

3.13 Station Planning, Land Use, and Development

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 3.13-1 was updated to provide more information regarding the existing conditions baseline.
- Section 3.13.5.2, Affected Environment, was revised to provide updated information regarding the now substantially complete Avion Burbank Project.
- Figure 3.13-4, Figure 3.13-17, and Figure 3.13-29 were revised to reflect a reduced footprint in Bee Canyon for the Refined SR14 and SR14A Build Alternatives.
- Table 3.13-2, Table 3.13-3, Table 3.13-6, Table 3.13-7, Table 3.13-8, Table 3.13-9, Table 3.13-10, and Table 3.13-15 were revised to include updates for land use calculations to reflect a reduced footprint from the Bee Canyon/Pacoima Wash Design Refinements.
- Table 3.13-9, Table 3.13-10, Table 3.13-11, Table 3.13-12, and Table 3.13-15 were revised to reflect changes to the planned and existing land uses in the Burbank Subsection based on this updated information.
- Figure 3.13-31 was revised to reflect a reduced footprint near Pacoima Wash for the Refined SR14 and SR14A Build Alternatives.
- Section 3.13.6.3, Environmental Consequences, was updated to provide additional information regarding potential for indirect impacts due to electromagnetic interference /electromagnetic field (EMI/EMF) generation.
- Section 3.13.6.3, Environmental Consequences, was revised to remove references to N&V-MM#1 and include references to N&V-MM#3 and N&V-MM#6.

The revisions and clarifications provided in this section do not change the impact conclusions pertaining to station planning, land use, and development presented in the Draft EIR/EIS.

3.13.1 Introduction

This section describes existing and planned land uses within unincorporated areas of Los Angeles County and the cities of Palmdale, Santa Clarita,¹ Los Angeles, and Burbank. One high-speed rail (HSR) station, Burbank Airport Station, is proposed within the Burbank Subsection, which connects the Palmdale to Burbank Project Section to the Burbank to Los Angeles Project Section. This impact analysis evaluates land use impacts by assessing how construction and operations of the Palmdale to Burbank Project Section would conflict with adjacent land use patterns, and whether all six Build Alternatives would be consistent with local land use policies.

The following chapters and resource sections in this Palmdale to Burbank Project Section Final EIR/EIS provide additional information related to land use impacts and mitigation measures:

- Chapter 2, Alternatives, describes all six Build Alternatives and provides a context for Build Alternative features, subsection limits, and design.

Station Planning, Land Use, and Development

This section evaluates existing development patterns and local land use policies to determine if the Palmdale to Burbank Project Section would be consistent with these plans. The proposed HSR stations have been designed in coordination with local governments and with their plans and policies in mind.

¹ While the alignments themselves would not cross through Santa Clarita, the city is included in this analysis as it falls within the established resource study area buffer.

- Section 3.2, Transportation, analyzes transportation-related impacts, circulation during construction, and parking supply near station area.
- Section 3.3, Air Quality and Greenhouse Gas, analyzes impacts from construction of all six Build Alternatives on public health resulting from air emissions, such as air toxics and fugitive dust emissions; and covers safety hazards from air emissions, such as air toxics.
- Section 3.4, Noise and Vibration, analyzes noise-related impacts on sensitive receptors, such as residences and schools, as a result of all six Build Alternatives.
- Section 3.12, Socioeconomics and Communities, analyzes the communities and associated development patterns that surround all six Build Alternative effects on community cohesion, displacement and relocation, children's health, and economic impacts.
- Section 3.14, Agricultural Farmland and Forest Land, identifies existing important agricultural lands and impacts to agricultural land uses as a result of all six Build Alternatives.
- Section 3.15, Parks, Recreation, and Open Space, identifies existing parks, recreation, and open space areas and impacts on such land uses as a result of all six Build Alternatives.
- Section 3.16, Aesthetics and Visual Quality, identifies changes to the visual character and quality as a result of all six Build Alternatives.
- Section 3.18, Regional Growth, evaluates projected growth trends caused by all six Build Alternatives that would result in employment and/or population growth that substantially exceeds regional projections or planned growth.
- Chapter 4, Section 4(f) and Section 6(f) Evaluations, discusses the project's potential for use/incorporation of certain protected historic and cultural properties and recreation resources created or improved with funds from the Land and Water Conservation Fund.

In addition, the following appendices provide more detailed information:

- Appendix 2-H, Regional and Local Policy Consistency Analysis, lists the land use goals and policies applicable to the Palmdale to Burbank Project Section and notes the Build Alternatives' consistency or inconsistency with each.
- Appendix 2-E, Impact Avoidance and Minimization Features (IAMF), lists IAMFs incorporated into the project.
- 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).

In addition, the *Palmdale to Burbank Project Section: Community Impact Assessment Technical Report* provides baseline conditions related to socioeconomics, communities, and more detailed information regarding impacts to land uses, communities, and development (Authority 2019).

During stakeholder outreach efforts, commenters expressed concern about the following issues pertaining to station planning, land use, and development:

- Station locations and station impacts (addressed in Sections 3.13.5.1, 3.13.5.2, and 3.13.6.3)
- Conversion of agricultural lands and forest lands (addressed in Sections 3.13.5.1 and 3.13.6.3)

3.13.2 Laws, Regulations, and Orders

3.13.2.1 Federal

Farmland Protection Policy Act (7 U.S. Code [U.S.C.] 4201–4209; 7 Code of Federal Regulations Part 658)

The Farmland Protection Policy Act requires that, before taking or approving a federal action that would result in conversion of farmland, an agency must examine the effects of the action using the criteria set forth in the act. If adverse effects are identified, alternatives to lessen those impacts must be considered in coordination with the Natural Resource Conservation Service.

Federal Railroad Administration Procedures for Considering Environmental Impacts (64 Federal Register [Fed. Reg.] 28545)

Federal Railroad Administration (FRA) Procedures for Considering Environmental Impacts states that “the EIS should assess the impacts of each alternative on local land use controls and comprehensive regional planning as well as on development within the affected environment, including, where applicable, other proposed federal actions in the area. Where inconsistencies or conflicts exist, this section should describe the extent of reconciliation and the reason for proceeding notwithstanding the absence of full reconciliation. As required by 42 U.S.C. 332(2)(D)(iv), the Program Office shall provide early notification to, and solicit the views of, any state or federal land management entity with respect to any alternative which may have significant impacts on such entity, and if there is any disagreement on such impacts, prepare a written assessment of such impacts and views for incorporation into the final EIS” (FRA 1999).

Federal Land Policy and Management Act

This law, enacted in 1976, regulates the way that public lands administered by the Bureau of Land Management (BLM) are managed. The act mandates the permanent federal ownership of public lands and declares that BLM will manage the public lands for predetermined uses and values.

United States Forest Service Authorities

Station planning, land use, and development within the ANF, including the SGMNM, are guided by several federal laws and their implementing regulations, as well as policies, plans, and orders. The primary laws governing station planning, land use, and development 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 all six Build Alternatives with these laws, regulations, policies, plans, and orders.

3.13.2.2 State

California Land Conservation Act (California Government Code Section 51200 et seq.)

The California Land Conservation Act, commonly known as the Williamson Act, provides tax incentives for the voluntary enrollment of agricultural and open space lands in contracts between local government and landowners to deter conversion of agricultural and open space lands.

Sustainable Communities and Climate Protection Act of 2008 (Senate Bill 375, Chapter 728)

This statute requires regional planning agencies to include a Sustainable Community Strategy (SCS) in their regional transportation plans (RTP). The SCS coordinates land use, housing needs, and transportation/transit planning to meet the regional target for the reduction of greenhouse gas emissions from automobiles and light trucks, as established by the California Air Resources Board. Coordination is enforced by requiring transportation projects identified in the RTP to comply with the SCS to receive state and federal funding through the regional housing needs allocation. The requirements of Senate Bill 375 are reflected in the *Southern California Association of Governments (SCAG) 2016 RTP/SCS* (SCAG 2016).

California State Planning and Zoning Law (California Government Code Sections 65000–66037)

This law delegates most of the State’s local land use and development decisions to cities and counties, and describes regulations pertaining to land use by local governments, including the general plan requirement, specific plans, subdivisions, and zoning.

3.13.2.3 *Regional and Local*

All city, county, and regional land use and transportation plans, and municipal codes with jurisdictions within the resource study area (RSA) were consulted for this analysis. Table 3.13-1 provides an overview of the applicable regional and local general plans, including goals, objectives, and policies relevant to station planning, land use, and development.

Table 3.13-1 Regional and Local General Plans with Goals, Objectives, and Policies Related to Land Use

Regional/Local Plan	Applicable Subsections	Summary
Regional Plan		
Southern California Association of Governments (SCAG) Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS) (2016)	Central Burbank	The RTP is a long-range transportation plan that is developed and updated by SCAG every four years and provides a vision for transportation investments throughout the region. Using growth forecasts and economic trends that project out 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, identifying regional transportation strategies to address public mobility needs. The SCS is an element of the RTP that integrates land use and transportation strategies to achieve California Air Resources Board emissions reduction targets. Such goals include efforts to promoting transit, maximizing mobility, and encouraging land use and growth patterns to facilitate transit accordingly. In particular, the RTP/SCS calls for investment of the California HSR System and supports an HSR connection to Hollywood Burbank Airport.
RTP/SCS Amendment No. 2 (2017)	Central Burbank	SCAG amended the RTP/SCS in 2017 to include the California HSR System in the list of modeled projects.
Los Angeles County		
Los Angeles County Airport Land Use Plan (2004)	Central Burbank	This plan defines airport influence areas and runway protection zones for the 11 Los Angeles County general aviation airports. The land use planning area for four of the airports extends into the land use study for one or more rail alignments (Agua Dulce Airpark and the Hollywood Burbank Airport). The plan includes policies to ensure that new development proximate to airports is compatible in terms of use, height, and sensitive receivers. The plan identifies areas that are subject to noise impacts and safety hazards (height restrictions and approach surface runway protection zones).
Los Angeles County General Plan 2035 (2015)	Central	The Land Use Element contains general conditions and standards to guide development decision-making in the absence of applicable community-level planning. The goals and policies address protection of natural resources and rural character, infill/transit-oriented development, and new passenger rail rights-of-way.

Regional/Local Plan	Applicable Subsections	Summary
Los Angeles County Antelope Valley Area Plan (2015)	Central	<p>This plan covers an approximately 1,800-square-mile area bounded by the Kern County border to the north, the Ventura County border to the west, the ANF (inclusive) to the south, and the San Bernardino County border to the east. The plan excludes the cities of Lancaster and Palmdale. The plan's recent update greatly expanded the county's significant ecological areas in the Antelope Valley.</p> <p>The plan includes policies aimed at expanding transportation options that reduce automobile dependence. The plan also encourages and supports development of the California HSR System, with a station in Palmdale to provide links to Northern California and Southern California.</p>
City of Palmdale		
Palmdale 2045 General Plan (2022)	Palmdale	The Palmdale Land Use and Design Element guides long-range growth and development. It contains land use goals, objectives, and policies for long-term development; guides day-to-day land use decision-making; and establishes land use classifications for land within Palmdale. The plan also encourages the connection of Palmdale Regional Airport to Los Angeles International Airport via HSR.
City of Palmdale Avenue S Corridor Area Plan (1998)	Palmdale	This plan establishes goals, objectives, and policies to help create a cohesive neighborhood with orderly development; provide for adequate circulation and infrastructure; protect public safety from seismic activity and other hazards; and enhance the streetscape through landscaping and design standards.
City of Los Angeles		
Arleta-Pacoima Community Plan (1996)	Central	The Arleta-Pacoima Community Plan Area is part of the <i>City of Los Angeles General Plan</i> . It consists of five major subareas: Arleta, Pacoima, Hansen Dam, Northeast Valley Enterprise Zone, and Earthquake Disaster Assistance Project Area. The plan area contains a mix of residential, commercial, industrial, open space, and public facilities land use designations. The largest share of land use within the plan area is residential land consisting primarily of low-density residential development.
Sylmar Community Plan (2015)	Central	The Sylmar Community Plan is part of the <i>City of Los Angeles General Plan</i> . The plan prioritizes the preservation and enhancement of existing residential neighborhoods and improving economic vitality.
Sunland-Tujunga-Lake View Terrace-Shadow Hills-East La Tuna Canyon Community Plan (1997)	Central	The Sunland-Tujunga-Lake View Terrace-Shadow Hills-East La Tuna Canyon Community Plan area is part of the <i>City of Los Angeles General Plan</i> area. The plan area is predominantly composed of open space/vacant land with low-density residential stretching across the center, and a small corridor of commercial land with concentrations of multifamily residential intermixed with commercial uses near Foothill Boulevard. The plan contains policies to protect open space from incompatible uses and to preserve single-family residential neighborhoods.

Regional/Local Plan	Applicable Subsections	Summary
Sun Valley-La Tuna Canyon Community Plan (1999)	Central	The Sun Valley-La Tuna Canyon Community Plan is part of the <i>City of Los Angeles General Plan</i> . It covers approximately 17 square miles of land. The plan identifies the most significant planning and land use issues and opportunities encompassing single-family residential neighborhoods, open space, and industrial uses in the community.
City of Los Angeles General Plan (2001)	Central Burbank	The <i>City of Los Angeles General Plan</i> is a comprehensive, long-range declaration of purposes, policies, and programs for development within Los Angeles. It contains 11 elements: 10 citywide elements and one land use element for each of the City's 35 Community Planning Areas. The City's General Plan sets forth a conceptual relationship between land use and transportation on a citywide basis.
San Gabriel/Verdugo Mountains Scenic Preservation Specific Plan (2003)	Central	The <i>San Gabriel/Verdugo Mountains Scenic Preservation Specific Plan</i> is intended to preserve, protect, and enhance the unique natural and cultural resources of the plan area by protecting prominent ridgelines, biological resources, scenic highway corridor viewsheds, and equestrian-oriented districts.
General Plan Mobility Plan 2035 (2016)	Central Burbank	The <i>General Plan Mobility Plan</i> provides the policy foundation for achieving a transportation system that balances the needs of all road users. The Mobility Plan incorporates "complete streets" principles and lays the policy foundation for how future generations of the city's residents will interact with their streets. The Mobility Plan includes goals that define the city's high-level mobility priorities related to safety, infrastructure, access, collaboration and communication, and clean environments and healthy communities. Specifically relevant to the California HSR System are policies that: (1) promote equitable land use decisions that result in fewer vehicle trips; and (2) balance on-street and off-street parking supply with other transportation and land use objectives.
City of Burbank		
Burbank 2035 General Plan (2013)	Burbank	This plan establishes policies to guide future development and designates appropriate locations for different land use designations, including open space, parks, residences, commercial, industry, schools, and other public uses. Additionally, the plan supports an efficient public transit network, including HSR through Burbank.

Sources: *City of Burbank 2013*; *City of Lancaster 2009*; *City of Los Angeles 1996, 1997, 1999, 2001, 2003, 2016*; *City of Palmdale 1992, 1998, 2007, 2014, 2022*; *Los Angeles County 2004, 2015a, 2015b, 2015c*; *SCAG 2016, 2017*

ANF = Angeles National Forest; HSR = high-speed rail; IAMF = impact avoidance and minimization feature; RTP = Regional Transportation Plan; SCAG = Southern California Association of Governments; SCS = Sustainable Communities Strategy; SGMNM = San Gabriel Mountains National Monument; USFS = United States Forest Service

3.13.3 Consistency with Plans and Laws

As indicated in Section 3.1.4.3, Consistency with Plans and Laws, CEQA, and 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 California High-Speed Rail Authority (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, such as LU-IAMF#3, which requires that the contractor to prepare a plan to demonstrate how construction impacts on station planning, land use, and development will be maintained below applicable standards.

Appendix 2-H provides a Regional and Local Policy Consistency Table that lists the station planning, land use and development goals and policies applicable to the Palmdale to Burbank Project Section and notes the Build Alternatives' consistency or inconsistency with each. The Authority reviewed six plans and four policies. Each of the six Build Alternatives are consistent with 40 policies and goals and inconsistent with one policy goal. The policy that the Palmdale to Burbank Project Section Build Alternatives is inconsistent with is discussed below.

- **Burbank 2035 General Plan Policy LU 1.8**—Ensure that development in Burbank is consistent with the land use designations presented in the Land Use Plan and shown on the Land Use Diagram, including individual policies applicable to each land use designation (City of Burbank 2013).

The Palmdale to Burbank Project Section would require conversion of planned land uses (specifically industrial, commercial, and public and institutional) to transportation use within Burbank. Section 3.13.5 details what these conversions would entail.

Despite the inconsistency, the project is consistent with the majority of regional and local policies and plans. Although it may not be possible to meet all local land use standards as outlined in Table 3.13-1, IAMFs and mitigation measures would generally minimize impacts and would ultimately meet the overall objectives of the local policies.

3.13.4 Methods for Evaluating Impacts

The evaluation of impacts on station planning, land use, and development is a requirement of the NEPA and CEQA. The following sections summarize the RSAs, and the methods used to analyze station planning, land use and development resources.

3.13.4.1 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 RSA is the area in which all environmental investigations specific to station planning, land use, and development are conducted to determine the resource characteristics and impacts of the Palmdale to Burbank Project Section. The RSA includes all six Build Alternative footprints, plus a buffer area intended to fully capture properties that would be both directly and indirectly affected by one or more of the Build Alternatives. For the station planning, development, and land use analysis, the following two RSAs are considered:

- For rail alignment areas, the RSA boundary for land use is defined as the Build Alternative footprint plus 150 feet on either side of the proposed alignment.
- For stations, the RSA boundary for land use is defined as the Build Alternative footprint, which includes the station area and all associated Build Alternative features, plus a 0.5-mile radius.

3.13.4.2 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 project is provided in Volume 2, Appendix 2-E, Project Impact Avoidance and Minimization Features.

The following is a list of the IAMFs that were incorporated into the station planning, land use, and development analysis:

- **LU-IAMF#1:** High-Speed Rail Station Area Development: General Principles and Guidelines—This IAMF describes the Authority’s commitment to achieving anticipated benefits associated with station area development. Prior to operations and maintenance, the Authority shall prepare a memorandum for each station describing how the Authority’s station area development principles and guidelines are applied to achieve the anticipated benefits of station area development. Refer to *HSR Station Area Development: General Principles and Guidelines*, February 3, 2011 (Authority 2011).
- **LU-IAMF#2:** Station Area Planning and Local Agency Coordination—This IAMF describes the Authority’s commitment to preparing station areas for HSR operations. Prior to operation and maintenance, the Authority shall prepare a memorandum for each station describing the local agency coordination and station area planning conducted to prepare the station area for HSR operations. Refer to *HSR Station Area Development: General Principles and Guidelines* (Authority 2011).
- **LU-IAMF#3:** Restoration of Land Used Temporarily during Construction—This IAMF describes the Authority’s commitment to restoring temporary impacts associated with construction. Prior to ground-disturbing activities at the site requiring land to be used temporarily during construction, the contractor shall prepare a restoration plan addressing specific action, sequence of implementation, parties responsible for implementation, and successful achievement of restoration for temporary impacts.

Other resource IAMFs applicable to impacts to station planning, land use, and development resources include:

- **TR-IAMF#2:** Construction Transportation Plan
- **TR-IAMF#3:** Off-Street Parking for Construction-Related Vehicles
- **SOCIO-IAMF#1:** Construction Management Plan
- **SOCIO-IAMF#2:** Compliance with Uniform Relocation Assistance and Real Property Acquisition Policies Act
- **NV-IAMF#1:** Noise and Vibration
- **AQ-IAMF#1:** Fugitive Dust Emissions
- **AQ-IAMF#2:** Selection of Coatings
- **EMI/EMF-IAMF#2:** Controlling Electromagnetic Fields/Electromagnetic Interference
- **AG-IAMF#2:** Permit Assistance
- **AG-IAMF#3:** Farmland Consolidation Program
- **AG-IAMF#4:** Notification to Agricultural Property Owners
- **AG-IAMF#5:** Temporary Livestock and Equipment Crossings
- **AG-IAMF#6:** Equipment Crossings

This environmental impact analysis considers these IAMFs as part of the project design. Within Section 3.13.6, Environmental Consequences, each impact narrative describes how these project features are applicable and, where appropriate, effective at avoiding or minimizing potential impacts.

3.13.4.3 *Methods for NEPA and CEQA Impact Analysis*

Overview of Impact Analysis

This section describes the sources and methods the Authority used to analyze potential project impacts on station planning and land use development. These methods apply to both NEPA and CEQA analyses unless otherwise indicated. Refer to Section 3.13.4, Methods for Evaluating Impacts, for a description of the general framework for evaluating impacts under NEPA and CEQA.

To establish the affected environment, existing land use and planned land use data were collected using geographic information system information for each of the municipalities within the Palmdale to Burbank Project Section RSA. Because one source was used for data collection, there was a variance of common categories across jurisdictions. With land use classification terminology varying slightly across municipalities, planned land uses were generalized into several main categories. Planned land use designations within the ANF were analyzed separately (see Section 3.13.10). Existing and planned land uses regarding the project and county specifics are explained below:

- **Existing Land Uses** describe the way a parcel is currently being used, regardless of zoning, and does not carry regulatory significance in determining potential land use conflicts. Existing land uses were based on Los Angeles County Assessor property use classification codes. The property use codes also identify unoccupied parcels within a given zone.
- **Planned Land Uses** represent the planned use of each parcel as designated within the general plan of each jurisdiction. General plan land use designations typically reflect the overall goals and vision for an area (e.g., revitalize downtown areas, encourage infill development, build out underutilized parcels). General plan land use designations prescribe allowable land use types and intensities. Proposed development is evaluated against land use designations to determine if a conflict may exist.

Using land use data, the analysis considered the six Build Alternatives' (1) compatibility with various land use designations and (2) potential to influence existing land use patterns. A *direct* effect would occur if a Build Alternative were to result in a conversion of a non-transportation land use to a project- and transportation-related land use, which may be considered incompatible. An *indirect* effect would occur if the land use adjacent to the Build Alternative footprint were to change in relation to project construction or operations. This analysis focuses on impacts on sensitive land uses, which are defined as land uses where people are most likely to congregate, such as residential areas, parks facilities, schools, and places of worship.

Construction and operations of all six Build Alternatives could temporarily or permanently alter land use patterns within the Palmdale to Burbank Project Section RSA. A temporary impact generally refers to the supplantation of existing land uses with construction staging areas used for material laydown and fabrication. These areas would be subject to temporary construction easements. Analysis of temporary impacts also evaluates if indirect impacts on adjacent land uses resulting from construction (such as temporary increases in noise levels or potential access disruptions) would be severe enough to cause changes or adversely affect adjacent land use patterns.

A permanent land use alteration would occur when Build Alternative construction permanently alters land use patterns, further detailed in Section 3.13.6. Direct permanent impacts on land use patterns were calculated by identifying the number of acres of each existing and planned land use that would be permanently acquired for the Palmdale to Burbank Project Section. Because the Palmdale to Burbank Project Section would represent a railroad use, existing and planned railroad uses were excluded from the analysis as the acquisition of those properties would not

result in the direct conversion of a land use. The potential for the Palmdale to Burbank Project Section to result in indirect permanent changes in existing and planned land uses was evaluated by reviewing the amount of increased land use that would be consumed due to induced population growth across the region.

Compatibility of all six Build Alternatives with regional and local land use plans, goals, and policies is discussed above in Table 3.13-1. As previously noted, incompatibility with such goals and policies does not represent a significant environmental impact according to CEQA; however, compatibility conclusions are provided for informational purposes within Appendix 2-H, Regional and Local Policy Consistency.

3.13.4.4 Method 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 project. “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.

3.13.4.5 Method for Determining Significance under CEQA

The Authority is using the following thresholds to determine if a significant impact on station planning, land use, and development would occur as a result of the project. A significant impact is one that would:

- Cause a substantial change in land use patterns inconsistent with adjacent land uses
- Induce substantial population growth in an area beyond planned levels, either directly or indirectly

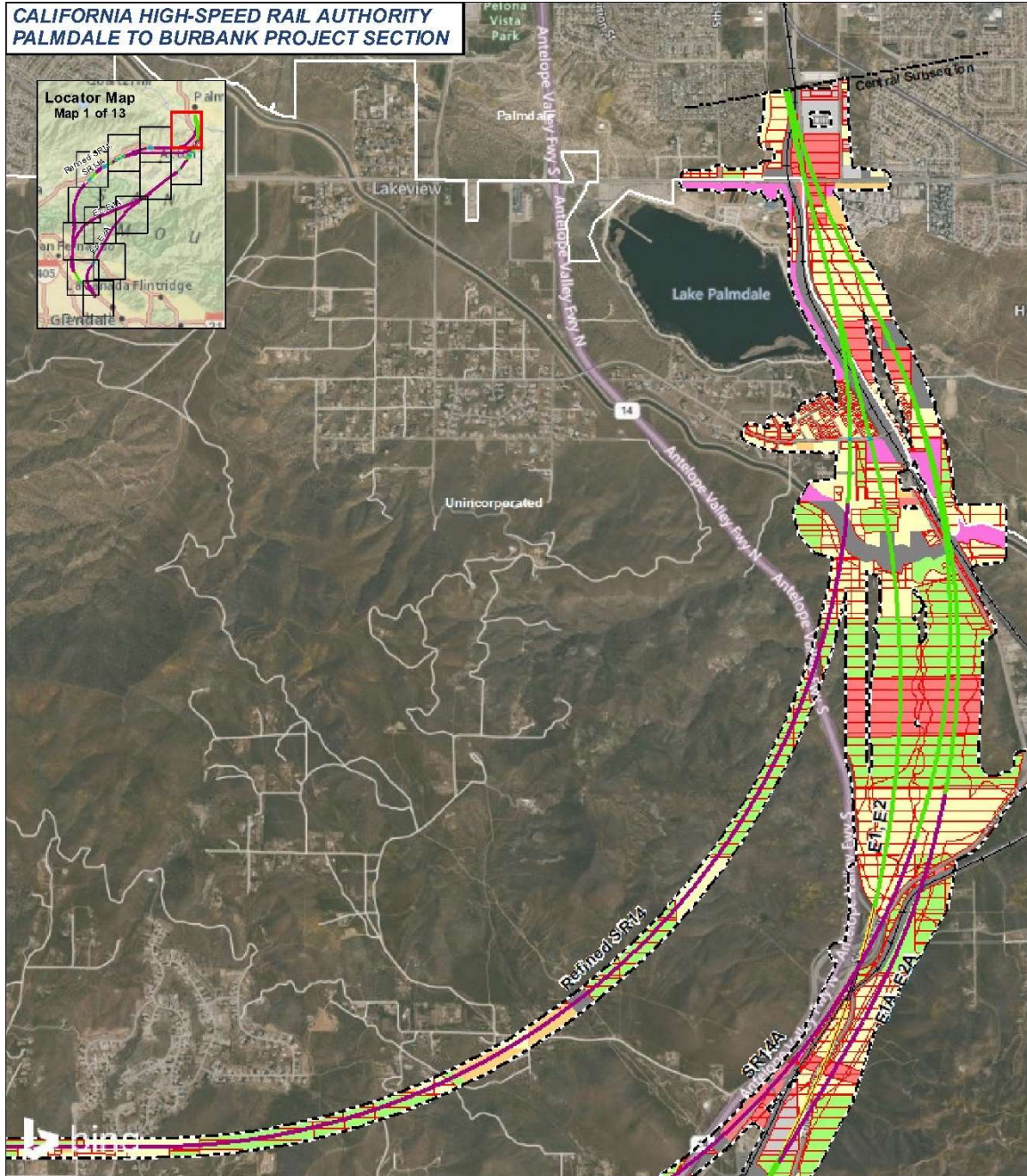
In addition, Appendix G of the CEQA Guidelines recommends the evaluation of impacts on land use and planning through the verification of whether a project would “physically divide an established community” or “cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.” The potential for all six Build Alternatives to physically divide an established community is assessed in Section 3.12, Socioeconomics and Communities. Whether the project would conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect is discussed in each resource section of Chapter 3 of this EIR/EIS. Unless otherwise stated, environmental impacts that would result from a conflict with plans, policies, or regulations adopted for the purpose of mitigating or avoiding an environmental impact are also analyzed in the other resource sections of this EIR/EIS.

This section specifically addresses the potential for unplanned growth to affect local land use plans, such that physical environmental impacts could occur. Section 3.12, Socioeconomics and Communities, assesses the potential for such growth to necessitate the construction or alteration of public facilities to meet increased demand. Section 3.18, Regional Growth, provides further analysis of growth associated with construction, operations, and improved accessibility in the region caused by the Palmdale to Burbank Project Section.

3.13.5 Affected Environment

This section discusses the affected environment with respect to station planning, land use, and development. Facilities north of Spruce Court in Palmdale, such as trackway, station, and Maintenance Facility, were previously evaluated in the Bakersfield to Palmdale Project Section EIR/EIS and are included in the Palmdale to Burbank Project Section analysis where appropriate to provide context. The following provides background information on existing and planned land

uses in each city and community surrounding all six Build Alternatives (that is, city neighborhood, district, or county unincorporated area). Population data used in this section reflects the most recent and available data at the time analysis was conducted. The cities and communities are discussed in geographical order, from north to south, and the existing land uses within the RSA are depicted in Figure 3.13-1 through Figure 3.13-13. Associated planned land uses are depicted in Figure 3.13-14 through Figure 3.13-26.



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
 Source: Authority, 2020; County of Los Angeles GIS, 2017; Bing, 2021 May 5, 2021

<ul style="list-style-type: none"> ● Metrolink Station — Metrolink Land Use Resource Study Area Subsection Break 	<p>HSR Alignment Profile</p> <ul style="list-style-type: none"> At Grade Elevated / Aerial Structure Tunnel 	<p>Existing Land Use</p> <ul style="list-style-type: none"> Vacant Property Agriculture / Open Space Commercial Industrial Low-Density Residential 	<ul style="list-style-type: none"> Medium- to High-Density Residential Public Facility / Institutional Railroad / Right-of-Way Not Defined in Parcel
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Note: Entire map is within Los Angeles County

Figure 3.13-1 Existing Land Uses within the Resource Study Area (Map 1 of 13)

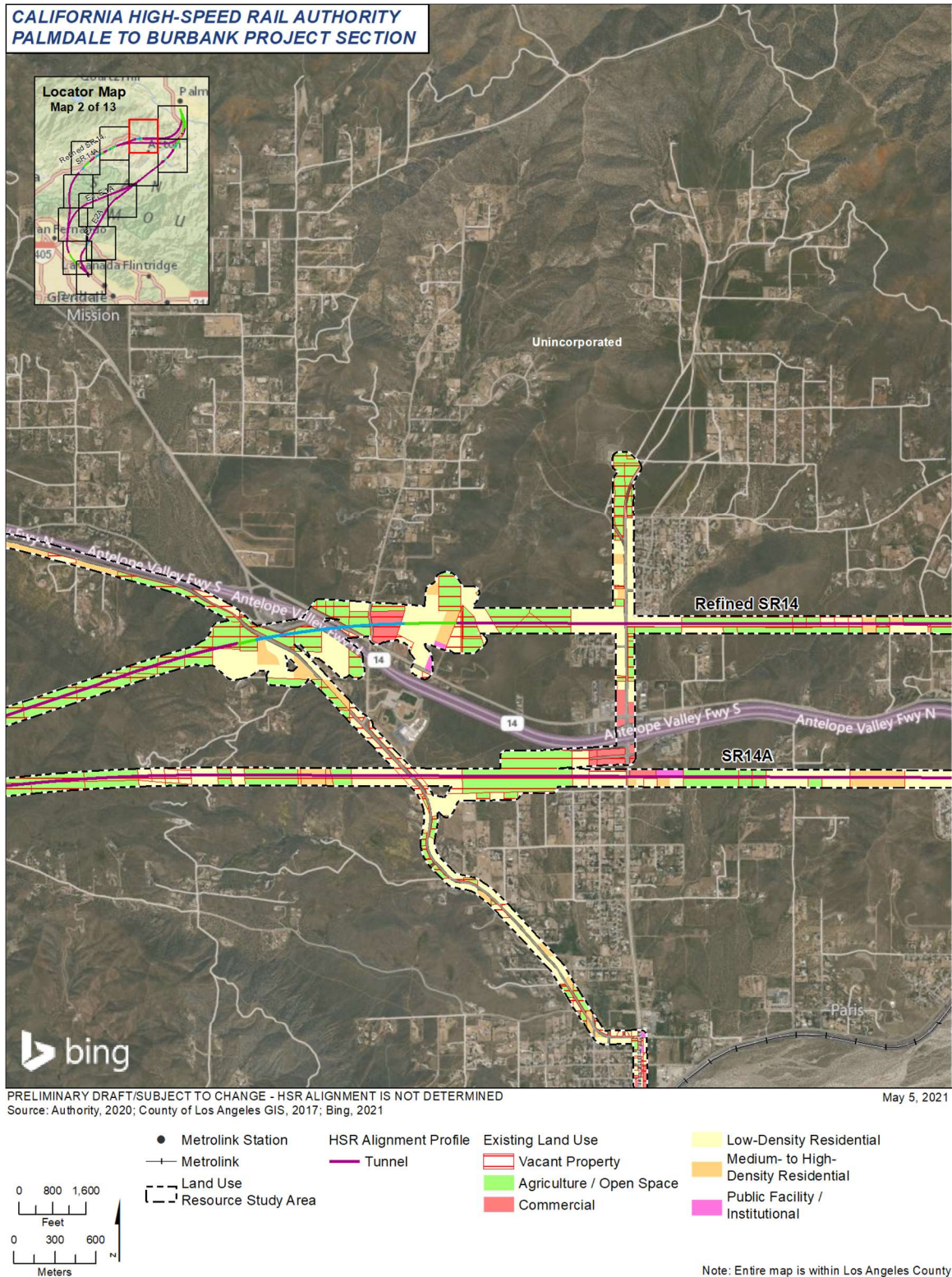
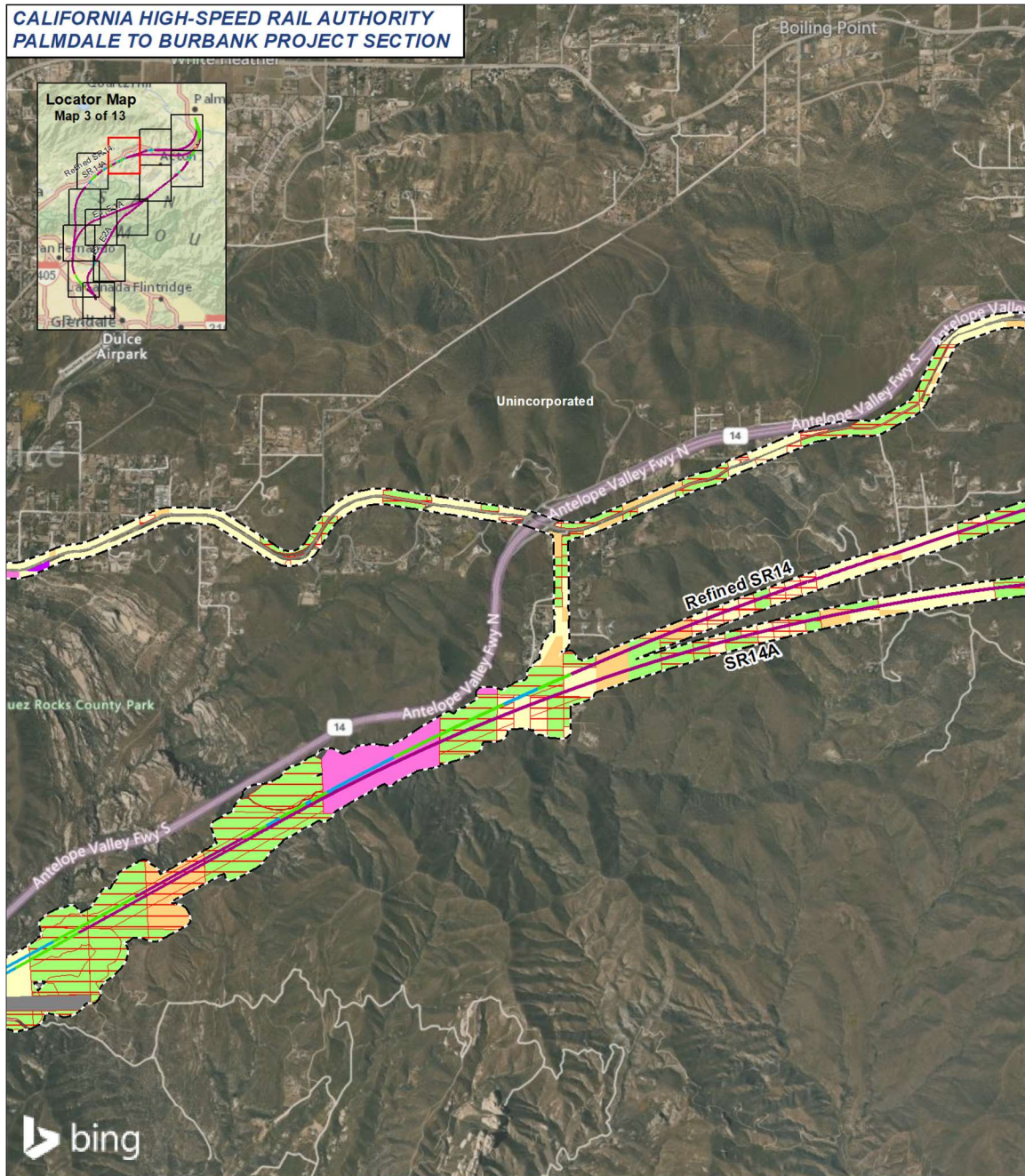


Figure 3.13-2 Existing Land Uses within the Resource Study Area (Map 2 of 13)



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
 Source: Authority, 2020; County of Los Angeles GIS, 2017; Bing, 2021
 May 5, 2021

● Metrolink Station	HSR Alignment Profile	Existing Land Use	Medium- to High-Density Residential
Land Use	— At Grade	□ Vacant Property	Public Facility / Institutional
Resource Study Area	— Elevated / Aerial Structure	□ Agriculture / Open Space	Railroad / Right-of-Way
	— Tunnel	□ Low-Density Residential	

0 800 1,600 Feet
 0 300 600 Meters

Note: Entire map is within Los Angeles County

Figure 3.13-3 Existing Land Uses within the Resource Study Area (Map 3 of 13)

