



Visual and Aesthetics Technical Memorandum

Coachella Valley-San Gorgonio Pass Rail
Corridor Service Program

May 2021



This page is intentionally blank.

Contents

1	Introduction.....	1-1
1.1	Study Approach.....	1-1
2	Program Location and Description	2-1
2.1	Program Location	2-1
2.2	Program Description.....	2-1
2.2.1	Build Alternative Option 1 (Coachella Terminus).....	2-1
2.2.2	Build Alternative Option 2 (Indio Terminus)	2-2
2.2.3	Build Alternative Option 3 (Indio Terminus with Limited Third Track).....	2-2
2.3	Construction	2-3
2.3.1	Western Section	2-3
2.3.2	Eastern Section	2-3
2.4	Operation.....	2-4
3	Regulatory Framework	3-1
3.1	Federal	3-1
3.1.1	Department of Transportation Act	3-1
3.1.2	Federal Highway Administration	3-1
3.1.3	Federal Railroad Administration.....	3-2
3.1.4	National Historic Preservation Act.....	3-2
3.1.5	National Park Service, 36 Code of Federal Regulations Parts 1-1999 – Parks, Forests, and Public Property.....	3-2
3.2	State	3-3
3.2.1	California Department of Transportation, Senate Bill 1467, Streets and Highways Code, Sections 260-263	3-3
3.3	Local and Tribal Governments	3-3
4	Methodology	4-1
4.1	Tier 1/Program EIS/EIR Study Area.....	4-3
5	Existing Conditions.....	5-1
5.1	Western Section	5-1
5.2	Eastern Section	5-2
6	Environmental Consequences.....	6-1
6.1	No Build Alternative	6-1

6.2	Build Alternative Options 1, 2, and 3	6-2
6.2.1	Visual Resources and Visual Character Effects	6-2
6.2.2	Light and Glare.....	6-4
7	Tier 2 Environmental Review Considerations	7-1
8	References	8-1

Tables

Table 4-1. Data Sources for the Tier 1/Program EIS/EIR Evaluation of Visual Quality and Aesthetics.....	4-2
---	-----

Figures

Figure 2-1. Western Section of the Program Corridor (Build Alternative Options 1, 2, and 3)	2-5
Figure 2-2. Eastern Section of the Program Corridor (Build Alternative Option 1)	2-7
Figure 2-3. Eastern Section of the Program Corridor (Build Alternative Options 2 and 3)	2-9
Figure 5-1. Visual Resources within the Tier 1/Program EIS/EIR Study Area	5-5

Abbreviations/Acronyms

CEQA	California Environmental Quality Act
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
FRA	Federal Railroad Administration
I-10	Interstate 10
LAUS	Los Angeles Union Station
NEPA	National Environmental Policy Act
Program	Coachella Valley-San Gorgonio Pass Corridor Service Program
Program Corridor	Coachella Valley-San Gorgonio Pass Rail Corridor
RCTC	Riverside County Transportation Commission
ROW	right-of-way
SDP	Service Development Plan
SR	State Route
U.S.	United States

This page is intentionally blank.

1 Introduction

The Federal Railroad Administration (FRA), California Department of Transportation Division of Rail and Mass Transportation, and Riverside County Transportation Commission (RCTC) are proposing the Coachella Valley-San Gorgonio Pass Rail Corridor Service Program (Program) to establish daily intercity passenger rail service between Los Angeles Union Station (LAUS) in Los Angeles County, California and the City of Coachella in Riverside County, California. This visual and aesthetics technical memorandum evaluates visual resources along the 144-mile Coachella Valley-San Gorgonio Pass Rail Corridor (Program Corridor) in support of a programmatic Tier 1 Environmental Impact Statement (EIS)/Environmental Impact Report (EIR). The evaluation of potential visual and aesthetic effects resulting from the Program includes:

- Temporary construction effects that have potential to block views of important visual resources, degrade the existing visual character or quality of the area and its surroundings, or introduce new sources of light or glare that have an effect on adjacent land uses
- Permanent elements of a project that block views of important visual resources, degrade the existing visual character or quality of the area and its surroundings, or introduce new sources of light or glare that have an effect on adjacent land uses

1.1 Study Approach

This evaluation was prepared pursuant to the requirements of the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA) and will be incorporated into the Tier 1/Program EIS/EIR evaluation.

FRA, California Department of Transportation, and RCTC are using a tiered NEPA/CEQA process (e.g., Tier 1/Program EIS/EIR) to complete the environmental review of the Program, under 40 Code of Federal Regulations 1508.28 (titled “Tiering”), CEQA Guidelines Section 15168 (titled “Program EIR”), and Section 15170 (titled “Joint EIS/EIR”). “Tiering” is a staged environmental review process often applied to environmental review for complex transportation projects.

The Tier 1/Program EIS/EIR, along with the concurrent preparation of the Service Development Plan (SDP), are the first steps in the tiered environmental review process. Based on the decisions made in the Tier 1/Program EIS/EIR and SDP, future site-specific proposals of infrastructure improvements will be evaluated through one or more Tier 2/Project-level environmental clearance processes. A description of the Tier 1/Program EIS/EIR, SDP, and Tier 2/Project-level analysis processes are further discussed below:

- *Tier 1/Program EIS/EIR*: The Tier 1/Program EIS/EIR evaluates potential environmental impacts of the No Build Alternative and three Build Alternative Options broadly within the Program Corridor. The Program Corridor provides a flexible regional context for the best location of an enhanced passenger rail system while providing opportunities for the Build Alternative Options to account for engineering and environmental constraints. The Tier 1/Program EIS/EIR evaluation addresses broad questions and likely environmental effects within the Tier 1/Program EIS/EIR Study Area for specific environmental resources. The resource-specific study areas generally represent the potential area where rail infrastructure improvements and station facilities could be implemented and constructed but does not represent the precise location or footprint of the improvement or facility.
- *SDP*: The SDP defines the Program's service mode, estimated ridership to include demand and revenue forecasts, operational strategy, station and access analysis, operating and maintenance costs, required infrastructure improvements and capital programming, and public benefits analysis necessary to implement the proposed intercity passenger rail service. As part of the SDP process, the site-specific infrastructure improvement requirements are being identified, including the number of stations and the general areas/communities in which stations might be located. The SDP infrastructure analysis is being informed by rail operations simulation modeling and would occur parallel to the Tier 1/Program EIS/EIR evaluation process.
- *Tier 2/Project-Level Analysis*: Based on the environmental evaluation conducted in the Tier 1/Program EIS/EIR and the site-specific infrastructure improvements identified in the SDP, a Tier 2/Project-level analysis would be required. The Tier 2/Project-level analysis would be a separate environmental review potentially led and funded by an agency other than FRA. In addition, the Tier 2/Project-level analysis process would not automatically follow the Tier 1 process, rather the potential Tier 2 Projects would need to be defined based on the Tier 1/Program EIS/EIR's broad scope and funding. The Tier 2/Project-level analysis would closely align with the future preliminary engineering process and would analyze site-specific direct and indirect Project-level effects, in addition to any required permits, consultations, or approvals needed for construction.

2 Program Location and Description

2.1 Program Location

The Tier 1/Program EIS/EIR analyzes the No Build Alternative and three Build Alternative Options in two geographic sections—a Western Section and an Eastern Section—occurring within existing railroad rights-of-way (ROW), as shown on Figure 2-1 through Figure 2-3. The Program Corridor runs west-to-east, extending up to 144 linear miles from a western terminus at LAUS to an eastern terminus in either the City of Indio or City of Coachella (depending on the Build Alternative Option).

