas emissions from transportation, development of multimodal transportation networks, and diversity of land uses. The discussion of NEPA impacts includes consideration of how the Build Alternatives would impact levels of service.

Operation of the Palmdale to Burbank Project Section would relieve capacity constraints on the existing transportation system while providing enhanced connections to airports, mass transit, and the highway network in the region. However, implementation of the Palmdale to Burbank Project Section would modify the existing circulation system and generate a local increase in automobile trips, transit ridership, and non-motorized mode usage (pedestrian and bicycles) within the Palmdale to Burbank Project Section region. Key transportation concerns include the following:

- Construction-period interruptions to the existing transportation network, including impacts during spoils hauling from construction sites
- Operations impacts associated with the reconfigured roadway network surrounding the Palmdale and Burbank Stations
- Operations impacts resulting from new vehicle trips to and from the Palmdale and Burbank Stations
- Improvements to the roadway network that would modify transit route and schedules and non-motorized transportation patterns in the Palmdale and Burbank Station areas and elsewhere along the proposed rail alignments

The following resource sections in this Palmdale to Burbank Project Section Final EIR/EIS provide additional information related to transportation:

- Section 3.3, Air Quality and Global Climate Change, addresses air quality impacts associated with transportation and traffic.
- Section 3.4, Noise and Vibration, provides an analysis of noise impacts related to traffic.
- Section 3.11, Safety and Security, evaluates safety and security impacts associated with traffic and circulation.
- Section 3.18, Regional Growth, addresses growth-inducing impacts.
- Section 3.19, Cumulative Impacts, addresses cumulative transportation impacts.

The *Palmdale to Burbank Project Section: Transportation Technical Report* (Transportation Technical Report) (Authority 2019) provides additional information about the traffic impacts in the Palmdale to Burbank Project Section vicinity. Additional details on transportation are provided in the following appendices in Volume 2 of this Final EIR/EIS:

- Appendix 2-A, Roadway and Grade Separation, provides roadway and grade separation plans associated with implementation of the Palmdale to Burbank Project Section.

- Appendix 2-B, Railroad Crossings, provides railroad crossing locations associated with transportation.
- Appendix 2-C, Operations and Service Plan Summary, provides information on intended service and operations of the California High-Speed Rail (HSR) System related to transportation.
- Appendix 2-D, Design Baseline Report, lists relevant design standards for the Palmdale to Burbank Project Section.
- Appendix 2-E, Impact Avoidance and Minimization Features (IAMF), lists IAMFs incorporated into the project.
- Appendix 2-F, Summary of Requirements for Operations and Maintenance Facilities, defines the optimal siting for maintenance facility locations across the California HSR System.
- Appendix 2-G, Emergency and Safety Plans, lists emergency and safety plans associated with the Palmdale to Burbank Project Section.
- Appendix 2-H, Regional and Local Policy Consistency Analysis, provides a Regional and Local Policy Consistency Table, which lists the transportation and traffic goals and policies applicable to the Palmdale to Burbank Project Section and notes the Build Alternatives' consistency or inconsistency with each.
- Appendix 3.1-B, United States Forest Service (USFS) Policy Consistency Analysis, assesses the consistency of the Palmdale to Burbank Project Section with applicable laws, regulations, plans, and policies governing proposed uses and activities within the Angeles National Forest (ANF) and the San Gabriel Mountains National Monument (SGMNM).
- Appendix 3.1-C, Standardized Mitigation Measures (MM), lists standardized mitigation measures incorporated into the project.
- Appendix 3.2-A, Vehicle Miles Traveled Methodology, provides the methodology used to assess impacts resulting from vehicle miles traveled.

This section and its supporting technical report include discussion and analysis based on automobile delay/congestion based on LOS and its related volume/capacity (V/C) ratio metric. California has adopted a policy through Senate Bill (SB) 743 and associated regulations (CEQA Guidelines 15064.3) that automobile delay and congestion increases, by themselves, are not significant impacts on the environment under CEQA. However, delay and congestion increases caused by a project can lead to significant secondary impacts on the environment, such as air quality and noise. Accordingly, this document retains discussion and analysis of LOS and V/C changes the project might cause as an analytical input into evaluating the potential for significant environmental impacts in these other areas. The analysis of traffic congestion is also included to identify environmental effects under NEPA as described in Section 3.2.4.3, Methods for NEPA and CEQA Impact Analysis.

3.2.2 Laws, Regulations, and Orders

3.2.2.1 Federal

The California Department of Transportation (Caltrans) and the California Transportation Commission (CTC) are responsible for producing a long-range transportation plan for the planning of statewide facilities. Caltrans and CTC are also responsible for assembling a statewide short-term improvement program called the Federal Statewide Transportation Improvement Program. Federal law requires the State of California to update this program at least once every 4 years. The Federal Statewide Transportation Improvement Program compiles all Federal Highway Administration and Federal Transit Administration projects that have been programmed throughout the state using federal funds.

In accordance with the Federal Passenger Rail Investment and Improvement Act of 2008, the State of California adopted the 2018 California State Rail Plan in September 2018 (Authority

2018). Federal law requires the State of California to update its California State Rail Plan every five years as a condition of eligibility for federal funding for HSR and intercity passenger rail programs.

Federal law does not directly provide criteria for the analysis of federal-aid-eligible roadways and highways. However, certain conditions must be met in order to maintain the funding eligibility of facilities. Federal agencies such as the Federal Highway Administration, Federal Transit Administration, and Federal Railroad Administration (FRA) are also responsible for implementing certain federal environmental protection laws, including the NEPA.

Federal Railroad Administration Procedures for Considering Environmental Impacts (64 Federal Register 28545)

FRA Procedures for Considering Environmental Impacts supplement the Council on Environmental Quality Regulations (40 Code of Federal Regulations 1500 et seq.) and describe the FRA's process for assessing the environmental impacts of actions and legislation proposed by the agency and for the preparation of associated documents (42 U.S. Code 4321 et seq.). These FRA procedures state that an EIS should consider possible impacts on transportation (including passengers and freight), impacts by modes of transport (including bicycle and pedestrian transport), impacts from relevant perspectives (including local, regional, and state), and impacts on roadway traffic congestion.

Federal Transit Act (49 U. S. Code Chapter 53)

The Federal Transit Act fosters development and revitalization of public transportation systems that maximize safe, secure, and efficient personal mobility; minimize environmental impacts; and minimize transportation-related fuel consumption and reliance on foreign oil. The Federal Transit Act includes all forms of transportation and capital projects. Additionally, it requires that each state develop a statewide transportation plan.

Statewide and Nonmetropolitan Transportation Planning (23 United States Code Section 135)

This legislation provides the general requirements for statewide planning to encourage and promote the safe and efficient management, operation, and development of surface transportation systems.

State Rail Plans (49 United States Code 22701 – 22706)

This legislation requires states to set forth policy involving freight and passenger rail transportation, including commuter rail operation, by establishing a State Rail Plan.

United States Forest Service Authorities

Transportation systems and infrastructure within the ANF including the SGMNM is guided by several federal laws and their implementing regulations, as well as policies, plans, and orders. The primary laws governing transportation are the Federal Land Policy and Management Act, the National Forest Management Act, and the Antiquities Act of 1906. Appendix 3.1-B, USFS Policy Consistency Analysis, provides an analysis of the consistency of the six Build Alternatives with these laws, regulations, policies, plans, and orders.

3.2.2.2 State

Designated State Route (SR) and Interstate (I) Highway facilities are under the jurisdiction of Caltrans and CTC, except where management of the facility has been delegated to the county transportation authority. Caltrans and CTC are responsible for producing a long-range transportation plan for the planning of statewide facilities. Caltrans and CTC are also responsible under California law for assembling a statewide short-term improvement plan called the Statewide Transportation Improvement Program (STIP). California law requires the State of California to prepare this document every 2 years. The STIP (which often is prepared prior to the Federal Statewide Transportation Improvement Program document) compiles all projects programmed through the state using state or federal funds.

California Government Code Section 65080

The State of California requires each transportation planning agency to prepare and adopt a Regional Transportation Plan (RTP) directed at achieving a coordinated and balanced regional transportation system.

California Streets and Highways Code Section 1 et seq.

This code provides the standards for administering the statewide streets and highways system. Designated state route and interstate facilities are under the jurisdiction of Caltrans, except where facility management has been delegated to the county transportation authority.

State Greenhouse Gas Reduction Goals

The State Operations Group of the Climate Action Team adopted policies in 2010 that commit the State to reducing greenhouse gas (GHG) intensity through improved efficiency and adoption of sustainable business practices. These policies commit all Executive Branch agencies to actions leading to GHG reductions.

California Transportation Plan 2040

This plan is a core document that helps tie several internal and external interrelated plans and programs to help define and plan transportation in California. It exists within the larger context of long-range transportation planning that considers other relevant local, regional, and statewide plans and programs that may affect the transportation system. The plan integrates findings and recommendations from key documents from various statewide programs. The plan also identifies a sustainable transportation system by pulling together the following statewide long-range modal plans to envision the future system:

- Interregional Transportation Strategic Plan
- California Freight Mobility Plan
- California State Rail Plan
- Statewide Transit Strategic Plan
- California Aviation System Plan
- Bicycle and Pedestrian Plan

California State Rail Plan

The California State Rail Plan presents the State's vision of an integrated rail system that provides more comprehensive and coordinated service for both passenger rail and freight rail services. It establishes a statewide vision and objectives, sets priorities, and develops policies and implementation strategies to enhance passenger and freight rail service in the public interest. It also details a long-range investment program for California's passenger and freight infrastructure.

The Passenger Rail Element looks at intercity and commuter passenger rail services, operations, capital improvements, and service expansion. The Freight Rail Element provides information on the freight rail network; issues concerning the industry; and policy recommendations for the system's maintenance, preservation, improvement, and funding. The California State Rail Plan Vision Statement includes six goals (Caltrans 2018):

- Improve Multimodal Mobility and Accessibility for All People
- Preserve the Multimodal Transportation System
- Support a Vibrant Economy
- Improve Public Safety and Security
- Foster Livable and Healthy Communities and Promote Social Equity
- Practice Environmental Stewardship

Regional agencies have played an active role in planning and delivering highway projects since the late 1990s based on state law changes. Currently, passenger rail planning and delivery are undergoing similar changes, bringing the possibility of a more collaborative approach for

passenger rail planning between state and local agencies, intercity and commuter rail agencies, and the California High-Speed Rail Authority (Authority).

Coordinated transportation planning and interagency cooperation at the state and regional levels will provide a seamless interregional travel experience for California travelers. Per page 42 of the *2018 State Rail Plan*, FRA indicated that coordinated system- and project-level planning presented in State rail plans and service development plans will be linked to future funding for high-speed or conventional intercity passenger rail projects. Through a cohesive statewide plan, the State Rail Plan facilitates integration of regional rail investments with blended HSR service. Coordinated transportation improvement projects will benefit the State's transportation system by reducing VMT, reducing vehicle hours traveled, and shifting car and plane trips to trips by rail.

Caltrans District Plan

Caltrans plans, including Corridor System Management Plans, provide information on future development affecting state facilities. Corridor System Management Plans are comprehensive and integrated management plans that address transportation options, congestion, and improving travel times in specific transportation corridors. A Corridor System Management Plan includes all travel modes in a defined corridor—highways and freeways, parallel and connecting roadways, public transit (local and intercity), and bikeways. Each of these plans identifies existing travel conditions, corridor performance management, planning management strategies, and capital improvements. The plan for the I-5 North Corridor (from I-10 to I-210) is the only relevant Corridor System Management Plan within the Palmdale to Burbank Project Section region.

Caltrans' districts also engage in Local Development–Intergovernmental Review with cities and counties in their respective districts. The Local Development–Intergovernmental Review is a mandated, ongoing statewide effort focused primarily on avoiding, eliminating, or reducing to insignificance any adverse impacts of local development on the transportation system. Caltrans shares its expertise with other jurisdictions and assists them throughout their land use planning and decision-making processes, consistent with the requirements of NEPA, CEQA, the Streets and Highways Code, and numerous planning and zoning laws that affect stewardship of the State Highway System. This program is directed to use "best practices" analysis methodologies that focus on improving the person-capacity of the State's multimodal transportation system, efficiently moving goods and services, and accurately describing transportation tradeoffs with other community values. These values include a sound business economy with housing near employment, a healthy "climate-change-resilient" environment, and equally safe access for both motorized and nonvehicular transportation users.

California State Senate Bill 743

With the introduction of SB 743, signed into law on September 27, 2013, the transportation impact analysis under the CEQA shifted from auto delay to consideration of GHG reductions, with a focus on multimodal transportation networks and land use mixes. Alternative metrics were proposed by the Governor's Office of Planning and Research, with consideration of VMT and automobile trips generated as potential metrics. The new metric, contained in CEQA Guidelines Section 15064.3, was approved in December 2018.

Section 15064.3 provides that VMT is the most appropriate metric to assess transportation impacts with limited exceptions (applicable to roadway capacity projects, which this project is not). A project's effect on automobile delay does not constitute a significant environmental impact. Other relevant considerations may include the project's effects on transit and non-motorized travel. Section 15064.3 further provides that transportation projects that reduce VMT should be presumed to cause a less than significant impact. A lead agency can elect to be governed by Section 15064.3 immediately (which the Authority has done) and is required to shift to a VMT metric by July 1, 2020. The Governor's Office of Planning and Research (OPR) has provided a technical advisory on evaluating transportation impacts in CEQA (OPR 2018a) and further information related to the change in the guidelines in its *2018 Statement of Reasons* supporting the guideline change (OPR 2018b) and related to LOS and VMT on its CEQA Update website (OPR 2018c).

Note that SB 743 does not prevent counties or cities from continuing existing transportation impact analyses, including the use of vehicular LOS for non-CEQA purposes such as general plans or impact fees. Vehicular LOS is also still applicable to NEPA.

Sustainable Communities and Climate Protection Act of 2008 (SB 375, Chapter 728, Statutes of 2008) and Global Warming Solutions Act (Assembly Bill [AB] 32)

Adopted in September 2008, SB 375 provides a new planning process to coordinate community development and land use planning with RTPs to reduce sprawling land use patterns and dependence on private vehicles, and thereby to reduce VMT and associated GHG emissions. SB 375 is one major tool being used to meet the goals in AB 32, the Global Warming Solutions Act. Under SB 375, the California Air Resources Board sets GHG emissions reductions targets for 2030 and 2050 for metropolitan planning organizations in the state. Each metropolitan planning organization must then prepare a Sustainable Communities Strategy (SCS) that meets the GHG emissions reduction targets set by the California Air Resources Board. Once adopted, the SCS is incorporated into the region's RTP.

California Streets and Highways Code Section 890

Section 890 of the California Streets and Highways Code establishes a bicycle transportation system. California law provides specific definitions of bicycle facilities as follows:

- Class I (Bike Path or Shared Use Path)—Provide a completely separated right-of-way designated for the exclusive use of bicycles and pedestrians with crossflows by motorists minimized
- Class II (Bike Lane)—Provide a restricted right-of-way designated for the exclusive or semi-exclusive use of bicycles with through travel by motor vehicles or pedestrians prohibited, but with vehicle parking and crossflows by pedestrians and motorists permitted
- Class III (Bike Route)—Provide a right-of-way on street or off street, designated by signs or permanent markings and shared with pedestrians and motorists
- Class IV (Cycle Track or Separated Bikeways)—Promote active transportation and provide a right-of-way designated exclusively for bicycle travel adjacent to a roadway and separated from vehicular traffic; types of separation include, but are not limited to, grade separation, flexible posts, inflexible physical barriers, and on-street parking

Caltrans Mode Share Action Plan

The *Caltrans Mode Share Action Plan 2.0* (Caltrans 2019) was developed to identify the highest priority actions aimed at achieving the Caltrans' Strategic Management Plan goal of tripling biking, doubling walking, and doubling transit use by the year 2020. The *Caltrans Mode Share Action Plan 2.0* tracks the progress of these efforts, outlining deliverables date and performance criteria to measure the effectiveness of each task.

3.2.2.3 Regional and Local

Southern California Association of Governments Regional Transportation Plan

The Southern California Association of Governments' (SCAG) RTP is a long-range transportation plan that is developed and updated every 4 years. SCAG performs this function in its capacity as the federally designated metropolitan planning organization for the six-county SCAG region, which includes Los Angeles, Orange, Riverside, San Bernardino, Ventura, and Imperial Counties. The RTP provides a vision for transportation investments throughout the SCAG region. Using growth forecasts and economic trends that project over a 20-year period, the RTP considers the role of transportation in the broader context of economic, environmental, and quality-of-life goals for the future. The RTP also identifies regional transportation strategies to address mobility needs. In September 2020, the SCAG Regional Council adopted the *2020–2045 Regional Transportation Plan/Sustainable Communities Strategy* (SCAG 2020). However, the Palmdale to Burbank Project Section issued a Notice of Preparation prior to the adoption of the 2020

RTP/SCS, and therefore this analysis uses the 2012 RTP/SCS (SCAG 2012). However, the 2020 RTP/SCS retains most of the policies contained in the 2012 RTP/SCS.

The RTP/SCS also contains a capital listing of all transportation projects proposed for the SCAG region, including highway improvements, transit, rail and bus facilities, high-occupancy vehicle lanes, signal synchronization, intersection improvements, and freeway ramps. Strategies for the RTP/SCS include the following:

a) Expanding the region's HSR and commuter rail systems

b) Establishing rail connections to the region's airports to improve accessibility and connectivity

c) Reducing the impact of air passenger trips on ground transportation congestion, including continuing to support regional and interregional projects that facilitate airport ground access (e.g., high-speed train)

d) Investing financially in passenger rail. Maintaining the commitments in the 2012 RTP/SCS, including Phase 1 of the California High-Speed Train and the Southern California High-Speed Rail Memorandum of Understanding, which identifies a candidate project list to improve the Metrolink system and the Los Angeles – San Diego – San Luis Obispo Rail Corridor rail corridor

e) Supporting the development of an HSR station on Hollywood Way and providing convenient access between the station and the airport

Los Angeles County Congestion Management Program

The passage of Proposition 111 in June 1990 increased the gas tax to fund transportation-related improvements statewide. To be eligible for the revenues associated with Proposition 111, the Congestion Management Program (CMP) legislation (originally AB 471, amended by AB 1791) required California's urbanized areas—areas with populations of 50,000 or more—to adopt a CMP. The CMP addresses the impacts of local growth on the regional transportation system. Statutory elements of the CMP include highway and roadway system monitoring, multimodal system performance analysis, the transportation demand management program, the land use analysis program, and local conformance for all of Los Angeles County's jurisdictions.

As the congestion management agency for the county, the Los Angeles County Metropolitan Transportation Authority (Metro) is responsible for updating and monitoring the CMP. Metro's Board of Directors adopted the Los Angeles County 2010 CMP on October 28, 2010 (Metro 2010). As of June 20, 2018, Metro recommended that all Los Angeles County local jurisdictions opt out the CMP.

Although many levels of government are involved in developing and implementing the CMP, local jurisdictions have substantial implementation responsibilities. These include assisting in monitoring the CMP roadway and transit system, implementing a transportation demand management ordinance, implementing a program to analyze the impacts of local land use decisions on the regional transportation system, and participating in the *Countywide Deficiency Plan* (Metro 2010). Jurisdictions are required to conform to CMP requirements to receive their portion of state gas tax revenue allocated by Section 2105 of the California Streets and Highways Code. In addition, compliance with the CMP is necessary to preserve their eligibility for state and federal funding for transportation projects.

Airport Master Plans

Two major airports serve the Palmdale to Burbank Area: Palmdale Regional Airport and Hollywood Burbank Airport. Hollywood Burbank Airport provides daily commercial and private passenger air services. Palmdale Regional Airport provides private passenger air services. Smaller general aviation airports are also near the California HSR System area, including Whiteman Airport (near the Los Angeles neighborhood of Pacoima) and the Agua Dulce Airport.

The Palmdale Airport Authority governs Palmdale Regional Airport. Based on information from the Los Angeles County Airport Land Use Commission, there is no master plan for future

development of this facility. Regular commercial air service from Palmdale Regional Airport was discontinued in 2008, but the Palmdale Regional Airport is looking to expand their existing private passenger air services (City of Palmdale 2019).

The Burbank-Glendale-Pasadena Airport Authority governs the Hollywood Burbank Airport. According to the Federal Aviation Administration (FAA), a Draft Airport Master Plan Update was prepared in 1981 to replace the passenger terminal as it does not comply with FAA standards, but development of the replacement terminal was not pursued for various reasons (FAA 1996). The Burbank-Glendale-Pasadena Airport Authority is planning to relocate its passenger terminal to a new location on the airport site. The Burbank-Glendale-Pasadena Airport Authority completed a ground access study and a transit-oriented development study for the airport area in 2014 to help develop improvements to the accessibility of the airport and its adjacent land uses. The Hollywood Burbank Airport Terminal Replacement project was approved by voters in Burbank under Measure B in November 2016. The B-6 Parcel is a former portion of Lockheed Martin Corporation's manufacturing property. A portion of the B-6 Parcel is included as part of the preferred site for the replacement passenger terminal. A Final EIR and a Final EIS have been completed for this project.

The Airport Land Use Commission has a *Comprehensive Land Use Plan* (Airport Land Use Commission 2004) that establishes land use policies near airports throughout the county.

Public Transportation Plans

Several local and regional public transportation plans are relevant to the California HSR System. At the local level, each transportation provider must maintain a transit development plan, and at the regional level, Metro maintains plans to ensure that local and regional transit services are consistent and coordinated.

Metro's Short-Range and Long-Range Transportation Plans

Metro maintains both a short-term transportation plan and a long-range transportation plan. The *Short-Range Transportation Plan* (Metro 2014a) is a 10-year plan that provides guidance on short-term challenges, presents an analysis of financial resources, and proposes action plans for public transportation and highway modes. The *Long-Range Transportation Plan* (Metro 2020) provides a strategic, financially constrained 30-year plan for Los Angeles County's transportation systems. It includes all major transit and highway projects with committed funding or partially committed funding, existing programs and policies, collaboration with Metro's partners, and new policies and initiatives to achieve regional goals. Metro's long-range transportation plan includes the California HSR System as part of its recommended plan.

Metro First-Last Mile Strategic Plan

The *First-Last Mile Strategic Plan* (Metro 2014b) outlines specific infrastructure improvement strategies designed to facilitate easy, safe, and efficient access to the Metro system. The strategic plan coincides with Metro's plans to develop a world-class rail system with stations that will be a short distance (3 miles or less) from the homes of 7.8 million Los Angeles County residents.

The plan's goals include the following:

- Expand the reach of transit through infrastructure improvements
- Maximize multimodal benefits and efficiencies
- Build on the RTP/SCS and Countywide Sustainable Planning Policy (multimodal, green, equitable, and smart)

Transportation Plans, Policies, and Programs for Transportation

Regional and local governments adopt non-motorized transportation plans to guide public investment in capital infrastructure programs. Metro's *Complete Streets Policy* (Metro 2014c) and *Bicycle Transportation Strategic Plan* (Metro 2006), the *Burbank 2035 General Plan* (City of

Burbank 2013), Burbank's *Bicycle Master Plan* (City of Burbank 2009), and the *Palmdale General Plan* (City of Palmdale 1993)—all described below—account for the California HSR System as part of their long-range multimodal transportation system.

Metro Complete Streets Policy

The *Complete Streets Policy* (Metro 2014c) was developed to establish a standard of excellence for multimodal design. The term "complete streets" describes a comprehensive, integrated transportation network with infrastructure and design that allows safe and convenient travel along and across streets for all users, including pedestrians, users, and operators of public transit, bicyclists, persons with disabilities, seniors, children, motorists, users of green modes, and movers of commercial goods. Policy goals include the following:

- Maximize the benefit of transit service and improve access to public transit by making it convenient, safe, and attractive for users
- Maximize multimodal benefits and efficiencies
- Improve safety for all users on the transportation network
- Facilitate multijurisdictional coordination and leverage partnerships and incentive programs to achieve a "complete" and integrated transportation system that serves all users
- Establish active transportation improvements as integral elements of the countywide transportation system
- Foster healthy, equitable, and economically vibrant communities where all residents have greater mobility choices

Metro Bicycle Transportation Strategic Plan

The *Bicycle Transportation Strategic Plan* (Metro 2006) was prepared to improve mobility in the region through the use of bicycles. The plan is designed for the use of cities, Los Angeles County, and transit agencies in planning bicycle facilities around transit, and setting priorities that contribute to regional improvements. The plan includes the following elements:

- A listing of 167 identified bike-transit hubs in the county
- Audit procedures for evaluating obstacles to bicycle access
- Non-motorized best practices in a toolbox of design measures
- Gaps in the inter-jurisdictional bikeway network
- Two prototype bike-transit hub access plans, in different geographical and demographic regions in the county

City of Palmdale General Plan

The *Palmdale General Plan* (City of Palmdale 1993) includes a Circulation Element that describes the City of Palmdale's plans to upgrade and expand its pedestrian walkways, surface streets, arterial and regional highways, public transportation, rail service, and air service. The Parks, Recreation, and Trails Element addresses recreational trail plans and bikeways.

The *Palmdale General Plan* recognizes new technology, including development of an HSR system linking downtown Los Angeles with the San Fernando Valley. The *Palmdale General Plan* further states that the California HSR System could significantly alter the commuting patterns of thousands of Palmdale residents and that, at some point during the build-out period of the *Palmdale General Plan*, a rapid transit system could serve the needs of Palmdale residents. Advances in transportation technology such as these could alter the needs, goals, and implementation programs of the *Palmdale General Plan* Circulation Element.

In partnership with the Authority, the City of Palmdale is undertaking the creation of a new Transit Area Specific Plan for the proposed Palmdale Station. The station area plan will complement the

planning and design of the California HSR System and transportation planning efforts by the city and regional agencies. The undertaking is a collaboration between the Authority, regional partners, stakeholders, community members, and developers.

City of Los Angeles General Plan

The *Los Angeles General Plan* (City of Los Angeles 2016) is a dynamic document consisting of several elements, including the Mobility Plan 2035. Mobility Plan 2035 provides the policy foundation for achieving a transportation system that balances the needs of all road users. The plan has no established criteria of significance for traffic operations. While an LOS of D is the desired minimum, significance is determined on a case-by-case basis. Mobility Plan 2035 includes goals that are equal in weight and define the city's high-level mobility priorities:

- Safety first
- Access for all Angelenos
- World-class infrastructure
- Collaboration, communication, and informed choices
- Clean environments and healthy communities

Los Angeles County General Plan

Los Angeles County's jurisdiction for planning purposes is generally the unincorporated areas of the county. The *Los Angeles County General Plan* (Los Angeles County 2015) has no established criteria of significance for traffic operations. The general plan establishes policies and goals to:

- Ensure the efficient movement of people and goods
- Promote compatibility between transportation modes and land use
- Reduce the adverse air quality impacts of transportation

City of Burbank General Plan and Bicycle Master Plan

The *Burbank 2035 General Plan* (Burbank 2013) includes a complete streets section in its mobility plan, prioritizing streets that are complete, safe, and efficient. The Burbank General Plan identifies a complete streets conflict if an improvement would conflict with development of complete streets by increasing the roadway width at the intersection to narrow existing sidewalks, decrease bike lane width, or greatly disturb transit/bus stop locations.

The Burbank General Plan includes a "pedestrian opportunities" section in its mobility plan, again prioritizing streets that are complete, safe, and efficient. The Burbank General Plan identifies a pedestrian opportunities conflict if an improvement would require sidewalk widths below the minimum sidewalk standards specified in the Mobility Element or if it would conflict with Mobility Element policies.

The Burbank General Plan describes a comprehensive public transit network to address vehicle congestion and limited road capacity. The plan recognizes that transit should help meet mobility needs and that a well-connected transit network with good regional connections and connections to other modes of travel (bicycle, pedestrian) can compete favorably with the private automobile in convenience, travel time, and cost. The Burbank General Plan also states that Burbank would rely on a number of regional public transit networks to provide transit services within the city. Because of this dependence on outside agencies, regional cooperation is crucial to effective operation of the transit network. Providing seamless transfers between different transit agencies requires cooperation and is a critical step necessary in providing a viable transit Build Alternative. Also, collaboration is needed for the construction and expansion of regional rail, bus, and light rail systems. Operating within the greater Los Angeles region, Burbank would actively seek partnerships with regional agencies to offer transit that serves the city and the region.

The Burbank General Plan recognizes that Burbank is along the HSR corridor that would traverse the state to link major population centers. The plan states that the City of Burbank supports this proposed system and would work with the California High-Speed Rail Authority (Authority) to mitigate impacts and provide adequate connections to local street and transit networks.

The *Bicycle Master Plan* (City of Burbank 2009) is a policy document that guides the development and maintenance of the city's bicycle network, support facilities, and other programs. The Bicycle Master Plan includes plans to double the amount of available bicycle facilities within 25 years.

Traffic Study Guidelines

City of Palmdale

The City of Palmdale does not have adopted traffic impact guidelines; however, the *Highway Capacity Manual 4th Edition* (Transportation Research Board 2000) and intersection capacity utilization (ICU) methodologies are widely accepted and use LOS as a metric.

City of Burbank

The City of Burbank uses the Transportation Research Board's critical movement analysis (CMA) to analyze traffic operating conditions at study intersections. The CMA determines the V/C on a critical lane basis and LOS associated with each V/C at a signalized intersection. The City of Burbank does not have a minimum required LOS threshold; rather, it determines the significance of transportation impacts based on "With Project" LOS.

City of Los Angeles

In 2019, the City of Los Angeles switched to VMT to analyze traffic impacts, in compliance with SB 743. Prior to the switch, the City of Los Angeles used the Transportation Research Board CMA to analyze traffic operating conditions at study intersections. The CMA determined the V/C on a critical lane basis and LOS associated with each V/C at a signalized intersection.

Los Angeles County

Los Angeles County updated its *Traffic Impact Analysis Report Guidelines* in 2020 (Los Angeles County 2020). This document uses VMT to analyze traffic operating conditions at study intersections. The impact criteria in the document are based on guidance published by OPR and the California Air Resources Board.

Prior to the 2020 update, the document used ICU or CMA methodologies to analyze traffic operating conditions at study intersections. The ICU and CMA methods determined the V/C on a critical lane basis and LOS associated with each V/C at a signalized intersection.

In addition to Los Angeles County guidelines, the Los Angeles County Metropolitan Transportation Authority provided guidelines for analysis through the CMP. The guidelines recommended the ICU or CMA methodologies to analyze traffic-operating conditions at study intersections. The ICU and CMA method determined the V/C ratio on a critical lane basis and LOS associated with each V/C ratio at a signalized intersection. For roadway segments and freeway segments, a V/C or demand-to-capacity methodology was recommended.

3.2.3 Consistency with Plans and Laws

As indicated in Section 3.1.4.3, Consistency with Plans and Laws, the CEQA and the Council on Environmental Quality (CEQ) regulations require a discussion of inconsistencies or conflicts between a proposed undertaking and federal, state, regional, or local plans and laws. As such, this Final EIR/EIS evaluates inconsistencies between the six Build Alternatives and federal, state, regional, and local plans, and laws to provide planning context.

The Authority, as the lead state and federal agency proposing to construct and operate the California HSR System, is required to comply with all federal and state laws and regulations and to secure all applicable federal and state permits prior to initiating construction on the selected Build Alternative. Therefore, there would be no inconsistencies between the six Build Alternatives and these federal and state laws and regulations.

The Authority is a state agency and therefore is not required to comply with local land use and zoning regulations; however, it has endeavored to design and construct the HSR project so that it is consistent with land use and zoning regulations. For example, the proposed Build Alternatives

would incorporate IAMFs that require the contractor to prepare a plan to demonstrate how construction transportation impacts will be maintained below applicable standards.

Appendix 2-H provides a Regional and Local Policy Consistency Table that lists goals and policies applicable to transportation and traffic within the Palmdale to Burbank Project Section and notes the Build Alternatives' consistency or inconsistency with each. The Authority reviewed 25 policies referenced in Appendix 2-H and determined that each of the six Build Alternatives is consistent with all applicable policies.

The California HSR System would have the greatest impact on traffic and transportation systems in the city of Burbank, near the approved Burbank Airport Station. The Burbank General Plan encourages the construction of the Burbank Airport Station near the Metrolink Burbank Airport South Station. In particular, Program M-6 in the Burbank General Plan (City of Burbank 2013) calls for the enhancement of street connections near the station to serve anticipated traffic demands associated with the new California HSR System. The General Plan also prioritizes the implementation of bikeways within the city of Burbank, including the area near the Burbank Airport North Station, along West San Fernando Boulevard and North Hollywood Way. The City of Burbank, in partnership with the Authority and Metro, is drafting a *Golden State Specific Plan*, which is expected to involve the area around the planned Burbank Airport Station. This plan seeks to provide seamless access between the proposed Burbank Airport Station, the airport, the city, and points beyond. Because the City of Burbank anticipates and encourages the construction of the Burbank Airport Station, the Authority expects that the Palmdale to Burbank Project Section would be consistent with the transportation planning efforts of the City of Burbank and that the *Golden State Specific Plan* would include the proposed Burbank Airport Station.

3.2.4 Methods for Evaluating Impacts

The evaluation of impacts on transportation is a requirement of NEPA and CEQA. The following sections summarize the transportation resource study areas (RSA) and the methods used to analyze transportation resources.

3.2.4.1 Definition of Resource Study Areas

As defined in Section 3.1, Introduction, RSAs are the geographic boundaries in which the environmental investigations specific to each resource topic were conducted. The transportation RSA includes the area of potential disturbance associated with Palmdale to Burbank Project Section construction, plus intersections, roadway segments, and freeway segments that will experience increased vehicle trips as a result of the Palmdale to Burbank Project Section. The transportation RSA includes the Palmdale, Central, and Burbank subsections, as well as the Maintenance Facility. The Palmdale Subsection and Maintenance Facility, however, are evaluated in the Bakersfield to Palmdale Project Section EIR/EIS but are occasionally included in this document for reference. This EIR/EIS transportation analysis evaluates the following automobile elements of the transportation network:

- Roadway segments that would be temporarily or permanently closed or grade-separated as a result of the Palmdale to Burbank Project Section
- Existing intersections that the Palmdale to Burbank Project Section would expand, signalize, or physically reconfigure
- All major new intersections created by the Palmdale to Burbank Project Section
- Roadway segments or intersections expected to have an increase of 50 or more vehicles during either the AM or PM peak hour[1]

[1] This analysis originally considered the intersections and roadway segments within the Palmdale and Burbank Station areas that could be affected by the project, and then eliminated the intersections and segments that do not meet the RSA criteria as stated in Section 3.2.4.1. Thus, the intersection identification structure used in this analysis is not sequential because it "skips" intersections and roadway segments that do not meet the RSA criteria.

- Freeway segments near the freeway on- and off-ramps that would be most used by vehicles traveling between the freeway network and the Palmdale and Burbank Stations
- Freeway off-ramps where the project would add 100 or more trips in the AM or PM peak hour

The transportation analysis also evaluates non-automobile elements of the transportation network within the transportation RSA, including transit, commuter rail, airports, and bicycle/pedestrian facilities.

The Palmdale to Burbank Project Section would generate spoils primarily by tunneling activities specific to each of the six Build Alternatives. The spoils would be shipped from the construction laydown areas along each alignment to disposal sites primarily via trucks and also through conveyor belts. The general study area for the Temporary Construction Spoils Haul Analysis (spoils hauling RSA), is along the travel path of spoils haul vehicles from the spoils generating site to the freeway network. Class I/Class II Hazardous/Designated Waste spoils would be transported to a landfill site near the city of Buttonwillow, California, approximately 127 miles from the Refined SR14 and SR14A Build Alternatives. The Class III Non-Hazardous, Contaminated Wastes, and Class III Non-Hazardous, Uncontaminated Waste landfill facilities are an average distance of 40 miles and 20 miles away, respectively. These hauling distances would be similar to all the Build Alternatives. Construction spoils-related trucks were analyzed on the roadway network entering the freeway facilities in both the northbound and southbound direction to gauge the effect of loading each direction with all trucks.

The roadway network evaluated does not include any proposed HSR-related roadway improvements as spoils-generating construction activities would occur prior to and during the construction of roadway improvements. The spoils hauling RSA consists of the Palmdale, Central, and Burbank subsections. The spoils hauling analysis includes intersections and roadway segment to and from each construction laydown area, plus freeway segments located where local freeways split or merge, representing locations that hauling activities would have the highest contribution to freeway mainline volumes during the AM or PM peak hours. In addition, the spoils hauling analysis also evaluates non-automobile elements of the transportation network within the spoils hauling RSA, including transit, commuter rail, airports, and bicycle and pedestrian facilities.

3.2.4.2 Impact Avoidance and Minimization Features

IAMFs are project features the Authority has incorporated into each of the six Build Alternatives for purposes of the environmental impact analysis. The full text of the IAMFs that are applicable to the Palmdale to Burbank Project Section is provided in Volume 2, Appendix 2-E, Impact Avoidance and Minimization Features.

The following is a list of the IAMFs that were incorporated into the transportation analysis:

- **TR-IAMF#1**: Protection of Public Roadways during Construction—This IAMF describes the Authority's commitment to returning public roadways to the equivalent of their original pre-HSR construction structural condition or better. Prior to Construction, the Contractor shall provide a photographic survey documenting the condition of the public roadways along truck routes providing access to the proposed project site. The photographic survey shall be submitted for approval to the agency responsible for road maintenance and the Authority and the Contractor shall be responsible for the repair of structural damage to public roadways caused by HSR construction or construction access, returning damaged sections to the equivalent of their original pre-HSR construction structural condition or better.
- **TR-IAMF#2**: Construction Transportation Plan—This IAMF describes the Authority's commitment to preparing a CTP for construction. The design-build contractor shall prepare a detailed CTP for the purpose of minimizing the impact of construction and construction traffic on adjoining and nearby roadways in close consultation with the local jurisdiction having authority over the site. Before finalizing the CTP, the Contractor shall provide a draft of the CTP to Los Angeles Unified School District, Acton-Agua Dulce Unified School District, and

any other potentially affected public school districts on their request, for their review and comment.

- **TR-IAMF#3**: Off-Street Parking for Construction-Related Vehicles—This IAMF describes the Authority's commitment to identifying adequate off-street parking for all construction-related vehicles throughout the construction period to minimize impacts to public on-street parking areas.
- **TR-IAMF#4**: Maintenance of Pedestrian Access—This IAMF describes the Authority's commitment to maintaining pedestrian access during the construction period. The Contractor shall prepare specific construction management plans to address maintenance of pedestrian access during the construction period. Actions that limit pedestrian access would include, but not be limited to, sidewalk closures, bridge closures, crosswalk closures or pedestrian rerouting at intersections, placement of construction-related material within pedestrian pathways or sidewalks, and other actions that may affect the mobility or safety of pedestrians during the construction period.
- **TR-IAMF#5**: Maintenance of Bicycle Access—This IAMF describes the Authority's commitment to maintaining bicycle access and ensuring bicyclist safety during the construction period. The Contractor shall prepare specific construction management plans to address maintenance of bicycle access during the construction period. Actions that limit bicycle access would include, but not be limited to, bike lane closures or narrowing, closure or narrowing of streets that are designated bike routes, bridge closures, placement of construction-related materials within designated bike lanes or along bike routes, and other actions that may affect the mobility or safety of bicyclists during the construction period.
- **TR-IAMF#6**: Restriction on Construction Hours—This IAMF describes the Authority's commitment to restricting construction hours to minimize traffic impacts. The Contractor shall limit construction material deliveries between 7 a.m. and 9 a.m. and between 4 p.m. and 6 p.m. on weekdays.
- **TR-IAMF#7**: Construction Truck Routes—This IAMF describes the Authority's commitment to establishing appropriate truck routes for during the construction period. The Contractor shall deliver all construction-related equipment and materials on the appropriate truck routes and shall prohibit heavy construction vehicles from using alternative routes to get to the site.
- **TR-IAMF#8**: Construction during Special Events—This IAMF describes the Authority's commitment to limiting construction traffic during special events. The Contractor shall provide a mechanism to prevent roadway construction activities from reducing roadway capacity during major athletic events or other special events that substantially (10 percent or more) increase traffic on roadways affected by project construction. Mechanisms include the presence of police officers directing traffic, special-event parking, use of within-the-curb parking, or shoulder lanes for through-traffic and traffic cones. This measure shall be addressed in the CTP.
- **TR-IAMF#9**: Protection of Freight and Passenger Rail during Construction—This IAMF describes the Authority's commitment to repairing any structural damage to freight or public railways that may occur during the construction period and return damaged sections to their original structural condition or better.
- **TR-IAMF#11**: Maintenance of Transit Access—This IAMF describes the Authority's commitment to maintaining transit access during the construction period. The Contractor shall prepare specific construction management plans to address maintenance of transit access during the construction period. Actions that limit transit access would include, but not be limited to, roadway lane closures or narrowing, closure or narrowing of streets that are designated transit routes, bus stop closures, bridge closures, placement of construction-related materials within designated transit lanes, bus stop or layover zones or along transit routes, and other actions that may affect the mobility or safety of bus transit during the construction period.

- **TR-IAMF#12**: Pedestrian and Bicycle Safety—This IAMF describes the Authority's commitment to ensuring bicycle and pedestrian accessibility and safety during the construction period. Prior to construction, the Contractor shall provide a technical memorandum describing how pedestrian and bicycle accessibility will be provided and supported across the HSR corridor, to and from stations and on station property.

This environmental impact analysis considers these IAMFs as part of the project design. Within Section 3.2.6, Environmental Consequences, each impact narrative describes how these project features are applicable and, where appropriate, effective at avoiding or minimizing impacts.

3.2.4.3 Methods for NEPA and CEQA Impact Analysis

Overview of Impact Analysis

This section describes the sources and methods the Authority used to analyze project impacts of each of the six Build Alternatives on traffic and transportation. These methods apply to both NEPA and CEQA analyses unless otherwise indicated. Refer to Section 3.1.4.4, Methods for Evaluating Impacts, for a description of the general framework for evaluating impacts under NEPA and CEQA. This section analyzes five scenarios, summarized here and described in further detail below:

- Existing (2015) No Project Condition—Existing baseline conditions (2015)
- Existing (2015) Plus Spoils Hauling Conditions—Effects of spoils hauling during baseline (2015) traffic conditions
- Existing (2015) Plus Construction Conditions—Effects that could include construction-period effects as well as permanent effects on traffic movement through the altered roadway network. This scenario does not include the effects of operating the California HSR System
- Horizon Year (2040) No Project Condition—Future conditions without the California HSR System
- Horizon Year (2040) Plus Project Operations Conditions—Future conditions with the California HSR System

After publication of the Draft EIR/EIS, the Authority conducted a review of the baseline data related to its transportation analysis. Based on recently published Caltrans Traffic Count Baseline Guidance Due to the Coronavirus Disease 2019 (COVID-19) Pandemic (Caltrans 2023) and Los Angeles Department of Transportation Resumes Normal Traffic Signal Patterns (LADOT 2021), volumes on local roadways and regional freeways substantially decreased in 2020 due to the travel restrictions and closures during COVID-19 pandemic and continued to be lower during the subsequent years. The Federal Highway Administration has compiled information from across the country, and most agencies reported that traffic volumes had returned to pre-pandemic levels on local streets during the peak commute periods by 2023 (FHWA 2019, 2023). Because 2023 actual traffic volumes are likely consistent with those before the COVID-19 pandemic, whereas the SCAG model projected an increase of 3–8 percent, it can be inferred that current conditions are consistent with the technical analysis conducted for the project and presented in the Transportation Technical Report, which was finalized in 2019. The ridership estimates used in the Transportation Technical Report were from the 2016 Business Plan; the Authority subsequently documented ridership forecasts in the 2020 Business Plan. On a systemwide basis, the 2020 Business Plan had a lower total HSR ridership than the 2016 Business Plan. Based on these data, it is anticipated that boardings and lightings at individual stations would also have lower ridership than previously estimated. Specifically, the 2016 Business Plan forecasted 42.8 million riders by 2040, whereas the 2020 Business Plan forecasted 38.6 million riders by 2040.

The Draft 2024 Business Plan forecasts annual ridership at 28.4 million riders.[2] As a result, the activity levels at the Palmdale and Burbank Stations, as analyzed in the Transportation Technical Report, would be conservative compared to using the latest ridership forecasts forecasted in the 2024 Business Plan (i.e., because the scenario with less ridership would mean the project would take fewer passengers, and cars, accessing stations off the road and would represent a more conservative analysis).

Existing (2015) No Project Conditions

The Existing (2015) No Project scenario represents the baseline from which future changes were measured during construction and operation. The existing year transportation operations analysis assumes that the traffic counts used in the analysis represent Year 2015 conditions. Projects that were under construction at the time the analysis was conducted or scheduled for completion before approval of this EIR/EIS date are assumed completed under this scenario. Appendix A of the *Transportation Technical Report* (Authority 2019) provides a description of roadway counts, intersection counts, and field observations.