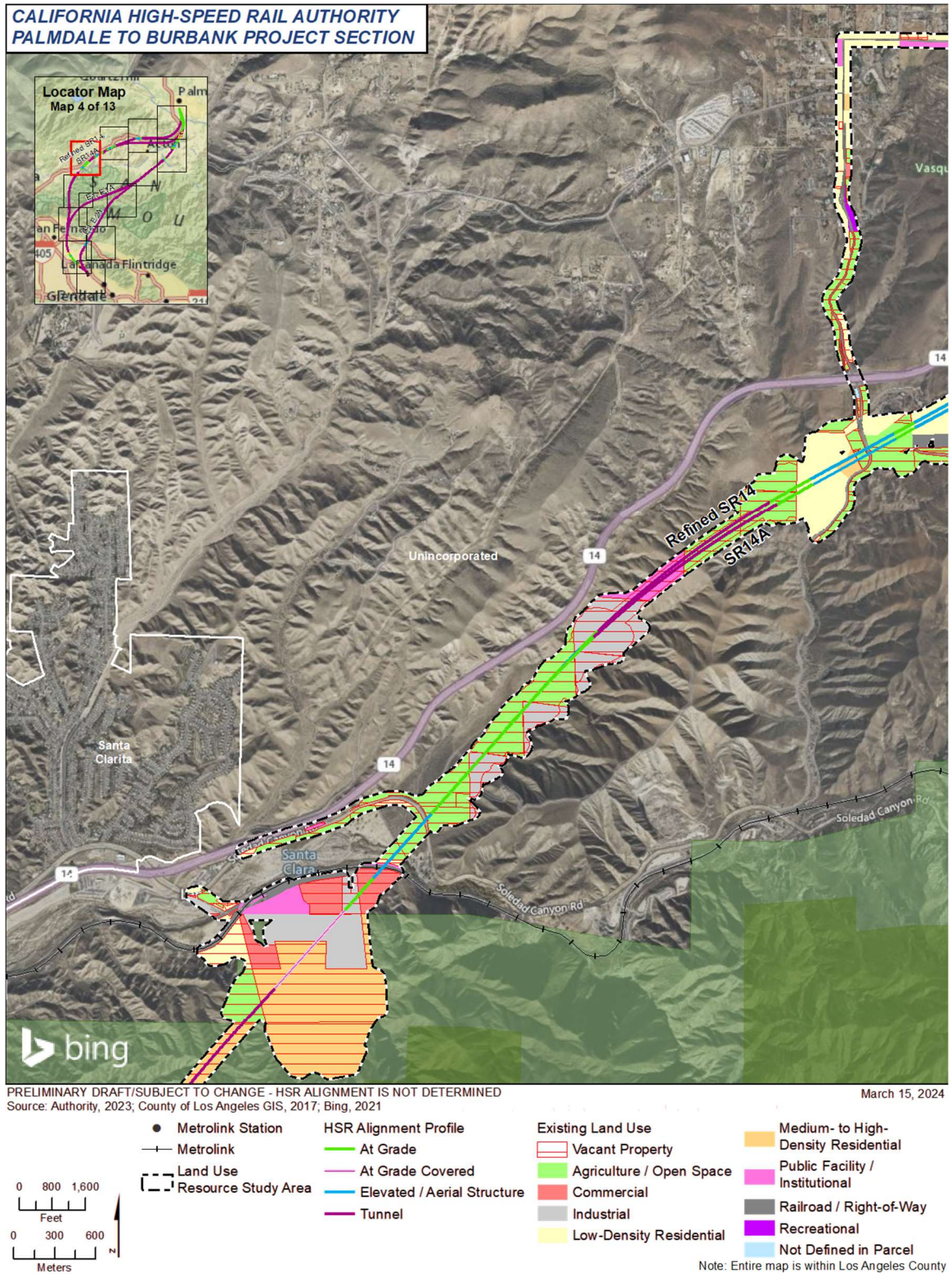
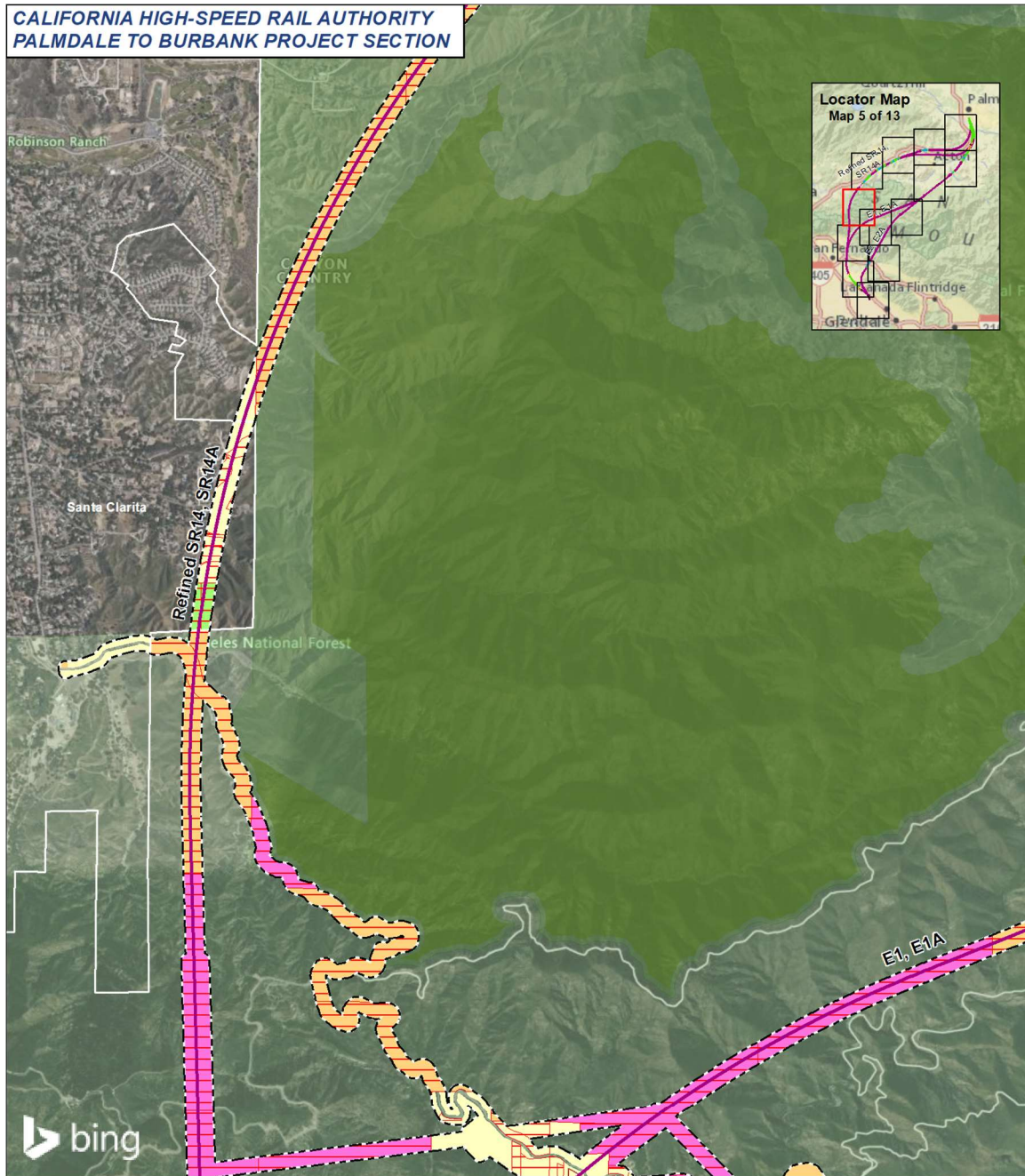


Figure 3.13-4 Existing Land Uses within the Resource Study Area (Map 4 of 13)



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
 Source: Authority, 2020; County of Los Angeles GIS, 2017; Bing, 2021
 May 5, 2021

● Metrolink Station	HSR Alignment Profile	Existing Land Use	Medium- to High-Density Residential
--- Land Use	— Tunnel	Vacant Property	Public Facility / Institutional
--- Resource Study Area		Agriculture / Open Space	
		Low-Density Residential	

0 800 1,600
 Feet
 0 300 600
 Meters

Note: Entire map is within Los Angeles County

Figure 3.13-5 Existing Land Uses within the Resource Study Area (Map 5 of 13)

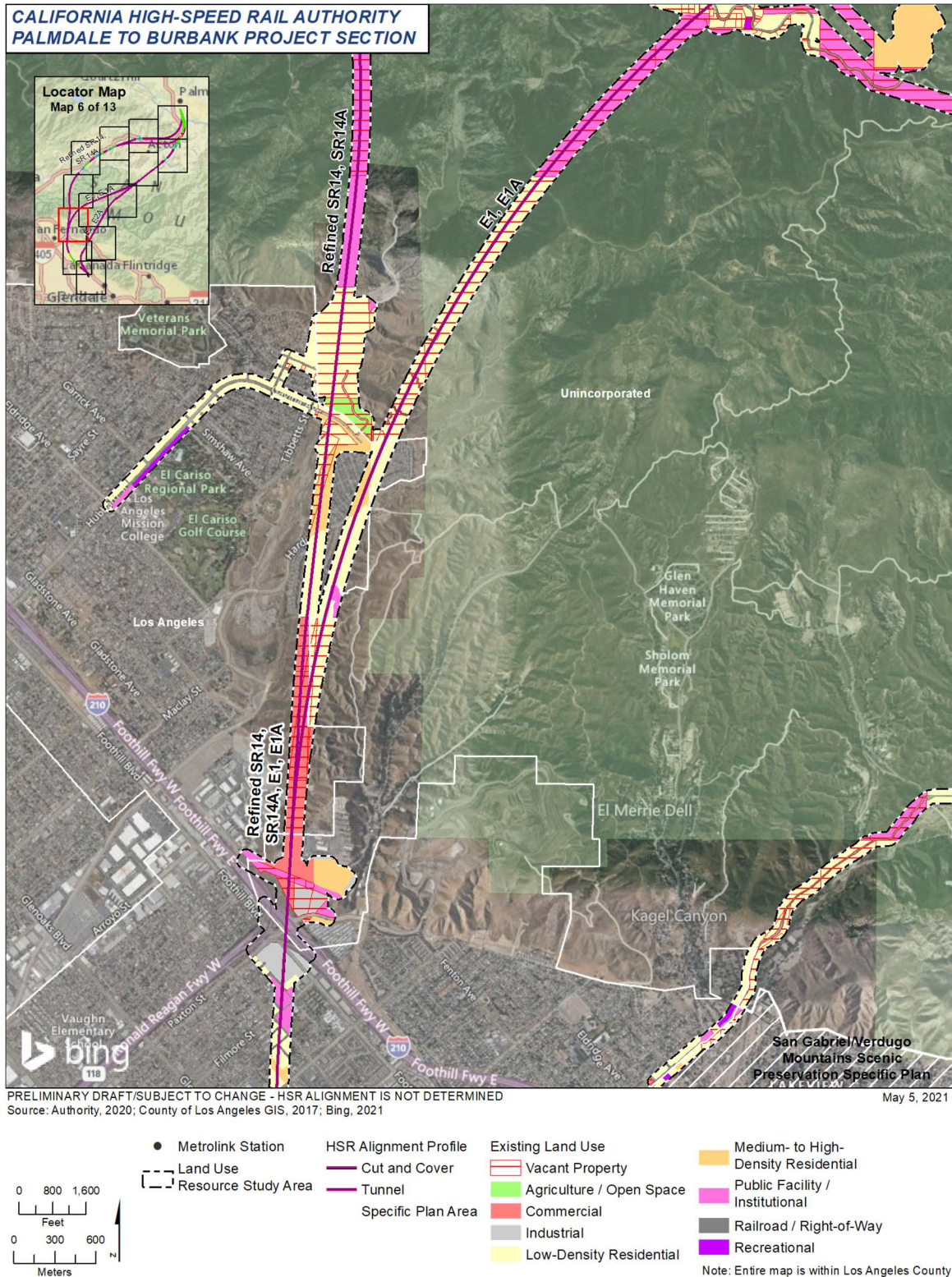
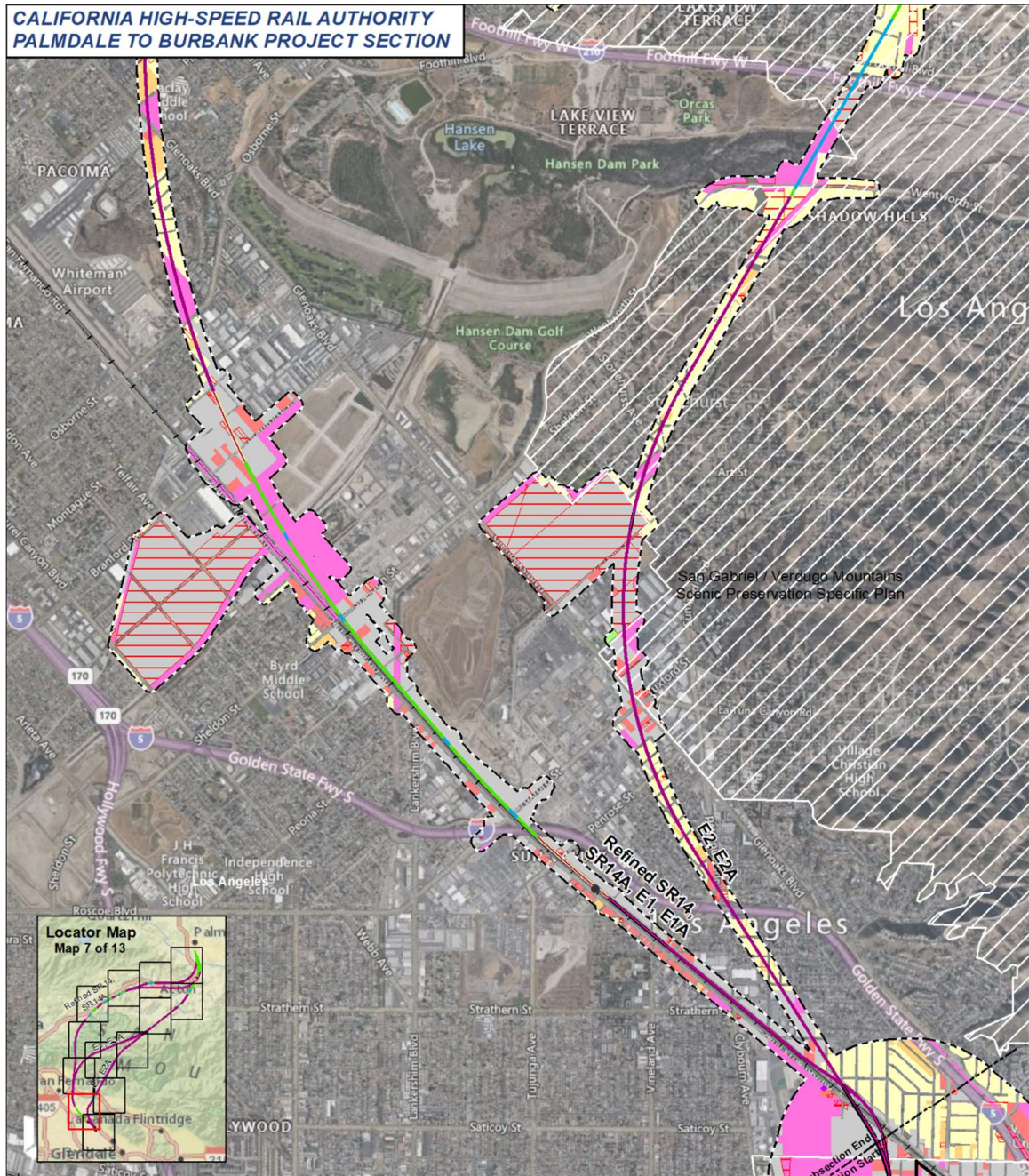


Figure 3.13-6 Existing Land Uses within the Resource Study Area (Map 6 of 13)

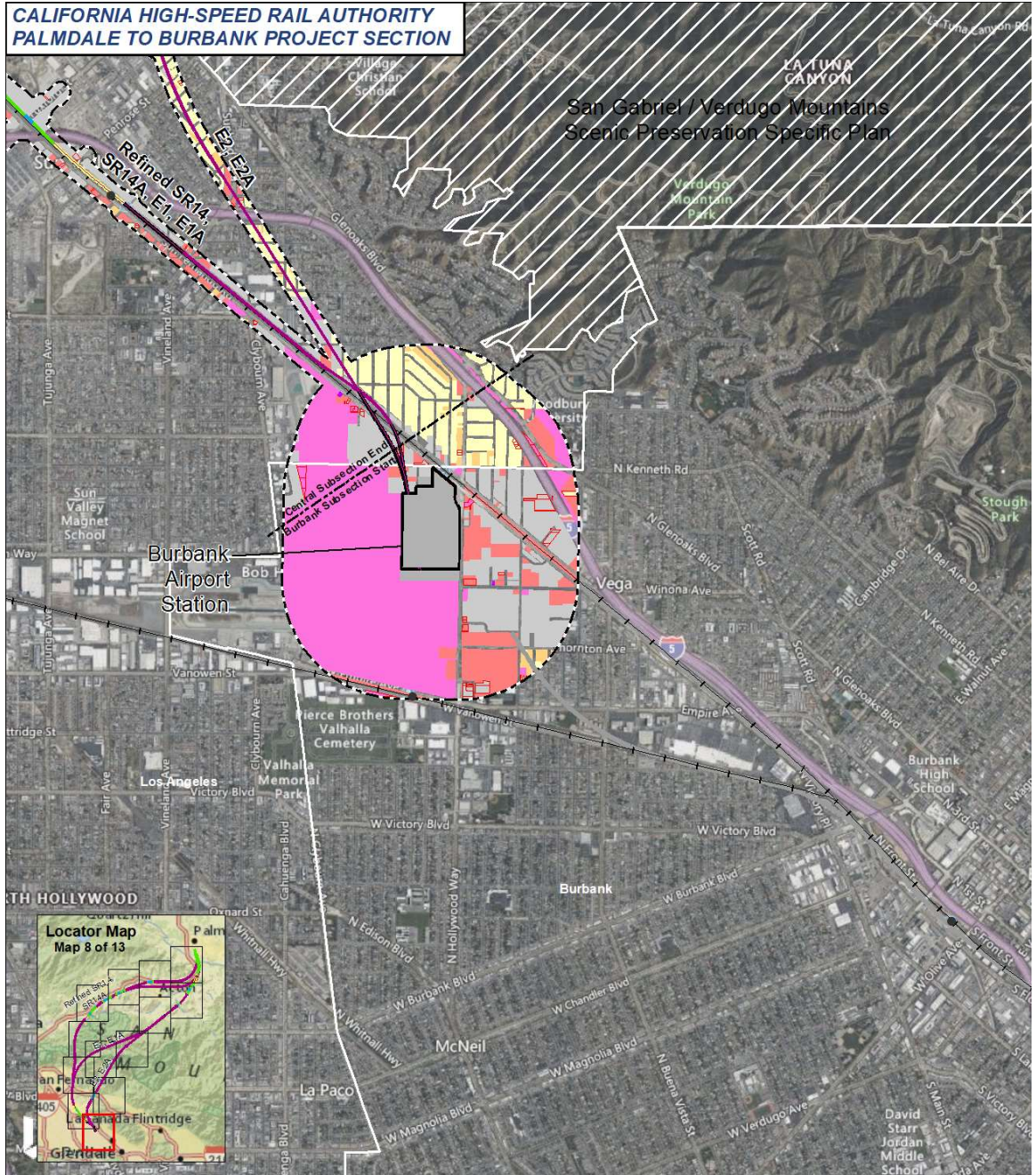


PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
 Source: Authority, 2020; County of Los Angeles GIS, 2017; Bing, 2021
 May 5, 2021

<ul style="list-style-type: none"> ● Metrolink Station — Metrolink --- Land Use --- Resource Study Area --- Subsection Break □ Proposed HSR Station 	<ul style="list-style-type: none"> HSR Alignment Profile — At Grade — Cut and Cover — Elevated / Aerial Structure — Retained Cut / Trench — Tunnel □ Specific Plan Area 	<ul style="list-style-type: none"> Existing Land Use □ Vacant Property □ Agriculture / Open Space □ Commercial □ Industrial □ Low-Density Residential 	<ul style="list-style-type: none"> □ Medium- to High-Density Residential □ Public Facility / Institutional □ Railroad / Right-of-Way □ Recreational □ Not Defined in Parcel
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Note: Entire map is within Los Angeles County

Figure 3.13-7 Existing Land Uses within the Resource Study Area (Map 7 of 13)

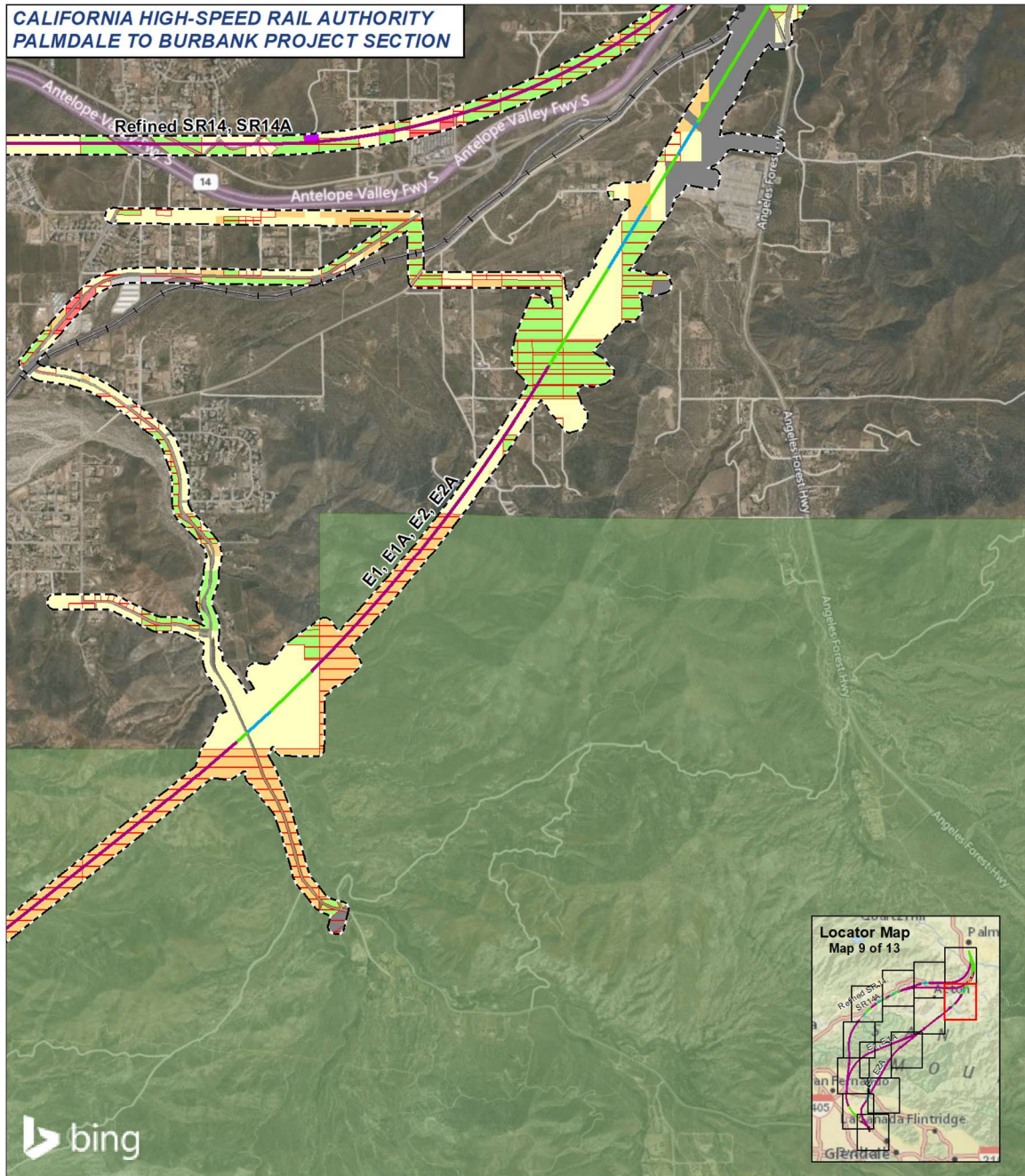


PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
 Source: Authority, 2020; County of Los Angeles GIS, 2017; Bing, 2021
 May 31, 2023

● Metrolink Station	HSR Alignment Profile	Existing Land Use	Medium- to High-Density Residential
— Metrolink	At Grade	Vacant Property	Public Facility / Institutional
Land Use	Cut and Cover	Commercial	Railroad / Right-of-Way
Resource Study Area	Elevated / Aerial Structure	Industrial	Recreational
Subsection Break	Retained Cut / Trench	Low-Density Residential	Not Defined in Parcel
Proposed HSR Station	Tunnel	Specific Plan Area	

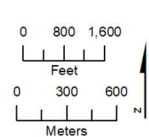
Note: Entire map is within Los Angeles County

Figure 3.13-8 Existing Land Uses within the Resource Study Area – Burbank Airport Station (Map 8 of 13)



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
 Source: Authority, 2020; County of Los Angeles GIS, 2017; Bing, 2021 May 5, 2021

● Metrolink Station	HSR Alignment Profile	Existing Land Use	Medium- to High-Density Residential
—+— Metrolink	— At Grade	— Vacant Property	Public Facility / Institutional
--- Land Use	— Elevated / Aerial Structure	— Agriculture / Open Space	— Railroad / Right-of-Way
- - - Resource Study Area	— Tunnel	— Commercial	— Recreational
		— Industrial	
		— Low-Density Residential	



Note: Entire map is within Los Angeles County

Figure 3.13-9 Existing Land Uses within the Resource Study Area (Map 9 of 13)

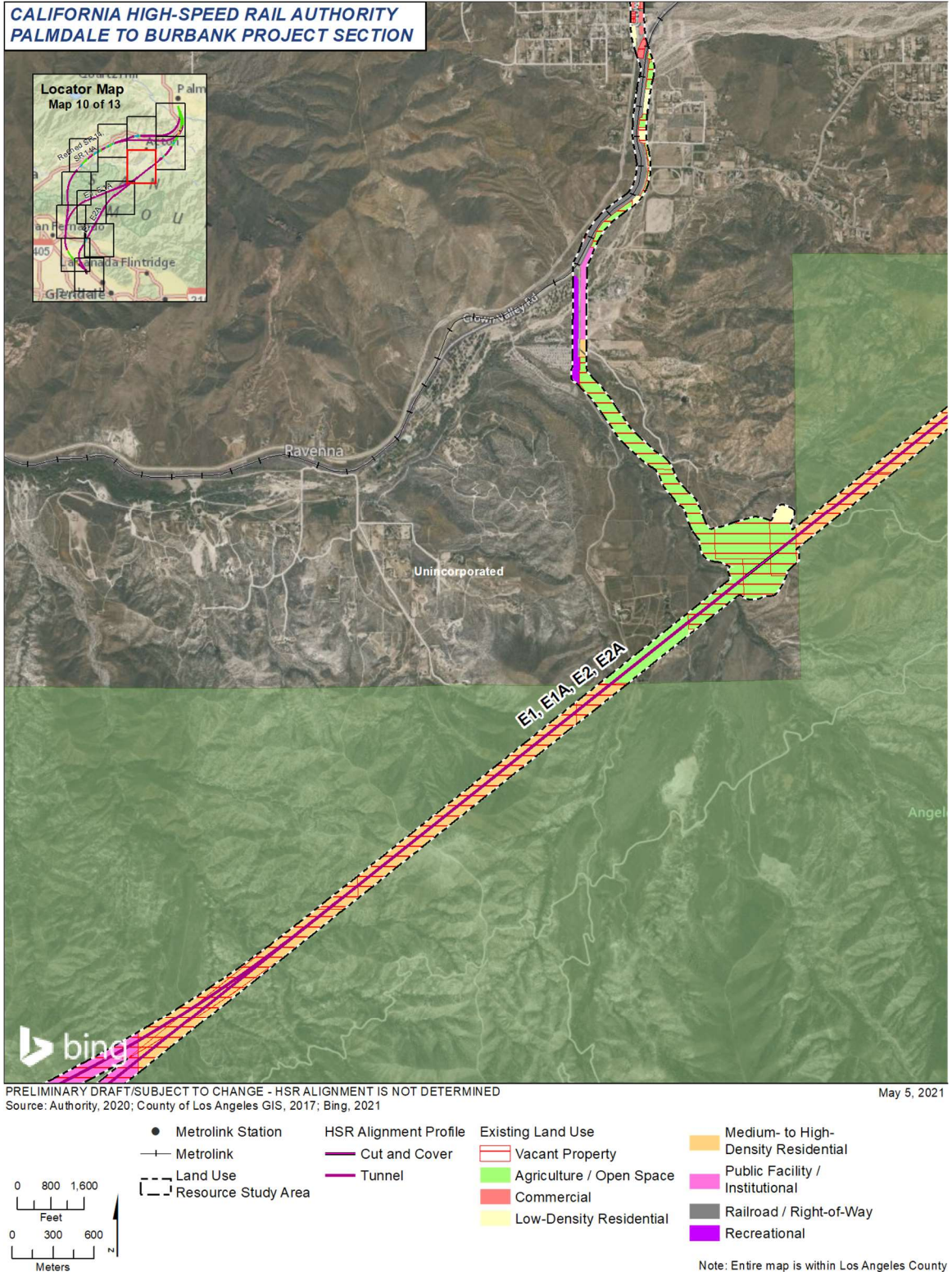
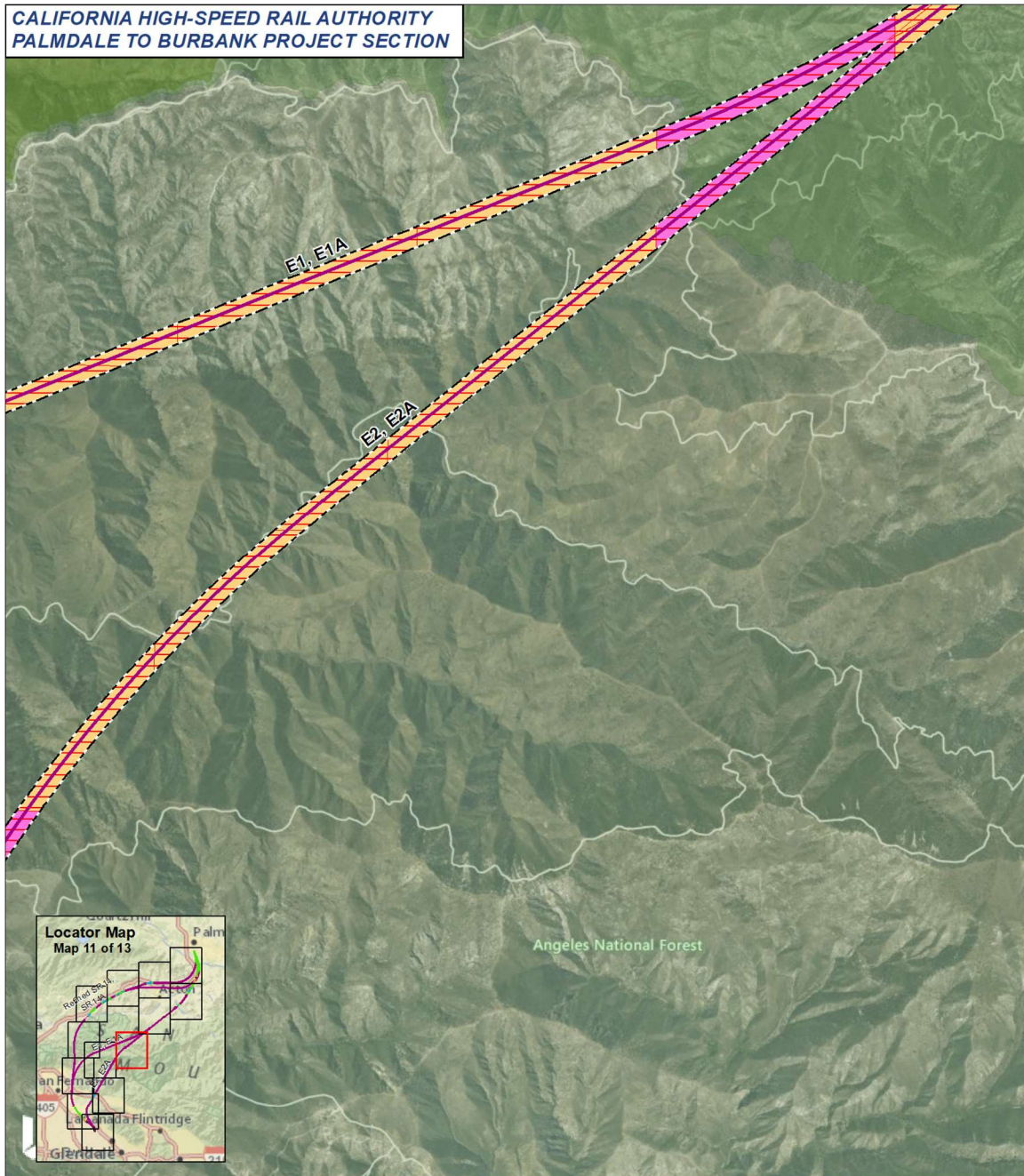


Figure 3.13-10 Existing Land Uses within the Resource Study Area (Map 10 of 13)



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED May 5, 2021
 Source: Authority, 2020; County of Los Angeles GIS, 2017; Bing, 2021

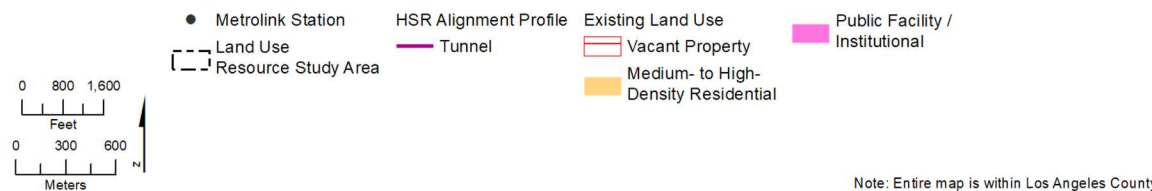


Figure 3.13-11 Existing Land Uses within the Resource Study Area (Map 11 of 13)

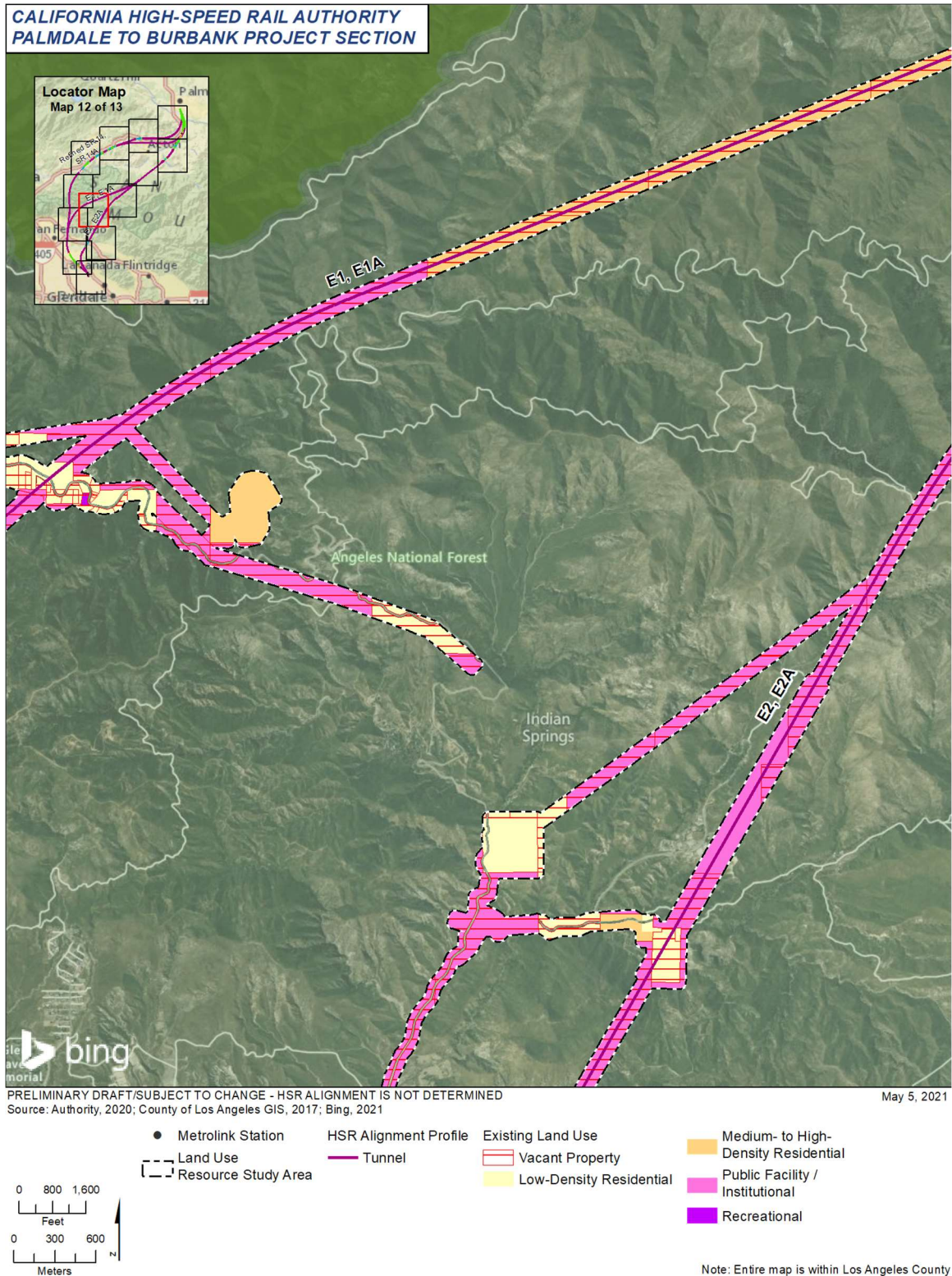


Figure 3.13-12 Existing Land Uses within the Resource Study Area (Map 12 of 13)

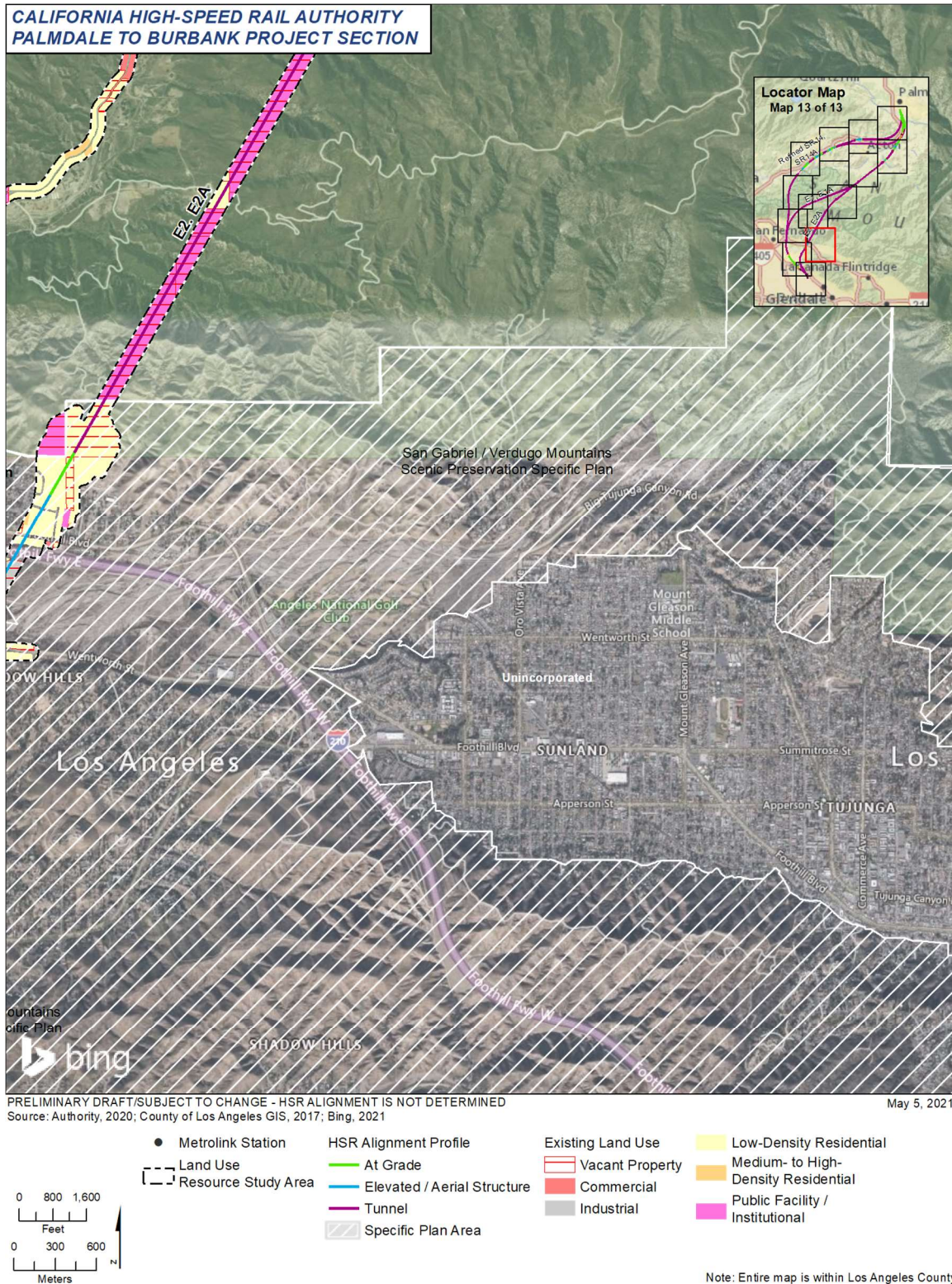


Figure 3.13-13 Existing Land Uses within the Resource Study Area (Map 13 of 13)