From west to east, the cities traversed by the Build Alternative Options include Los Angeles, Vernon, Bell, Commerce, Montebello, Pico Rivera, Santa Fe Springs, Norwalk, La Mirada, Buena Park, Fullerton, Anaheim, Placentia, Yorba Linda, Chino Hills, Corona, Riverside, Grand Terrace, Colton, San Bernardino, Loma Linda, Redlands, Calimesa, Beaumont, Banning, Cabazon, Palm Springs, Cathedral City, Thousand Palms, Rancho Mirage, Palm Desert, Indio (under all Build Alternative Options), and/or Coachella (under Build Alternative Option 1 only). The boundary between Western and Eastern Sections is in the City of Colton, at the intersection of existing railroad lines owned by and BNSF.

2.2 Program Description

2.2.1 Build Alternative Option 1 (Coachella Terminus)

Build Alternative Option 1 includes a total Program Corridor distance of 144 miles and consists of a Western Section, terminating at LAUS, and an Eastern Section, terminating in the City of Coachella.

Western Section. Under Build Alternative Option 1, existing rail infrastructure would be used in the Western Section of the Program Corridor, and no additional railroad infrastructure improvements would be required. LAUS would serve as the western terminus, while existing stations in the Cities of Fullerton and Riverside would be utilized to support the proposed passenger rail service. No new stations or improvements to existing stations would be required to accommodate the proposed service within the Western Section of the Program Corridor.

Eastern Section. Under Build Alternative Option 1, potential new infrastructure improvements on the Eastern Section of the Program Corridor could include sidings, additional main line track, wayside signals, drainage, grade separation structures, and up to five new stations constructed in the following areas: 1) Loma Linda/Redlands Area (serving the Cities of Loma Linda and Redlands), 2) the Pass Area (serving the communities of Beaumont, Banning, and Cabazon), 3) the Mid Valley

(serving the communities of Cathedral City, Thousand Palms, the Agua Caliente Casino area, Rancho Mirage, and Palm Desert), 4) the City of Indio, and 5) the City of Coachella as the eastern terminus of the Program Corridor.

2.2.2 Build Alternative Option 2 (Indio Terminus)

Build Alternative Option 2 includes a total Program Corridor distance of 140.25 miles and consists of a Western Section, terminating at LAUS, and an Eastern Section, terminating at the City of Indio.

Western Section. The Western Section under Build Alternative Option 2 would be the same as that described above under Build Alternative Option 1.

Eastern Section. Under Build Alternative Option 2, potential new infrastructure improvements on the Eastern Section of the Program Corridor could include sidings, additional main line track, wayside signals, drainage, grade separation structures, and up to four new potential stations could be constructed in the following areas: 1) Loma Linda/Redlands Area (serving the Cities of Loma Linda and Redlands), 2) the Pass Area (serving the communities of Beaumont, Banning, and Cabazon), 3) the Mid Valley (serving the communities of Cathedral City, Thousand Palms, the Agua Caliente Casino area, Rancho Mirage, and Palm Desert), and 4) the City of Indio as the eastern terminus of the Program Corridor.

2.2.3 Build Alternative Option 3 (Indio Terminus with Limited Third Track)

Build Alternative Option 3 includes a total Program Corridor distance of 140.25 miles and consists of a Western Section, terminating at LAUS, and an Eastern Section, terminating at the City of Indio.

Western Section. The Western Section under Build Alternative Option 3 would be the same as that described above under Build Alternative Options 1 and 2.

Eastern Section. The Eastern Section under Build Alternative Option 3 would be the same as that described above under Build Alternative Option 2, except for the following changes:

As part of Build Alternative Option 3, additional infrastructure improvements for the Eastern Section of the Program Corridor have been considered. These potential infrastructure improvements include the addition of station tracks and a third main line track. The addition of station tracks would be the same as described under Build Alternative Options 1 and 2; however, the addition of the third main track would be limited under Build Alternative Option 3 when compared with Build Alternative Options 1 and 2. The limited third track under Build Alternative Option 3 would augment the existing two main tracks along the Eastern Section of the Program Corridor to the proposed Mid Valley Station Area.

2.3 Construction

2.3.1 Western Section

In the Western Section, existing rail infrastructure would be used to accommodate the proposed service, and no additional track improvements would be required to accommodate the proposed service under all Build Alternative Options. LAUS would serve as the western terminus, and existing stations in the Cities of Fullerton and Riverside would be used, as depicted on Figure 2-1. No new stations or additions to existing stations would be required to accommodate the proposed service under all Build Alternative Options. The Tier 1/Program EIS/EIR Study Area for potential construction-related impacts on visual resources within the Western Section is up to 600 feet from either side of the existing railroad centerline.

2.3.2 Eastern Section

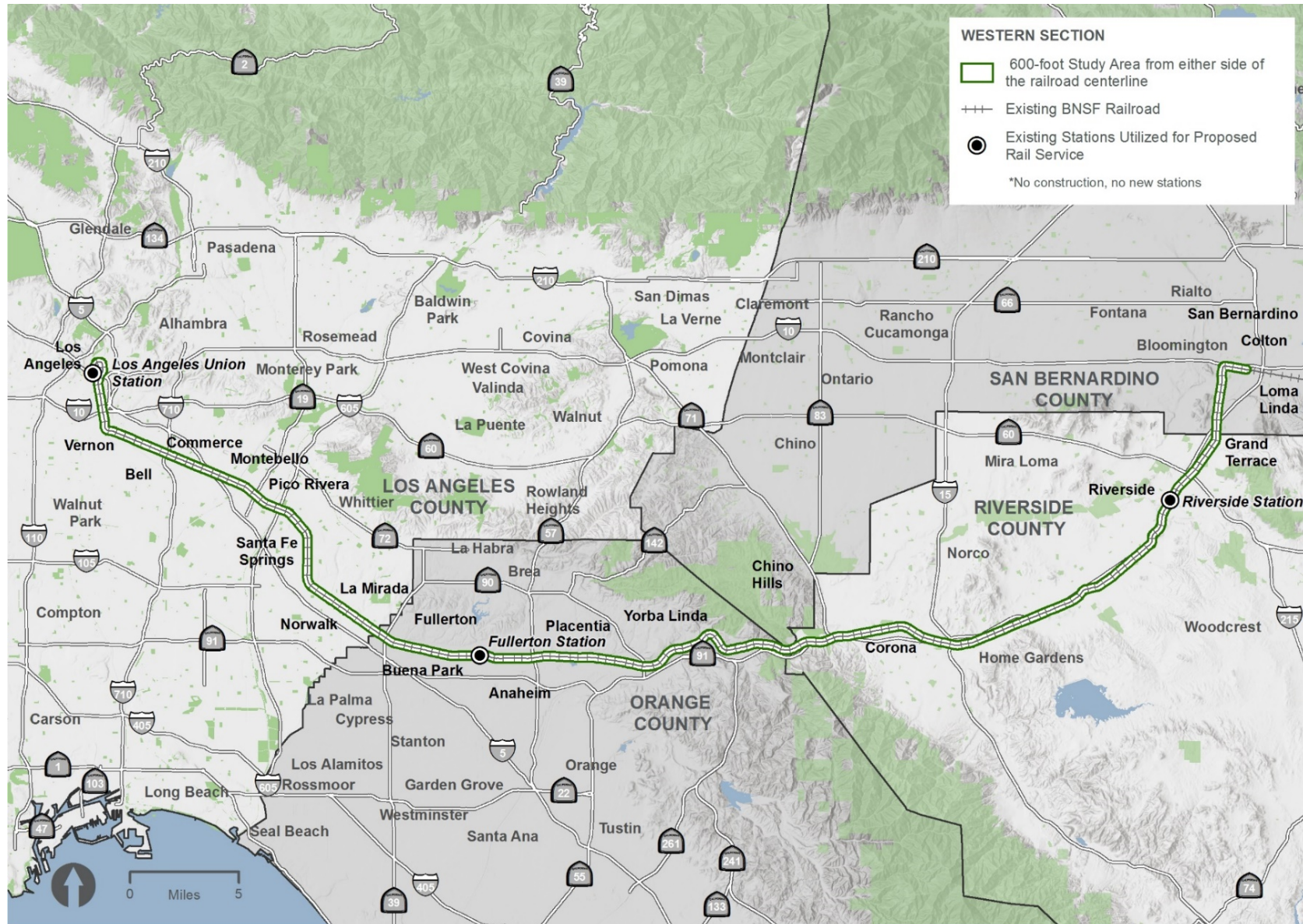
In the Eastern Section, proposed new infrastructure improvements under all Build Alternative Options could include sidings, additional main line track, wayside signals, drainage, grade-separation structures, and stations to accommodate the proposed service. The Eastern Section would use the existing station in the City of Palm Springs, which is the only existing station in the Eastern Section. Additionally, as depicted on Figure 2-2 and Figure 2-3, up to five new potential stations could be constructed in the following areas: 1) Loma Linda/Redlands Area (serving the Cities of Loma Linda and Redlands), 2) the Pass Area (serving the communities of Beaumont, Banning, and Cabazon), 3) the Mid-Valley (serving the communities of Cathedral City, Thousand Palms, the Agua Caliente Casino area, Rancho Mirage, and Palm Desert), 4) the City of Indio (under all Build Alternative Options), and/or 5) the City of Coachella (under Build Alternative Option 1 only).