Existing (2015) Plus Spoils Hauling Conditions

The construction-period earthwork and tunneling activities for all six Build Alternatives would generate substantial spoils materials (rock and dirt), which would be transported to various potential disposal sites in the Palmdale to Burbank region. As discussed in the Palmdale to Burbank Project Section *Transportation Technical Report* (Authority 2019), Class I/Class II Hazardous/Designated Waste spoils would be transported to a landfill site near the city of Buttonwillow, California, approximately 127 miles from the Refined SR14 and SR14A Build Alternatives. Class III Non-Hazardous, Contaminated Wastes would be hauled to several facilities located an average hauling distance of 40 miles from the Refined SR14 and SR14A Build Alternatives. Class III Non-Hazardous, Uncontaminated Waste would be hauled to landfills within 20 miles of the Build Alternatives. These hauling distances would be similar to all the Build Alternatives. These sites are in addition to the three disposal sites included in the Build Alternative footprint (the Vulcan Mine, Boulevard Mine, and CalMat Mine). These three sites would receive spoils via conveyor belt directly from excavation areas; separate truck trips to these sites within the Build Alternative footprint are not anticipated due to proximity of these sites to excavation areas. As discussed in Section 2.5.3, disposal of spoils at the Vulcan Mine site would require an agreement with the mine owner and coordination with the USFS.

The spoils hauling analysis evaluated two routing alternatives from construction-period spoil generation areas to various disposal sites in the Palmdale to Burbank Project Section region, as displayed on Figure 3.2-1. The first routing alternative (northbound routing) would load all trucks onto the freeway network traveling northbound to spoil disposal sites, which would evaluate the maximum number of trips onto the northbound freeway ramps. The second alternative (southbound routing) would load all trucks onto the freeway network traveling to southbound disposal sites. Figure 3.2-2 through Figure 3.2-7 show spoils hauling routes for individual locations where spoils would be generated. Chapter 2, Alternatives, outlines the estimated spoils generated for applicable construction activities, the duration of applicable construction activities, and the estimated number of peak hour outbound truck trips. Methodology for determining Existing (2015) Plus Spoil Hauling Conditions is described in more detail in the Transportation Technical Report (Authority 2019).

[2] For ridership forecasting purposes, the Authority's 2016 through 2022 Business Plans assumed that high-speed passenger fares would be approximately 80% of the cost of air travel. In producing updated ridership estimates for the 2024 Business Plan, the fare is now assumed to be between 80% and 90% of the cost of air travel. This range retains the 80% as a potential fare and thus the Authority determined that it was reasonable to continue to use this percentage as an analytical assumption in this document.

Figure 3.2-1 Spoils Haul Routes Overview

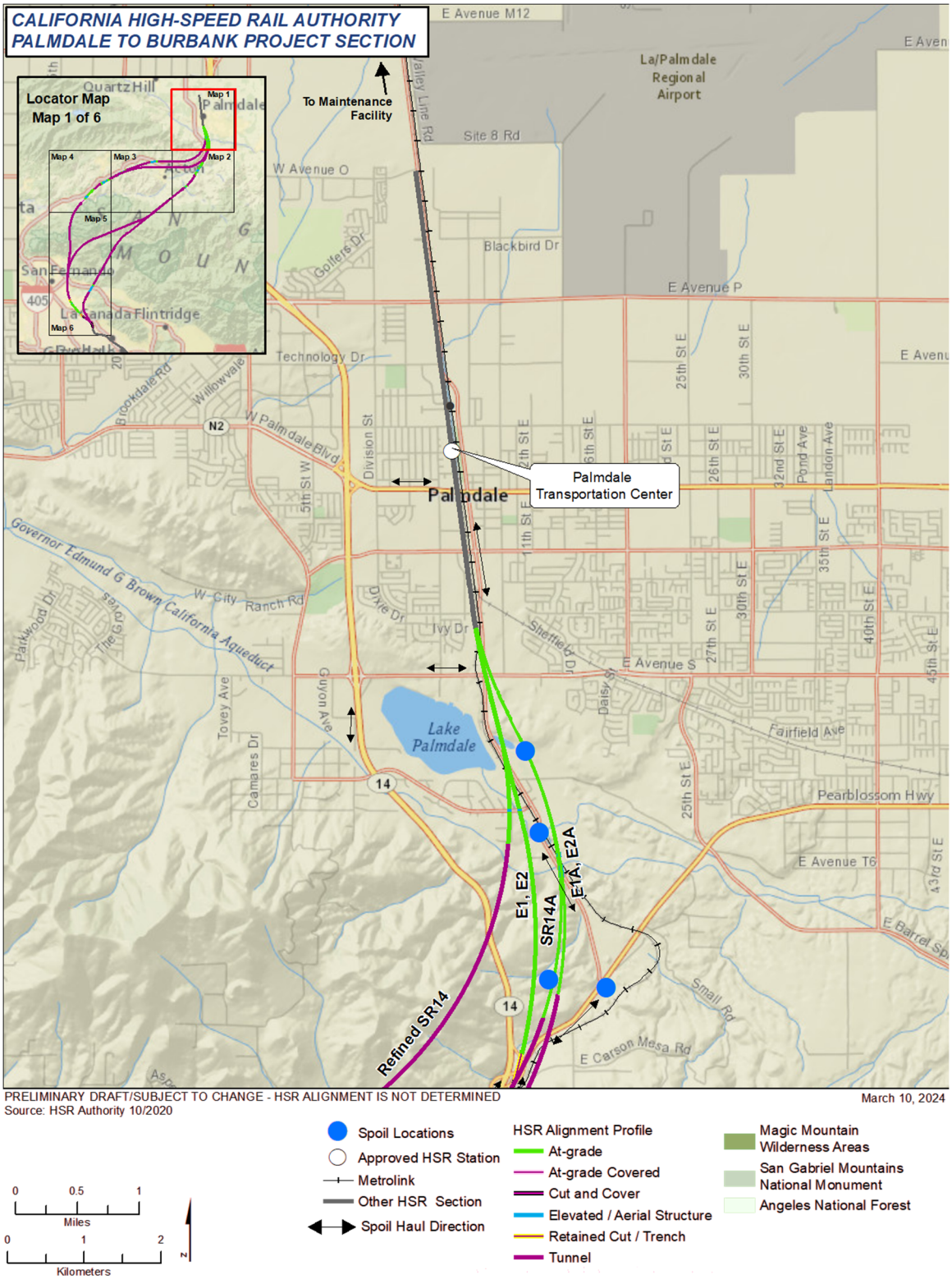

Figure 3.2-2 Spoils Haul Route Locations (Map 1 of 6)

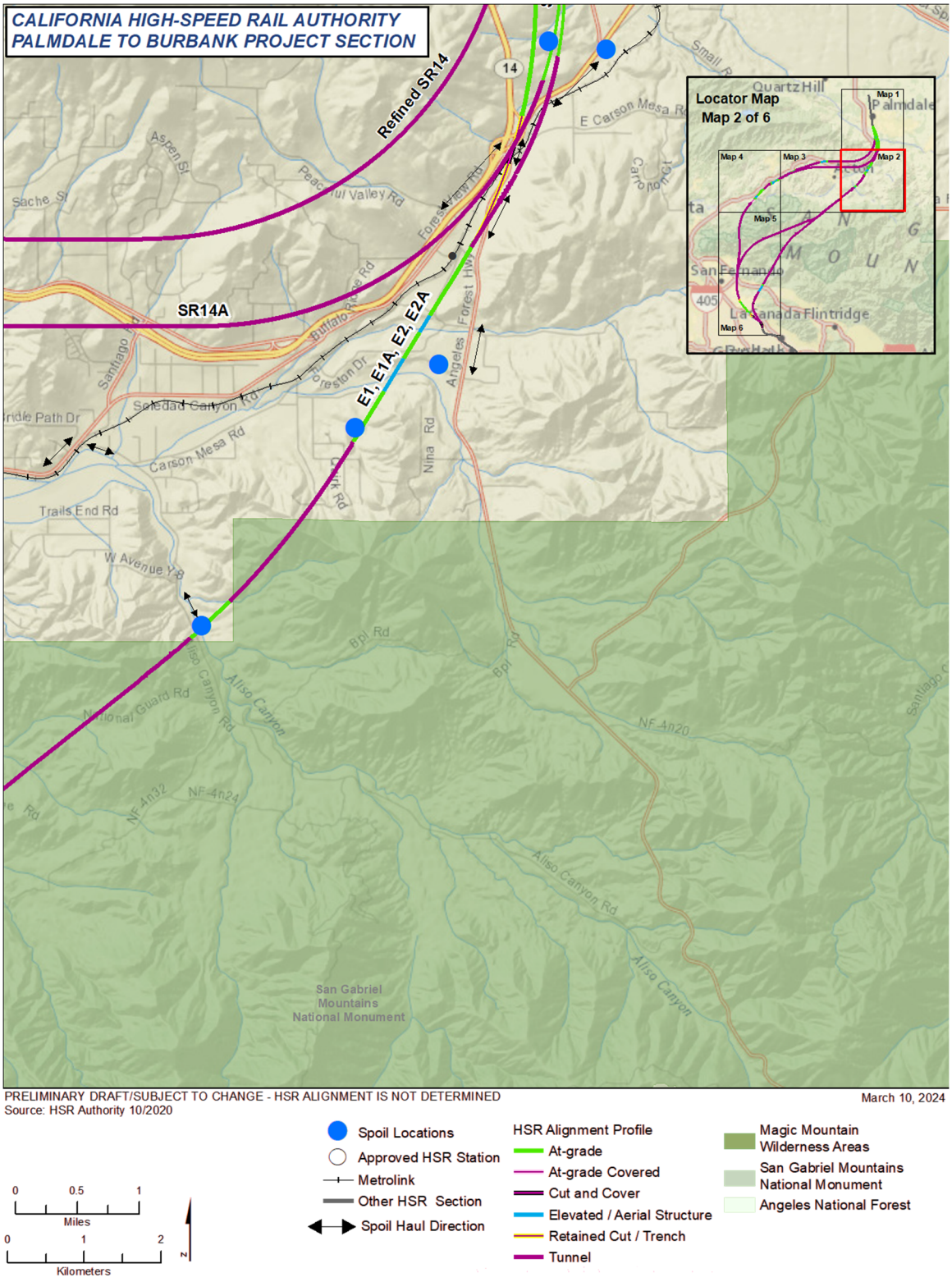

Figure 3.2-3 Spoils Haul Route Locations (Map 2 of 6)

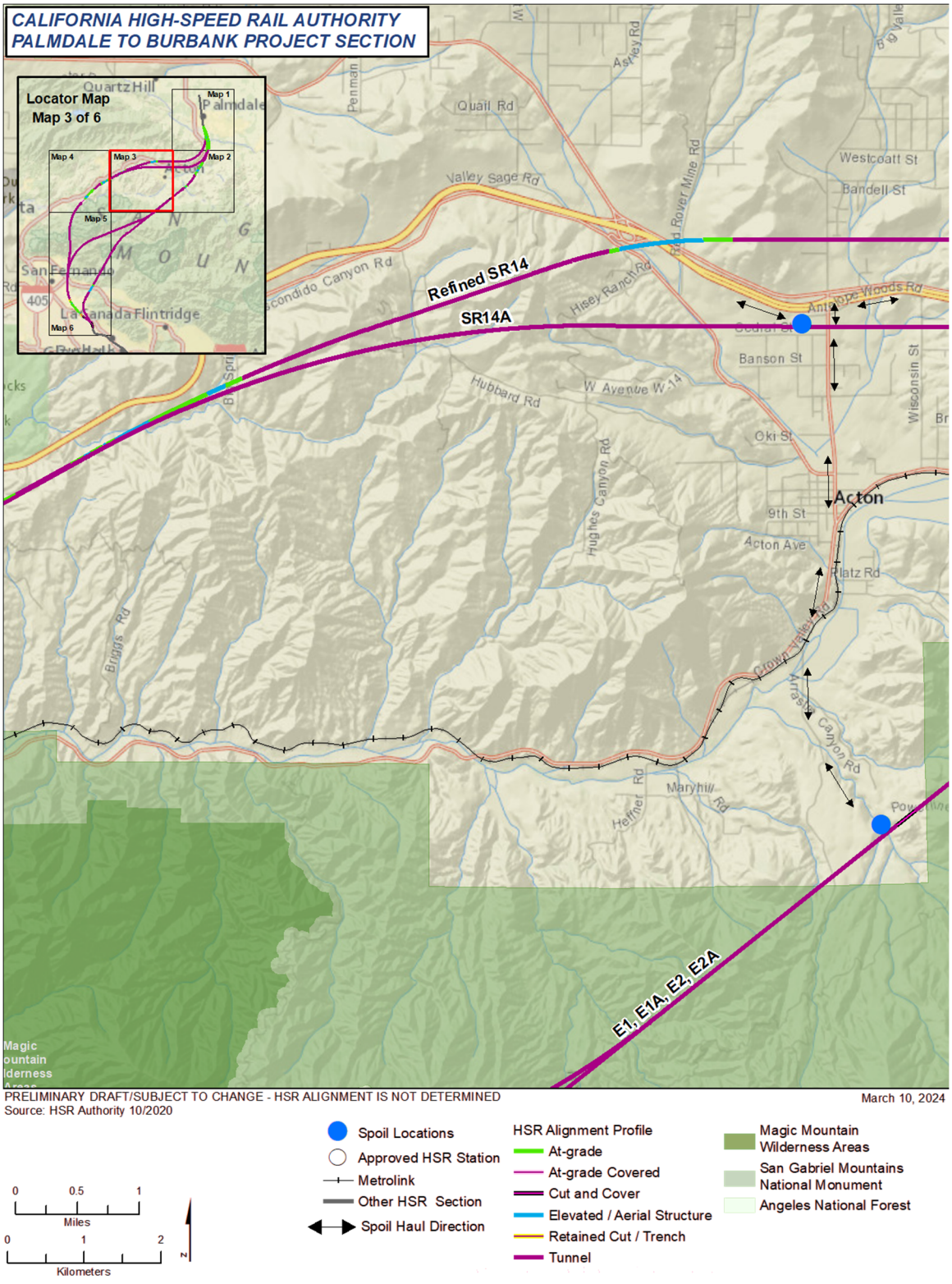

Figure 3.2-4 Spoils Haul Route Locations (Map 3 of 6)

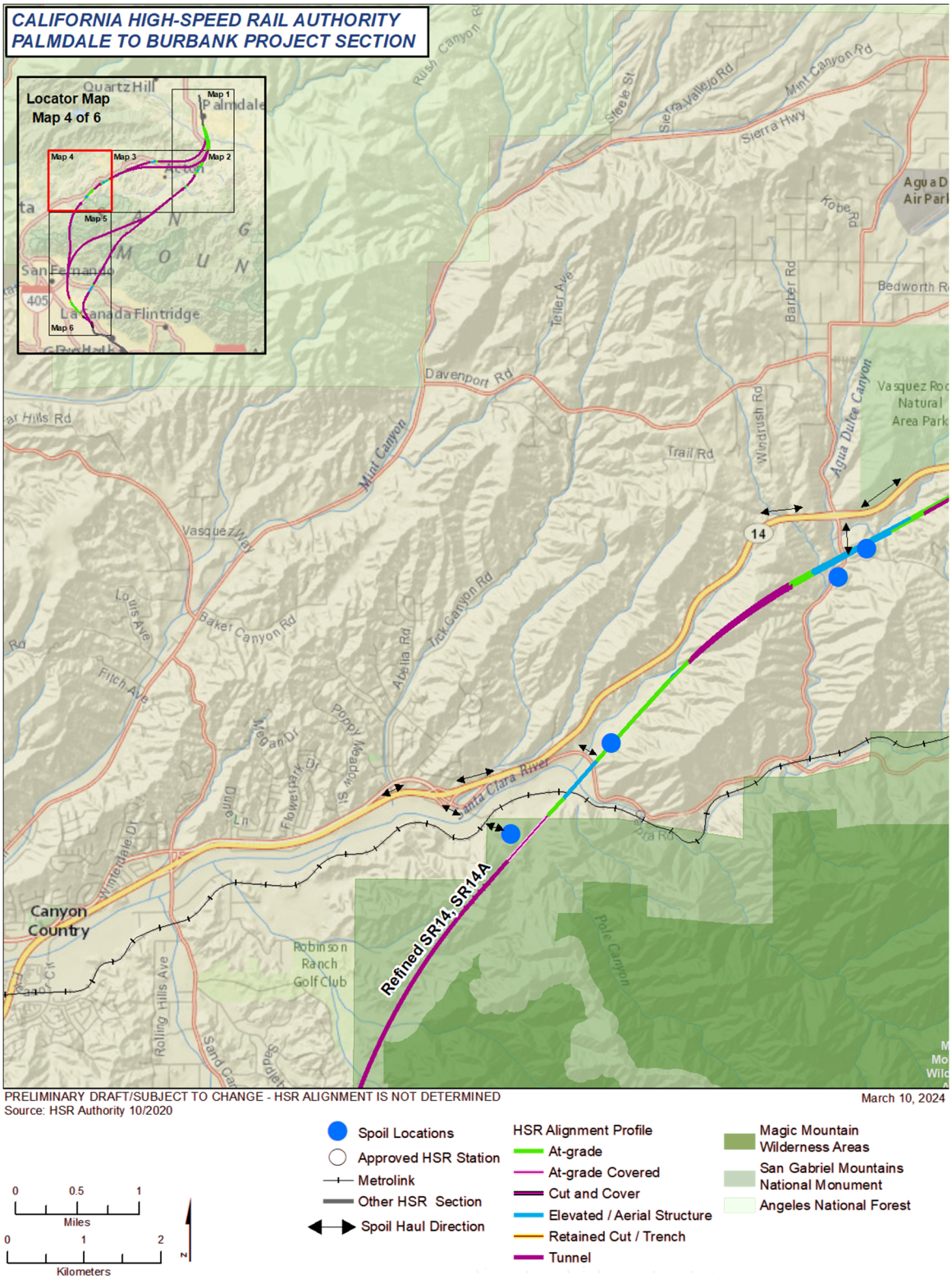

Figure 3.2-5 Spoils Haul Route Locations (Map 4 of 6)

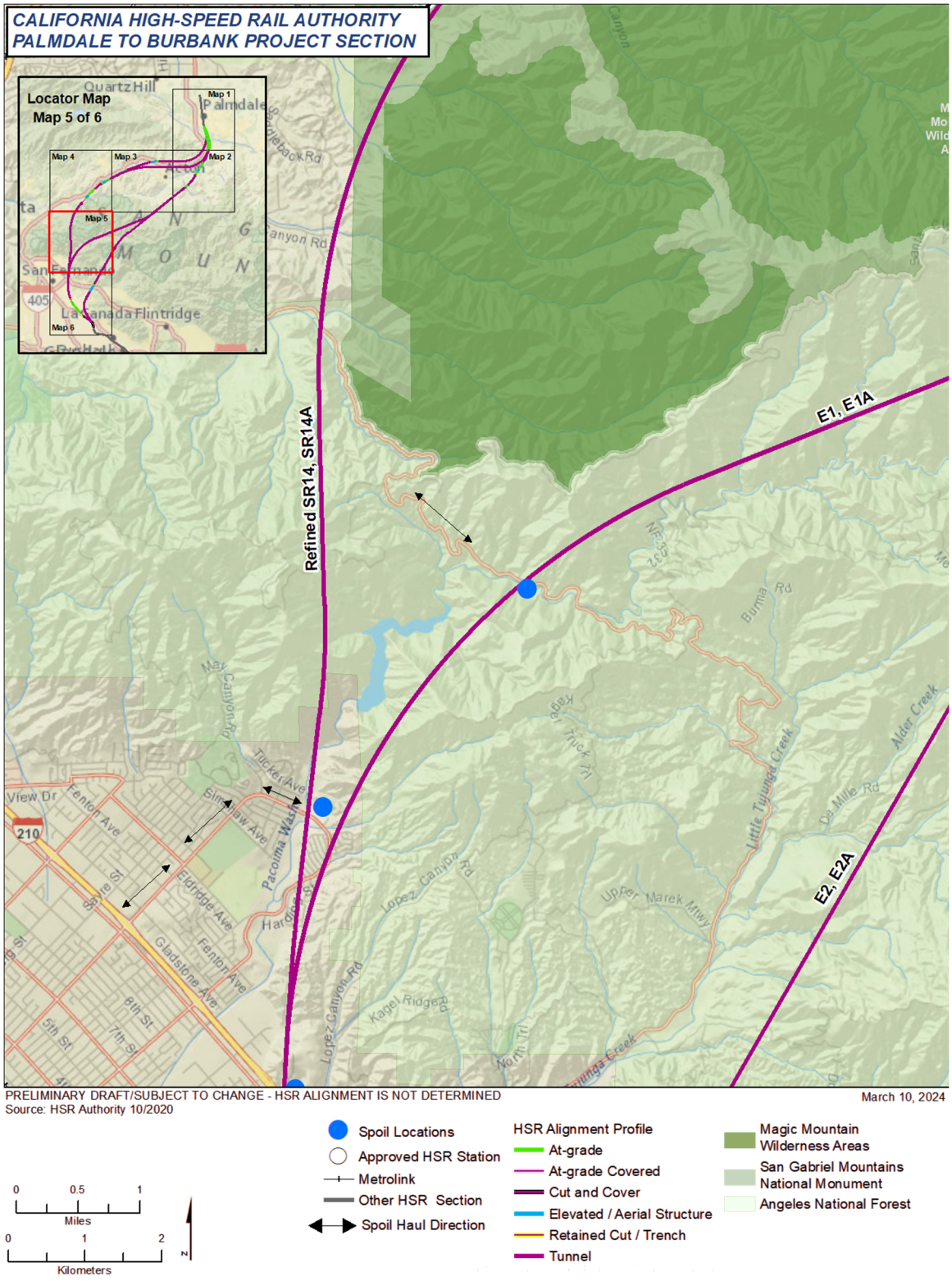

Figure 3.2-6 Spoils Haul Route Locations (Map 5 of 6)

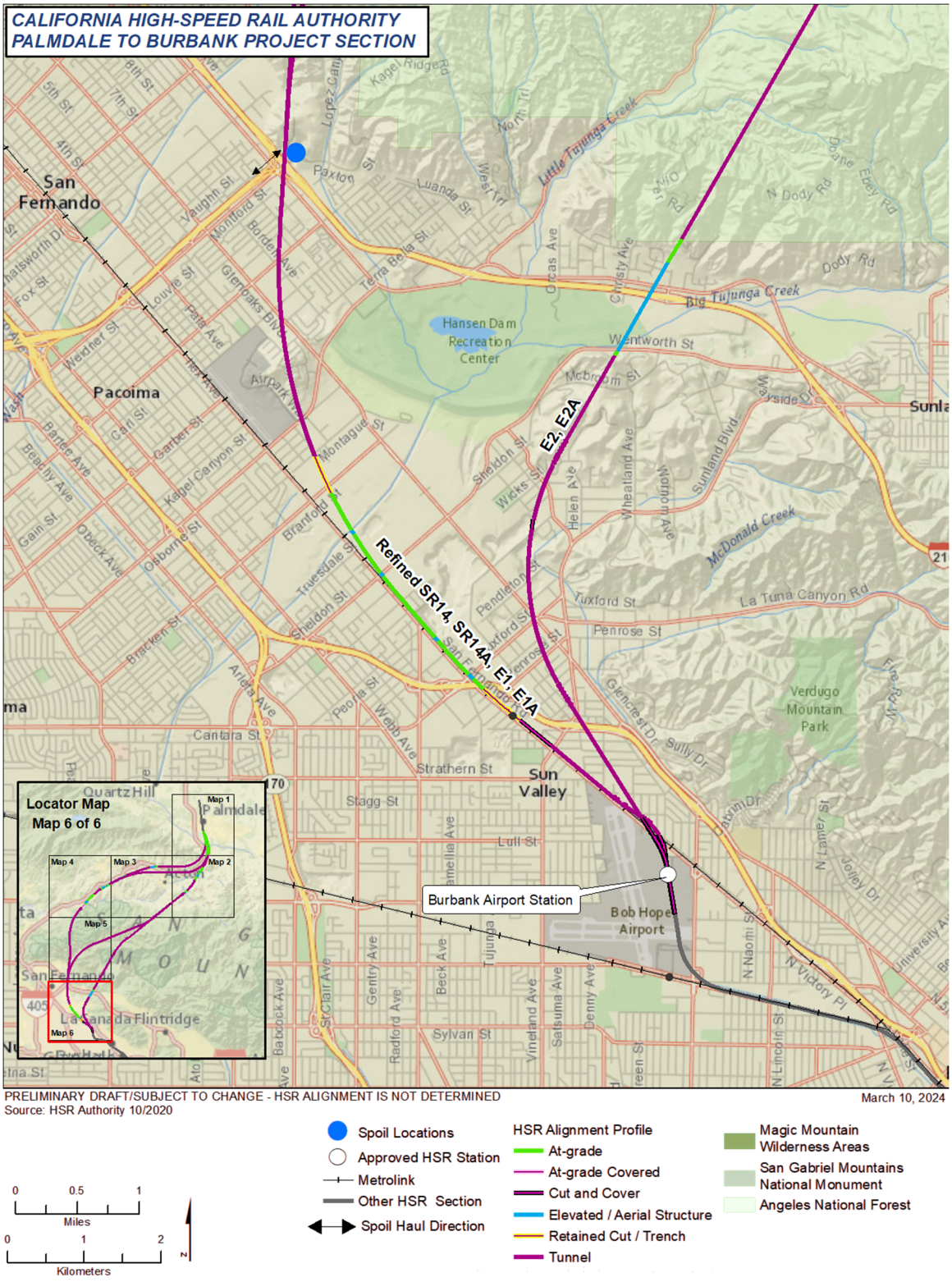

Figure 3.2-7 Spoils Haul Route Locations (Map 6 of 6)

Existing (2015) Plus Construction Conditions

The Existing (Year 2015) Plus Project Conditions incorporates construction assumptions to determine interim effects associated with construction, such as temporary lane or road closures, underground utility work, or construction-related trips, and permanent changes to traffic movement through the altered roadway network, including closed roads and grade separations.[3]

Horizon Year (2040) No Project Conditions

The 2040 No Project Conditions analysis assumes future year 2040 pre-project conditions based on SCAG's RTP and HSR Business Plan's Phase 1 2040 Horizon Year. Per NEPA guidance, this baseline year utilizes SCAG's RTP/SCS build out assumptions that are applicable to the Palmdale to Burbank Project Section. The RTP/SCS horizon year for the California HSR System is 2035 2045 (SCAG 2012).

Horizon Year (2040) Plus Project Conditions

This 2040 Plus Project Conditions analysis calculates automobile trips associated with HSR ridership for the complete Phase 1 of the California HSR System (2040) and adds these trips to the anticipated 2040 No Project traffic conditions.[4] The analysis of effects would include those associated with permanent roadway reconfiguration that would affect traffic movement within the transportation RSA. The 2040 Plus Project scenario assumes high ridership (56.8 million in 2040) to determine impacts on the roadway circulation network based on the highest estimates of potential HSR passengers. The 2040 Plus Project scenario also assumes reductions in VMT on the regional highway system for both the high ridership forecast and the medium ridership forecast (42.8 million in 2040) to show the potential range of outcomes. The Transportation Technical Report (Authority 2019) provides a detailed discussion of these scenarios, as well as an opening year scenario that considers the relative differences in impacts during the HSR opening year of operations.

Traffic Operations Standards

Vehicular LOS is the primary unit of measurement for stating the operating quality of a highway, roadway, or intersection. There are six LOS designations (A, B, C, D, E, and F) to measure the efficiency of traffic operations. LOS A represents ideal operating conditions with free-flow traffic, low volumes, and little or no restrictions on maneuverability. LOS F represents forced traffic flow with high traffic densities, slow travel speeds, and often stop-and-go conditions.

Roadway Segments

A roadway segment analysis compares the volume of traffic during a typical peak hour against the practical vehicular capacity, expressed as the V/C, and then converted to LOS. Table 3.2-1 summarizes the theoretical peak hour capacity of different roadway types, determined by the number of lanes and the type of facility.

---

[3] Existing (2015) plus construction conditions do not take into account traffic data during the COVID-19 pandemic. While volumes on local roadways and regional freeways substantially decreased in 2020 due to the COVID-19 pandemic and continued to be lower during the following years, most agencies have reported that by 2023 traffic volumes have returned to pre-pandemic levels on local streets during the peak commute periods. Therefore, 2023 actual traffic volumes are determined to be consistent with those before the COVID-19 pandemic.

[4] Traffic growth projections were developed using a linear projection from the most recent SCAG 2035 traffic model (SCAG 2012).

Table 3.2-1 Roadway Segment Peak Hour Capacity

	Roadway	Roadway	Roadway	
Two-way, 2-lane (undivided)	1,100	925	1,175	925
Two-way, 4-lane (undivided)	2,725	2,400	2,825	2,400
Two-way, 6-lane (undivided)	4,700	N/A	4,875	N/A
Two-way, 8-lane (undivided)	6,500	N/A	6,750	N/A
Two-way, 4-lane (divided)	2,875	2,525	2,975	2,525
Two-way, 6-lane (divided)	4,925	N/A	5,125	N/A
Two-way, 8-lane (divided)	6,825	N/A	7,100	N/A
One-way, 2-lane	1,325	1,100	1,400	1,125
One-way, 3-lane	1,975	1,650	2,100	1,675
One-way, 4-lane	3,275	N/A	3,400	N/A
One-way, 5-lane	4,100	N/A	4,250	N/A

Source: Transportation Research Board, 2010
N/A = not applicable

Table 3.2-2 defines the V/C-to-LOS conversion for roadway segments.

Table 3.2-2 Level of Service and Volume-to-Capacity Ratio Definition for Roadway Segments

LOS	Volume-to-Capacity Ratio	Definition
A	0.00 – 0.60	Free-flow speeds prevail. Vehicles are almost unimpeded in their ability to maneuver within the traffic stream.
B	0.61 – 0.70	Reasonably free-flow speeds are maintained. The ability to maneuver within traffic is only slightly restricted.
C	0.71 – 0.80	Flow with speeds at or near free-flow speed of the roadway. Freedom to maneuver within the traffic stream is noticeably restricted and lane changes require more care and vigilance on the part of the driver.
D	0.81 – 0.90	Speeds begin to decline slightly with increasing flows. In this range, density begins to increase somewhat more quickly with increasing flow. Freedom to maneuver within the traffic stream is noticeably limited.
E	0.91 – 1.00	Operation at capacity with no usable gaps in the traffic stream. Any disruption to the traffic stream has little or no room to dissipate.
F	>1.00	Breakdown in the traffic flow with long queues of traffic. Unacceptable conditions.

Source: Transportation Research Board, 2010
LOS = level-of-service

Intersections

Intersection analyses measures the delay experienced per vehicle at signalized and unsignalized intersections, as follows:

The signalized intersections LOS methodology assesses the effects of traffic volumes, signal type, timing, phasing, and progression on average delay. Table 3.2-3 quantifies the average delay per vehicle and LOS for signalized intersections.

Table 3.2-3 Level-of-Service and Average Vehicular Delay Definition for Signalized Intersections

LOS	Delay per Vehicle (seconds)	Definition
A	≤10	V/C is low and either progression is exceptionally favorable, or the cycle length is short. If due to favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.
B	>10 and ≤20	V/C is low and either progression is highly favorable, or the cycle length is short. More vehicles stop than with LOS A.
C	>20 and ≤35	Progression is favorable or the cycle length is moderate. Individual cycle failures (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) could begin to appear at this level. The number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.
D	>35 and ≤55	V/C is high and either progression is ineffective, or the cycle length is long. Most vehicles stop and individual cycle failures are noticeable.
E	>55 and ≤80	V/C is high, progression is unfavorable, and the cycle length is long. Individual cycle failures are frequent.
F	>80	V/C is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.

Source: Transportation Research Board, 2010
LOS = level-of-service; V/C = volume-to-capacity ratio

Unsignalized intersections include two-way stop-controlled and all-way stop-controlled intersections. The LOS for an all-way stop-controlled (AWSC) intersection is defined by delay for the intersection as a whole; for a two-way stop-controlled (TWSC) intersection, LOS is based on the delay for the worst operating movement. Table 3.2-4 lists the LOS and delay parameters for unsignalized intersections.

Table 3.2-4 Level-of-Service and Average Vehicular Delay Definition for Unsignalized Intersections

LOS	Delay per Vehicle (seconds)
A	≤10
B	>10 and ≤15
C	>15 and ≤25
D	>25 and ≤35
E	>35 and ≤50
F	>50

Source: Transportation Research Board, 2010
LOS = level-of-service

Freeway Ramp Queuing

Ramp queuing analyses at freeway off-ramps determine if vehicle queues from the ramp termini intersection would affect freeway mainline flow. The ramp queuing analysis is based on outputs from the ramp junction intersection, analyzed as part of the intersection operations analysis. The intersection operations analysis provided the number of vehicles and length of queue for the offramp lane group, which was assessed for 95th-percentile queue conditions. The 95th-percentile queue is the queue length (in number of vehicles) that has only a 5 percent probability of exceeding the storage capacity at the offramp during the analysis period. It is a useful parameter for determining the appropriate length of turn pockets (separate lanes strictly for turning) and evaluating ramp storage (length of offramp). An impact would occur if the queue exceeds the storage capacity at the off-ramp (i.e., vehicles waiting to exit would extend back to the freeway mainline travel lanes).

Freeway Segments

The LOS indicators for freeway segments are based on (1) the volume of traffic for designated sections of the freeway during a typical peak hour; and (2) the practical vehicular capacity of that segment. These two measures for each monitored segment of the freeway system are expressed as a ratio. The theoretical peak hour capacity of a freeway is determined by the number of lanes and the type of facility. The capacities, by freeway lane speed, used in this analysis are shown in Table 3.2-5. Table 3.2-6 defines and describes the LOS criteria for the freeway segment analysis.

Table 3.2-5 Freeway Segment Peak Hour Capacity

Posted Speed (mile per hour)	Freeway (vehicles per hour per lane)*
55 and below	1,900
60 and 65	2,000
70 and above	2,100

Source: SCAG Regional Travel Demand Forecasting Model (SCAG 2012)
*For the purpose of our analysis, HOV lanes are treated the same as all-purpose lanes.
HOV = high-occupancy vehicle; SCAG = Southern California Association of Governments

Table 3.2-6 Freeway Level-of-Service and Volume-to-Capacity Ratio Definition for Freeway Segments

LOS	Volume-to-Capacity Ratio
A	0.00 – 0.35
B	0.35 – 0.54
C	0.54 – 0.77
D	0.77 – 0.93
E	0.93 – 1.00
F	>1.00

Source: Metro 2010
The CMP Guidelines use demand-to-capacity ratio nomenclature.
LOS = level-of-service; CMP = Congestion Management Program

Level of Service for Construction and Operation Phases

The traffic impact criteria used to evaluate traffic LOS for roadway segments and signalized and unsignalized intersections during the project construction and operation phases are:

- For roadway segments, a significant impact would occur if the addition of project traffic results in an LOS of E or F and the V/C ratio increases 0.04 or more over the baseline condition.
- For signalized intersections, a significant impact would occur if the addition of project traffic results in an LOS of E or F and an increase in average traffic delay of 4 seconds or more.
- For unsignalized intersections, a significant impact would occur if the addition of project traffic results in an LOS of E or F and an increase in traffic delay of 5 seconds or more (measured as average delay for all-way stop or worst-movement delay for a side-street-stop intersection), and if the intersection satisfies one or more traffic signal warrants (national engineering standards for the justification of traffic signals, defined by the Manual for Uniform Traffic Control Devices, adopted for use in California by Caltrans) for at least 1 hour of the day.
- For freeway ramp queues, a significant impact would occur if the queue were to exceed the provided capacity with the addition of the project.
- For freeway segments, a significant impact would occur if the addition of the project results in an LOS of E or F and the V/C ratio increases by 0.02 or more over the baseline condition.

Vehicle Miles Traveled Calculations

VMT is calculated based on the number of vehicles multiplied by the distance traveled by each vehicle. Total VMT was derived from the statewide travel demand model estimate of daily VMT using medium and high ridership forecasts, as defined within the Authority's Business Plan (Authority 2016a). The methodology used to estimate VMT is summarized below. Please refer to the *Further Background on Cambridge Systematics Explanation of Ridership Forecasts Memorandum* (Authority 2020) and *California High-Speed Rail Environmental Analysis: Method for Forecasting Vehicle-Miles of Travel Reduction* (Cambridge Systematics 2020) in Appendix 3.2-A for further details on the methodology for calculating VMT.

Analysts developed ridership forecasts for the California HSR System using the latest version of the statewide California High-Speed Rail Ridership and Revenue Model in California High-Speed Rail Ridership and Revenue Model, Business Plan Model-Version 3 (BPM-V3). The model incorporates socioeconomic growth assumptions (population, housing, and employment forecasts) consistent with the California Statewide Travel Demand Model and adjusts them for the 2029 and 2040 forecast years. The statewide conventional passenger rail and urban transit networks are consistent with current and planned routes in the 2013 California State Rail Plan and plans for individual regional rail operators. The Authority provided station mode of access forecasts. Estimates were made for vehicle trip forecasts through the analysis of comparable systems, the local context at each HSR station, existing conditions and constraints, planned land uses, transportation facilities and services, vehicle parking availability, and the mode of access forecasts.

VMT on roadway networks is a performance measure highly correlated with transportation greenhouse gas emissions. VMT is calculated based on the number of vehicles multiplied by the distance traveled by each vehicle. The Ridership and Revenue Model was used to forecast annual VMT for Southern California future conditions. Forecasts were developed for vehicles that would travel on the freeways and roads in the transportation RSA using a version of the SCAG regional travel demand model. This forecasting tool was identified as the most appropriate for the project because it encompasses all of the RSA intersections and freeway segments, as well as all local counties.

Modeling adjustments in the SCAG model were made to include the Burbank Airport Station in order to develop vehicle forecasts for this analysis. The traffic analysis applied intersection and freeway LOS analytical methods to evaluate the vehicular traffic impacts from the Burbank Airport Station. Analysis volumes were defined by existing counts and 2040 No Project traffic volumes for the transportation RSA station areas and alignment by using growth factors by roadway link defined by the SCAG model. The growth factors were applied to the existing volumes to arrive at the future No Project volumes for the RSA intersections. Vehicle trips were manually added to the HSR station sites to the 2040 No Project traffic volumes based on distribution data derived from the SCAG model to estimate the project-related traffic volumes.

VMT for the Los Angeles County roadway network is based on statewide traffic modeling prepared as part of the air quality analysis for the Palmdale to Burbank Project Section, based on VMT estimates from the *Growth Inducement Study* (Cambridge Systematics 2015).

3.2.4.4 Methods for Evaluating Impacts under NEPA

CEQ NEPA regulations (40 Code of Federal Regulations Parts 1500 – 1508) provide the basis for evaluating project effects (Section 3.1.4.4). As described in Section 1508.27 of these regulations, the criteria of context and intensity are considered together when determining the severity of the change introduced by the Palmdale to Burbank Project Section. “Context” is defined as the affected environment in which a proposed project occurs. “Intensity” refers to the severity of the effect, which is examined in terms of the type, quality, and sensitivity of the resource involved; location and extent of the effect; duration of the effect (short- or long-term); and other considerations of context. Beneficial effects are also considered. When no measurable effect exists, no impact is found to occur. For the purposes of NEPA compliance, the same methods used to identify and evaluate impacts under CEQA are applied here.

3.2.4.5 Methods for Determining Significance under CEQA

The Authority is using thresholds for the construction phase and operations phase to determine if a significant impact on traffic and transportation would occur as a result of the project.

Construction Phase

The HSR Build Alternatives would have a significant impact on the environment during construction if they would:

- Result in inadequate emergency access
- Increase hazards substantially due to a geometric design feature (such as sharp curves or dangerous intersections) or inconsistent uses (such as agricultural equipment)
- Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadways, bicycle, and pedestrian facilities

Operations Phase

Under CEQA Guidelines Section 15064.3, automobile delay no longer constitutes a significant environmental impact. Accordingly, this analysis does not characterize a particular level of automobile delay on roadways, freeways, and intersections as a significant environmental impact.

Operations-caused effects on the roadway network would be significant if they:

- Result in a net increase in VMT over baseline conditions, or otherwise conflict or are inconsistent with CEQA Guidelines Section 15064.3, Subdivision (b)

The HSR Build Alternatives would also have a significant impact on the environment during operation they would:

- Result in inadequate emergency access
- Increase hazards substantially due to a geometric design feature (such as sharp curves or dangerous intersections) or inconsistent uses (such as farm equipment)
- Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadways, bicycle, and pedestrian facilities

Parking Facilities

Pursuant to Public Resources Code section 21099, the adequacy of parking for a project is not considered a significant environmental impact under CEQA. The Transportation Technical Report (Authority 2019) provides a comparison of parking supply versus demand at the proposed Burbank Airport Stations.

3.2.5 Affected Environment

This section describes the affected environment related to transportation conditions in the transportation RSA. It includes a general description of corridor-wide transportation facilities and operating conditions, as well as a more specific description of transportation facilities and operating conditions at study locations within the Central Subsection and Burbank Subsection for the transportation RSA.[5] The Transportation Technical Report (Authority 2019) contains maps showing the locations of roadway segments, intersections, and freeway segments within the Transportation RSA that were analyzed for the Palmdale to Burbank Project Section. This section also describes the roadway network conditions in the spoils hauling RSA.

Travel patterns in the transportation RSA are characterized by southbound commute trips to or through the Central Subsection of the transportation RSA in the AM peak period and the reverse northbound movement in the PM peak period, with the cities of Burbank and Los Angeles attracting large numbers of workers each day. The peak period extends for several hours in both the AM and PM periods; the AM peak period typically occurs between 7:00 a.m. and 9:00 a.m., and the PM peak period is typically between 4:00 p.m. and 6:00 p.m.

3.2.5.1 Regional Transportation System

This section describes the Regional Transportation System for the Palmdale to Burbank Project Section. This includes roadway classifications, major state routes, regionally important roadways and truck routes, transit options, airports, freight rail, park-and-ride facilities, and Americans with Disabilities Act (ADA) accessible services. The Palmdale Subsection is described in the Bakersfield to Palmdale Project Section EIR/EIS. However, regional transportation systems for the Palmdale Subsection are provided for reference, below.

Roadway Classification

The system of major roadways parallel to and crossing the HSR corridor is part of the local and regional roadway network serving the communities along the transportation RSA. Roadways are classified according to their primary functions, as described below.

- Freeway—A divided highway designed for the unimpeded flow of large traffic volumes. Access to a freeway is controlled and intersection grade separations are required.
- Expressway—A controlled-access, divided highway for through traffic, the intersections of which are usually separated from other roadways by differing grades.

[5] Existing traffic conditions for the Palmdale Station and Maintenance Facility are provided in the Bakersfield to Palmdale Project Section EIR/EIS.

- Arterial—A class of street serving major traffic movements (high-speed, high-volume) for travel between major points. In the RSA, major arterials are generally spaced in 1-mile increments, while secondary arterials are generally spaced on the 0.5-mile increments between the major arterials. Generally, major and secondary arterials are labeled with numbers in the north-south direction and letters in the east-west direction.
- Collector—In rural areas, routes that serve inter-county rather than statewide travel. In urban areas, collector streets provide direct access to neighborhoods and arterials.
- Local—A street intended solely for access to adjacent properties.

Freeways

Regional access within the transportation RSA is provided by freeways, including the SR 14, I-5, SR 170, SR 134, and SR 138 freeway. These are described below and are identified in the figures throughout this section.

- SR 14 is a north-south route extending between I-5, on the border of Santa Clarita, northerly to SR 395 near Inyokern in Kern County. This freeway contains six lanes from the city of Lancaster south through Acton. SR 14 is west of the Palmdale Station, and the 2014 average annual daily traffic (AADT) ranges between 71,000 and 87,000 vehicles in this area.
- I-5 is a north-south freeway route in California beginning at the Mexico-United States (U.S.) border, traversing the entire state of California, and then continuing into Oregon and Washington to the Canadian border. I-5 is north and east of the Burbank Airport Station, and the 2014 AADT is approximately 207,000 vehicles in this area.
- SR 170 is a north-south route also known as the Hollywood Freeway. It is a 10-lane freeway north and south of SR 134. SR 170 extends north from I-5 and SR 60 in the Boyle Heights neighborhood of Los Angeles to I-5 in Sun Valley. SR 170 is west of the Burbank Airport Station, and the 2014 AADT is approximately 247,000 vehicles in the Burbank Subsection of the transportation RSA.
- SR 134 is an east-west freeway extending from I-210 in the city of Pasadena to SR 170 in North Hollywood. SR 134 is a 10-lane freeway connection from I-210 to I-5 and I-405 through Pasadena, Glendale, and Burbank, and Los Angeles County communities. The 2014 AADT is approximately 212,000 vehicles in the Burbank Subsection of the transportation RSA.
- SR 138 is an east-west route extending east from SR 14 in the city of Palmdale to SR 18 in Crestline (San Bernardino County). It is a four- to six-lane highway in the Palmdale Subsection of the transportation RSA, where the 2014 AADT ranges between 21,000 and 24,000 vehicles.

Regionally Important Roadways

Figure 3.2-8 and Figure 3.2-9 identify the regionally significant roadways based on the California Roadway System Functional Classification System and provide the AADT within the Palmdale and Burbank subsections of the transportation RSA.

Regional Truck Routes

The Federal Surface Transportation Assistance Act of 1982 defined a system for describing truck routes. The Surface Transportation Assistance Act truck routes within the transportation RSA include national network and terminal access routes, as follows:

- National Network (federal)—This network includes state and federal highways. Within the RSA, the federal truck routes include I-5, SR 14, U.S. Route (US) 101, SR 118, SR 134, and SR 170.
- Terminal Access (state, local)—The terminal access routes are portions of state routes or local roads that can accommodate trucks. Within the RSA, terminal access routes include I-5, SR 14, US 101, SR 118, SR 134, SR 138, and SR 170.