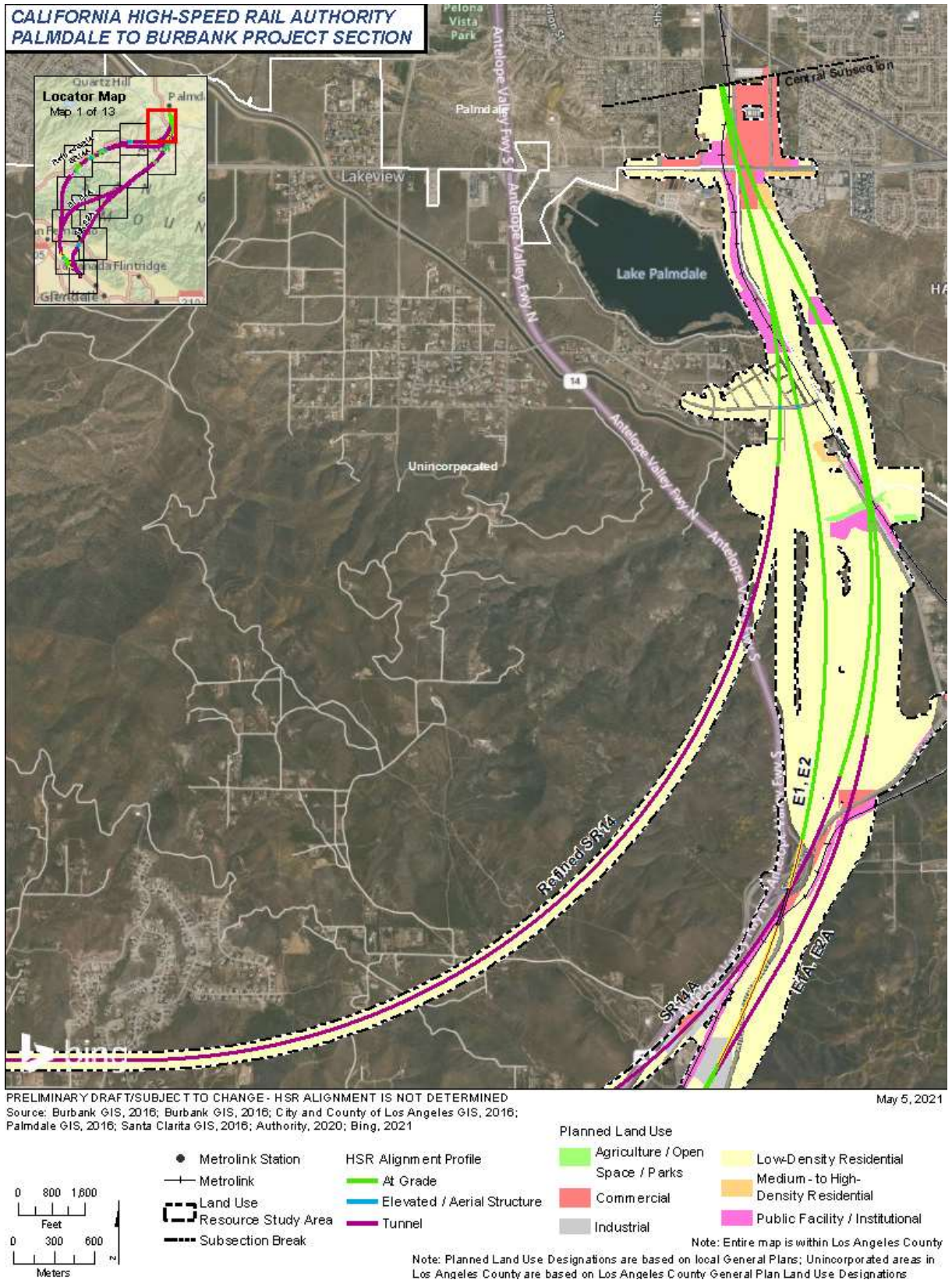
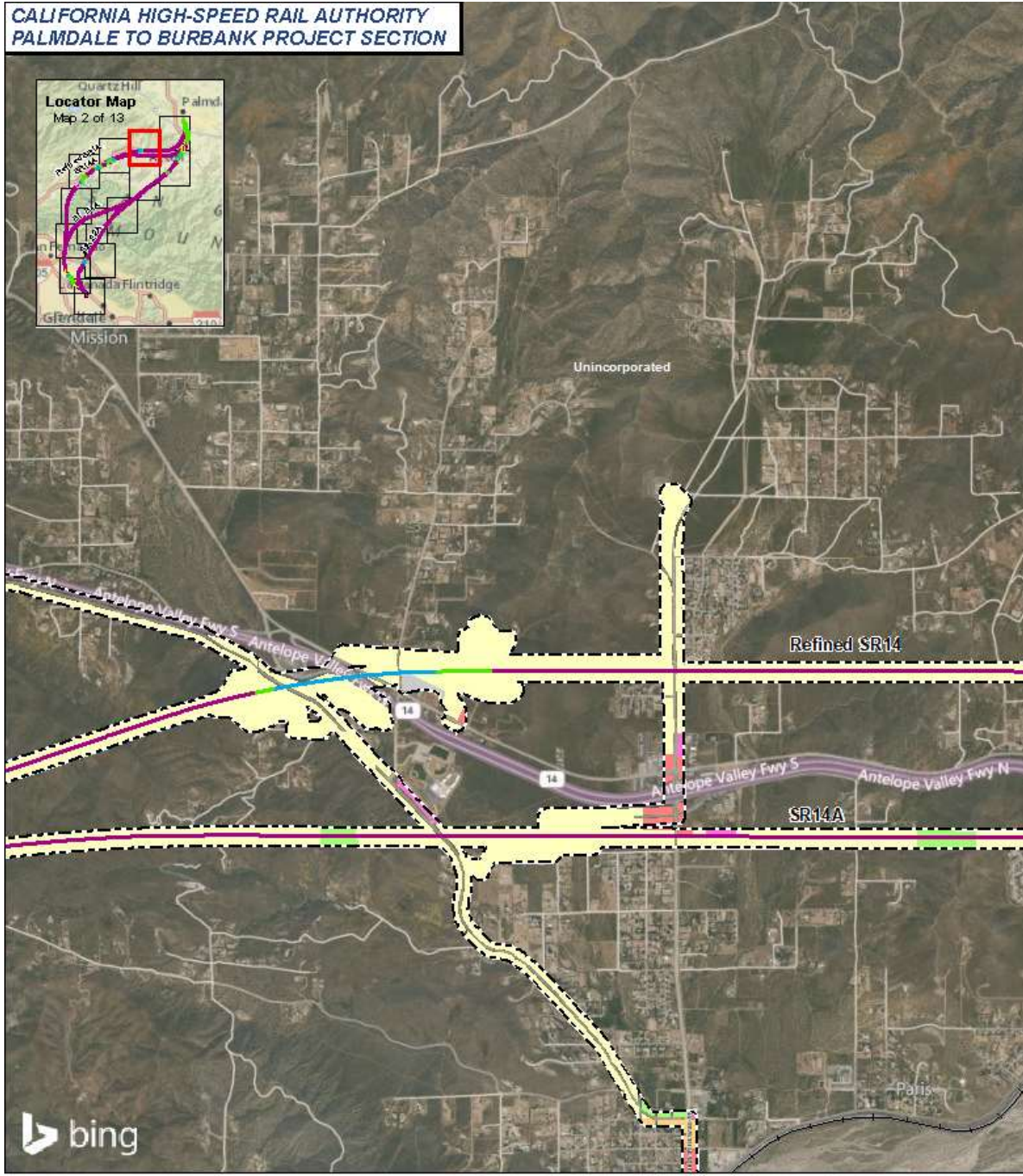


Figure 3.13-14 Planned Land Uses within the Resource Study Area (Map 1 of 13)

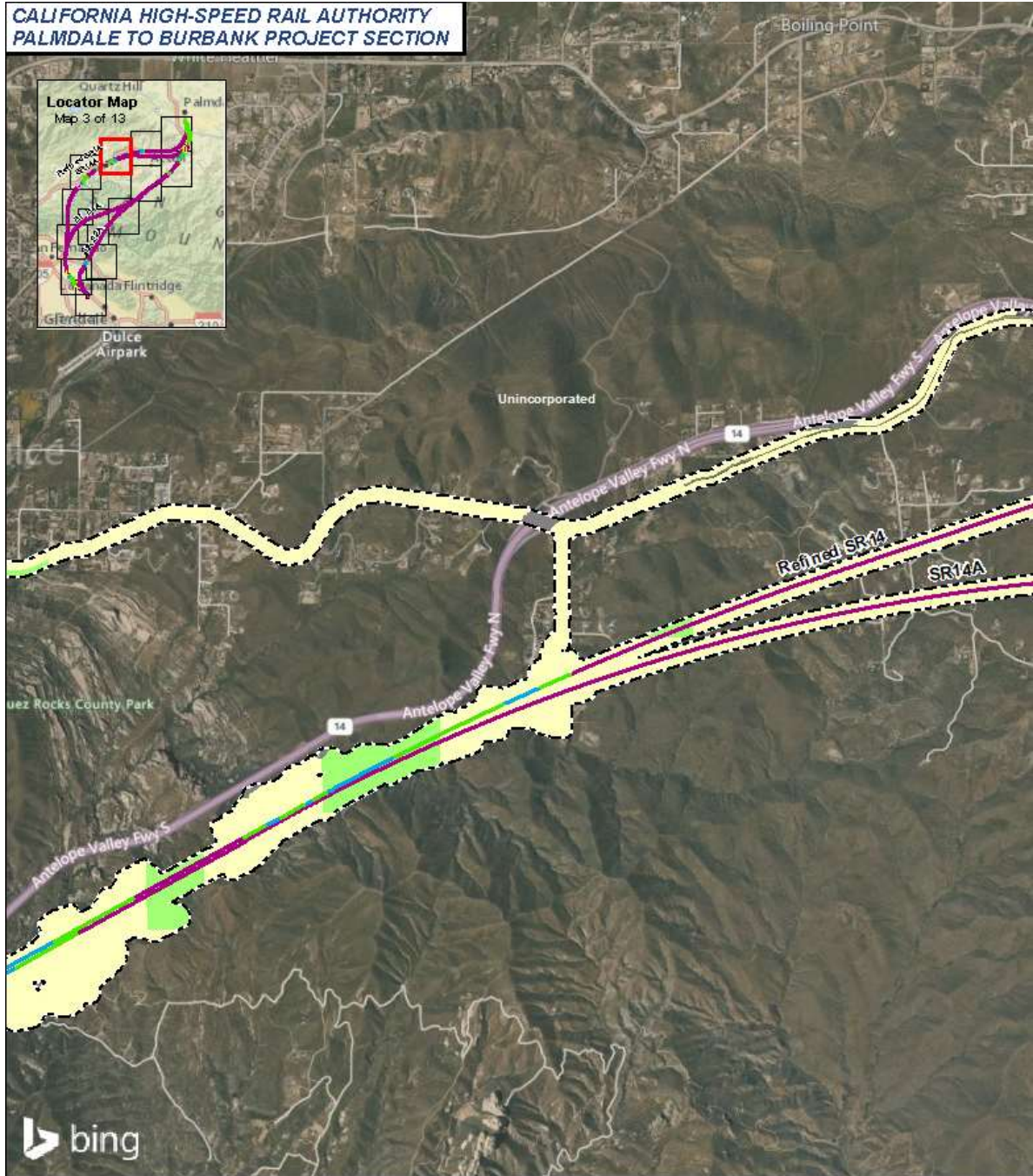


PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
 Source: Burbank GIS, 2016; Burbank GIS, 2016; City and County of Los Angeles GIS, 2016; Palmdale GIS, 2016; Santa Clarita GIS, 2016; Authority, 2020; Bing, 2021
 May 5, 2021

	<ul style="list-style-type: none"> ● Metrolink Station — Metrolink Land Use Resource Study Area 	<ul style="list-style-type: none"> HSR Alignment Profile Tunnel 	<p>Planned Land Use</p> <ul style="list-style-type: none"> Agriculture / Open Space / Parks Commercial Low-Density Residential Medium- to High-Density Residential Public Facility / Institutional
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Note: Entire map is within Los Angeles County
 Note: Planned Land Use Designations are based on local General Plans; Unincorporated areas in Los Angeles County are based on Los Angeles County General Plan Land Use Designations

Figure 3.13-15 Planned Land Uses within the Resource Study Area (Map 2 of 13)



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
 Source: Burbank GIS, 2016; Burbank GIS, 2016; City and County of Los Angeles GIS, 2016; Palmdale GIS, 2016; Santa Clarita GIS, 2016; Authority, 2020; Bing, 2021
 May 5, 2021

● Metrolink Station	HSR Alignment Profile	Planned Land Use	Low-Density Residential
Land Use	At Grade	Agriculture / Open Space / Parks	Railroad / Right-of-Way
Resource Study Area	Elevated / Aerial Structure		
	Tunnel		

Note: Entire map is within Los Angeles County
 Note: Planned Land Use Designations are based on local General Plans; Unincorporated areas in Los Angeles County are based on Los Angeles County General Plan Land Use Designations

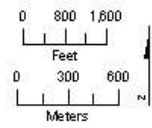


Figure 3.13-16 Planned Land Uses within the Resource Study Area (Map 3 of 13)

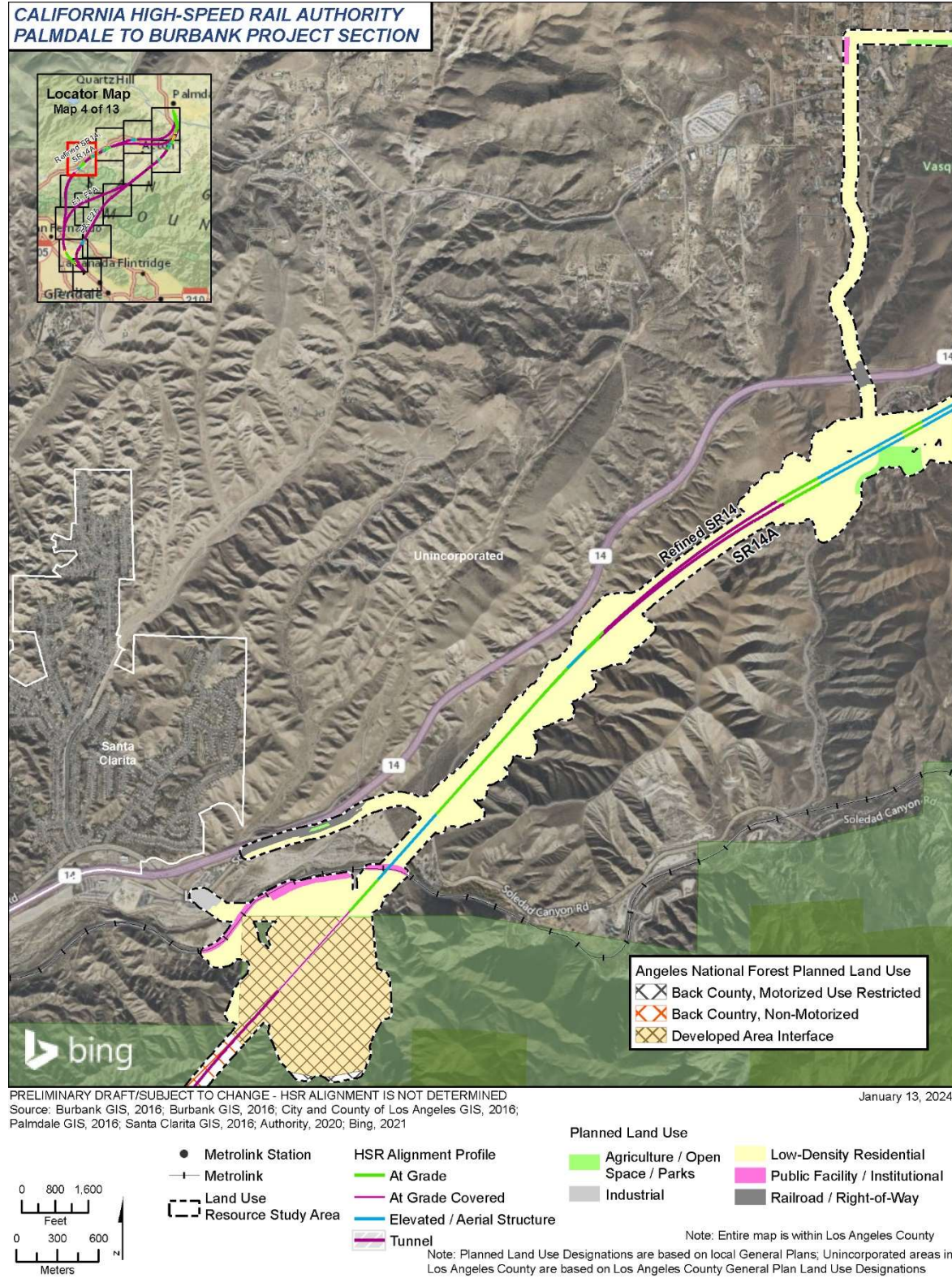
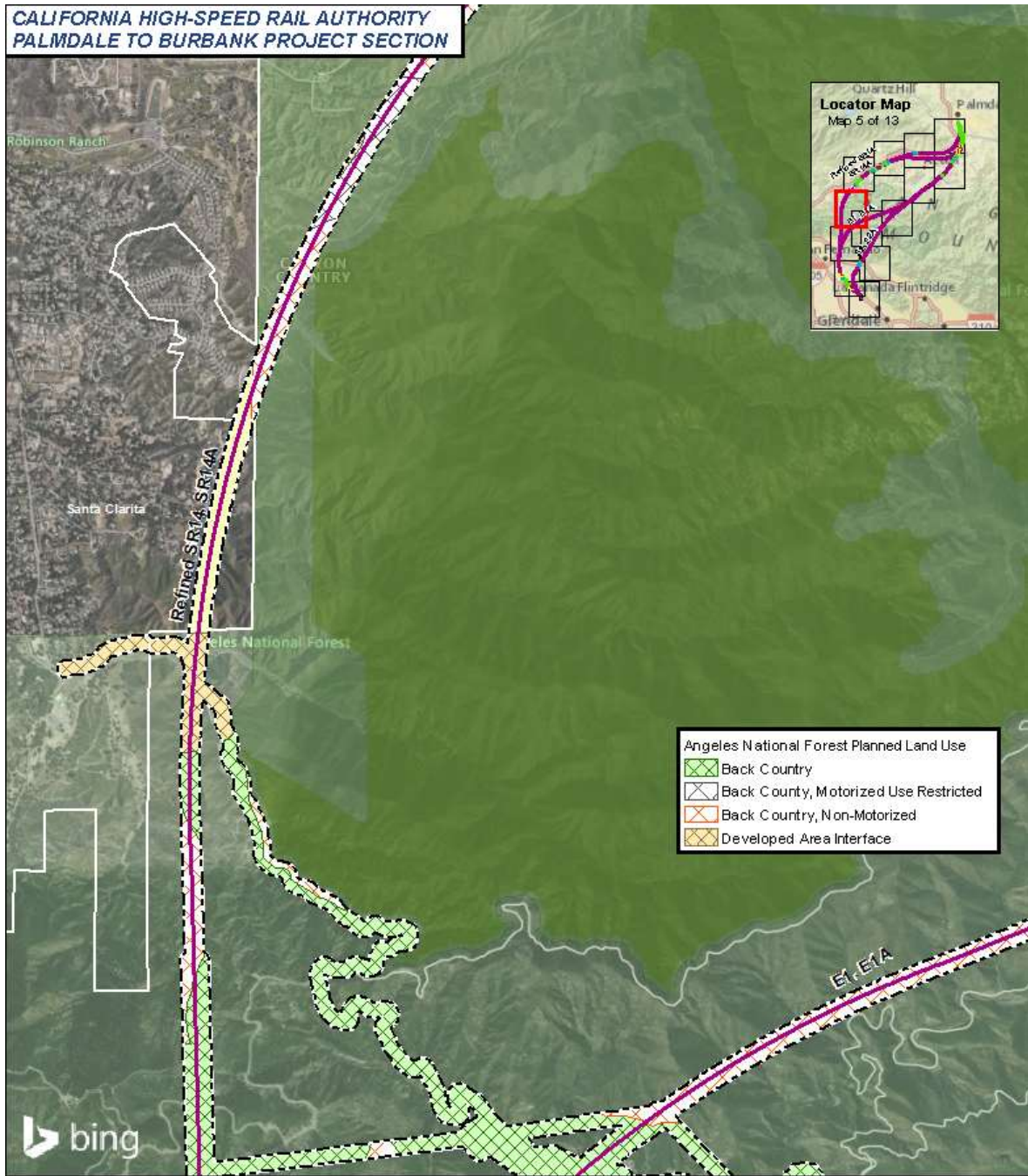


Figure 3.13-17 Planned Land Uses within the Resource Study Area (Map 4 of 13)



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
 Source: Burbank GIS, 2016; Burbank GIS, 2016; City and County of Los Angeles GIS, 2016; Palmdale GIS, 2016; Santa Clarita GIS, 2016; Authority, 2020; Bing, 2021
 May 5, 2021

● MetroLink Station	HSR Alignment Profile	Planned Land Use	Agriculture / Open Space / Parks
Land Use	— Tunnel		Low-Density Residential
Resource Study Area			

Note: Entire map is within Los Angeles County
 Note: Planned Land Use Designations are based on local General Plans; Unincorporated areas in Los Angeles County are based on Los Angeles County General Plan Land Use Designations

Figure 3.13-18 Planned Land Uses within the Resource Study Area (Map 5 of 13)

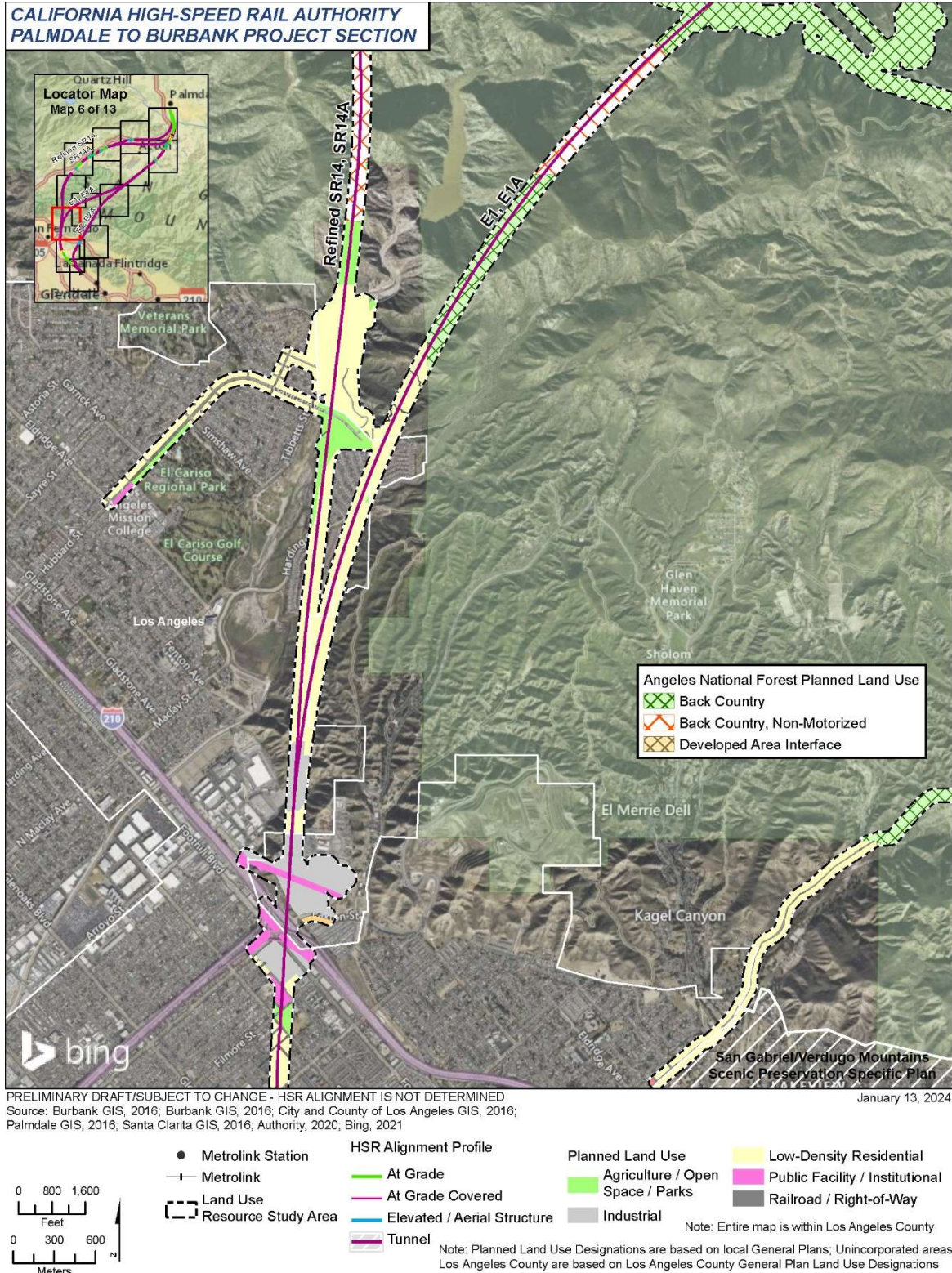


Figure 3.13-19 Planned Land Uses within the Resource Study Area (Map 6 of 13)

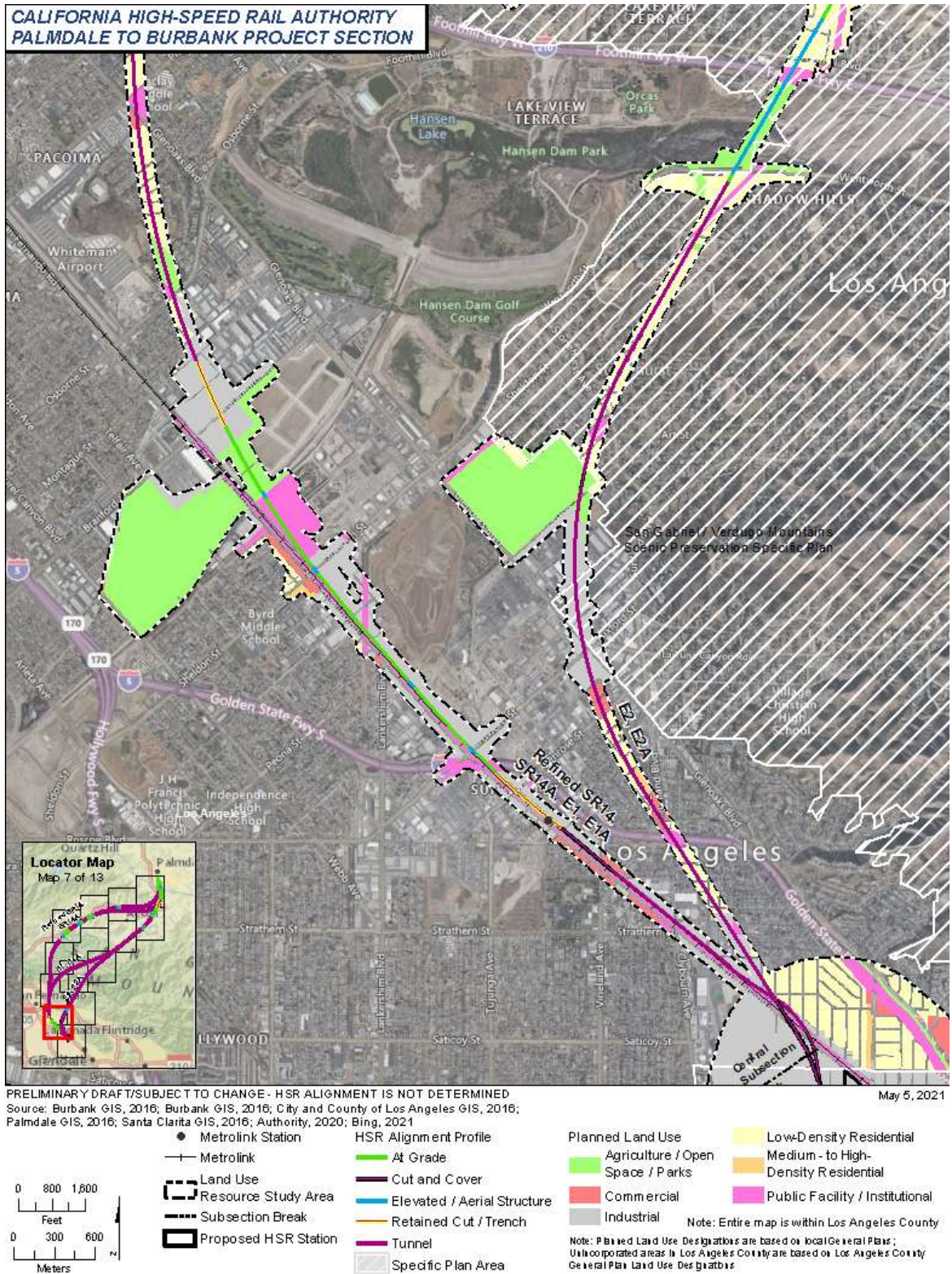


Figure 3.13-20 Planned Land Uses within the Resource Study Area (Map 7 of 13)

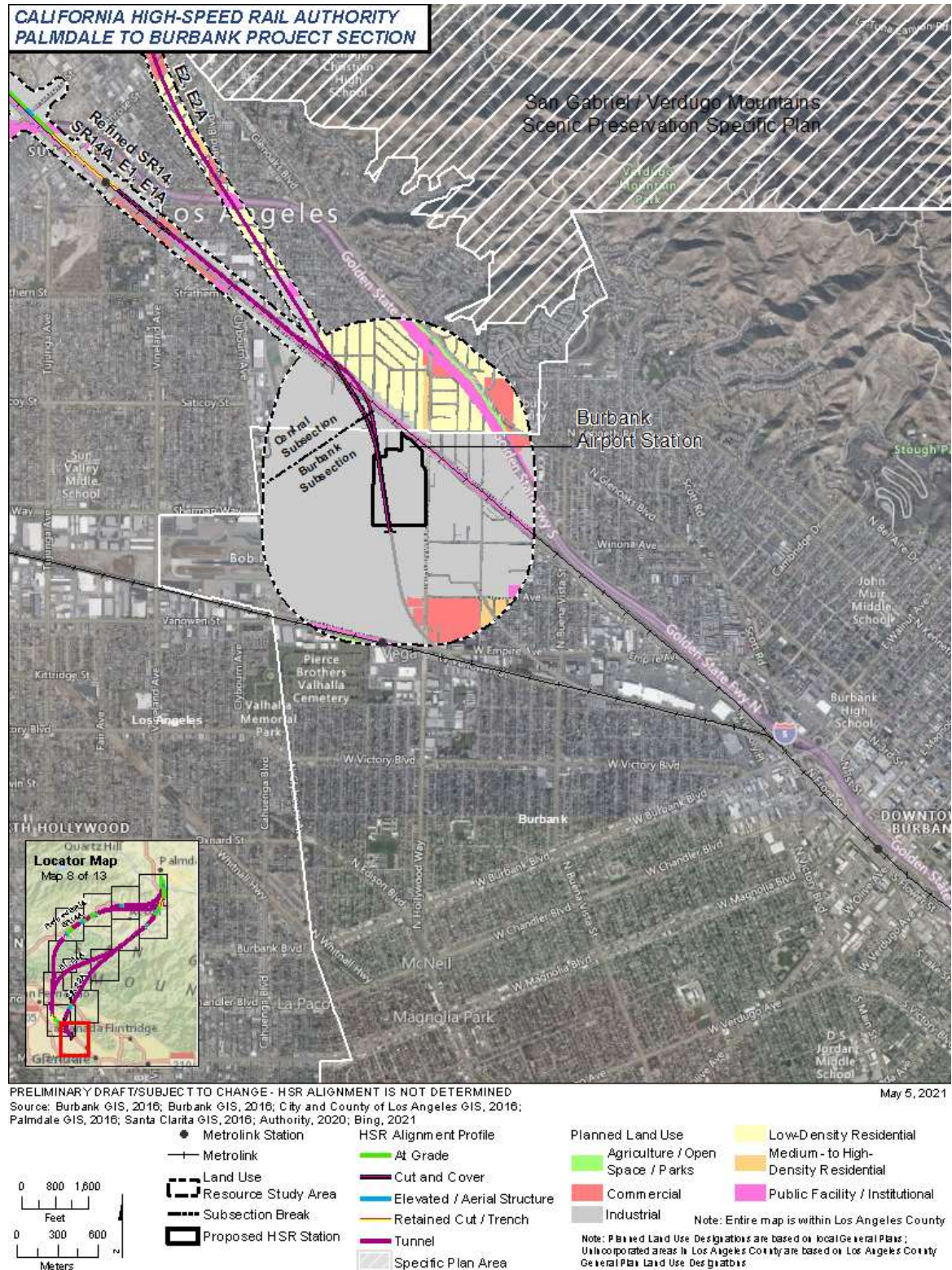
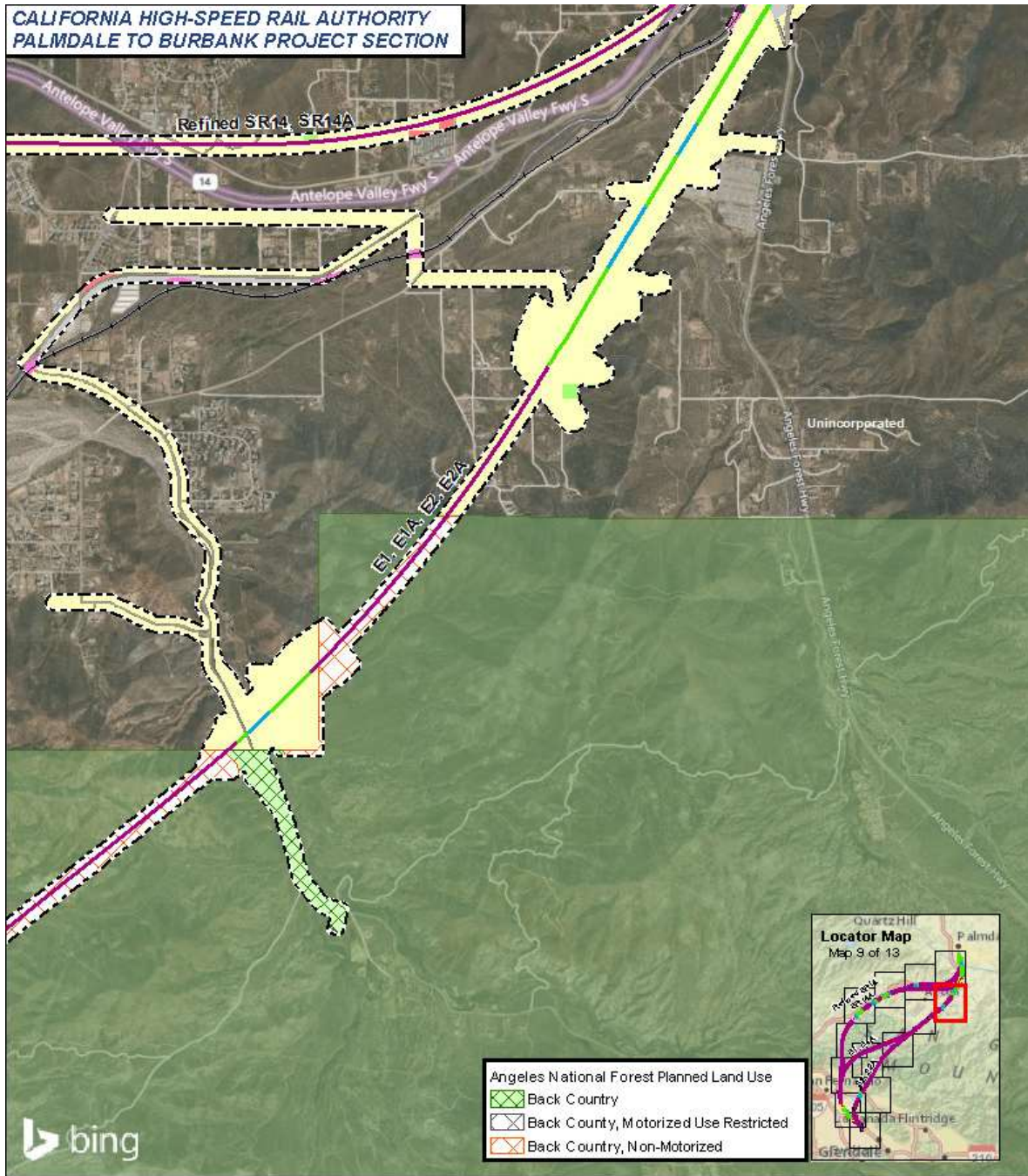


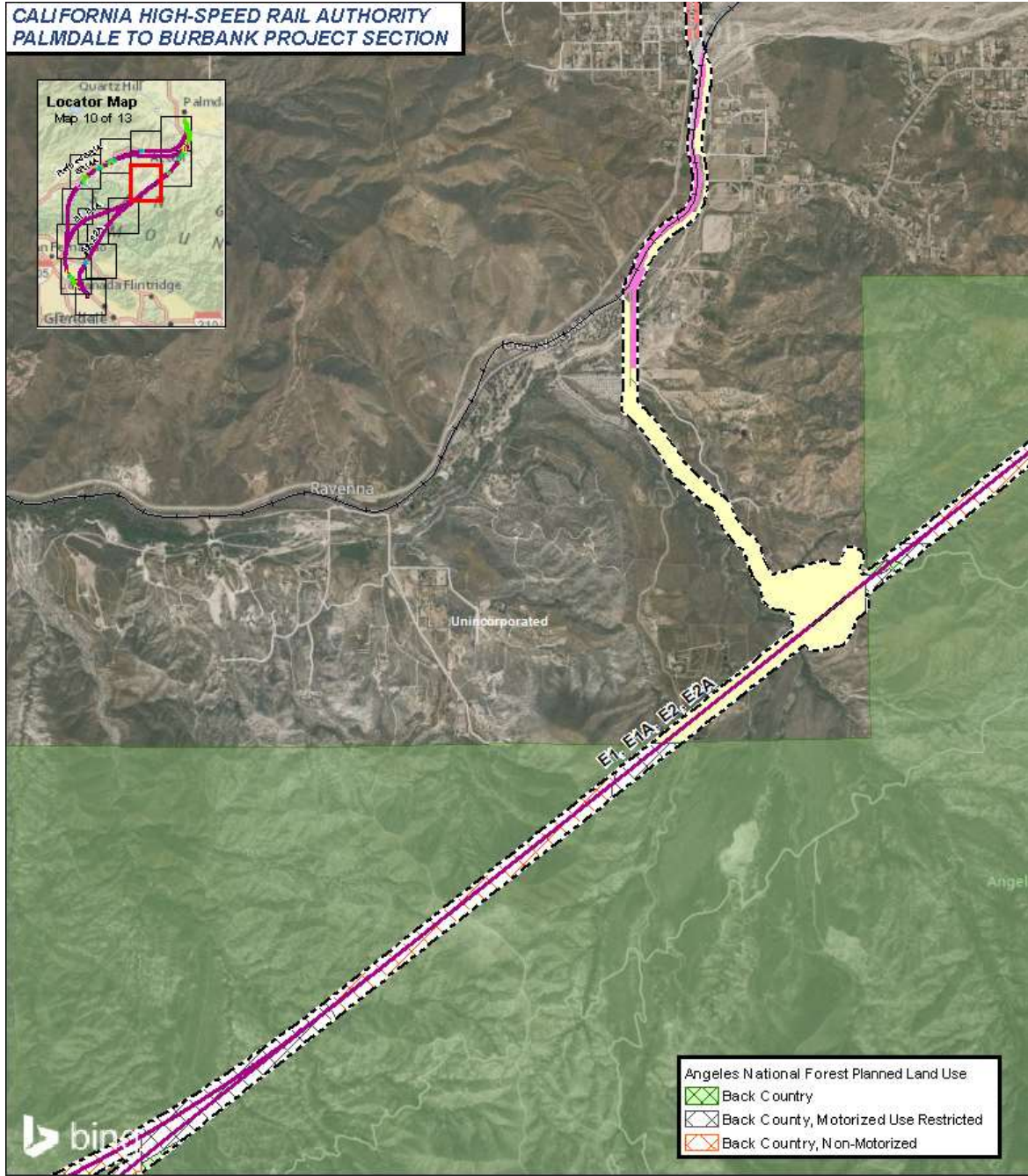
Figure 3.13-21 Planned Land Uses within the Resource Study Area – Burbank Airport Station (Map 8 of 13)