The Tier 1/Program EIS/EIR Study Area for potential construction-related impacts on visual resources within the Eastern Section is up to 1,000 feet from either side of the centerline, plus a 500-foot buffer for the assessment of indirect impacts, for a total Tier 1/Program EIS/EIR Study Area of 1,500 feet from either side of the centerline at each of the individual station location areas. The remaining portion of the Eastern Section Tier 1/Program EIS/EIR Study Area encompasses up to 300 feet from the railroad centerline to include non-station-related infrastructure improvements, plus a 500-foot buffer for the assessment of indirect impacts, for a total Tier 1/Program EIS/EIR Study Area of 800 feet from the railroad centerline.

2.4 Operation

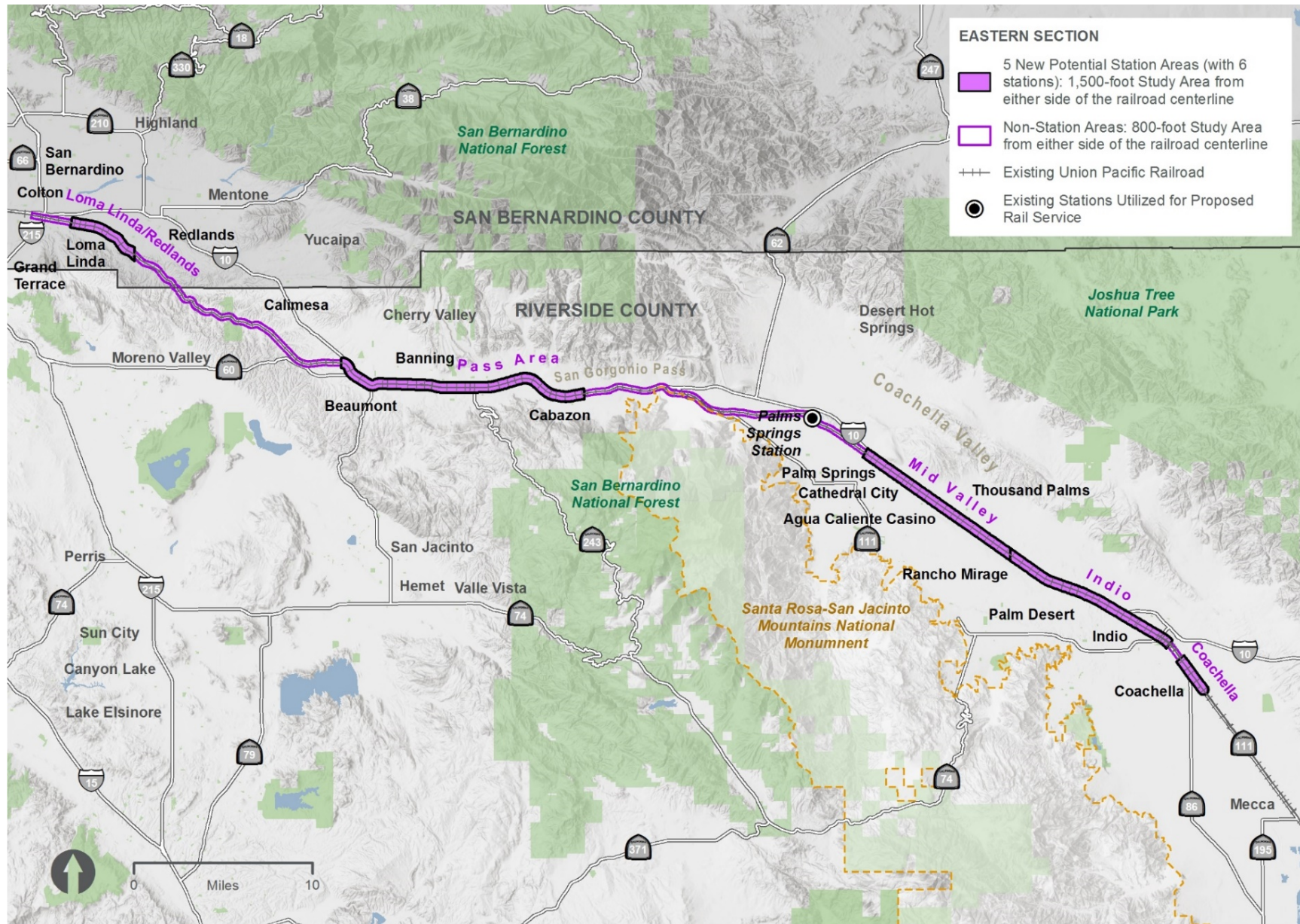
Passenger train frequencies proposed as part of the Program would consist of the addition of two daily round-trip intercity diesel-powered passenger trains operating the entire length of the Program Corridor between Los Angeles and Indio and/or Coachella, with one morning departure and one afternoon departure from each end of the Program Corridor.