Figure 3.2-8 Regionally Important Roadways – Palmdale

Figure 3.2-9 Regionally Important Roadways – Burbank

Transit

Within the Palmdale and Burbank subsections of the transportation RSA, several local and regional transit agencies provide services, including bus and rail. The following transit providers connect the Palmdale and Burbank Station areas to the regional transit network:

- Metro—Bus services provided by Metro feature a variety of services, including express, rapid, and local/limited bus routes. Metro does not serve the Palmdale Subsection. Metro routes serving the Burbank area include, but are not limited to, the following:
  - Route 92 connects Sylmar/San Fernando and Downtown Los Angeles and runs through Burbank along Glenoaks Boulevard.
  - Route 94 connects Sylmar/San Fernando to Glendale and runs through Burbank along San Fernando Road.
  - Route 169 is a predominantly east-west running service route that runs along Saticoy Street and connects the Hollywood Burbank Airport to the Van Nuys Airport and Woodland Hills.
  - Route 222 connects Sunland to Hollywood/Vine, and runs through Burbank along Sunland Boulevard, San Fernando Road, and Hollywood Way. This route includes a stop at the Hollywood Burbank Airport.
  - Route 794 connects Sylmar (northwest of Burbank) to Burbank, traveling along San Fernando Road within the Burbank area.
- Burbank Bus—Burbank Bus offers four bus services, including the Empire/Downtown route, the Noho/Airport route, the Noho/Media District route, and the Metrolink/Media District route. These routes service the northwestern, western, and southwestern portions of the city of Burbank. Primary roadways along which these bus services travel include, but are not limited to Glenoaks Boulevard, Hollywood Way, Empire Avenue, North Victory Place, Buena Vista Street, Burbank Boulevard, Magnolia Boulevard, Olive Avenue, and Alameda Avenue. The closest stop to the Hollywood Burbank Airport is at Thornton Avenue along the Noho/Airport Route.
- Antelope Valley Transit Authority, Local and Regional—AVTA operates local and regional transit in the Antelope Valley/Palmdale area. AVTA operates a network of 13 local transit routes, four commuter routes, and one supplemental school route. Three AVTA commuter routes connect the Palmdale Transportation Center to downtown Los Angeles, West Los Angeles, and West San Fernando Valley. Local transit routes 1, 3, 7, and 8 provide stops to the existing Palmdale Transportation Center.
- Antelope Valley Transit Authority, Long-Distance Express—AVTA offers two long-distance express bus services to Town Center Plaza in Lake Los Angeles, east of Lancaster. The Lake LA/Lancaster Express bus service transports riders between Owen Memorial Park and Town Center Plaza in 55 minutes during the a.m. commute period and 53 minutes during the p.m. commute period. Service is available Monday through Sunday. The Lake LA/Palmdale Express transports travelers between the Palmdale Transportation Center and Town Center Plaza in 50 to 56 minutes during the a.m. commute and 50 to 54 minutes during the p.m. commute. Similar to the Lake LA/Lancaster service, the Lake LA/Palmdale service between the Palmdale Transportation Center and Town Center Square is available Monday through Sunday.
- Greyhound Bus—Greyhound Bus service serves more than 3,800 stops nationwide, including one at the Palmdale Transportation Center. Greyhound provides one daily trip between Palmdale and Los Angeles. Greyhound services many stations in the Los Angeles metropolitan area, including downtown Los Angeles, North Hollywood, El Monte, and San Fernando.

- Los Angeles County Beach Bus—Los Angeles County Public Works runs a seasonal bus service from the Palmdale Transportation Center to the Santa Monica Pier from late May through early September.
- Metrolink—Metrolink offers a large network of commuter rail services between Los Angeles, Orange, Riverside, San Bernardino, San Diego, and Ventura Counties, providing intercity rail service along 7 lines and to 61 stations covering over 538 route miles. All lines originate from or end at Los Angeles Union Station. The Antelope Valley Metrolink Line serves both the Palmdale and Burbank Airport South Station areas. The Ventura County Metrolink Line also serves the Burbank Airport North Station area.
- Amtrak—Amtrak offers two rail services in the Los Angeles area: Pacific Surfliner and Coast Starlight. The Pacific Surfliner provides passenger rail service from San Luis Obispo to San Diego. Amtrak Coast Starlight is an intercity passenger train that travels 1,400 miles between Los Angeles and Seattle, Washington. Both trains serve an existing station within the Burbank Airport Station area, which is shared with Metrolink services. Amtrak also provides a thruway bus service from the Palmdale Transportation Center.

Aviation

Two commercial and two general aviation airports exist along the Palmdale to Burbank Project Section (Airport Land Use Commission 2009). The Palmdale Regional Airport and Hollywood Burbank Airport are commercial airports, and the Agua Dulce Airport and Whiteman Airport are general aviation airports that serve the project area.

Hollywood Burbank Airport

Hollywood Burbank Airport is immediately adjacent to the proposed Burbank Airport Station. The Burbank-Glendale-Pasadena Airport Authority manages this publicly owned facility. As of 2015, the airport served approximately 3.8 million passengers annually over 118,543 aircraft operations. The airport has access to the Metrolink Burbank Airport Station South on the Ventura County Line and the Metrolink Burbank Airport Station North on the Antelope Valley line, with an adjacent transit center served by Burbank City Bus. An on-site parking structure currently provides paid short- and long-term parking for airport travelers.

The Burbank-Glendale-Pasadena Airport Authority is planning to relocate its passenger terminal to a new location on the airport site. The Burbank-Glendale-Pasadena Airport Authority completed a ground access study and a transit-oriented development study for the airport area in 2014 to help develop improvements to the accessibility of the airport and its adjacent land uses (Authority 2020a). The Hollywood Burbank Airport Terminal Replacement project was approved by City of Burbank voters under Measure B in November 2016. Additionally, a Final EIS and Record of Decision for the FAA Bob Hope Hollywood Burbank Airport Proposed Replacement Terminal Project was issued in May of 2021 (https://bobhopeairporteis.com/). The terminal replacement project would develop an existing tenant lease area and a parking area into a new terminal and aircraft apron.

Palmdale Regional Airport

The Palmdale Regional Airport (owned and managed by the City of Palmdale) is approximately 2.5 miles northeast of the proposed Palmdale Station. This airport shares its runway with Plant 42, operated by the U.S. Air Force. Commercial passenger service to the airport ended in 2008. As of April 2008, the airport served 64,433 flight operations per year—less than 2 percent of which were by air carrier, 2 percent by air taxi, 16 percent general aviation, and 80 percent military. The airport is not currently accessible through fixed-route transit. The city of Palmdale has explored opportunities to resume commercial passenger service at the airport (City of Palmdale 2019).

Agua Dulce Airpark

Agua Dulce Airpark is about 2 miles north of SR 14 in the community of Agua Dulce. Agua Dulce Airpark is a privately owned, general aviation airport that is open to the public. As of July 2014, the airport served 720 general aviation flights per year. No fixed-route transit serves the airport.

Whiteman Airport

Whiteman Airport, in Pacoima, is owned and operated by Los Angeles County. It is a general aviation airport that is open to the public. As of December 2015, this airport served 116,109 general aviation flights per year.

Freight Rail

According to the *California State Rail Plan* (Caltrans 2018), the Union Pacific Railroad (UPRR) operates more than 50 freight trains per day in the Southern California region. UPRR operates two freight routes through the transportation RSA, one within the Burbank Subsection and both within the Palmdale Subsection.

Park-and-Ride Facilities

Park-and-ride facilities are parking lots where commuters leave their vehicles and transfer to a bus, rail system (rapid transit, light rail, or commuter rail), or carpool. There are no park-and-ride facilities within or immediately adjacent to the Build Alternative footprints. The following Caltrans-owned park-and-ride facilities are within the Palmdale to Burbank Project Section region:

- Avenue S and Geiger Avenue—East Avenue S at Geiger Avenue west of SR 14 (430 parking spaces)
- Pearblossom—Sierra Highway (213 parking spaces)
- Paxton—12501 Foothill Boulevard at Paxton Street (114 parking spaces)
- Lowell—3930 Lowell Avenue (150 parking spaces)
- Golden Valley—SR 14 at Golden Valley Road (350 parking spaces)

Accessibility Services

The ADA requires public transit agencies that offer fixed-route service to provide “complementary paratransit” service to people with disabilities who cannot use the fixed-route bus or rail service because of a disability. *Access* is the service name of the ADA complementary paratransit service for functionally disabled individuals in Los Angeles County. Access transportation service is available for ADA paratransit-eligible individuals to any location within 0.75 mile of any fixed bus route operated by the Los Angeles County public fixed-route bus operators and within 0.75 mile around Metro rail stations during the hours that the systems are operational. Each bus transit agency operating in Los Angeles County provides their own Access transportation service. Access services in the transportation RSA include the following:

- The Acton and Agua Dulce Shuttle provides service to residents in the unincorporated Los Angeles County areas of Acton and Agua Dulce.
- AVTA provides a dial-a-ride, curb-to-curb service to seniors over the age of 65 and disabled residents of the Antelope Valley, including the city of Palmdale.
- Burbank Bus Senior and Disabled Transit provides curb-to-curb transportation services for seniors and persons with disabilities living in Burbank.
- Cityride is a transportation assistance program for individuals aged 65 or older and qualified disabled persons in the city of Los Angeles, including the neighborhoods of Lake View Terrace, Pacoima, Sun Valley, and Sylmar, and in some areas of Los Angeles County. This program is not provided in unincorporated areas within Los Angeles County.

Metrolink trains are also accessible to persons with disabilities.

3.2.5.2 Palmdale Subsection

Existing traffic conditions for the Palmdale Subsection are provided in the Bakersfield to Palmdale Project Section EIR/EIS.

3.2.5.3 Central Subsection

The six Build Alternatives would be fully grade-separated, with extensive tunneled segments, and no stations or other public interfaces with the system between the proposed Palmdale and Burbank subsections. This section discusses the existing roadway segments, intersections, ramp queuing, and freeway segment LOS as well as transit services, non-motorized modes of transportation, and parking facilities for the Central Subsection in the transportation RSA.

Roadway Segments

A roadway segment is a portion of a roadway with a consistent number of travel lanes and capacity. It is typically defined as between two major intersections, or where lanes are added or removed from the facility. The critical roadway segment locations for the Central Subsection were determined based on potential locations where the Build Alternative alignment could affect roadways during construction and operation. This assessment originally considered four roadway segments in the Central Subsection; these roadway segments would experience 50 or more project-related vehicle trips during the peak hours. As summarized in Table 3.2-7, all of the Central Subsection study roadway segments operate at an acceptable LOS, defined as D or better, under existing conditions during both the AM and PM peak hour.

Table 3.2-7 Roadway Segment Level-of-Service in the Central Subsection, Existing (2015) No Project Conditions

Segment	AM Peak Hour			PM Peak Hour		
	Volume[1]	V/C	LOS	Volume[1]	V/C	LOS
Agua Dulce Canyon Road						
Between Burke Road and Briggs Edison Road	18	0.019	A	17	0.018	A
Escondido Canyon Road						
East of 53rd Street West	295	0.319	A	7	0.008	A
Angeles Forest Highway						
Between Sierra Highway and Vincent View Road	404	0.437	A	444	0.480	A
Aliso Canyon Road						
South of West Avenue Y-8	116	0.125	A	0.023	0.023	A

Source: Authority, 2019
[1] Volume is measured using peak hour average daily traffic.
LOS = level-of-service; V/C = volume-to-capacity ratio

Intersections

This assessment originally considered 30 intersections in the Central Subsection. The 30 intersections (listed in Table 3.2-8) would experience 50 or more project-related vehicle trips during the peak hours. Table 3.2-8 shows the LOS of the 30 intersections in the Central Subsection that were evaluated and identifies which study intersections would operate at unacceptable LOS (E or F) under Existing (2015) No Project Conditions. There would be five intersections with unacceptable LOS during peak hours.

Table 3.2-8 Intersection Level-Of-Service in the Central Subsection, Existing (2015) No Project Conditions

Intersection	Traffic Control	AM Peak Hour		PM Peak Hour	
		Delay (s/v)	LOS	Delay (s/v)	LOS
Branford Street at San Fernando Road Minor	Signal	15.6	B	18.4	B
Branford Street at San Fernando Road	Signal	29.5	C	41.4	D
Sheldon Street at San Fernando Road Minor	TWSC	**41.6***	**E***	26.5	D
Sheldon Street at San Fernando Road	Signal	30.5	C	40.4	D
Lankershim Boulevard at San Fernando Road	Signal	7.6	A	12.0	B
Tuxford Street at San Fernando Road Minor	TWSC	21.0	C	27.9	D
Tuxford Street at San Fernando Road	Signal	22.5	C	26.1	C
Penrose Street at I-5 NB Ramps	TWSC	16.1	C	14.9	B
Penrose Street at I-5 SB Ramps	TWSC	25.9	D	17.7	C
Penrose Street at San Fernando Road Minor	Signal	7.8	A	8.0	A
Penrose Street at San Fernando Road	Signal	33.7	B	32.6	C
Lopez Canyon Road at Paxton Street	AWSC	10.9	B	9.4	A
Haywood Street at Paxton Street	TWSC	11.4	B	10.8	B
I-210 NB Ramps at Paxton Street	TWSC	**>180.0***	**F***	**>180.0***	**F***
I-210 SB Ramps at Paxton Street	TWSC	15.9	C	15.0	B
Soledad Canyon Road at SR 14 Southbound Ramps	TWSC	9.2	A	9.2	A
Soledad Canyon Road at SR 14 Northbound Ramps	TWSC	10.0	B	13.6	B
Sierra Highway at Red Rover Mine Road	TWSC	17.5	C	11.1	B
Sierra Highway at Angeles Forest Highway	TWSC	28.8	D	**91.9***	**F***
Sierra Highway at SR 14 Southbound Ramps	TWSC	15.7	C	**71.0***	**F***
Sierra Highway at SR 14 Northbound Ramps	TWSC	3.7	A	3.8	A
Sierra Highway at Mountain Springs Road	TWSC	11.3	B	16.0	C
Tuxford Street at Bradley Avenue	Signal	27.8	C	46.6	D
Penrose Street at Bradley Avenue	Signal	5.8	A	8.0	A
Penrose Street at Tujunga Avenue	AWSC	14.7	B	16.2	C
Tujunga Avenue at Strathern Street	Signal	30.0	C	26.9	C
San Fernando Road Minor at Olinda Street	AWSC	8.0	A	7.4	A
San Fernando Road at Olinda Street	TWSC	17.0	C	14.6	B

Intersection	Traffic Control	AM Peak Hour		PM Peak Hour	
		Delay (s/v)	LOS	Delay (s/v)	LOS
Olinda Street at Roscoe Boulevard	TWSC	9.2	A	9.1	A
Fair Avenue at Strathern Street	TWSC	**35.7***	**E***	**35.2***	**E***

Source: Authority 2019
***Boldface** type indicates that the roadway operates at an inadequate level-of-service (LOS E/F).
> = greater than; AWSC = all-way stop-controlled; I = Interstate Highway; LOS = level-of-service; NB = northbound; SR = State Route; SB = southbound; s/v = seconds per vehicle; TWSC = two-way stop-controlled

Ramp Queuing

Traffic in the Central Subsection would not be influenced by either the Palmdale or Burbank Stations. It was estimated that less than 10 vehicles would travel up towards the Palmdale Subsection from points within the Central Subsection. Of the vehicles north of the Burbank Airport Station on I-5, most would be traveling to local destinations such as the cities of Santa Clarita, Sylmar, Pacoima, and San Fernando, plus regional destinations along the SR 118, SR 126 and I-5 freeways. Based on the distribution of trips, it was determined that no single freeway on- or off- ramp in the Central Subsection would have more than 50 project trips introduced to ramp queues. Additionally, there are no stations in the Central Subsection and the alignment would be primarily in a tunnel. As such, only construction conditions were assessed. Therefore, no analysis was conducted of freeway facilities for this subsection.

Freeway Segments

Traffic in the Central Subsection would not be influenced by either the Palmdale or Burbank Stations. It was estimated that less than 10 vehicles would travel up towards the Palmdale Subsection from points within the Central Subsection. Of the vehicles north of the Burbank Airport Station on I-5, most would be traveling to local destinations such as the cities of Santa Clarita, Sylmar, Pacoima, and San Fernando, plus regional destinations along the SR 118, SR 126 and I-5 freeways. Based on the distribution of trips, it was determined that no single freeway segment in the Central Subsection would have more than 50 project trips. Additionally, there are no stations in the Central Subsection and the alignment would be primarily in a tunnel. As such, only construction conditions were assessed and no freeway effects are expected. Therefore, no analysis was conducted of freeway facilities for this area.

Transit

The Metrolink Antelope Valley Line provides service from Los Angeles Union Station to Palmdale and Lancaster via Burbank and the Santa Clarita Valley. Existing Metrolink stations in the Central Subsection include Vincent Grade/Acton, Via Princessa, Santa Clarita, Newhall, Sylmar/San Fernando, and Sun Valley. Local transit providers, including Agua Dulce Shuttle and Santa Clarita Transit, offer other connections throughout this subsection.

Non-motorized Modes

Limited pedestrian and bicycle facilities are provided in the Central Subsection, especially the rural portions of the subsection. The Pacific Crest Trail crosses under SR 14 before traveling parallel to Escondido Canyon Road and north along Agua Dulce Canyon Road. This long-distance hiking and equestrian trail is 2,700 miles long from the U.S. border with Mexico in Campo, California to the Canadian border.[6]

Within more urbanized areas of the Central Subsection, such as Acton, Agua Dulce, and the San Fernando Valley, pedestrian and bicycle facilities are currently provided on roadways (i.e., sidewalks; pedestrian crosswalks; curb ramps; and Class I, II, and III bicycle routes).

[6] Refer to Chapter 4, Section 4(f) and Section 6(f) Evaluations, for a complete description of trail facilities within the Palmdale to Burbank Project Section.

Parking Facilities

The Central Subsection contains few parking facilities. Within more urbanized areas of the Central Subsection, such as Acton, Agua Dulce, and the San Fernando Valley, parking facilities are currently provided along portions of roadways (on- and off-street spaces).

3.2.5.4 Burbank Subsection

This section discusses existing transportation conditions within the proposed Burbank Subsection in the transportation RSA. The Burbank Subsection RSA is the same for the Refined SR14, SR14A, E1, E1A, E2, and E2A Build Alternatives. The approved Burbank Airport Station would be between North Hollywood Way, North San Fernando Boulevard, and the Hollywood Burbank Airport within the Burbank Subsection RSA. The Burbank Subsection encompasses parts of the cities of Burbank and Los Angeles.

The approved Burbank Airport Station would be in the city of Burbank. Burbank's current street network is generally a grid of arterial roadways, with the exception of I-5, San Fernando Boulevard, San Fernando Road, and the Metrolink/UPRR rail corridor that runs north-west/south-east through the city. The area surrounding the Hollywood Burbank Airport has a street network consisting of major arterials, secondary arterials, minor arterials, various collector roads, and local streets generally laid out in a grid pattern, although the grid is interrupted by the airport, I-5, and the Metrolink/UPRR corridor. The main roadways serving the station are Hollywood Way, Buena Vista Street, and San Fernando Road. Of these three roadways, only Hollywood Way is classified as a major arterial. In addition to the arterial system, I-5 passes through the northern part of the Burbank Subsection.

Given its location in Southern California and access to the San Fernando Valley, roadways and freeways within the Burbank Subsection often carry heavy volumes of traffic. Because the roadway networks in the cities of Los Angeles and Burbank are the primary components of the regional transportation system, these cities are exploring different strategies in their respective community and general plans to address and alleviate the various traffic congestion issues prevalent in the area. These strategies have included measures that encourage the use of alternative modes of travel, such as bus transit over single-occupancy vehicle travel, and implementation of transportation demand management tactics.

Roadway Segments

The street network within the Burbank Subsection is generally a grid of arterial roadways with the exception of I-5, San Fernando Boulevard, San Fernando Road, and the Metrolink/UPRR corridor. The area surrounding the Hollywood Burbank Airport has a street network consisting of major and secondary or minor arterials, various collector roads, and local streets generally laid out in a grid pattern.

The most important roadways that would serve the approved Burbank Airport Station are Hollywood Way and Sunland Boulevard/Vineland Avenue, both of which provide connections to I-5 and are positioned on either side of the airport. Direct access to the station is provided along San Fernando Road and Hollywood Way. Of these roadways, only Hollywood Way is classified as a major arterial, which would be able to accommodate higher traffic volumes compared to other roadways. In addition to the arterial system, I-5 passes through the northern part of the Burbank Subsection. Given its location within Southern California and access to the San Fernando Valley, it is heavily used for regional travel. The 2014 AADT is approximately 247,000 vehicles in the Burbank Subsection.

This assessment originally considered 39 roadway segments in the Burbank Subsection; of these, 28 roadway segments were carried forward into the analysis and are featured in Table 3.2-9. The remaining roadway segments were found to experience fewer than 50 project-related vehicle trips during the peak hours and are not analyzed further in this section. Four of the 28 roadway segments would not operate at acceptable LOS (E or F) under Existing (2015) No Project Conditions (listed in Table 3.2-9).

Section 3.2.4.3 defines volume-to-capacity ratios and level-of-service standards used to evaluate roadway segment operations.

Table 3.2-9 Roadway Segment Level-Of-Service in the Burbank Subsection, Existing (2015) No Project Conditions

Segment	Existing (2015) No Project Conditions					
	AM Peak Hour			PM Peak Hour		
	Volume[1]	V/C	LOS	Volume[1]	V/C	LOS
Sunland Boulevard/Vineland Avenue						
South of I-5 NB Ramps	1,898	0.697	B	2,058	0.755	C
North of San Fernando Road Minor	1,870	0.686	B	2,084	0.765	C
South of San Fernando Road	1,729	0.634	B	2,023	0.742	C
South of Victory Boulevard	1,985	0.690	B	1,974	0.687	B
Hollywood Way						
South of I-5 NB Ramp	2,743	0.954	**E***	2,832	0.985	**E***
South of San Fernando Road Ramp	2,607	0.668	B	2,799	0.718	C
South of Winona Avenue	2,583	0.662	B	2,941	0.754	C
South of Thornton Avenue	2,720	0.946	**E***	2,978	1.036	**F***
North of Avon Street	2,649	0.921	**E***	2,907	1.011	**F***
North of Victory Boulevard	2,507	0.872	D	2,761	0.960	**E***
South of Victory Boulevard	2,268	0.789	C	2,407	0.837	D
Buena Vista Street						
North of San Fernando Road	1,950	0.678	B	2,229	0.775	C
South of San Fernando Road	1,890	0.657	B	1,940	0.675	B
South of Empire Avenue	2,277	0.584	A	2,687	0.689	B
Lincoln Street						
South of San Fernando Road	1,292	0.449	A	1,418	0.493	A
Empire Avenue						
East of Buena Vista Street	1,268	0.441	A	2,032	0.707	C
Burbank Boulevard						
South of I-5 NB Ramps	3,019	0.613	B	3,193	0.648	B

Segment	Existing (2015) No Project Conditions					
	AM Peak Hour			PM Peak Hour		
	Volume[1]	V/C	LOS	Volume[1]	V/C	LOS
San Fernando Road						
West of Vineland Avenue	891	0.310	A	810	0.282	A
West of Hollywood Way	1,445	0.503	A	1,312	0.456	A
West of Buena Vista Street	1,379	0.480	A	1,363	0.474	A
Victory Place						
West of Empire Street	643	0.559	A	788	0.685	B
San Fernando Road Minor						
East of Vineland Avenue	350	0.318	A	373	0.339	A
West of I-5 SB Ramps	564	0.513	A	460	0.418	A
Sherman Way						
West of Vineland Avenue	1,170	0.407	A	1,327	0.462	A
Victory Boulevard						
West of Vineland Avenue	1,948	0.396	A	2,271	0.461	A
West of Hollywood Way	2,129	0.741	C	2,239	0.779	C
East of Hollywood Way	1,856	0.646	B	2,009	0.699	B
San Fernando Road						
West of Arvilla Avenue	1,715	0.597	A	1,444	0.502	A

Source: Authority 2019
***Boldface** type indicates that the roadway operates at an inadequate level-of-service (LOS E/F).
[1] Volume is measured using peak hour average daily traffic.
I = Interstate Highway; LOS = level-of-service; NB = northbound; SB = southbound; V/C = volume-to-capacity ratio

Intersections

This assessment originally considered 99 intersections in the Burbank Subsection; of these, 56 intersections were carried forward into the analysis and are featured in Table 3.2-10. The remaining intersections were found to experience fewer than 50 project-related vehicle trips during the peak hours and are not analyzed further within this section. Six of the 56 intersections would not operate at acceptable LOS (E or F) under Existing (2015) No Project Conditions (listed in Table 3.2-10).

Table 3.2-10 Intersection Level-Of-Service in the Burbank Subsection, Existing (2015) No Project Conditions

Intersection	Traffic Control	AM		PM	
		Delay (s/v)	LOS	Delay (s/v)	LOS
SR 170 SB ramps at Victory Boulevard	TWSC	>180.0	**F***	>180.0	**F***
Laurel Canyon Boulevard at Victory Boulevard	Signal	32.2	C	32.1	C
Lankershim Boulevard at Victory Boulevard	Signal	27.4	C	30.8	C
Sunland Boulevard at I-5 NB On-/Off-ramp	Signal	20.8	C	21.0	C

Intersection	Traffic Control	AM		PM	
		Delay (s/v)	LOS	Delay (s/v)	LOS
Sunland Boulevard at Roscoe Boulevard	Signal	18.3	B	22.5	C
Sunland Boulevard at San Fernando Road Minor	Signal	29.9	C	34.1	C
Sunland Boulevard at San Fernando Road	Signal	16.2	B	19.4	B
Vineland Avenue at Strathern Street	Signal	13.4	B	12.9	B
Vineland Avenue at Saticoy Street	Signal	10.4	B	7.9	A
Vineland Avenue at Sherman Way	Signal	21.7	C	20.3	C
Vineland Avenue at Vanowen Street	Signal	22.2	C	23.2	C
Vineland Avenue at Victory Boulevard	Signal	19.3	B	19.4	B
Vineland Avenue at Burbank Boulevard	Signal	22.8	C	24.8	C
Clybourn Avenue at San Fernando Road	Signal	29.7	C	23.1	C
Arvilla Avenue at San Fernando Road Minor	Signal	11.1	B	11.9	B
Arvilla Avenue at San Fernando Road	Signal	14.8	B	21.7	C
Arcola Avenue at San Fernando Road Minor	TWSC	25.0	D	10.9	B
Lockheed Drive at San Fernando Road	TWSC	26.6	D	14.4	C
Cohasset Street at San Fernando Road	TWSC	14.2	B	14.7	B
Cohasset Street at San Fernando Road Minor	Signal	4.4	A	4.6	A
Hollywood Way at I-5 NB On-/Off-ramps	Signal	18.9	B	16.0	B
Hollywood Way at I-5 SB Ramps	TWSC	>180.0	**F***	36.0	**E***
Avon Street at Cohasset Street	TWSC	10.9	B	12.9	B
Avon Street at San Fernando Road Minor	Signal	5.7	A	5.7	A
Hollywood Way SB at San Fernando Road	Signal	3.8	A	3.3	A
Hollywood Way NB at San Fernando Road	Signal	3.9	A	4.0	A
Hollywood Way at Tulare Avenue	Signal	1.4	A	3.1	A
Hollywood Way at Winona Avenue	Signal	6.2	A	11.8	B
Hollywood Way at Thornton Avenue	Signal	13.5	B	21.9	C
Hollywood Way at Avon Street	Signal	11.5	B	14.6	B
Avon Street at Empire Avenue	Signal	4.3	A	3.8	A
Hollywood Way at Empire Avenue	Signal	4.8	A	5.6	A
Hollywood Way at Victory Boulevard	Signal	27.5	C	29.7	C
Hollywood Way at Burbank Boulevard	Signal	24.7	C	27.9	C
Hollywood Way at Magnolia Boulevard	Signal	23.8	C	26.0	C
Pass Avenue at Verdugo Avenue	Signal	21.3	C	24.9	C
Pass Avenue at SR 134 EB Ramps	Signal	11.0	B	8.8	A
Pass Avenue at Alameda Avenue	Signal	15.1	B	16.4	B

Intersection	Traffic Control	AM		PM	
		Delay (s/v)	LOS	Delay (s/v)	LOS
Hollywood Way at Alameda Avenue	Signal	24.6	C	26.2	C
San Fernando Road Minor at I-5 SB Ramps*	TWSC	98.2	**F***	47.9	**E***
Buena Vista Street at I-5 NB Ramps	Signal	12.0	B	16.5	B
Buena Vista Street at Winona Avenue	Signal	72.7	**E***	30.4	C
Buena Vista Street at San Fernando Road	Signal	35.7	D	42.2	D
Buena Vista Street at Empire Avenue	Signal	18.4	B	34.1	C
Lincoln Street at San Fernando Road	Signal	6.1	A	2.9	A
Empire Avenue at San Fernando Road	Signal	5.6	A	8.4	A
I-5 SB Ramps at San Fernando Road	TWSC	13.1	B	22.2	C
I-5 NB Ramps at San Fernando Road	TWSC	13.3	B	35.2	**E***
Burbank Boulevard at 3rd Street	Signal	8.3	A	11.4	B
Burbank Boulevard at Victory Boulevard	Signal	32.2	C	38.5	D
Magnolia Boulevard at 3rd Street	Signal	12.5	B	17.4	B
Magnolia Boulevard at Victory Boulevard	Signal	21.9	C	28.0	C
SR 170 SB Ramps at Sherman Way	Signal	27.8	C	45.7	D
Laurel Canyon Boulevard at Sherman Way	Signal	63.6	**E***	>180.0	**F***
Lankershim Boulevard at Sherman Way	Signal	19.7	B	25.1	C
Hollywood Way at Cohasset Street	TWSC	112.9	**F***	37.3	**E***

Source: Authority 2019
***Boldface** type indicates that the roadway operates at an inadequate level-of-service (LOS E/F).
[1] Section 3.2.4.1 describes why the intersection IDs are not sequential.
> = greater than; I = Interstate Highway; LOS = level-of-service; NB = northbound; s/v = second per vehicle; SB = southbound; SR = State Route; TWSC = two-way stop-controlled

Ramp Queuing

This assessment originally considered 17 freeway ramps in the Burbank Subsection under the 2015 No Project conditions; of these, only the I-5 southbound ramps at Hollywood Way (intersection #28, Table 3.2-10) and the SR 134 Eastbound Ramps at Pass Avenue (intersection #45, Table 3.2-10) would experience more than 100 project-related trips:

- The 95th percentile queues on the I-5 southbound ramps at Hollywood Way are 959 feet during the AM peak hour and 128 feet during the PM peak hour, which can be accommodated by the existing approximately 1,300 feet of storage capacity.
- The 95th percentile queues on the SR 134 Eastbound Ramps at Pass Avenue are approximately 265 feet during the AM peak hour and 181 feet during the PM peak hour, which can be accommodated by the existing approximately 950 feet of storage capacity.

Freeway Segments

As indicated in Table 3.2-11, the freeway segments operate at LOS D or better during both peak hours, with the exception of four locations: 1)I-5 south of Burbank Boulevard, southbound direction during the AM peak; 2) I-5 South of Burbank Boulevard, northbound direction during the PM peak; 3) US 101 South of Moorpark Street, northbound direction during the PM peak; and 4) I-5 South of Colorado Street, northbound direction during the AM peak.

Table 3.2-11 Freeway Segment Level-Of-Service in the Burbank Subsection, Existing (2015) No Project Conditions

Freeway Segment	Direction	AM Peak Hour			PM Peak Hour		
		Volume[1]	V/C	LOS	Volume[1]	V/C	LOS
I-5 North of Osborne Street	NB	6,603	0.472	B	10,660	0.761	C
	SB	11,647	0.832	D	8,379	0.598	C
I-5 North of Sunland Boulevard	NB	4,432	0.443	B	7,155	0.716	C
	SB	7,818	0.782	D	5,624	0.562	C
I-5 South of Burbank Boulevard	NB	4,862	0.608	C	7,849	0.981	**E***
	SB	8,576	1.072	**F***	6,169	0.771	D
SR 170 North of Sherman Way	NB	2,855	0.286	A	7,543	0.754	C
	SB	7,365	0.736	C	4,392	0.439	B
SR 170 South of Victory Boulevard	NB	3,459	0.288	A	9,138	0.761	C
	SB	8,922	0.892	D	5,321	0.532	B
US 101 West of Colfax Avenue	NB	8,644	0.864	D	8,998	0.900	D
	SB	7,632	0.763	C	7,359	0.736	C
US 101 South of Moorpark Street	NB	6,320	0.632	C	9,389	0.939	**E***
	SB	8,635	0.720	C	4,807	0.401	B
SR 134 West of Pass Avenue	EB	6,679	0.668	C	5,922	0.592	C
	WB	8,679	0.868	D	7,902	0.790	D
I-5 South of Colorado Street	NB	9,594	0.959	**E***	9,025	0.903	D
	SB	8,518	0.852	D	6,635	0.664	C
SR 134 East of San Fernando Road	EB	7,299	0.608	C	9,914	0.826	D
	WB	10,413	0.868	D	7,558	0.630	C

Source: Authority 2019
***Boldface** type indicates that the roadway operates at an inadequate level-of-service (LOS E/F).
[1] Volume is measured using peak hour average daily traffic.
EB = eastbound; I = Interstate Highway; LOS = level-of-service; NB = northbound; SB = southbound; SR = State Route; US = U.S. Highway; V/C = volume-to-capacity ratio; WB = westbound

Transit

This section describes the transit facilities for the 2015 No Project Alternative within the Burbank Subsection. The Metrolink Burbank Airport South Station is currently across Empire Avenue from the Hollywood Burbank Airport. It is currently served by the Ventura County Metrolink Line and Amtrak's Pacific Surfliner service. The Metrolink Burbank Airport North Station, which opened in 2018, serves the Antelope Valley line. This station is at the northwest corner of Hollywood Way and San Fernando Road/Boulevard within the city of Burbank in Los Angeles County. The new Metrolink Burbank Airport North Station operates an on-demand shuttle service between the airport terminal and the station. The Metrolink Burbank Downtown Station is between West Olive Avenue and West Magnolia Drive and runs southeast and parallel to North Front Street. Metrolink amenities at the station include public phones, secured bike parking spaces, and restrooms. A free Metrolink-operated airport shuttle service also connects the Burbank Airport North Metrolink Station and the Hollywood Burbank Airport between the hours of 5:00 a.m. and 10:00 p.m. (Metrolink 2023).

Metro provides local bus service within the Burbank Subsection, including Routes 94, 169, 222, and 794. Burbank Bus also serves the Burbank Subsection, including its Empire/Downtown and Noho/Airport services. Table 3.2-12 illustrates the bus routes serving the area.

Table 3.2-12 Burbank Airport Station Bus Routes and Weekday Service Frequency

Bus Route	Weekday Service Hours	Average Weekday Headways (minutes)
Metro		
Route 94 Downtown Los Angeles to Sun Valley	4:20 a.m. to 1:20 a.m.	20
Route 169 Warner Center Transit Hub to Burbank Airport	5:12 a.m. to 8:45 p.m.	60
Route 222 Hollywood to Sunland	5:20 a.m. to 1:10 a.m.	30–60
Route 794 Burbank to Sylmar	4:40 a.m. to 8:45 p.m.	30
Burbank Bus		
Empire/Downtown Route	6:00 a.m. to 9:45 a.m., 3:00 p.m. to 6:00 p.m.	18
North Hollywood Metro/Airport Route	All day	15–20 peak; 45 off-peak

Sources: Metro 2019; City of Burbank 2015

Non-Motorized Facilities

This section discusses non-motorized facilities such as pedestrian and bicycle facilities within the Burbank Subsection for the 2015 No Project Alternative. The pedestrian facilities adjacent to the Burbank Airport Station include an existing sidewalk network with marked pedestrian crosswalks and ADA access at intersections. Sidewalks with curb ramps and crosswalks are generally available along both sides of the roadway, including on Hollywood Way, San Fernando Boulevard, Buena Vista Street, Victory Boulevard, Empire Avenue, and Glenoaks Boulevard.

The Burbank *Bicycle Master Plan* (City of Burbank 2009) identifies the existing bicycle facilities within the city of Burbank. The Los Angeles *2010 Bicycle Plan* (City of Los Angeles 2011), a component of the Transportation Element of the General Plan, identifies existing bicycle facilities in the city of Los Angeles, including Class I, Class II, and Class III facilities.

In the city of Burbank, existing Class I bicycle paths are along San Fernando Boulevard and portions of the Burbank stormwater channel along the east side of I-5. Existing Class II bicycle lanes are along Hollywood Way, Victory Boulevard, Riverside Drive, Front Street, and Third Street. Existing Class III bicycle routes are along Kenneth Road, Amherst Drive, Providencia Way, Pacific Avenue, Maple Street/Pass Avenue, California Street, Keystone Street, and Burbank Boulevard. Bicycle Boulevard is generally a low-traffic neighborhood street optimized for bicycling.

The city of Los Angeles contains various Class I bicycle paths, Class II bicycle lanes, and Class III bicycle routes. Class I bicycle paths include, but are not limited to, those allocated long San Fernando Road, Oxnard Street, and Forest Lawn Drive. Existing Class II bicycle lanes include, but are not limited to, those along La Tuña Canyon, Foothill Boulevard, Van Nuys Boulevard, Woodman Avenue, Laurel Canyon, Lankershim Boulevard, Chandler Avenue, and Riverside Drive. Class III Bicycle routes include those along Camarillo, Tujunga, and Osborne Streets. More information on pedestrian and bicycle facilities is provided in the Transportation Technical Report (Authority 2019).

Parking Facilities

Within 0.5 mile of the approved Burbank Airport Station, there are approximately 2,065 on-street parking spaces available to the public. The Hollywood Burbank Airport provides numerous off-street parking spaces on-site, but there are no other off-street public parking facilities within 0.5 mile of the proposed station site.

3.2.5.5 Maintenance Facility

Existing traffic conditions for the Maintenance Facility are provided in the Bakersfield to Palmdale Project Section EIR/EIS.

3.2.5.6 Spoils Hauling

The spoils hauling analysis evaluates the effects of haul trucks on the roadway network within the spoils hauling RSA. The roadway segment and intersection locations identified for the construction spoils hauling analysis differ from those evaluated for operations conditions and permanent construction conditions because, as discussed in Section 3.2.4.2, the travel path of spoils haul vehicles would be from the spoils generating sites to the freeway network. Chapter 2, Alternatives, describes in detail the locations spoils would be generated and deposited.

Roadway Segments

This assessment originally considered 39 roadway segments for the spoils hauling analysis (Figure 3.2-10 through Figure 3.2-12); 39 of these roadway segments were found to experience 50 or more project-related vehicle trips during the peak hours. As indicated in Table 3.2-13, six roadway segments operate below LOS D under Existing (2015) No Project Conditions during the AM and PM peak hour.