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
 Source: Burbank GIS, 2016; Burbank GIS, 2016; City and County of Los Angeles GIS, 2016; Palmdale GIS, 2016; Santa Clarita GIS, 2016; Authority, 2020; Bing, 2021
 May 5, 2021



Figure 3.13-22 Planned Land Uses within the Resource Study Area (Map 9 of 13)



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
 Source: Burbank GIS, 2016; Burbank GIS, 2016; City and County of Los Angeles GIS, 2016; Palmdale GIS, 2016; Santa Clarita GIS, 2016; Authority, 2020; Bing, 2021
 May 5, 2021

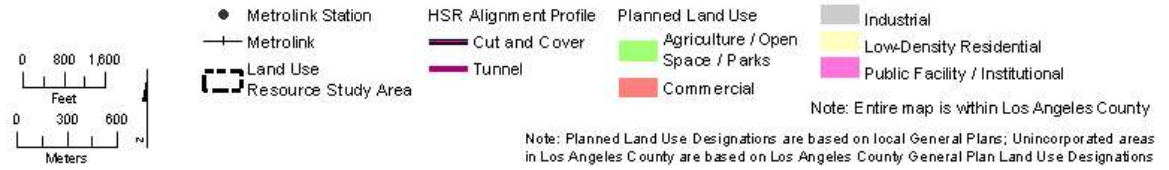
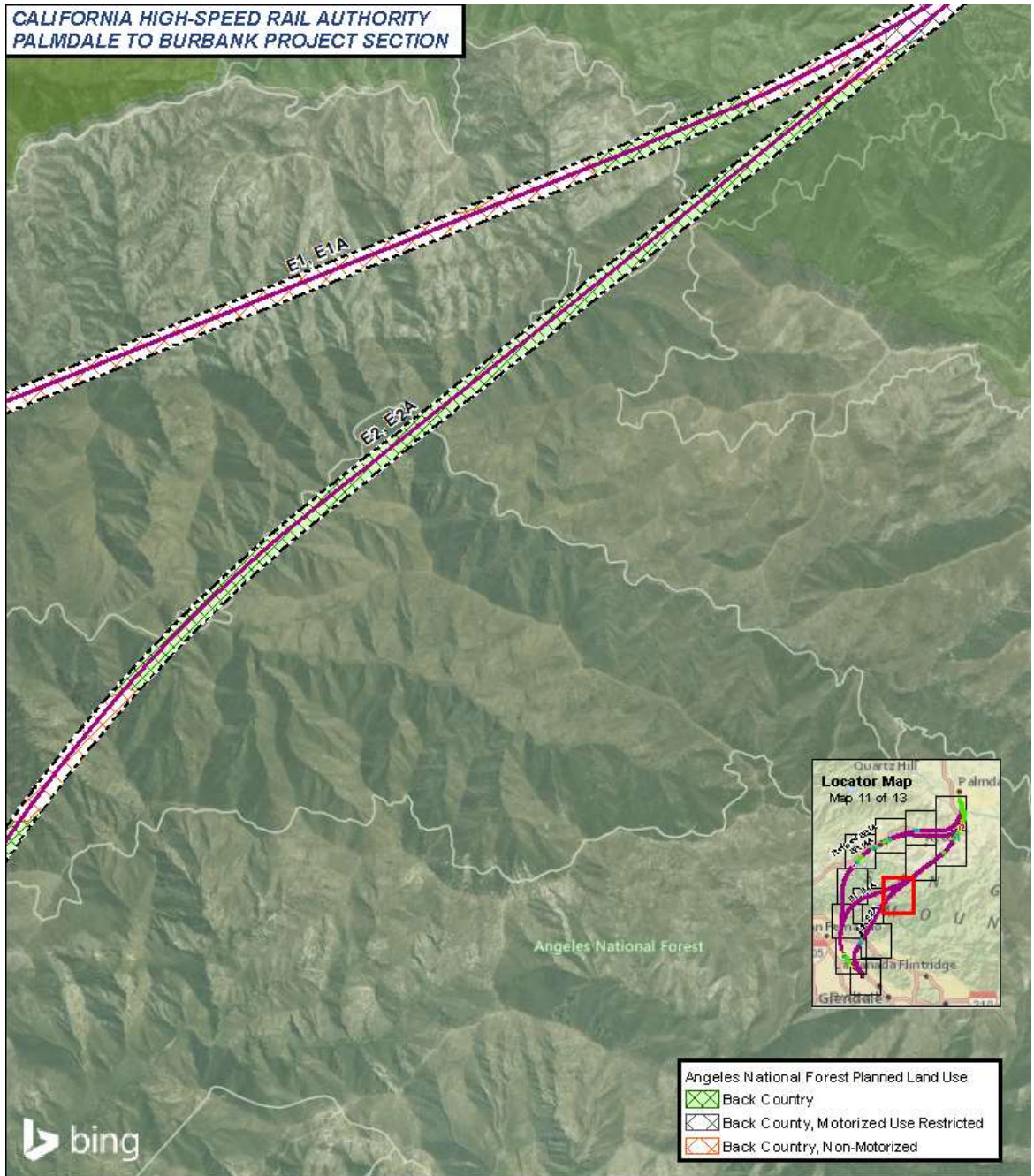


Figure 3.13-23 Planned Land Uses within the Resource Study Area (Map 10 of 13)

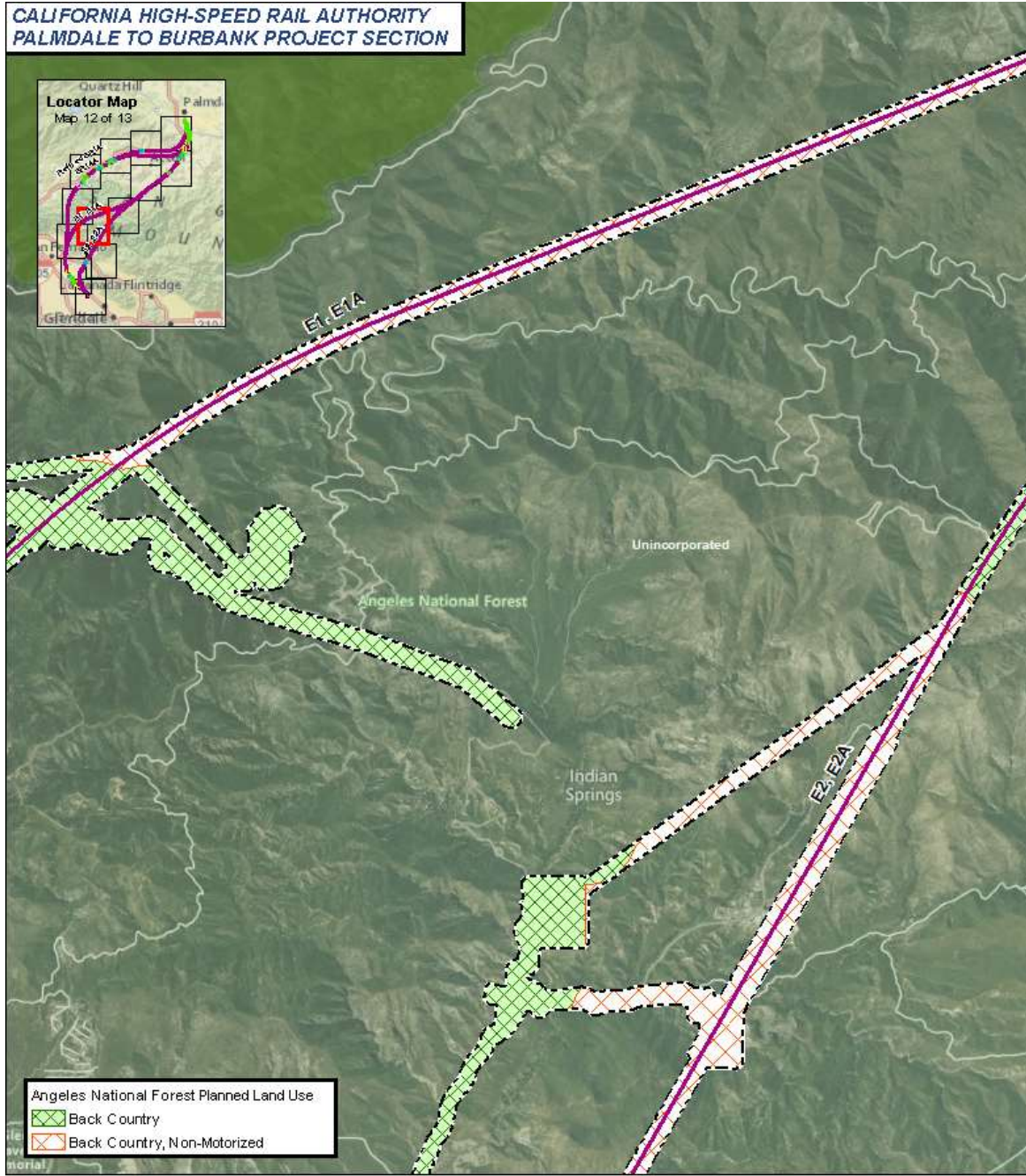


PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
 Source: Burbank GIS, 2016; Burbank GIS, 2016; City and County of Los Angeles GIS, 2016; Palmdale GIS, 2016; Santa Clarita GIS, 2016; Authority, 2020; Bing, 2021

May 5, 2021



Figure 3.13-24 Planned Land Uses within the Resource Study Area (Map 11 of 13)



PRELIMINARY DRAFT/SUBJECT TO CHANGE- HSR ALIGNMENT IS NOT DETERMINED
 Source: Burbank GIS, 2016; Burbank GIS, 2016; City and County of Los Angeles GIS, 2016; Palmdale GIS, 2016; Santa Clarita GIS, 2016; Authority, 2020; Bing, 2021
 May 5, 2021



Figure 3.13-25 Planned Land Uses within the Resource Study Area (Map 12 of 13)

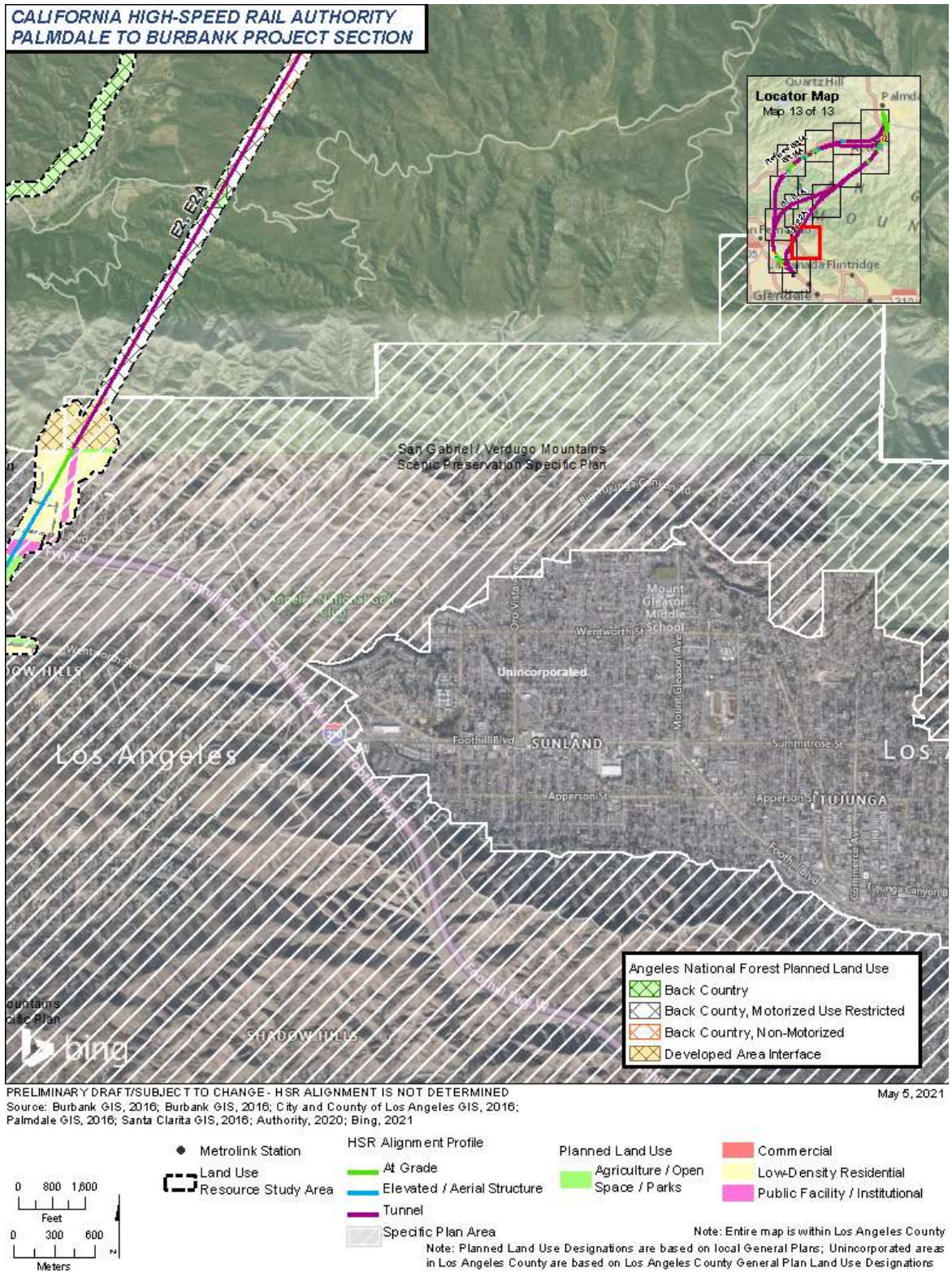


Figure 3.13-26 Planned Land Uses within the Resource Study Area (Map 13 of 13)

3.13.5.1 Central Subsection

The existing and planned land use within the Refined SR14, SR14A, E1, E1A, E2, and E2A Build Alternatives' RSAs vary within the Central Subsection, as summarized in Table 3.13-2 and Table 3.13-3, respectively.

Table 3.13-2 Existing Land Uses in the Central Subsection Resource Study Area

Build Alternative	Percent of Existing Land Uses within the RSA								
	Industrial	Commercial	Residential	Agricultural	Recreational	Public	Institutional	Railroads / Utilities	Vacant Land
Refined SR14	7%	1%	20%	2%	<1%	7%	<1%	5%	57%
SR14A	8%	2%	16%	1%	<1%	7%	<1%	5%	60%
E1	6%	2%	18%	1%	<1%	6%	<1%	7%	59%
E1A	7%	2%	18%	1%	<1%	6%	<1%	6%	59%
E2	2%	1%	20%	1%	<1%	5%	1%	7%	62%
E2A	3%	1%	20%	1%	<1%	6%	1%	6%	62%

Source: Los Angeles County Assessor 2017

¹ Acres of existing land use divided by total acreage of subsection.

< = less than; RSA = resource study area

Table 3.13-3 Planned Land Uses in the Central Resource Study Area

Build Alternative	Percent of Designated Land Uses within the RSA								
	Industrial	Commercial	Medium-High-Density Residential	Low-Density Residential	Agricultural/Open Space	Angeles National Forest ²	Public Facility/Institutional	Right-of-Way	Specific Plan
Refined SR14	8%	2%	<1%	56%	8%	21%	4%	1%	0%
SR14A	9%	3%	<1%	51%	8%	24%	5%	<1%	0%
E1	11%	3%	<1%	39%	6%	35%	7%	0%	0%
E1A	11%	2%	<1%	38%	6%	36%	7%	0%	0%
E2	6%	3%	<1%	44%	6%	36%	5%	0%	0%
E2A	6%	2%	<1%	43%	5%	37%	5%	0%	0%

Sources: City of Burbank 2013; City of Los Angeles 2001; City of Palmdale 2022; Los Angeles County 2015a

¹ Acres of planned land use divided by total acreage of subsection.

² For the purposes of this table, all ANF land uses are consolidated into a single category. For a full breakout of ANF-specific land uses, refer to Section 3.13.10 United States Forest Service Impact Analysis.

< = less than; ANF = Angeles National Forest; RSA = resource study area

Refined SR14 Build Alternative

The Refined SR14 Central Subsection is generally within unincorporated Los Angeles County. As shown in Figure 3.13-1 through Figure 3.13-6 and Figure 3.13-14 through Figure 3.13-19, the Central Subsection passes through the unincorporated areas of Acton and Agua Dulce as well as the city of Los Angeles neighborhoods of Sylmar, Pacoima, and Sun Valley.

The Refined SR14 Build Alternative alignment's RSA encompasses over 1,700 acres between Palmdale and Burbank. This subsection includes the communities of Acton, Agua Dulce, and Sun Valley where the Refined SR14 Build Alternative alignment would be at grade. Planned land uses include a mix of low-density residential, commercial, and industrial through these areas. North of the ANF, the alignment would traverse lower-density residential areas and vacant land.

Acton and Agua Dulce are part of the Antelope Valley, which is bounded by the Kern County border to the north, the Ventura County border to the west, the ANF to the south, and the San Bernardino County border to the east. In general, the communities have experienced substantial population growth over the past several decades. According to the United States Census Bureau, between 2000 and 2010, Acton's population increased by more than 17 percent, from 6,480 to 7,596 (Census Viewer 2017a). Additionally, Agua Dulce's population increased by 11 percent, from 3,012 to 3,342 (Census Viewer 2017b). However, Acton and Agua Dulce contain mostly rural, low-density residential existing land uses within unincorporated Los Angeles County. Planned land uses within Acton and Agua Dulce are also primarily low-density residential interspersed with commercial, public facility/institutional, and agriculture/open space/parks land uses. According to the *Antelope Valley Area Plan* (Los Angeles County 2015b), while existing uses in the area reflect surges of development pressure over the past few decades, the overarching land use goal for the planning area is to preserve its rural character. Existing uses within Acton's town center area are mostly rural in character. The existing residential uses in Acton are predominantly low density, with ranch-style architecture reflective of the rural character.

Vasquez High School is approximately 0.25 mile south of an area where the Refined SR14 Build Alternative would be at grade but transitioning to an elevated viaduct. A construction staging area for the Refined SR14 Build Alternative would also be approximately 0.15 mile to the northwest of Vasquez High School, across Red Rover Mine Road. The Acton-Agua Dulce Library is within a quarter-mile north of the intersection of State Route (SR) 14 freeway and Crown Valley Road, immediately south of where the proposed Refined SR14 Build Alternative would cross in a tunneled section. Proceeding southwest along the southern side of SR 14, the surrounding areas are sparsely developed with pockets of low-density rural residential uses along SR 14—particularly between Big Springs Road and Soledad Canyon Road. Planned land uses in this area mostly include low-density residential, and agriculture/open space/parks.

The Santa Clara River Significant Ecological Area is within the Refined SR14 Build Alternative Central Subsection. Significant Ecological Areas are officially designated by the Los Angeles County Department of Regional Planning as areas that require specialized management due to their biological resources (both flora and/or fauna).

A portion of the Refined SR14 Build Alternative's alignment in the Central Subsection would intersect the western edge of the ANF, including the SGMNM. A portion of the alignment would also intersect the ANF south of Soledad Canyon Road, in an area that includes the Vulcan Mine site. The ANF contains diverse land uses and terrain over its 650,000 acres, including areas with recreational and scenic value. The ANF Land Management Plan (LMP) establishes land use zones that reflect USFS management objectives and guidelines regarding appropriate types and levels of public use (USFS 2006). Applicable land use zones within the project RSA include:

- **Back Country**—Generally undeveloped, with few roads and a low to moderate level of human use and infrastructure. Although this zone generally allows a broad range of uses, the management intent is to retain the natural character of this zone and limit the level and type of development.
- **Back Country (Motorized Use Restricted)**—Generally undeveloped with few roads and few facilities. The level of human use and infrastructure is low to moderate. Motorized use is

restricted to administrative purposes only that include USFS, other agency, or tribal government needs, as well as necessary access to private land or authorized special uses. Although this zone allows a range of low-intensity land uses, the management intent is to retain the natural character of the zone and limit the level and type of development.

- **Back Country (Non-Motorized)**—Undeveloped with few, if any, roads. The level of human use and infrastructure is low. Administrative access (usually for community protection) is allowed by exception for emergency situations and for short duration management purposes. While a range of non-motorized public uses are generally allowed, the management intent is to typically retain the undeveloped character and natural appearance of this zone and to limit the level of development to a low level of increase.
- **Critical Biological**— This zone includes the most important areas in the ANF, including the SGMNM, to manage for the protection of at-risk species. Facilities are minimal to discourage human use. The level of human use and infrastructure is low to moderate. Human uses are more restricted in this zone than in Back Country Non-Motorized zones to protect species, but such uses are not prohibited. Motorized use of existing National Forest System roads is allowed.
- **Developed Area Interface**— This zone includes areas adjacent to communities or concentrated use areas and developed sites with more scattered or isolated community infrastructure. The level of human use and infrastructure is typically higher than in other zones. Although this zone may have a broad range of higher intensity uses, the management intent is to limit development to a slow increase of carefully designed facilities to help direct uses into the most suitable areas and to improve existing facilities before developing new ones. The ANF allows for limited road construction, but at a limit of no greater than a 5 percent net-increase in road mileage.

In the Central Subsection, the southern portion of the Refined SR14 Build Alternative alignment would be within the city of Los Angeles and would traverse the Sylmar, Pacoima, and Sun Valley neighborhoods. In 2015, Los Angeles had an estimated population of 3,971,883 and a population density of 8,240 people per square mile (U.S. Census Bureau 2015). Statistics for the Sylmar, Pacoima, and Sun Valley neighborhoods have not been tracked with the same frequency or level of detail as the city of Los Angeles itself. However, the discussion below pulls from available data sources to provide as much context as possible.

The population of the Sylmar neighborhood increased by 14 percent from 2000 to 2008—from approximately 69,499 to 79,614 (Los Angeles Times 2017a). Similarly, over the same period, Pacoima's population increased by 8 percent—from approximately 75,014 to 81,318 (Los Angeles Times 2017c). Over the same period, Sun Valley-La Tuna Canyon's population increased by 8 percent—from approximately 75,848 to 81,788 (Los Angeles Times 2017b).

Sylmar is considered a semi-rural suburban neighborhood at the foothills of the San Gabriel Mountains. Sylmar is almost entirely built out. As with most of the single-family neighborhoods in the area that were built post-World War II, existing residential uses in Sylmar are characterized by single-story ranch-style homes. Planned land uses within the Refined SR14A RSA in Sylmar include low-density residential, agriculture/open space/parks, industrial, and public facility/institutional land uses.

The neighborhood of Pacoima is largely suburban and developed with single-family homes. The Refined SR14 RSA encompasses a mostly commercial area of Pacoima south of Interstate (I-) 210. Planned land uses within the Refined SR14A RSA in Pacoima also generally include low-density residential, agriculture/open space/parks, industrial, and public facility/institutional land uses.

Sun Valley-La Tuna Canyon covers approximately 10,618 acres of land. The neighborhood incorporates the highest concentration of mineral processing facilities in the city of Los Angeles, with rock and gravel mining operations, and cement and concrete processing (City of Los Angeles 1999). The Boulevard Mine site is south of San Fernando Road. Planned land uses within the Refined SR14A RSA in Sun Valley-La Tuna include mostly industrial and low-density residential land uses.

The Refined SR14 Build Alternative within the Central Subsection would include portions of the neighborhood on both sides of South San Fernando Road. The Sun Valley portion of this corridor is highly urbanized and industrial in character. North of San Fernando Road, many sites are largely devoted to gravel mining and cement and concrete processing operations. The southern side is currently home to several businesses, including automobile-related establishments. The La Tuna Canyon portion of this corridor begins east of Clybourn Avenue/Sunland Avenue and is almost entirely residential.

SR14A Build Alternative

The SR14A Build Alternative would be identical to the Refined SR14 Build Alternative within the Central Subsection except between Spruce Court and the Vulcan Mine. Existing land uses south of Spruce Court along the SR14A Build Alternative alignment are mostly vacant interspersed with low-density residential land uses. Planned land uses along the alignment generally include low-density residential, agriculture/open space/parks, industrial, and public facility/institutional land uses. The SR14A Build Alternative alignment intersects with the Refined SR14 Build Alternative alignment just north of Soledad Canyon Road, after which the existing land use patterns would be identical for the Refined SR14 and SR14A Build Alternatives.

E1 Build Alternative

The E1 Build Alternative within the Central Subsection would be identical to the Refined SR14 Build Alternative between Spruce Court and Una Lake. From Una Lake, the E1 RSA extends south past the California Aqueduct.

Existing land uses south of the California Aqueduct are mostly vacant with areas of very low-density residential adjacent to the SR 14 freeway. This land use pattern continues until reaching the Vincent Substation (owned and operated by Southern California Edison). Several single-family homes are immediately adjacent to the Vincent Substation off Foreston Drive and south of East Soledad Pass Road (Figure 3.13-9 and Figure 3.13-22). Many properties on Foreston Drive include horse keeping facilities (i.e., areas used to feed, train, ride, and shelter horses). Planned land uses along the E1 Build Alternative alignment in this area generally include low-density residential, industrial, and agriculture/open space/parkland uses.

The E1 RSA continues southwest and passes Aliso Canyon Road, where it enters the ANF boundaries. Within the ANF, the E1 RSA would mainly traverse zones designated as Back Country and Back Country Non-Motorized. As described above, the ANF contains diverse land uses and terrain over its 650,000 acres, including areas with recreational and scenic value. The E1 Build Alternative would also traverse 6 acres of zones designated as Critical Biological.

South of the ANF, existing and planned land uses become more developed within the Sylmar, Pacoima, and Sun Valley-La Tuna Canyon neighborhoods, which are described in the Refined SR14 Build Alternative discussion. South of I-210, the E1 RSA would be the same as the Refined SR14 Build Alternative.

E1A Build Alternative

The E1A Build Alternative within the Central Subsection would be the same as the E1 Build Alternative except between Spruce Court and just south of Vincent View Road, near Vincent Substation. South of Spruce Court, the existing land uses are generally vacant, interspersed with low-density residential land uses. Existing land uses for the E1A Build Alternative south of Vincent View Road would be identical to those for the E1 Build Alternative. Planned land uses along the E1A Build Alternative alignment in this area generally include low-density residential, industrial, and public facility/institutional land uses.

E2 Build Alternative

The E2 Build Alternative within the Central Subsection would be the same as the Refined SR14 and E1 Build Alternatives between Spruce Court and Una Lake. South of Una Lake, the E2 Build Alternative would be the same as the E1 Build Alternative until just south of Arrastre Canyon.

Within the ANF, the E2 Build Alternative would proceed below ground in a more southerly direction than the E1 Build Alternative toward the Lake View Terrace and Shadow Hills neighborhoods (Figure 3.13-6, Figure 3.13-7, Figure 3.13-19, and Figure 3.13-20). In addition to the Back Country and Back Country Non-Motorized planned land use zones, the E2 RSA covers ANF land zone as Developed Area Interface. The E2 Build Alternative would also traverse 6 acres of zones designated as Critical Biological.

The southern portion of the Central Subsection includes the city of Los Angeles neighborhoods of Lake View Terrace and Shadow Hills. Statistics for these neighborhoods have not been tracked with the same frequency or level of detail as the city of Los Angeles itself. However, the discussion below pulls from available data sources in order to provide as much context as possible.

Located along I-210, Lake View Terrace is a suburban neighborhood in the foothills of the San Gabriel Mountains. It is characterized by low-density residential development and open space. The Hansen Dam Recreation Center is in Lake View Terrace south of I-210, and the Big Tujunga Wash and natural preserve areas are also within the neighborhood. Thus, much of this area has a less intensively developed character than other outlying city of Los Angeles communities. The Lake View Terrace neighborhood experienced a 7 percent increase in population from 2000 to 2008 from approximately 11,803 to 12,719 (Los Angeles Times 2017d).

Shadow Hills is south of the Tujunga Wash and Wentworth Street. Similar to the Lake View Terrace neighborhood, Shadow Hills is a largely residential area characterized by low-density residential development with the Verdugo Mountains immediately adjacent on the east side. The Shadow Hills neighborhood experienced a 9 percent increase in population from 2000 to 2008 from approximately 13,098 to 14,301 (Los Angeles Times 2017e).

The E2 Build Alternative alignment would traverse San Gabriel/Verdugo Mountains Scenic Preservation Specific Plan area at grade and on a viaduct within the Lake View Terrace neighborhood, enter a portal just after Wentworth Street, and continue underground through the Specific Plan Area until Glenoaks Boulevard. Other planned land uses within the alignment RSA in the Lake View Terrace and Shadow Hills neighborhoods include low-density residential, commercial, agriculture/open space/parks, and public facility/institutional land uses.

For these two neighborhoods, the Sunland-Tujunga-Lake View Terrace-Shadow Hills-East La Tuna Canyon Community Plan provides policies emphasizing neighborhood preservation and goals of maintaining the semi-rural, low-density residential character.

Sun Valley-La Tuna Canyon covers 10,618 acres of land, with existing land uses comprising a mix of single-family housing, open space, and industrial space. The neighborhood incorporates the highest concentration of mineral processing facilities in the city of Los Angeles, with rock and gravel mining operations, and cement and concrete processing (City of Los Angeles 1999). The Boulevard Mine site is south of San Fernando Road. The CalMat Mine site is south of the Hansen Dam Recreation Center, adjacent to Glenoaks Boulevard in Sun Valley. Planned land uses within the E2A RSA in Sun Valley-La Tuna include mostly industrial and low-density residential land uses.

As described in the Refined SR14 Build Alternative discussion, the Sun Valley neighborhood has a mix of existing land uses with medium- to high-density housing, and substantial areas of commercial and industrial land uses.

South of Olinda Street, the E2 Build Alternative within the Central Subsection would proceed toward the Burbank Airport Station and then extend just past Lockheed Drive, which is the southern limit of this subsection.

E2A Build Alternative

The E2A Build Alternative within the Central Subsection would be the same as the E2 Build Alternative except between Spruce Court and just south of Vincent View Road, near Vincent Substation. South of Spruce Court, the existing land uses are generally vacant, interspersed with low-density residential land uses. Existing and planned land uses for the E2A Build Alternative south of Vincent View Road would be identical to those for the E2 Build Alternative.

3.13.5.2 Burbank Subsection

Table 3.13-4 summarizes the existing land use composition of the RSA; Table 3.13-5 summarizes planned land uses. Separate data is not provided for the station-specific RSA, as the Burbank Airport Station RSA is almost identical to the Burbank Subsection RSA. The Burbank Subsection is depicted in Figure 3.13-8 and Figure 3.13-21.

Table 3.13-4 Existing Land Uses in the Burbank Resource Study Area

Build Alternative	Percent of Existing Land Uses within the RSA								
	Industrial	Commercial	Residential	Agricultural	Recreational	Public	Institutional	Railroads / Utilities	Vacant Land
Refined SR14, SR14A, E1, E1A, E2, E2A	20%	14%	7%	0%	<1%	54%	2%	1%	2%

Source: Los Angeles County Assessor 2017

¹ Acres of existing land use divided by total acreage of subsection RSA.

< = less than; RSA = resource study area

Table 3.13-5 Planned Land Uses in the Burbank Resource Study Area

Build Alternative	Percent of Designated Land Uses within the RSA								
	Industrial	Commercial	Medium-High-Density Residential	Low-Density Residential	Agricultural/Open Space	Angeles National Forest	Public Facility/Institutional	Right-of-Way	Specific Plan
Refined SR14, SR14A, E1, E1A, E2, E2A	80%	7%	1%	7%	1%	0%	4%	0%	0%

Sources: City of Burbank 2013; City of Los Angeles 2001; Los Angeles County 2015a

¹ Acres of planned land use divided by total acreage of subsection RSA.

RSA = resource study area

The Burbank Subsection is in the City of Burbank and the city of Los Angeles in the Sun Valley neighborhood. The City of Burbank is in the central portion of Los Angeles County, approximately 12 miles north of downtown Los Angeles. The northeastern part of the city lies along the foothills of the Verdugo Mountains and the western edge of the city is near the eastern part of the San Fernando Valley. Most of the city is developed with residential uses, with commercial and industrial uses generally concentrated along the I-5 corridor. Planned land uses within a 0.5-mile radius of the proposed Burbank Airport Station include mostly industrial and airport industrial related to the Hollywood Burbank Airport. In addition, the Avion Burbank Project (included in the proposed Golden State Specific Plan Area as a 60-acre opportunity site) is on 60 acres of land adjacent to the Hollywood Burbank Airport. It consists of a 1.25-million-square-foot campus including light industrial, office, retail, and hotel uses. The Avion Burbank Project is substantially complete, and it is reflected as an existing industrial land use.

The RSA includes the existing Metrolink corridor and a variety of industrial and commercial businesses related to the entertainment industry and aerospace engineering. Other commercial businesses, such as restaurants and hotels, are also scattered along the San Fernando Boulevard corridor.

As shown in Figure 3.13-21, the area surrounding the proposed Burbank Airport Station is mostly planned for industrial land uses. Planned residential uses are north of San Fernando Boulevard and southeast of the Hollywood Burbank Airport. Existing uses near the proposed Burbank Airport Station site include airport-related public facility and institutional uses, and industrial uses to the southwest of the proposed station site and residential uses to the north across the existing Metrolink right-of-way (Figure 3.13-8). To the southeast, existing uses include industrial and commercial uses, as well as some residential uses.

Within the RSA, the Burbank-Glendale-Pasadena Airport Authority is planning to relocate its passenger terminal to a new location on the airport site. This new terminal would replace the existing passenger terminal, which does not meet current Federal Aviation Administration standards. The preferred location of this new terminal is an undeveloped site in the northeast quadrant of the airport that is currently used for airport passenger and employee parking, movie equipment staging, and truck/recreational vehicle parking. A site on the southwest quadrant of the airport is also under consideration for the planned passenger terminal (Burbank-Glendale-Pasadena Airport Authority 2016). The Hollywood Burbank Airport Terminal Replacement project was approved by City of Burbank voters under Measure B in November 2016. The B-6 Parcel is a former portion of the 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, Final EIS, and Record of Decision have been completed for this project. 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.

The City of Burbank is planning for the proposed HSR station near the Hollywood Burbank Airport Metrolink Station and is continuing to coordinate with the Authority to develop a comprehensive vision for the station area. 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 HSR multimodal station. The planning area is expected to encompass approximately 600 acres of industrial, commercial, and residential land, with the goal of enhancing multimodal development and fostering seamless access between the proposed HSR station and the city. The plan may incorporate findings from the 2014 Link Burbank land use and urban design study, *Strategies for Continued Prosperity in the Bob Hope Airport Area* (Los Angeles County Metropolitan Transportation Authority [Metro] 2014). The study proposes conceptual alternatives that may be further explored during the planning effort of the *Golden State Specific Plan*.

3.13.6 Environmental Consequences

3.13.6.1 Overview

This section evaluates the impacts on land use that would result from the implementation of No Project Alternative and all six Build Alternatives. The Refined SR14, SR14A, E1, E1A, E2, and E2A Build Alternatives would generally result in similar types of impacts (listed below), but the degree of effect would vary by Build Alternative and by location. Within Section 3.13.6.1, impacts LU#1, LU#2, LU#3, and LU#4 address construction-related effects while impacts LU#5 and LU#6 address operations effects separately for the Refined SR14, SR14A, E1, E1A, E2, and E2A Build Alternatives, as follows:

- **Construction Impacts**

- Impact LU#1: Temporary Alternations to Existing and Planned Land Uses from Construction Staging Areas.

- Impact LU#2: Temporary Alterations to Existing Land Use Patterns from Construction Activities.
- Impact LU#3: Permanent Alterations to Existing and Planned Land Uses from Construction of the Build Alternatives.
- Impact LU#4: Unplanned Population Growth Due to Temporary Construction Employment.
- **Operations Impacts**
 - Impact LU#5: Indirect Effects to Existing and Planned Land Use Patterns from Project Operations.
 - Impact LU#6: Substantial Unplanned Growth from Permanent Employment Associated with Project Operations.

3.13.6.2 No Project Alternative

The No Project Alternative is based on a review of city and county general plans, regional transportation plans for all modes of travel, and agency-provided lists of pending and approved projects within Los Angeles County, including the cities contained in the RSA. In assessing future conditions, it was assumed that all currently known, programmed, and funded improvements to the intercity transportation system (highway, rail, and transit) and reasonably foreseeable local development projects (with funding sources already identified) would be developed as planned by 2040. Such projects are generally planned in Palmdale, Burbank, Los Angeles, and other areas with existing development. Under the No Project Alternative, minimal developed uses are proposed within the ANF. Vulcan Mine, which is within the ANF, is a sand and gravel mining operation. The operators of Vulcan Mine are responsible for the restoration and reclamation of the site. As such, the site would be readily adaptable for alternative land uses once it is no longer used for mineral resource extraction and reclamation has been completed, provided that the alternative land uses are consistent with ANF planning documents (California Department of Conservation 2019). Under the No Project Alternative, spoils that would otherwise be generated from construction of the Build Alternative would not be available to fill Vulcan Mine.

Because some of these future projects are in the early planning process, specific impacts cannot always be determined, but each project would require compliance with CEQA and with NEPA, if the projects involve federal funding or require federal approvals.

As discussed in Chapter 1, Project Purpose, Need, and Objectives, and Section 3.18, Regional Growth, the population of Los Angeles County is expected to continue increasing. For the No Project Alternative, population growth is anticipated to be commensurate with regional growth forecasts.

Local and regional growth management and land use plans encourage infill and higher-density development in urban areas and concentration of future land uses, such as residential and commercial around transit corridors, which would help reduce the conversion of land in general. As discussed in Table 3.13-1, the general plans of Palmdale and Burbank include policies that anticipate and seek to accommodate the California HSR System as a critical element in meeting local land use goals. Therefore, the No Project Alternative could result in local jurisdictions facing more difficulty in achieving desired higher-density development. Other unfulfilled goals that would result from the No Project Alternative are discussed throughout Chapter 3.

3.13.6.3 Build Alternatives

Construction Impacts

Impact LU#1: Temporary Alterations to Existing and Planned Land Uses from Construction Staging Areas.

Construction of all six Build Alternatives would require the temporary use of land for construction staging areas. The existing uses in these areas would be temporarily removed to allow for

construction. On completion of construction, these areas would not be needed for long-term operation or maintenance purposes. Table 3.13-6 and Table 3.13-7 summarize the temporary conversion of existing and planned land uses, respectively. Of all six Build Alternatives, the Refined SR14 and SR14A Build Alternatives would temporarily convert the most land for construction staging areas; the E1 and E1A Build Alternatives would temporarily convert the least land for construction staging areas. Permanent impacts involving the displacement of land uses and structures are discussed in Impact LU#3.

The following discussion outlines temporary land conversions for staging areas in the Central Subsection for all six Build Alternatives. Within the Burbank Subsection, the Build Alternatives would not include specific construction staging areas because it is assumed that the construction activities would be accommodated within the permanent footprint, which includes substantial areas for HSR station parking.

Table 3.13-6 Construction Staging Areas with Temporary Existing Land Use Effects

Subsection/ Build Alternative	Acres of Existing Land Uses Subject to Temporary Land Use Effects									
	Industrial	Commercial	Residential	Agricultural	Recreational	Public	Institutional	Railroads / Utilities	Vacant Land	Total
Central ¹										
Refined SR14	<1	<1	24 – 41	8	0	1 – 2	8	1	65 – 77	108 – 129
SR14A	<1	<1	10 – 27	3	0	0 – <1	8	0	80 – 93	102 – 120
E1	<1 – 2	0 – <1	28 – 62	8	0	1 – 2	0	1 – 2	27 – 40	66 – 117
E1A	0 – <1	0 – <1	48 – 63	3	0	0 – <1	0	0	59 – 75	110 – 144
E2	0	0 – <1	32 – 63	8	0	1	0 – <1	1	32 – 47	74 – 122
E2A	0	0	35 – 64	3	0	0 – <1	0 – <1	0	46 – 61	84 – 130
Burbank ²	No construction staging areas are proposed within the Burbank Subsection outside of the permanent footprint.									