Figure 2-1. Western Section of the Program Corridor (Build Alternative Options 1, 2, and 3)



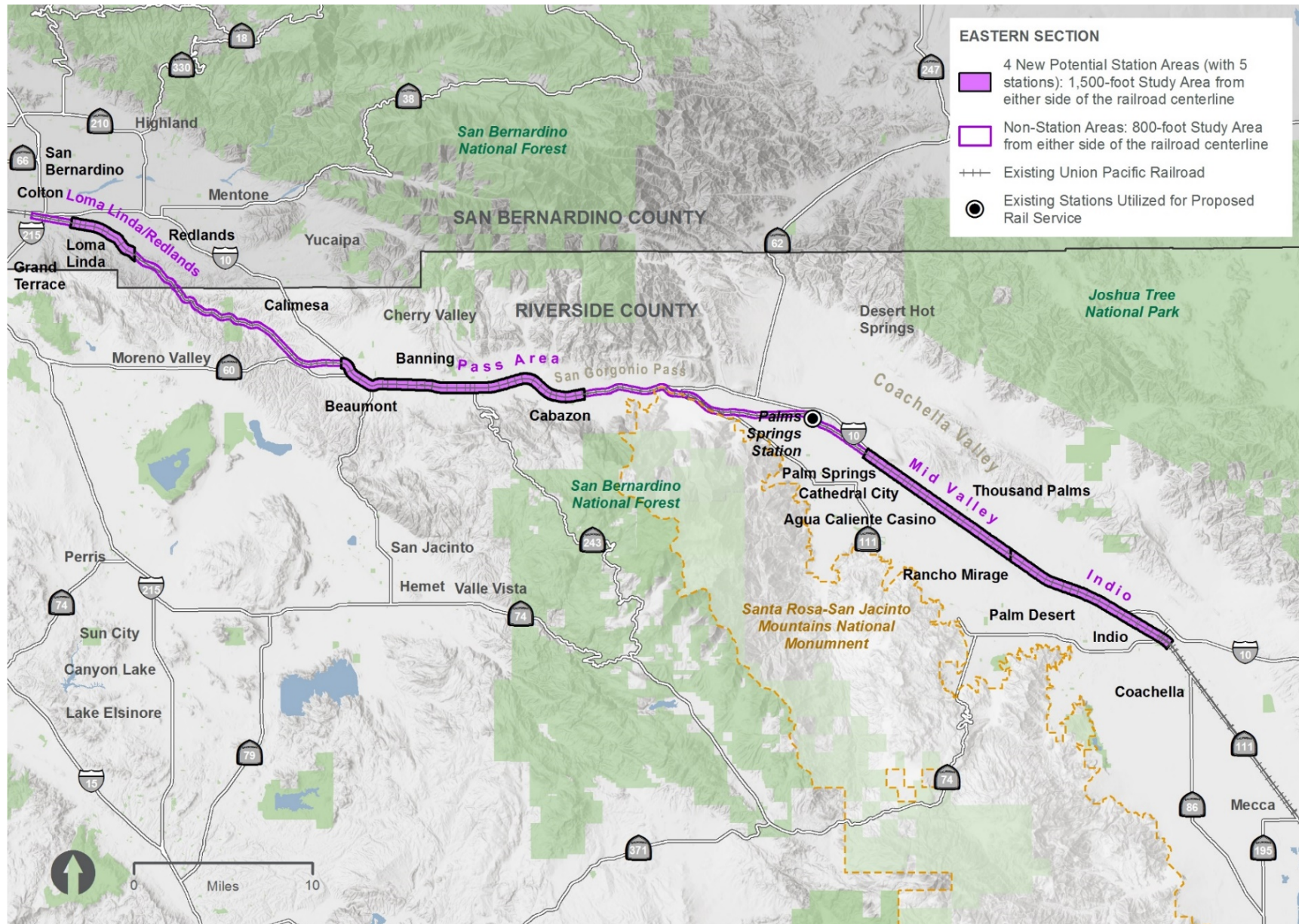
This page is intentionally blank.

Figure 2-2. Eastern Section of the Program Corridor (Build Alternative Option 1)



This page is intentionally blank.

Figure 2-3. Eastern Section of the Program Corridor (Build Alternative Options 2 and 3)



This page is intentionally blank.

3 Regulatory Framework

Visual and aesthetic resources include historic properties, public parks, recreational areas, and natural areas within the Tier 1/Program EIS/EIR Study Area and are subject to regulation by multiple federal, state, and local agencies. Applicable legislation and regulations consistent with a Tier 1/Program EIS/EIR evaluation are described below. Existing policies may help serve as indicators for viewer sensitivity. As construction could potentially occur at any point along the Eastern Section, regulations from local agencies would be identified in the Tier 2/Project-level analysis.

3.1 Federal

3.1.1 Department of Transportation Act

Section 4(f) of the Department of Transportation Act of 1966 restricts the “use of land from publicly owned parks, recreation areas, wildlife and waterfowl refuges, and public or private historic sites” for the United States (U.S.) Department of Transportation funded projects. FRA’s regulations for complying with Section 4(f) are in 23 Code of Federal Regulations 774, and the coordination requirements are detailed in 23 Code of Federal Regulations 774.5. Practitioners should identify and analyze visual effects on Section 4(f) properties in coordination with the analysis of Section 4(f) properties.

3.1.2 Federal Highway Administration

The National Scenic Byways Program, Title 23, Section 162 of the U.S. Code, is part of the U.S. Department of Transportation, Federal Highway Administration, which preserves and enhances identified roadways that possess certain cultural, historic, archaeological, scenic, natural, or recreational qualities. The National Scenic Byways Program designates roads as National Scenic Byways, All-American Roads, or America’s Byways. The Federal Highway Administration provides guidelines for the Visual Impact Assessment of Highway Projects. This guidance presents an approach used to identify the importance of visual resources and to assess the impact of a highway projects to these resources. This guidance can also be used for linear transportation projects. In addition, the Federal Highway Administration published a guidance document titled *Guidelines for the Visual Impact Assessment of Highway Projects* (Federal Highway Administration 2015). This guidance presents an approach used to identify the importance of visual resources and assess the impact of effects on these resources.

3.1.3 Federal Railroad Administration

According to the FRA's *Procedures for Considering Environmental Impacts* (64 FR 28545, May 26, 1999) Section 14(n)(13) (FRA 1999a), an "EIS should assess the impacts on both passenger and freight transportation, by all modes, from local, regional, national, and international perspectives. The EIS should include a discussion of both construction period and long-term impacts on vehicular traffic congestion."

3.1.4 National Historic Preservation Act

Section 106 of the National Historic Preservation Act of 1966 requires that federal agencies take into account the effects of their projects on historic properties included in, or eligible for inclusion in, the National Register of Historic Places. Adverse effects occur when a project "may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association." Examples of adverse effects include "Introduction of visual...elements that diminish the integrity of the property's significant historic features," which often includes the larger setting and viewshed.

3.1.5 National Park Service, 36 Code of Federal Regulations Parts 1-1999 – Parks, Forests, and Public Property

Title 36 provides guidance for the proper use, management, government, and protection of persons, property, and natural and cultural resources within areas under the jurisdiction of the National Park Service. It fulfills the statutory purposes of units of the National Park System: to conserve scenery, natural and historic objects, and wildlife, and to provide for the enjoyment of those resources in a manner that will leave them unimpaired for the enjoyment of future generations. National parks, recreation areas, and federal heritage areas are regulated by the National Parks Service.

3.2 State

3.2.1 California Department of Transportation, Senate Bill 1467, Streets and Highways Code, Sections 260-263

Scenic highways are identified in Senate Bill 1467, Section 263 of the Streets and Highways Code. Senate Bill 1467 places the Scenic Highway Program under the stewardship of California Department of Transportation. It establishes state's responsibility for the protection and enhancement of California's natural scenic beauty by identifying those portions of the state highway system which, together with adjacent scenic corridors, require special conservation treatment.

3.3 Local and Tribal Governments

Regulations from cities, local agencies, and tribal governments would be identified in the Tier 2/Project-level analysis once site-specific rail infrastructure improvements and station facilities are known.

This page is intentionally blank.

4 Methodology

The Tier 1/Program EIS/EIR methodology identifies the approach and assumptions for describing existing conditions of visual and aesthetic resources and environmental consequences of the Program on those resources.

The major components of this evaluation process include establishing the visual environment of the Program and assessing the visual and aesthetic resources. Visual and aesthetic resources include features of both the built and natural environment that together make the visual environment, such as parks, natural areas, scenic features, open vistas, water bodies, and other landscape features. Historic or urban core districts can also be visual resources. All of these visual resources create aesthetic qualities that are valued by viewers.