Table 3.2-13 Roadway Segment Level-Of-Service in the Spoils Hauling RSA, Existing (2015) No Project Conditions

Map ID	Segment	AM Peak Hour			PM Peak Hour		
		Volume[1]	V/C	LOS	Volume[1]	V/C	LOS
Sierra Highway							
A	North of Pearblossom Highway	400	0.364	A	672	0.611	B
B	West of Pearblossom Highway	2,955	1.028	**F***	3,934	1.368	**F***
C	North of Angeles Forest Highway	904	0.786	C	1,466	1.275	**F***
D	West of Red Rover Mine Road	863	0.785	C	380	0.345	A
E	West of Soledad Canyon Road	510	0.464	A	572	0.520	A
F	North of Placerita Canyon Road	3,013	1.048	**F***	2,336	0.813	D
Ward Street							
G	South of Sierra Highway	276	0.101	A	80	0.029	A
Escondido Canyon Road							
H	East of Ward Street	118	0.107	A	179	0.163	A
I	West of Big Springs Road	151	0.137	A	305	0.277	A
Big Springs Road							
J	South Escondido Canyon Road	26	0.024	A	15	0.014	A
Agua Dulce Canyon Road							
K	South of SR 14 NB Ramps	27	0.025	A	30	0.027	A
Soledad Canyon Road							
L	North of Lang Station Road	241	0.219	A	312	0.284	A
Rajah Street							

Map ID	Segment	AM Peak Hour			PM Peak Hour		
		Volume[1]	V/C	LOS	Volume[1]	V/C	LOS
M	North of Gavina Avenue	103	0.094	A	103	0.094	A
Hubbard Street							
N	North of I-210 WB Ramps	2,383	0.829	D	2,333	0.811	D
Paxton Street							
O	East of Foothill Boulevard	1,451	0.505	A	1,463	0.509	A
Foothill Boulevard							
P	South of Paxton Street	1,454	0.506	A	1,687	0.587	A
Q	West of Fenwick Street	625	0.217	A	512	0.178	A
Branford Street							
R	North of San Fernando Road Minor	591	0.537	A	681	0.619	B
Laurel Canyon Road							
S	East of Osborne Street	2,193	0.763	C	2,773	0.965	**E***
Osborne Street							
T	South of Laurel Canyon Road	1,465	0.510	A	2,246	0.781	C
U	North of Garrick Avenue	209	0.190	A	234	0.213	A
San Fernando Road							
V[1]	West of Tuxford Street	1,062	0.369	A	1,222	0.425	A
Tuxford Street							
W	South of San Fernando Road	2,114	0.735	C	2,215	0.770	C
Lankershim Boulevard							
X	South of Telfair Avenue	1,507	0.524	A	1,643	0.571	A
Pendleton Street							
Y	South of San Fernando Road	157	0.143	A	139	0.126	A
Hollywood Way							
Z	South of I-5 SB Ramps	2,743	0.954	**E***	2,832	0.985	**E***
Angeles Forest Highway							
AA	East of Sierra Highway	431	0.392	A	574	0.522	A
Aliso Canyon Road							
AB	South of Soledad Canyon Road	183	0.166	A	175	0.159	A
Soledad Canyon Road							
AC	South of Sierra Highway	221	0.201	A	327	0.297	A
Arrastre Canyon Road							
AD	South of Crown Valley Road	58	0.053	A	81	0.074	A

Map ID	Segment	AM Peak Hour			PM Peak Hour		
		Volume[1]	V/C	LOS	Volume[1]	V/C	LOS
Crown Valley Road							
AE	East of Soledad Canyon Road	202	0.184	A	198	0.180	A
Sand Canyon Road							
AF	South of Placerita Canyon Road	60	0.055	A	35	0.032	A
Placerita Canyon Road							
AG	East of SR 14 NB Ramps	692	0.629	B	349	0.317	A
Wheatland Avenue							
AH	South of Foothill Boulevard	444	0.404	A	416	0.378	A
Wentworth Street							
AI	South of Foothill Boulevard	1,079	0.375	A	1,123	0.391	A
Fenwick Street							
AJ	South of Foothill Boulevard	1,073	0.394	A	1,134	0.416	A
Sunland Boulevard							
AK	West of Fenwick Street	3,290	1.144	**F***	3,237	1.126	**F***
Peoria Street							
AL	North of Glenoaks Boulevard	123	0.112	A	133	0.121	A
Palmdale Boulevard							
AM	West of Division Street	1,883	0.382	A	2,424	0.492	A

Source: Authority 2019
***Boldface** type indicates that the roadway operates at an inadequate level-of-service (LOS E/F).
[1] Volume is measured using peak hour average daily traffic.
I = Interstate Highway; LOS = level-of-service; SR = State Route; V/C = volume-to-capacity ratio

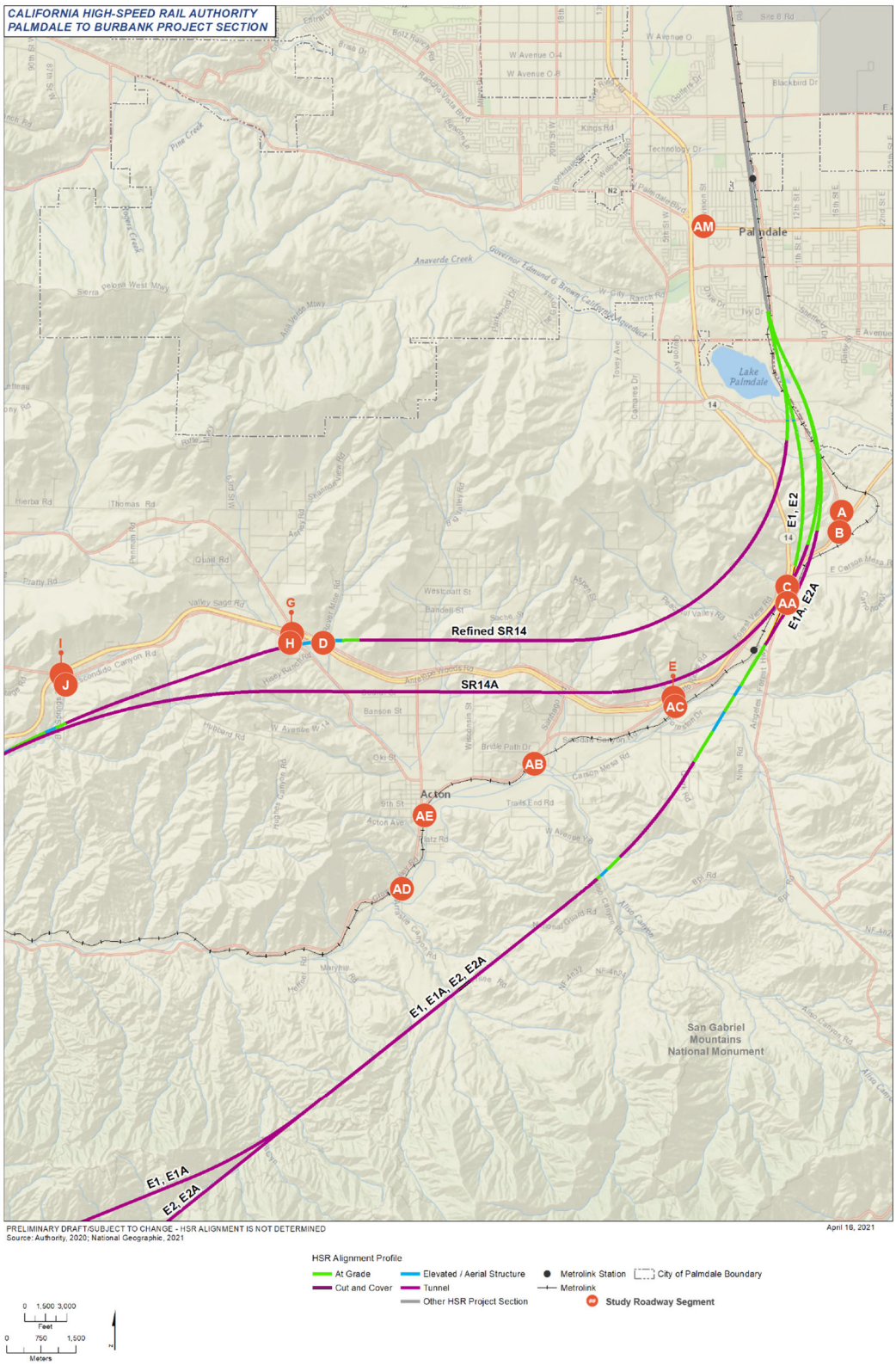

Figure 3.2-10 Spoils Hauling Resource Study Area Roadway Segment Locations (Map 1 of 3)

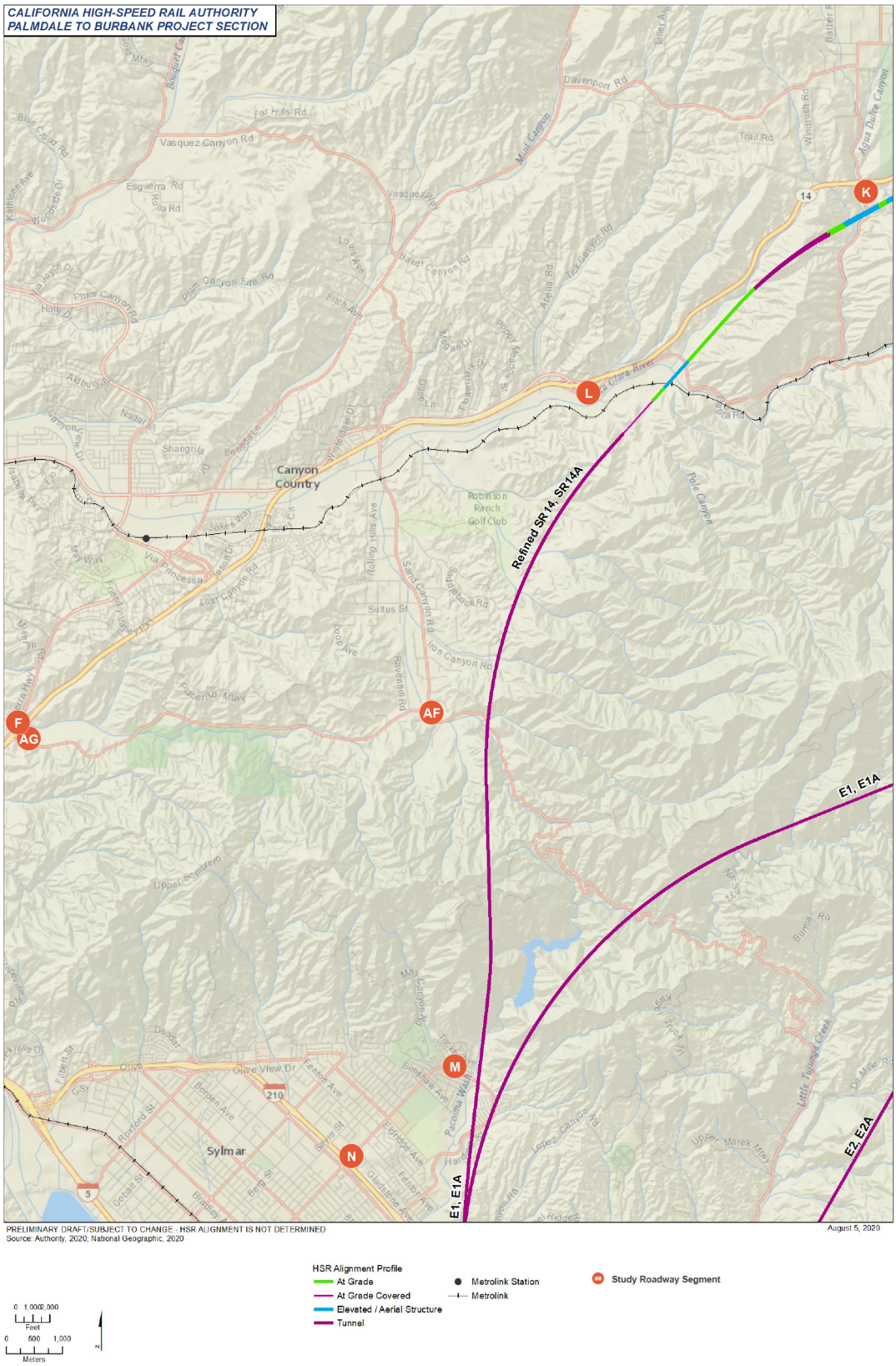

Figure 3.2-11 Spoils Hauling Resource Study Area Roadway Segment Locations (Map 2 of 3)

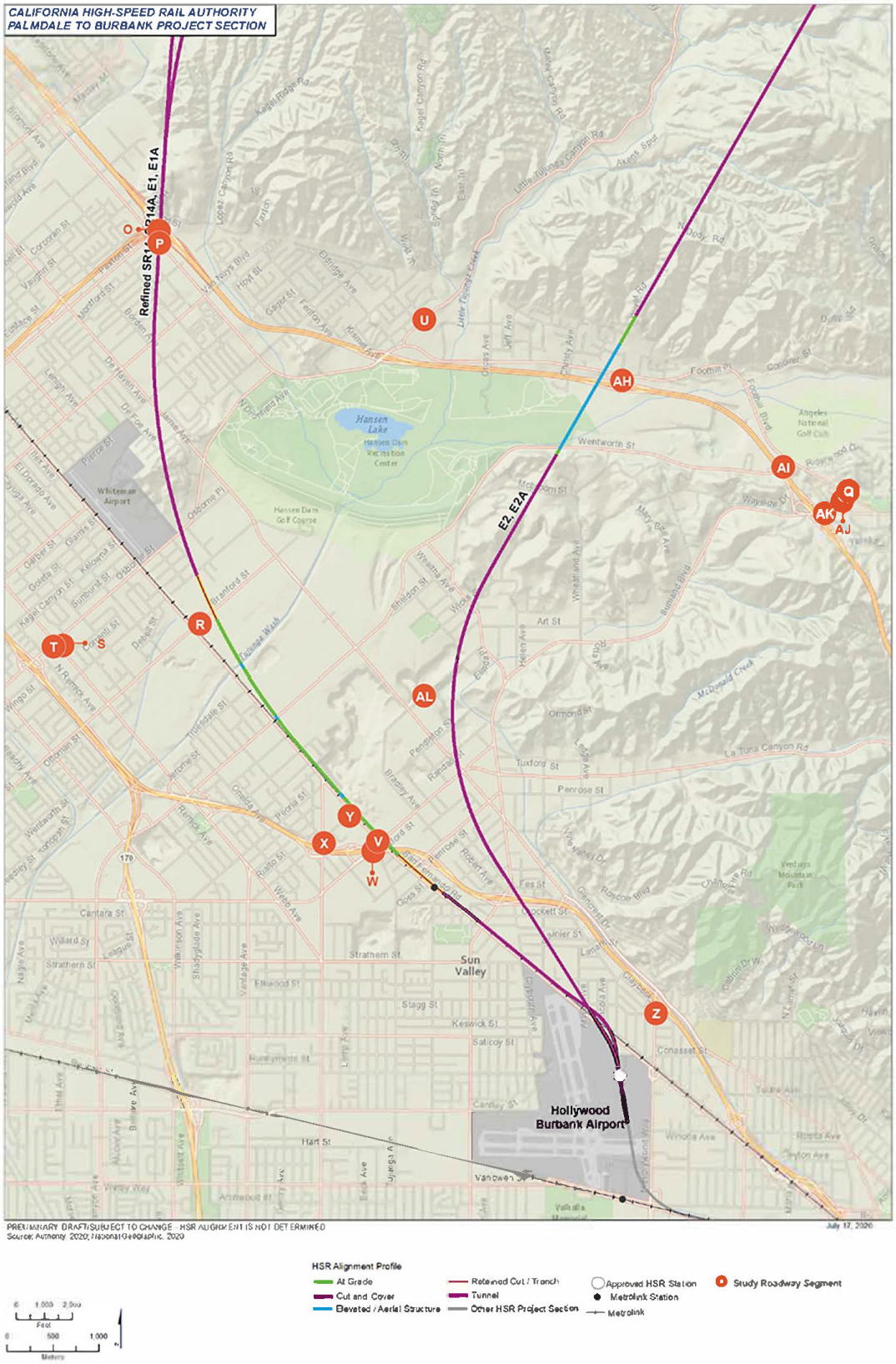

Figure 3.2-12 Spoils Hauling Resource Study Area Roadway Segment Locations (Map 3 of 3)

Intersections

This assessment considered 95 intersections in the spoils hauling RSA (mapped on Figure 3.2-13 through Figure 3.2-15). Of these, 62 intersections were found to experience 50 or more project-related vehicle trips during the peak hours (Table 3.2-14). 8 of the 62 intersections listed in Table 3.2-14 operate at an unacceptable LOS E or worse.

Table 3.2-14 Intersection Level-Of-Service in the Spoils Hauling RSA, Existing (2015) No Project Conditions

Map ID	Intersection	Traffic Control	Existing (2015) No Project Conditions			
			AM		PM	
			Delay (s/v)	LOS	Delay (s/v)	LOS
1	Sierra Highway at Sierra Hills Lane	TWSC	10.8	B	9.7	A
2	Sierra Highway at Pearblossom Highway	Signal	21.1	C	21.7	C
3	Sierra Highway at SR 14 NB On-ramp	TWSC	5.8	A	17.7	C
4	Sierra Highway at SR 14 SB Ramps	TWSC	18.6	C	62.0	**F***
5	Sierra Highway at SR 14 NB Off-ramp/Angeles Highway	TWSC	38.9	**E***	179.5	**F***
6	Sierra Highway at Spoils Area 3 Access Area	TWSC	N/A[1]	N/A[1]	N/A[1]	N/A[1]
7	Red Rover Mine Road at Sierra Highway	TWSC	17.8	C	11.1	B
8	SR 14 SB Off-ramp at Sierra Highway	TWSC	148.2	**F***	13.6	B
9	Ward Road at SR 14 SB On-ramp/Sierra Highway	TWSC	13.9	B	35.9	**E***
10	SR 14 NB On-ramp/Ward Road at Ward Road	TWSC	9.6	A	11.3	B
11	Hisey Ranch Road/Private Driveway at Escondido Canyon Road	TWSC	9.4	A	9.7	A
12	Ward Road at Escondido Canyon Road	TWSC	9.1	A	11.0	B
13	Spoils Area 5 Access Road at Escondido Canyon Road	TWSC	N/A[1]	N/A[1]	N/A[1]	N/A[1]
14	Big Springs Road at Spoils Area 6 Access Road	TWSC	N/A[1]	N/A[1]	N/A[1]	N/A[1]
15	Big Springs Road at Escondido Canyon Road	TWSC	9.3	A	10.2	B
16	SR 14 NB Ramps at Escondido Canyon Road	TWSC	4.6	A	2.8	A
17	SR 14 SB On-ramp/Valley Sage Road at Escondido Canyon Road	TWSC	9.0	A	8.6	A
18	Agua Dulce Canyon Road at Spoils Area 8 Access Road	TWSC	N/A[1]	N/A[1]	N/A[1]	N/A[1]

Map ID	Intersection	Traffic Control	Existing (2015) No Project Conditions			
			AM		PM	
			Delay (s/v)	LOS	Delay (s/v)	LOS
19	Agua Dulce Canyon Road at SR 14 NB Ramps	TWSC	9.2	A	9.3	A
20	Agua Dulce Canyon Road at SR 14 SB On-ramps	TWSC	9.3	A	9.2	A
21	Soledad Canyon Road at Spoils Area 9 Access	TWSC	N/A[1]	N/A[1]	N/A[1]	N/A[1]
22	Soledad Canyon Road at Lang Station Road	TWSC	10.3	B	10.8	B
23	Soledad Canyon Road at Lost Canyon Road/SR 14 NB On-ramp	TWSC	11.2	B	13.4	B
24	Soledad Canyon Road at SR 14 SB Ramps	TWSC	9.6	A	9.2	A
25	SR 14 NB Off-ramp at Lost Canyon Road*	TWSC	11.1	B	13.7	B
26	Rajah Street at Gavina Avenue	TWSC	9.4	A	9.6	A
27	Gavina Avenue at Pacoima Canyon Road	TWSC	0.0	A	9.3	A
28	Hubbard Street at I-210 WB On-ramp/I-210 WB Off-ramp	Signal	75.8	**E***	20.7	C
29	Hubbard Street at I-210 EB Off-ramp/I-210 EB On-ramp	Signal	49.4	D	14.2	B
30	Haywood Street at Paxton Street	TWSC	11.5	B	10.8	B
31	I-210 WB Ramps at Paxton Street	TWSC	>180.0	**F***	>180.0	**F***
32	I-210 EB Ramps at Paxton Street	TWSC	16.1	C	15.1	C
33	Spoils Area 15 Access 1 at Paxton Street	TWSC	N/A[1]	N/A[1]	N/A[1]	N/A[1]
34	Foothill Boulevard at Spoils Area 15 Access Road 2	TWSC	N/A[1]	N/A[1]	N/A[1]	N/A[1]
35	Foothill Boulevard at Paxton Street	Signal	22.8	C	27.2	C
36	Branford Street at Spoils Area 16	TWSC	N/A[1]	N/A[1]	N/A[1]	N/A[1]
37	Branford Street at San Fernando Road Minor	Signal	14.3	B	16.9	B
38	Branford Street at San Fernando Road	Signal	25.9	C	44.0	D
39	Branford Street at Laurel Canyon Boulevard	Signal	19.8	B	30.9	C
40	Osborne Street at Laurel Canyon Boulevard	Signal	28.8	C	49.0	D
41	Osborne Street at I-5 NB Ramps	Signal	7.9	A	10.1	B

Map ID	Intersection	Traffic Control	Existing (2015) No Project Conditions			
			AM		PM	
			Delay (s/v)	LOS	Delay (s/v)	LOS
42	Osborne Street at I-5 SB Ramps	Signal	8.5	A	18.5	B
43	Spoils Area 44 Access Road at San Fernando Road	TWSC	N/A[1]	N/A[1]	N/A[1]	N/A[1]
44	Tuxford Street at San Fernando Road	Signal	21.2	C	23.9	C
45	Tuxford Street at I-5 NB On-ramp*	TWSC	0.0	A	0.0	A
46	Lankershim Boulevard at I-5 SB Ramps/Cayuga Avenue	Signal	9.8	A	9.3	A
47	Lankershim Boulevard at I-5 NB Ramps	Signal	18.1	B	19.6	B
48	Lankershim Boulevard at Telfair Avenue/Pendleton Street	TWSC	59.2	**F***	180.0	**F***
49	Pendleton Street at San Fernando Road	TWSC	15.1	C	12.0	B
50	Hollywood Way at Tulare Avenue	Signal	1.4	A	3.2	A
51	Hollywood Way at I-5 NB Ramps	Signal	18.6	B	16.7	B
52	Hollywood Way at I-5 SB Ramps	TWSC	>180.0	**F***	36.1	**E***
53	Sierra Highway at Soledad Siphon Driveway[2]	TWSC	10.0	B	0.0	A
96	Sierra Highway & Spoils Area 1A	Signal	8.5	A	13.0	B
97	Sierra Highway & Spoils Area 1B	TWSC	N/A[1]	N/A[1]	N/A[1]	N/A[1]
98	Sierra Highway & Avenue Q	Signal	9.2	A	11.6	B
99	Sierra Highway & Palmdale Boulevard	Signal	16.2	B	24.8	C
100	6th Street East & Palmdale Boulevard	Signal	9.8	A	13.0	B
101	5th Street East & Palmdale Boulevard	Signal	8.9	A	12.3	B
102	5th Street East & Spoils Area 1C	TWSC	8.9	A	9.7	A
103	Palmdale Boulevard & SR 14 NB Ramps	Signal	4.4	A	5.7	A
104	Palmdale Boulevard & SR 14 SB Ramps	Signal	8.5	A	11.9	B

Sources: Transportation Research Board 2000; Transportation Research Board 2010
***Boldface** type indicates that the intersection operates at an inadequate LOS (LOS E/F).
[1] Spoils area access driveway only exists for project conditions.
Analysis performed using *Highway Capacity Manual 2010*, with the exception of a few intersections that were performed using *Highway Capacity Manual 2000* (indicated with asterisk).
> = greater than; AWSC = all-way stop-controlled N/A = not applicable; EB = eastbound; I = Interstate Highway; LOS = level-of-service; NB = northbound; SB = southbound; SR = State Route; s/v= delay per vehicle in seconds; TWSC = two-way stop-controlled; WB = westbound

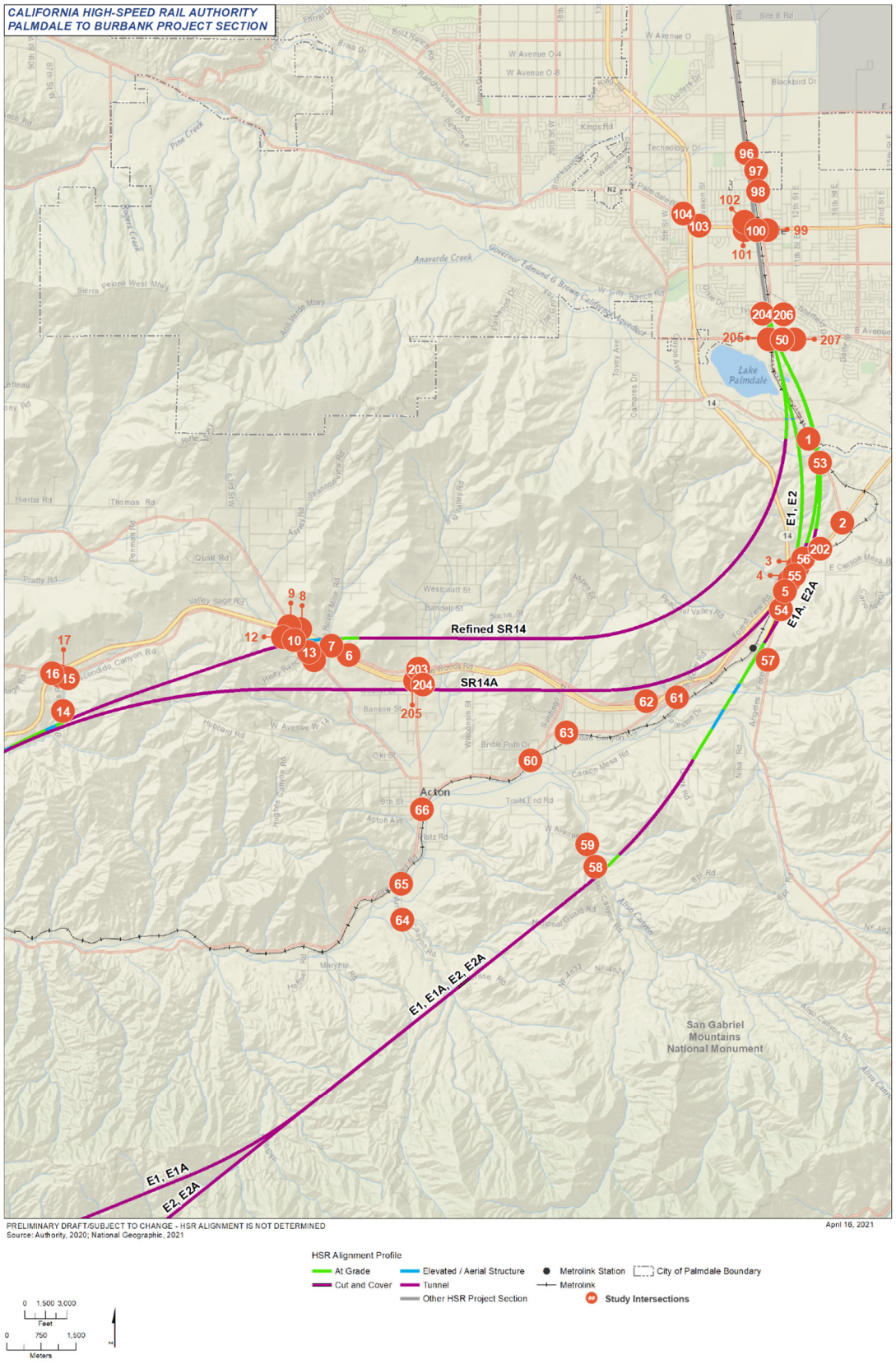

Figure 3.2-13 Spoils Hauling Resource Study Area Intersection Locations (Map 1 of 3)

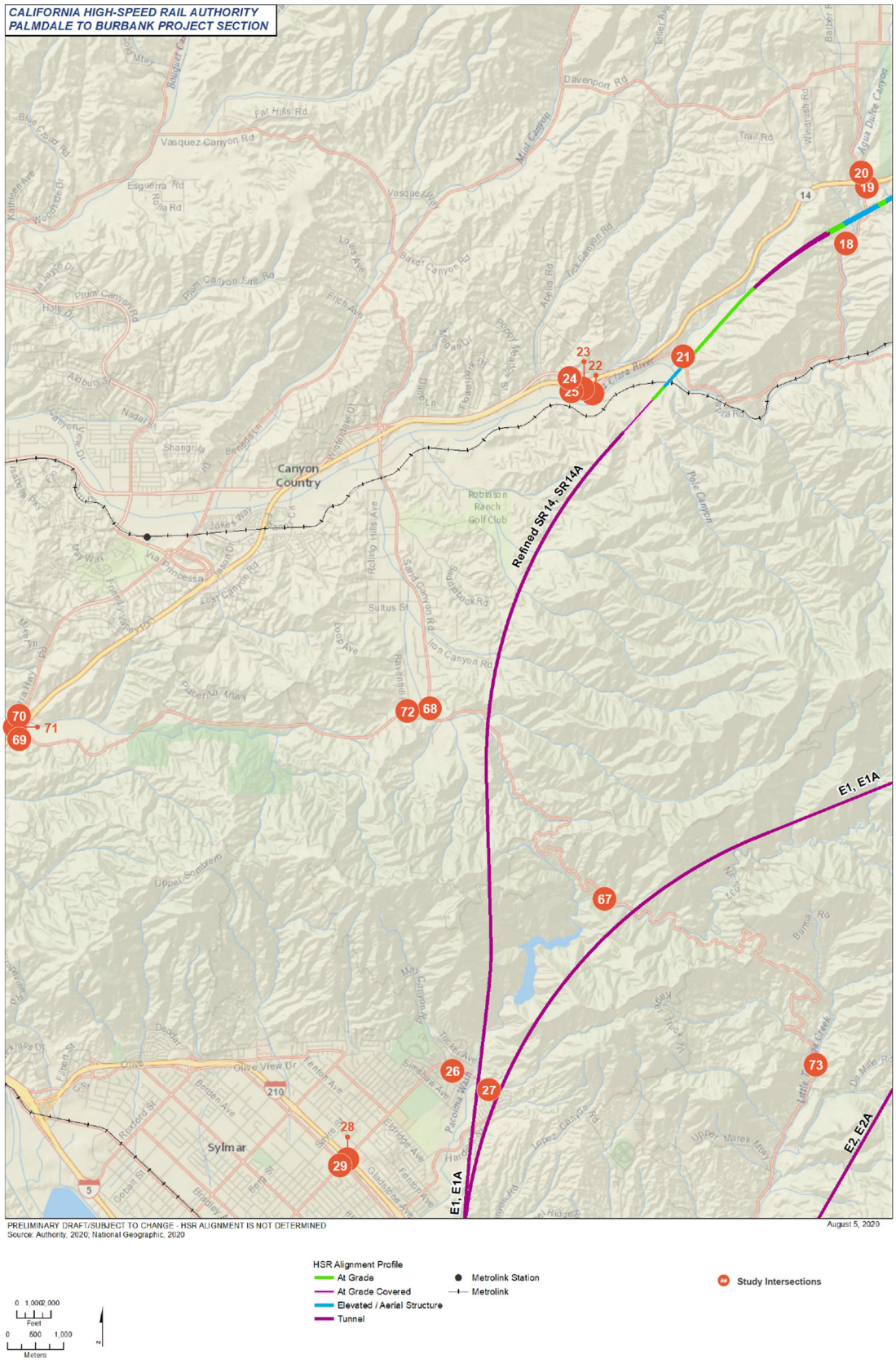

Figure 3.2-14 Spoils Hauling Resource Study Area Intersection Locations (Map 2 of 3)

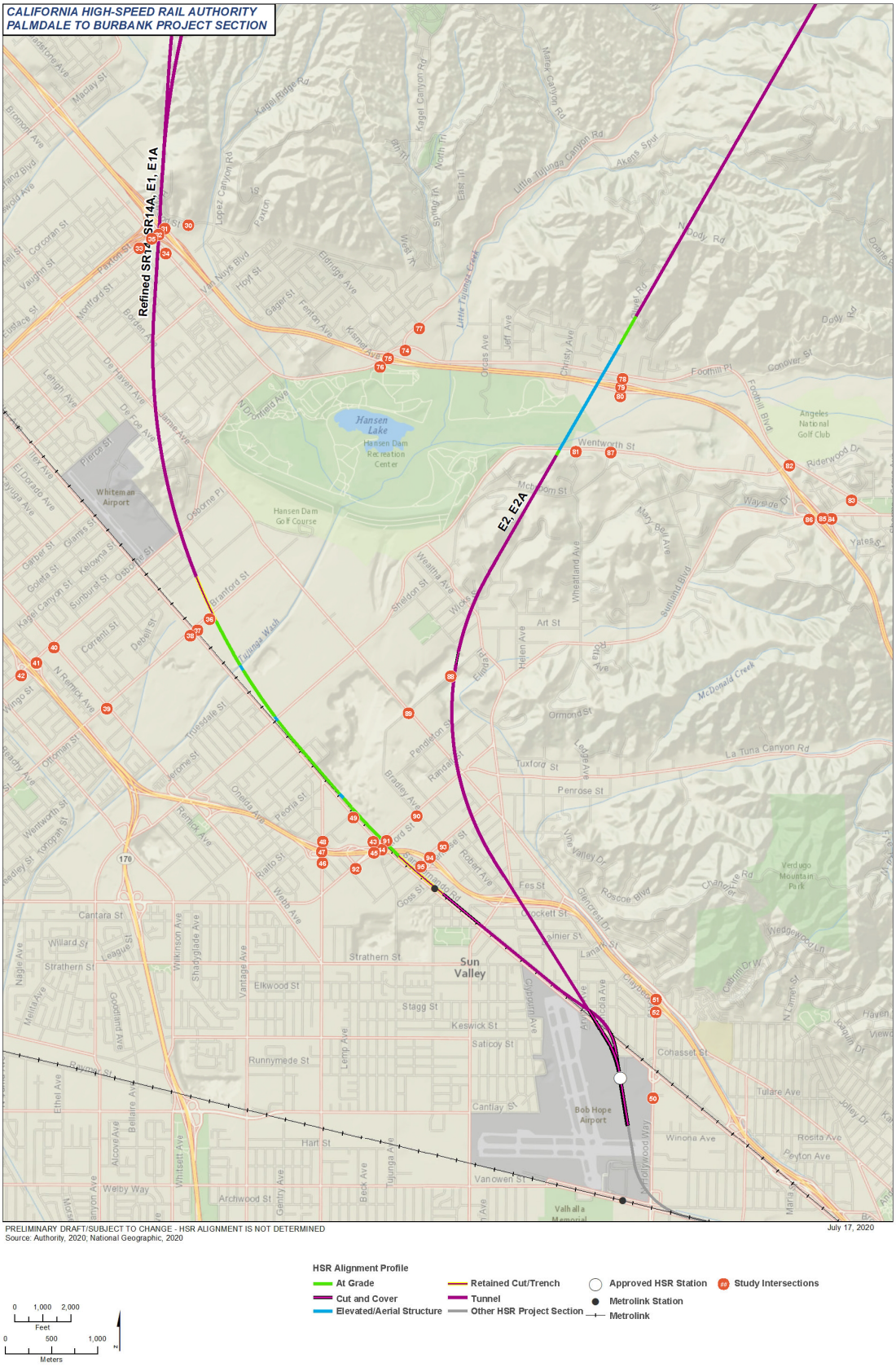

Figure 3.2-15 Spoils Hauling Resource Study Area Intersection Locations (Map 3 of 3)

Freeway Segments

The spoils hauling RSA includes 13 freeway segments (mapped on Figure 3.2-16 through Figure 3.2-18). As indicated in Table 3.2-15, the freeway segments operate at LOS D or better during both peak hours, with four exceptions. These exceptions include the following freeway segments: I-210 North of SR 2 Eastbound AM, I-210 North of SR 2 Westbound PM, I-5 North of SR 134 Southbound AM, and I-5 North of SR 134 Northbound PM.[7]

Table 3.2-15 Freeway Segment Level-Of-Service in the Spoils Hauling RSA, Existing (2015) No Project Conditions

Map ID	Segment	Direction	AM Peak Hour			PM Peak Hour		
			Volume[1]	V/C	LOS	Volume[1]	V/C	LOS
AA	SR 14 North of 10th Street West	Northbound	2,958	0.493	B	3,296	0.549	C
		Southbound	3,255	0.542	C	4,109	0.685	C
BB	SR 14 South of Angeles Forest Highway	Northbound	418	0.070	A	4,990	0.832	D
		Southbound	4,884	0.814	D	2,265	0.378	B
CC	SR 14 North of I-5	Northbound	2,878	0.240	A	8,258	0.688	C
		Southbound	8,760	0.730	C	4,068	0.339	A
DD	I-5 South of SR 126	Northbound	5,312	0.531	B	6,627	0.663	C
		Southbound	6,203	0.620	C	6,643	0.664	C
EE	I-5 North of SR 14	Northbound	3,680	0.368	B	8,529	0.853	D
		Southbound	8,453	0.704	C	4,099	0.342	A
FF	I-5 South of SR 14	Northbound	5,109	0.365	B	11,841	0.846	D
		Southbound	11,736	0.838	D	5,691	0.406	B
GG	I-210 East of I-5	Eastbound	4,064	0.677	C	3,206	0.534	B
		Westbound	2,430	0.405	B	3,854	0.642	C
HH	I-210 North of SR 2	Eastbound	9,569	0.957	**E***	6,314	0.631	C
		Westbound	4,195	0.420	B	10,073	1.007	**F***
II	I-5 North of Osborne Street	Northbound	6,942	0.496	B	11,207	0.801	D
		Southbound	12,245	0.765	C	8,809	0.551	C
JJ	I-5 North of SR 134	Northbound	5,359	0.670	C	8,652	1.081	**F***
		Southbound	9,453	1.182	**F***	6,801	0.850	D
KK	SR 170 North of SR 134	Northbound	3,345	0.279	A	8,836	0.736	C
		Southbound	8,627	0.719	C	5,145	0.429	B

[7] Construction spoils trucks would use a portion of the SR-58 highway to travel between I-5 and the hazardous materials disposal site in Buttonwillow. A review of existing conditions along the segment of SR-58 indicates that both the eastbound and westbound directions have low volumes during the weekday AM and PM peak hours (less than 800 vehicles in total per time period), and therefore the addition of construction spoils hauling trucks would not substantially affect conditions.

Map ID	Segment	Direction	AM Peak Hour			PM Peak Hour		
			Volume[1]	V/C	LOS	Volume[1]	V/C	LOS
LL	I-405 North of US 101	Northbound	5,507	0.551	C	8,239	0.824	D
		Southbound	7,987	0.799	D	5,996	0.600	C
MM	SR 118 East of SR 27	Eastbound	7,625	0.635	B	6,204	0.517	A
		Westbound	5,636	0.470	A	7,140	0.595	A
NN	I-5 North of SR-138	Northbound	3,585	0.448	A	3,974	0.497	A
		Southbound	3,226	0.403	A	4,713	0.589	A
OO	I-5 South of SR-99	Northbound	4,322	0.540	A	4,791	0.599	A
		Southbound	3,888	0.486	A	5,681	0.710	A

Source: Authority 2019
***Boldface** type indicates that the intersection operates at an inadequate LOS (LOS E/F).
[1] Volume is measured using peak hour average daily traffic.
I = Interstate Highway; LOS = level-of-service; SR = State Route; US = U.S. Highway; V/C = volume-to-capacity ratio

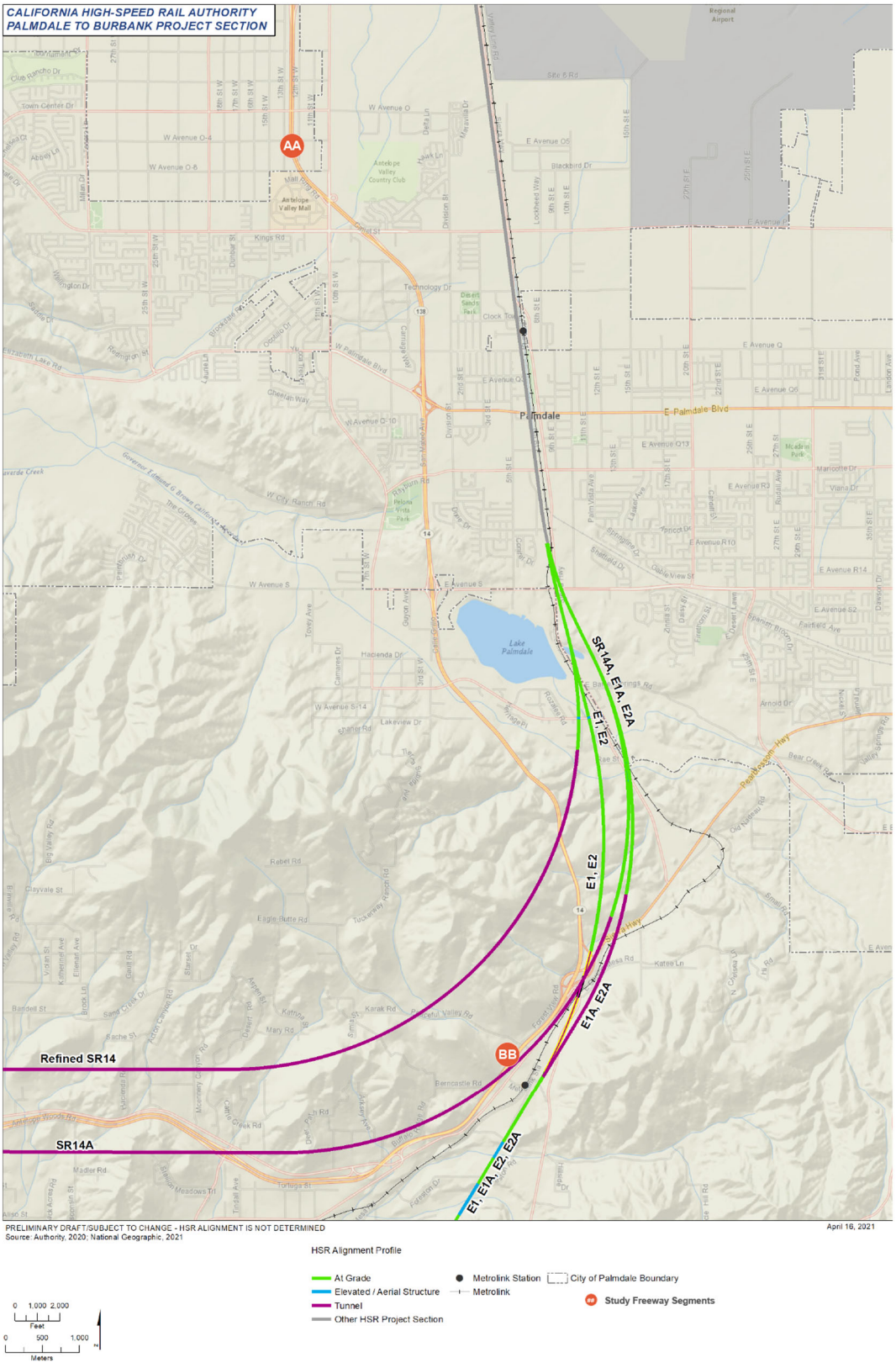

Figure 3.2-16 Spoils Hauling Resource Study Area Freeway Segment Locations (Map 1 of 3)

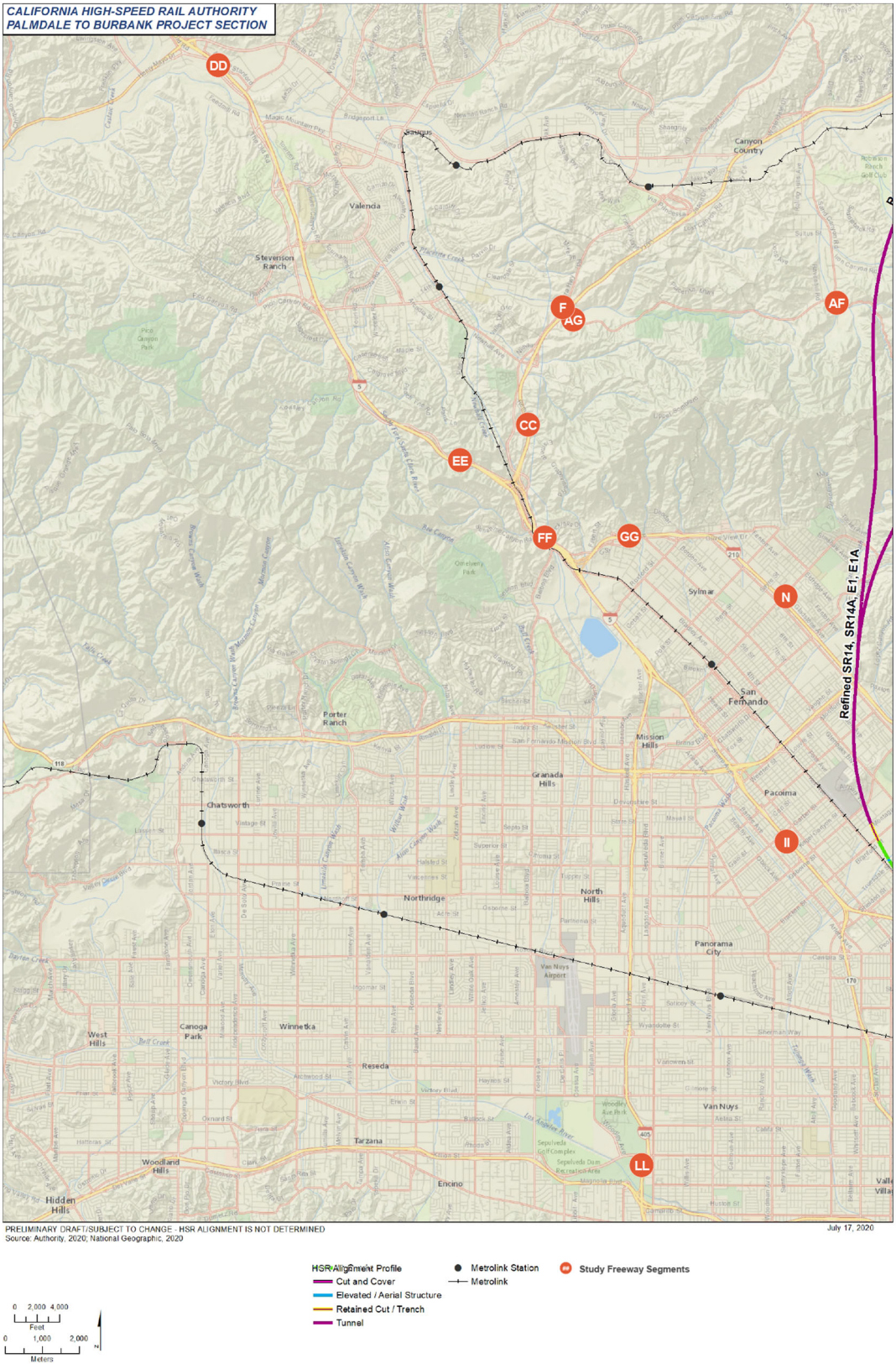

Figure 3.2-17 Spoils Hauling Resource Study Area Freeway Segment Locations (Map 2 of 3)

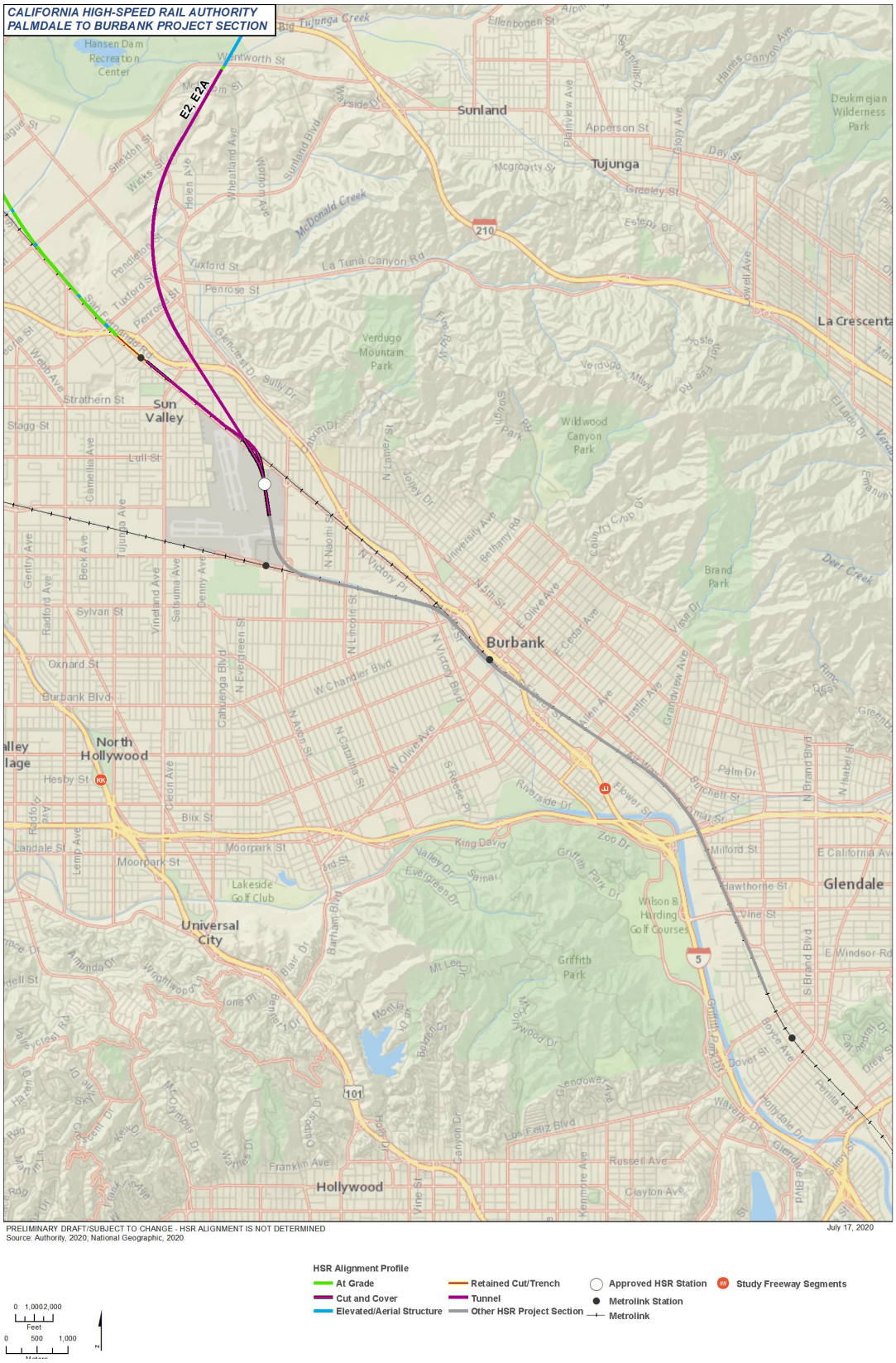

Figure 3.2-18 Spoils Hauling Resource Study Area Freeway Segment Locations (Map 3 of 3)

Ramp Queuing

This assessment considered 19 freeway ramps in the spoils hauling RSA where the 95th percentile queue analysis determined that the freeway ramp would experience more than 100 project-related trips. As shown in Table 3.2-16 and mapped on Figure 3.2-13 through Figure 3.2-15 all 19 study freeway ramps provide adequate storage during both peak hours at the time the analysis was done.