Source: Los Angeles County Assessor 2017

¹ As described in Chapter 2, there are several potential adit and intermediate window combinations for each Build Alternative within the Central Subsection. This table calculates impact acreages for the range between the base footprint, which includes only the non-optional adits and intermediate windows, and the maximum footprint, including potential (optional) adits and intermediate windows.

² There would be no temporary impacts within the Burbank Subsection because it is assumed that the construction activities would be accommodated within the permanent footprint or within proposed parking areas.

< = less than

Table 3.13-7 Construction Staging Areas with Temporary Planned Land Use Effects

Subsection/ Build Alternative	Acres of Designated Land Uses Subject to Temporary Land Use Effects									
	Industrial	Commercial	Medium-High-Density Residential	Low-Density Residential	Agricultural/Open Space	Angeles National Forest ¹	Public Facility/	Right-of-Way	Specific Plan	Total
Central ¹										
Refined SR14 ²	<1 – 12	<1	0	82 – 97	1 – 5	6 – 33	17	0	0	107 – 163
SR14A ²	<1 - 12	11	0	69 – 84	<1 - 4	6 – 33	8 – 9	0	0	96 – 153
E1	<1 – 12	0	0	53	1	<1 – 27	11 – 15	0	0	67 – 108
E1A	0	11	0	81 – 96	1	<1 – 27	9	0	0	103 – 144
E2	0	0	0	56	<1	<1 – 32	12	0	0	70 – 101
E2A	0	11	0	65	<1	<1 – 32	6	0	0	84 – 115
Burbank	No construction staging areas are proposed within the Burbank Subsection outside of the permanent footprint of any of the Build Alternatives.									

Sources: City of Burbank 2013; City of Los Angeles 2001; Los Angeles County 2015a

¹ As described in Chapter 2, there are several potential adit and intermediate window combinations for each Build Alternative within the Central Subsection. This table above calculates impact acreages for the range between the base footprint, which includes only the non-optional adits and intermediate windows, and the maximum footprint, including potential (optional) adits and intermediate windows.

² Construction staging areas within the ANF for the Refined SR14 and SR14A Build Alternatives would be classified as “Developed Area Interface.” < = less than

Although construction staging areas would temporarily convert planned land uses during the construction period, these areas would not permanently conflict with adjacent land use patterns. The lands used for construction staging areas would be restored after construction to the same condition as found before construction started or as negotiated with the property owner. Accordingly, long-term land uses, adjacent land uses, and long-term land use patterns and intensities would not change.

Central Subsection

IAMFs included in project design will address temporary land conversions for staging areas in the Central Subsection for all six Build Alternatives. SOCIO-IAMF#1 will require preparation and execution of a Construction Management Plan to make construction staging areas more consistent with surrounding land uses. TR-IAMF#3 will require the contractor to identify adequate off-street parking for all construction-related vehicles throughout the construction period to minimize impacts on public on-street parking areas at surrounding land uses. LU-IAMF#3 will require the contractor to prepare a restoration plan addressing specific actions necessary to restore construction staging areas in accordance with the land use designation in effect at the end of the construction period. With implementation of LU-IAMF#3, the affected land will be returned to its prior use or used for another purpose consistent with surrounding land use patterns. As such, any change in land use patterns inconsistent with adjacent land uses as a result of construction staging areas would be temporary in nature.

Refined SR14 Build Alternative

For the Refined SR14 Build Alternative Central Subsection, construction staging areas would be adjacent to the right-of-way (ROW) just north of Sierra Hills Lane, north of Sierra Highway at Canfield Street, to either side of Red Rover Mine Road, Big Springs Road, along Sierra Highway

and Escondido Canyon Road, just west of Agua Dulce Canyon Road, near Lang Station Road, and south of the Pacoima Reservoir at the I-210/SR 118 interchange (Figure 3.13-27).

The Refined SR14 Build Alternative would involve use of 5.84 acres of lands within the ANF and SGMNM for the construction staging area associated with the tunnel portal at the Vulcan Mine site. Each of the adits proposed as part to the Refined SR14 Build Alternative, including those considered optional, would involve the use of construction staging areas. The construction staging area near the I-210/SR 118 interchange would be in a developed area designated for public facility/institutional and industrial uses and would potentially require demolition of existing structures. The demolition of said structures would be negotiated with the property owner through the temporary construction easement agreement prior to the start of construction activities. Construction staging would temporarily convert land designated for public facility/institutional and industrial uses to a transportation use. The easement agreement negotiation would address how the property would be restored after temporary staging use, understanding that future use of the property would need to be consistent with existing general plan designation and zoning.

SR14A Build Alternative

For the SR14A Build Alternative Central Subsection, construction staging areas would be in the same areas as the Refined SR14 Build Alternative (Figure 3.13-27). Temporary construction staging areas within the ANF including SGMNM for the SR14A Build Alternative would be the same as those proposed for the Refined SR14 Build Alternative. Table 3.13-6 and Table 3.13-7 show the extent to which temporary impacts to existing and planned land uses for the SR14A Build Alternative would deviate from the Refined SR14 Build Alternative.

E1 Build Alternative

Within the E1 Central Subsection, construction staging areas would be adjacent to the ROW just north of Sierra Hills Lane, west of Sierra Highway near East Barrel Springs Road, northeast of Aliso Canyon Road, just south of Little Tujunga Canyon Road, and northeast of the I-210 interchange. The E1 Build Alternative would require the use of construction staging areas associated with construction of tunnel portals on either side of Aliso Canyon Creek. Each of the adits proposed as part to the E1 Build Alternative, including those considered optional, would involve the use of construction staging areas. As depicted in Figure 3.13-27, the E1 Build Alternative would have the same construction staging area near the I-210/SR 118 interchange, as described for the Refined SR14 Build Alternative above.

E1A Build Alternative

For the E1A Build Alternative Central Subsection, construction staging areas would be in the same areas to the E1 Build Alternative (Figure 3.13-27). Temporary construction staging areas within the ANF including SGMNM for the E1A Build Alternative would be the same as those proposed for the E1 Build Alternative. Table 3.13-6 and Table 3.13-7 show the extent to which temporary impacts to existing and planned land uses for the E1A Build Alternative would deviate from the E1 Build Alternative.

E2 Build Alternative

Within the E2 Central Subsection, construction staging areas would be adjacent to the ROW just north of Sierra Hills Lane, west of Sierra Highway near East Barrel Springs Road, northeast of Aliso Canyon Road, between Edison Road and Arrastre Canyon Road, along Gold Creek Road, just north of the I-210 interchange, north of Wheatland Avenue in Shadow Hills, and at the intersection of Wicks Street and Dronfield Avenue (Figure 3.13-28). The E2 Build Alternative would require the use of construction staging areas associated with construction of tunnel portals on either side of Aliso Canyon Creek. Each of the adits proposed as part to the E2 Build Alternative, including those considered optional, would involve the use of construction staging areas. Temporary construction staging areas would be on Back Country land for E2-A1 and Back Country Non-Motorized for E2-A2. The Back-Country Non-Motorized designation limits human use and infrastructure to low level usage, meaning that adit E2-A2 would likely be inconsistent with the ANF LMP and the SGMNM LMP in Back Country Non-Motorized areas.

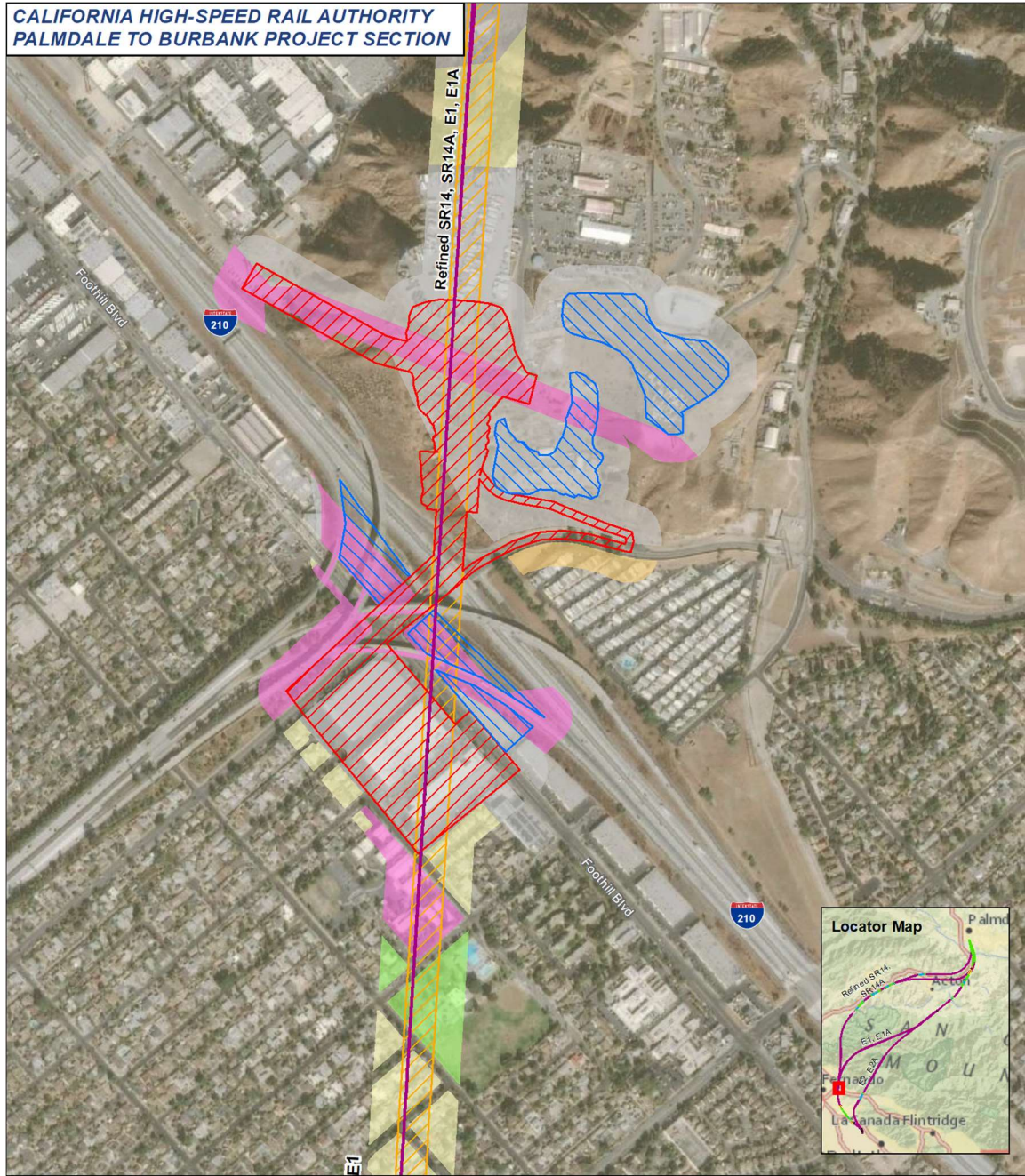
E2A Build Alternative

For the E2A Build Alternative Central Subsection, construction staging areas would be in the same areas as the E2 Build Alternative (Figure 3.13-28). Temporary construction staging areas within the ANF including SGMNM for the E2A Build Alternative would be the same as those proposed for the E2 Build Alternative. Table 3.13-6 and Table 3.13-7 show the extent to which temporary impacts on existing and planned land uses for the E2A Build Alternative would deviate from the E2 Build Alternative.

CEQA Conclusion

Although construction of all six Build Alternatives would require the temporary use of land for construction staging areas, these areas will be restored after construction to pre-construction conditions or in accordance with the land use designation in effect at the end of the construction period (LU-IAMF#3). Although the demolition of existing structures for construction staging areas (discussed in Impact LU #3), such as those at the I-210 interchange with SR 118 (Refined SR14, SR14A, E1, E1A) or residential structures in Lake View Terrace (E2, E2A), could have temporary noise, air quality, and traffic impacts on adjacent land uses with sensitive receptors (discussed in Impact LU #2), the designated existing and/or planned land use would not change. Therefore, the six Build Alternatives' use of construction staging areas would not permanently conflict with adjacent land uses or land use patterns.

Implementation of SOCIO-IAMF#1, TR-IAMF#3, and LU-IAMF#3 will make construction staging areas more consistent with surrounding land uses, minimize impacts on public on-street parking areas at surrounding land uses, and return affected areas to their prior use or to a use consistent with local zoning and the surrounding land use patterns. With implementation of SOCIO-IAMF#1, TR-IAMF#3, and LU-IAMF#3, these impacts would result in less than significant impacts related to temporary changes to land use patterns that would be inconsistent with adjacent land uses under CEQA for the Refined SR14, SR14A, E1, E1A, E2, and E2A Build Alternatives. Therefore, CEQA does not require any mitigation.



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
 Source: Authority, 2020; Burbank GIS, 2016; Burbank GIS, 2016; City and County of Los Angeles GIS, 2016; Palmdale GIS, 2016; Santa Clarita GIS, 2016; Bing, 2021
 May 21, 2021



Figure 3.13-27 Construction Staging Areas in Developed Areas— Refined SR14, SR14A, E1, and E1A Build Alternatives

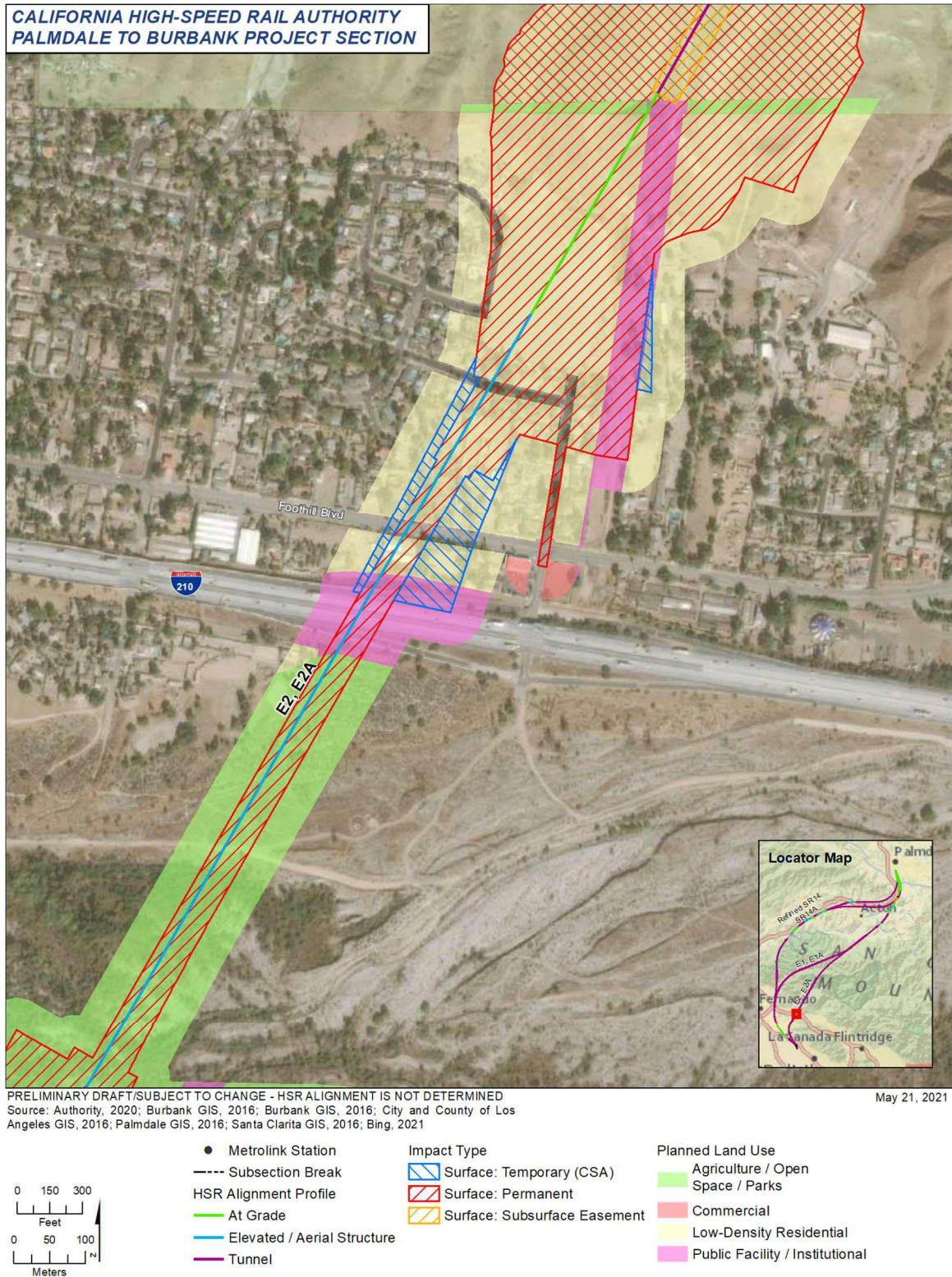


Figure 3.13-28 Construction Staging Areas in Developed Areas— E2 and E2A Build Alternative

Impact LU#2: Temporary Alterations to Existing Land Use Patterns from Construction Activities.

Construction activities, including earthwork, excavation, tunneling, and installation of HSR facilities, would result in temporary noise level increases, dust, and traffic impacts to the surrounding area. Additionally, construction would cause temporary and intermittent access disruption. This analysis considers the potential for these construction activities to indirectly affect existing land use patterns.

As discussed in Section 3.4, Noise and Vibration, construction equipment and vehicles (for example, clearing, grading, track installation) would temporarily generate noise and vibration. Noise generated during construction would affect residential, commercial, and public land uses near the Build Alternative alignment. For example, construction noise effects are projected along Soledad Canyon Road (Refined SR14, SR14A, E1, E1A), Agua Dulce Canyon Road (Refined SR14, SR14A), Foreston Drive (E1, E1A, E2, E2A), and within other portions of Agua Dulce (Refined SR14, SR14A) and Acton (Refined SR14, SR14A, E1, E1A). Residential areas north of San Fernando Road within the Burbank Subsection could be subject to construction-related noise effects. During construction, some activities such as drilling for bored-pile viaduct foundations, excavation for trenching and vibro-compaction for ground improvements, may cause ground-borne vibration. Although it is unlikely that such equipment would be used close enough to sensitive structures to cause substantial damage, there could be potential for vibration annoyance or interference with the use of sensitive equipment. There is also potential for construction vibration impacts in areas where tunnels would be bored underground beneath residences and other vibration-sensitive buildings. Per NV-IAMF#1, the contractor will prepare a noise and vibration technical memorandum documenting how construction noise and vibration minimization measures will be employed while work is being conducted within 1,000 feet of sensitive receptors.

Temporary road closures and traffic detours would disrupt access to commercial, residential, and public uses throughout the construction period. As summarized in Section 3.2, Transportation, spoils hauling would temporarily affect roadway segments, intersections, ramp queuing, freeway segments, transit services, and nonmotorized modes of transportation. Spoils hauling however would be temporary and with proper implementation of mitigation measures described in Section 3.2.6.3, Transportation, impacts would not result in permanent modifications to the circulation network within the project area. As outlined in TR-IAMF#2, the construction contractor will prepare a Construction Transportation Plan to minimize construction traffic on adjoining and nearby roadways. This plan will implement temporary signage and flag persons to alert drivers and pedestrians of the construction zone and divert traffic to identified detour routes. Provisions to minimize access disruption to residents, businesses, pedestrians, bicycles, delivery vehicles, and buses will be implemented where short-term road closures are required during construction.

Sun Valley, Lake View Terrace (E2 and E2A only), and portions of Burbank near the Hollywood Burbank Airport would be the communities most disrupted by road closures and traffic detours during construction of the Build Alternatives. However, the Authority's Construction Management Plan (SOCIO-IAMF#1) will direct all street users around the construction, enabling them to access their destinations. These detours will be within urban areas, making them shorter as multiple nearby streets traffic could be rerouted to. TR-IAMF#3 would further reduce construction period effects on surrounding land uses by requiring the contractor to identify adequate off-street parking for all construction-related vehicles throughout the construction period.

Construction of all six Build Alternatives could result in air quality and electromagnetic interference–related impacts, which could affect surrounding land uses. Adherence to IAMFs such as AQ-IAMF#1, AQ-IAMF#2, and EMI/EMF-IAMF#2 will minimize and control fugitive dust emissions, require volatile organic compound (VOC) paint coatings with less than 10 percent of VOC contents, and require the preparation of an electromagnetic field/electromagnetic interference technical memorandum with design practices that will avoid electromagnetic interference and provide for HSR construction safety. Although construction of the Palmdale to Burbank Project Section would disrupt residents, businesses, and individual property owners, these effects would be temporary and would not substantially affect the quality of life of neighborhood residents. These effects of construction are not expected to cause extensive changes to existing land use patterns.

CEQA Conclusion

Construction activities would result in temporary noise level increases, increases in dust, temporary and intermittent disruption of access, and air quality and electromagnetic interference-related impacts on the surrounding land uses. These construction-related effects have the potential to temporarily cause conflicts with the existing land uses surrounding construction activities. Noise generated during construction would affect residential, commercial, and public land uses near the Build Alternative alignment and portions of Agua Dulce and residential areas north of San Fernando Road within the Burbank Subsection. Temporary road closures and detours would interfere with surrounding areas' access to commercial, residential, and public uses within the construction area. Construction activities could also result in air quality and electromagnetic interference-related impacts to areas surrounding the construction area. However, with implementation of NV-IAMF#1, TR-IAMF#2, SOCIO-IAMF#1, TR-IAMF#3, AQ-IAMF#1, AQ-IAMF#2, and EMI/EMF-IAMF#2, construction activities will not temporarily affect existing land use patterns. Therefore, this impact would be less than significant for the Refined SR14, SR14A, E1, E1A, E2, and E2A Build Alternatives, and CEQA does not require any mitigation.

Impact LU#3: Permanent Alterations to Existing and Planned Land Uses from Construction of the Build Alternatives.

Implementation of all six Build Alternatives would result in the permanent conversion of land from non-transportation uses to transportation uses. This conversion of existing land uses to transportation uses could result in inconsistencies with adjacent land uses due to incompatibilities with community planned land uses and could permanently alter existing land use patterns or sensitive land uses.²

Permanent surface impact areas would include lands acquired for railroad ROW or for ancillary features (stations, power facilities, tunnel portals, permanent access roads, etc.), which would change the acquired land use into transportation use. Additionally, the Palmdale to Burbank Project Section would require electric and water utility lines to connect to such ancillary features. Wherever feasible, the design of the Palmdale to Burbank Project Section would propose placing utility lines within existing rights-of-way and minimize the conversion of forested and open space areas to transportation use. Permanent subsurface impacts would primarily result from tunneling, which would require underground easements. However, subsurface easements would not change surface land uses.

Table 3.13-8 quantifies total surface impacts and subsurface easements for all six Build Alternatives. Table 3.13-9 summarizes permanent surface impacts on existing land uses, by land use type. Impacts on planned land uses are summarized Table 3.13-10. A discussion of land conversions by subsection and Build Alternative follows Table 3.13-10.

² Sensitive land uses are where people are most likely to congregate, such as residential areas, parks, or schools.

Table 3.13-8 Total Surface Impact and Subsurface Easement (in acres)

Subsection	Total by Alternative (acres) ¹					
	Refined SR14	SR14A	E1	E1A	E2	E2A
Surface Impact						
Central ²	1,437 – 1,519	1,168 – 1,250	1,155 – 1,210	999 – 1,049	1,109 – 1,132	906 – 918
Burbank	78	78	78	78	78	78
Total	1,515 – 1,597	1,246 – 1,328	1,233 – 1,288	1,077 – 1,127	1,187 – 1,210	984 – 996
Subsurface Easement						
Central ²	559 – 565	418 – 437	394 – 398	406 – 407	370 – 379	372 – 382
Burbank	0	0	0	0	0	0
Total	559 – 565	418 – 437	394 – 398	406 – 407	370 – 379	372 – 382

Source: Authority 2020

¹ Where surface and subsurface impacts would coincide, the surface impact supersedes the subsurface impact. For example, while the Burbank Airport Station would be almost entirely underground, surface impacts from cut-and-cover tunneling supersede the subsurface easement impacts in this area. Thus, this table shows 0 acres of subsurface impacts in the Burbank Subsection.

² As described in Chapter 2, there are several potential adit and intermediate window combinations for each Build Alternative within the Central Subsection. This table calculates impact acreages for the range between the base footprint, which includes only the non-optional adits and intermediate windows, and the maximum footprint including potential (optional) adits and intermediate windows.

Table 3.13-9 Build Alternative Effects on Existing Land Uses

Build Alternative/ Subsection	Acres of Existing Land Uses Subject to Permanent Surface Land Use Effects									Total by Subsection ²
	Industrial	Commercial	Residential	Agricultural	Recreational	Public	Institutional	Railroads / Utilities	Vacant Land	
Refined SR14										
Central ¹	126 – 139	12 – 15	140 – 148	13	<1	81	7	146	910 – 969	1,437 – 1,519
Burbank	72	6	0	0	0	58	0	1	1	138
SR14A										
Central ¹	125 – 138	13 – 16	65 – 73	17	<1	45	7	100	795 – 854	1,168 – 1,250
Burbank	72	6	0	0	0	58	0	1	1	138
E1										
Central ¹	83 – 95	13 – 16	149 – 158	<1	<1	64 – 65	1	186 – 187	643 – 672	1,141 – 1,196
Burbank	72	6	0	0	0	58	0	1	1	138
E1A										
Central ¹	80 – 92	12 – 15	137 – 143	5	<1	56	1 – 13	131	577 – 594	1,000 – 1,050
Burbank	72	6	0	0	0	58	0	1	1	138

Build Alternative/ Subsection	Acres of Existing Land Uses Subject to Permanent Surface Land Use Effects									Total by Subsection ²
	Industrial	Commercial	Residential	Agricultural	Recreational	Public	Institutional	Railroads / Utilities	Vacant Land	
E2										
Central ¹	20	6 – 7	184 – 189	<1	<1	35	0 – 1	156	690 – 700	1,093 – 1,110
Burbank	72	6	0	0	0	58	0	1	1	138
E2A										
Central ¹	18	5	175 – 176	5	<1	27	0 – 1	102	574 – 586	906 – 920
Burbank	72	6	0	0	0	58	0	1	1	138

Source: Los Angeles County Assessor 2017

¹ As described in Chapter 2, Alternatives, there are several potential adit and intermediate window combinations for each Build Alternative within the Central Subsection. The table above calculates acreages of impact for the range between the base footprint, which includes only the non-optional adits and intermediate windows, and the maximum footprint including potential (optional) adits and intermediate windows.

² The total acres of existing land uses subject to permanent surface land use effects in the Central Subsection will not equal the total acres of planned land uses subject to permanent surface land use effects, as each of these is calculated using different source material.

< = less than

Table 3.13-10 Build Alternative Effects on Planned Land Uses

Build Alternative/ Subsection	Acres of Designated Land Uses Subject to Permanent Surface Land Use Effects									Total by Subsection ²
	Industrial	Commercial	Medium-High-Density Residential	Low-Density Residential	Agricultural/Open Space	ANF including SGMNM	Public Facility/Institutional	Right-of-Way	Specific Plan	
Refined SR14										
Central ¹	124 – 130	40	<1	787 – 788	236	216 – 288	113 – 114	4	0	1,521 – 1,601
Burbank	17	0	0	0	0	0	1	0	0	18
SR14A										
Central ¹	106 – 113	26	3	586	170	216 – 288	103 – 104	3	0	1,213 – 1,293
Burbank	17	0	0	0	0	0	1	0	0	18
E1										
Central ¹	118 – 133	47	1	632	185	95 – 109	134 – 140	0	0	1,212 – 1,247
Burbank	17	0	0	0	0	0	1	0	0	18
E1A										
Central ¹	128 – 135	21	3	506	165	95 – 109	120	0	0	1,038 – 1,059
Burbank	17	0	0	0	0	0	1	0	0	18

Build Alternative/ Subsection	Acres of Designated Land Uses Subject to Permanent Surface Land Use Effects									Total by Subsection ²
	Industrial	Commercial	Medium-High-Density Residential	Low-Density Residential	Agricultural/Open Space	ANF including SGMNM	Public Facility/Institutional	Right-of-Way	Specific Plan	
E2										
Central ¹	55	44	1	680 – 681	164	83 – 102	78	0	0	1,105 – 1,125
Burbank	17	0	0	0	0	0	1	0	0	18
E2A										
Central ¹	61	19	0 – <1	555	143	83 – 102	59	0	0	920 – 940
Burbank	17	0	0	0	0	0	1	0	0	18

Sources: City of Burbank 2013; City of Los Angeles 2001; City of Palmdale 2022; Los Angeles County 2015a; USFS 2016

¹ As described in Chapter 2, there are several potential adit and intermediate window combinations for each Build Alternative within the Central Subsection. This table calculates impact acreages for the range between the base footprint, which includes only the non-optional adits and intermediate windows, and the maximum footprint including potential (optional) adits and intermediate windows.

² The total acres of existing land uses subject to permanent surface land use effects in the Central Subsection will not equal the total acres of planned land uses subject to permanent surface land use effects, as each of these are calculated utilizing different source material.
< = less than

Central Subsection

Refined SR14 Build Alternative

The Refined SR14 Build Alternative alignment would traverse more than 30 miles through the Central Subsection. Work within the ANF, including the SGMNM, would include tunnel construction, deposition of tunnel spoils at the Vulcan Mine site from tunnel excavation, and the construction of one of three adit options, SR14-A1. Tunnel spoils would be used at the Vulcan Mine site to reconstruct the site to match the surrounding topography. Reclamation of Vulcan Mine would be a responsibility of the Vulcan Mine leaseholders. With the exception of one section of at-grade covered tunnel, permanent aboveground facilities associated with the portal area would be outside of the ANF boundaries (see Figure 3.13-29). More information on spoils is included in Chapter 2, Alternatives. Most of this land within the ANF, including the SGMNM, (approximately 216 acres within the permanent footprint) is currently designated for Developed Area Interface, which allows for some roadway-related infrastructure improvements. USFS requires a Special Use Authorization for uses of USFS lands. As part of that process, USFS would evaluate the consistency of the proposed use with its planned land use designations.

Other work within the ANF, including areas within the SGMNM, could include one of the three adit options, SR14-A1, which is on a private in-holding near Little Tujunga Canyon Road. This adit contains existing non-forest uses such as residential structures (Figure 3.13-30) and would add utilities (water and electricity) and ventilation/access buildings to the adit location. The Back Country land use designation that this adit resides within allows for low to moderate levels of human use and infrastructure, making the adit structure inconsistent with uses permitted within this land use designation. However, the structure and related utilities would be akin to existing development within the private in-holding where it would be sited. Adit option SR14-A1 is discussed further in Appendix 3.1-B, USFS Policy Consistency Analysis. Two other Refined SR14 and SR14A Build Alternative adit options would be outside of the ANF boundaries (Figure 3.13-31).

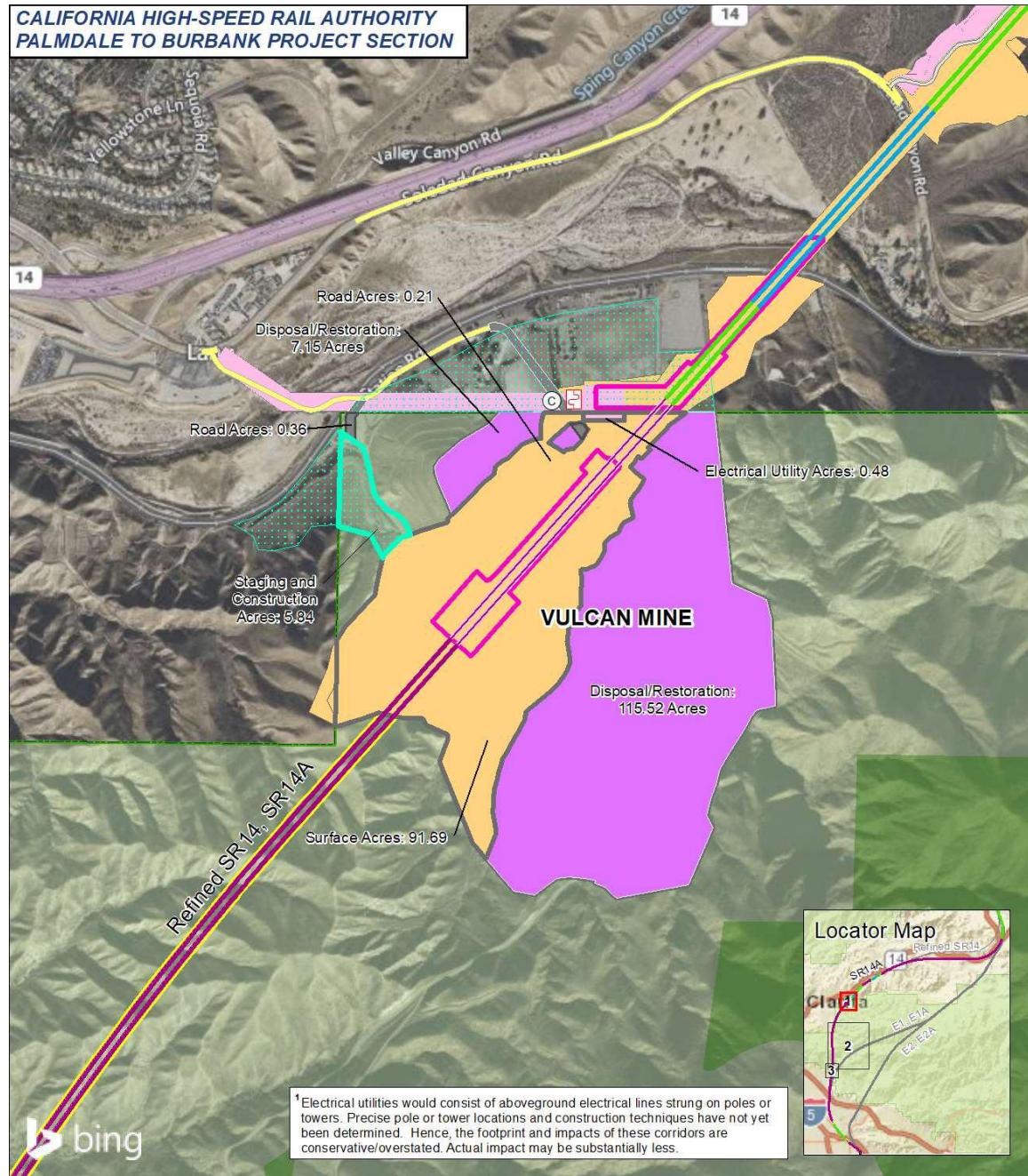
South of the ANF, the alignment would traverse the Los Angeles neighborhoods of Pacoima and Sun Valley in route to the Burbank Subsection. Within the Pacoima neighborhood, the alignment would advance underground in a bored tunnel until just after Montague Street, where it would

transition to a below-grade trench. Between Montague Street and Branford Street, some of the existing commercial and industrial uses would be converted to transportation use. At-grade track would be built in a currently undeveloped area to the southeast of Branford Street, passing over the existing Hansen Spreading Grounds on embankment before crossing over the Los Angeles County Flood Control Channel on a bridge and entering the existing Metrolink corridor near Sheldon Street. Continuing along the east side of the Metrolink Corridor, the Refined SR14 Build Alternative alignment would continue southerly at grade for approximately 1.0 mile where it would cross over Tuxford Street and under the I-5 freeway. Continuing southeast from the I-5 undercrossing, the Refined SR14 alignment would transition below-grade in an open trench to just north of Olinda Street. From just north of Olinda Street, the Refined SR14 Central Subsection would continue underground until reaching the southern limit of this subsection, Lockheed Drive.

SR14A Build Alternative

The SR14A Build Alternative would be same as the Refined SR14 Build Alternative within the Central Subsection, except between Spruce Court and the Vulcan Mine. The SR14A Build Alternative alignment would traverse more than 30 miles through the Central Subsection. South of Avenue R, the SR14A Build Alternative alignment would diverge from the Refined SR14 Build Alternative and continue south, approximately 300 feet east of Una Lake, through existing low- and medium-density residential land uses. Planned land uses identified for at-grade portions of the alignment in this area include low-density residential, public facility/institutional, and agriculture/open space/parks. South of Una Lake, the SR14A Build Alternative alignment would curve westward, cross over the Southern California Regional Rail Authority (SCRRA) Antelope Valley Line, Sierra Highway, and the Soledad Siphon, and continue southwest and enter a tunnel portal approximately 0.5 mile northeast of the Sierra Highway/Pearblossom Highway intersection. The SR14A Build Alternative alignment would then continue westward, in an approximately 13-mile-long tunnel, before surfacing approximately 0.75 mile east of Agua Dulce Canyon Road. The tunnel portion of the SR14A Build Alternative would traverse through low-density residential, commercial, and agricultural/open space land use. The alignment would transition between at-grade and elevated profiles in an area interspersed with low-density residential, medium- to high-density residential, and agricultural/open space existing land uses. Planned land uses for at-grade portions of the alignment in this area would include low-density residential and agriculture/open space/parks. The alignment would continue to parallel Sierra Highway before entering an approximately 1-mile-long tunnel. Transitioning from tunnel to at grade, the SR14A Build Alternative alignment would converge with the Refined SR14 Build Alternative alignment at the Vulcan Mine site. The remaining SR14A Build Alternative alignment south of the Vulcan Mine site would be identical to the Refined SR14 Build Alternative alignment. Construction for the SR14A Build Alternative within the ANF, including the SGMNM, would be the same as that for the Refined SR14 Build Alternative.

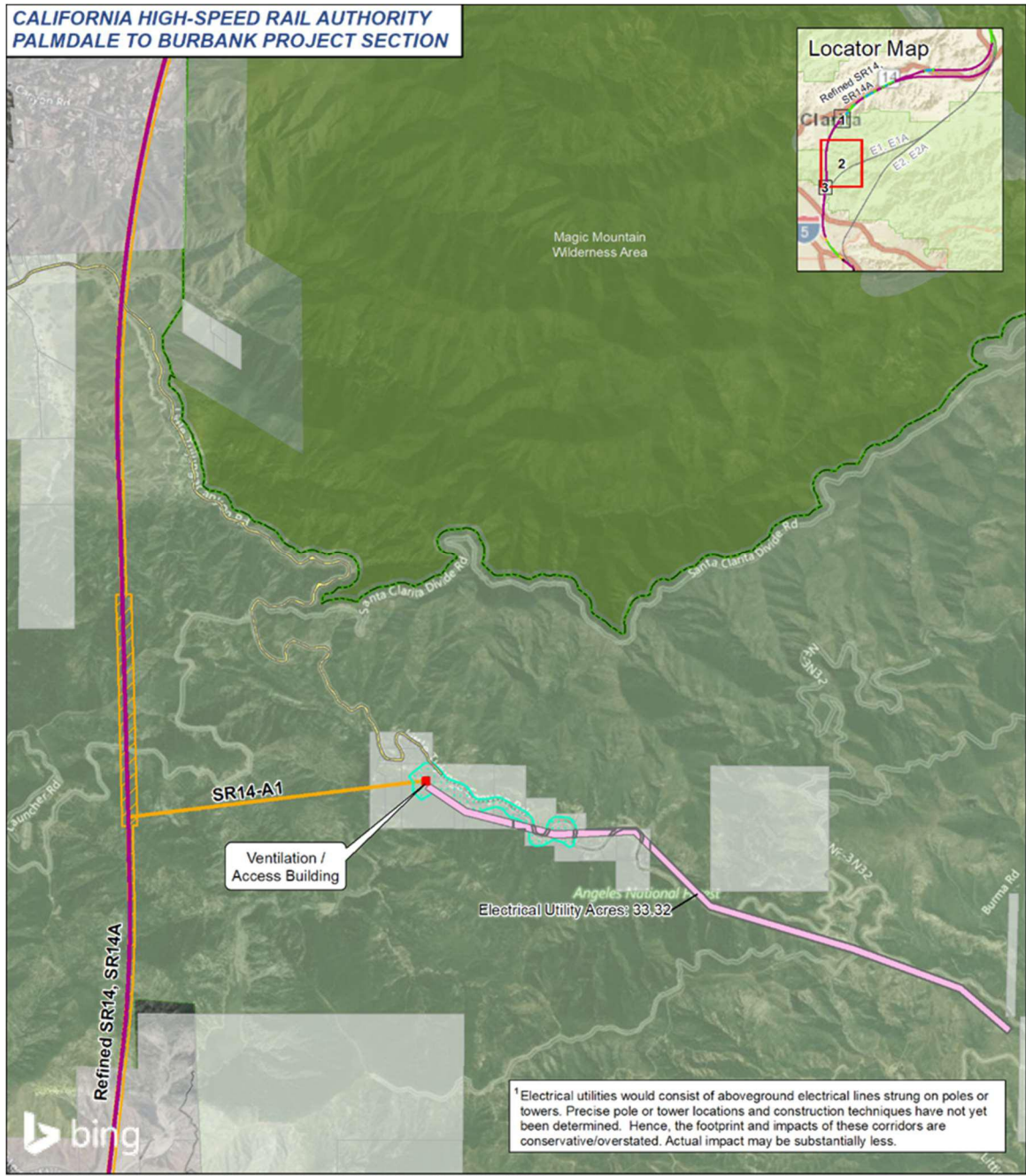
Where the SR14A Build Alternative would diverge from the Refined SR14 Build Alternative, approximately 300 feet east of Una Lake curving southwest through a tunnel and surfacing approximately 0.75 mile east of Agua Dulce, land uses would be converted to a transportation land use. The conversion of these land uses would be incompatible with existing and planned land uses including low- to high-density residential, public facility/institutional, and agriculture/open space/parks. This conversion would allow the Build Alternative alignments to avoid traversing Una Lake on an embankment. As described in Section 3.7, Biological and Aquatic Resources, because Una Lake is adjacent to Lake Palmdale and because of historic and current hydrologic connectivity to Lake Palmdale, a United States Army Corps of Engineers-approved jurisdictional determination including Una Lake as a Water of the United States was made in June 2013 (USACE 2013).