Visual and aesthetic resources are often described in terms of their visual quality. Visual quality is an attribute or characteristic based on professional, public, or personal values, as well as the intrinsic physical properties of the landscape. Visual quality is influenced by the visual character of elements within the affected environment and what viewers like or dislike about a particular landscape. Visual and aesthetic effects result from changes in the visual landscape and the viewer's response or sensitivity to those changes.

Because specific locations of new visual elements, such as elevated structures, stations, grade separations, and noise barriers are not known at the Tier 1/Program phase of the environmental review process, a qualitative evaluation of potential effects within the Tier 1/Program EIS/EIR Study Area is provided, including potential for blocking views, changes in visual character, and changes in light and glare. A detailed evaluation would be completed for the future Tier 2/Project-level analysis.

The Tier 1/Program EIS/EIR Study Area (see Section 4.1) was combined with geographic information system overlays to identify potential natural and built visual and aesthetic scenic resources that could be affected by the Program. These potential resources were identified on a broad scale, using available mapping information.

Unique maps were not developed for visual and aesthetic resources. As needed, visual and aesthetic resources cross-reference maps within the *Land Use and Planning Technical Memorandum* (RCTC and FRA 2021b), the *Biological and Wetland Resources Technical Memorandum* (RCTC and FRA 2021c), and the *Cultural, Historic, and Tribal Resources Technical Memorandum* (RCTC and FRA 2021d).

Environmental consequences of the Program were assessed within the viewshed of each Build Alternative Option. A qualitative assessment of resources present in the Tier 1/Program EIS/EIR Study Area (defined below) was used to supplement the effects assessment. Because specific locations of new visual elements, such as elevated structures, stations, grade separations, and noise barriers, are not known and cannot be known at this stage, a qualitative evaluation of potential effects is provided, including potential for blocking of views, changes in visual character, and changes in light and glare.

This evaluation also incorporates data and evaluation from related resources to contribute to the assessment of aesthetics and visual resources. Data sources, including those from related resources, are listed in Table 4-1.

Table 4-1. Data Sources for the Tier 1/Program EIS/EIR Evaluation of Visual Quality and Aesthetics

Resource	Data Source	Data Application
Visual and aesthetic resources	<ul style="list-style-type: none"> • Maps and aerial photography • Scenic byway data and plans • Google Maps street view 	<ul style="list-style-type: none"> • Identification of open areas and natural landscapes • Identification of the visual character of the natural, cultural, and Program site environments • Identification of scenic byways • Identification of scenic vistas • Identification of any other protected visual resources • Qualitative evaluation of existing sources of light and glare • Identification of viewer groups, preferences, and sensitivities
Land use and planning	<ul style="list-style-type: none"> • <i>Land Use and Planning Technical Memorandum</i> 	<ul style="list-style-type: none"> • Identification of types of land uses, including open space, recreational, or agricultural areas
Floodplains, hydrology, and water quality	<ul style="list-style-type: none"> • Floodplains, Hydrology, and Water Quality Section in the EIS/EIR 	<ul style="list-style-type: none"> • Identification of water resources on maps
Biological and wetland resources	<ul style="list-style-type: none"> • <i>Biological and Wetland Resources Technical Memorandum</i> 	<ul style="list-style-type: none"> • Identification of distinct natural or wildlife areas
Parklands, community services, and other public facilities/Section 4(f) and 6(f) resources	<ul style="list-style-type: none"> • Maps and aerial photography • Parklands and Community Services Section in the EIS/EIR 	<ul style="list-style-type: none"> • Identification of parklands, such as state park or trail systems • Identification of Section 4(f) and 6(f) properties

Resource	Data Source	Data Application
Cultural, historic, paleontological and tribal resources	<ul style="list-style-type: none"> <i>Cultural, Historic, and Tribal Resources Technical Memorandum</i> 	<ul style="list-style-type: none"> Identification of cultural, tribal, and historic resources (for Eastern Section only)*: Historic properties listed or eligible for listing in the National Register of Historic Places Sacred lands and identified Traditional Cultural Properties
Nighttime lighting	<ul style="list-style-type: none"> <i>Western Coachella Valley Area Plan</i> 	<ul style="list-style-type: none"> Nighttime lighting policy within the Mount Palomar Nighttime Lighting Policy Area
U.S. Department of the Interior	<ul style="list-style-type: none"> <i>California Map of Federal Lands</i> 	<ul style="list-style-type: none"> Federal lands within the Program Corridor

Source: RCTC and FRA 2021a, 2021b, 2021c, 2021d

Notes:

* The Western Section of the Program Corridor would not require ground disturbance and would utilize existing railroad infrastructure. Therefore, identification of cultural resources were conducted for the Eastern Section only.

EIR=environmental impact report; EIS=environmental impact statement; U.S.=United States

Visual and aesthetic resources were identified using geographic information systems and documented by generating an inventory of key visual resources. The visual resource inventory included the following information:

- Resource (including the resource name if available)
- Location within the affected environment
- Brief description of the “visual setting” based on overlay data from parklands, land cover, water resources, ecological resources, and cultural and historic resources

Unique maps were not developed for visual and aesthetic resources. Visual and aesthetic resources cross-referenced maps within the *Land Use and Planning Technical Memorandum* (RCTC and FRA 2021b), the *Biological and Wetland Resources Technical Memorandum* (RCTC and FRA 2021c), and the *Cultural, Historic, and Tribal Resources Technical Memorandum* (RCTC and FRA 2021d).

4.1 Tier 1/Program EIS/EIR Study Area

The Program Corridor crosses a large geographic area within Southern California, spanning a distance of approximately 144 miles from its western terminus in Los Angeles to its eastern terminus in Coachella. The Tier 1/Program EIS/EIR Study Area includes the Program Corridor alignment viewshed. The viewshed can be defined by the views of passengers and/or defined by areas in

which the public would interact with the improvements (e.g., road crossings, stations). The viewshed would include the area that can be seen from the limits of the infrastructure improvements, and, therefore, would have a view of the infrastructure improvements. The viewshed is defined by the physical constraints of the environment and the physiological limits of human sight. Physical constraints of the environment include landform, land cover, and atmospheric conditions. Landform is a major factor in determining the viewshed because it can limit views or provide an elevated perspective for viewers. Similarly, land cover, such as trees and buildings, can limit views, while low-growing vegetation and the absence of structures can allow for unobscured views. Atmospheric conditions, such as smoke, dust, fog, or precipitation, can temporarily reduce visibility.

For this evaluation, the Tier 1/Program EIS/EIR Study Area for potential construction-related impacts on visual resources within the Western Section is up to 600 feet from either side of the existing railroad centerline. In the Eastern Section, the Tier 1/Program EIS/EIR Study Area for potential construction-related impacts on visual resources is up to 1,000 feet from either side of the centerline, plus a 500-foot buffer for the assessment of indirect impacts, for a total Tier 1/Program EIS/EIR Study Area of 1,500 feet from either side of the centerline at each of the individual station location areas. The remaining portion of the Eastern Section Tier 1/Program EIS/EIR Study Area encompasses up to 300 feet from the railroad centerline to include non-station related infrastructure improvements, plus a 500-foot buffer for the assessment of indirect impacts, for a total Tier 1/Program EIS/EIR Study Area of 800 feet from the railroad centerline.