Table 3.2-16 Freeway Ramp Queues in the Spoils Hauling RSA, Existing (2015) No Project Conditions

Map ID	Intersection	Storage Capacity (ft)	Queue (ft)	
			AM	PM
8	SR 14 SB Off-ramp at Sierra Highway	1,180	340	15
10	SR 14 NB On-ramp/Ward Road at Ward Road	1,440	1	1
16	SR 14 NB Ramps at Escondido Canyon Road	1,420	1	22
19	Agua Dulce Canyon Road at SR 14 NB Ramps	1,150	11	10
20	Agua Dulce Canyon Road at SR 14 SB On-ramps	1,030	2	1
24	Soledad Canyon Road at SR 14 SB Ramps	1,020	8	6
25	SR 14 NB Off-ramp at Lost Canyon Road	1,070	6	12
28	Hubbard Street at I-210 WB On-ramp/I-210 WB Off-ramp	1,090	321	402
29	Hubbard Street at I-210 EB Off-ramp/I-210 EB On-ramp	1,040	126	102
31	I-210 WB Ramps at Paxton Street	1,040	465	443
32	I-210 EB Ramps at Paxton Street	880	86	55
46	Lankershim Boulevard at I-5 SB Ramps/Cayuga Avenue	1,200	129	90
47	Lankershim Boulevard at I-5 NB Ramps	1,910	129	162
61	Soledad Canyon Road/SR 14 NB Ramps at Sierra Highway	920	2	94
62	SR 14 SB Ramps at Sierra Highway	1,070	5	6
69	SR 14 NB Ramps at Placerita Canyon Road	1,310	0	30
70	Sierra Highway at SR 14 SB Ramps	1,730	3	5
79	Wheatland Avenue at I-210 WB Ramps	1,100	5	13
80	Wheatland Avenue at I-210 EB Ramps	1,190	16	11

Source: Authority 2019
EB = eastbound; ft = feet; I = Interstate Highway; NB = northbound; SB = southbound; SR = State Route; WB = westbound

Transit

The Metrolink Antelope Valley Line provides rail service from Los Angeles Union Station to Palmdale and Lancaster via Burbank and the Santa Clarita Valley. Existing Metrolink stations in the Central Subsection include Vincent Grade/Acton, Via Princessa, Santa Clarita, Newhall, Sylmar/San Fernando, and Sun Valley.

Non-Motorized Modes

Urbanized areas of the spoils hauling RSA, such as the San Fernando Valley, provide pedestrian facilities (i.e., sidewalks, pedestrian crosswalks, and curb ramps) and bicycle facilities (i.e., Class I, Class II, and Class III bike routes) along portions of roadways. Rural areas of the spoils hauling RSA do not contain formal non-motorized facilities, except for the Pacific Crest Trail, which runs parallel to Escondido Canyon Road and north along Agua Dulce Canyon Road.

Parking Facilities

Limited parking facilities are provided in the rural areas of the spoils hauling RSA, while more urbanized areas (such as the San Fernando Valley) include on- and off-street parking facilities along portions of roadways.

3.2.6 Environmental Consequences

3.2.6.1 Overview

This section evaluates how the No Project Alternative and the Build Alternatives could affect transportation. The six Build Alternatives would generally cause similar types of impacts, but would vary in the degree of effect, likelihood, or severity of impact. The analysis of CEQA impacts reflects the shift in transportation impacts analysis away from a focus on LOS to a focus on VMT. The analysis of NEPA impacts includes LOS. The Transportation Technical Report (Authority 2019) contains maps showing the locations of roadway segments, intersections, and freeway segments within the Transportation RSA that were analyzed for the Palmdale to Burbank Project Section. The impacts of the six Build Alternatives are organized as follows.

Construction Impacts

Existing (Year 2015) Plus Spoils Hauling Conditions

- Impact TRA#1: Spoils Hauling Effects on Roadway Segments.
- Impact TRA#2: Spoils Hauling Effects on Intersections.
- Impact TRA#3: Spoils Hauling Effects on Ramp Queuing.
- Impact TRA#4: Spoils Hauling Effects on Freeway Segments.
- Impact TRA#5: Spoils Hauling Effects on Transit Services.
- Impact TRA#6: Spoils Hauling Effects on Non-Motorized Modes.

Existing (Year 2015) Plus Construction Conditions

- Impact TRA#7: Project Construction Effects on Vehicles, Pedestrians, Bicyclists, and Transit.
- Impact TRA#8: Project Construction Effects on Roadway Segments.
- Impact TRA#9: Project Construction Effects on Intersections.
- Impact TRA#10: Project Construction Effects on Freeway Segments.
- Impact TRA#11: Project Construction Effects on Rail and Transit Services.
- Impact TRA#12: Project Construction Effects on Non-Motorized Modes Near the Burbank Airport Station.

Operations Impacts

Operations (2040) Plus Project Conditions

- Impact TRA#13: Project Operation Effects on Roadway Segments.
- Impact TRA#14: Project Operation Effects on Intersections.
- Impact TRA#15: Project Operation Effects on Ramp Queuing.
- Impact TRA#16: Project Operation Effects on Freeway Segments.
- Impact TRA#17: Project Operation Effects on Transit Services.
- Impact TRA#18: Project Operation Effects on Non-Motorized Modes.
- Impact TRA#19: Project Operation Effects on Regional VMT.

The following sections discuss the environmental impacts for the No Project Alternative and the six Build Alternatives. The analysis for each impact, with the exception of the spoils hauling RSA, is organized in the following order: regional transportation system, Central Subsection, and the Burbank Subsection and is ordered by impact statement in order to allow for comparison between Build Alternatives.

3.2.6.2 No Project Alternative

No Project Alternative conditions assume that all known, programmed, and funded improvements to the intercity highway, rail, and transit systems, along with reasonably foreseeable land use development projects, would be constructed as planned by 2040. Refer to Chapter 2, Alternatives, for a more detailed description of the No Project Alternative and Section 3.19.5 for more information on cumulative impacts. The No Project Alternative assumes that the Palmdale to Burbank Project Section would not be constructed.

Roadway Segments

Table 3.2-17 shows the LOS for roadway segments within the Burbank Subsection that operate at LOS E or F during the AM and PM peak hour. Roadway segments in the Central Subsection were not analyzed for the No Project Alternative because these locations are outside station impact areas and therefore would not be significantly affected by construction or operation of the Build Alternatives. Based on the distribution of trips in the Central Subsection, it was determined that the Build Alternatives would not add more than 50 vehicles to any roadway segment in the Central Subsection and therefore, none of the roadway segments met the threshold for analysis. Roadway segment conditions for the Palmdale Subsection and Maintenance Facility are evaluated in the Bakersfield to Palmdale Project Section EIR/EIS.

Table 3.2-17 2040 No Project Conditions Roadway Segments

Roadway Segment	AM Peak Hour			PM Peak Hour		
	Volume[1]	V/C	LOS	Volume[1]	V/C	LOS
Burbank Subsection						
Hollywood Way						
South of I-5 NB Ramp	2,821	0.981	**E***	3,210	1.117	**F***
South of Thornton Avenue	2,850	0.991	**E***	3,230	1.123	**F***
North of Avon Street	2,690	0.936	**E***	2,940	1.023	**F***
North of Victory Boulevard	2,590	0.901	**E***	2,900	1.009	**F***
Buena Vista Street						
South of San Fernando Road	2,744	0.954	**E***	2,900	1.009	**F***
Empire Avenue						
East of Buena Vista Street	2,237	0.778	C	2,817	0.980	**E***
Victory Place						
West of Empire Street	1,156	1.005	**F***	1,116	0.970	**E***

Source: Authority 2019
***Boldface** type indicates that the intersection operates at an inadequate LOS (LOS E/F).
[1] Volume is measured using peak hour average daily traffic.
I = Interstate Highway; LOS = level-of-service; NB = northbound; SB = southbound; SR = State Route; V/C = volume-to-capacity ratio

Intersections

Table 3.2-18 shows the LOS for intersections within the Burbank Subsection that operate at LOS E or F during the AM and PM peak hour. Intersections in the Central Subsection RSA were not analyzed for the No Project Alternative because these locations are outside station impact areas and therefore would not be significantly affected by operation of the Build Alternatives. Based on the distribution of trips in the Central Subsection, it was determined that the Build Alternatives would not add more than 50 vehicles to any intersection in the Central Subsection and therefore, none of the intersections met the threshold for analysis. Intersection conditions for the Palmdale Subsection and Maintenance Facility are evaluated in the Bakersfield to Palmdale Project Section EIR/EIS.

Table 3.2-18 Year 2040 No Project Intersection Peak-Hour Level of Service

Intersection	Traffic Control	AM		PM	
		Delay (s/v)	LOS	Delay (s/v)	LOS
Burbank Subsection					
SR 170 SB Ramps at Victory Boulevard	TWSC	>180.0	**F***	>180.0	**F***
Hollywood Way at I-5 Southbound Ramps	TWSC	>180.0	**F***	66.3	**F***
Buena Vista Street at San Fernando Road	Signal	89.7	**F***	56.7	**E***
Buena Vista Street at Empire Avenue	Signal	90.3	**F***	>180.0	**F***
Laurel Canyon at Sherman Way	Signal	142.7	**F***	>180.0	**F***
Hollywood Way at Cohasset Street	TWSC	148.6	**F***	40.1	**E***

Source: Authority 2019
***Boldface** type indicates that the intersection operates at an inadequate LOS (LOS E/F).
> = greater than; I = Interstate Highway; LOS = level-of-service; SR = State Route; s/v = second per vehicle; TWSC = two-way stop-controlled; US = U.S. Route

Ramp Queuing

This ramp queuing analysis evaluates freeway off-ramp locations that would experience 100 or more peak-hour project-related trips. The SR 14 Southbound Ramps at 10th Street West (intersection #1), the I-5 Southbound Ramps at Hollywood Way (intersection #28), and the SR 134 Eastbound Ramps at Pass Avenue (intersection #45) exceeded this 100-trip threshold during the 2040 No Project Conditions:

- The 95th percentile queues on the SR 14 Southbound Ramps at 10th Street West are approximately 80 feet during the AM peak hour and 494 feet during the PM peak hour, which can be accommodated by the existing approximately 900 feet of storage capacity at this off-ramp location.
- The 95th percentile queues on the I-5 Southbound Ramps at Hollywood Way are approximately 1,000 feet during the AM peak hour and 165 feet during the PM peak hour, which can be accommodated by the existing approximately 1,300 feet of storage capacity at this off-ramp location.
- The 95th percentile queues on the SR 134 Eastbound Ramps at Pass Avenue are 362 feet for AM peak hour and 393 feet for PM peak hour, which can be accommodated by the existing approximately 950 feet of storage capacity at this off-ramp location.

Freeway Segments

Table 3.2-19 shows the LOS for freeway segments within the Central Subsection and Burbank Subsection that operate at LOS E or F during the AM and PM peak hour. Freeway segment

conditions for the Palmdale Subsection and Maintenance Facility are evaluated in the Bakersfield to Palmdale Project Section EIR/EIS.

Table 3.2-19 Year 2040 No Project Freeway Segment Peak-Hour Level-of-service

Segment	Direction	AM Peak Hour			PM Peak Hour		
		Volume[1]	V/C	LOS	Volume[1]	V/C	LOS
I-5 South of Burbank Boulevard	Southbound	10,700	1.070	**F***	7,000	0.700	C

Source: Authority 2019
***Boldface** type indicates that the intersection operates at an inadequate LOS (LOS E/F).
[1] Volume is measured using peak hour average daily traffic.
I = Interstate Highway; LOS = level-of-service; V/C = volume-to-capacity ratio

Transit

Under 2040 No Project Conditions, the future transit conditions as described in the 2012-20352020–2045 RTP/SCS (SCAG 2012) would be in effect and are assumed for this scenario. The 2012–2035 RTP/SCS details a strategic expansion to the regional transportation system, including investments to provide new bus rapid transit, light rail transit, heavy rail transit, and bus services in Los Angeles County.

Aviation

The Hollywood Burbank Airport Terminal Replacement project was approved by City of Burbank voters under Measure B in November 2016. The project will include development of surplus land into commercial uses; however, the number of gates at the airport is not proposed to increase from the current number. The number of daily flights also is not anticipated to increase. The airport, therefore, would have limited growth in new vehicle trips to and from the site when the project is completed. The growth would come only from increases in the number of passengers on the existing number of flights. Passenger activity through 2028 with the terminal replacement is not anticipated to exceed the maximum levels experienced in 2008 (RS&H, Inc. 2016) The SCAG RTP estimated that annual activity at the airport would reach 9.4 million passengers by 2035, but the growth would be from regional trends over the 24-year forecast period.

The separate but adjacent commercial project at Hollywood Burbank Airport, the substantially complete Avion Burbank development, using surplus land from the terminal replacement project, would generate some new local area vehicle trips. However, land use projections are included in the SCAG model, and therefore the applied growth rates in the future-year analysis take the HSR Build Alternative into account.

Passenger Rail

Under 2040 No Project Conditions, the future passenger rail conditions as described in the 1012-2035 RTP/SCS (SCAG 2012) would be in effect and are assumed for this scenario.

Freight Rail

Under 2040 No Project Conditions, the future freight rail conditions as described in the 2012-2035 RTP/SCS (SCAG 2012) would be in effect and are assumed for this scenario.

Non-Motorized Modes

Under the 2040 No Project Alternative conditions, pedestrian and bicycle facilities around the Burbank Airport Station would generally improve based on the plans and projects made by the City of Burbank due to new development projects, and changes to design and safety standards.

Vehicle Miles Traveled

The Authority used the statewide travel demand model (BPM-V3) to estimate VMT (2016) in the transportation RSA for medium and high scenarios. In 2040, under the No Project Alternative, the total VMT in Los Angeles County is anticipated to range between 76.06 and 87.08 billion miles.

Please refer to Appendix 3.2-A, Vehicle Miles Traveled Methodology, for more information on VMT for the No Project Alternative.

3.2.6.3 Palmdale to Burbank Project Section Build Alternatives

Temporary and permanent transportation impacts are categorized based on occurrence during construction or during operation of the Palmdale to Burbank Project Section. Construction impacts that would occur for a limited time are considered temporary, and construction impacts that would result in long-term changes to the physical environment are considered permanent. Operations impacts that would be continuous throughout the life of the Palmdale to Burbank Project Section are considered permanent. This analysis includes both impacts associated with the Build Alternative alignments and the Burbank Airport Station. Chapter 2, Alternatives, describes the Burbank Airport Station layout. The Transportation Technical Report (Authority 2019) establishes trip generation, trip distribution, and proposed roadway modifications associated with the Palmdale and Burbank Stations. In some cases, mitigation measures would be implemented to reduce impacts from the project. Refer to Section 3.2.7, Mitigation Measures, for more information regarding mitigation measures and impacts after implementing mitigation measures.

Construction Impacts

Existing (2015) Plus Spoils Hauling Conditions

Impact TRA#1: Spoils Hauling Effects on Roadway Segments.

Refined SR14 and SR14A Build Alternative spoils hauling would degrade LOS to unacceptable levels at the roadway segments listed in Table 3.2-20 for up to 6.4 years, depending on location and Build Alternative. Where roadway segments already operate at an unacceptable LOS under Existing (2015) No Project Conditions, Table 3.2-20 shows the change in V/C that would occur as a result of each respective Build Alternative. For an AM and PM peak hour trip generation analysis of trucks generated by spoils hauling, refer to the Transportation Technical Report (Authority 2019). Roadway segments in the Spoils Hauling RSA are displayed on Figure 3.2-10 through Figure 3.2-12.

The Build Alternatives include IAMFs that require the contractor to minimize traffic impacts during construction through a CTP, timing of materials delivery, and use of truck routes. The following IAMFs will minimize impacts on roadway segments during spoils hauling:

- TR-IAMF#1: Protection of Public Roadways During Construction—TR-IAMF#1 will require the contractor to provide a photographic survey documenting the condition of the public roadways along truck routes. The contractor will be responsible for the repair of structural damage to public roadways caused by HSR construction or construction access.
- TR-IAMF#2: Construction Transportation Plan—TR-IAMF#2 will require the contractor to prepare a detailed CTP to minimize construction and construction traffic impacts on nearby roadways. The CTP will address, in detail, the activities to be conducted in each construction phase to maintain traffic flow during peak travel periods.
- TR-IAMF#6: Restriction on Construction Hours—TR-IAMF#6 will limit construction material deliveries and the number of construction employees arriving or departing the site during peak period travels, which will result in reduced impacts on roadway performance levels.
- TR-IAMF#7: Construction Truck Routes—TR-IAMF#7 will require the contractor to deliver construction-related equipment and materials on appropriate truck routes, avoiding impacts on streets not designed to accommodate truck traffic.
- TR-IAMF#8: Construction during Special Events—TR-IAMF#8 will require the contractor to provide a mechanism to prevent roadway construction activities from reducing roadway capacity during major athletic events or other special events that substantially (10 percent or more) increase traffic on roadways affected by project construction as part of the CTP outlined in TR-IAMF#2.

While the IAMFs related to spoils hauling will be helpful in reducing construction-related traffic, spoils hauling would nevertheless affect roadway segments and degrade LOS and V/C ratios to unacceptable levels, as described below.

The E1 and E1A Build Alternatives spoils hauling would degrade LOS and V/C ratios to unacceptable levels at the roadway segments listed in Table 3.2-21. Roadway segments in the spoils hauling RSA are displayed on Figure 3.2-10 through Figure 3.2-12. The E2 and E2A Build Alternatives spoils hauling would degrade LOS and V/C ratios to unacceptable levels at the roadway segments listed in Table 3.2-22. Roadway segments in the spoils hauling RSA are displayed on Figure 3.2-10 through Figure 3.2-12.

Table 3.2-20 Refined SR14 and SR14A Build Alternatives Spoils Hauling Roadway Segment Analysis

Map ID	Segment	Existing (2015) No Project Conditions			Existing (2015) Plus Spoils Hauling Conditions Refined SR14			Existing (2015) Plus Spoils Hauling Conditions SR14A			Change in V/C Refined SR14	Change in V/C SR14A
		Volume[1]	V/C	LOS	Volume[1]	V/C	LOS	Volume[1]	V/C	LOS		
Northbound Routing – AM Peak Hour												
Sierra Highway												
B	West of Pearblossom Highway	2,955	1.028	**F***	3,051	1.061	**F***	3,117	1.084	**F***	0.033	**0.056***
D	West of Red Rover Mine Road	863	0.785	C	1,259	1.145	**F***	863	0.785	C	**0.360***	0.000
Hubbard Street												
N	North of I-210 WB Ramps	2,383	0.829	D	2,593	0.902	**E***	2,593	0.902	**E***	**0.073***	**0.073***
Northbound Routing – PM Peak Hour												
Sierra Highway												
B	West of Pearblossom Highway	3,934	1.368	**F***	4,030	1.402	**F***	4,096	1.425	**F***	0.033	**0.056***
Laurel Canyon												
S	East of Osborne Street	2,773	0.965	**E***	2,935	1.021	**F***	2,935	1.021	**F***	**0.056***	**0.056***
Southbound Routing – AM Peak Hour												
Sierra Highway												
B	West of Pearblossom Highway	2,955	1.028	**F***	3,051	1.061	**F***	3,117	1.084	**F***	0.033	**0.056***
D	West of Red Rover Mine Road	863	0.785	C	1,259	1.145	**F***	863	0.785	C	**0.360***	0.000

Map ID	Segment	Existing (2015) No Project Conditions			Existing (2015) Plus Spoils Hauling Conditions Refined SR14			Existing (2015) Plus Spoils Hauling Conditions SR14A			Change in V/C Refined SR14	Change in V/C SR14A
		Volume[1]	V/C	LOS	Volume[1]	V/C	LOS	Volume[1]	V/C	LOS		
Hubbard Street												
N	North of I-210 WB Ramps	2,383	0.829	D	2,593	0.902	**E***	2,593	0.902	**E***	**0.073***	**0.073***
Southbound Routing – PM Peak Hour												
Sierra Highway												
B	West of Pearblossom Highway	3,934	1.368	**F***	4,030	1.402	**F***	4,096	1.425	**F***	0.033	**0.056***
C	North of Angeles Forest Highway	1,466	1.275	**F***	1,514	1.317	**F***	1,583	1.377	**F***	**0.042***	**0.102***
Laurel Canyon Road												
S	East of Osborne Street	2,773	0.965	**E***	2,935	1.021	**F***	2,935	1.021	**F***	**0.056***	**0.056***

Source: Authority 2019
***Boldface** type indicates that the intersection would operate at an inadequate LOS (LOS E/F) or where the change in V/C ratio increases by 0.04 or more.
[1] Volume is measured using peak hour average daily traffic and indicates the total volume of roadway during peak hours.
I = Interstate Highway; LOS = level-of-service; SB = southbound; V/C = volume-to-capacity ratio; WB = westbound

Table 3.2-21 E1 and E1A Build Alternatives Spoils Hauling Roadway Segment Analysis

Map ID	Segment	Existing (2015) No Project Conditions			Existing (2015) Plus Spoils Hauling Conditions E1			Existing (2015) Plus Spoils Hauling Conditions E1A			Change in V/C E1	Change in V/C E1A
		Volume[1]	V/C	LOS	Volume[1]	V/C	LOS	Volume[1]	V/C	LOS		
Northbound Routing – AM Peak Hour												
Sierra Highway												
B	West of Pearblossom Highway	2,955	1.028	**F***	2,979	1.036	**F***	3,105	1.080	**F***	0.008	**0.052***
C	North of Angeles Forest Highway	904	0.786	C	1,084	0.943	**E***	1,024	0.890	D	**0.157***	**0.104***
F	North of Placerita Canyon Road	3,013	1.048	**F***	3,226	1.122	**F***	3,226	1.122	**F***	**0.074***	**0.074***
Soledad Canyon Road												
AC	South of Sierra Highway	221	0.201	A	1,067	0.970	**E***	1,067	0.970	**E***	**0.769***	**0.769***
Placerita Canyon Road												
AG	East of SR 14 NB Ramps	692	0.629	B	1,118	1.016	**F***	1,118	1.016	**F***	**0.387***	**0.387***
Northbound Routing – PM Peak Hour												
Sierra Highway												
B	West of Pearblossom Highway	3,934	1.368	**F***	3,958	1.377	**F***	4,084	1.421	**F***	0.008	**0.052***
C	North of Angeles Forest Highway	1,466	1.275	**F***	1,646	1.431	**F***	1,586	1.379	**F***	**0.157***	**0.104***
E	West of Soledad Canyon Road	572	0.520	A	995	0.905	**E***	995	0.905	**E***	**0.385***	**0.385***
Laurel Canyon Road												
S	East of Osborne Street	2,773	0.965	**E***	2,935	1.021	**F***	2,935	1.021	**F***	**0.056***	**0.056***
Soledad Canyon Road												
AC	South of Sierra Highway	327	0.297	A	1,179	1.072	**F***	1,179	1.072	**F***	**0.775***	**0.775***
Southbound Routing – AM Peak Hour												
Sierra Highway												
B	West of Pearblossom Highway	2,955	1.028	**F***	2,979	1.036	**F***	3,105	1.080	**F***	0.008	**0.052***
C	North of Angeles Forest Highway	904	0.786	C	1,036	0.901	**E***	1,039	0.903	**E***	**0.115***	**0.117***

Map ID	Segment	Existing (2015) No Project Conditions			Existing (2015) Plus Spoils Hauling Conditions E1			Existing (2015) Plus Spoils Hauling Conditions E1A			Change in V/C E1	Change in V/C E1A
		Volume[1]	V/C	LOS	Volume[1]	V/C	LOS	Volume[1]	V/C	LOS		
F	North of Placerita Canyon Road	3,013	1.048	**F***	3,226	1.122	**F***	3,226	1.122	**F***	**0.074***	**0.074***
Soledad Canyon Road												
AC	South of Sierra Highway	221	0.201	A	1,073	0.975	**E***	1,073	0.975	**E***	**0.775***	**0.775***
Placerita Canyon Road												
AG	East of SR 14 NB Ramps	692	0.629	B	1,118	1.016	**F***	1,118	1.016	**F***	**0.387***	**0.387***
Southbound Routing – PM Peak Hour												
Sierra Highway												
B	West of Pearblossom Highway	3,934	1.368	**F***	3,958	1.377	**F***	4,084	1.421	**F***	0.008	**0.052***
C	North of Angeles Forest Highway	1,466	1.275	**F***	1,598	1.390	**F***	1,601	1.392	**F***	**0.115***	**0.117***
E	West of Soledad Canyon Road	572	0.520	A	995	0.905	**E***	995	0.905	**E***	**0.385***	**0.385***
Laurel Canyon Road												
S	East of Osborne Street	2,773	0.965	**E***	2,935	1.021	**F***	2,935	1.021	**F***	**0.056***	**0.056***
Soledad Canyon Road												
AC	South of Sierra Highway	327	0.297	A	1,179	1.072	**F***	1,179	1.072	**F***	**0.775***	**0.775***

Source: Authority 2019
***Boldface** type indicates that the intersection would operate at an inadequate LOS (LOS E/F).
[1] Volume is measured using peak hour average daily traffic and indicates the total volume of roadway during peak hours or where the change in V/C ratio increases by 0.04 or more.
LOS = level-of-service; NB = northbound; SR = State Route; V/C = volume-to-capacity ratio

Table 3.2-22 E2 and E2A Build Alternatives Spoils Hauling Roadway Segment Analysis

Map ID	Segment	Existing (2015) No Project Conditions			Existing (2015) Plus Spoils Hauling Conditions E2			Existing (2015) Plus Spoils Hauling Conditions E2A			Change in V/C E2	Change in V/C E2A
		Volume[1]	V/C	LOS	Volume[1]	V/C	LOS	Volume[1]	V/C	LOS		
Northbound Routing – AM Peak Hour												
Sierra Highway												
B	West of Pearblossom Highway	2,955	1.028	**F***	2,979	1.036	**F***	3,105	1.080	**F***	0.008	**0.052***
C	North of Angeles Forest Highway	904	0.786	C	1,084	0.943	**E***	1,024	0.890	D	**0.157***	**0.104***
Soledad Canyon Road												
AC	South of Sierra Highway	221	0.201	A	1,073	0.975	**E***	1,073	0.975	**E***	**0.775***	**0.775***
Sunland Boulevard												
AK	West of Fenwick Street	3,290	1.144	**F***	3,458	1.203	**F***	3,458	1.203	**F***	**0.058***	**0.058***
Northbound Routing – PM Peak Hour												
Sierra Highway												
B	West of Pearblossom Highway	3,934	1.368	**F***	3,958	1.377	**F***	4,084	1.421	**F***	0.008	**0.052***
C	North of Angeles Forest Highway	1,466	1.275	**F***	1,646	1.431	**F***	1,586	1.379	**F***	**0.157***	**0.104***
E	West of Soledad Canyon Road	572	0.520	A	998	0.907	**E***	998	0.907	**E***	**0.387***	**0.387***
Soledad Canyon Road												
AC	South of Sierra Highway	327	0.297	A	1,179	1.072	**F***	1,179	1.072	**F***	**0.775***	**0.775***
Sunland Boulevard												
AK	West of Fenwick Street	3,237	1.126	**F***	3,405	1.184	**F***	3,405	1.184	**F***	**0.058***	**0.058***
Southbound Routing – AM Peak Hour												
Sierra Highway												
B	West of Pearblossom Highway	2,955	1.028	**F***	2,979	1.036	**F***	3,105	1.080	**F***	0.008	**0.052***

Map ID	Segment	Existing (2015) No Project Conditions			Existing (2015) Plus Spoils Hauling Conditions E2			Existing (2015) Plus Spoils Hauling Conditions E2A			Change in V/C E2	Change in V/C E2A
		Volume[1]	V/C	LOS	Volume[1]	V/C	LOS	Volume[1]	V/C	LOS		
C	North of Angeles Forest Highway	904	0.786	C	1,036	0.901	**E***	1,039	0.903	**E***	**0.115***	**0.117***
Soledad Canyon Road												
AC	South of Sierra Highway	221	0.201	A	1,073	0.975	**E***	1,073	0.975	**E***	**0.775***	**0.775***
Southbound Routing – PM Peak Hour												
Sierra Highway												
B	West of Pearblossom Highway	3,934	1.368	**F***	3,958	1.377	**F***	4,084	1.421	**F***	0.008	**0.052***
C	North of Angeles Forest Highway	1,466	1.275	**F***	1,598	1.390	**F***	1,601	1.392	**F***	**0.115***	**0.117***
E	West of Soledad Canyon Road	572	0.520	A	998	0.907	**E***	998	0.907	**E***	**0.387***	**0.387***
Soledad Canyon Road												
AC	South of Sierra Highway	327	0.297	A	1,179	1.072	**F***	1,179	1.072	**F***	**0.775***	**0.775***

Source: Authority 2019
***Boldface** type indicates that the intersection would operate at an inadequate LOS (LOS E/F) or where the change in V/C ratio increases by 0.04 or more.
[1] Volume is measured using peak hour average daily traffic and indicates the total volume of roadway during peak hours.
LOS = level-of-service; V/C = volume-to-capacity ratio

As discussed in Section 3.2.7, Mitigation Measures, TR-MM#12 requires the development of a transportation CMP to address circulation and connections for modes of travel during the construction duration. The CMP will include to the following facets to facilitate the flow of traffic in and around the construction zone:

- Schedule a majority of construction-related travel during off-peak hours
- Relocate spoils collection areas and access to minimize delays during peak hours
- Develop detour routes to facilitate traffic movements through construction zones without substantially increasing cut-through traffic in adjacent residential neighborhoods
- Temporarily restripe roadways to maximize vehicular capacity at locations affected by construction closures, where feasible
- Temporarily remove on-street parking to maximize vehicular capacity, transit capacity, and bicycle circulation at locations affected by construction closures, where feasible
- Station traffic control officers at major intersections to minimize delays during peak hours, where feasible
- Develop alternative routes to reduce number of trucks on sensitive facilities without substantially increasing cut-through traffic in adjacent residential neighborhoods
- Develop and implement an outreach program to inform the general public about the construction process and planned roadway closures
- Develop and implement a program with business owners to minimize impacts on businesses during construction activity

Implementation of the above IAMFs and the CMP (TR-MM#12) are effective in reducing impacts associated with haul route traffic. TR-IAMF#6 is incorporated into the project to reduce roadway volumes during peak travel hours by imposing restrictions on construction hours. TR-MM#12 will further reduce and minimize impacts associated with spoils hauling at roadway segments. TR-MM#12 requires the development of a CMP, which will provide specific quantitative measures intended to address construction circulation impacts during construction, including relocating spoils collection areas and access to minimize delays during peak hours. However, there is a possibility that these traffic measures would not achieve adequate LOS or V/C ratios at affected roadway segments.

CEQA Conclusion

Spoils hauling could create temporary increases in automobile delay and travel time on roadway segments during construction of the Palmdale to Burbank Project Section, as discussed above. Automobile delay is not considered a significant environmental impact under CEQA. Therefore, CEQA does not require mitigation.

Impact TRA#2: Spoils Hauling Effects on Intersections.

Refined SR14 and SR14A Build Alternative spoils hauling would degrade LOS to unacceptable levels at the intersections listed in Table 3.2-23 for up to 6.4 years depending on location and Build Alternative. Where roadway segments already operate at an unacceptable LOS under Existing (2015) No Project Conditions, Table 3.2-23 shows the change in delay that would occur as a result of each respective Build Alternative. For an AM and PM peak hour trip generation analysis of trucks generated by spoils hauling, refer to the Transportation Technical Report (Authority 2019).

E1 and E1A Build Alternatives spoils hauling would degrade LOS and increase delay to unacceptable levels at the intersections listed in Table 3.2-24.

E2 and E2A Build Alternatives spoils hauling would degrade LOS and increase delay to unacceptable levels at the intersections listed in Table 3.2-25.

Table 3.2-23 Refined SR14 and SR14A Build Alternatives Spoils Hauling Intersection Impacts

Map ID	Intersection	Traffic Control	Existing (2015) No Project Conditions		Existing (2015) Plus Spoils Hauling Conditions Refined SR14		Existing (2015) Plus Spoils Hauling Conditions SR14A		Change in Delay Refined SR14 (s/v)	Change in Delay SR14A (s/v)
			Delay (s/v)	LOS	Delay (s/v)	LOS	Delay (s/v)	LOS		
Northbound Routing – AM Peak Hour										
8	SR 14 SB Off-ramp at Sierra Highway	TWSC	148.2	**F***	>180.0	**F***	148.2	**F***	**157.6***	0.0
29	Hubbard Street at I-210 EB Ramps	Signal	49.4	D	55.3	**E***	55.3	**E***	**5.9***	**5.9***
31	I-210 WB Ramps at Paxton Street	TWSC	>180.0	**F***	>180.0	**F***	>180.0	**F***	**>180.0***	**>180.0***
34	Foothill Boulevard at Spoils Area 15 Access Road 2	TWSC	N/A[1]	A	36.9	**E***	36.9	**E***	N/A[1]	N/A[1]
52	Hollywood Way at I-5 SB Ramps	TWSC	>180.0	**F***	>180.0	**F***	>180.0	**F***	**17.1***	**17.1***
203	Crown Valley Road & SR 14 WB Ramps	TWSC	89.8	**F***	-	-	174.4	**F***	-	**84.6***
205	Crown Valley Road & Antelope Woods Road	TWSC	11.6	B	-	-	39.2	**E***	-	**27.6***
Northbound Routing – PM Peak Hour										
4	Sierra Highway at SR 14 SB Ramps	TWSC	62.0	**F***	86.9	**F***	136.3	**F***	**24.9***	**75.1***
9	Ward Road at SR 14 SB On-ramp/Sierra Highway	TWSC	35.9	**E***	>180.0	**F***	35.9	**E***	**>180.0***	0.0
31	I-210 WB Ramps at Paxton Street	TWSC	>180.0	**F***	>180.0	**F***	>180.0	**F***	**>180.0***	**>180.0***
34	Foothill Boulevard at Spoils Area 15 Access Road 2	TWSC	N/A[1]	N/A[1]	35.8	**E***	35.8	**E***	N/A[1]	N/A[1]
38	Branford Street at San Fernando Road	Signal	44.0	D	57.9	**E***	57.9	**E***	**13.9***	**13.9***
48	Lankershim Boulevard at Telfair Avenue/Pendleton Street	TWSC	>180.0	**F***	>180.0	**F***	>180.0	**F***	**5.3***	**5.3***
203	Crown Valley Road & SR 14 WB Ramps	TWSC	73.5	**F***	-	-	141.1	**F***	-	**67.6***
204	Crown Valley Road & SR 14 EB Ramps	TWSC	53.1	**F***	-	-	67.9	**F***	-	**14.8***
205	Crown Valley Road & Antelope Woods Road	TWSC	11.8	B	-	-	51.2	**F***	-	**39.4***

Map ID	Intersection	Traffic Control	Existing (2015) No Project Conditions		Existing (2015) Plus Spoils Hauling Conditions Refined SR14		Existing (2015) Plus Spoils Hauling Conditions SR14A		Change in Delay Refined SR14 (s/v)	Change in Delay SR14A (s/v)
			Delay (s/v)	LOS	Delay (s/v)	LOS	Delay (s/v)	LOS		
Southbound Routing – AM Peak Hour										
5	Sierra Highway at SR 14 NB Off-ramp/Angeles Highway	TWSC	38.9	**E***	74.4	**F***	152.8	**F***	**35.5***	**180.0***
8	SR 14 SB Off-ramp at Sierra Highway	TWSC	>180.0	**F***	>180.0	**F***	148.2	**F***	**106.9***	0.0
28	Hubbard Street at I-210 WB On-ramp/I-210 WB Off-ramp	Signal	75.8	**E***	97.4	**F***	97.4	**F***	**21.6***	**21.6***
31	I-210 WB Ramps at Paxton Street	TWSC	>180.0	**F***	>180.0	**F***	>180.0	**F***	**>180.0***	**>180.0***
34	Foothill Boulevard at Spoils Area 15 Access Road 2	TWSC	N/A[1]	N/A[1]	36.9	**E***	36.9	**E***	N/A[1]	N/A[1]
43	Spoils Area 44 Access Road at San Fernando Road	TWSC	N/A[1]	N/A[1]	42.9	**E***	42.9	**E***	N/A[1]	N/A[1]
48	Lankershim Boulevard at Telfair Avenue/Pendleton Street	TWSC	59.2	**F***	>180.0	**F***	>180.0	**F***	**>180.0***	**>180.0***
52	Hollywood Way at I-5 SB Ramps	TWSC	>180.0	**F***	>180.0	**F***	>180.0	**F***	**37.5***	**37.5***
203	Crown Valley Road & SR 14 WB Ramps[2]	TWSC	89.8	**F***	-	-	150.6	**F***	-	**60.8***
205	Crown Valley Road & Antelope Woods Road*	TWSC	11.6	B	-	-	39.2	**E***	-	**27.6***
Southbound Routing – PM Peak Hour										
4	Sierra Highway at SR 14 SB Ramps	TWSC	62.0	**F***	65.4	**F***	69.1	**F***	3.4	**7.9***
5	Sierra Highway at SR 14 NB Off-ramp/Angeles Highway	TWSC	>180.0	**F***	179.5	**F***	>180.0	**F***	0.0	0.0
9	Ward Road at SR 14 SB On-ramp/Sierra Highway	TWSC	35.9	**E***	179.7	**F***	35.9	**E***	**143.8***	0.0
31	I-210 WB Ramps at Paxton Street	TWSC	>180.0	**F***	>180.0	**F***	>180.0	**F***	**>180.0***	**>180.0***

Map ID	Intersection	Traffic Control	Existing (2015) No Project Conditions		Existing (2015) Plus Spoils Hauling Conditions Refined SR14		Existing (2015) Plus Spoils Hauling Conditions SR14A		Change in Delay Refined SR14 (s/v)	Change in Delay SR14A (s/v)
			Delay (s/v)	LOS	Delay (s/v)	LOS	Delay (s/v)	LOS		
34	Foothill Boulevard at Spoils Area 15 Access Road 2	TWSC	N/A[1]	N/A[1]	35.8	**E***	35.8	**E***	N/A[1]	N/A[1]
38	Branford Street at San Fernando Road	Signal	44.0	D	57.9	**E***	57.9	**E***	**13.9***	**13.9***
43	Spoils Area 44 Access Road at San Fernando Road	TWSC	N/A[1]	N/A[1]	44.6	**E***	44.6	**E***	**44.6***	**44.6***
48	Lankershim Boulevard at Telfair Avenue/Pendleton Street	TWSC	>180.0	**F***	>180.0	**F***	>180.0	**F***	**>180.0***	**>180.0***
52	Hollywood Way at I-5 SB Ramps	TWSC	36.1	**E***	44.5	**E***	N/A	N/A	**8.4***	N/A -
203	Crown Valley Road & SR 14 WB Ramps[2]	TWSC	73.5	**F***	N/A	N/A	121.7	**F***	N/A	**48.2***
204	Crown Valley Road & SR 14 EB Ramps[2]	TWSC	53.1	**F***	N/A	N/A	57.9	**F***	N/A	**4.8***
205	Crown Valley Road & Antelope Woods Road*	TWSC	11.8	B	N/A	N/A	51.2	**F***	N/A	**39.4***

Source: Authority 2019
***Boldface** type indicates that the intersection would operate at an inadequate LOS (LOS E/F) or where the change in delay increases by four seconds or more.
[1] Spoils area access driveway only exists for project conditions.
[2] Intersection not analyzed for the Refined SR14 Build Alternative.
> = greater than; EB = eastbound; I = Interstate Highway; LOS = level-of-service; N/A = not applicable; NB = northbound; SB = southbound; SR = State Route; s/v = seconds per vehicle; TWSC = two-way stop-controlled; WB = westbound

Table 3.2-24 E1 and E1A Build Alternatives Spoils Hauling Intersection Impacts

Map ID	Intersection	Traffic Control	Existing (2015) No Project Conditions		Existing (2015) Plus Spoils Hauling Conditions E1		Existing (2015) Plus Spoils Hauling Conditions E1A		Change in Delay E1 (s/v)	Change in Delay E1A (s/v)
			Delay (s/v)	LOS	Delay (s/v)	LOS	Delay (s/v)	LOS		
Northbound Routing – AM Peak Hour										
3	Sierra Highway at SR 14 NB On-ramp	TWSC	5.8	A	37.7	**E***	14.4	B	**31.9***	**8.6***
5	Sierra Highway at SR 14 NB Off-ramp/Angeles Highway	TWSC	38.9	**E***	46.1	**E***	43.6	**E***	**7.2***	**4.7***
31	I-210 WB Ramps at Paxton Street	TWSC	>180.0	**F***	>180.0	**F***	>180.0	**F***	**>180.0***	**>180.0***
34	Foothill Boulevard at Spoils Area 15 Access Road 2	TWSC	N/A[1]	N/A [1]	36.9	**E***	36.9*	**E***	N/A	N/A
52	Hollywood Way at I-5 SB Ramps	TWSC	>180.0	**F***	>180.0	**F***	>180.0	**F***	**17.1***	**17.1***
55	Sierra Highway at Spoils Area 21/22 Access Road	TWSC	N/A[1]	N/A[1]	>180.0	**F***	0.0	A	N/A	N/A
56	Sierra Highway at Spoils Area 22 Access Road	TWSC	N/A[1]	N/A[1]	51.9	**F***	0.0	A	N/A	N/A
61	Soledad Canyon Road/SR 14 NB Ramps at Sierra Highway	TWSC	19.3	C	>180.0	**F***	>180.0	**F***	**169.1***	**169.1***
71	Sierra Highway at Placerita Canyon Road	Signal	79.2	**E***	92.5	**F***	92.5	**F***	**13.3***	**13.3***
Northbound Routing – PM Peak Hour										
4	Sierra Highway at SR 14 SB Ramps	TWSC	62.0	**F***	91.8	**F***	103.4	**F***	**29.8***	**42.2***
5	Sierra Highway at SR 14 NB Off-ramp/Angeles Highway	TWSC	179.5	**F***	>180.0	**F***	>180	**F***	**48.0***	**32.3***
31	I-210 WB Ramps at Paxton Street	TWSC	>180.0	**F***	>180.0	**F***	>180.0	**F***	**>180.0***	**>180.0***
34	Foothill Boulevard at Spoils Area 15 Access Road 2	TWSC	N/A[1]	N/A[1]	35.8	**E***	35.8	**E***	N/A	N/A
38	Branford Street at San Fernando Road	Signal	44.0	D	57.9	**E***	57.9	**E***	**13.9***	**13.9***

Map ID	Intersection	Traffic Control	Existing (2015) No Project Conditions		Existing (2015) Plus Spoils Hauling Conditions E1		Existing (2015) Plus Spoils Hauling Conditions E1A		Change in Delay E1 (s/v)	Change in Delay E1A (s/v)
			Delay (s/v)	LOS	Delay (s/v)	LOS	Delay (s/v)	LOS		
48	Lankershim Boulevard at Telfair Avenue/Pendleton Street	TWSC	>180.0	**F***	>180.0	**F***	>180.0	**F***	**5.3***	**5.3***
55	Sierra Highway at Spoils Area 21/22 Access Road	TWSC	N/A[1]	N/A[1]	>180.0	**F***	0.0	A	N/A	N/A
61	Soledad Canyon Road/SR 14 NB Ramps at Sierra Highway	TWSC	66.1	**F***	>180.0	**F***	>180.0	**F***	**>180.0***	**>180.0***
71	Sierra Highway at Placerita Canyon Road	Signal	93.3	**F***	128.8	**F***	128.8	**F***	**35.5***	**35.5***
Southbound Routing – AM Peak Hour										
5	Sierra Highway at SR 14 NB Off-ramp/Angeles Highway	TWSC	38.9	**E***	154.2	**F***	166.9	**F***	**115.3***	**128.0***
31	I-210 WB Ramps at Paxton Street	TWSC	>180.0	**F***	>180.0	**F***	>180.0	**F***	**>180.0***	**>180.0***
34	Foothill Boulevard at Spoils Area 15 Access Road 2	TWSC	N/A[1]	N/A[1]	36.9	**E***	36.9	**E***	N/A	N/A
43	Spoils Area 44 Access Road at San Fernando Road	TWSC	N/A[1]	N/A[1]	40.6	**E***	40.6	**E***	N/A	N/A
48	Lankershim Boulevard at Telfair Avenue/Pendleton Street	TWSC	59.2	**F***	>180.0	**F***	>180.0	**F***	**>180.0***	**>180.0***
52	Hollywood Way at I-5 SB Ramps	TWSC	>180.0	**F***	>180.0	**F***	>180.0	**F***	**13.6***	**13.6***
55	Sierra Highway at Spoils Area 21/22 Access Road	TWSC	N/A[1]	N/A[1]	91.3	**F***	0.0	A	N/A	N/A
56	Sierra Highway at Spoils Area 22 Access Road	TWSC	N/A[1]	N/A[1]	51.9	**F***	0.0	A	N/A	N/A
61	Soledad Canyon Road/SR 14 NB Ramps at Sierra Highway	TWSC	19.3	C	>180.0	**F***	>180.0	**F***	**>180.0***	**>180.0***