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
 Source: Authority, 2023; Bing, 2020
 January 15, 2024

	HSR Alignment Profile At Grade At Grade Covered Elevated / Aerial Structure Tunnel	Impact Type Tunnel Portal Temporary Utility: Water Permanent Utility: Electrical ¹ Permanent: Surface Permanent: Disposal/Restoration	Roads Subsurface Easement Temporary Staging or Construction Area Communication Tower * Traction Power Facility* * Locations indicated are not final.	USFS Lands Angeles National Forest Magic Mountain Wilderness Areas San Gabriel Mountains National Monument
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Figure 3.13-29 Refined SR14 Build Alternative – Vulcan Mine



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
 Source: Authority, 2020; Bing, 2020

July 1, 2020

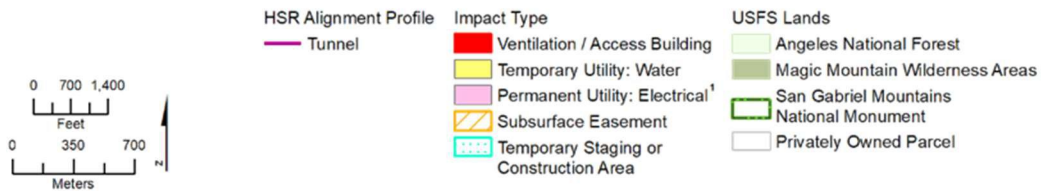


Figure 3.13-30 Optional Adit SR14-A1

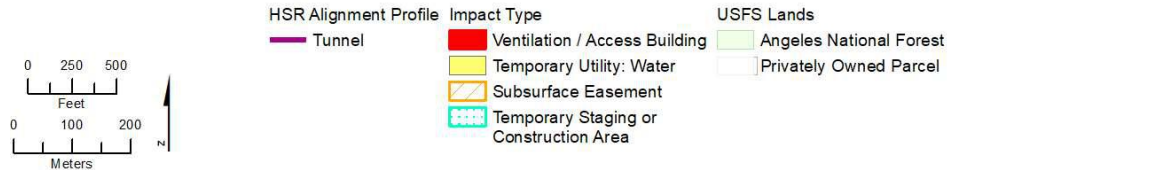
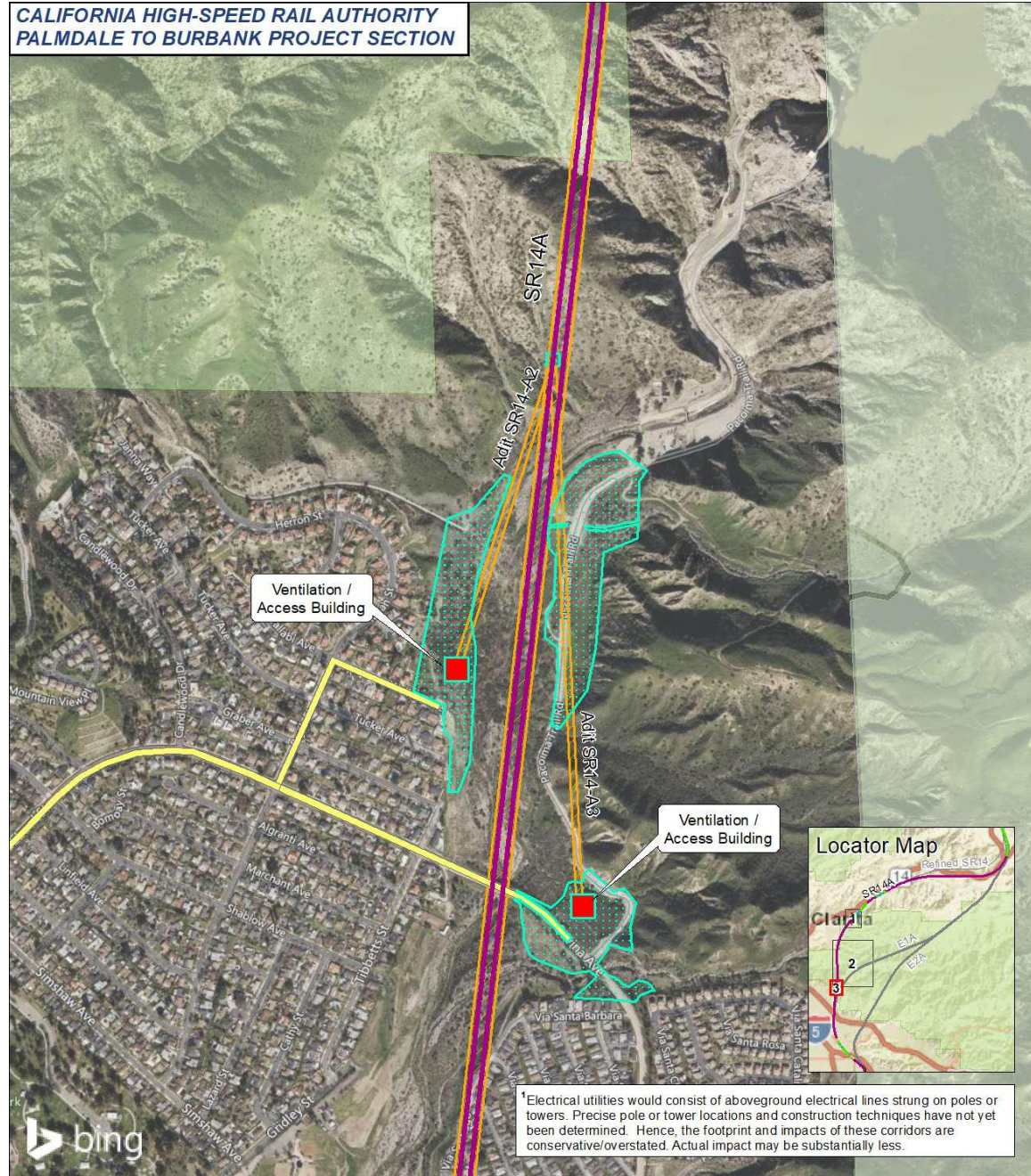


Figure 3.13-31 Optional Adits SR14-A2 and SR14-A3

E1 Build Alternative

Overall, the E1 Build Alternative in the Central Subsection would cover a vast area between Palmdale and Burbank and would cross the communities of Acton, Agua Dulce, and Sun Valley. Planned land uses include a mix of low-density residential, commercial, and industrial through these areas. South of Palmdale, the E1 Build Alternative would extend through Acton. Development is sparse where the alignment would be at grade or elevated. As previously noted, the alignment would cross over the Foreston Drive neighborhood west of the Vincent Substation. Planned land uses identified for at-grade portions of the alignment in this area include low-density residential, commercial, public facility/institutional, and agriculture/open space/parks. A proposed traction power facility near the Vincent Substation would require partial acquisition of the substation site but would not likely alter operations there (discussed further in Section 3.6, Public Utilities and Energy). However, the alignment would cross through an existing neighborhood off Foreston Drive, requiring residential displacements. As this land use change would require residential displacement, it would result in inconsistencies with adjacent sensitive land uses and overall land use patterns.

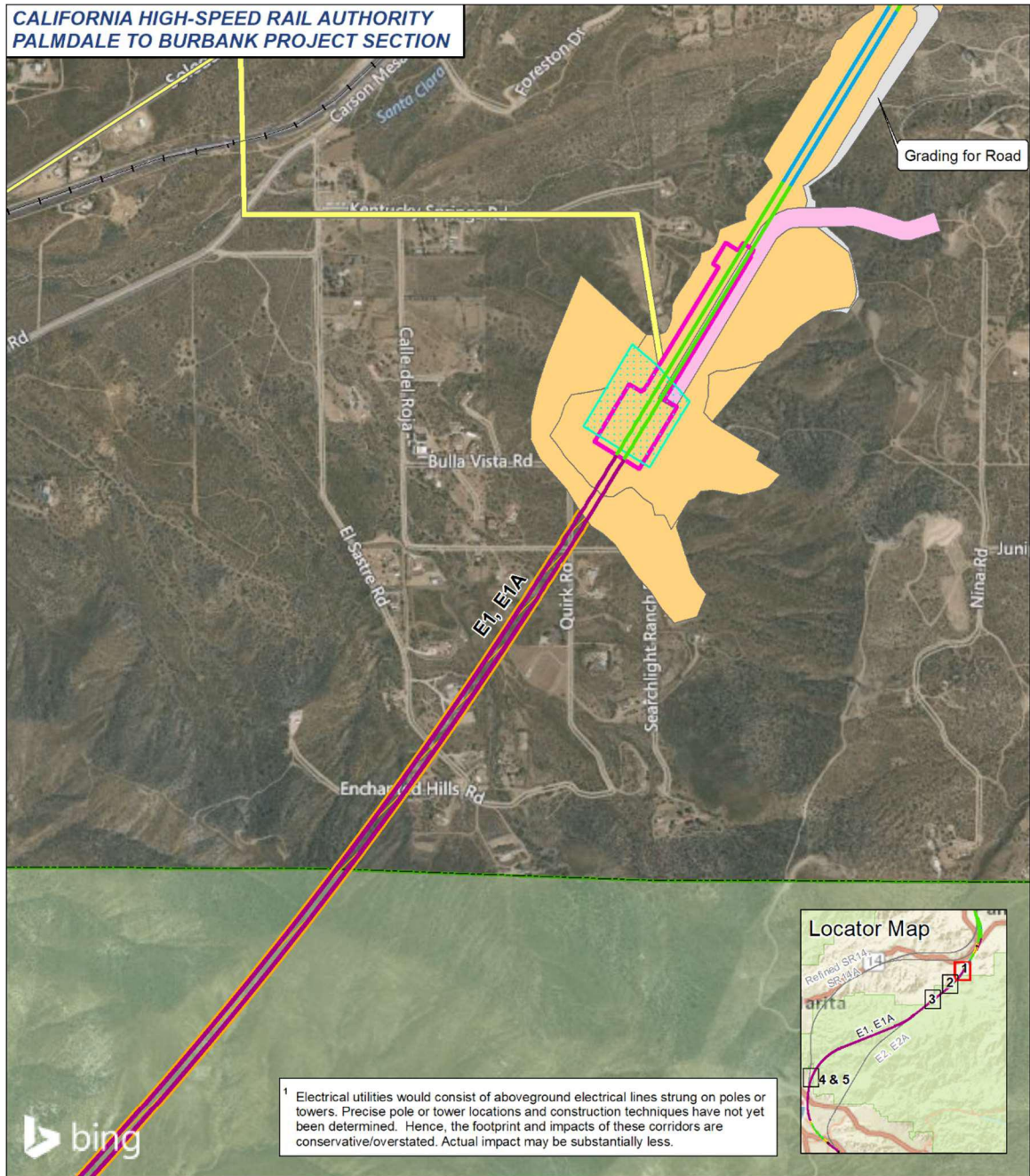
The E1 Build Alternative would be on a viaduct over a tributary to the Santa Clara River in Aliso Canyon near Aliso Canyon Road. No residents or businesses would be displaced. At-grade Build Alternative components within the ANF, including the SGMNM, would be limited to an access road near Aliso Canyon Road, utility lines, and an adit north of the Pacoima Dam. For the E1, E1A, E2, and E2A Build Alternatives, the northernmost tunnel portal would be outside of the ANF (Figure 3.13-32 and Figure 3.13-42). Along with the northernmost tunnel portal, the E1 Build Alternative would require construction activities within the ANF, including areas of the SGMNM, that would be inconsistent with the local ANF land use designations of Back Country, Back Country (Non-Motorized), and Critical Biological. Inconsistencies include areas outside of the Aliso Canyon Road ROW, where grading would occur on either side of Aliso Canyon Road in areas designated as Back Country and Critical Biological land use. Further inconsistencies include a portion of Aliso Canyon Road within the ANF, including the SGMNM, that would be reconstructed, and an existing utility line in this area that would be upgraded to bring electrical power to the portal area (Figure 3.13-22, Figure 3.13-33, and Figure 3.13-42). USFS requires a Special Use Authorization for new uses on USFS lands. Refer to Appendix 3.1-B, USFS Policy Consistency Analysis, for a complete discussion on land use consistency within the ANF.

The E1 Build Alternative would require one of two adit options within the ANF (E1-A1 or E1-A2), as shown in Figure 3.13-35 and Figure 3.13-36, on private in-holdings near Little Tujunga Canyon Road. The adit options would include a temporary water utility line and permanent electrical utilities that would be required to cross USFS lands to reach the private in-holding. Similar to SR14-A1, the majority of temporary and permanent land use conversions for these adits would include removal of existing development such as residential structures and previously disturbed lands. Moderate levels of human use and infrastructure development may be permissible within the Back Country land use designation, and therefore this use may be consistent with allowable uses identified in the ANF LMP and the SGMNM LMP. The E1 and E1A Build Alternatives would also require an adit near Arrastre Canyon Road; however, construction facilities such as ventilation/access buildings would be outside of the ANF, as shown in Figure 3.13-34 and Figure 3.13-37.

Farther south, a power traction facility and utility easement would be at Little Tujunga Canyon Road, requiring some conversion of existing land use designations to transportation land use. The E1 Build Alternative would emerge from a bored tunnel near the Hansen Dam Spreading Grounds; from this point through the end of the Burbank Subsection, the E1 Build Alternative alignment would be identical to the Refined SR14 Build Alternative alignment. There are no sensitive adjacent land uses that would be permanently affected by the placement of new transportation uses.

E1A Build Alternative

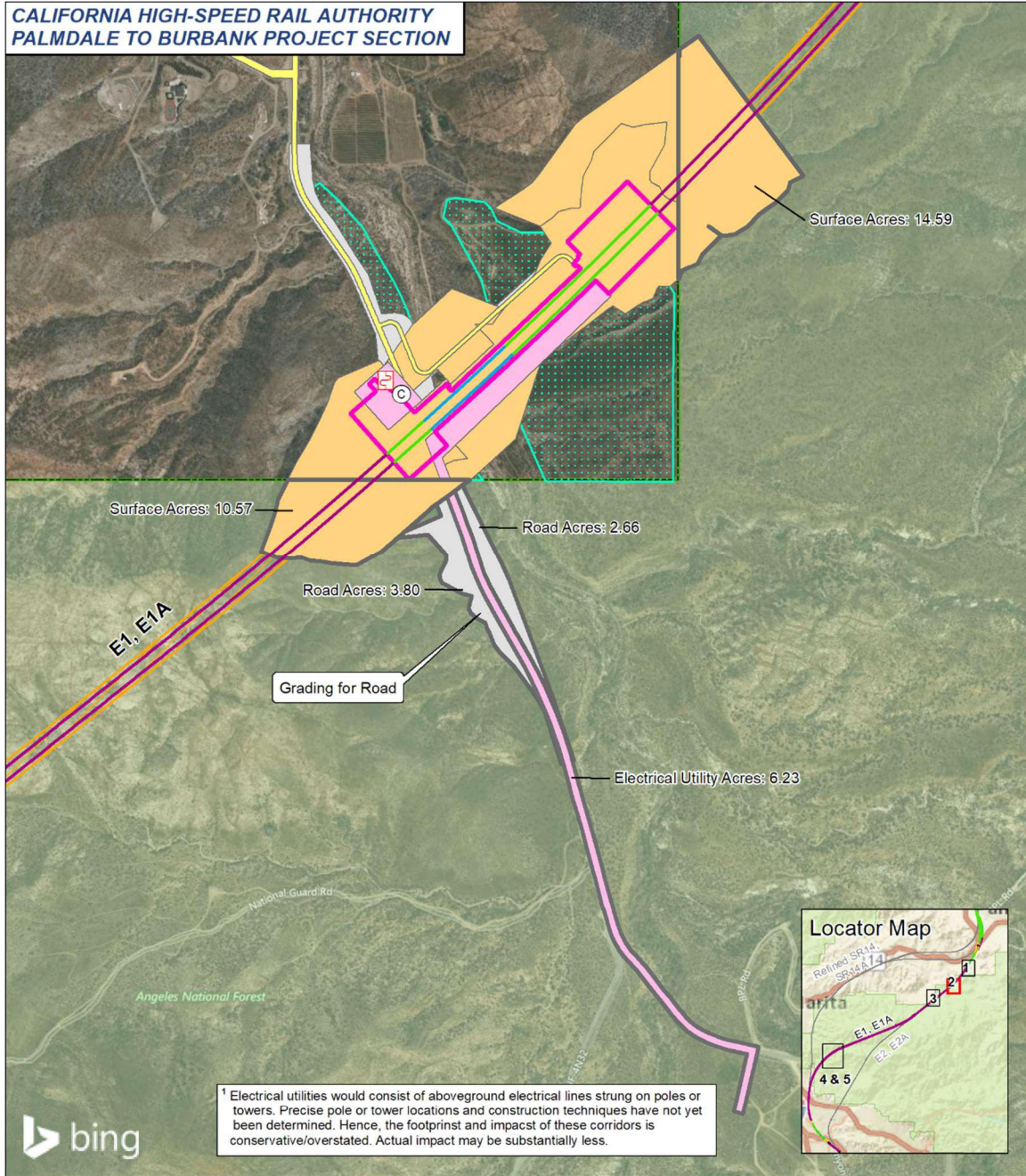
The E1A Build Alternative within the Central Subsection would be the same as the E1 Build Alternative except between Spruce Court just south of Vincent View Road, near Vincent Substation. South of Avenue R, the E1A Build Alternative alignment would diverge from the E1 Build Alternative alignment and continue south approximately 300 feet east of Una Lake, through existing low- and medium-density residential land uses. Planned land uses identified for at-grade portions of the alignment in this area include low-density residential, public facility/institutional, and agriculture/open space/parks. South of Una Lake, the E1A Build Alternative alignment would curve westward, cross over the SCRRA Antelope Valley Line, Sierra Highway, and the Soledad Siphon, and continue southwest, and enter a tunnel portal approximately 1,900 feet northeast of the Sierra Highway/Pearblossom Highway intersection. Planned land uses identified for tunnel portions of the alignment in this area include low-density residential, agricultural/open space, commercial, and industrial. After traversing underground for approximately 1.5 miles, the E1A Build Alternative alignment would transition to an at-grade profile approximately 350 feet south of Vincent View Road, where industrial existing and planned land uses would be present. Just south of Foreston Drive, the E1A Build Alternative alignment would converge with the E1 Build Alternative alignment. The remaining E1A Build Alternative alignment south of Foreston Drive, under the ANF, and into the San Fernando Valley would be identical to the E1 Build Alternative alignment. Sensitive land uses adjacent to land use converted areas would be affected. Adit options for the E1A Build Alternative would be the same as those required for the E1 Build Alternative.



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
 Source: Authority, 2020; Bing, 2020

July 1, 2020

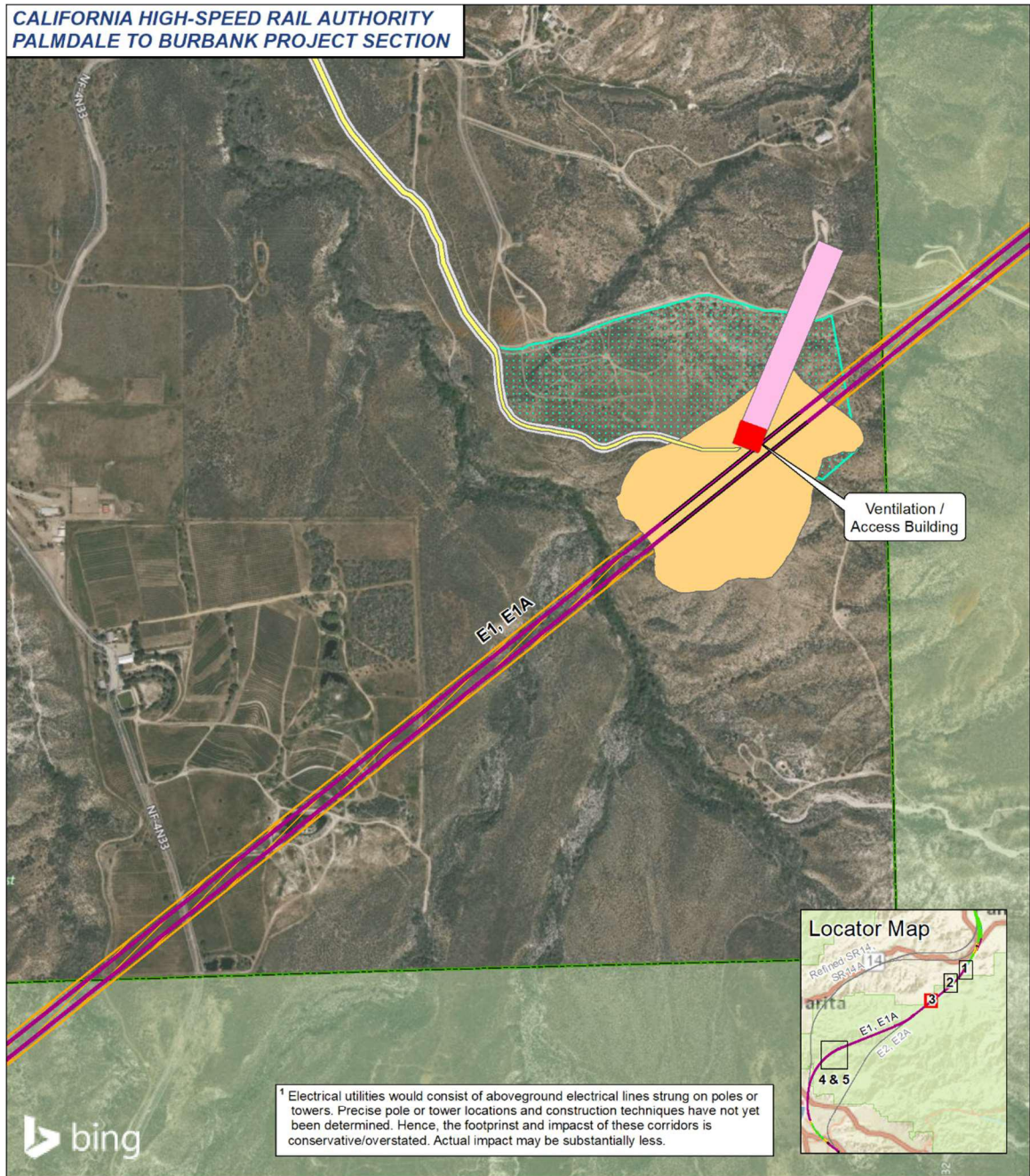
Figure 3.13-32 E1 – Northern Tunnel Portal



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
 Source: Authority, 2020; Bing, 2020
 July 1, 2020

	HSR Alignment Profile At Grade Elevated / Aerial Structure Tunnel	Footprint Impact Temporary Utility: Water Permanent Utility: Electrical ¹ Permanent: Surface Roads	Tunnel Portal Subsurface Easement Temporary Staging or Construction Area	USFS Lands Angeles National Forest San Gabriel Mountains National Monument Communication Tower* Traction Power Facility* * Locations indicated are not final.
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Figure 3.13-33 E1 – Aliso Canyon

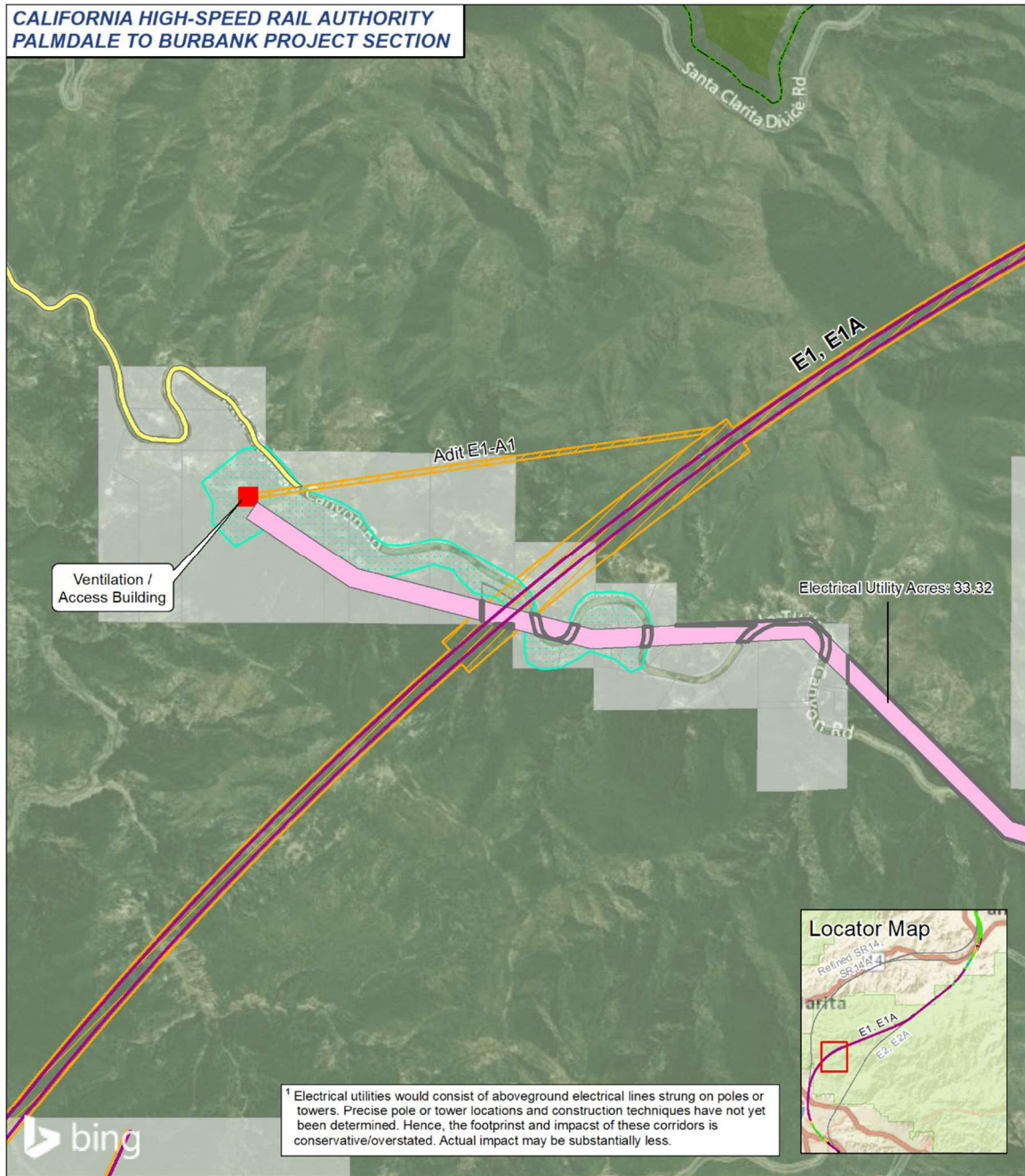


PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Authority, 2020; Bing, 2020

July 1, 2020



Figure 3.13-34 E1 – Arrastrate Canyon



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Authority, 2020; Bing, 2020

July 1, 2020

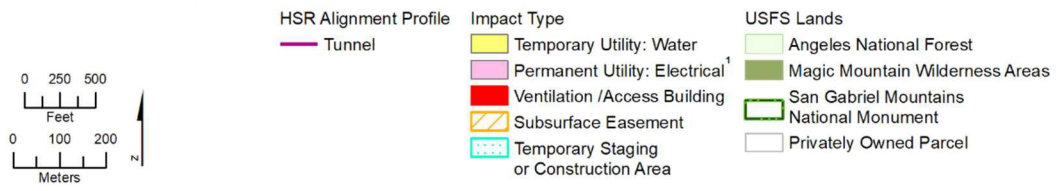
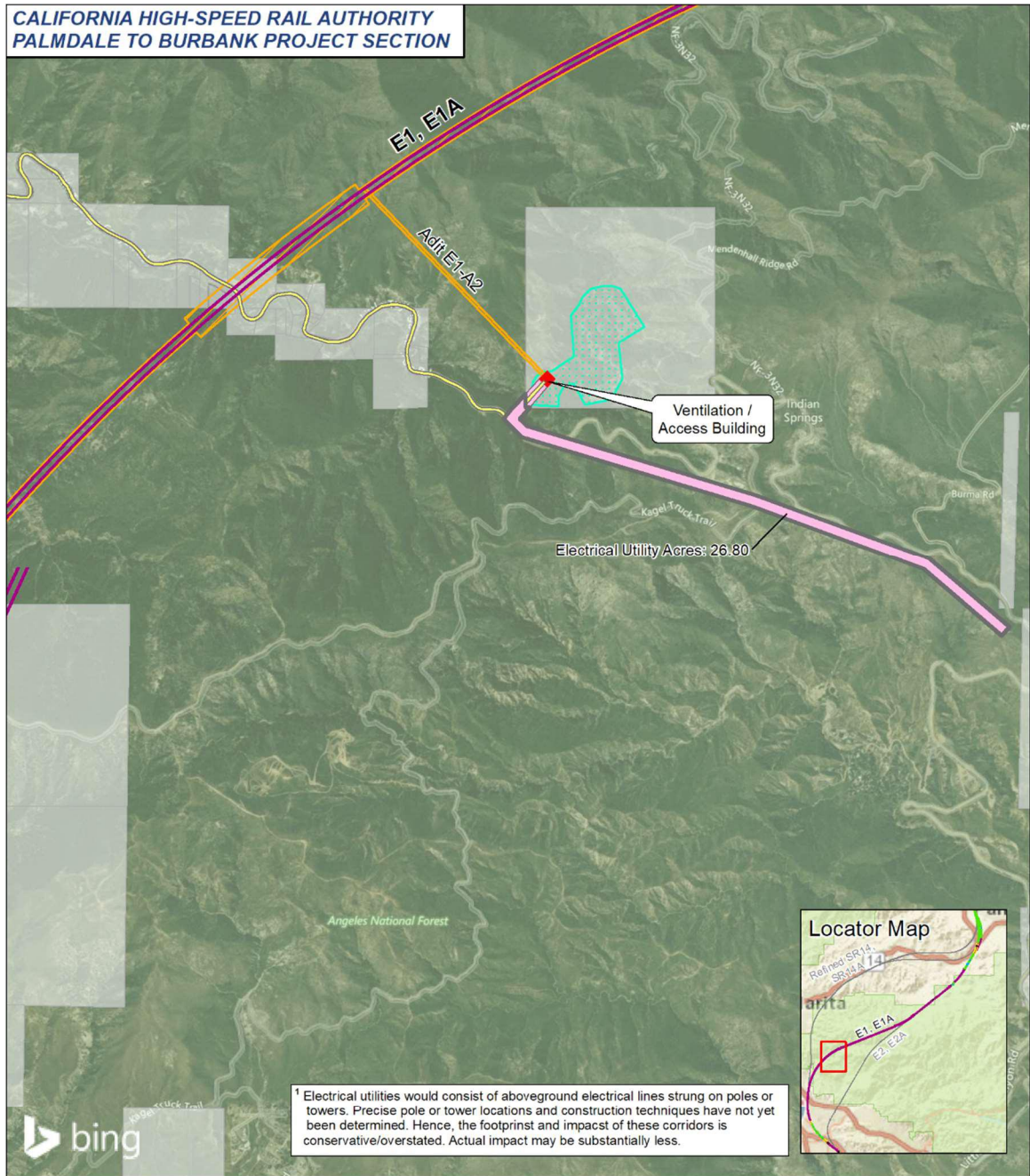


Figure 3.13-35 Optional Adit E1-A1



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Authority, 2020; Bing, 2020

July 1, 2020

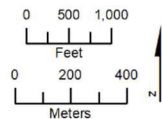
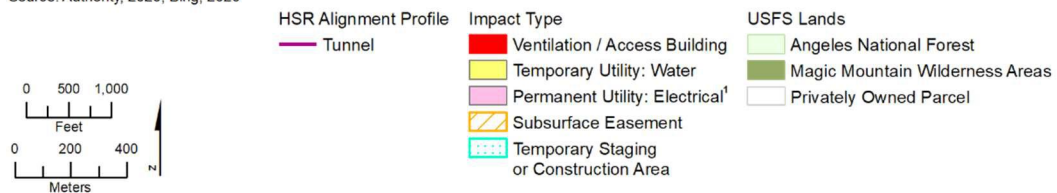


Figure 3.13-36 Optional Adit E1-A2

E2 Build Alternative

South of Palmdale, the E2 Build Alternative alignment would run south through Acton and would have the same associated effects as the E1 Build Alternative until it splits from the E1 Build Alternative alignment south of Arrastre Canyon Road. The E2 Build Alternative alignment would proceed south and emerge from the ANF, including SGMNM, through the Lake View Terrace and Shadow Hills neighborhoods within the city of Los Angeles. The Lake View Terrace and Shadow Hills neighborhoods include mostly low-density residential land use. Some sensitive land uses, mostly consisting of residences in the Lake View Terrace neighborhood of Los Angeles, would be displaced as part of the Palmdale to Burbank Project Section; thus, implementation of the Palmdale to Burbank Project Section would be disruptive to the existing community (see Section 3.12, Socioeconomics and Communities). The E2 Build Alternative alignment would be in a tunnel at the southern end of the Central Subsection, traversing planned land uses such as agricultural/open space and low-density residential. As mentioned, just as the E1, E1A, and E2A Build Alternatives, the northernmost tunnel portal would be outside of the ANF.

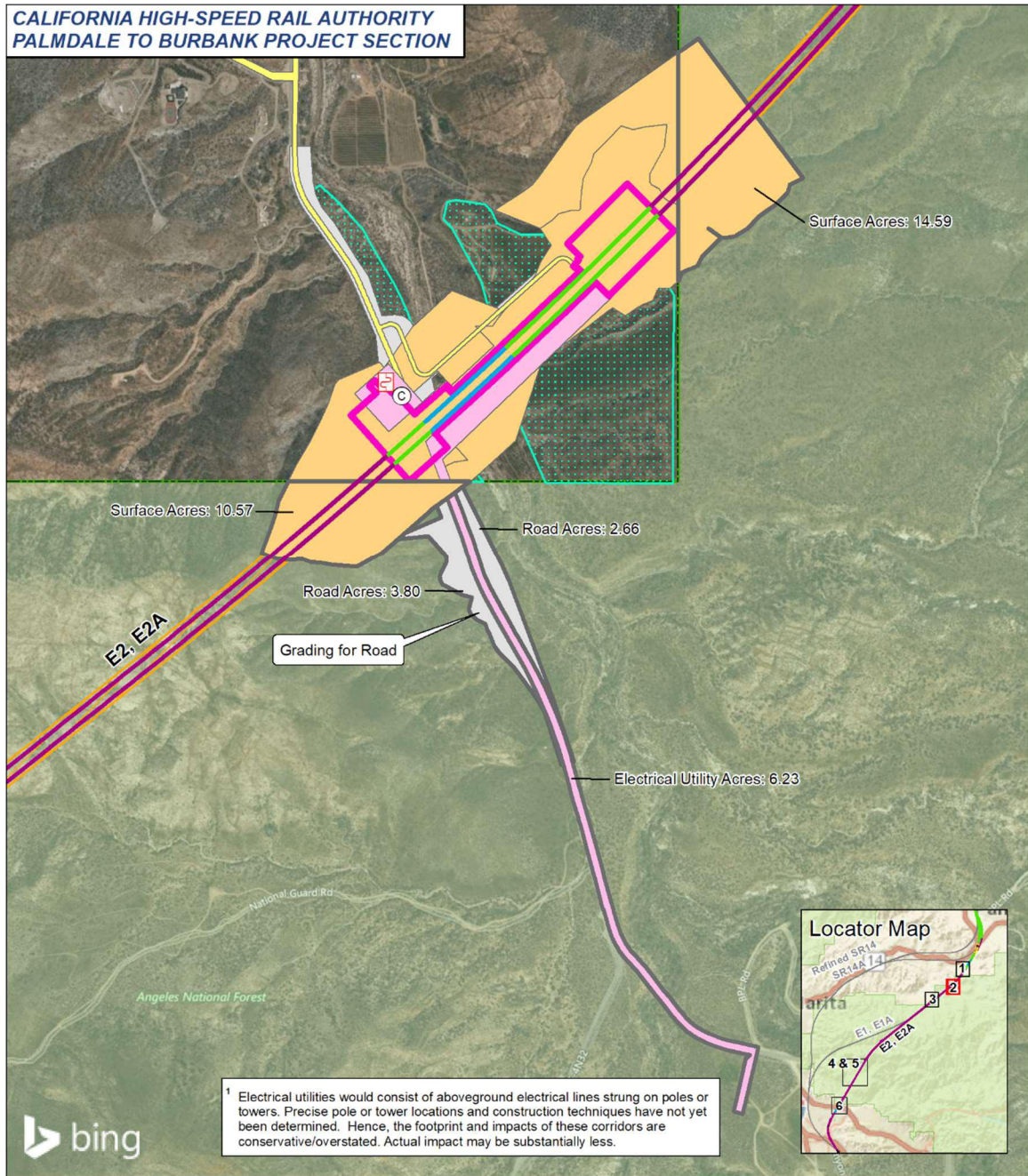
For the E2 Build Alternative, work within the ANF would be limited to an access road near Aliso Canyon Road and utility lines north of the Pacoima Dam. These areas of the ANF are designated for a mix of Back Country, Back Country (Non-Motorized), Critical Biological, and Developed Area Interface. The E2 Build Alternative would require the construction of one of two adit options (E2-A1 or E2-A2) on private in-holdings within the ANF near Gold Creek Road and Little Tujunga Canyon Road (Figure 3.13-39 and Figure 3.13-40). The adit options would include a temporary water utility line and permanent electrical utilities that would be required to cross USFS lands to reach the private in-holding. The permanent E2-A1 surface footprint and associated temporary construction staging areas would be within an in-holding in an area designated as Back Country, while the permanent E2 Build Alternative's surface footprint and associated temporary construction staging areas would be within an in-holding designated as Back Country and Back Country Non-Motorized. All temporary staging areas for E2-A2 would be within the Back Country Non-Motorized land use designation. Because the Back Country Non-Motorized land use designation limits human use and infrastructure to low level usage, E2-A2 would likely be inconsistent with the ANF LMP and the SGMNM LMP in Back Country Non-Motorized areas.

The E2 Build Alternative would require an adit to be constructed near Arrastre Canyon Road; however construction facilities such as ventilation/access buildings would be outside of the ANF as shown in Figure 3.13-38. A tunnel portal in Lake View Terrace associated with the E2 Build Alternative would also be within the ANF in an area with the land use designation of Developed Area Interface (Figure 3.13-41). Because the E2 Build Alternative allows for roadway-related infrastructure improvements, it would be consistent with the Developed Area Interface designation.