The viewshed encompasses the potential area where physical changes may occur, including new infrastructure improvements such as sidings, additional main line track, wayside signals, drainage, grade-separation structures, and stations. The context area allows for the characterization of the visual environment in which potential physical changes may occur. The larger context area is assessed as part of a context sensitive approach to designing Program features, which would be identified for the Tier 2/Project-level analysis, and potential mitigation compatible with the broader surrounding environment.

5 Existing Conditions

The Program Corridor crosses a large geographic area within Southern California, spanning a distance of approximately 144 miles from its western terminus in Los Angeles to its eastern terminus in Coachella. The topography crossed by the Program Corridor ranges from relatively flat, urban landscapes in the Western Section of the Program, to hilly canyons in the central portion, and flat, low desert habitat in the east.

5.1 Western Section

The Program Corridor occurs within an existing railroad corridor that traverses areas that have predominately been heavily modified for urban purposes, especially in the Western Section of the Tier 1/Program EIS/EIR Study Area, although some areas occur in, or adjacent to, lands that are in a natural condition.

Elements of the urban and suburban landscape dominate the visual environment within the Western Section of the Program Corridor, as these areas are mostly developed and the topography generally flat. At the eastern end of the Western Section of the Program Corridor, there are nearby hills and mountains visible from the existing railroad corridor. Transportation, communication, and utilities uses comprise the largest portion of land within the Western Section of the Tier 1/Program EIS/EIR Study Area, totaling nearly 27 percent of the total area. Industrial uses comprise the second largest land use category, with 25.25 percent of the total area. Residential uses, including single family, multifamily, and other, comprise the third largest land use category, totaling nearly 19 percent of the land uses in the total area. There are limited agriculture, open space, and recreational areas in the Western Section. Significant open space and recreation land uses in the Western Section include Yorba Linda Regional Park, Green River Golf Course, and Prado Regional Park.

The Program Corridor also crosses numerous waterways, including rivers, such as the Los Angeles and Santa Ana Rivers, the Prado Flood Control Basin, and many smaller creeks and drainages, as well as numerous transportation corridors, including rail, highways, and local roadways. Regional highways in the Western Section of the Program Corridor include Interstate 10 (I-10), State Route (SR) 60, and SR 91. As shown on Figure 5-1, there are no designated scenic highways within the Western Section of the Program Corridor. However, the Program Corridor crosses through the Juan Bautista de Anza Trail, a national historic trail near Riverside and through the Grand Boulevard Historic District, a National Register Historic district near Corona. In addition, the Western Section of the Program Corridor contains six National Register of Historic Places sites.

In the Western Section, much of the viewshed from Los Angeles to Redlands is urbanized with limited habitat value for most plant and wildlife species with areas of natural habitat occur mainly along the Santa Ana River basin. The viewshed crosses areas of critical habitat, protected areas, and habitat for a number of special-status plant and wildlife species.

Viewer groups in the viewshed are as varied as the land uses. Generally, the most sensitive viewer groups are 1) those who can see the corridor from their residences who have a sense of familiarity and ownership of the view, and 2) recreational viewers at parks, trails, and other recreational areas because of their relationship with the view during their recreational activity and often their expectations of an aesthetically pleasing view. The viewshed and context area follow the existing rail ROW in the Western Section of the Program Corridor between Los Angeles Union Station and the City of Colton. These areas are mostly developed, and the topography is generally flat. In the eastern end of the Western Section, nearby hills and mountains outside the viewshed and context area are visible from the Program Corridor.

5.2 Eastern Section

The Program Corridor in the Eastern Section follows the existing Union Pacific Railroad ROW from Colton to Coachella, with the topography becoming more varied while traveling east. There are nearby hills and mountains, which are visible from the Program Corridor but outside of the viewshed and context Tier 1/Program EIS/EIR Study Area established in the Tier 1/Program EIS/EIR evaluation.

Vacant land comprises the largest land use category in the Eastern Section, with 42.16 percent. Transportation, communication, and utilities uses comprise the second largest portion of land within the Eastern Section, a little over 27 percent of the total area. Agricultural uses, with 7.86 percent of the area, comprise a distant third of the land uses within the Eastern Section. Residential uses within the Eastern Section of the Tier 1/Program EIS/EIR Study Area include a relatively small proportion of the total area devoted to single family and multifamily residential, as well as other residential uses, or just under 7 percent total. Much of the viewshed between the urban areas of Loma Linda and Beaumont is characterized by agriculture, open space, recreation, and vacant land uses. East of Beaumont, much of the land is categorized as vacant with large areas of open space.

The Program Corridor in the Eastern Section crosses many small creeks and drainage ways, although most of the hydrological features are dry except after heavy rainfall. The Program Corridor also contains natural habitat areas located in San Timoteo Canyon between Redlands and Banning, the Santa Rosa San Jacinto Mountains National Monument east of Cabazon, and the Sonoran Desert area. San Timoteo Canyon is comprised of riparian woodland, grasslands, and wetlands. The

viewshed crosses areas of critical habitat, protected areas, wildlife corridors, and habitat for a number of special-status plant and wildlife species.

Within the Eastern Section, the Program Corridor crosses numerous transportation corridors, including rail, highways, and local roadways, including I-10, SR 60, and SR 111. I-10 runs along the northeastern rim of the Coachella Valley, while SR 111 runs approximately 30 miles along the southwestern rim of the Coachella Valley and serves as the main arterial highway between almost all Coachella Valley cities. As shown on Figure 5-1, there are no designated scenic highways within the Eastern Section of the Program Corridor. However, the Program Corridor crosses through the Pacific Crest Trail. The Pacific Crest Trail crosses the viewshed between Cabazon and Whitewater. The Pacific Crest Trail is a national scenic trail that stretches from the Mexican border near Campo, California to the Canadian border near Manning Park in British Columbia.

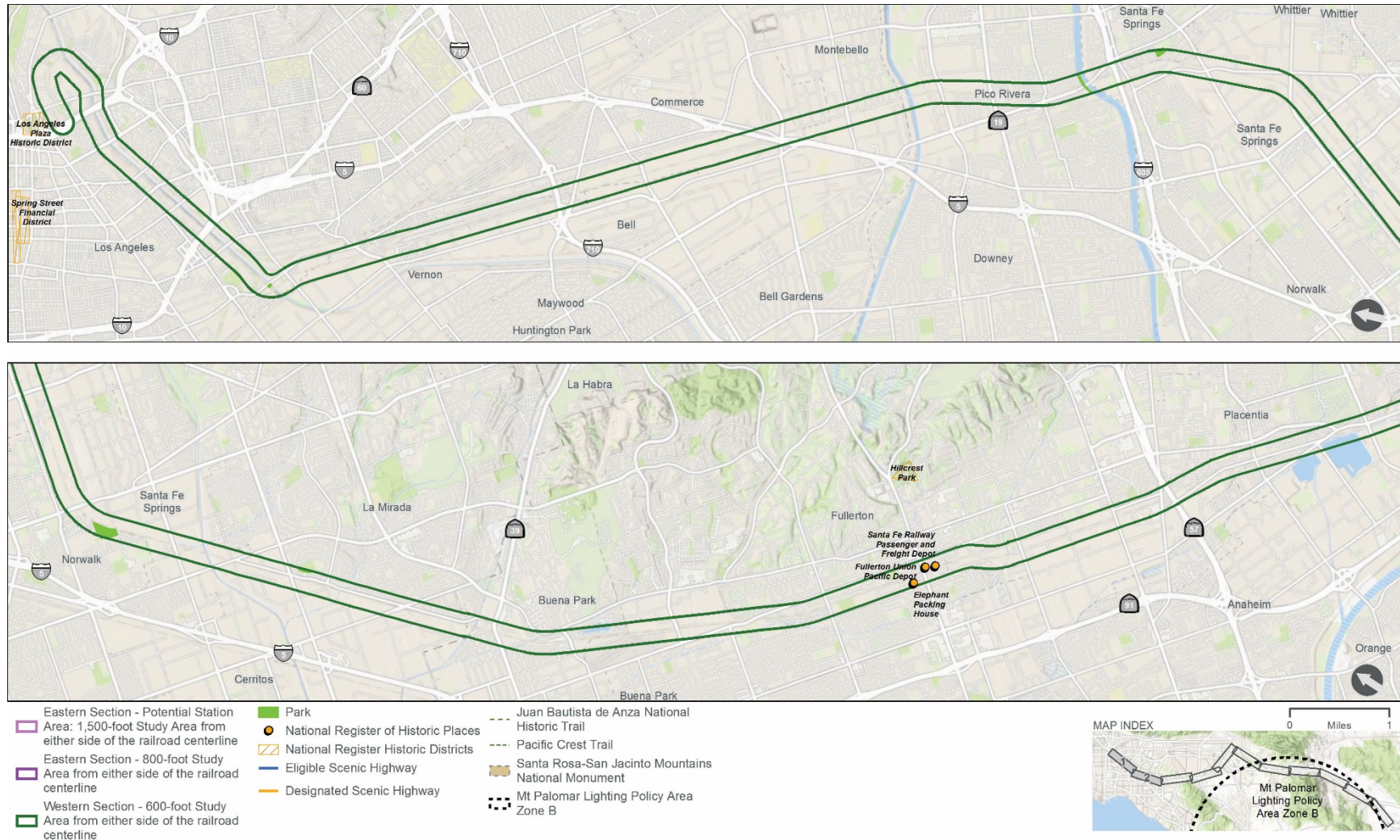
The San Timoteo Canyon Schoolhouse (P-33-28059) is located within the viewshed, approximately 100 meters (327 feet) from the centerline of the existing Union Pacific railroad tracks.