Map ID	Intersection	Traffic Control	Existing (2015) No Project Conditions		Existing (2015) Plus Spoils Hauling Conditions E1		Existing (2015) Plus Spoils Hauling Conditions E1A		Change in Delay E1 (s/v)	Change in Delay E1A (s/v)
			Delay (s/v)	LOS	Delay (s/v)	LOS	Delay (s/v)	LOS		
71	Sierra Highway at Placerita Canyon Road	Signal	79.2	**E***	97.0	**F***	97.0	**F***	**17.8***	**17.8***
Southbound Routing – PM Peak Hour										
4	Sierra Highway at SR 14 SB Ramps	TWSC	62.0	**F***	84.9	**F***	75.3	**F***	**22.9***	**14.1***
5	Sierra Highway at SR 14 NB Off-ramp/Angeles Highway	TWSC	197.5	**F***	>180.0	**F***	>180.0	**F***	**48.0***	**32.3***
31	I-210 WB Ramps at Paxton Street	TWSC	>180.0	**F***	>180.0	**F***	>180.0	**F***	**>180.0***	**>180.0***
34	Foothill Boulevard at Spoils Area 15 Access Road 2	TWSC	N/A[1]	N/A[1]	35.8	**E***	35.8	**E***	N/A	N/A
38	Branford Street at San Fernando Road	Signal	44.0	D	57.9	**E***	57.9	**E***	**13.9***	**13.9***
43	Spoils Area 44 Access Road at San Fernando Road	TWSC	N/A[1]	N/A[1]	42.1	**E***	42.1	**E***	N/A	N/A
48	Lankershim Boulevard at Telfair Avenue/Pendleton Street	TWSC	>180.0	**F***	>180.0	**F***	>180.0	**F***	**>180.0***	**>180.0***
55	Sierra Highway at Spoils Area 21/22 Access Road	TWSC	N/A[1]	N/A[1]	>180.0	**F***	0.0	A	N/A	N/A
61	Soledad Canyon Road/SR 14 NB Ramps at Sierra Highway	TWSC	66.1	**F***	>180.0	**F***	>180.0	**F***	**>180.0***	**>180.0***
71	Sierra Highway at Placerita Canyon Road	Signal	93.3	**F***	147.0	**F***	147.0	**F***	**53.7***	**53.7***

Source: *Authority 2019*
***Boldface** type indicates that the intersection would operate at an inadequate LOS (LOS E/F) or where the change in delay increases by four seconds or more.
[1] Spoils area access driveway only exists for With Project conditions.
> = greater than; I = Interstate Highway; LOS = level-of-service; N/A = not applicable; NB = northbound; SB = southbound; SR = State Route; s/v = seconds per vehicle; TWSC = two-way stop-controlled; WB = westbound

Table 3.2-25 E2 and E2A Build Alternatives Spoils Hauling Intersection Impacts

Map ID	Intersection	Traffic Control	Existing (2015) No Project Conditions		Existing (2015) Plus Spoils Hauling Conditions E2		Existing (2015) Plus Spoils Hauling Conditions E2A		Change in Delay E2 (s/v)	Change in Delay E2A(s/v)
			Delay (s/v)	LOS	Delay (s/v)	LOS	Delay (s/v)	LOS		
Northbound Routing – AM Peak Hour										
3	Sierra Highway at SR 14 NB On-ramp	TWSC	5.8	A	37.7	**E***	14.4	B	**31.9***	**8.6***
5	Sierra Highway at SR 14 NB Off-ramp/Angeles Highway	TWSC	38.9	**E***	46.1	**E***	43.6	**E***	**7.2***	**4.7***
52	Hollywood Way at I-5 SB Ramps	TWSC	>180.0	**F***	>180.0	**F***	>180.0	**F***	**21.7***	**21.7***
55	Sierra Highway at Spoils Area 21/22 Access Road	TWSC	N/A	N/A	>180.0	**F***	0.0	A	N/A	N/A
56	Sierra Highway at Spoils Area 22 Access Road	TWSC	N/A	N/A	51.9	**F***	0.0	A	N/A	N/A
61	Soledad Canyon Road/SR 14 NB Ramps at Sierra Highway	TWSC	19.3	C	>180.0	**F***	>180.0	**F***	**>169.1***	**>169.1***
Northbound Routing – PM Peak Hour										
4	Sierra Highway at SR 14 SB Ramps	TWSC	62.0	**F***	91.8	**F***	103.4	**F***	**29.8***	**42.2***
5	Sierra Highway at SR 14 NB Off-ramp/Angeles Highway	TWSC	179.5	**F***	>180.0	**F***	>180.0	**F***	**48.0***	**32.3***
55	Sierra Highway at Spoils Area 21/22 Access Road	TWSC	N/A	N/A	>180.0	**F***	0.0	A	N/A	N/A
61	Soledad Canyon Road/SR 14 NB Ramps at Sierra Highway	TWSC	66.1	**F***	>180.0	**F***	>180.0	**F***	**>180.0***	**>180.0***
Southbound Routing – AM Peak Hour										
5	Sierra Highway at SR 14 NB Off-ramp/Angeles Highway	TWSC	38.9	**E***	154.2	**F***	166.9	**F***	**115.3***	**128.0***
52	Hollywood Way at I-5 SB Ramps	TWSC	>180.0	**F***	>180.0	**F***	>180.0	**F***	**8.9***	**8.9***

Map ID	Intersection	Traffic Control	Existing (2015) No Project Conditions		Existing (2015) Plus Spoils Hauling Conditions E2		Existing (2015) Plus Spoils Hauling Conditions E2A		Change in Delay E2 (s/v)	Change in Delay E2A(s/v)
			Delay (s/v)	LOS	Delay (s/v)	LOS	Delay (s/v)	LOS		
55	Sierra Highway at Spoils Area 21/22 Access Road	TWSC	N/A	N/A	91.3	**F***	0.0	A	N/A	N/A
56	Sierra Highway at Spoils Area 22 Access Road	TWSC	N/A	N/A	51.9	**F***	0.0	A	N/A	N/A
61	Soledad Canyon Road/SR 14 NB Ramps at Sierra Highway	TWSC	19.3	C	>180.0	**F***	>180.0	**F***	**>180.0***	**>180.0***
Southbound Routing – PM Peak Hour										
4	Sierra Highway at SR 14 SB Ramps	TWSC	62	**F***	94.9	**F***	75.3	**F***	**22.9***	**14.1***
5	Sierra Highway at SR 14 NB Off-ramp/Angeles Highway	TWSC	179.5	**F***	>180.0	**F***	>180	**F***	**48.0***	**32.3***
55	Sierra Highway at Spoils Area 21/22 Access Road	TWSC	N/A	N/A	>180.0	**F***	0.0	A	N/A	N/A
61	Soledad Canyon Road/SR 14 NB Ramps at Sierra Highway	TWSC	66.1	**F***	>180.0	**F***	>180.0	**F***	**>180.0***	**>180.0***

Source: Authority 2019
***Boldface** type indicates that the intersection would operate at an inadequate LOS (LOS E/F) or where the change in delay increases by four seconds or more.
> = greater than; I = Interstate Highway; LOS = level-of-service; N/A = not applicable; NB = northbound; SB = southbound; SR = State Route; s/v = seconds per vehicle; TWSC = two-way stop-controlled

TR-IAMF#2, TR-IAMF#6, and TR-IAMF#7 (discussed in Section 3.2.6.3, Impact TRA#1) will implement a CTP, limit spoils hauling hours, and establish spoils hauling routes to minimize intersection impacts during spoils hauling. These IAMFs are effective in reducing impacts associated with haul route traffic. Of the implemented IAMFs, TR-IAMF#6 is most effective at reducing impacts associated with spoils hauling at intersections. By imposing a restriction on construction hours, TR-IAMF#6 reduces roadway volumes during peak travel hours, which would result in reduced impacts on intersection LOS and delay. Although implementation of these IAMFs will reduce impacts, spoils hauling would degrade intersection LOS to E or F and increase delay by four seconds or more at several locations within the spoils hauling RSA.

As discussed in Section 3.2.7, Mitigation Measures, and summarized in Section 3.2.6.3 (Impact TRA#1), TR-MM#12 will require the development of a CMP to address traffic circulation during spoils hauling activities, including by relocating spoils collection areas and access to minimize delays during peak hours. The CMP (TR-MM#12) is anticipated to be effective in reducing impacts associated with spoils hauling traffic. Additionally, the Authority would add traffic signals to affected unsignalized intersections to improve LOS and intersection operation. While these traffic measures are anticipated to achieve adequate LOS and decrease vehicle delay at affected intersections, impacts during spoils hauling may still occur.

CEQA Conclusion

Spoils hauling could create temporary increases in automobile delay and travel time at intersections during construction of the Palmdale to Burbank Project Section, as discussed above. Automobile delay is not a significant environmental impact under CEQA. Therefore, CEQA does not require mitigation.

Impact TRA#3: Spoils Hauling Effects on Ramp Queuing.

Spoils haul trips added to the roadway network would increase freeway ramp queues for up to 6.4 years depending on location and Build Alternative, however increased traffic volumes would not exceed storage capacity at off-ramps. As shown in Table 3.2-26, all study freeway ramp locations within the spoils hauling RSA for the Refined SR14 and SR14A Build Alternative have adequate storage during both peak hours for northbound and southbound haul routes. For an AM and PM peak hour trip generation analysis of trucks generated by spoils hauling, refer to the Transportation Technical Report (Authority 2019).

Table 3.2-26 Refined SR14 and SR14A Build Alternatives Spoils Hauling Ramp Queue Analysis

Map ID	Freeway Ramp	Storage Capacity (ft)	Refined SR14 Queue (ft)		SR14A Queue (ft)	
			AM	PM	AM	PM
Northbound Routing						
8	SR 14 SB Off-ramp at Sierra Highway	1,180	734	44	340	15
20	Agua Dulce Canyon Road at SR 14 SB On-ramps	1,030	8	7	12	11
24	Soledad Canyon Road at SR 14 SB Ramps	1,020	19	17	15	14
29	Hubbard Street at I-210 EB Off-ramp/I-210 EB On-ramp	1,040	179	131	179	131
31	I-210 WB Ramps at Paxton Street	1,040	550	515	553	515
32	I-210 EB Ramps at Paxton Street	880	130	84	130	84

Map ID	Freeway Ramp	Storage Capacity (ft)	Refined SR14 Queue (ft)		SR14A Queue (ft)	
			AM	PM	AM	PM
46	Lankershim Boulevard at I-5 SB Ramps/Cayuga Avenue	1,200	160	121	156	114
203	Crown Valley Road & SR 14 WB Ramps[1]	880	N/A	N/A	820	773
204	Crown Valley Road & SR 14 EB Ramps[1]	1,190	N/A	N/A	104	248
Southbound Routing						
10	SR 14 NB On-ramp/Ward Road at Ward Road	1,440	6	9	1	1
16	SR 14 NB Ramps at Escondido Canyon Road	1,420	11	40	1	22
19	Agua Dulce Canyon Road at SR 14 NB Ramps	1,150	17	16	21	20
25	SR 14 NB Off-ramp at Lost Canyon Road	1,070	11	18	10	17
28	Hubbard Street at I-210 WB On-ramp/I-210 WB Off-ramp	1,090	321	450	321	239
31	I-210 WB Ramps at Paxton Street	1,040	718	690	718	690
47	Lankershim Boulevard at I-5 NB Ramps	1,910	145	181	145	177
203	Crown Valley Road & SR 14 WB Ramps[1]	880	N/A	N/A	726	679
204	Crown Valley Road & SR 14 EB Ramps[1]	1,190	N/A	N/A	98	239

Source: Authority 2019
[1] Intersection not analyzed for the Refined SR14 Build Alternative.
EB = eastbound; ft = feet; I = Interstate Highway; N/A = not applicable; NB = northbound; SB = southbound; SR = State Route; WB = westbound

E1 and E1A Build Alternatives spoils haul trips added to the roadway network would increase freeway ramp queues however increased traffic volumes would not exceed storage capacity at off-ramps. As shown in Table 3.2-27, all study freeway ramp locations within the spoils hauling RSA for the E1 and E1A Build Alternatives would have adequate storage during both peak hours for northbound and southbound haul routes.

Table 3.2-27 E1 and E1A Build Alternatives Spoils Hauling Ramp Queue Analysis

Map ID	Freeway Ramp	Storage Capacity (ft)	E1 Queue (ft)		E1A Queue (ft)	
			AM	PM	AM	PM
Northbound Routing						
32	I-210 EB Ramps at Paxton Street	880	130	84	130	84

Map ID	Freeway Ramp	Storage Capacity (ft)	E1 Queue (ft)		E1A Queue (ft)	
			AM	PM	AM	PM
46	Lankershim Boulevard at I-5 SB Ramps/Cayuga Avenue	1,200	160	121	156	114
62	SR 14 SB Ramps at Sierra Highway	1,070	23	57	23	58
70	Sierra Highway at SR 14 SB Ramps	1,730	3	5	3	5
Southbound Routing						
31	I-210 WB Ramps at Paxton Street	1,040	718	690	718	690
47	Lankershim Boulevard at I-5 NB Ramps	1,910	145	181	145	177
61	Soledad Canyon Road/SR 14 NB Ramps at Sierra Highway	920	170	120	2	94
69	SR 14 NB Ramps at Placerita Canyon Road	1,310	10	33	10	33

Source: Authority 2019
EB = eastbound; ft = feet; I = Interstate Highway; NB = northbound; SB = southbound; SR = State Route; WB = westbound

E2 and E2A Build Alternatives spoils haul trips added to the roadway network could increase freeway ramp queues however increased traffic volumes would not exceed storage capacity at off-ramps. As shown in Table 3.2-28, all study freeway ramp locations within the spoils hauling RSA have adequate storage during both peak hours for northbound and southbound haul routes.

Table 3.2-28 E2 and E2A Build Alternative Spoils Hauling Ramp Queue Analysis

Map ID	Freeway Ramp	Storage Capacity (ft)	E2 Queue (ft)		E2A Queue (ft)	
			AM	PM	AM	PM
Northbound Routing						
62	SR 14 SB Ramps at Sierra Highway	1,070	23	57	23	58
70	Sierra Highway at SR 14 SB Ramps	1,730	3	5	3	5
80	Wheatland Avenue at I-210 EB Ramps	1,190	34	24	34	24
Southbound Routing						
61	Soledad Canyon Road/SR 14 NB Ramps at Sierra Highway	920	170	120	2	94
69	SR 14 NB Ramps at Placerita Canyon Road	1,310	10	33	10	33
79	Wheatland Avenue at I-210 WB Ramps	1,100	19	30	19	30

Source: Authority 2019
ft = feet; I = Interstate Highway; LOS = level-of-service; NB = northbound; SR = State Route

CEQA Conclusion
As discussed above, spoils hauling truck traffic volumes would not exceed storage capacity at off-ramps. Automobile delay is not a significant environmental impact under CEQA. Therefore, CEQA does not require any mitigation.

Impact TRA#4: Spoils Hauling Effects on Freeway Segments.

Refined SR14 and SR14A Build Alternative spoils hauling would degrade LOS to unacceptable levels on the freeway segments listed in Table 3.2-29 for up to 6.4 years, depending on location

and Build Alternative. Where roadway segments already operate at an unacceptable LOS under Existing (2015) No Project Conditions, Table 3.2-29 shows the change in V/C that would occur as a result of each respective Build Alternative. Refer to the Transportation Technical Report (Authority 2019) for an AM and PM peak hour trip generation analysis of trucks generated by spoils hauling.

E1 and E1A Build Alternative spoils hauling would degrade LOS and increase the V/C ratio to unacceptable levels at the freeway segments listed in Table 3.2-30.

E2 and E2A Build Alternatives spoils hauling would degrade LOS and increase the V/C ratio to unacceptable levels at the freeway segments listed in Table 3.2-31.

Table 3.2-29 Refined SR14 and SR14A Build Alternatives Spoils Hauling Freeway Segment Analysis

Map ID	Segment	Existing (2015) No Project Conditions			Existing (2015) Plus Spoils Hauling Conditions Refined SR14			Existing (2015) Plus Spoils Hauling Conditions SR14A			Change in V/C Refined SR14	Change in V/C SR14A
		Volume[1]	V/C	LOS	Volume[1]	V/C	LOS	Volume[1]	V/C	LOS		
Southbound Routing – AM Peak Hour												
I-210 North of SR 2												
HH	Eastbound	9,569	0.957	**E***	10,018	1.002	**F***	9,884	0.988	**E***	**0.045***	**0.032***
I-5 North of SR 134												
JJ	Southbound	9,453	1.182	**F***	9,863	1.233	**F***	9,729	1.216	**F***	**0.051***	**0.035***
Southbound Routing – PM Peak Hour												
I-210 North of SR 2												
HH	Westbound	10,073	1.007	**F***	10,522	1.052	**F***	10,388	1.039	**F***	**0.045***	**0.032***
I-5 North of SR 134												
JJ	Northbound	8,652	1.081	**F***	9,062	1.133	**F***	8,928	1.116	**F***	**0.051***	**0.035***

Source: Authority 2019.
***Boldface** type indicates that the intersection would operate at an inadequate LOS (LOS E/F).
[1] Volume is measured using peak hour average daily traffic and indicates the total volume of roadway during peak hours.
LOS = level-of-service; V/C = volume-to-capacity ratio

Table 3.2-30 E1 and E1A Build Alternatives Spoils Hauling Freeway Segment Analysis

Map ID	Segment	Existing (2015) No Project Conditions			Existing (2015) Plus Spoils Hauling Conditions E1			Existing (2015) Plus Spoils Hauling Conditions E1A			Change in V/C E1	Change in V/C E1A
		Volume[1]	V/C	LOS	Volume[1]	V/C	LOS	Volume[1]	V/C	LOS		
Southbound Routing – AM Peak Hour												
I-5 North of SR 134												
JJ	Southbound	9,453	1.182	**F***	9,798	1.225	**F***	9,795	1.224	**F***	**0.043***	**0.043***
Southbound Routing – PM Peak Hour												
I-210 North of SR 2												

Map ID	Segment	Existing (2015) No Project Conditions			Existing (2015) Plus Spoils Hauling Conditions E1			Existing (2015) Plus Spoils Hauling Conditions E1A			Change in V/C E1	Change in V/C E1A
		Volume[1]	V/C	LOS	Volume[1]	V/C	LOS	Volume[1]	V/C	LOS		
HH	Westbound	10,073	1.007	**F***	10,422	1.042	**F***	10,419	1.042	**F***	**0.035***	**0.035***
I-5 North of SR 134												
JJ	Northbound	8,652	1.081	**F***	8,997	1.125	**F***	8,994	1.124	**F***	**0.043***	**0.043***

Source: Authority 2019
***Boldface** type indicates that the intersection would operate at an inadequate LOS (LOS E/F).
[1] Volume is measured using peak hour average daily traffic and indicates the total volume of roadway during peak hours.
I = Interstate Highway; LOS = level-of-service; SR = State Route; V/C = volume-to-capacity ratio

Table 3.2-31 E2 and E2A Build Alternative Soils Hauling Freeway Segment Analysis

Map ID	Segment	Existing (2015) No Project Conditions			Existing (2015) Plus Spoils Hauling Conditions E2			Existing (2015) Plus Spoils Hauling Conditions E2A			Change in V/C E2	Change in V/C E2A
		Volume[1]	V/C	LOS	Volume[1]	V/C	LOS	Volume[1]	V/C	LOS		
Southbound Routing – AM Peak Hour												
I-5 North of SR 134												
JJ	Southbound	9,453	1.182	**F***	9,672	1.209	**F***	9,669	1.209	**F***	**0.027***	**0.027***
Southbound Routing – PM Peak Hour												
I-210 North of SR 2												
HH	Westbound	10,073	1.007	**F***	10,371	1.037	**F***	10,368	1.037	**F***	**0.030***	**0.030***
I-5 North of SR 134												
JJ	Northbound	8,652	1.081	**F***	8,871	1.109	**F***	8,871	1.109	**F***	**0.027***	**0.027***

Source: Authority 2019
***Boldface** type indicates that the intersection would operate at an inadequate LOS (LOS E/F).
[1] Volume is measured using peak hour average daily traffic and indicates the total volume of roadway during peak hours.
LOS = level-of-service; SR = State Route; V/C = volume-to-capacity ratio

As shown in the Transportation Technical Report (Authority 2019), the addition of spoils hauling trucks would represent a relatively small increase in the number of vehicles on freeway segments. The increase in spoils hauling trucks associated with the project would be within the typical daily variation in traffic volumes. In addition, this increase in trucks would not substantially affect the overall vehicle mix. As a result, the potential for new safety effects would be minimal. See Section 3.11.6.2 for the analysis of safety hazards resulting from construction of the Palmdale to Burbank Project Section.

TR-IAMF#2, TR-IAMF#6, and TR-IAMF#7 (discussed in Section 3.2.6.3, Impact TRA#1) will implement a CTP, limit spoils hauling hours, and establish spoils hauling routes to minimize freeway segment impacts during spoils hauling. These IAMFs are anticipated to be effective in reducing impacts associated with haul route traffic. Of the implemented IAMFs, TR-IAMF#6 is most effective at reducing impacts associated with spoils hauling at freeway segments. By imposing a restriction on construction hours, TR-IAMF#6 will reduce project-related freeway volumes during peak travel hours, which would reduce the project's impacts on freeway LOS and V/C.

As discussed in Section 3.2.7, Mitigation Measures, and summarized in Section 3.2.6.3 (Impact TRA#1), TR-MM#12 will require the development of a CMP to address circulation during the construction duration, including by relocating spoils collection areas and access to minimize delays during peak hours. The CMP (TR-MM#12) is anticipated to be effective in reducing impacts associated with spoils hauling traffic. While these traffic measures are anticipated to achieve adequate LOS and improve V/C at affected intersections, impacts during spoils hauling may still occur.

CEQA Conclusion

Spoils hauling could create temporary increases in automobile delay and travel time on freeway segments during construction of the Palmdale to Burbank Project Section, as discussed above. Automobile delay is not a significant environmental impact under CEQA. Therefore, CEQA does not require mitigation.

Impact TRA#5: Spoils Hauling Effects on Transit Services.

As described above in Impact TRA#1 and TRA#2, spoils hauling associated with the six Build Alternatives would increase truck traffic at roadway segments and intersections throughout the spoils hauling RSA. This could result in travel delays where transit services overlap spoils hauling routes. Such transit delays could result in conflicts with the goals of regional and local transportation plans described in Section 3.2.2.3. However, since spoils hauling is a limited subset of the construction period, it would occur only for a maximum of 6.4 years of the 8 to 9.25-year construction period, depending on location and Build Alternative, and would not permanently interfere with the transit system.

Most of the regional and local transportation plans would remain unaffected by spoils hauling because (1) spoils hauling would not occur in the plan's jurisdictional area, or (2) because the plan does not contain goals or policies that would be affected by spoils hauling. Spoils hauling activities have the potential to conflict with the following regional and local plans that identify goals and policies for transit services:

- Los Angeles County Congestion Management Program
- AVTA Long-Range Plan
- Metro Complete Streets Policy

The goals outlined in these plans focus on improvements to roadway infrastructure, mobility, safety, and congestion. These goals generally provide long-range guidance and would not be adversely affected by temporary service interruptions resulting from spoils hauling. However, these plans also include goals to maximize the short-term efficiency of multimodal forms of transportation, which would be negatively affected in areas where spoils hauling routes overlap and inhibit transportation efficiency.

Truck traffic induced by spoils hauling could adversely affect the efficiency of service for the AVTA Local Transit Service and several of the Los Angeles County Beach Bus summer schedule routes, a service provided by Los Angeles County Public Works. Spoils hauling routes would overlap with several of the bus routes that are run by these programs, which operate around the Palmdale area and Burbank area, respectively (refer to Figure 3.2-1 through Figure 3.2-7 for maps of spoils haul routes). Spoils hauling activities would not affect the physical layout of the transit routes, permanently interfere with transit routes, or otherwise prevent operation of these transit services.

Because spoils hauling could temporarily affect the efficiency of operations for AVTA's Local Transit Service, it could temporarily hinder its ability to meet the local transit service schedules outlined in the AVTA Long-Range Plan. Because spoils hauling would be temporary, it would not permanently affect implementation of the key strategies and actions outlined in the AVTA Long-Range Plan. However, AVTA's Local Transit Service may still experience delays during spoils hauling.

Spoils hauling could also interfere with transit operations in the Burbank Subsection. Metro Route 169 and the Metrolink Antelope Valley Line operate on San Fernando Road but would not need to be rerouted to accommodate spoils hauling trucks. However, spoils hauling during peak hours could impact these transit services by slowing down service such that schedules during peak periods may not be able to be maintained. However, spoils hauling near transit routes in the Burbank Subsection would only occur for a maximum of 3.2 years, depending on location. Additional spoils hauling information can be found in the Transportation Technical Report (Authority 2019).

TR-IAMF#2, TR-IAMF#6, and TR-IAMF#7 (discussed in Section 3.2.6.3, Impact TRA#1) will implement a CTP, limit spoils hauling hours, and establish spoils hauling routes to minimize transit service impacts during spoils hauling. Although there is no consistent methodology for quantifying the reduction in impacts during spoils hauling, these IAMFs are anticipated to be effective in reducing impacts associated with haul route traffic. Although implementation of these IAMFs will reduce impacts, spoils hauling could still degrade efficiency of public transit services at several locations within the spoils hauling RSA.

CEQA Conclusion

Spoils hauling could cause temporary delays in transit services during construction of the Palmdale to Burbank Project Section, as discussed above. While automobile delay is not a significant environmental impact under CEQA, a conflict with plans that address transit circulation can be. Because of the duration and extent of anticipated traffic delays due to spoils hauling, and the potential for reduced transit circulation in the spoils hauling RSA, the impact would be potentially significant under CEQA. TR-IAMF#2, TR-IAMF#6, and TR-IAMF#7 will be incorporated to reduce impacts from spoils hauling, but spoils hauling has the potential to still interfere with transit services during peak hours. As discussed in Section 3.2.7, Mitigation Measures, and summarized in Section 3.2.6.3 (Impact TRA#1), TR-MM#12 will require the development of a CMP to address traffic circulation during spoils hauling activities, including by relocating spoils collection areas and access to minimize delays during peak hours. The CMP (TR-MM#12) is anticipated to be effective in reducing impacts associated with haul route traffic as it would relocate spoils collection areas and access to minimize delays during peak hours. While these traffic measures may not completely avoid impacts on public transit services and thereby avoid conflicts with regional and local transit plans, any impacts on transit services resulting from spoils hauling would be temporary and would not permanently conflict with regional and local transit plans. Therefore, this impact is considered less than significant for the Refined SR14, SR14A, E1, E1A, E2, and E2A Build Alternatives.

Impact TRA#6: Spoils Hauling Effects on Non-Motorized Modes.

Spoils hauling associated with the six Build Alternatives would not result in permanent modifications to the circulation network that would affect non-motorized modes. As described above, spoils hauling could increase truck traffic at roadway segments and intersections, resulting in travel delay to pedestrian and bicycle facilities during the construction period. For example,

spoils hauling could affect the pedestrian and bicycle facilities provided along portions of affected roadways in San Fernando Valley. Class I and II bicycle facilities on San Fernando Road and Glenoaks Boulevard, respectively, near the Burbank Station could be affected during peak hours. The addition of spoils trucks during peak hours could cause congestion such that bicycle and pedestrian movement would be blocked or slowed. The addition of large trucks to the roadway network could also create safety concerns for bicyclists on shared-lane and on-street bike lane facilities. The Authority would implement the following IAMFs to minimize impacts on non-motorized modes during spoils hauling:

- TR-IAMF#4: Maintenance of Pedestrian Access—TR-IAMF#4 will require the contractor to prepare and implement specific CMPs to address maintenance of pedestrian access during the construction period.
- TR-IAMF#5: Maintenance of Bicycle Access—TR-IAMF#5 will require the contractor to prepare and implement specific CMPs to address maintenance of bicycle access during the construction period.
- TR-IAMF#6: Restriction on Construction Hours—TR-IAMF#6 will limit construction material deliveries and the number of construction employees arriving or departing the site during peak period travel, resulting in reduced impacts on roadway performance levels.
- TR-IAMF#7: Construction Truck Routes—TR-IAMF#7 will require the contractor to deliver construction-related equipment and materials on the appropriate truck routes, avoiding impacts on streets not designed to accommodate truck traffic.

CEQA Conclusion

Implementation of TR-IAMF#4 through TR-IAMF#7 will prevent hazardous conditions that would substantially interfere with pedestrian or bicycle movements or access during spoils hauling. Additionally, spoils hauling near non-motorized modes such as the Class I and II bicycle facilities on San Fernando Road and Glenoaks Boulevard, respectively, would be temporary and only occur for a maximum of 3.2 years. This impact would be less than significant for the Refined SR14, SR14A, E1, E1A, E2, and E2A Build Alternatives. Therefore, CEQA does not require mitigation.

Existing (2015) Plus Project Construction Conditions

The following analysis accounts for all construction impacts related to construction of the Palmdale to Burbank Project Section Build Alternatives with the exception of spoils hauling.

Impact TRA#7: Project Construction Effects on Vehicles, Pedestrians, Bicyclists, and Transit.

Construction activities associated with the six Build Alternatives could require temporary lane or road closures, underground utility work, or construction-related trips that could interfere with vehicles, pedestrians, bicyclists, transit routes, and local access throughout the Palmdale to Burbank Project Section. Construction vehicles and construction easements in Pacoima between Montague Street and the Hansen Dam Spillway would be required for approximately 39 months. Grade separations and roadway modifications in Sun Valley along Sheldon Street, Tuxford Street, Penrose Street, Olinda Street, and Sunland Boulevard would require construction vehicles and easements and is expected to last six years. Construction of the Burbank Subsection, including the Burbank Airport Station, is expected to last six years. The realignment of San Fernando Boulevard, associated with the E2 and E2A Build Alternative alignments, would take approximately 60 months.

All construction truck traffic would use designated truck routes within the Palmdale to Burbank Project Section region. A CTP (TR-IAMF#2) will outline transportation detours, plans to accommodate emergency service routes, and outreach activities to manage expectations and traffic constraints, among other items. This type of plan is a standard practice that would incorporate review and comment by affected local and regional agencies. The CTP would also address construction employee arrival and departure schedules, employee parking locations, and temporary road closures, if any. Impacts on emergency services resulting from construction of the Palmdale to Burbank Project Section are discussed in more detail in Section 3.11.6.2.

Construction activities could also lead to temporary disruption of transportation system operations and possible damage to elements of the roadway system such as pavement and bridges. The contractor will be responsible for the repair of structural damage to public roadways caused by HSR construction or construction access (TR-IAMF#1).

Trips for construction workers would generally occur outside of the peak hours for freeway and street traffic (TR-IAMF#6). The movement of heavy construction equipment such as cranes, bulldozers, and dump trucks to and from the site would generally occur during off-peak hours on designated truck routes (TR-IAMF#6 and TR-IAMF#7). The contractor will be responsible for identifying adequate off-street parking for construction-related vehicles and if necessary, designating remote parking areas for these workers, with shuttles to bring them to and from the construction area if the remote parking areas are distant from the project site (TR-IAMF#3).

The construction of the Burbank Airport Station, platform, and track alignment would require temporary construction easements. The temporary construction easements could require the temporary closure of parking areas, roadway travel lanes, transit routes, pedestrian facilities, bicycle lanes, and paths. The contractor will prepare and implement specific CMPs to ensure safe transit, pedestrian, and bicycle access during the construction period (TR-IAMF#4, TR-IAMF#5, TR-IAMF#11, and TR-IAMF#12). On completion of construction, parking areas, roadway lanes, pedestrian facilities, and bicycle lanes would be restored to a condition equivalent to or better than their pre-project condition.

CEQA Conclusion

Construction activities associated with the six Build Alternatives could interfere with vehicles, pedestrians, bicyclists, transit routes, and local access in the Palmdale to Burbank Project Section. Implementation of TR-IAMF#1 through TR-IAMF#7, TR-IAMF#11, and TR-IAMF#12 will prevent circumstances that substantially would interfere with vehicle, pedestrian, bicyclist, and transit circulation or access during construction. Implementation of the IAMFs will repair structural damage to public roadways resulting from construction, require that construction-related trips would occur in off-peak hours, and would require the contractor to prepare and implement specific CMPs to ensure access during construction. These measures include scheduling a majority of construction-related travel during off-peak hours and, where feasible, temporarily removing on-street parking to maximize vehicular capacity, transit capacity, and bicycle circulation at locations affected by construction closures. On completion of construction, facilities would be restored to a condition equivalent to or better than their pre-construction condition. This impact would be less than significant for the Refined SR14, SR14A, E1, E1A, E2, and E2A Build Alternatives. Therefore, CEQA does not require mitigation.

Impact TRA#8: Project Construction Effects on Roadway Segments.

The roadway segment analysis for the Palmdale Subsection was evaluated in the Bakersfield to Palmdale Project Section EIR/EIS. Refined SR14 and SR14A Build Alternatives Existing (2015) Plus Construction Conditions would degrade LOS to unacceptable levels at the roadway segments listed in Table 3.2-32. Where roadway segments already operate at an unacceptable LOS under Existing (2015) No Project Conditions, Table 3.2-32 shows the change in V/C that would occur as a result of each respective Build Alternative.

Table 3.2-32 Refined SR14 and SR14A Build Alternatives Existing (2015) Plus Construction Conditions Roadway Segment Analysis

Segment	Existing (2015) No Project Conditions			Existing (2015) Plus Construction Conditions Refined SR14/SR14A[1]			Change in V/C
	Volume[2]	V/C	LO S	Volume[2]	V/C	LOS	
Burbank Subsection – AM Peak Hour							
San Fernando Road							
West of Arvilla Avenue	1,715	0.597	A	1,491	1.297	**F***	**0.700***

Segment	Existing (2015) No Project Conditions			Existing (2015) Plus Construction Conditions Refined SR14/SR14A[1]			Change in V/C
	Volume[2]	V/C	LO S	Volume[2]	V/C	LOS	
Burbank Subsection – PM Peak Hour							
San Fernando Road							
West of Arvilla Avenue	1,444	0.502	A	1,128	0.981	**E***	**0.479***

Source: *Authority 2019*
***Boldface** type indicates that the intersection would operate at an inadequate LOS (LOS E/F).
[1] Existing (2015) Plus Construction Conditions Roadway Segment values are identical for the Refined SR14 and SR14A Build Alternatives and no new roadway segments impacts were identified for the SR14A Build Alternative.
[2] Volume is measured using peak hour average daily traffic and indicates the total volume of roadway during peak hours.
LOS = level-of-service; V/C = volume-to-capacity ratio

E1 and E1A Build Alternatives Existing (2015) Plus Construction Conditions would degrade LOS to unacceptable levels at the roadway segments listed in Table 3.2-33.

Table 3.2-33 E1 and E1A Build Alternatives Existing (2015) Plus Construction Conditions Roadway Segment Analysis

Segment	Existing (2015) No Project Conditions			Existing (2015) Plus Construction Conditions E1/E1A[1]			Change in V/C E1/E1A[1]
	Volume[2]	V/C	LOS	Volume[2]	V/C	LOS	
Burbank Subsection – AM Peak Hour							
San Fernando Road							
West of Arvilla Avenue	1,715	0.597	A	1,491	1.297	**F***	**0.700***
Burbank Subsection – PM Peak Hour							
San Fernando Road							
West of Arvilla Avenue	1,444	0.502	A	1,128	0.981	**E***	**0.479***

Source: Authority 2019
***Boldface** type indicates that the intersection would operate at an inadequate LOS (LOS E/F).
[1] Existing (2015) Plus Construction Conditions Roadway Segment LOS values would be identical for the E1 and E1A Build Alternatives, and no new roadway segments have been identified for the E1A Build Alternative.
[2] Volume is measured using peak hour average daily traffic and indicates the total volume of roadway during peak hours.
LOS = level-of-service; V/C = volume-to-capacity ratio

E2 and E2A Build Alternative Existing (2015) Plus Construction Conditions would degrade LOS to unacceptable levels at the roadway segments listed in Table 3.2-34. On San Fernando Road, west of Arvilla Avenue, the road would be reduced from four lanes to two lanes during the construction period, decreasing capacity.

Table 3.2-34 E2 and E2A Build Alternatives Existing (2015) Plus Construction Conditions Roadway Segment Analysis

Segment	Existing (2015) No Project Conditions			Existing (2015) Plus Construction Conditions E2/E2A[1]			Change in V/C E2/E2A[1]
	Volume[2]	V/C	LOS	Volume[2]	V/C	LOS	
Burbank Subsection – AM Peak Hour							
San Fernando Road							
West of Arvilla Avenue	1,715	0.597	A	1,491	1.297	**F***	**0.700***
Burbank Subsection – PM Peak Hour							
San Fernando Road							
West of Arvilla Avenue	1,444	0.502	A	1,128	0.981	**E***	**0.479***

Source: Authority 2019
***Boldface** type indicates that the intersection would operate at an inadequate LOS (LOS E/F).
[1] Existing (2015) Plus Construction Conditions Roadway Segment LOS values are identical for the E2 and E2A Build Alternatives, and no new roadway segments were identified for the E2A Build Alternative.
[2] Volume is measured using peak hour average daily traffic and indicates the total volume of roadway during peak hours.
LOS = level-of-service; V/C = volume-to-capacity ratio

As discussed in Section 3.2.7, Mitigation Measures, TR-MM#1 will add travel lanes to affected roadway segments, thereby increasing capacity and improving roadway segment operations to an adequate LOS.

CEQA Conclusion
Construction could create temporary increases in automobile delay and travel time on roadway segments during construction of the Palmdale to Burbank Project Section, as discussed above. Automobile delay is not a significant environmental impact under CEQA. Therefore, CEQA does not require mitigation.

Impact TRA#9: Project Construction Effects on Intersections.

Intersection analysis for the Palmdale Subsection was evaluated in the Bakersfield to Palmdale Project Section EIR/EIS. Refined SR14 and SR14A Build Alternative Existing (2015) Plus Construction Conditions would degrade LOS and automobile delay to unacceptable levels at the intersections listed in Table 3.2-35. Where roadway segments already operate at an unacceptable LOS under Existing (2015) No Project Conditions, Table 3.2-35 shows the change in delay that would occur as a result of each respective Build Alternative.

Table 3.2-35 Refined SR14 and SR14A Build Alternatives Existing (2015) Plus Construction Intersection Level-of-Service

Intersection	Traffic Control	Existing (2015) No Project Conditions		Existing (2015) Plus Construction Conditions Refined SR14/SR14A[1]		Change in Delay (s/v)
		Delay (s/v)	LOS	Delay (s/v)	LOS	
Central Subsection – AM Peak Hour						
Tuxford Street at Bradley Avenue	Signal	27.8	C	105.4	**F***	**77.6***
Fair Avenue at Strathern Street	TWSC	35.7	**E***	>180.0	**F***	**>180.0***

Intersection	Traffic Control	Existing (2015) No Project Conditions		Existing (2015) Plus Construction Conditions Refined SR14/SR14A[1]		Change in Delay (s/v)
		Delay (s/v)	LOS	Delay (s/v)	LOS	
Central Subsection – PM Peak Hour						
Tuxford Street at Bradley Avenue	Signal	46.6	D	168.0	**F***	**121.4***
Tujunga Avenue at Strathern Street	Signal	26.9	C	58.6	**E***	**31.7***
Fair Avenue at Strathern Street	TWSC	35.2	**E***	>180.0	**F***	**>180.0***
Burbank Subsection – AM Peak Hour						
Sunland Boulevard at San Fernando Road	Signal	16.2	B	105.5	**F***	**89.3***
Burbank Subsection – PM Peak Hour						
Sunland Boulevard at San Fernando Road	Signal	19.4	B	179.3	**F***	**159.9***

Source: Authority 2019
[1] Existing (2015) Plus Construction Intersection LOS values are identical for the SR14 and SR14A Build Alternatives, and no new intersection impacts were identified for the SR14A Build Alternative.
> = greater than
AWSC = all-way stop-controlled; LOS = level-of-service; s/v = seconds per vehicle; TWSC = two-way stop-controlled

E1 and E1A Build Alternatives Existing (2015) Plus Construction Conditions would degrade LOS and automobile delay to unacceptable levels at the intersections listed in Table 3.2-36.

E2 and E2A Build Alternative Existing (2015) Plus Construction Conditions would degrade LOS and automobile delay to unacceptable levels at the roadway segments listed in Table 3.2-37.

Table 3.2-36 E1 and E1A Build Alternatives Existing (2015) Plus Construction Intersection Level-of-Service

Intersection	Traffic Control	Existing (2015) No Project Conditions		Existing (2015) Plus Construction Conditions E1		Existing (2015) Plus Construction Conditions E1A		Change in Delay E1 (s/v)	Change in Delay E1A (s/v)
		Delay (s/v)	LOS	Delay (s/v)	LOS	Delay (s/v)	LOS		
Central Subsection – PM Peak Hour									
Sierra Highway at Angeles Forest Highway	TWSC	>50.0	**F***	N/A[1]	N/A[1]	>50	**F***	N/A	0.0
Sierra Highway at SR 14 Southbound Ramps	TWSC	>50.0	**F***	N/A[1]	N/A[1]	>50	**F***	N/A	0.0
Sierra Highway at Mountain Springs Road	TWSC	16.0	C	>50.0	**F***	16.0	C	**>180***	0.0
SR 14 NB Ramps/SR 14 SB Ramps	TWSC	N/A[2]	N/A[2]	>50.0	**F***	N/A	N/A	N/A	0.0
Burbank Subsection – AM Peak Hour									
Sunland Boulevard at San Fernando Road	Signal	16.2	B	105.5	**F***	105.5	**F***	**89.3***	**89.3***
Burbank Subsection – PM Peak Hour									
Sunland Boulevard at San Fernando Road	Signal	19.4	B	179.3	**F***	179.3	**F***	**159.9***	**159.9***

Source: Authority 2019

***Boldface** type indicates that the intersection would operate at an inadequate LOS (LOS E/F).

[1] Intersection closed as part of California HSR System under E1 Build Alternative.

[2] New intersection proposed as part of the project.

> = greater than; AWSC = all-way stop-controlled; LOS = level-of-service; N/A = not applicable; NB = northbound; SB = southbound; SR = State Route; s/v = seconds per vehicle; TWSC = two-way stop-controlled

Table 3.2-37 E2 and E2A Build Alternatives Existing (2015) Plus Construction Intersection Level-of-Service

Intersection	Traffic Control	Existing (2015) No Project Conditions		Existing (2015) Plus Construction Conditions E2		Existing (2015) Plus Construction Conditions E2A		Change in Delay E2 (s/v)	Change in Delay E2A (s/v)
		Delay (s/v)	LOS	Delay (s/v)	LOS	Delay (s/v)	LOS		
Central Subsection – PM Peak Hour									
Sierra Highway at Angeles Forest Highway	TWSC	>50.0	**F***	N/A[1]	N/A[1]	>50.0	**F***	N/A	0.0
Sierra Highway at SR 14 Southbound Ramps	TWSC	>50.0	**F***	N/A[1]	N/A[1]	>50.0	**F***	N/A	0.0
Sierra Highway at Mountain Springs Road	TWSC	16.0	C	>50.0	**F***	16.0	C	**>180***	0.0
SR 14 NB Ramps/SR 14 SB Ramps	TWSC	N/A[2]	N/A[2]	>50.0	**F***	N/A	N/A	N/A	0.0
Burbank Subsection – AM Peak Hour									
Sunland Boulevard at San Fernando Road	Signal	16.2	B	105.5	**F***	105.5	**F***	**89.3***	**89.3***
Burbank Subsection – PM Peak Hour									
Sunland Boulevard at San Fernando Road	Signal	19.4	B	179.3	**F***	179.3	**F***	**159.9***	**159.9***

Source: Authority 2019
***Boldface** type indicates that the intersection would operate at an inadequate LOS (LOS E/F).
[1] Intersection closed as part of California HSR System under E2 Build Alternative
[2] New intersection proposed as part of the project
> = greater than; AWSC = all-way stop-controlled; LOS = level-of-service; N/A = not applicable; NB = northbound; SB = southbound; s/v = seconds per vehicle; TWSC = two-way stop-controlled

Modifications to the roadway network would affect vehicle circulation and would degrade intersection LOS to E or F at several locations within the transportation RSA. The following mitigation measures (discussed in Section 3.2.7) will reduce intersection impacts:

- TR-MM#2: Modify Signal Timing—Electronically modifying signal timing at existing signals and would involve little to no physical disturbance that could cause impacts.
- TR-MM#3: Modify Signal Phasing—Electronically modifying signal phasing at existing signals and would involve little to no physical disturbance that could cause impacts.
- TR-MM#4: Provide a Traffic Signal—Installing new signals to existing intersections generally could occur within existing pavement or disturbed graded right-of-way and will involve minor physical disturbance that could cause secondary environmental impacts.
- TR-MM#5: Restripe Intersection—Intersection restriping will involve painting existing pavement.
- TR-MM#6: Widen Intersection—Widening intersection approaches by adding a through lane to improve LOS and intersection operations.
- TR-MM#8: Reconfigure Intersection—Reconfiguring intersection geometry to improve LOS and intersection operations.

Implementation of the mitigation measures listed above could improve intersection operations during construction.

CEQA Conclusion
Construction could create temporary increases in automobile delay and travel time at intersections segments during construction of the Palmdale to Burbank Project Section, as discussed above. Automobile delay is not a significant environmental impact under CEQA. Therefore, CEQA does not require mitigation.

Impact TRA#10: Project Construction Effects on Freeway Segments.

Freeway segments within the transportation RSA would not be affected by the six Build Alternatives under Existing (2015) Plus Construction Conditions. Freeway segments in the Central Subsection were not anticipated to have more than 50 project-related trips on any segment because trips would be distributed throughout the subsection. Therefore, none of the freeway segments in the Central Subsection met the threshold for further analysis. All freeway segments in the Burbank Subsection would operate at adequate LOS and would not increase V/C by 0.02 or more. The results of the Existing (2015) Plus Construction Conditions analysis are further discussed in the Transportation Technical Report (Authority 2019).

CEQA Conclusion
Project construction would not affect freeway segments. Automobile delay is not a significant environmental impact under CEQA. Therefore, CEQA does not require mitigation.