While the E2 Build Alternative at-grade footprint would be generally consistent with the Developed Area Interface designation, it would be inconsistent with the Back Country and Critical Biological designations. USFS requires a Special Use Authorization for uses on USFS lands. Refer to Appendix 3.1-B, USFS Policy Consistency Analysis, for a complete discussion of land use consistency within the ANF including the SGMNM.

E2A Build Alternative

In the Central Subsection, the E2A Build Alternative alignment would follow an identical route to the E1A Build Alternative to Foreston Drive, where it would rejoin with the E2 Build Alternative alignment. In this area, the E2A Build Alternative would have the same associated effects as the E1A Build Alternative. The remaining E2A Build Alternative alignment south of Foreston Drive, under the ANF, and into the San Fernando Valley, would be identical to the E2 Build Alternative alignment. Adit options for the E2A Build Alternative would be the same as those required for the E2 Build Alternative.

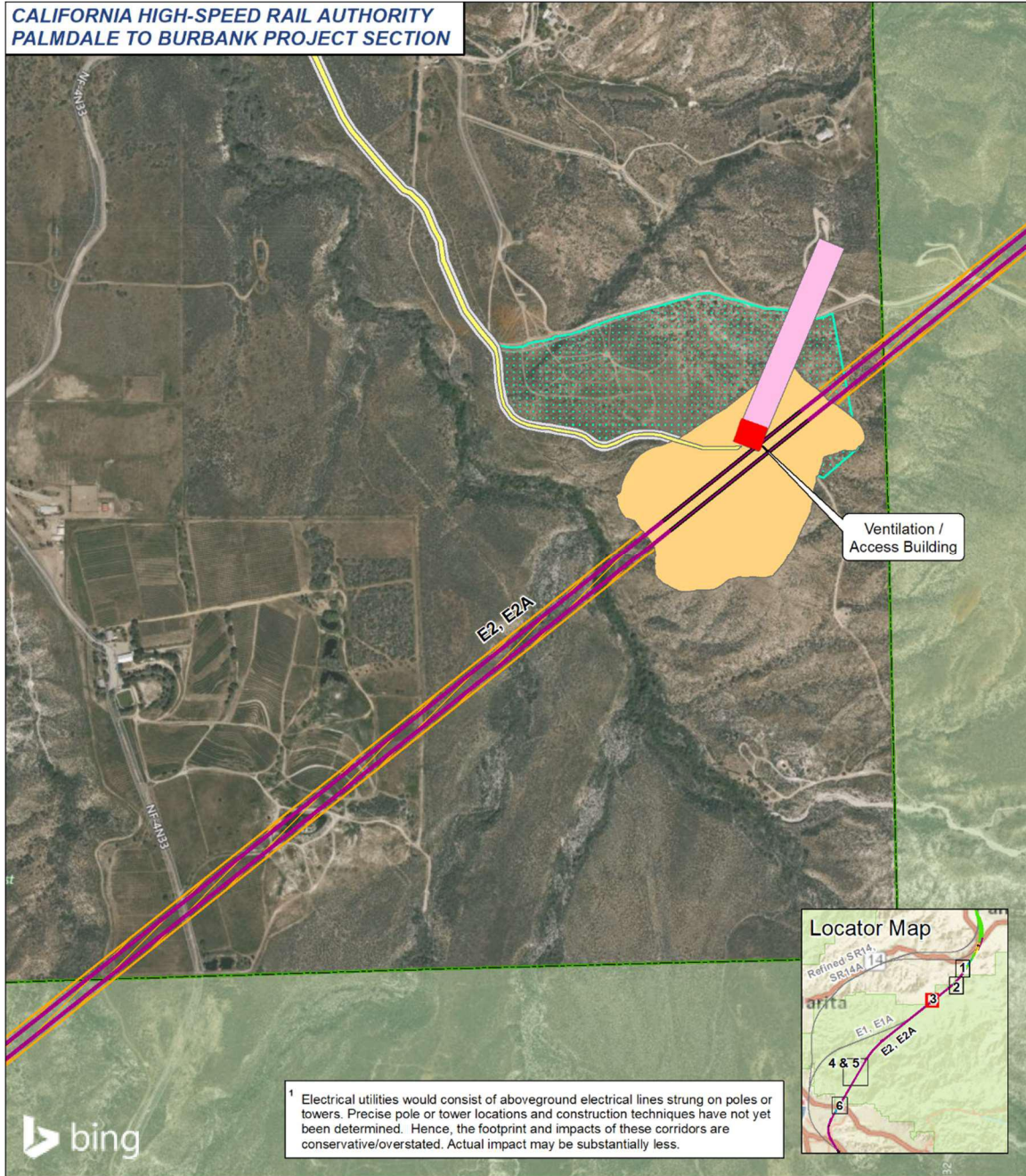


PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Authority, 2020; Bing, 2020

July 1, 2020



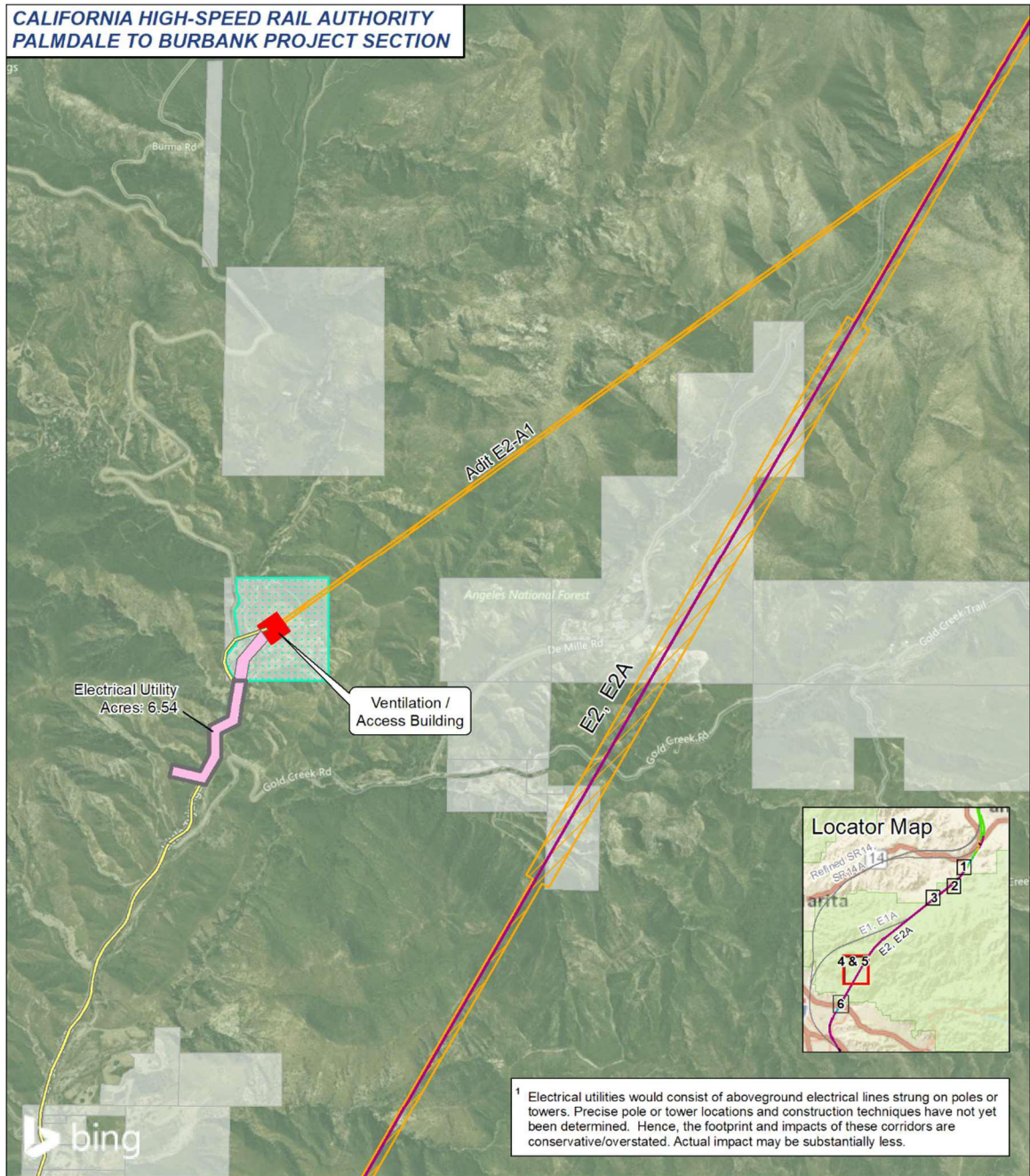
Figure 3.13-37 E2 – Aliso Canyon



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Authority, 2020; Bing, 2020
July 1, 2020



Figure 3.13-38 E2 – Arrastre Canyon



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
 Source: Authority, 2020; Bing, 2020

July 1, 2020

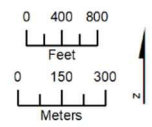
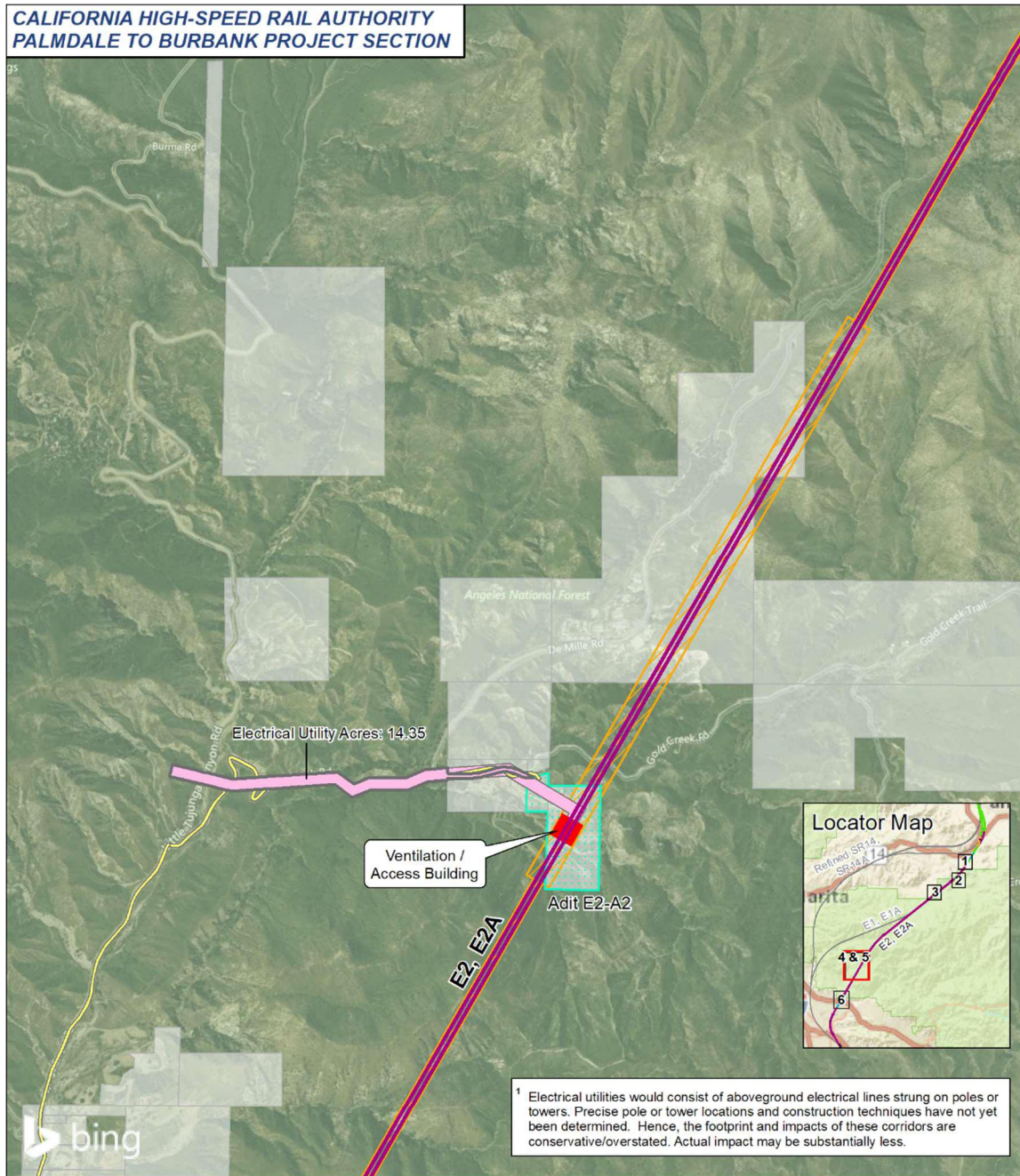


Figure 3.13-39 Optional Adit E2-A1



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
 Source: Authority, 2020; Bing, 2020

July 1, 2020

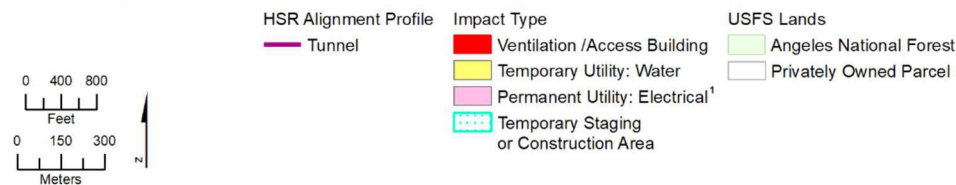
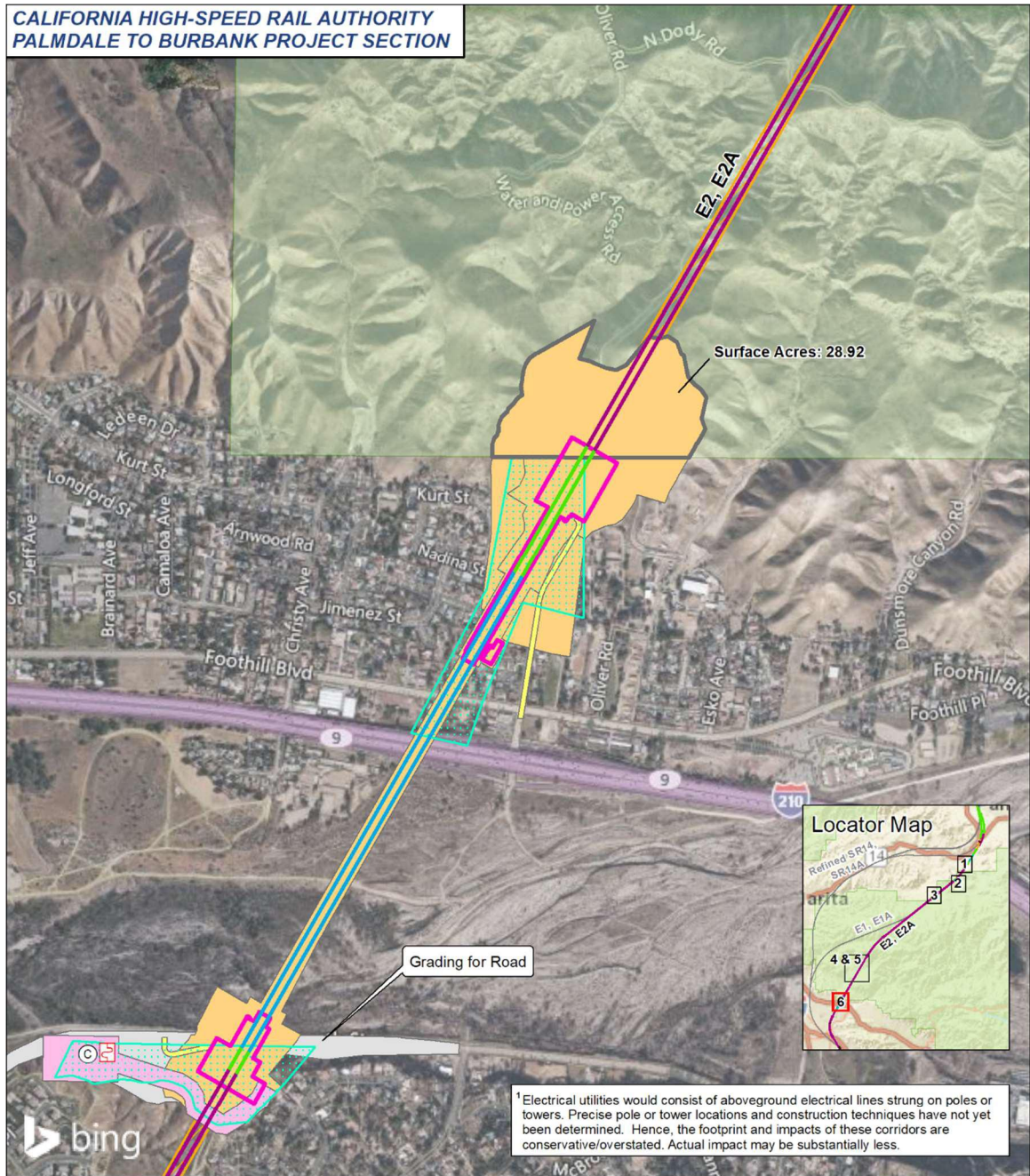


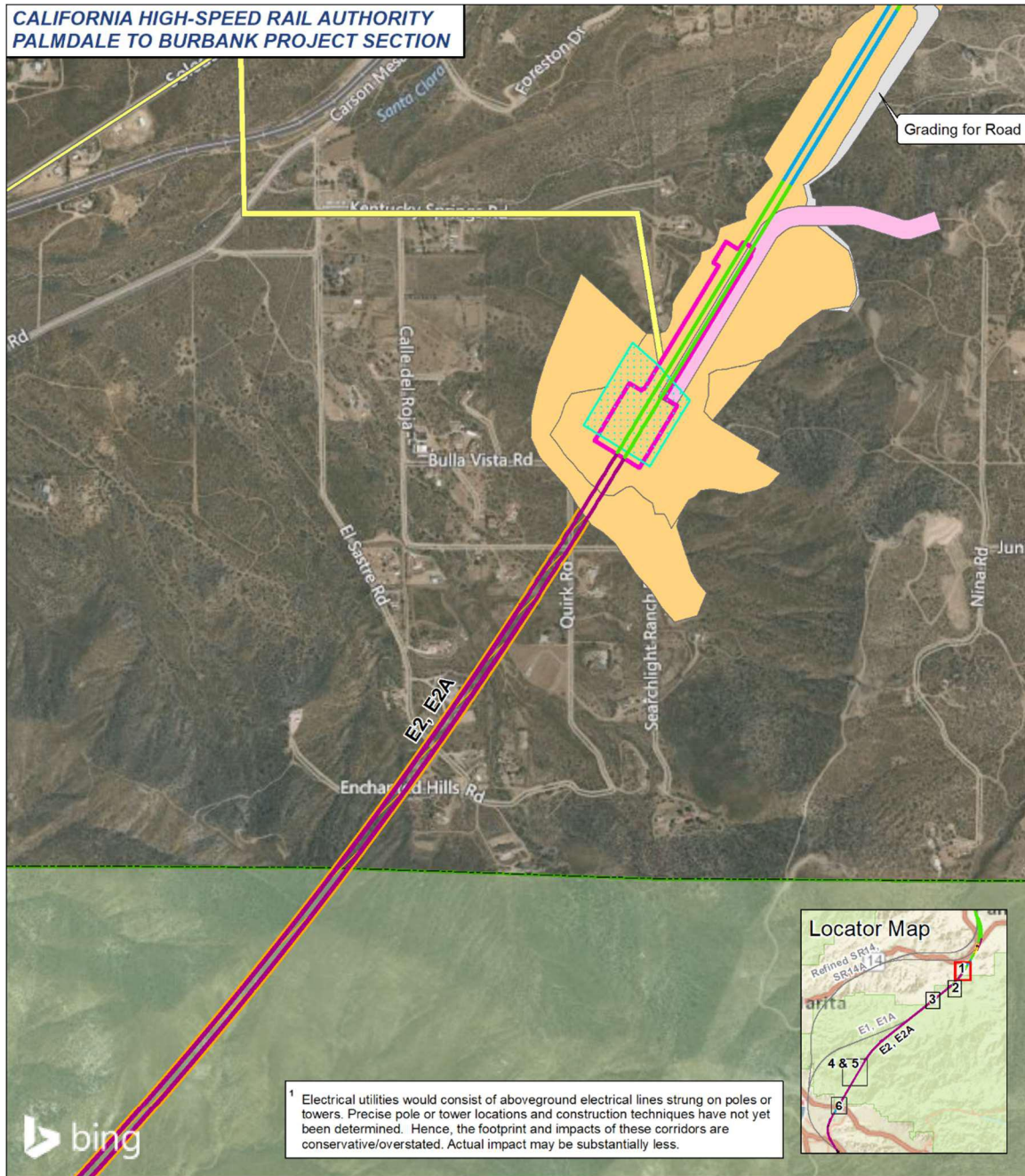
Figure 3.13-40 Optional Adit E2-A2



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
 Source: Authority, 2020; Bing, 2020
 July 1, 2020



Figure 3.13-41 E2 – Southern Tunnel Portal



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
Source: Authority, 2020; Bing, 2020

July 1, 2020



Figure 3.13-42 E2 – Northern Tunnel Portal

Burbank Subsection

Most of the Burbank Subsection is developed with industrial or public land uses, with an area of lower-density residential north of San Fernando Boulevard in Sun Valley. The Burbank Airport Station would primarily be underground but would also include approximately 60 acres of aboveground facilities—primarily industrial/warehousing uses—and would therefore result in permanent surface land use conversions. The Avion Burbank Project is reflected as existing industrial land use. These impacts associated with the Burbank Station are summarized in Table 3.13-11 and Table 3.13-12.

Table 3.13-11 Existing Land Uses Converted by the Burbank Airport Station

Acres of Existing Land Uses Subject to Permanent Surface Land Use Effects								
Industrial	Commercial	Residential	Agricultural	Recreational	Public	Institutional	Railroads / Utilities	Vacant Land
60	1	0	0	0	0	0	0	0

Source: Los Angeles County Assessor 2017

Table 3.13-12 Planned Land Uses Converted by the Burbank Airport Station

Acres of Designated Land Uses Subject to Permanent Surface Land Use Effects								
Industrial	Commercial	Medium-High-Density Residential	Low-Density Residential	Agricultural/Open Space	ANF including SGMNM	Public Facility/Institutional	Railroad / Right-of-Way	Specific Plan
60	1	0	0	0	0	0	0	0

Sources: City of Los Angeles 2001; City of Burbank 2013

Operation of the Burbank Airport Station would result in increased parking demand near the station. The Burbank Airport Station would provide approximately 1,640 parking spaces by 2029 and approximately 3,210 spaces by 2040 to meet projected daily parking demand. The design of the Palmdale to Burbank Project Section would include adequate parking to ensure that parking demand induced by the project would not conflict with adjacent land uses or patterns.

Construction of the Burbank Airport Station would require the acquisition and removal of the existing industrial, warehouse, and commercial uses on the station site.

No residential uses, existing or planned, would be converted to parking lots.

Impact Summary

Overall, implementation of all six Build Alternatives would require conversion of land that is not currently or planned to be in transportation use, including acquisitions of residential areas, schools, and community facilities. Impacts associated with acquisition and displacement within the Build Alternative would be reduced. The Palmdale to Burbank Project Section would not change existing adjacent land uses, except possibly near proposed station sites.

The Build Alternative alignments would cross land designated for existing and planned agricultural use within the Central Subsection. As discussed in Section 3.14, Agricultural Lands, potential impacts on agricultural land designated as Important Farmland would be limited to the Refined SR14 and SR14A Build Alternatives. An electrical utility corridor would be constructed across an approximately 9-acre vineyard, east of where the Refined SR14 and SR14A Build Alternative alignments would cross Sierra Highway. AG-IAMF#2 through AG-IAMF#6 will be implemented to minimize indirect impacts from the placement of utility poles near the Important Farmland, thereby avoiding the conversion of Important Farmland to nonagricultural use.

The proposed alignment tracks and supporting facilities would not inhibit continuation of existing land uses on adjacent lands, nor would it substantially induce growth. Growth related to the Palmdale to Burbank Project Section may occur closer to the Palmdale Station (analyzed in the Burbank to Palmdale Project Section) and the Burbank Airport Station, where interfaces/access points would be created. New development would be consistent with adopted plans and zoning ordinances within the project area. Moreover, implementation of all six Build Alternatives and proposed station would be mostly consistent with Palmdale and Burbank planning documents because all six Build Alternatives would encourage improvements to the transportation network, a new rail station, and connectivity, as identified in Table 3.13-1.

Construction of the new stations are expected to provide Palmdale and Burbank with an opportunity to meet the transit-oriented development (TOD) goals outlined in their respective general plans. The HSR service could have the indirect effect of attracting TOD in the vicinity of proposed station areas. Combined with strong real estate market conditions, improved transit service (such as HSR) could attract public and private investment that accelerates the rate of development anticipated in adopted station-area plans. HSR service would attract a new market of intercity travelers because the system would provide new statewide accessibility to jobs, services, and housing, connecting the centers of the state's economic regions. HSR stations could have a stronger influence on local government planning for station area land use than commuter and light rail; accordingly, HSR station-area development guidelines developed by the Authority focus on development occurring within 0.5 mile of a station. Furthermore, Burbank planning documents support the development of HSR stations because they would increase connectivity and support planned growth. Current land use trends would likely change with the presence of each of the Build Alternatives, as operation of each of the Build Alternatives and local government planning would encourage denser, more compact urban development around the Burbank Airport Station. However, none of the Build Alternatives would affect key development constraints that affect station sites.

As discussed in Section 3.13.4.2, IAMFs will be incorporated as part of each of the Build Alternatives' design to help avoid and minimize impacts. LU-IAMF#1 will require the Authority to prepare a memorandum for the Burbank Airport Station describing how the Authority's station-area development guidelines will be applied to help achieve the anticipated benefits of station-area development, including TOD. Station-area planning by local governments will coordinate efforts to advance TOD and capture the benefits of the increased access provided by a new HSR station. LU-IAMF#1 will increase benefits and reduce potential land use impacts by implementing the Authority's station-area development principles and guidelines. In addition to potential benefits from minimizing land-consumption needs for new growth, dense development near HSR stations would concentrate activity conveniently located near HSR stations. This would increase the use of the California HSR System, generating additional HSR ridership and revenue to benefit the entire state. It also would accommodate new growth on a smaller footprint. Reducing the land needed for new growth should reduce pressure for new development on nearby habitat areas, in environmentally fragile or hazardous areas. Denser development allowances also would enhance joint development opportunities at or near stations, which in turn could increase the likelihood of private financial participation in construction and operations related to the California HSR System. A dense development pattern can better support a comprehensive and extensive local transit and shuttle system, bicycle and pedestrian paths, and related amenities that can serve the local communities and provide access to and egress from HSR stations.

LU-IAMF#2 will require the Authority to produce a memorandum for the Burbank Airport Station describing the local agency coordination and station-area planning conducted to prepare the station area for HSR operations. The IAMF will also increase benefits and reduce potential land use impacts through coordination with local agencies to prepare the station area for HSR operations. In partnership with the Authority, local agencies will plan for and encourage multimodal hubs, and advance TOD strategies to support station areas that are mixed-use, are pedestrian-accessible, and have HSR-supportive development. The Authority's policies would help ensure that implementation of the California HSR System would support station-area development and serve the local community and economy, while increasing HSR ridership.

CEQA Conclusion

Implementation of all six Build Alternatives would entail the permanent conversion of lands with residential, commercial, industrial, and other non-transportation land use designations to transportation uses. In locations where new transportation uses would be placed near sensitive land uses, such as residential neighborhoods, broader changes in land use patterns could occur due to noise, and traffic impacts on adjacent land uses. Implementation of the six Build Alternatives would also support TOD in the vicinity of the Burbank Station. Implementation of LU-IAMF#1 and LU-IAMF#2 will ensure that station area development principles and guidelines, and local agency coordination, have been applied to station area planning prior to HSR operations. In other areas, such as the ANF, where land use designations allow for limited human use and infrastructure, construction would not be consistent with existing land uses. USFS will assess the consistency of the Palmdale to Burbank Project Section with existing land use plans and policies before issuing a Special Use Authorization for construction within the ANF. Implementation of all six Build Alternatives would result in permanently altering existing and planned land uses, which could potentially change land use patterns. Therefore, CEQA requires mitigation. Implementation of mitigation measures LU-MM#1, SO-MM#1, SO-MM#2, SO-MM#3, N&V-MM#3, and N&V-MM#6, along with several traffic-related mitigation measures identified in Section 3.2, Transportation, and all other construction-related mitigation measures described in Section 3.13.7, would minimize the potential for construction of all six Build Alternatives to cause a substantial change in land use patterns. If necessary, LU-MM#1 will be implemented to assist with TOD planning around station areas to ensure that California HSR System stations are consistent with surrounding uses. SO-MM#1, SO-MM#2 and SO-MM#3 will be implemented to reduce impacts on neighborhood and community cohesion, increase the Preferred Alternative’s compatibility with the character of adjacent communities, and reduce impacts associated with the relocation of important community facilities. As described in the noise-monitoring program, further detailed in Section 3.4, Noise and Vibration, N&V-MM#3 and N&V-MM#6 will reduce noise impacts that affect the viability of the surrounding land use patterns. Section 3.2, Transportation, several mitigation measures, including TR-MM#1 through TR-MM#8, would increase capacity and improve roadway and intersection operations. With implementation of the above mitigation measures, this impact would be less than significant for the Refined SR14, SR14A, E1, E1A, E2, and E2A Build Alternatives.

Impact LU#4: Unplanned Population Growth Due to Temporary Construction Employment.

Construction of any of the six Build Alternatives would result in new near-term construction-related employment, but it is not anticipated to result in a temporary influx of people living in the Palmdale Subsection RSA. As discussed in Section 3.18, Regional Growth, construction-related jobs are calculated based on construction expenditures. Most construction-related spending would be dedicated to track and track structures rather than stations, support facilities, or other construction expenditure categories. Therefore, it is anticipated that most construction workers would be employed at different locations along the selected alignment as construction progresses rather than remaining at one construction site throughout the entire construction period, including for the construction of tunnel alignment.

Table 3.13-13 notes the number of near-term jobs that would be generated by construction of all six Build Alternatives. Table 3.13-13 includes employment generated by construction of the Palmdale Station and Lancaster Maintenance Facility for reference and context. However, these facilities and their associated effects are evaluated as part of the Bakersfield to Palmdale Project Section EIR/EIS. Over the entire construction period, approximately 80,000 to 85,000 construction job-years would be created for the Palmdale to Burbank Project Section, depending on the Build Alternative.³ As shown in Table 3.13-13, the SR14A Build Alternative would create the largest number of construction jobs, and the E1 Build Alternative would create the smallest number. Detailed tables representing direct and indirect job creation by Build Alternative for each year of construction are included in Section 3.18, Regional Growth.

³ Near-term employment impacts are measured in job-years, defined as 1 year of employment for one employee.

During the peak year of construction (Year 4/2023), all six Build Alternatives would support an estimated 7,800 to 8,000 direct jobs, which represents approximately 5.4 to 5.6 percent of the approximately 144,000 construction industry jobs forecasted for Los Angeles County in 2023 based on data from the California Employment Development Department (see Section 3.18, Regional Growth).

Table 3.13-13 Employment Created During Construction (in job-years) by Build Alternative

Build Alternative	Year 1 / 2020	Year 2 / 2021	Year 3 / 2022	Year 4 / 2023	Year 5 / 2024	Year 6 / 2025	Year 7 / 2026	Year 8 / 2027	Year 9 / 2028	Total
Refined SR14										
Direct	1,900	4,100	5,900	7,800	7,000	5,200	3,300	1,900	-	37,100
Indirect / Induced	2,300	5,100	7,400	9,700	8,800	6,500	4,200	2,300	-	46,300
Total	4,200	9,200	13,300	17,500	15,800	11,700	7,500	4,200	-	83,400
SR14A										
Direct	1,900	4,200	6,000	7,900	7,200	5,300	3,400	1,900	-	37,800
Indirect / Induced	2,400	5,200	7,500	9,900	8,900	6,600	4,200	2,400	-	47,100
Total	4,300	9,400	13,500	17,800	16,100	11,900	7,600	4,300	-	84,900
E1										
Direct	1,800	3,600	5,700	7,900	6,800	5,000	3,200	1,800	-	35,800
Indirect / Induced	2,200	4,500	7,100	9,800	8,500	6,200	4,000	2,200	-	44,500
Total	4,000	8,100	12,800	17,700	15,300	11,200	7,200	4,000	-	80,300
E1A										
Direct	1,800	3,600	5,800	8,000	6,900	5,100	3,300	1,800	-	36,300
Indirect / Induced	2,300	4,500	7,200	10,000	8,600	6,300	4,100	2,300	-	45,300
Total	4,100	8,100	13,000	18,000	15,500	11,400	7,400	4,100	-	81,600
E2										
Direct	1,400	3,600	5,800	7,900	6,900	4,700	2,500	1,800	1,400	36,000
Indirect / Induced	1,800	4,500	7,200	9,900	8,500	5,800	3,200	2,200	1,800	44,900
Total	3,200	8,100	13,000	17,800	15,400	10,500	5,700	4,000	3,200	80,900
E2A										
Direct	1,500	3,700	5,800	8,000	6,900	4,700	2,600	1,800	1,500	36,500
Indirect / Induced	1,800	4,600	7,300	10,000	8,700	5,900	3,200	2,300	1,800	45,600
Total	3,300	8,300	13,100	18,000	15,600	10,600	5,800	4,100	3,300	82,100

Source: Appendix 3.18, RIMS II Modeling Details

Note: For organizational purposes numbers reflected in the table have been rounded; therefore, totals displayed are not exact representations of the sum of direct and indirect/induced employment displayed for all six Build Alternatives.
RIMS= Regional Input-Output Modeling System

Given that the number of construction jobs would be small compared to the forecast available construction labor force in the economic RSA (Los Angeles County), construction would be unlikely to result in workers from other counties moving into the RSA. As such, the project would not create substantial unplanned growth. Construction activities, however, would likely require some very specialized workers who could come from outside of the RSA for a limited duration, but those workers would not be likely to relocate to the RSA.

Because construction jobs would likely be filled by local workers, the population within the Palmdale to Burbank RSA during the construction period would not likely increase beyond forecasted regional growth assumptions. Therefore, demands on public services and utilities beyond those caused by forecasted growth in the region are not anticipated to occur.

CEQA Conclusion

Construction of all six Build Alternatives would result in temporary increases in employment within the Palmdale to Burbank RSA. However, the temporary employment generated by the project would not induce growth beyond what is forecasted for Los Angeles County as the majority of job demand would be met by local workers. Further, the small percentage increase of generated jobs would not be substantial enough to attract significant numbers of workers to the region. Therefore, construction of all six Build Alternatives would not induce substantial population growth in the Palmdale to Burbank RSA beyond planned levels. This impact would be less than significant for the Refined SR14, SR14A, E1, E1A, E2, and E2A Build Alternatives. Therefore, CEQA does not require any mitigation.

Operations Impacts

Impact LU#5: Indirect Effects to Existing and Planned Land Use Patterns from Project Operations.

This analysis considers the potential for the operation of each of the six Build Alternatives to indirectly affect existing land use patterns due to increases in wind, noise, EMI/EMF, and visual changes on adjacent existing and planned land uses. Operational impact discussions include the Palmdale Station, Maintenance Facility, and the Palmdale area effects for reference and context. However, these facilities and their associated effects are evaluated as part of the Bakersfield to Palmdale Project Section EIR/EIS. The California HSR System would support city goals and policies for TOD planning and infill development in proposed station areas.

As described in Section 3.14, Agricultural Farmlands and Forest Land, HSR trains would not cause disruption to agricultural infrastructure serving Important Farmland, interfere with aerial spraying activities, or generate wind-induced effects influencing pollination and pesticide drift. Section 3.14 determined that the Palmdale to Burbank Project Section would not cause indirect wind effects on adjacent farmland. Therefore, implementation of all six Build Alternatives would not inhibit agricultural production or conflict with adjacent agricultural land use designations.

Operations of all six Build Alternatives would permanently increase noise levels adjacent to residential and noise-sensitive commercial uses, as well as nearby parks and schools (see Section 3.4, Noise and Vibration). This increase in noise levels would affect the usefulness or accessibility of adjacent land uses. Where HSR operations occur within a tunnel, noise impacts would not occur.

Operations of all six Build Alternatives would permanently increase the generation of EMI/EMF. Impacts from EMI occur when EMFs affect operation of an electrical, magnetic, or electromagnetic device. Airports operate radio and other electronic systems potentially susceptible to EMI from other radio systems, and electromagnetic effects from operation of the proposed Burbank Airport Station could result in land use conflicts with the Hollywood Burbank Airport. There are three main sources of potential interference from the HSR Build Alternatives: the on-board and wayside communications systems, the train traction power systems, and

intermittent arcing between the train pantograph and the overhead catenary system. Radio frequency emissions due to arcing are believed to be the most consequential source in terms of interference at the frequencies used by airport communications and navigation systems. However, at Hollywood Burbank Airport, the potential for such interference is greatly reduced by two considerations. First is the substantial shielding effect provided by the HSR tunnel itself, which would extend approximately 1 mile north and 1.5 miles south of the airport property. The second is that all radio navigation aids at Hollywood Burbank Airport are well removed from the HSR tracks; the closest is more than 4,000 feet from the tunnel. The closest section of unshielded overhead catenary system is 7,500 feet from the nearest navigation aid and 9,000 feet from the nearest instrument landing system on the aircraft flight path (Ricard 2021).

In addition, there are a number of off-airport radio navigation aids used by Hollywood Burbank Airport. Interference with these off-site nav aids is even less likely due to the increased distances involved. To minimize interference from HSR communication systems, the HSR Build Alternatives would employ dedicated, exclusive-use radio bands (Authority 2016).

As discussed in Section 3.13.4.2, IAMFs are incorporated as part of the HSR Build Alternatives design to help avoid and minimize impacts. In addition to the use of frequency bands dedicated to the HSR system, the Authority would require communications equipment procured for HSR use, including commercial and noncommercial off-the-shelf products, to comply with Federal Communications Commission regulations designed to prevent EMI with other equipment and coordination with the Federal Aviation Administration's Spectrum Engineering Office, as called for in EMI/EMF-IAMF#2. EMI/EMF-IAMF#2 would also require the Authority to monitor field conditions to determine if electromagnetic compatibility issues arise, and to coordinate with affected third parties to resolve the problem. The Authority would comply with the Electromagnetic Compatibility Program Plan, electromagnetic compatibility/EMI safety monitoring, and evaluation of system performance to ensure compatibility with airport systems and the design criteria of the HSR Build Alternative.

Operations of all six Build Alternatives would also significantly change the existing visual setting adjacent to sensitive land uses, although mitigation measures have been included to minimize disturbances. These disturbances include changes to visual quality, changes in character, and viewer sensitivity impacts to adjacent sensitive land uses (see Section 3.16, Aesthetics and Visual). However, increased visual changes would not affect the usefulness or accessibility of adjacent land uses. Where HSR operations occur within a tunnel, visual impacts would not occur.

The development of a station in Burbank would have indirect impacts on land use because new stations would provide opportunities to meet TOD planning and infill development goals in the city. Indirect impacts from the implementation of the Refined SR14 and SR14A Build Alternatives would be similar to those resulting from implementation of the E1, E1A, E2, and E2A Build Alternatives. California HSR System service may have the indirect effect of stimulating TOD in the vicinity of proposed station areas as allowed by local government land use plans, policies, and regulations. Combined with strong real estate market conditions, improved transit service (such as HSR) could attract public and private investment, which would accelerate the rate of development anticipated in adopted station area plans. Experience in the United States demonstrates that major changes in land development near stations (typically within 0.25 mile) have taken place concurrently with development of new transit facilities. Jurisdictions with supportive policies, land use controls, and direct incentives can facilitate TOD near transit stations (Transit Cooperative Research Program 2007).