The viewer groups in the viewshed of the Eastern Section are the same as those of the Western Section, as detailed in Section 5.1. The viewshed and context area of the Eastern Section have fewer heavily developed areas than the Western Section and more varied topography the further one travels east. In addition, there are nearby hills and mountains which are visible from the Program Corridor, but outside of the viewshed and context study area established for the Tier 1/Program EIS/EIR evaluation. Figure 5-1 provides broad scale mapping of visual resources within the Tier 1/Program EIS/EIR Study Area.

This page is intentionally blank.

Figure 5-1. Visual Resources within the Tier 1/Program EIS/EIR Study Area

(Page 1 of 6)



This page is intentionally blank.

Figure 5-1. Visual Resources within the Tier 1/Program EIS/EIR Study Area

(Page 2 of 6)



This page is intentionally blank.

Figure 5-1. Visual Resources within the Tier 1/Program EIS/EIR Study Area

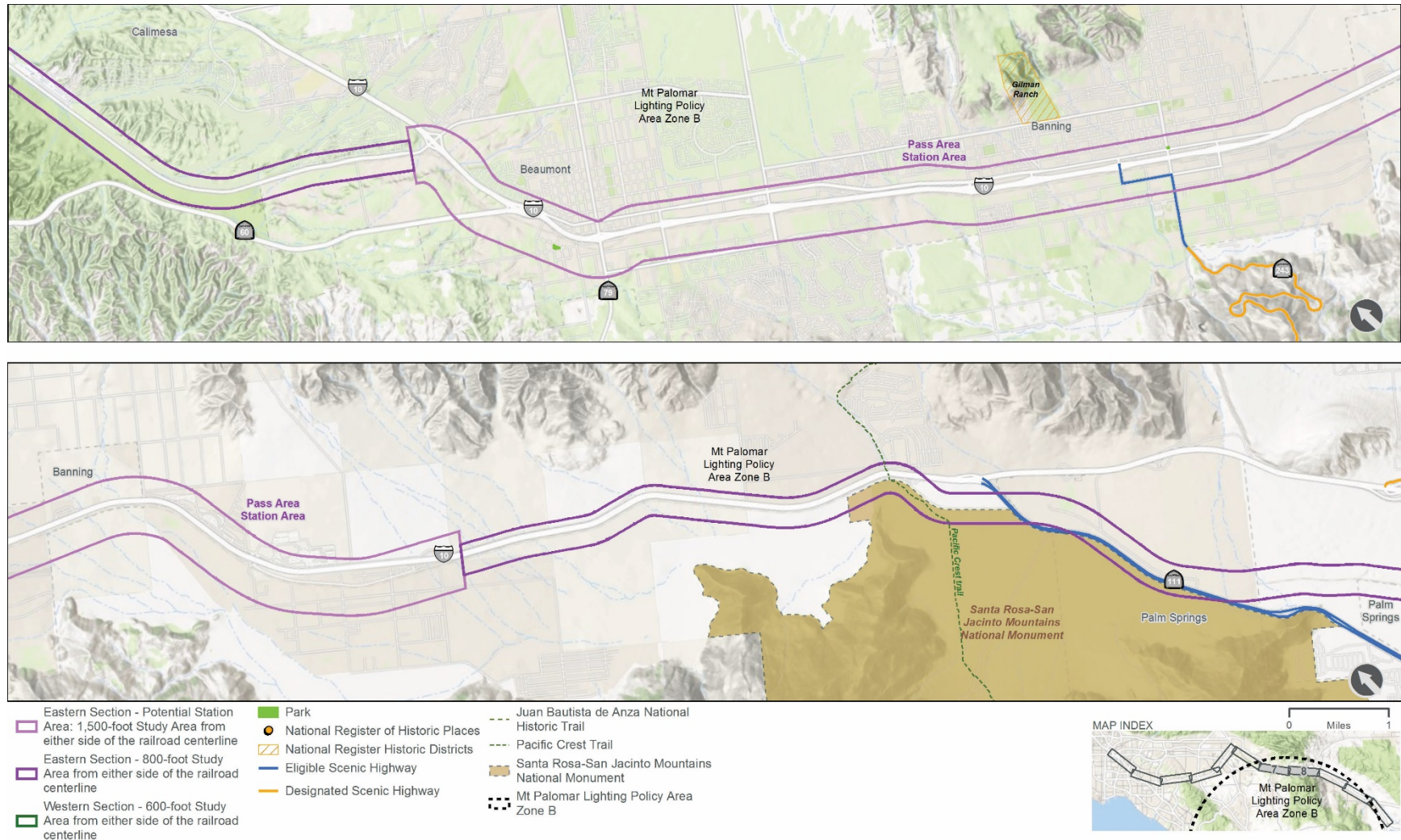
(Page 3 of 6)



This page is intentionally blank.