Impact TRA#11: Project Construction Effects on Rail and Transit Services.

Freight and Passenger Rail
As discussed in Chapter 2, Alternatives, construction associated with the six Build Alternatives would include modifications to portions of existing freight and passenger railroad facilities between Palmdale and Burbank, implementing track reconfigurations, bridge modifications, and grade-separated roadway crossings. These activities would require implementation of TR-IAMF#9, which involves construction of a “shoofly” track to allow existing freight and passenger rail lines to bypass areas closed for project construction. Temporary shoofly tracks would be constructed within the existing rail right-of-way, which occurs within the Build Alternative footprint at the following locations:

- For the SR14A, E1A, and E2A Build Alternatives, a Metrolink shoofly that begins south of Avenue R in Palmdale and stretches to the proximity of Una Lake to allow the construction of the Metrolink elevated structure that passes over HSR. Use of this shoofly is expected to last approximately 32 months.
- For the E1 and E2 Build Alternatives, a Metrolink shoofly in the Pearblossom Interchange area to allow the construction of the cut-and-cover and grade separations for Metrolink, HSR, and the roadways interchange. Use of this shoofly is expected to last approximately 9 months.
- For the Refined SR14, SR14A, E1, and E1A Build Alternatives, a Metrolink shoofly near Sheldon Street in the San Fernando Valley to allow the Metrolink grade separation. Use of this shoofly is expected to last approximately 54 months.
- For the E2 and E2A Build Alternatives, a Metrolink shoofly in San Fernando Road near Burbank Airport to allow the cut-and-cover for the HSR tracks entering the Burbank Airport Station. Use of this shoofly is expected to last approximately 60 months.

The construction and use of temporary tracks would ensure that existing rail services could continue without interference. Furthermore, modifications made to portions of existing freight and passenger railroad facilities during Palmdale to Burbank Project Section construction would result in minor interference to these existing facilities. The Authority will coordinate with the Southern California Regional Rail Authority regarding compliance with Metrolink's Design Criteria Manual. TR-IAMF#9 will reduce impacts on passenger and freight rail through the construction of temporary shoofly tracks to ensure that existing rail services could continue without interference.

Transit Access and Circulation

Santa Clarita Transit does not have existing routes that would cross the proposed alignment. A number of Metro bus routes, including the 734 and 794 Rapid Routes, operate within the Central Subsection, but services operating within Central Subsection would minimally conflict with the HSR as it would operate within a grade-separated right-of-way.

Modifications in the Burbank Subsection would not substantially alter the overall roadway and intersection configurations and therefore would not impact bus routes and operations.

However, travel delay to transit services induced by the Palmdale to Burbank Project Section would result in a conflict with policies and plans related to transit circulation. Project construction could interfere with transit service schedules (e.g., Metro bus route 169) such that routes may not operate on schedule. Refer to Impact TRA#5 for more information on impacts related to spoils hauling conflict with policies and plans related to transit circulation.

CEQA Conclusion

Modifications made to portions of existing freight and passenger railroad facilities during construction of the Build Alternatives has the potential to cause temporary delays in transit services during construction of the Palmdale to Burbank Project Section, as discussed above. Implementation of TR-IAMF#9 will reduce impacts on passenger and freight rail by constructing temporary shoofly tracks. While automobile delay is not considered a significant environmental impact under CEQA, a conflict with plans that address transit circulation can be. Because of the duration and extent of anticipated traffic delays during construction, and the potential for reduced transit circulation in the transportation RSA, the impact would be potentially significant under CEQA. The following mitigation measures (discussed in Section 3.2.7) would further reduce impacts on transit providers:

- TR-MM#9: Transit Coordination Plan—The Authority would prepare a coordination plan with the affected transit providers to ensure revisions needed to routes, stops, and schedules to serve the proposed HSR stations. In particular, this plan will address how bus routes would need modification to account for changes to the local roadway network and to access the HSR station transit facilities, modifications to transit services to meet the scheduled HSR trains, and potential increases in service to accommodate HSR riders.

- TR-MM#11: In-Lieu Traffic Improvements—The Authority would enter cooperative agreements with HSR station host cities and partner transportation providers to implement transportation improvements, including the following:
  - On- and off-street bus transit facilities, including but not limited to transit centers, stations, stops, shelters, lighting, terminal layover facilities, operator restrooms, fare vending equipment, information and wayfinding, bus pads, electric charging stations, transit lanes, and traffic signal priority equipment and software within 3 miles of HSR stations
  - Public transit bus rolling stock
  - Ongoing bus, streetcar, or urban rail service operations and maintenance funding to support expanded connecting transit service at HSR stations

With implementation of the mitigation measures listed above, Existing (2015) Plus Construction Conditions would not permanently interfere with freight rail, passenger rail, or transit services in the Palmdale to Burbank Project Section region. This impact would be less than significant for the Refined SR14, SR14A, E1, E1A, E2, and E2A Build Alternatives.

Impact TRA#12: Project Construction Effects on Non-Motorized Modes Near the Burbank Airport Station.

The Burbank Subsection would require the realignment of San Fernando Boulevard, which would close the current pedestrian access along San Fernando Boulevard, Arvilla Avenue, Lockheed Drive, Cohasset Street, and Hollywood Way. The proposed San Fernando Boulevard realignment would provide sidewalks, curb ramps, and crosswalks along the roadway and at the intersection realignments with Arvilla Avenue, and Hollywood Way. The Burbank Subsection proposes two pedestrian overpasses that would provide access from San Fernando Boulevard to the Burbank Airport Station, plus one pedestrian overcrossing that would link the two sides of the approved Burbank Airport Station.

The Burbank Airport Station would include bike racks, pedestrian connections to the existing sidewalks, and bike lanes/facilities, where feasible. Existing and planned pedestrian and bicycle facilities serving the vicinity of the approved Burbank Airport Station would adequately meet the Palmdale to Burbank Project Section demand. However, coordination with the City of Burbank during the station planning and roadway design phase would be required to address impacts on pedestrian and bicyclist access and circulation.

CEQA Conclusion

Roadway modifications near the Burbank Airport Station area could create circumstances that would interfere with pedestrian or bicycle access. This represents a potentially significant impact for the Refined SR14, SR14A, E1, E1A, E2, and E2A Build Alternatives, for which CEQA requires mitigation measures. Implementation of TR-MM#10 and TR-MM#11 would maintain access:

- TR-MM#10: Provide Pedestrian and Bicycle Facilities—Provide pedestrian and bicycle facilities to compensate for loss of existing facilities and to restore crossings/connections affected by modifications to the local roadway network.
- TR-MM#11: In-Lieu Traffic Improvements—The Authority will enter cooperative agreements with HSR station host cities and partner transportation providers to implement transportation improvements, including improvements to pedestrian facilities, bicycle facilities, and on- or off-street vehicle pick-up/drop-off areas.

With implementation of the mitigation measures listed above, Existing (2015) Plus Construction conditions would not permanently interfere with non-motorized modes in the Palmdale to Burbank Project Section area. This impact would be less than significant for the six Build Alternatives.

Operations Impacts

Operation of the Palmdale to Burbank Project Section would introduce new trips to the station areas, resulting in changes to traffic patterns. The following impact discussions include the Palmdale Subsection and Palmdale Station area traffic effects to provide reference and context

as most operations traffic effects are related to station areas. However, the Palmdale Subsection and its associated traffic effects were previously evaluated as part of the Bakersfield to Palmdale Project Section.

Impacts on emergency services resulting from operation of the Palmdale to Burbank Project Section are discussed in more detail in Section 3.11.6.2.

Operations (2040) Plus Project Conditions

Impact TRA#13: Project Operation Effects on Roadway Segments.

Refined SR14 and SR14A Build Alternatives 2040 Plus Project Conditions would be identical. Operation of the project would introduce traffic on roadway segments to and from station sites. Table 3.2-38 shows the road segments where the project's effects would exceed the thresholds described in Section 3.2.4. Based on the distribution of trips in the Central Subsection, it was determined that the Build Alternatives would not add more than 50 vehicles to any roadway segment in the Central Subsection and therefore, none of the roadway segments met the threshold for analysis. As such, detailed analysis for areas in the Central Subsection was not conducted for roadway segment locations. Additionally, these locations are outside station impact areas and would not be significantly affected by HSR-related activities.

Table 3.2-38 Refined SR14 and SR14A Build Alternatives 2040 Plus Project Conditions Roadway Segment Analysis

Segment	2040 No Project Conditions			2040 Plus Project Conditions[1]			Change in V/C
	Volume[2]	V/C	LOS	Volume[2]	V/C	LOS	
Palmdale Subsection – AM Peak Hour							
10th Street East							
South of Avenue R	500	0.455	A	1,124	1.022	**F***	**0.567***
Avenue Q							
West of 20th Street East	1,330	1.157	**F***	1,471	1.279	**F***	**0.123***
Palmdale Subsection – PM Peak Hour							
10th Street East							
South of Avenue R	640	0.582	A	1,486	1.351	**F***	**0.769***
North of Avenue S	460	0.418	A	1,170	1.064	**F***	**0.645***
Avenue Q							
West of 20th Street East	1,480	1.287	**F***	1,727	1.502	**F***	**0.215***
Burbank Subsection – AM Peak Hour							
Hollywood Way							
South of I-5 NB Ramp	2,821	0.981	**E***	3,315	1.153	**F***	**0.172***
South of Thornton Avenue	2,850	0.991	**E***	3,492	1.215	**F***	**0.223***
North of Avon Street	2,690	0.936	**E***	3,332	1.159	**F***	**0.223***
North of Victory Boulevard	2,590	0.901	**E***	3,188	1.109	**F***	**0.208***
South of Victory Boulevard	2,370	0.824	D	2,676	0.931	**E***	**0.106***
San Fernando Road							
West of Arvilla Avenue	1,870	0.650	B	1,828	1.590	**F***	**0.939***
Burbank Subsection – PM Peak Hour							
Hollywood Way							
South of I-5 NB Ramp	**3,210**	**1.117**	**F***	3,704	1.288	**F***	**0.172***

Segment	2040 No Project Conditions			2040 Plus Project Conditions[1]			Change in V/C
	Volume[2]	V/C	LOS	Volume[2]	V/C	LOS	
South of Winona Avenue	3,150	0.808	D	3,792	0.972	**E***	**0.165***
South of Thornton Avenue	**3,230**	**1.123**	**F***	3,872	1.347	**F***	**0.223***
North of Avon Street	**2,940**	**1.023**	**F***	3,582	1.246	**F***	**0.223***
North of Victory Boulevard	**2,900**	**1.009**	**F***	3,498	1.217	**F***	**0.208***
South of Victory Boulevard	2,560	0.890	D	2,866	0.997	**E***	**0.106***
Victory Boulevard							
West of Hollywood Way	2,300	0.800	C	2,592	0.902	**E***	**0.102***
San Fernando Road							
West of Arvilla Avenue	1,570	0.546	A	1,428	1.242	**F***	**0.696***

Source: Authority 2019
***Boldface** type indicates that the intersection would operate at an inadequate LOS (LOS E/F).
[1] 2040 Plus Project Conditions Roadway Segment LOS values would be identical for the Refined SR14 and SR14A Build Alternatives.
[2] Volume is measured using peak hour average daily traffic and indicates the total volume of roadway during peak hours.
I = Interstate Highway; LOS = level-of-service; NB = northbound; V/C = volume-to-capacity ratio

Roadway segment impacts associated with the E1, E1A, E2, and E2A Build Alternatives in 2040 would be identical to 2040 impacts discussed above for the Refined SR14 and SR14A Build Alternatives, because the Build Alternatives would have the same HSR ridership and trip generation at the Palmdale and Burbank subsections.

As discussed in Section 3.2.7, Mitigation Measures, TR-MM#1 will add travel lanes to affected roadway segments, thereby increasing capacity and improving roadway segment operations to an adequate LOS.

CEQA Conclusion
Traffic generated at the Burbank Subsection would cause automobile delay on roadway segments, as discussed above. Automobile delay is not a significant environmental impact under CEQA. Therefore, CEQA does not require mitigation.

Impact TRA#14: Project Operation Effects on Intersections.

Operation of the project would introduce traffic at intersections to and from station sites. Refined SR14 and SR14A Build Alternatives 2040 Plus Project Conditions would degrade LOS to unacceptable levels at the intersections listed in Table 3.2-39. Where roadway segments already operate at an unacceptable LOS under Existing (2015) No Project Conditions, Table 3.2-39 shows the change in V/C that would occur as a result of each respective Build Alternative. Based on the distribution of trips in the Central Subsection, it was determined that the Build Alternatives would not add more than 50 vehicles to any roadway segment in the Central Subsection and therefore none of the roadway segments met the threshold for analysis. As such, detailed analysis for areas in the Central Subsection was not conducted for intersection locations. Additionally, these locations are outside station impact areas and therefore would not be significantly affected by HSR-related activities.

Table 3.2-39 Refined SR14 and SR14A Build Alternatives 2040 Plus Project Conditions Intersection Level-of-Service

Intersection	Traffic Control	2040 No Project Conditions		2040 Plus Project Conditions[1]		Change in Delay (s/v)
		Delay (s/v)	LOS	Delay (s/v)	LOS	
Palmdale Subsection – AM Peak Hour						
50th Street East/47th Street East at Palmdale Boulevard	Round-about	**>180.0**	**F***	>180.0	**F***	**19.9***
20th Street East at Avenue Q	AWSC	159.3	**F***	>180.0	**F***	**33.5***
Palmdale Subsection – PM Peak Hour						
SR 14 SB On-ramp at Rancho Vista Boulevard	TWSC	40.9	**E***	49.4	**E***	**8.5***
3rd Street East at Avenue Q	TWSC	26.6	D	>180.0	**F***	**>180.0***
50th Street East/47th Street East at Palmdale Boulevard	Round-about	>180.0	**F***	>180.0	**F***	**33.1***
Fort Tejon Road/Pearblossom Highway at Pearblossom Highway/Avenue T	Signal	>93.0	**F***	97.4	**F***	**4.4***
US 395 at Palmdale Road	Signal	128.9	**F***	133.7	**F***	**4.8***
20th Street East at Avenue Q	AWSC	>180.0	**F***	>180.0	**F***	**99.0***
Burbank Subsection – AM Peak Hour						
SR 170 SB Ramps at Victory Boulevard	TWSC	>180.0	**F***	>180.0	**F***	**21.4***
Sunland Boulevard at San Fernando Road	Signal	17.9	B	67.6	**E***	**49.7***
Hollywood Way at I-5 SB Ramps	TWSC	>180.0	**F***	>180.0	**F***	**>180.0***
Hollywood Way at Cohasset Street East	TWSC	152.3	**F***	>180.0	**F***	**112.0***
Burbank Subsection – PM Peak Hour						
SR 170 SB Ramps at Victory Boulevard	TWSC	>180.0	**F***	>180.0	**F***	**15.5***
Sunland Boulevard at San Fernando Road Minor	Signal	36.0	D	86.9	**F***	**50.9***
Sunland Boulevard at San Fernando Road	Signal	22.7	C	97.2	**F***	**74.5***
Sunland Boulevard at San Fernando Road	Signal	66.3	**F***	>180.0	**F***	**137.9***
Hollywood Way at Thornton Avenue	Signal	33.0	C	63.2	**E***	**30.2***
Hollywood Way at Cohasset Street East[2]	TWSC	40.1	**E***	61.5	**E***	**21.4***

Source: Authority 2019
***Boldface** type indicates that the intersection would operate at an inadequate LOS (LOS E/F).
[1] 2040 Plus Project Conditions Intersection LOS values would be identical for the Refined SR14 and SR14A Build Alternatives.
[2] The Palmdale to Burbank Project Section would reconfigure this intersection to create two T intersections. The west intersection is 2001 and signalized. This reduces the delay at intersection 96, which now only the east leg and experiences less delay.
> = greater than; AWSC = all-way stop-controlled; I = Interstate Highway; LOS = level-of-service; SB = southbound; s/v = seconds per vehicle; TWSC = two-way stop-controlled

Transportation impacts associated with the E1, E1A, E2 and E2A Build Alternatives in 2040 would be identical to 2040 impacts discussed above for the Refined SR14 and SR14A Build Alternatives, because the six Build Alternatives would have the same HSR ridership and trip generation at the Palmdale and Burbank subsections.

Traffic generated in the Burbank Subsection during 2040 Plus Project Conditions would degrade intersection LOS to E or F at several locations within the transportation RSA. Implementation of mitigation measures TR-MM#2, TR-MM#3, TR-MM#4, TR-MM#5, TR-MM#6, and TR-MM#8 (summarized in Section 3.2.6.3, Impact TRA#9), in addition to TR-MM#7 (outlined below), will improve intersection operations to an adequate LOS.

- TR-MM#7: Add Exclusive Turn Lanes—Add exclusive turn lanes to improve LOS and intersection operations.

CEQA Conclusion
Traffic generated in the Burbank Subsection would cause delays at intersections as discussed above. Automobile delay is not a significant environmental impact under CEQA. Therefore, CEQA does not require mitigation.

Impact TRA#15: Project Operation Effects on Ramp Queuing.

Refined SR14 and SR14A Build Alternatives 2040 Plus Project Conditions would add at least 100 trips to two off-ramp locations within the transportation RSA: the I-5 Southbound Ramps at Hollywood Way (intersection #28), and the SR 134 Eastbound Ramps at Pass Avenue (intersection #45). A queuing analysis conducted for the Refined SR14 and SR14A Build Alternative 2040 Plus Project Conditions determined that both the I-5 Southbound Ramps at Hollywood Way and the SR 134 Eastbound Ramps at Pass Avenue have sufficient available storage to accommodate non-project and project traffic during both peak hours for the 2040 Plus Project Conditions.

Transportation impacts associated with the E1, E1A, E2, and E2A Build Alternatives in 2040 would be identical to 2040 impacts discussed above for the Refined SR14 and SR14A Build Alternatives, because the six Build Alternatives would have the same HSR ridership and trip generation in the Palmdale and Burbank subsections.

CEQA Conclusion
Traffic generated in the Burbank Subsection would not exceed storage capacity at freeway ramp queues as discussed above. Additionally, automobile delay is not a significant environmental impact under CEQA. Therefore, CEQA does not require mitigation.

Impact TRA#16: Project Operation Effects on Freeway Segments.

The Refined SR14 and SR14A Build Alternatives 2040 Plus Project Conditions for freeway segments is based on the future roadway geometry and 2040 Plus Project Conditions volumes for the AM and PM peak hour conditions. Per the impact criteria defined in Section 3.2.4, Methods for Evaluating Impacts, for freeway segments, no study segments are affected by the Refined SR14 or SR14A Build Alternatives under 2040 Plus Project Conditions. All freeway segments for the Refined SR14 and SR14A Build Alternatives in the transportation RSA would operate at acceptable LOS during 2040 Plus Project Conditions. The results of the analysis, compared to the 2040 No Project Conditions, are presented in detail in Transportation Technical Report (Authority 2019).

Transportation impacts associated with the E1, E1A, E2, and E2A Build Alternatives in 2040 would be identical to 2040 impacts discussed above for the Refined SR14 and SR14A Build Alternatives, because the six Build Alternatives would have the same HSR ridership and trip generation in the Palmdale and Burbank subsections.

CEQA Conclusion
The project would have no significant impact on freeway operations. Additionally, automobile delay is not a significant environmental impact under CEQA. Therefore, CEQA does not require mitigation.

Impact TRA#17: Project Operation Effects on Transit Services.

The Palmdale to Burbank Project Section would add approximately 64 peak hour transit riders to bus and rail services at the Palmdale Station during 2040 Plus Project Conditions for the Refined SR14 and SR14A Build Alternatives. Rail passengers would transfer between the HSR and Metrolink trains at the Palmdale Station. Metro, AVTA, and other bus operators would provide bus transit service to the Palmdale Station. Based on existing transit ridership data, the overall average weekday transit ridership near the Palmdale Station is approximately 9,000 riders. Although transit ridership at the Palmdale Station will increase by 2040, the additional 64 peak hour transit riders associated with the California HSR System represents a small percentage of overall ridership in this area. Therefore, existing and planned transit facilities and services serving the proposed Palmdale Station would adequately meet the California HSR System demand in 2040.

In contrast, the Palmdale to Burbank Project Section would add approximately 430 peak hour transit riders to bus and rail services at the Burbank Airport Station during 2040 Plus Project Conditions. Rail passengers would transfer between the HSR and Metrolink trains at the Burbank Airport South Station (on the Ventura County line) and the Burbank Airport North Station (on the Antelope Valley line). Metro, Burbank Bus, and other bus operators would provide transit service to the Burbank Airport Station. Based on existing transit ridership data, the overall average weekday transit ridership near the Burbank Airport Station is approximately 23,400 riders. Although transit ridership at the Burbank Airport Station would increase by 2040, the additional 430 peak hour transit riders associated with the California HSR System represents a small percentage of overall ridership in this area. Therefore, existing and planned transit facilities serving the proposed Burbank Airport Station would adequately meet the California HSR System demand in 2040.

Transportation impacts associated with the E1, E1A, E2, and E2A Build Alternatives in 2040 would be identical to 2040 impacts discussed above for the Refined SR14 and SR14A Build Alternatives, because the six Build Alternatives would have the same HSR ridership and trip generation at the Palmdale and Burbank Station areas.

CEQA Conclusion

Existing and planned transit facilities serving the proposed Burbank Airport Station would adequately meet the California HSR System demand in 2040. This impact would be less than significant for the Refined SR14, SR14A, E1, E1A, E2, and E2A Build Alternatives. Therefore, CEQA does not require mitigation.

Impact TRA#18: Project Operation Effects on Non-Motorized Modes.

During 2040 Plus Project Conditions, the Refined SR14 and SR14A Build Alternatives would add approximately 28 peak hour non-motorized trips to the Palmdale Station circulation network, and 97 peak hour non-motorized trips to the Burbank Airport Station circulation network, relatively small increases in non-motorized use. An increase of 28 non-motorized peak hour trips at the Palmdale Station would equate to approximately one trip every 2 minutes, whereas an increase of 97 non-motorized peak hour trips at the Burbank Station would equate to approximately one trip every 40 seconds. These trips would be distributed across multiple access routes into and out of the station, and therefore would spread throughout the street and sidewalks within the station area. The additional non-motorized trips could be accommodated within the existing and proposed facilities considering the current and future activity levels and the capacity of the facilities. Existing pedestrian and bicycle facilities would be maintained or, if affected by construction, replaced during the implementation of proposed roadway and station area modifications. Because the project would maintain or replace non-motorized facilities affected by construction, the non-motorized demand increase created by the Palmdale to Burbank Project Section would be accommodated. Therefore, pedestrian and bicyclist facilities serving the Palmdale and Burbank subsections would meet the Palmdale to Burbank Project Section demand in 2040.

Transportation impacts associated with the E1, E1A, E2, and E2A Build Alternatives in 2040 would be identical to 2040 impacts discussed above for the Refined SR14 and SR14A Build Alternatives, because the six Build Alternatives would have the same HSR ridership and trip generation in the Palmdale and Burbank Subsection.

CEQA Conclusion

The 2040 Plus Project Conditions would not create circumstances that would interfere with pedestrian or bicycle movements or access. This impact would be less than significant for the Refined SR14, SR14A, E1, E1A, E2, and E2A Build Alternatives. Therefore, CEQA does not require mitigation.

Impact TRA#19: Project Operation Effects on Regional VMT.

Change in VMT represents total number of vehicle miles driven that would be removed from regional roadways. The HSR Build Alternatives would provide benefits to the regional transportation system by reducing vehicle trips on the freeways through the diversion of intercity trips from road trips to HSR. This reduction is a net benefit to transportation and traffic operations because a reduction in VMT helps maintain or potentially improve the operating conditions of regional roadways. This reduction in future vehicle trips would improve the LOS of the regional roadway system and reduce the overall VMT compared with existing conditions and compared with the No Project Alternative. Moreover, the reduction in VMT would help the California achieve its GHG reduction goals.

Total statewide VMT for Phase 1 of the California HSR System would be reduced when comparing No Project conditions to operation of the HSR. As shown in Table 3.2-40 and Table 3.2-41, VMT is projected to decrease exponentially from 2025 to 2040.

Although VMT is established for Phase 1 of the California HSR System, VMT is also provided at a regional scale for informational purposes. Total VMT in Los Angeles County would be reduced, overall, with the California HSR System in operation. VMT would be reduced with the commencement of HSR operations, and VMT reductions would be expected to improve each year of operation. In 2040, implementation of the HSR Build Alternatives would result in a net reduction in VMT ranging from more than 931 million to more than 2,670 million, as shown in Table 3.2-42. The six Build Alternatives would have the same HSR ridership and trip generation for the Palmdale to Burbank Project Section. The Transportation Technical Report (Authority 2019) provides more information on the 2029 VMT for the Build Alternatives.

Table 3.2-40 Phase 1 California HSR System Annual VMT

Annual Auto VMT (Billions of miles)		
Summary	**2025**	**2040**
Modeled Intraregional Assignment		
No Project VMT	159.458	171.921
Build Alternative VMT	159.458	171.916
Change in VMT Due to HSR	0.000	-0.005
Modeled Interregional Raw Assignment VMT		
No Project VMT	60.368	73.727
Build Alternative VMT	58.978	66.461
Change in VMT Due to HSR	-1.390	-7.266
Modeled Total Raw Assignment VMT		
No Project VMT	219.826	245.648

Annual Auto VMT (Billions of miles)		
Summary	**2025**	**2040**
Build Alternative VMT	218.436	238.377
Change in VMT Due to HSR	-1.390	-7.271

Source: Cambridge Systematics 2020
VMT = vehicle miles traveled
HSR = high-speed rail

Table 3.2-41 Phase 1 California HSR System Daily VMT

Daily Auto VMT (Thousands of miles)		
Summary	**2025**	**2040**
Modeled Intraregional Assignment		
No Project VMT	476,179	513,406
Build Alternative VMT	476,179	513,390
Change in VMT Due to HSR	0	-15
Modeled Interregional Raw Assignment VMT		
No Project VMT	157,612	739,135
Build Alternative VMT	153,661	722,884
Change in VMT Due to HSR	-3,951	-16,250
Modeled Total Raw Assignment VMT		
No Project VMT	633,791	1,252,541
Build Alternative VMT	629,840	1,236,275
Change in VMT Due to HSR	-3,951	-16,266

Source: Cambridge Systematics 2020
VMT = vehicle miles traveled
HSR = high-speed rail

Table 3.2-42 VMT for Operation of the Palmdale to Burbank Project Section and the No Project Alternative

Area	No Project VMT Total Annual Traffic (miles traveled)		Palmdale to Burbank Project Section VMT Total Annual Traffic (miles traveled)		Net Reduction in VMT Total Annual Traffic (miles traveled)	
	Medium Ridership Scenario	High Ridership Scenario	Medium Ridership Scenario	High Ridership Scenario	Medium Ridership Scenario	High Ridership Scenario
Year 2015						
Los Angeles	73,394,193,078	73,236,845,700	72,724,087,184	72,310,888,632	-670,105,894	-925,957,068
Ventura	5,892,874,243	5,871,995,391	5,859,075,240	5,823,357,866	-33,799,003	-48,637,525
Kern	4,152,310,619	4,094,480,903	3,547,122,300	3,267,281,332	-605,188,319	-827,199,571
Santa Barbara	864,545,016	849,400,023	840,246,898	814,378,660	-24,298,118	-35,021,363
San Bernardino	12,725,201,965	12,686,260,346	12,665,228,642	12,601,481,161	-59,973,323	-84,779,185
Regional Total	97,029,124,921	96,738,982,363	95,635,760,264	94,817,387,651	-1,393,364,657	-1,921,594,712
Year 2040						
Los Angeles	86,055,909,405	87,075,870,799	85,124,593,011	85,788,971,213	-931,316,394	-1,286,899,586
Ventura	7,085,588,919	7,181,701,297	7,038,614,902	7,114,104,631	-46,974,017	-67,596,666
Kern	5,789,706,865	6,659,048,685	4,948,613,229	5,509,402,743	-841,093,636	-1,149,645,942
Santa Barbara	1,038,912,666	1,117,778,105	1,005,143,024	1,069,105,246	-33,769,642	-48,672,859
San Bernardino	18,495,252,023	18,770,247,920	18,411,900,811	18,652,421,401	-83,351,212	-117,826,519
Regional Total	118,465,369,878	120,804,646,808	116,528,864,976	118,134,005,234	-1,936,504,902	-2,670,641,574

Source: Authority 2016b
VMT = vehicle miles traveled

CEQA Conclusion
As of December 28, 2018, the CEQA Guidelines were amended to include VMT thresholds, effective July 1, 2020. Under the revised CEQA Guidelines, transportation projects that reduce VMT are presumed to have a less than significant impact on transportation. The impact under CEQA would be less than significant, because the Refined SR14, SR14A, E1, E1A, E2, and E2A Build Alternatives would not result in a net increase of VMT over the baseline condition. The project would result in an overall decrease in VMT throughout the region and the state, resulting in a beneficial impact on VMT. The project would also be fully consistent with CEQA Guidelines Section 15064.3. Therefore, CEQA does not require mitigation.

3.2.7 Mitigation Measures

This section identifies the traffic mitigation measures proposed for roadway segments, intersections, transit services, non-motorized modes of travel, and construction and provides information on impacts after application of mitigation measures. Unless otherwise stated, mitigation measures would be identical for the Refined SR14, SR14A, E1, E1A, E2, and E2A Build Alternatives. NEPA requires federal agencies to identify potentially adverse effects and discuss measures to mitigate those effects. The Authority is not required to implement mitigation measures pertaining to NEPA impacts. CEQA requires that each significant impact of a project be identified, and feasible mitigation measures be stated and implemented. Mitigation measures are identified for operations impacts that cannot be avoided or minimized adequately by refining project design. As LOS is not an impact under CEQA, mitigation measures intended to reduce LOS are not required under CEQA. Mitigation measures for the Palmdale Subsection are evaluated in the Bakersfield to Palmdale Project Section EIR/EIS.

3.2.7.1 Roadway Segments

- **TR-MM#1**: Add Lanes to the Segment—Add travel lanes to the roadway segment to increase capacity and improve roadway operations

3.2.7.2 Intersections

- **TR-MM#2**: Modify Signal Timing—Modify signal timing (to optimize cycle length and splits) at specific intersections to improve LOS and intersection operations
- **TR-MM#3**: Modify Signal Phasing—Modify traffic signal phasing sequence to improve LOS and intersection operations
- **TR-MM#4**: Provide a Traffic Signal—Add traffic signals to affected unsignalized intersections to improve LOS and intersection operation. Intersections proposed for signalization must meet traffic signal warrants to be considered as affected
- **TR-MM#5**: Restripe Intersection—Restripe intersection approaches to improve LOS and intersection operations
- **TR-MM#6**: Widen Intersection—Widen intersection approaches by adding a through lane to improve LOS and intersection operations
- **TR-MM#7**: Add Exclusive Turn Lanes—Add exclusive turn lanes to improve LOS and intersection operations
- **TR-MM#8**: Reconfigure Intersection—Reconfigure intersection geometry to improve LOS and intersection operations

3.2.7.3 Transit Services

- **TR-MM#9**: Transit Coordination Plan—Prepare a coordination plan with affected transit providers to ensure revisions needed to routes, stops, and schedules are carried out in order to address modifications to the local roadway network and changes in circulation. The coordination plan would be implemented to offset any reduction in service created by project construction. In particular, this plan will address how bus routes and schedules would need to be evaluated and revised to account for changes to the local roadway network and to access the HSR station transit facilities, modifications to transit services to meet the scheduled HSR trains, and potential increases in service to accommodate HSR riders.

3.2.7.4 Non-motorized Modes of Travel

- **TR-MM#10**: Provide Pedestrian and Bicycle Facilities—Provide pedestrian and bicycle facilities to compensate for loss of existing facilities and to restore crossings/connections affected by modifications to the local roadway network. Coordinate with affected transit providers to ensure appropriate revisions to routes, stops, and schedules are carried out to address modifications to the local roadway network and changes in circulation. Ensure that the site plans for the HSR stations and station areas include adequate pedestrian facilities and amenities (such as sidewalks, crosswalks, and ADA-compliant designs), adequate bicycle facilities and amenities (such as safe and secure bicycle parking and connections to local/regional bicycle routes), wayfinding, and other similar elements.
- **TR-MM#11**: In-Lieu Traffic Improvements—The Authority will enter cooperative agreements with HSR station host cities and partner transportation providers to implement transportation improvements in-lieu of general roadway traffic improvements to address identified traffic impacts. This approach supports the Authority's guidelines and policies to encourage HSR access via non-auto modes, helping reduce traffic congestion and associated air quality impacts at and around HSR stations. In-lieu improvements will be negotiated with host cities and partner transportation providers and may include, but not be limited to, the following types of improvements:
  - Pedestrian facilities, including, but not limited to, sidewalks, curb-cuts, pathways, multi-use trails, and signage and wayfinding within 0.5 mile of HSR stations
  - Bicycle facilities, including, but not limited to, on-street bicycle lanes and cycle tracks, off-street bicycle or multi-use trails, signalization, bicycle parking, and bicycle rental, sharing or repair facilities, and signage and wayfinding within 3 miles of HSR stations
  - On- and off-street bus transit facilities, including, but not limited to, transit centers, stations, stops, shelters, lighting, terminal layover facilities, operator restrooms, fare vending equipment, information and wayfinding, bus pads, electric charging stations, transit lanes, and traffic signal priority equipment and software within 3 miles or HSR stations
  - Public transit bus rolling stock
  - On- or off-street vehicle pick-up/drop-off and queuing space within 0.25 mile of HSR stations
  - Ongoing bus, streetcar, or urban rail service operations and maintenance funding to support expanded connecting transit service at HSR stations

3.2.7.5 Circulation and Connections

- **TR-MM#12**: Prepare a Transportation Construction Management Plan—Prior to construction, the Authority will require the construction contractor to develop a plan to manage circulation and connections for modes of travel during the construction duration. Coordinate with local agencies, emergency services, and public transit providers to ensure appropriate revisions to routes, stops, schedules, and signage are carried out to address modifications to the local roadway network and changes in circulation. Implementation of the transportation CMP will

maintain the flow of traffic, bicyclists, pedestrians, and buses in and around the construction zones. Typical measures associated with a CMP include the following:

- Schedule a majority of construction-related travel during off-peak hours
- Relocate spoils collection areas and access to minimize delays during peak hours
- Develop detour routes to facilitate traffic movements through construction zones without substantially increasing cut-through traffic in adjacent residential neighborhoods
- Where feasible, temporarily restripe roadways to maximize vehicular capacity at locations affected by construction closures
- Where feasible, temporarily remove on-street parking to maximize vehicular capacity, transit capacity, and bicycle circulation at locations affected by construction closures
- Where feasible, station traffic control officers at major intersections to minimize delays during peak hours
- Develop alternative routes to reduce the number of trucks on sensitive facilities without substantially increasing cut-through traffic in adjacent residential neighborhoods
- Develop and implement an outreach program to inform the public about the construction process and any planned roadway closures
- Develop and implement a program with business owners to minimize impacts on businesses during construction activity

3.2.7.6 Existing (2015) Plus Spoils Hauling Conditions

Implementation of the following elements of the CMP (TR-MM#12) will reduce impacts associated with haul route traffic:

- Schedule a majority of construction-related travel during off-peak hours
- Relocate spoils collection areas and access to minimize delays during peak hours
- Station traffic control officers at major intersections to minimize delays during peak hours, where feasible
- Develop alternative routes to reduce number of trucks on sensitive facilities without substantially increasing cut-through traffic in adjacent residential neighborhoods
- Develop and implement an outreach program to inform the general public about the construction process
- Develop and implement a program with business owners to minimize impacts on businesses during construction activity

3.2.7.7 Existing (2015) Plus Construction Conditions

Roadway Segments

Table 3.2-43 presents the roadway segment mitigation measures and associated operating conditions proposed for the Existing (2015) Plus Construction Conditions.

Intersections

Table 3.2-44 presents the intersection mitigation measures and associated operating conditions proposed for the Existing (2015) Plus Construction Conditions.

Transit Services

Modifications to portions of existing freight and passenger railroad facilities could conflict with plans that address transit circulation. Implementation of TR-MM#9 will help address the impacts

on transit operations and service planning and would reduce Palmdale to Burbank Project Section impacts.

Non-motorized Travel Modes

No construction mitigation measures for the Burbank Subsection would be required as no impacts on non-motorized travel would occur after construction. If the design plans do not provide adequate pedestrian and bicycle crossings and facilities along new or realigned roadways, a separate design effort would ensure connectivity of the facilities (TR-MM#10).

3.2.7.8 Operations (2040) Plus Project Conditions

Roadway Segments

Table 3.2-45 presents roadway segment mitigation measures and associated operating conditions proposed for the 2040 Plus Project Conditions.

Intersections

Table 3.2-46 presents the intersection mitigation measures and associated operating conditions proposed for the 2040 Plus Project Conditions.

Table 3.2-43 Existing (2015) Plus Construction Roadway Mitigation Measures and Operating Conditions after Mitigation

Roadway Segment	Mitigation Measure	Recommended Actions	Scenario	Existing No Project		Construction Plus Mitigation	
				Delay (s/v)	LOS	Delay (s/v)	LOS
Burbank Subsection							
San Fernando Road							
West of Arvilla Avenue	**TR-MM#1**: Add lanes to the segment	Widen roadway from 2 lanes to 4 lanes	Existing AM	0.597	A	0.519	A
			Existing PM	0.502	A	0.392	A

Source: Authority 2019
Mitigation for the Palmdale Subsection is evaluated in the Bakersfield to Palmdale Project Section EIR/EIS.
LOS = level-of-service; s/v = seconds per vehicle

Table 3.2-44 Existing (2015) Plus Construction Intersection Mitigation Measures and Operating Conditions after Mitigation

Intersection	Current Intersection Control	Mitigation Measures	Recommended Actions	Peak Hour	Existing No Project		Construction Plus Mitigation	
					Delay (s/v)	LOS	Delay (s/v)	LOS
Central Subsection (Refined SR14 and SR14A Build Alternatives only)								
Tuxford Street at Bradley Avenue	Signal	**TR-MM#5**: Restripe Intersection.	Convert WB left-turn/through lane & WB left-turn lane to WB left-turn lane & WB through/right-turn lane	AM	27.8	C	14.4	B
				PM	46.6	D	16.1	B
Tujunga Avenue at Strathern Street	Signal	**TR-MM#2**: Modify signal timing	Optimize spits	PM	26.9	C	25.6	C
Fair Avenue at Strathern Street	TWSC	**TR-MM#4:** Provide a traffic signal	Provide traffic signal – meets peak hour signal warrant (with construction)	AM	35.7	E	16.8	B
				PM	35.2	E	14.0	B
Central Subsection (E1, E1A, E2, and E2A Build Alternatives only)								
Sierra Highway at Mountain Springs Road	TWSC	**TR-MM#4**: Provide a traffic signal	Provide traffic signal – meets peak hour signal warrant (with construction)	PM	16.0	C	13.4	B

Intersection	Current Intersection Control	Mitigation Measures	Recommended Actions	Peak Hour	Existing No Project		Construction Plus Mitigation	
					Delay (s/v)	LOS	Delay (s/v)	LOS
Tuxford Street at Bradley Avenue	Signal	**TR-MM#5**: Restripe intersection	Convert WB left-turn/through lane & WB left-turn lane to WB left-turn lane & WB through/right-turn lane	AM	27.8	C	14.4	B
				PM	46.6	D	16.1	B
Fair Avenue at Strathern Street	TWSC	**TR-MM#4**: Provide a traffic signal	Provide traffic signal – meets peak hour signal warrant (with construction)	AM	35.7	E	16.8	B
				PM	35.2	E	14.0	B
SR 14 NB Ramps at SR 14 SB ramps	TWSC	**TR-MM#8:** Reconfigure intersection	Remove one of two EB through lanes and provide NB right-turn free control (250-foot radius for channelized right turn)	PM	-	-	0.0	A
Sunland Boulevard at San Fernando Road	Signal	**TR-MM#2:** Modify signal timing **TR-MM#3:** Modify signal phasing	Provide SB exclusive left-turn lane with protected phasing Remove split phasing for NB and SB movements Optimize splits	AM	16.2	B	38.5	D
				PM	19.4	B	43.8	D

Source: Authority 2019
Mitigation for the Palmdale Subsection is evaluated in the Bakersfield to Palmdale Project Section EIR/EIS.
AWSC = all-way stop-controlled; EB = eastbound; EBT = eastbound turn lane; LOS = level-of-service; NB = northbound; SB = southbound; SR = State Route; s/v = seconds per vehicle; TWSC = two-way stop-controlled; WB = westbound

Table 3.2-45 Operations (2040) Plus Project Conditions Roadway Mitigation Measures and Operating Conditions after Mitigation

Roadway Segment	Mitigation Measures	Recommended Actions	Peak Hour	2040 No Project Conditions		2040 Project Plus Mitigation	
				Delay (s/v)	LOS	Delay (s/v)	LOS
Burbank Subsection							
Hollywood Way							
South of I-5 NB Ramps	**TR-MM#1**: Add lanes to the segment	Widen roadway from 4 lanes to 6 lanes	AM	0.981	E	0.673	B
			PM	1.117	F	0.752	C
South of Winona Avenue	**TR-MM#1**: Add lanes to the segment	Widen roadway from 5 lanes to 6 lanes	PM	0.808	D	0.770	C
South of Thornton Avenue	**TR-MM#1**: Add lanes to the segment	Widen roadway from 4 lanes to 6 lanes	AM	0.991	E	0.709	C
			PM	1.123	F	0.786	C
North of Avon Street	**TR-MM#1**: Add lanes to the segment	Widen roadway from 4 lanes to 6 lanes	AM	0.936	E	0.677	B
			PM	1.023	F	0.727	C
North of Victory Boulevard	**TR-MM#1**: Add lanes to the segment	Widen roadway from 4 lanes to 6 lanes	AM	0.901	E	0.647	B
			PM	1.009	F	0.710	C
South of Victory Boulevard	**TR-MM#1**: Add lanes to the segment	Widen roadway from 4 lanes to 6 lanes	PM	0.890	D	0.582	A
San Fernando Road							
West of Arvilla Avenue	**TR-MM#1**: Add lanes to the segment	Widen roadway from 2 lanes to 4 lanes	AM	0.650	B	0.636	CB
			PM	0.546	A	0.497	BA

Source: Authority 2019
Mitigation for the Palmdale Subsection is evaluated in the Bakersfield to Palmdale Project Section EIR/EIS.
EBT = eastbound turn lane; LOS = level-of-service; NB = northbound; s/v = seconds per vehicle

Table 3.2-46 Refined SR14/SR14A Build Alternatives 2040 Project Condition Intersection Mitigation Measures and Operating Conditions after Mitigation

Intersection	Current Intersection Control	Mitigation Measure(s)	Recommended Actions	Peak Hour	2040 No Project Conditions		2040 Project Plus Mitigation	
					Delay (s/v)	LOS	Delay (s/v)	LOS
Burbank Subsection								
SR 170 SB Ramps at Victory Boulevard	TWSC	**TR-MM#4:** Provide a traffic signal	Signalize intersection Provide NB right-turn lane & SB right-turn protected phasing	AM	>180.0	F	0.6	A
				PM	>180.0	F	0.7	A
Sunland Boulevard at San Fernando Road Minor	Signal	**TR-MM#2:** Modify signal timing **TR-MM#5**: Restripe intersection **TR-MM#7:** Add exclusive turn lanes	Widen WB approach from WB left-turn/through lane & WB right-turn turn pocket to WB left-turn & WB through/right-turn lanes Optimize cycle length and splits	PM	36.0	D	54.3	D
Sunland Boulevard at San Fernando Road	Signal	**TR-MM#2:** Modify signal timing **TR-MM#3**: Modify signal phasing **TR-MM#6**: Widen Intersection. **TR-MM#7:** Add exclusive turn lanes	Provide exclusive SB right-turn turn lane with protected-permitted phasing and WB right-turn lane with overlap phasing. Provide protected-permitted phasing for NB lane. Optimize cycle length and splits	AM	17.9	B	34.0	C
				PM	22.7	C	45.8	D
Hollywood Way at I-5 SB Ramps	TWSC	**TR-MM#4**: Provide a traffic signal	Signalize intersection (meets signal warrant)	AM	>180.0	F	4.0	A
				PM	66.3	F	3.0	A
Hollywood Way at Thornton Avenue	TWSC	**TR-MM#2**: Modify signal timing	Optimize cycle length and splits	PM	33.0	C	45.9	D
Hollywood Way at Cohasset Street	TWSC	**TR-MM#4**: Provide a traffic signal	Signalize intersection (meets signal warrant)	AM	148.6	F	7.3	A
				PM	40.1	E	4.2	A

Source: Authority 2019
Mitigation for the Palmdale Subsection is evaluated in the Bakersfield to Palmdale Project Section EIR/EIS.
AWSC = all-way stop-controlled; EB = eastbound; EBT = eastbound turn lane; I = Interstate Highway; LOS = level-of-service; NB = northbound; SB = southbound; SR = State Route; s/v = seconds per vehicle; TWSC = two-way stop-controlled; US = U.S. Highway; WB = westbound

Queuing

Refined SR14 and SR14A Build Alternatives would result in queuing impacts at Hollywood Way at I-5 Southbound Ramps during the AM peak hour. Mitigation measures for the intersection LOS impact also mitigate the queuing impact during the AM peak hour. The mitigation would reduce 95th percentile queue to 1,222 feet from 1,534 feet. Given existing storage, capacity on the ramp is approximately 1,300 feet. AM queues could be accommodated within storage capacity.