The referenced study by the Transit Cooperative Research Program (2007) considered development within 0.25 mile of the station for the typical light-rail transit project; however, it is anticipated that the California HSR System service would attract a new market of intercity travelers as the system provides new statewide accessibility to jobs, services, and housing, connecting the centers of the state's economic regions together. California HSR System stations would have a stronger influence on land use than commuter and light rail given the amount of existing and planned land use alterations due to the larger footprint required for all six Build Alternatives. HSR Station Area Development General Principles and Guidelines developed by the

Authority (February 3, 2011) focus on development occurring within 0.5 mile of a station. Further, as shown in Table 3.13-1, Palmdale and Burbank planning documents support development of HSR stations because they would increase connectivity and support planned growth. Therefore, the potential for growth to accelerate implementation of local development plans in Palmdale and Burbank would not substantially change land use patterns that would be incompatible with adjacent land uses. In fact, TOD development would be consistent with planning documents in these urban areas and would present an indirect land use benefit.

CEQA Conclusion

As discussed above, all six Build Alternatives would indirectly affect existing and planned land use patterns due to increased noise and visual changes caused by project operations. However, such effects would not cause a substantial change in land use patterns inconsistent with adjacent land uses. Furthermore, operation of the HSR stations would support adopted TOD station area plans in both Palmdale and Burbank. Therefore, this impact would be less than significant for the Refined SR14, SR14A, E1, E1A, E2, and E2A Build Alternatives, and CEQA does not require any mitigation.

Impact LU#6: Substantial Unplanned Growth from Permanent Employment Associated with Project Operations.

Population Growth Associated with Employment Growth

As discussed in Section 3.18, Regional Growth, long-term employment gains caused by the project would result in some degree of population increase.⁴

Los Angeles County has a 2.17 population-to-employment ratio that is used to estimate increases in population as a result of the aggregate long-term employment gains induced by the project (5,380 jobs).⁵ Regional population estimates for the No Project Alternative and Build Alternatives are presented in Table 3.13-14 .

Table 3.13-14 Regional Projected and Build Alternative–Induced Population Growth in Los Angeles County, 2015–2040

2015 Estimate	2040 Projections (No Project Alternative)	HSR Direct and Indirect Induced Growth	HSR Increased Accessibility Growth	Total HSR Induced Growth	Total 2040 HSR Build Alternative Projections	Growth Over No Project Alternative
10,155,070	11,514,000	1,058	10,636	11,693	11,525,693	0.1%

Sources: SCAG 2016

Notes: Figures rounded to nearest ten.

HSR = high-speed rail

As shown in Table 3.13-14 , all six Build Alternatives would contribute a relatively small (0.1 percent) increase to the projected 2040 population growth for Los Angeles County relative to the No Project Alternative projections.⁶

Suburban and Exurban Population Growth

Some individuals and their households may choose to relocate to suburban and exurban communities to purchase more affordable housing because of convenient access to potentially affordable HSR train commute services. The first and last mile connections of the project may

⁴ Increased population could also result in environmental impacts including but not limited to increased demand for public services and utilities, recreational facilities, and/or increased traffic. These specific issues are analyzed in Section 3.6, Public Utilities and Energy; Section 3.15, Parks, Recreation, and Open Space; and Section 3.2, Transportation, respectively.

⁵ Refer to Section 3.18, Regional Growth, for a detailed explanation of this long-term employment estimate.

⁶ Operations of the Palmdale to Burbank Project Station would result in a beneficial effect by reducing automobile travel on major freeways, thereby reducing long-term air pollutant emissions.

present challenging connections for some people as discussed in Section 3.18, Regional Growth, but these connections could be convenient for many people. The number, magnitude, and distribution of households that may make this decision to relocate is difficult to estimate because it involves many economic factors and individual preferences. Such households would likely relocate to these suburban and exurban communities over time, starting during construction, just prior to operation, or after California HSR System operation has been proven to be fast, reliable, and affordable. Local governments would take steps to accommodate this potential population growth and increased demand for housing by updating their general plan policies, transit plans, zoning, and building codes. The increases in population within these suburban and exurban cities would not be stimulated by local economic growth, but rather would be a shift of some population growth from expensive metropolitan central cities to suburban and exurban communities. For further discussion of suburban and exurban growth, refer to Section 3.18, Regional Growth.

CEQA Conclusion

Given that induced growth from all six Build Alternatives would represent approximately 0.1 percent of the projected 2040 population growth in Los Angeles County, operations of all six Build Alternatives would not induce substantial unplanned population growth beyond what is already projected for Los Angeles County. Therefore, the impact would be less than significant and CEQA does not require any mitigation.

3.13.7 Mitigation Measures

The mitigation measures outlined in this section avoid or minimize potential effects of the Palmdale to Burbank Project Section on land use. Because the types of impacts would be similar among all six Build Alternatives, the mitigation measures described below are applicable to all alternatives in the Palmdale to Burbank Project Section. The Authority will be responsible for implementing mitigation measures. The Authority's contractor will generally be responsible for monitoring with Authority oversight.

Measures SO-MM#1, SO-MM#2, and SO-MM#3 will minimize land use effects by facilitating relocation efforts and public involvement and outreach to reduce impacts on community cohesion and are described further in Section 3.12, Socioeconomic and Communities. N&V-MM#3 and N&V-MM#6 will reduce construction noise impacts that affect the viability of the surrounding land use patterns, and is described further in Section 3.4, Noise and Vibration. Measures TR-MM#1 through TR-MM#8 will reduce intersection impacts that affect vehicle circulation, and are described further in Section 3.2, Transportation. The following land use mitigation measure also would be implemented:

LU-MM#1: California HSR System Station Area Development General Principles and Guidelines

Prior to station construction, the Authority shall document how Station Area Planning Agreements have been implemented with each station city. The California HSR System Station Area Development General Principles and Guidelines (February 3, 2011) describe the intended outcomes by the Authority for station cities. Upon review of each station city's plans, the Authority will determine if mitigation strategies (including consultant assistance) are necessary to assist station cities with implementation of station area plans to implement TOD strategies and value capture at and around the station. Station Area Planning documentation reports shall be produced to document mitigation measure compliance.

3.13.7.1 Impacts from Implementing Mitigation Measures

LU-MM#1 will ensure coordination to align local planning in Burbank with the California HSR System. This would reduce the change in local land use patterns and minimize incompatibility with adjacent land uses. Implementation of this mitigation measure would not result in secondary or offsite environmental impacts.

Refer to Section 3.12, Socioeconomic and Communities, for a discussion of impacts resulting from implementing mitigation measures SO-MM#1 and SO-MM#2. Refer to Section 3.4, Noise

and Vibration, for a discussion of impacts resulting from implementing mitigation measure N&V-MM#3 and N&V-MM#6.

3.13.8 NEPA Impacts Summary

This section compares land use impacts between the Refined SR14, SR14A, E1, E1A, E2, and E2A Build Alternatives. Table 3.13-15 compares impacts of all six Build Alternative, summarizing the more detailed information provided in Section 3.13.6.3. A comparison of the land use impacts associated with all six Build Alternatives follows Table 3.13-15. Impacts LU#1, LU#2, LU#3, and LU#4 address construction-related effects; Impacts LU#5 and LU#6 address operations effects. Applicable IAMFs are discussed in Section 3.13.4.2 and mitigation measures are identified in Section 3.13.7.

Table 3.13-15 Comparison of High-Speed Rail Build Alternative Impacts for Station Planning, Land Use, and Development

Impact	Build Alternative ¹						NEPA Conclusion before Mitigation (All Build Alternatives)	Mitigation	NEPA Conclusion post Mitigation (All Build Alternatives)
	Refined SR14	SR14A	E1	E1A	E2	E2A			
Construction Impacts									
Impact LU#1: Temporary Alternations to Existing and Planned Land Uses from Construction Staging Areas.							No Adverse Effect	No mitigation needed	N/A See Section 3.13.8.1
<i>Acres of existing land uses subject to temporary land use effects</i>									
Industrial	<1	<1	<1 – 2	0 – <1	0	0			
Commercial	<1	<1	0 – <1	0 – <1	0 – <1	0			
Residential	24 – 41	10 – 27	28 – 63	48 – 63	32 – 63	35 – 64			
Agricultural	8	3	8	3	8	3			
Recreational	0	0	0	0	0	0			
Public	1 – 2	0 – <1	1-2	0 – <1	1	0 – <1			
Institutional	8	8	0	0	0 – <1	0 – <1			
Railroads/Utilities	1	0	1-2	0	1	0			
Vacant Land	65 – 77	80 – 93	27 – 40	59 – 75	32 – 47	46 – 61			
Total Acres	108 – 129	102 – 120	66 – 117	110 – 144	74 – 122	84 – 130			
<i>Acres of general plan–designated land uses subject to temporary land use effects</i>									
Industrial	<1 – 12	<1 - 12	<1 – 12	0	0	0			
Commercial	<1	11	0	11	0	11			
Medium-High-Density Residential	0	0	0	0	0	0			
Low-Density Residential	82 – 97	69 – 84	53	81 – 96	56	65			

Impact	Build Alternative ¹						NEPA Conclusion before Mitigation (All Build Alternatives)	Mitigation	NEPA Conclusion post Mitigation (All Build Alternatives)
	Refined SR14	SR14A	E1	E1A	E2	E2A			
Agricultural/Open Space	1 – 5	<1-4	1	1	<1	<1			
Angeles National Forest	6 – 33	6 – 33	<1 – 27	<1 – 27	<1 – 32	<1 – 32			
Public Facility/Institutional	17	8 – 9	11 – 15	9	12	6			
Right-of-Way	0	0	0	0	0	0			
Specific Plan	0	0	0	0	0	0			
Total Acres	107 – 163	96 – 153	67 – 108	103 – 144	70 – 101	84 – 115			
Impact LU#2: Temporary Alterations to Existing Land Use Patterns from Construction Activities.							No Adverse Effect	No mitigation needed	N/A See Section 3.13.8.1
HSR construction activities would result in temporary noise increases, dust, visual changes, and intermittent disruption of access. IAMFs incorporated in the Palmdale to Burbank Project Section would reduce effects to generally similar levels for each Build Alternative.									
Impact LU#3: Permanent Alterations to Existing and Planned Land Uses from Construction of the Build Alternatives.							Adverse Effect	LU-MM#1 SO-MM#1 SO-MM#2 SO-MM#3 N&V-MM#3 N&V-MM#6 TR-MM#1 TR-MM#2 TR-MM#3 TR-MM#4 TR-MM#5 TR-MM#6	No Adverse Effect See Section 3.13.8.1
Total permanent surface conversions to transportation land use (acres)	1,515 – 1,597	1,246 – 1,328	1,233 – 1,288	1,077 – 1,127	1,187 – 1,210	984 – 996			
<i>Effects on existing land uses (acres)</i>									
Industrial	198 – 217	125 – 138	155 – 167	152 – 164	92	90			
Commercial	12 – 15	13 – 16	19 – 22	18 – 21	12 – 13	11			
Residential	140 – 148	65 – 73	149 – 158	137 – 143	184 – 189	175 – 176			
Agricultural	13	17	<1	5	<1	5			

Impact	Build Alternative ¹						NEPA Conclusion before Mitigation (All Build Alternatives)	Mitigation	NEPA Conclusion post Mitigation (All Build Alternatives)
	Refined SR14	SR14A	E1	E1A	E2	E2A			
Recreational	<1	<1	<1	<1	<1	<1		TR-MM#7 TR-MM#8	
Public	139	103	122 – 123	114	93	85			
Institutional	7	7	1	1 – 13	0 – 1	0 – 1			
Railroads/Utilities	147	101	187 – 188	132	157	103			
Vacant Land	910 – 969	796 – 855	644 – 673	578 – 595	691 – 701	574 – 586			
Total Acres	1,575 – 1,657	1,306 – 1,388	1,279 – 1,334	1,138 – 1,188	1,231 – 1,248	1,044 – 1,058			
<i>Effects on planned land uses (acres)</i>									
Industrial	124 – 130	106 – 113	135 – 150	145 – 152	72	78			
Commercial	40	26	47	21	44	19			
Medium-High-Density Residential	<1	3	1	3	1	0 – <1			
Low-Density Residential	787 – 788	586	632	506	680 – 681	555			
Agricultural/Open Space	236	170	185	165	164	143			
Angeles National Forest	216 – 288	216 – 288	95 – 109	95 – 109	83 – 102	83 – 102			
Public Facility/Institutional	113 – 114	103 – 104	135 – 141	121	79	60			
Right-of-Way	4	3	0	0	0	0			
Specific Plan	0	0	0	0	0	0			
Total Acres	1,539 – 1,619	1,231 – 1,311	1,230 – 1,265	1,056 – 1,077	1,123 – 1,143	938 – 958			

Impact	Build Alternative ¹						NEPA Conclusion before Mitigation (All Build Alternatives)	Mitigation	NEPA Conclusion post Mitigation (All Build Alternatives)
	Refined SR14	SR14A	E1	E1A	E2	E2A			
<i>Specific land use impacts within the Angeles National Forest (acres)</i>									
Back Country	0 – 66	0 – 66	62-76	62-76	29-33	29-33			
Back Country (Motorized Use Restricted)	<1	<1	0	0	0	0			
Back Country (Non-Motorized)	0 – <1	0 – <1	22 – 23	22 – 23	22 – 37	22 – 37			
Developed Area Interface	216 – 221	216 – 221	0 – 10	0 – 10	27	27			
Total Acres	216 – 288	216 – 288	95 – 109	95 – 109	83 – 102	83 – 102			
Impact LU#4: Unplanned Population Growth Due to Temporary Construction Employment.							No Adverse Effect	No mitigation needed	N/A See Section 3.13.8.1
Total direct employment created during construction (in job years)	37,100	37,800	35,800	36,300	36,000	36,500			
Total indirect and induced employment created during construction (in job years)	46,300	47,100	44,500	45,300	44,900	45,600			
Total direct, indirect, and induced employment created during construction (in job years)	83,400	84,900	80,300	81,600	80,900	82,100			

Impact	Build Alternative ¹						NEPA Conclusion before Mitigation (All Build Alternatives)	Mitigation	NEPA Conclusion post Mitigation (All Build Alternatives)
	Refined SR14	SR14A	E1	E1A	E2	E2A			
Operations Impacts									
Impact LU#5: Indirect Effects to Existing and Planned Land Use Patterns from Project Operations. None of the Build Alternatives would result in indirect effects on agricultural land uses. All six Build Alternatives would provide opportunities to achieve TOD planning and infill development goals around the station in Palmdale and Burbank; however, such development would be consistent with planning documents in these urban areas and would present an indirect land use benefit.							No Adverse Effect	No mitigation needed	N/A See Section 3.13.8.2
Impact LU#6: Substantial Unplanned Growth from Permanent Employment Associated with Project Operations.							No Adverse Effect	No mitigation needed	N/A See Section 3.13.8.2
<i>Regional Projected and Build Alternative-Induced Population Growth in Los Angeles County, 2015–2040</i>									
California HSR System Direct and Indirect Induced Growth	1,058	1,058	1,058	1,058	1,058	1,058			
California HSR System Increased Accessibility Growth	10,636	10,636	10,636	10,636	10,636	10,636			
Total HSR Induced Growth	11,693	11,693	11,693	11,693	11,693	11,693			
Growth Over No Project Alternative	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%			

Notes: Construction staging areas within the ANF for the Refined SR14 Build Alternative would be within the ANF land use category "Developed Area Interface."

¹ As described in Chapter 2, there are several potential adit and intermediate window combinations for each Build Alternative within the Central Subsection. The calculations in the table feature the combined total of each subsection, where applicable. This table calculates impact acreages for the range between the base footprint, which includes only the non-optional adits and intermediate windows, and the maximum footprint including potential (optional) adits and intermediate windows.

< = less than; ANF = Angeles National Forest; TOD = transit-oriented development

3.13.8.1 Comparison of Construction Impacts

Construction of the Palmdale to Burbank Project Section would require the temporary use of land as construction staging areas for all six Build Alternatives. Acres of land that would be temporarily used as construction staging areas are presented in a range dependent on the adit and intermediate window combinations selected. Construction staging areas within the Refined SR14 Build Alternative would result in approximately 108 to 129 acres of temporary impacts. The SR14A Build Alternatives would result in approximately 102 to 120 acres of temporary impacts. The Refined SR14 and SR14A Build Alternatives would result in more temporary impacts than the E1 Build Alternative (66 to 117 acres), the E1A Build Alternative (approximately 110 to 144 acres), the E2 Build Alternative (approximately 74 to 122 acres), or the E2A Build Alternative (84 to 130 acres). Construction staging areas would temporarily change the intensity of the planned land use during the construction period; however, conflicts with the land use designation would not be permanent. In most cases, construction staging areas would be on undeveloped land. The lands used for construction staging areas would be negotiated with the property owner through a temporary construction easement. Construction staging would temporarily convert land to a transportation use. The negotiation would address how the property would be restored after temporary staging use, understanding that future use of the property would need to be consistent with existing general plan designation and zoning. Accordingly, long-term land uses, adjacent land uses, and long-term land use pattern or intensity would not change as a result of the Palmdale to Burbank Project Section for the Refined SR14, SR14A, E1, E1A, E2, and E2A Build Alternatives.

Aside from construction staging, construction activities would result in indirect construction-related effects that would potentially conflict with land use patterns in some locations. Such construction activities would result in temporary noise level increases, dust, and visual changes to the surrounding area. Additionally, construction would cause temporary and intermittent disruption of access. Acton (all six Build Alternatives), Agua Dulce (Refined SR14/SR14A), Sun Valley (Refined SR14/SR14A, E1/E1A), Lake View Terrace (E2/E2A), Shadow Hills (E2/E2A), and Burbank near Hollywood Burbank Airport (all six Build Alternatives) would be the communities most disrupted during construction of the Build Alternatives. However, with adherence to the Authority's Construction Management Plan and other noted IAMFs, and identified mitigation measures, these effects would be temporary and would not cause substantial changes to land use patterns.

Implementation of the Palmdale to Burbank Project Section would result in the permanent conversion of land from a non-transportation use to a transportation use. Conversion to transportation use could be incompatible with planned land uses and could alter existing land use patterns or sensitive land uses. Sensitive land uses are considered those where people are most likely to congregate, such as residential areas, parks, or schools. As discussed in Section 3.13.6.3 in the analysis of Impact LU#5, all six Build Alternatives would indirectly affect existing and planned land use patterns causing increases in wind, noise, and visual changes within sensitive land uses. Implementation of mitigation measures LU-MM#1, SO-MM#1, SO-MM#2, SO-MM#3, N&V-MM#3 and N&V-MM#6, along with mitigation measures TR-MM#1 through TR-MM#8, would minimize the potential for construction of any of the six Build Alternatives to cause a substantial change in land use patterns. LU-MM#1 will be implemented to assist with TOD planning around station areas to ensure that California HSR System stations are consistent with surrounding uses. SO-MM#1, SO-MM#2 and SO-MM#3 will be implemented to reduce impacts on neighborhood and community cohesion, and reduce impacts associated with the relocation of important community facilities. N&V-MM#3 and N&V-MM#6 will reduce noise impacts that affect the viability of the surrounding land use patterns. TR-MM#1 through TR-MM#8, will increase capacity and improve roadway and intersection operations through the addition of roadway travel lanes, traffic signal timing and phasing modifications, and intersection restriping, widening, and reconfiguration as applicable.

The Refined SR14 Build Alternative would result in 1,515 to 1,597 acres of land use change and the E2A Build Alternative would result in 984 to 998 acres of land use change, more than the SR14A E1, E1A, and E2 Build Alternatives. The SR14A Build Alternative would result in 1,246 to

1,328 acres of land use change. The E1 Build Alternative would require 1,219 to 1,274 acres, and the E1A Build Alternative would require 1,078 to 1,128 acres. The E2 Build Alternative would require 1,171 to 1,188 acres. Most existing land uses within the Refined SR14, SR14A, E1, E1A, E2, and E2A Build Alternative RSAs consist of vacant lands, at approximately 57 percent, 60 percent, 59 percent, 59 percent, 62 percent, and 62 percent, respectively.

Construction of any of the six Build Alternatives would result in new near-term construction-related employment growth. However, the small percentage increase of generated jobs would not be substantial enough to attract significant numbers of workers to the region.

All six Build Alternatives would require conversion of land, including the acquisition of residential areas, schools, and community facilities. While the Refined SR14 and SR14A Build Alternatives would both convert a larger number of existing land use acres in general (in comparison to the E1, E1A, E2, and E2A Build Alternatives), the E2 Build Alternative would require conversion of the largest acreage of existing land uses designated as residential.

The Refined SR14 and Refined SR14A Build Alternatives would both require the conversion of between 216 and 288 acres of land within the ANF. Most of this would occur within the Developed Area Interface zone, which would allow for some roadway-related use. However, most of these converted acres would be regraded to a more natural topography (current use is a mine and pit) and revegetated after construction is complete. The E1 and E1A Build Alternatives would both require the conversion of between 95 and 109 acres within the ANF. The E2 and E2A Build Alternatives would both require the conversion of between 83 and 102 acres within the ANF, the least of the six Build Alternatives.

Overall, the Palmdale to Burbank Project Section would not be expected to change existing adjacent land uses, except near proposed station sites that would offer interfaces into the California HSR System. The proposed alignment tracks and supporting facilities would not inhibit continuation of existing land uses on adjacent lands, nor would it induce growth. Growth related to the Palmdale to Burbank Project Section would instead be expected to occur closer to the Palmdale Station (analyzed in the Burbank to Palmdale Project Section) and the Burbank Airport Station, where interfaces/access points would be created. However, construction of all six Build Alternatives and the proposed station would help to advance the implementation of the Palmdale and Burbank regional and local planning documents because the Palmdale to Burbank Project Section would encourage improvements to the transportation network, a new rail station, and connectivity, as identified in Table 3.13-1 and Appendix 2-H, Regional and Local Policy Consistency Analysis.

3.13.8.2 Comparison of Operations Impacts

Additionally, operations of all six Build Alternatives could result in indirect land use effects due to induced wind, noise, and vibration. However, with implementation of IAMFs, these effects would be minimized for all six Build Alternatives.

Long-term employment gains resulting from operations of the project would increase the population to some degree. However, the Build Alternatives would only contribute an estimated 0.1 percent increase over the projected 2040 population growth for Los Angeles County relative to the No Project Alternative projections. Therefore, the induced population growth would not result in substantial unplanned growth.

3.13.9 CEQA Significance Conclusions

Table 3.13-16 summarizes the level of significance before mitigation, mitigation measures, and the level of CEQA significance after mitigation for the Refined SR14, SR14A, E1, E1A, E2, and E2A Build Alternatives.

Table 3.13-16 Summary of CEQA Significance Conclusions and Mitigation Measures for Station Planning, Land Use, and Development

Impact	Level CEQA of Significance before Mitigation						Mitigation Measures	Level CEQA of Significance after Mitigation					
	Refined SR14	SR14A	E1	E1A	E2	E2A		Refined SR14	SR14A	E1	E1A	E2	E2A
Construction Impacts													
Impact LU#1: Temporary Alterations to Existing and Planned Land Uses from Construction Staging Areas.	LTS	LTS	LTS	LTS	LTS	LTS	No mitigation measures are required.	N/A	N/A	N/A	N/A	N/A	N/A
Impact LU#2: Temporary Alterations to Existing Land Use Patterns from Construction Activities.	LTS	LTS	LTS	LTS	LTS	LTS	No mitigation measures are required.	N/A	N/A	N/A	N/A	N/A	N/A
Impact LU#3: Permanent Alterations to Existing and Planned Land Uses from Construction of the Build Alternatives.	S	S	S	S	S	S	LU-MM#1 SO-MM#1 SO-MM#2 SO-MM#3 N&V-MM#3 N&V-MM#6 TR-MM#1 TR-MM#2 TR-MM#3 TR-MM#4 TR-MM#5 TR-MM#6 TR-MM#7 TR-MM#8	LTS	LTS	LTS	LTS	LTS	LTS
Impact LU#4: Unplanned Population Growth Due to Temporary Construction Employment.	LTS	LTS	LTS	LTS	LTS	LTS	No mitigation measures are required.	N/A	N/A	N/A	N/A	N/A	N/A

Impact	Level CEQA of Significance before Mitigation						Mitigation Measures	Level CEQA of Significance after Mitigation					
	Refined SR14	SR14A	E1	E1A	E2	E2A		Refined SR14	SR14A	E1	E1A	E2	E2A
Operations Impacts													
Impact LU#5: Indirect Effects to Existing and Planned Land Use Patterns from Project Operations.	LTS	LTS	LTS	LTS	LTS	LTS	No mitigation measures are required.	N/A	N/A	N/A	N/A	N/A	N/A
Impact LU#6: Substantial Unplanned Growth from Permanent Employment Associated with Project Operations.	LTS	LTS	LTS	LTS	LTS	LTS	No mitigation measures are required.	N/A	N/A	N/A	N/A	N/A	N/A

N/A = Not Applicable; LTS = Less than Significant; S = Significant

3.13.10 United States Forest Service Impact Analysis

This section summarizes land use and development effects associated with each of the six Build Alternatives on the ANF, including lands within the ANF that are part of the SGMNM. Section 3.13.10.1 outlines the evaluation of relevant laws, regulations, and policies to areas within the ANF generally related to USFS management of uses and activities within national forests. The section also provides an overview of the consistency of each of the six Build Alternatives with applicable USFS land use designations and policies. Section 0 outlines allowable land use types and intensities within the ANF and areas designated as the SGMNM. The section further discusses the project's proposed use of USFS lands in the context of existing land use designations to determine consistency with those designations.

3.13.10.1 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 applicable to areas within the ANF, including the SGMNM. Policies in the *Angeles National Forest Management Plan* and *San Gabriel Mountains National Monument Management Plan* regarding land use and development are generally related to the advancement of resource management objectives and accommodation of certain types of uses.

As discussed, throughout Section 3.13.6, all six Build Alternatives would require land acquisition and right-of-way easements adjacent to the ANF. In addition, the Authority would acquire private in-holdings within the ANF, including within the SGMNM, to construct and maintain adit facilities. Acquisition and use of property within and adjacent to the ANF would not interfere with USFS land acquisitions that would support appropriate national forest activities, public needs, or other goals per Part 2 of the *Angeles National Forest Management Plan*. All six Build Alternatives would be implemented pursuant to the special-use authorization issued by USFS.

3.13.10.2 United States Forest Service Resource Analysis

Allowable land uses within the ANF are designated and defined by the ANF LMP and the 2019 SGMNM LMP Amendment, which was mandated by the 2014 Presidential Proclamation 9194 (USFS 2016).⁷ These land use designations indicate allowable land use types and intensities within the ANF and within areas designated as the SGMNM. Proposed uses are evaluated against these land use designations to determine whether such uses would be consistent with the LMP. As discussed in Section 3.13.5, the RSA incorporates the ANF land use categories listed below, which also apply to the SGMNM. Table 3.13-17 describes the type and extent of temporary and permanent surface effects of the proposed six Build Alternatives within areas under different ANF land use designations:

- **Back Country**—Generally undeveloped, with few roads and a low to moderate level of human use and infrastructure. Although this zone generally allows a broad range of uses, the management intent is to retain the natural character of this zone and limit the level and type of development.
- **Back Country (Motorized Use Restricted)**—Generally undeveloped with few roads and few facilities. The level of human use and infrastructure is low to moderate. Motorized use is restricted to administrative purposes only that includes USFS, other agency, or tribal government needs, as well as necessary access to private land or authorized special uses. Although this zone allows a range of low-intensity land uses, the management intent is to retain the natural character of the zone and limit the level and type of development.

⁷ Allowable uses within the SGMNM are guided by both Presidential Proclamation 9194 and the 2019 SGMNM LMP Amendment. For the purposes of this analysis, consistency with the land uses designated in the 2019 SGMNM LMP Amendment is considered equivalent to consistency with Presidential Proclamation 9194n. General consistency with Presidential Proclamation 9194 is discussed in Appendix 3.1-B.

- **Back Country (Non-Motorized)**—General undeveloped with few, if any, roads. The level of human use and infrastructure is low. Administrative access (usually for community protection) is allowed by exception for emergency situations and for short duration management purposes. While a range of non-motorized public uses are generally allowed, the management intent is to typically retain the undeveloped character and natural appearance of this zone and to limit the level of development to a low level of increase.
- **Critical Biological**—This zone includes the most important areas in the ANF, including the SGMNM, to manage for the protection of at-risk species. Facilities are minimal to discourage human use. The level of human use and infrastructure is low to moderate. Human uses are more restricted in this zone than in Back Country Non-Motorized zones to protect species' needs but are not excluded. Motorized use of existing National Forest System roads is allowed.
- **Developed Area Interface**—This zone includes areas adjacent to communities or concentrated use areas and developed sites with more scattered or isolated community infrastructure. The level of human use and infrastructure is typically higher than in other zones. Although this zone may have a broad range of higher intensity uses, the management intent is to limit development to a slow increase of carefully designed facilities to help direct use into the most suitable areas and concentrating on improving facilities before developing new ones. Limited road construction may occur, but at no more than a 5 percent net-increase in road mileage.

Table 3.13-17 High-Speed Rail Surface Footprint within the Angeles National Forest/San Gabriel Mountains National Monument (acres)

Build Alternative ²	Back Country	Back Country (Motorized Use Restricted)	Back Country (Non-Motorized)	Critical Biological	Developed Area Interface
Temporary Footprint					
Refined SR14 and SR14A ³	0	0	0	0	6
Option SR14-A1	27	0	0	0	0
E1 and E1A	<1	0	0	0	0
Option E1-A1	27	0	0	0	0
Option E1-A2	27	0	0	0	0
E2 and E2A	0	0	<1	0	0
Option E2-A1	31	0	0	0	0
Option E2-A2	0	0	18	0	0
Permanent Footprint					
Refined SR14 and SR14A ³	0	<1	0	0	216
Option SR14-A1	66	0	<1	0	5
E1 and E1A	10	0	21	6	0
Option E1-A1	66	0	<1	0	5
Option E1-A2	52	0	<1	0	5

Build Alternative ²	Back Country	Back Country (Motorized Use Restricted)	Back Country (Non-Motorized)	Critical Biological	Developed Area Interface
E2 and E2A	10	0	21	6	27
Option E2-A1	23	0	0	0	0
Option E2-A2	19	0	15	0	0

Source: USFS 2006

¹ The land use designations included in this table apply to the ANF including SGMNM. Refer to the figures below for surface footprint impact locations within the ANF including SGMNM.

² Within the ANF including SGMNM, impact acreages are identical between Refined SR14 and SR14A, E1 and E1A, and E2 and E2A Build Alternatives.

³ Refined SR14 and SR14A Build Alternative construction activities within the ANF may include construction of one of the three adit options. Because only one of the options is within the ANF, the Option SR14-A1 is the only optional adit listed in the table for the Refined SR14 and SR14A Build Alternatives.

< = less than; ANF = Angeles National Forest; SGMNM = San Gabriel Mountains National Monument

Construction Impacts

The Refined SR14 and SR14A Build Alternative would involve use of approximately 216 acres of lands within the ANF, of which 204 acres designated as Developed Area Interface are within the SGMNM. This category of land use includes areas near communities or concentrated use areas and development sites within a more sparse surrounding community infrastructure. The Developed Area Interface designation is managed for motorized public access to facilitate public access to authorized development. This 216-acre area is currently occupied by Vulcan Mine. Under the Refined SR14 and SR14A Build Alternatives, the tunnel portal would be at the Vulcan Mine site. The site would also be used for the deposition of spoils materials from tunnel excavation. Tunnel spoils would be deposited at the Vulcan Mine site and used to recontour the site to reflect the surrounding natural topography. Reclamation of Vulcan Mine would be a responsibility of the Vulcan Mine leaseholders. Once construction is complete, permanent aboveground facilities associated with the portal area would be outside the boundaries of the ANF, with the exception of a section of at-grade, covered tunnel (Figure 3.13-29). Construction within the Developed Area Interface designation would be generally consistent with allowable uses.

Other Refined SR14 and SR14A Build Alternative construction activities within the ANF may include construction of one of the three adit options, SR14-A1. This adit would be on a private in-holding adjacent to Little Tujunga Canyon Road, which contains existing non-forest uses including residential structures (Figure 3.13-30). Utilities, such as temporary water supply and permanent electrical facilities, and ventilation/access buildings, would also be installed to serve this adit. Most of the land at and around the adit location is designated as Back Country, a designation that allows low to moderate levels of human use and infrastructure. While the adit structure would be inconsistent with uses permitted on the Back Country land use designation, the structure and associated utilities would be similar to existing development within the private in-holding where it would be sited. Two other Refined SR14 and SR14A Build Alternative adit options would be outside of the ANF boundaries (Figure 3.13-31).

For the E1, E1A, E2, and E2A Build Alternatives, the northernmost tunnel portal would be outside of the ANF (Figure 3.13-32 and Figure 3.13-42). Each of the Build Alternatives would require temporary construction staging areas and permanent facilities in the Aliso Canyon Road area near Blum Ranch (Figure 3.13-33 and Figure 3.13-38). In addition to the northernmost tunnel portal, the E1, E1A, E2, and E2A Build Alternatives would require construction of tunnel portals on either side of Aliso Canyon Creek. These portals would require construction activities, such as grading and earthwork, within the ANF, including areas of the SGMNM. Most permanent facilities associated with these portals (access roads and portal structures) would be outside the ANF boundary. However, a portion of Aliso Canyon Road within the ANF, including the SGMNM,

would be reconstructed, and an existing utility line in this area would be upgraded to bring electrical power to the portal area (Figure 3.13-22, Figure 3.13-33, and Figure 3.13-37). Much of the permanent impact area would be within the existing Aliso Canyon Road right-of-way, but some grading would take place on either side of Aliso Canyon Road in areas designated Back Country and Critical Biological.⁸ These roadway realignments and utility lines would be inconsistent with the Critical Biological land use category identified in the ANF LMP and the SGMNM LMP (USFS 2016).

The E1, E1A, E2, and E2A Build Alternatives would require an adit be constructed near Arrastre Canyon Road; however, temporary and permanent facilities associated with construction of the adit, such as ventilation/access buildings, would be outside of the ANF (Figure 3.13-34 and Figure 3.13-38). As shown in Figure 3.13-35 and Figure 3.13-38, the E1 and E1A Build Alternatives would require one of two adit options within the ANF (E1-A1 or E1-A2) on private in-holdings near Little Tujunga Canyon Road. These adit options would require a temporary water utility line and permanent electrical utilities that would need to cross USFS lands to reach the private in-holding. As with SR14-A1, most temporary or permanent land conversions to accommodate the adits would involve the removal of existing development, including residential structures, and lands that have been previously disturbed. The adit structure and associated utilities would be consistent with the existing development on the private in-holding. As stated previously, moderate levels of human use and infrastructure development may be permissible within the Back Country land use designation, and therefore this use may be consistent with allowable uses identified in the ANF LMP and the SGMNM LMP.

The E2 and E2A Build Alternative also would require one of two adit options (E2-A1 or E2-A2) to be constructed on private in-holdings within the ANF near Gold Creek Road and Little Tujunga Canyon Road (Figure 3.13-39 and Figure 3.13-40). Both adit options would require a temporary water utility line and permanent electrical utilities that would cross USFS land to reach the adit location. The permanent E2-A1 surface footprint would be within an in-holding in an area designated as Back Country. The permanent E2-A2 surface footprint would also be within an in-holding in an area designated as Back Country and on Back Country Non-Motorized. Temporary construction staging areas would be on Back Country land for E2-A1 and Back Country Non-Motorized for E2-A2. Although adit facilities may be consistent with the Back Country designation, Back Country Non-Motorized limits human use and infrastructure to low level usage. Therefore, E2-A2 would likely be inconsistent with the ANF LMP and the SGMNM LMP in Back Country Non-Motorized areas.

Additionally, a tunnel portal in Lake View Terrace associated with both the E2 and E2A Build Alternatives would be within the ANF in an area designated as Developed Area Interface (Figure 3.13-41). The E2 and E2A Build Alternatives would be consistent with the Developed Area Interface land use designation in this area because they allow for transportation-related uses.

For all six Build Alternatives, temporary construction areas (staging areas, grading, and earthwork) within the ANF, including the SGMNM, will be revegetated or restored following construction (LU-IAMF#3). As described in Section 3.7, Biological and Aquatic Resources, mitigation measures will be applied in a timely manner to reduce impacts on protected trees in compliance with policies stipulated under local plans and ordinances within the Palmdale to Burbank Project Section RSA. Since temporary footprint areas would not permanently alter existing land uses, impacts associated with temporary construction areas would not be inconsistent.

Permanent HSR facilities within the ANF would be limited to the modification of existing roadways to accommodate the Palmdale to Burbank Project Section (Aliso Canyon Road), power lines, and adit structures, although these adits would be within existing in-holdings. Other permanent facilities and structures associated with all six Build Alternatives would be outside the boundaries

⁸ The affected Critical Biological area is primarily set aside to protect the California red-legged frog, a special-status amphibian species. As discussed further in Section 3.7, Biological Resources and Wetlands, a range of IAMFs and mitigation measures would be implemented to reduce biological effects on amphibians and amphibian habitat.

of the ANF. Depending on the Build Alternative and optional adit selected, a range of 87 to 289 acres of land within the ANF, including the SGMNM, would be permanently converted as a result of the Build Alternatives. As part of the evaluation of the Authority’s application for a Special Use Authorization, USFS would evaluate and determine the Palmdale to Burbank Project Section’s consistency with ANF and the SGMNM LMPs, including existing and planned uses.

In addition to the at-grade features described above, each Build Alternative would involve the construction of underground tunnels beneath the ANF, including portions of the SGMNM. Table 3.13-18 below details the length of tunnel that would be under USFS lands for all six Build Alternatives. Tunnel construction would not result in inconsistencies with land use designations within the ANF, including SGMNM, because all construction activities would occur below the surface, except for the Vulcan Mine area, where a section of at-grade, covered tunnel would be in an area disturbed by existing mining operations. Although portals would not be within the boundaries of USFS lands, construction-related noise and air quality impacts could affect existing land uses within the ANF. As discussed under Impact LU#2, such related effects would be temporary in nature and would be minimized through the implementation of appropriate IAMFs. Therefore, construction-related land use conflicts in these areas would be avoided.

Table 3.13-18 Length of Tunnel under United States Forest Service Lands

Build Alternative	Length of Tunnel under ANF Not Designated as SGMNM	Length of Tunnel under ANF Designated as SGMNM	Total Length of Tunnel under ANF including SGMNM
Refined SR14 and SR14A	3.29 miles	2.36 miles	5.65 miles
E1 and E1A	9.77 miles	6.50 miles	16.27 miles
E2 and E2A	9.59 miles	6.70 miles	16.29 miles

Operations Impacts

Operation of the HSR trains within the tunnels would not have direct surface effects on USFS lands. Traction power facilities found in Figure 3.13-29, Figure 3.13-33, Figure 3.13-37, and Figure 3.13-41 for the following Build Alternatives are part of the permanent footprint: Refined SR14/Refined SR14A Build Alternative at Vulcan Mine, E1/E1A Build Alternative at Aliso Canyon, and E2/E2A Build Alternative at Aliso Canyon and the Southern Tunnel Portal. Tunnel depth and construction design would prevent vibration- and noise-related effects, as shown on Figure 3.13-29 through Figure 3.13-41, for the ANF. Given that portal locations would be immediately adjacent to ANF, including the SGMNM, there could be some increase in noise levels on lands within USFS lands immediately adjacent to the portal areas. Land uses within the ANF immediately surrounding proposed portals do not include human activity areas (e.g., campgrounds, hiking paths). Exposure to long-term operational noise generated by ventilation equipment associated with adits options would be isolated to noise-sensitive receivers within 200 feet of the proposed adits. As described by the ANF land use designations, the protection of at-risk species and other biological resources is a priority land use within the ANF. Land uses within the ANF and immediately adjacent to portal areas would predominantly provide habitat for wildlife. As indicated in Section 3.4, Noise and Vibration, and Section 3.7, Biological and Aquatic Resources, noise increases that would affect animals/wildlife would be limited to areas within 50 feet from the alignment centerline and 100 feet from access road centerlines. There would be no aboveground Build Alternative alignment within the ANF, and wildlife would not experience adverse noise or startle effects on USFS lands. Startle effects associated with long-term operation of the adits would be limited, because activities would involve occasional access for maintenance, and noise generated by ventilation equipment. Therefore, HSR operations would have limited effect on the land use within the ANF including the SGMNM and would not inhibit implementation of the LMPs.

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