Transit Services

On completion of the HSR alignment and station in Burbank, the changes to the local roadway network would not substantially affect routes and operations of the transit provided in the vicinity of the station area. In addition, transit operators could choose to serve the proposed transit center with the Burbank Airport Station.

Coordination with local and regional transit lines during the station planning and roadway design phase of the Palmdale to Burbank Project Section would mitigate impacts on transit access and circulation (TR-MM#9).

Non-motorized Travel Modes

On completion of the HSR Alignment and station in Burbank, the realignment and reconfiguration of San Fernando Boulevard would require installation of new pedestrian connections. At the Palmdale and Burbank Stations, pedestrian and bicycle amenities are planned that would provide access to the surrounding areas. In addition, new pedestrian trackway overpasses would be provided.

Coordination with the City of Burbank during the station planning and roadway design phase of the Palmdale to Burbank Project Section would address impacts on pedestrian and bicyclist access and circulation. If the design plans do not provide adequate pedestrian and bicycle facilities, a separate design effort would be needed to ensure connectivity of the facilities as well as access to the station area (TR-MM#10).

Additional Mitigation Measures

In addition to the mitigation measures listed above, mitigation measure LU-MM#1: HSR Station Area Development General Principles and Guidelines will reduce impacts near station areas. Refer to Section 3.13.7 for more information on station planning and land use.

3.2.7.9 Impacts from Implementing Mitigation Measures

The following mitigations would not result in secondary environmental effects:

- TR-MM#2: Modify Signal Timing—Electronically modifying signal timing at existing signals and would involve little to no physical disturbance that could cause impacts.
- TR-MM#3: Modify Signal Phasing—Electronically modifying signal phasing at existing signals and would involve little to no physical disturbance that could cause impacts.
- TR-MM#5: Restripe Intersection—Intersection restriping will involve painting existing pavement.
- TR-MM#12: Prepare a Construction Management Plan—TR-MM#12 will entail coordination and outreach efforts to minimize transportation impacts during the construction period. Physical changes resulting from this plan include temporary restriping and removal of on-street parking. Such activities would not result in secondary environmental effects.

The mitigation measures listed below could result in secondary environmental effects or environmental effects outside of the current Build Alternative footprint. Such impacts could include emissions and fugitive dust from construction equipment, construction-related noise, construction-related road closures or traffic delays, mobilization of extant hazardous materials or wastes, private property acquisitions or displacements, and impacts on biological and cultural resources. These types of impacts are common to most infrastructure construction projects and

are typically reduced to a less than significant level through adhering to applicable regulations, obtaining regulatory permits, incorporating best management practices, and applying standard mitigation measures. Such modifications would also require approval from local agencies with jurisdiction over the affected facility.

- TR-MM#1: Add Lanes to the Segment—Roadway segments affected by the Palmdale to Burbank Project Section would require expansion to increase capacity and improve roadway operations. However, several affected roadway segments would be outside of the Build Alternative footprint. Adding travel lanes to these roadway segments could result in secondary environmental effects.
- TR-MM#4: Provide a Traffic Signal—Installing new signals to existing intersections generally could occur within existing pavement or disturbed graded right-of-way and will involve minor physical disturbance that could cause secondary environmental impacts.
- TR-MM#6: Widen Intersection—Some intersections affected by the Palmdale to Burbank Project Section would require expansion to improve LOS and intersection operations. However, several affected intersections would be outside of the Build Alternative footprint. Widening these intersections could result in secondary environmental effects.
- TR-MM#7: Add Exclusive Turn Lanes—Some intersections affected by the Palmdale to Burbank Project Section would require additional turn lanes to improve LOS and intersection operations. However, several affected intersections would be outside of the Build Alternative footprint. Adding turn lanes to these intersections could result in secondary environmental effects.
- TR-MM#8: Reconfigure Intersection—Some intersections affected by the Palmdale to Burbank Project Section would require reconfiguring to improve LOS and intersection operations. However, several affected intersections would be outside of the Build Alternative footprint. Reconfiguring intersections could result in secondary environmental effects.
- TR-MM#9: Transit Coordination Plan—This plan will entail coordination with existing transit providers to evaluate how changes to the roadway network would necessitate changes to existing transit routes, stops, and schedules. Changes to transit routes, stops, and schedules proposed by the transit coordination plan could result in secondary environmental effects.
- TR-MM#10: Provide Pedestrian and Bicycle Facilities—The Palmdale to Burbank Project Section proposes pedestrian and bicycle facilities in the HSR station areas and along roadway grade separations (discussed in Impact TRA#11). However, coordination with the City of Burbank during the station planning and roadway design phase could identify additional pedestrian and bicyclist circulation deficiencies outside of the construction footprint. Implementation of such off-site improvements could result in secondary environmental effects.
- TR-MM#11: In-Lieu Traffic Improvements—The Authority would enter cooperative agreements with HSR station host cities and partner transportation providers to implement transportation improvements, including pedestrian, bicycle, bus transit, and pick-up/drop-off facilities. If required off-site, implementation of these improvements could result in secondary environmental effects.

3.2.8 NEPA Impacts Summary

This section summarizes transportation impacts associated with the Refined SR14, SR14A, E1, E1A, E2, and E2A Build Alternatives for Existing (2015) Plus Spoils Hauling Conditions, Existing (2015) Plus Project Construction Conditions, and Operations (2040) Plus Project Conditions and compares them to the anticipated No Project Alternative impacts. Table 3.2-47 compares impacts associated with spoils hauling, construction, and operation of the Refined SR14, SR14A, E1, E1A, E2, and E2A, and summarizes the more detailed information provided in Section 3.2.6.

Table 3.2-47 Comparison of High-Speed Rail Build Alternative Impacts for Transportation

Impacts	Build Alternative						NEPA Conclusion before Mitigation (All Build Alternatives)	Mitigation	NEPA Conclusion post Mitigation (All Build Alternatives)
	Refined SR14	SR14A	E1	E1A	E2	E2A			
Construction Impacts									
Existing (2015) Plus Spoils Hauling Conditions									
Impact TRA#1: Spoils Hauling Effects on Roadway Segments.									
Number of roadway segments where the project would have significant effects on roads during northbound spoils hauling.	AM peak hour: 2 roadway segments PM peak hour: 1 roadway segments	AM peak hour: 2 roadway segments PM peak hour: 2 roadway segments	AM peak hour: 4 roadway segments PM peak hour: 4 roadway segments	AM peak hour: 4 roadway segments PM peak hour: 5 roadway segments	AM peak hour: 3 roadway segments PM peak hour: 4 roadway segments	AM peak hour: 3 roadway segments PM peak hour: 5 roadway segments	Adverse Effect	TR-MM#12	Adverse Effect See Section 3.2.8.1
Number of roadway segments where the project would have significant effects on roads during southbound spoils hauling.	AM peak hour: 2 roadway segments PM peak hour: 2 roadway segments	AM peak hour: 2 roadway segments PM peak hour: 3 roadway segments	AM peak hour: 4 roadway segments PM peak hour: 4 roadway segments	AM peak hour: 5 roadway segments PM peak hour: 5 roadway segments	AM peak hour: 2 roadway segments PM peak hour: 3 roadway segments	AM peak hour: 3 roadway segments PM peak hour: 4 roadway segments	Adverse Effect	TR-MM#12	Adverse Effect See Section 3.2.8.1

Impacts	Build Alternative						NEPA Conclusion before Mitigation (All Build Alternatives)	Mitigation	NEPA Conclusion post Mitigation (All Build Alternatives)
	Refined SR14	SR14A	E1	E1A	E2	E2A			
Impact TRA#2: Spoils Hauling Effects on Intersections.									
Number of intersections (including new intersections) where the project would have significant effects during northbound spoils hauling.	AM peak hour: 4 intersections PM peak hour: 5 intersections	AM peak hour: 5 intersections PM peak hour: 7 intersections	AM peak hour: 6 intersections PM peak hour: 7 intersections	AM peak hour: 5 intersections PM peak hour: 7 intersections	AM peak hour: 4 intersections PM peak hour: 3 intersections	AM peak hour: 3 intersections PM peak hour: 3 intersections	Adverse Effect	TR-MM#12	Adverse Effect See Section 3.2.8.1
Number of intersections (including new intersections) where the project would have significant effects during southbound spoils hauling.	AM peak hour: 6 intersections PM peak hour: 6 intersections	AM peak hour: 7 intersections PM peak hour: 8 intersections	AM peak hour: 6 intersections PM peak hour: 7 intersections	AM peak hour: 6 intersections PM peak hour: 7 intersections	AM peak hour: 3 intersections PM peak hour: 3 intersections	AM peak hour: 3 intersections PM peak hour: 3 intersections	Adverse Effect	TR-MM#12	Adverse Effect See Section 3.2.8.1

Impacts	Build Alternative						NEPA Conclusion before Mitigation (All Build Alternatives)	Mitigation	NEPA Conclusion post Mitigation (All Build Alternatives)
	Refined SR14	SR14A	E1	E1A	E2	E2A			
Impact TRA#3: Spoils Hauling Effects on Ramp Queuing.									
Spoils hauling would increase freeway ramp queues for the Refined SR14, SR14A, E1, E1A, E2, and E2A Build Alternatives, however, increased traffic volumes would not exceed storage capacity at off-ramps.							No Adverse Effect	No mitigation needed	N/A See Section 3.2.8.1
Impact TRA#4: Spoils Hauling Effects on Freeway Segments.									
Number of freeway segments where the LOS project would have significant effects during southbound spoils hauling.	AM peak hour: 2 freeway segments PM peak hour: 2 freeway segments	AM peak hour: 2 freeway segments PM peak hour: 2 freeway segments	AM peak hour: 1 freeway segment PM peak hour: 2 freeway segments	AM peak hour: 1 freeway segment PM peak hour: 2 freeway segments	AM peak hour: 1 freeway segment PM peak hour: 2 freeway segments	AM peak hour: 1 freeway segment PM peak hour: 2 freeway segments	Adverse Effect	TR-MM#12	Adverse Effect See Section 3.2.8.1
Impact TRA#5: Spoils Hauling Effects on Transit Services.									
Spoils hauling would temporarily affect transit service efficiency for the Refined SR14, SR14A, E1, E1A, E2, or E2A Build Alternatives. Such transit delays could result in conflicts with the efficiency goals of regional and local transportation plans. However, spoils hauling would only occur during the construction period, and would not permanently interfere with the transit system.							Adverse Effect	TR-MM#12	No Adverse Effect See Section 3.2.8.1
Impact TRA#6: Spoils Hauling Effects on Non-Motorized Modes.									
Spoils hauling would not affect non-motorized modes for the Refined SR14, SR14A, E1, E1A, E2, or E2A Build Alternatives.							No Adverse Effect	No mitigation needed	N/A See Section 3.2.8.1

Impacts	Build Alternative						NEPA Conclusion before Mitigation (All Build Alternatives)	Mitigation	NEPA Conclusion post Mitigation (All Build Alternatives)
	Refined SR14	SR14A	E1	E1A	E2	E2A			
Existing (2015) Plus Construction Conditions									
Impact TRA#7: Project Construction Effects on Vehicles, Pedestrians, Bicyclists, and Transit.									
HSR construction traffic (excluding spoils haul trips) associated with the Refined SR14, SR14A, E1, E1A, E2, and E2A Build Alternatives would temporarily interfere with vehicles, pedestrians, bicyclists, and transit.							No Adverse Effect	No mitigation needed	N/A See Section 3.2.8.2
Impact TRA#8: Project Construction Effects on Roadway Segments.									
Number of roadway segments where the project would have significant effects.	AM peak hour: 1 roadway segment PM peak hour: 1 roadway segments	AM peak hour: 1 roadway segment PM peak hour: 1 roadway segments	AM peak hour: 1 roadway segment PM peak hour: 1 roadway segments	AM peak hour: 1 roadway segment PM peak hour: 1 roadway segments	AM peak hour: 1 roadway segment PM peak hour: 1 roadway segments	AM peak hour: 1 roadway segment PM peak hour: 1 roadway segments	Adverse Effect	TR-MM#1	No Adverse Effect See Section 3.2.8.2
Impact TRA#9: Project Construction Effects on Intersections.									
Number of intersections (including new intersections) where the project would have significant effects.	AM peak hour: 3 intersections PM peak hour: 4 intersections	AM peak hour: 3 intersections PM peak hour: 4 intersections	AM peak hour: 1 intersection PM peak hour: 2 intersections	AM peak hour: 1 intersection PM peak hour: 1 intersection	AM peak hour: 1 intersection PM peak hour: 2 intersections	AM peak hour: 1 intersection PM peak hour: 1 intersection	Adverse Effect	TR-MM#2 TR-MM#3 TR-MM#4 TR-MM#5 TR-MM#6 TR-MM#8	No Adverse Effect See Section 3.2.8.2

Impacts	Build Alternative						NEPA Conclusion before Mitigation (All Build Alternatives)	Mitigation	NEPA Conclusion post Mitigation (All Build Alternatives)
	Refined SR14	SR14A	E1	E1A	E2	E2A			
Impact TRA#10: Project Construction Effects on Freeway Segments.									
Existing (2015) Plus Construction Conditions roadway modifications would not generate more than 50 new automobile trips on freeway segments within the transportation RSA.							No Adverse Effect	No mitigation needed	N/A See Section 3.2.8.2
Impact TRA#11: Project Construction Effects on Rail and Transit Services.									
Existing freight and passenger rail services would continue without interference with implementation of the six Build Alternatives. Refined SR14, SR14A, E1, E1A, E2, and E2A Build Alternatives Existing (2015) Plus Construction roadway modifications would affect bus routes that cross the HSR Alignment and could require route and stop changes.							Adverse Effect	TR-MM#9 TR-MM#11	No Adverse Effect See Section 3.2.8.2
Impact TRA#12: Project Construction Effects on Non-Motorized Modes Near the Burbank Airport Station.									
Existing (2015) Plus Construction Conditions roadway modifications could require additional pedestrian and bicycle crossings and facilities. This effect would be similar for the Refined SR14, SR14A, E1, E1A, E2 and E2A Build Alternatives.							Adverse Effect	TR-MM#10 TR-MM#11	No Adverse Effect See Section 3.2.8.2
Operations Impacts									
Operations (2040) Plus Project Conditions									
Impact TRA#13: Project Operation Effects on Roadway Segments.									
Number of roadway segments where the project would have significant effects.	AM peak hour: 8 roadway segments PM peak hour: 11 roadway segments						Adverse Effect	TR-MM#1	No Adverse Effect See Section 3.2.8.3

Impacts	Build Alternative						NEPA Conclusion before Mitigation (All Build Alternatives)	Mitigation	NEPA Conclusion post Mitigation (All Build Alternatives)
	Refined SR14	SR14A	E1	E1A	E2	E2A			
Impact TRA#14: Project Operation Effects on Intersections.									
Number of intersections (including new intersections) where the project would have significant effects.	AM peak hour: 6 intersections PM peak hour: 12 intersections						Adverse Effect	TR-MM#2 TR-MM#3 TR-MM#4 TR-MM#5 TR-MM#6 TR-MM#7 TR-MM#8	No Adverse Effect See Section 3.2.8.3
Impact TRA#15: Project Operation Effects on Ramp Queuing.									
2040 Project Conditions would not affect ramp queues for the Refined SR14, SR14A, E1, E1A, E2, and E2A Build Alternatives.							No Adverse Effect	No mitigation needed	N/A See Section 3.2.8.2
Impact TRA#16: Project Operation Effects on Freeway Segments.									
2040 Project Conditions would not affect freeway segments for the Refined SR14, SR14A, E1, E1A, E2, and E2A Build Alternatives.							No Adverse Effect	No mitigation needed	N/A See Section 3.2.8.3
Impact TRA#17: Project Operation Effects on Transit Services.									
Existing and planned transit facilities would adequately meet California HSR System demand in 2040. This effect would be similar for the Refined SR14, SR14A, E1, E1A, E2, and E2A Build Alternatives.							No Adverse Effect	No mitigation needed	N/A See Section 3.2.8.3

Impacts	Build Alternative						NEPA Conclusion before Mitigation (All Build Alternatives)	Mitigation	NEPA Conclusion post Mitigation (All Build Alternatives)
	Refined SR14	SR14A	E1	E1A	E2	E2A			
Impact TRA#18: Project Operation Effects on Non-Motorized Modes.									
Existing and planned pedestrian and bicycle facilities would adequately meet California HSR System demand in 2040. Implementation of the Refined SR14, SR14A, E1, E1A, E2, and E2A Build Alternatives would not interfere with pedestrian or bicycle movements or access.							No Adverse Effect	No mitigation needed	N/A See Section 3.2.8.2
Impact TRA#19: Project Operation Effects on Regional VMT.									
Implementation of Phase 1 of the California HSR System would result in an overall decrease in VMT throughout the region and the state, resulting in a beneficial impact on VMT.							No Adverse Effect	No mitigation needed	N/A See Section 3.2.8.3

LOS = level-of-service; RSA = resource study area

3.2.8.1 Existing (2015) Plus Spoils Hauling Conditions

Construction-period earthwork and tunneling activities for the six Build Alternatives would generate substantial spoils material, which would be trucked to various potential disposal sites in the Palmdale to Burbank Project Section transportation RSA. A detailed description of disposal sites is provided in Chapter 2, Alternatives. Spoils hauling could increase truck traffic at roadway segments and intersections, resulting in travel delay at freeway ramps and freeway segments, to non-motorized modes, and to transit providers. However, spoils hauling would only occur during the construction period, and would not permanently interfere with the transit system. Additionally, increased traffic volumes would not exceed storage capacity at off-ramps. Elements of the CMP (TR-MM#12) will reduce impacts associated with haul route traffic. However, impacts on roadway segments, intersections, and freeway segments (identified in Section 3.2.6 and quantified in Table 3.2-47) would remain adverse. Spoils hauling would have effects exceeding the significance thresholds for the six Build Alternatives.

Spoils hauling associated with the six Build Alternatives would increase truck traffic at roadway segments and intersections throughout the spoils hauling RSA. This could result in travel delays where transit services overlap spoils hauling routes. Such transit delays could result in conflicts with the goals of regional and local transportation plans. TR-MM#12 is anticipated to be effective in reducing impacts associated with haul route traffic as it would relocate spoils collection areas and access to minimize delays during peak hours. While these traffic measures may not completely avoid impacts on public transit services and thereby avoid conflicts with regional and local transit plans, any impacts on transit services or non-motorized modes resulting from spoils hauling would be temporary and would not permanently conflict with regional and local transit plans.

3.2.8.2 Existing (2015) Plus Construction Conditions

Construction activities could lead to temporary disruption of the transportation system that would affect traffic flow, circulation, and access. Construction activities would remain primarily within the Palmdale to Burbank Project Section's permanent acquired right-of-way. However, work outside of the right-of-way could be necessary for construction access, equipment or materials staging, utility relocation, construction of overhead structures, and other requirements that could temporarily affect traffic. A CTP would outline transportation detours, plans to accommodate emergency service routes, and outreach activities to manage expectations and traffic constraints, among other items.

In addition, Existing (2015) Plus Construction Conditions would implement permanent roadway reconfigurations that would result in roadway segment and intersection impacts identified in Section 3.2.6 and quantified in Table 3.2-47. With implementation of TR-MM#12, TR-MM#1, TR-MM#2, TR-MM#3, TR-MM#4, TR-MM#5, and TR-MM#7, Existing (2015) Plus Construction Conditions will not result in adverse impacts on roadway segments or intersections.

Existing (2015) Plus Construction Conditions would not affect freeway segments within the transportation RSA for any of the six Build Alternatives. Freeway segments in the Central Subsection were not anticipated to have more than 50 project-related trips on any segment because trips would be distributed throughout the subsection.

Existing (2015) Plus Construction roadway modifications would affect freight and passenger rail and bus routes that cross the HSR Alignment and could require route and stop changes. This impact would be similar for the Refined SR14, SR14A, E1, E1A, E2, and E2A Build Alternatives. As described in TR-MM#12 and TR-MM#9, the Authority will coordinate with affected transit providers to provide the routes, stops, schedules, and infrastructure to serve the proposed HSR station areas.

Existing (2015) Plus Construction roadway modifications could also require additional pedestrian and bicycle crossings and temporary detour facilities during construction and permanent facilities for modifications made to the permanent layout. This effect would be similar for the Refined SR14, SR14A, E1, E1A, E2 and E2A Build Alternatives. TR-MM#12 and TR-MM#10 will ensure

that Palmdale to Burbank Project Section design provides adequate pedestrian and bicycle crossings and facilities.

3.2.8.3 Operations (2040) Plus Project Conditions

Operation of the Palmdale to Burbank Project Section would generate new trips near the Burbank Station, which would result in roadway segment and intersection impacts identified in Section 3.2.6 and quantified in Table 3.2-47. As described in TR-MM#12, TR-MM#1, TR-MM#2, TR-MM#3, TR-MM#4, TR-MM#5, TR-MM#6, TR-MM#7, and TR-MM#8, the Authority will implement transportation improvements to address roadway segment and intersection impacts.

The Refined SR14, SR14A, E1, E1A, E2, and E2A Build Alternatives would add at least 100 trips to the off-ramp locations at the I-5 Southbound Ramps at Hollywood Way (intersection #28) and the SR 134 Eastbound Ramps at Pass Avenue (intersection #45), however, it was determined that both ramps have sufficient available storage to accommodate project traffic.

The Refined SR14, SR14A, E1, E1A, E2, and E2A Build Alternatives would not result in freeway segments impacts for the 2040 Plus Project Conditions. All freeway segments for the six Build Alternatives in the transportation RSA would operate at acceptable LOS during operation

The Refined SR14, SR14A, E1, E1A, E2, and E2A Build Alternatives would result in reduced VMT from the regional roadways. The VMT reduction is due to reduced vehicle trips, as those trips divert to high-speed rail as a mode of travel. This impact would be the same for the Refined SR14, SR14A, E1, E1A, E2, and E2A Build Alternatives. VMT would be reduced with the commencement of HSR operations, and VMT reductions would be expected to increase each year of operation. Section 6.2.1.4 of the Transportation Technical Report provides further data on VMT reduction in the opening year of HSR operations (Authority 2019).

The 2040 Plus Project Conditions would add new transit riders, but existing and planned transit facilities serving the vicinity of the proposed Burbank Station would adequately accommodate California HSR System-related transit demand.

2040 Plus Project Conditions would introduce additional pedestrian and cyclists in the Burbank Subsection. Coordination with the City of Burbank during the station planning and roadway design phase would be required to address impacts on pedestrian and bicyclist access and circulation. This effect would be similar for the Refined SR14, SR14A, E1, E1A, E2, and E2A Build Alternatives. TR-MM#12 and TR-MM#10 will ensure that project design provides adequate pedestrian and bicycle crossings and facilities.

Implementation of the Build Alternatives would reduce the AM and PM peak hour LOS for roadway segments and intersections, compared to the No Project Alternative. Without the California HSR System, traffic would continue to increase. Implementation of the California HSR System would remove vehicles from the road, resulting in lower LOS and VMT throughout the Palmdale to Burbank Project Section.

3.2.9 CEQA Significance Conclusions

Table 3.2-48 summarizes impacts, the level of significance before mitigation, mitigation measures, and the level of significance after mitigation for the six Build Alternatives. With the incorporation of mitigation measures, impacts would be reduced to a less than significant level under CEQA for the six Build Alternatives.

Table 3.2-48 Summary of CEQA Significance Conclusions and Mitigation Measures for Transportation

Impact	Level of CEQA Significance before Mitigation[1]	Mitigation Measure	Level of CEQA Significance after Mitigation
Construction Impacts			
Existing (2015) Plus Spoils Hauling Conditions			
Impact TRA#1: Spoils Hauling Effects on Roadway Segments.	N/A	No mitigation measures are required.	N/A
Impact TRA#2: Spoils Hauling Effects on Intersections.	N/A	No mitigation measures are required.	N/A
Impact TRA#3: Spoils Hauling Effects on Ramp Queuing.	N/A	No mitigation measures are required.	N/A
Impact TRA#4: Spoils Hauling Effects on Freeway Segments.	N/A	No mitigation measures are required.	N/A
Impact TRA#5: Spoils Hauling Effects on Transit Services.	Significant	TR-MM#12.	Less Than Significant
Impact TRA#6: Spoils Hauling Effects on Non-Motorized Modes.	Less Than Significant	No mitigation measures are required.	N/A
Existing (2015) Plus Construction Conditions			
Impact TRA#7: Project Construction Effects on Vehicles, Pedestrians, Bicyclists, and Transit.	Less Than Significant	No mitigation measures are required.	N/A
Impact TRA#8: Project Construction Effects on Roadway Segments.	N/A	No mitigation measures are required.	N/A
Impact TRA#9: Project Construction Effects on Intersections.	N/A	No mitigation measures are required.	N/A
Impact TRA#10: Project Construction Effects on Freeway Segments.	N/A	No mitigation measures are required.	N/A
Impact TRA#11: Project Construction Effects on Rail and Transit Services.	Significant	TR-MM#9 TR-MM#11	Less Than Significant
Impact TRA#12: Project Construction Effects on Non-Motorized Modes Near the Burbank Airport Station.	Significant	TR-MM#10 TR-MM#11.	Less Than Significant

Impact	Level of CEQA Significance before Mitigation[1]	Mitigation Measure	Level of CEQA Significance after Mitigation
Operations Impacts			
Operation – 2040 Plus Project Conditions			
Impact TRA#13: Project Operation Effects on Roadway Segments.	N/A	No mitigation measures are required.	N/A
Impact TRA#14: Project Operation Effects on Intersections.	N/A	No mitigation measures are required.	N/A
Impact TRA#15: Project Operation Effects on Ramp Queuing.	N/A	No mitigation measures are required.	N/A
Impact TRA#16: Project Operation Effects on Freeway Segments.	N/A	No mitigation measures are required.	N/A
Impact TRA#17: Project Operation Effects on Transit Services.	Less Than Significant	No mitigation measures are required.	N/A
Impact TRA#18: Project Operation Effects on Non-Motorized Modes.	Less Than Significant	No mitigation measures are required.	N/A
Impact TRA#19: Project Operation Effects on Regional VMT.	Beneficial	No mitigation measures are required.	N/A

Source: Authority 2019
N/A = Not Applicable

3.2.10 United States Forest Service Impact Analysis

This section summarizes transportation-related effects associated with each of the six Build Alternatives on the ANF including lands within SGMNM.

3.2.10.1 Consistency with Applicable United States Forest Service Policies

Appendix 3.1-B, USFS Policy Consistency Analysis, contains a comprehensive evaluation of relevant laws, regulations, plans, and policies relative to areas within the ANF including SGMNM. Policies in the Angeles National Forest Management Plan regarding transportation are related to USFS's ability to maintain National Forest System roads and trails to meet plan objectives, to safely accommodate anticipated levels and types of use, to support facilities that complement local, regional, and national trails and open space, and to enhance day-use opportunities and access for the general public. The six Build Alternatives include several IAMFs which will ensure that impacts related to transportation and traffic do not interfere with USFS policies or its ability to meet planned goals. As such, the six Build Alternatives are considered consistent with these policies related to transportation. The following USFS policies pertain to traffic and transportation:

- Trans 1—Transportation System: Plan, design, construct, and maintain National Forest System roads and trails to meet plan objectives, to promote sustainable resource conditions, and to safely accommodate anticipated levels and types of use
- Trans 2—Unnecessary Roads: Reduce the number of unnecessary or redundant unclassified roads and restore landscapes
- Trans 3—Improve Trails: Develop an interconnected, shared-use trail network and support facilities that complement local, regional, and national trails and open space, and that also enhance day-use opportunities and access for the general public
- Trans 4—Off-Highway Vehicle Opportunities: Improve off-highway vehicle opportunities and facilities for highway licensed and non-highway licensed vehicles.

3.2.10.2 United States Forest Service Resource Analysis

Construction Effects

Construction of the six Build Alternatives would rely on existing roads within the ANF to access adit facilities. Construction truck traffic would use designated truck routes within the transportation RSA. A CTP (TR-IAMF#2) will outline transportation detours, plans to accommodate emergency service routes, and outreach activities to manage expectations and traffic constraints, among other items. This type of plan is a standard practice that would incorporate review and comment by affected in-holding owners, local and regional agencies, and the USFS, as applicable.[8] The CTP would also address construction employee arrival and departure schedules, employee parking locations, and temporary road closures, if any.

Construction activities within the ANF could also lead to temporary disruption of transportation system operations and possible damage to elements of the roadway system such as pavement and bridges, thereby interfering with USFS's abilities to maintain National Forest System roads and infrastructure. The contractor will be responsible for the repair of structural damage to public roadways caused by HSR construction or construction access (TR-IAMF#1).

Trips for construction workers working within the ANF would generally occur outside of the peak hours for freeway and street traffic (TR-IAMF#6). The movement of heavy construction equipment such as cranes, bulldozers, and dump trucks to and from the site generally would occur during off-peak hours on designated truck routes (TR-IAMF#6 and TR-IAMF#7). The Contractor will be responsible for identifying adequate off-street parking for construction-related vehicles and if necessary, designating remote parking areas for these workers, with shuttles to bring them to and

[8] An in-holding is a privately owned property within the boundary of a national park, in the case the ANF.

from the construction area if the remote parking areas are distant from the project site (TR-IAMF#3).

The construction of the HSR track alignment would require temporary construction easements, which could require the temporary closure of parking areas, roadway travel lanes, transit routes, pedestrian facilities, bicycle lanes, and paths. The contractor will prepare and implement specific CMPs to ensure safe transit, pedestrian, and bicycle access during the construction period (TR-IAMF#4, TR-IAMF#5, TR-IAMF#11, and TR-IAMF#12). On completion of construction, parking areas, roadway lanes, pedestrian facilities, and bicycle lanes will be restored to a condition equivalent to or better than their pre-project condition.

The Palmdale to Burbank Project Section would follow the USFS regulations for transportation outlined in the Forest Service Handbooks (FSH), including FSH 7709.59 *Road System Operations and Maintenance Handbook* and FSH 2509 *Water Quality Management Handbook*. Regional supplements (USFS Region 5) for these handbooks also need to be followed. The IAMFs will need to comply with these USFS requirements including Region 5 FSH 2509.22, section 12.21 (Road Management), and are subject to Storm Water Protection Permits and Erosion Control Plans.

Spoils Hauling

All six Build Alternatives construction-period earthwork and tunneling activities would generate substantial spoils material (rock and dirt), which would be transported to various potential disposal sites in the Palmdale to Burbank Project Section. Spoils material would be transported on existing roadways within, or which provide access, to the ANF including SGMNM. Some spoils generated by construction of the Refined SR14 and SR14A Build Alternatives would be deposited at the Vulcan Mine, filling the existing mine pit. Once Build Alternative construction and spoils deposition are complete, the Vulcan Mine area within the ANF, including the SGMNM, would be regraded to better reflect the surrounding topography. Deposition of spoils at the Vulcan Mine would require an agreement with the mine owner and coordination with the USFS.

Roadway Segments

The spoils hauling analysis includes an evaluation of roadway segments within, or which provide access to, the ANF including SGMNM, that would be used to off-haul spoils generated by tunnel construction (discussed in Section 3.2.5.6, listed in Table 3.2-13, and mapped on Figure 3.2-10 through Figure 3.2-12). Based on that analysis, the following roadway segments would experience substandard LOS (E or F), which would interfere with USFS's ability to provide safe, efficient routes for recreationists and through-traveling public during the spoils hauling conditions outlined below and described further in Section 3.2.6.3.

Refined SR14 and SR14A Build Alternatives

- Sierra Highway North of Angeles Forest Highway (Spoils Haul Segment ID: C)—Refined SR14 and SR14A Southbound PM Peak Hour

E1 and E1A Build Alternatives

- Sierra Highway North of Angeles Forest Highway (Spoils Haul Segment ID: C)—E1 and E1A Northbound AM/PM Peak Hours; E1 and E1A Southbound AM/PM Peak Hours
- Sierra Highway North of Placerita Canyon Road (Spoils Haul Segment ID: F)—E1 and E1A Northbound AM Peak Hour; E1 and E1A Southbound AM Peak Hour
- Sierra Highway West of Soledad Canyon Road (Spoils Haul Segment ID: E)—E1 and E1A Northbound PM Peak Hour; E1 and E1A Southbound PM Peak Hour
- Soledad Canyon Road South of Sierra Highway (Spoils Haul Segment ID: AC)—E1 and E1A Northbound AM/PM Peak Hours; E1 and E1A Southbound AM/PM Peak Hours
- Placerita Canyon Road East of SR 14 Northbound Ramps (Spoils Haul Segment ID: AG)—E1 and E1A Northbound AM Peak Hour; E1 and E1A Southbound AM Peak Hour

E2 and E2A Build Alternatives

- Sierra Highway North of Angeles Forest Highway (Spoils Haul Segment ID: C)—E2 and E2A Northbound AM/PM Peak Hours; E2 and E2A Southbound AM/PM Peak Hours
- Sierra Highway West of Soledad Canyon Road (Spoils Haul Segment ID: E)—E2 and E2A Northbound PM Peak Hour; E2 and E2A Southbound PM Peak Hour
- Soledad Canyon Road South of Sierra Highway (Spoils Haul Segment ID: AC)—E2 and E2A Northbound AM/PM Peak Hours; E2 and E2A Southbound AM/PM Peak Hours
- Sunland Boulevard West of Fenwick Street (Spoils Haul Segment ID: AK)—E2 and E2A Northbound AM/PM Peak Hours

TR-IAMF#2, TR-IAMF#6, TR-IAMF#7, and TR-IAMF#8 (discussed in Section 3.2.6.3, Impact TRA#1) will require the implementation of a CTP, limit spoils hauling hours, and establish spoils hauling routes to minimize intersection impacts during spoils hauling. Although implementation of these IAMFs will reduce impacts, spoils hauling would degrade intersection LOS to E or F at several locations within the spoils hauling RSA.

As summarized in Section 3.2.6.3 (Impact TRA#1), TR-MM#12 requires the development of a CMP to address traffic circulation during spoils hauling activities. The CMP (TR-MM#12) will include measures to reduce impacts associated with spoils hauling traffic. The implementation of these traffic measures, however, may not be sufficient to ensure that adequate LOS would be maintained at affected roadway segments. Moreover, no other feasible mitigation measures would be available to reduce roadway segment impacts during spoils hauling. Consequently, roadways outlined above, which provide access to the ANF including SGMNM, would be adversely affected. The Authority would be required to obtain a special-use authorization (SUA) to demonstrate compliance with USFS laws, regulations, and policies. Build Alternatives implemented pursuant to the SUA would avoid impacts resulting from inconsistency with USFS regulations and policies that pertain to transportation and traffic.

Intersections

The spoils hauling analysis considered intersections within, or which provide access to, the ANF including SGMNM, through which trucks carrying spoils would pass (discussed in Section 3.2.5.6, listed in Table 3.2-14, and mapped on Figure 3.2-13 through Figure 3.2-15). Of these, the following intersections would experience substandard LOS (E or F), which would interfere with USFS's ability to provide safe, efficient routes for recreationists and through-traveling public during the spoils hauling conditions outlined below, which are described further in Section 3.2.6.3.

Refined SR14 Build Alternative

- Sierra Highway at SR 14 Southbound Ramps (Spoils Haul Intersection ID: 4)—SR14 Northbound PM Peak Hour; SR14 Southbound PM Peak Hour
- Sierra Highway at SR 14 Northbound Off-ramp/Angeles Highway (Spoils Haul Intersection ID: 5)—SR14 Southbound AM Peak Hour

SR14A Build Alternative

- Sierra Highway at SR 14 Southbound Ramps (Spoils Haul Intersection ID: 4)—SR14A Northbound PM Peak Hour; SR14A Southbound PM Peak Hour
- Sierra Highway at SR 14A Northbound Off-ramp/Angeles Highway (Spoils Haul Intersection ID: 5)—SR14A Southbound AM Peak Hour
- Crown Valley Road & SR 14 Westbound Ramps (Spoils Haul Intersection ID: 203)—SR14A Northbound AM/PM Peak Hour; SR14A Southbound AM/PM Peak Hour
- Crown Valley Road & SR 14 Eastbound Ramps (Spoils Haul Intersection ID: 204)—SR14A Northbound PM Peak Hour; SR14A Southbound PM Peak Hour
- Crown Valley Road & Antelope Woods Road (Spoils Haul Intersection ID: 205)—SR14A Northbound AM/PM Peak Hour; SR14A Southbound AM/PM Peak Hour

E1 Build Alternative

- Sierra Highway at SR 14 Northbound On-ramp (Spoils Haul Segment ID: 3)—E1 Northbound AM Peak Hour
- Sierra Highway at SR 14 Southbound Ramps (Spoils Haul Intersection ID: 4)—E1 Northbound PM Peak Hour; E1 Southbound PM Peak Hour
- Sierra Highway at SR 14 Northbound Offramp/Angeles Highway (Spoils Haul Intersection ID: 5)—E1 Northbound AM/PM Peak Hours; E1 Southbound AM/PM Peak Hours
- Sierra Highway at Spoils Area 21/22 Access Road (Spoils Haul Intersection ID: 55)—E1 Northbound AM Peak Hour; E1 Southbound AM/PM Peak Hours
- Soledad Canyon Road/SR 14 Northbound Ramps at Sierra Highway (Spoils Haul Intersection ID: 61)—E1 Northbound AM/PM Peak Hours; E1 Southbound AM/PM Peak Hours
- Sierra Highway at Placerita Canyon Road (Spoils Haul Intersection ID: 71)—E1 Northbound AM/PM Peak Hours; E1 Southbound AM/PM Peak Hours

E1A Build Alternative

- Sierra Highway at SR 14 Southbound Ramps (Spoils Haul Intersection ID: 4)—E1A Northbound PM Peak Hour; E1A Southbound PM Peak Hour
- Sierra Highway at SR 14 Northbound Offramp/Angeles Highway (Spoils Haul Intersection ID: 5)—E1A Northbound AM/PM Peak Hours; E1A Southbound AM/PM Peak Hours
- Soledad Canyon Road/SR 14 Northbound Ramps at Sierra Highway (Spoils Haul Intersection ID: 61)—E1A Northbound AM/PM Peak Hours; E1A Southbound AM/PM Peak Hours
- Sierra Highway at Placerita Canyon Road (Spoils Haul Intersection ID: 71)—E1A Northbound AM/PM Peak Hours; E1A Southbound AM/PM Peak Hours

E2 Build Alternative

- Sierra Highway at SR 14 Northbound On-ramp (Spoils Haul Segment ID: 3)—E2 Northbound AM Peak Hour
- Sierra Highway at SR 14 Southbound Ramps (Spoils Haul Intersection ID: 4)—E2 Northbound PM Peak Hour; E2 Southbound PM Peak Hour
- Sierra Highway at SR 14 Northbound Offramp/Angeles Highway (Spoils Haul Intersection ID: 5)—E2 Northbound AM/PM Peak Hours; E2 Southbound AM/PM Peak Hours
- Sierra Highway at Spoils Area 21/22 Access Road (Spoils Haul Intersection ID: 55)—E2 Northbound AM/PM Peak Hours; E2 Southbound AM/PM Peak Hours
- Soledad Canyon Road/SR 14 Northbound Ramps at Sierra Highway (Spoils Haul Intersection ID: 61)—E2 Northbound AM/PM Peak Hours; E2 Southbound AM/PM Peak Hours

E2A Build Alternative

- Sierra Highway at SR 14 Southbound Ramps (Spoils Haul Intersection ID: 4)—E2 Northbound PM Peak Hour; E2 Southbound PM Peak Hour
- Sierra Highway at SR 14 Northbound Off-ramp/Angeles Highway (Spoils Haul Intersection ID: 5)—E2 Northbound AM/PM Peak Hours; E2 Southbound AM/PM Peak Hours
- Soledad Canyon Road/SR 14 Northbound Ramps at Sierra Highway (Spoils Haul Intersection ID: 61)—E2 Northbound AM/PM Peak Hours; E2 Southbound AM/PM Peak Hours

TR-IAMF#2, TR-IAMF#6, and TR-IAMF#7 (discussed in Section 3.2.6.3, Impact TRA#1) will implement a CTP, limit spoils hauling hours, and establish spoils hauling routes to minimize intersection impacts during spoils hauling. Although implementation of these IAMFs will reduce impacts, spoils hauling would degrade intersection LOS to E or F at several locations within the spoils hauling RSA.

As summarized in Section 3.2.6.3 (Impact TRA#1), TR-MM#12 will require the development of a CMP to address traffic circulation during spoils hauling activities. The CMP (TR-MM#12) will reduce impacts associated with spoils hauling traffic. The implementation of these traffic measures, however, may not be sufficient to ensure that adequate LOS would be maintained at affected intersections. Moreover, no other feasible mitigation measures would be available to reduce intersection impacts during spoils hauling. Consequently, the intersections outlined above, which occur within, or which provide access to, the ANF including SGMNM, would be adversely affected.

Ramp Queues

Spoils haul trips added to the roadway network as a result of the Refined SR14, SR14, E1, E1A, E2, and E2A Build Alternatives would affect freeway ramp queues. However, as discussed in Section 3.2.6, Environmental Consequences, the freeway ramp locations within the spoils hauling RSA, including freeway ramps which provide access to the ANF, have adequate storage during both peak hours for northbound and southbound haul routes.

Freeway Segments

As outlined in Table 3.2-29, Table 3.2-30, and Table 3.2-31, there are no freeway segments adjacent to the ANF including SGMNM that would experience substandard LOS during spoils hauling. This would be consistent under the six Build Alternatives. As such, there would be no impact on freeway segments in the ANF including SGMNM.

Transit

Spoils hauling could increase truck traffic at roadway segments and intersections, resulting in travel delay to transit services at certain locations. However, spoils hauling would not result in modifications to the roadway network that would permanently impact transit circulation within or adjacent to USFS lands. This would be consistent under the six Build Alternatives.

Non-motorized Facilities

As described above, spoils hauling could increase truck traffic at roadway segments and intersections, resulting in travel delay to pedestrian and bicycle facilities during the construction period. The addition of large trucks to the roadway network could also create safety concerns for bicyclists on shared-lane and on-street bike lane facilities. Implementation of TR-IAMF#5 and TR-IAMF#6 will prevent hazardous conditions that would substantially interfere with pedestrian or bicycle movements or access within or adjacent to USFS lands during spoils hauling. This would be consistent under the six Build Alternatives.

Operations Impacts

This transportation analysis identifies roadway segments, intersections, freeway ramps, freeway queues, transit services, and non-motorized facilities that would experience substantial increased demand as a result of operation of the Palmdale to Burbank Project Section. However, USFS transportation-related facilities and services would not be substantially affected by the operation of the six Build Alternatives. The following transportation facilities and services would not be substantially affected by the six Build Alternatives:

- Freeway Segments/Ramp Queues—Because most automobile trips generated by the Palmdale to Burbank Project Section would occur around the Palmdale and Burbank Station areas, operation of the Palmdale to Burbank Project Section would not generate substantial traffic near or within USFS lands. As such, there are no freeway segments or ramp queues within the ANF that would be substantially affected by HSR operation.
- Transit—The Palmdale to Burbank Project Section would not result in permanent roadway modifications that would substantially interfere with transit routes on USFS lands.

- Non-motorized Travel—The Palmdale to Burbank Project Section would not result in permanent roadway modifications or create hazardous conditions that would substantially interfere with pedestrian or bicycle movements or access on USFS lands.

The following section outlines other transportation impacts on facilities within, or which provide access to, the ANF that could occur during operation.

Roadway Segments

The transportation analysis did not identify roadway segments within the ANF that would sustain substantial increased traffic as a result of the Refined SR14, SR14A, E1, E1A, E2, and E2A Build Alternatives. The Central Subsection contains several roadway segments that provide access to USFS lands. These roadway segments include the following (discussed in Section 3.2.5.3, listed in Table 3.2-7):

- Between Burke Road and Briggs Edison Road (Central Subsection ID: A)
- East of 53rd Street West (Central Subsection ID: B)
- Between Sierra Highway and Vincent View Road (Central Subsection ID: C)

As discussed in Section 3.2.6.3 (Impact TRA#13), these roadway segments would continue to operate at adequate LOS (level D or higher) during operation of the California HSR System. As such, the Palmdale to Burbank Project Section would not affect roadway segments that provide access to USFS lands. The Transportation Technical Report (Authority 2019) provides more information regarding the operating conditions at these roadway segments.

Intersections

The transportation analysis did not identify intersections within the ANF that would be subject to substantial increased traffic. However, the Central Subsection contains several intersections that provide access to the ANF and USFS lands. These roadway intersections include the following (discussed in Section 3.2.5.3, listed in Table 3.2-8).

- Lopez Canyon Road at Paxton Street (Central Subsection ID: 14)
- I-210 Northbound Ramps at Paxton Street (Central Subsection ID: 16)
- I-210 Southbound Ramps at Paxton Street (Central Subsection ID: 17)
- Soledad Canyon Road at SR 14 Southbound Ramps (Central Subsection ID: 18)
- Soledad Canyon Road at SR 14 Northbound Ramps (Central Subsection ID: 19)
- Soledad Canyon Road at SR 14 Northbound Ramps (Central Subsection ID: 21)

As discussed in Section 3.2.6.3 (Impact TRA#14), there are no intersections in the Central Subsection that would operate at substandard LOS during operation. As such, the Palmdale to Burbank Project Section would not affect intersections that provide access to USFS lands. The Transportation Technical Report (Authority 2019) provides more information regarding the operating conditions at these intersections.

This page intentionally left blank