Figure 5-1. Visual Resources within the Tier 1/Program EIS/EIR Study Area

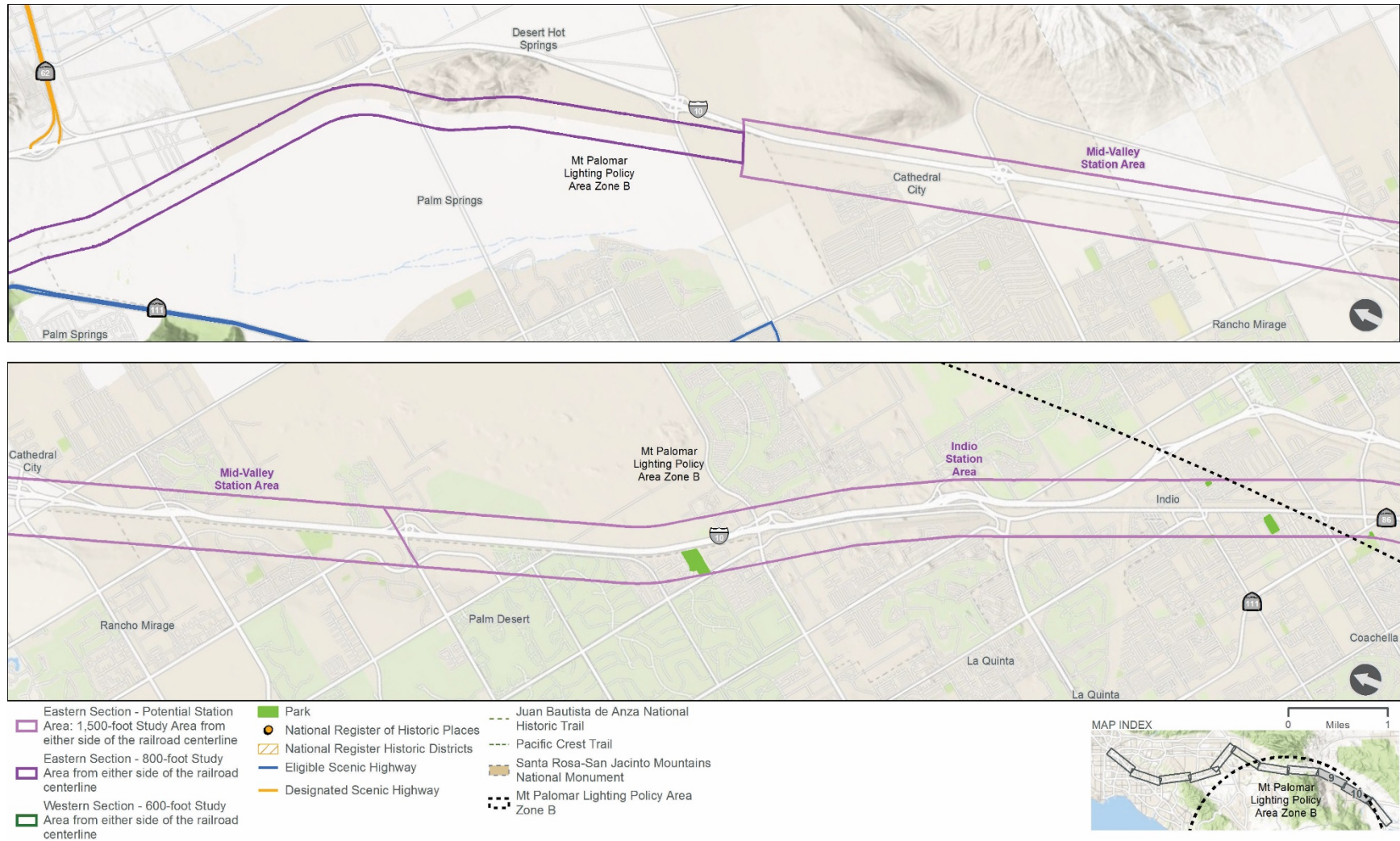
(Page 4 of 6)



This page is intentionally blank.

Figure 5-1. Visual Resources within the Tier 1/Program EIS/EIR Study Area

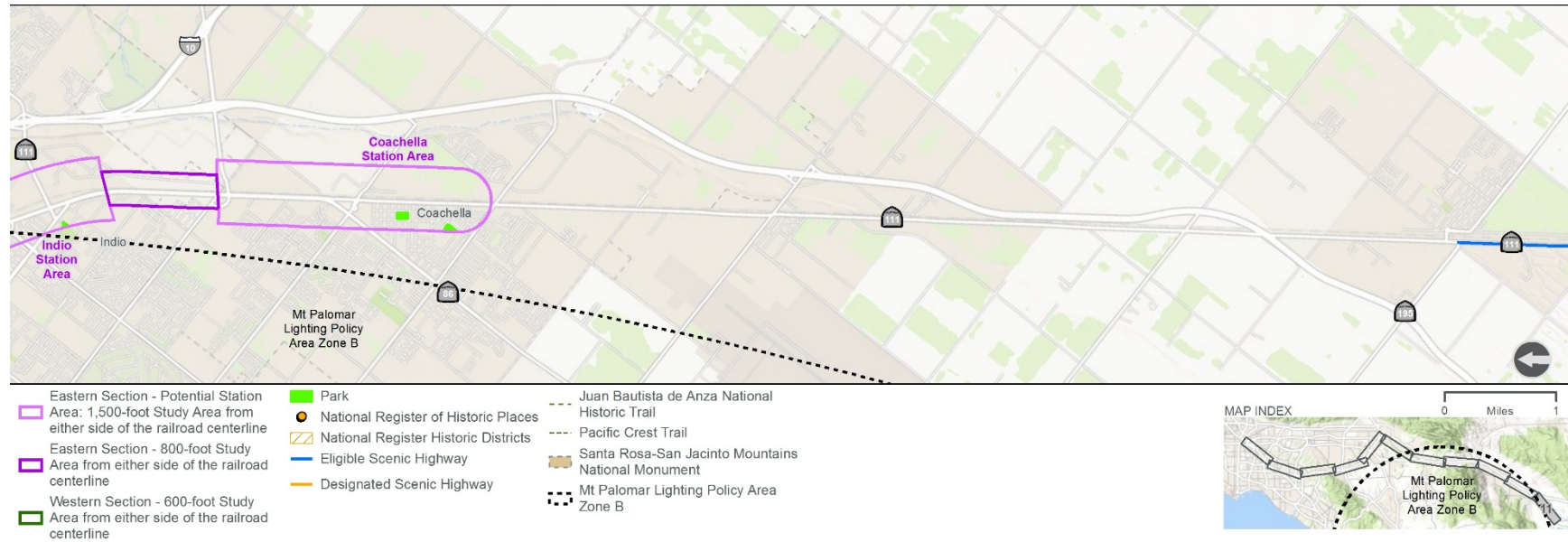
(Page 5 of 6)



This page is intentionally blank.

Figure 5-1. Visual Resources within the Tier 1/Program EIS/EIR Study Area

(Page 6 of 6)



This page is intentionally blank.

6 Environmental Consequences

6.1 No Build Alternative

The No Build Alternative assumes no service changes or infrastructure would occur within the viewshed or context area. Because no physical changes would occur, there would be no effects on views of visual resources, visual character or quality, or light and glare conditions.

Several existing and committed transportation improvement projects would still occur in the Western Section under the No Build Alternative. The projects in the Western Section include the Rosecrans/Marquardt Grade Separation Project in the City of Santa Fe Springs, construction of 15 miles of the Third Main Line Track Project within BNSF's existing railroad between Los Angeles and Fullerton, the California High-Speed Rail Authority Los Angeles to Anaheim project, the Link Union Station project, and three additional grade separation projects on BNSF's San Bernardino Subdivision in the City of Santa Fe Springs. These projects would result in an increase in freight service, as well as allow for an increase in passenger rail services in the Western Section. However, the expected increase in rail service would occur within the existing rail ROW.

In the Eastern Section, the No Build Alternative would be similar to existing conditions for passenger rail and transit services that connect the Coachella Valley and San Gorgonio Pass area with the greater Los Angeles metropolitan area, as well as forecasted increases in freight traffic. There are no known existing or committed transportation improvement projects in the Eastern Section. The five intercity passenger rail and bus services that currently provide these connections are anticipated to remain unchanged from the existing conditions. No new growth services providing regional linkages in the Eastern Section are programmed or funded for implementation at this time. In addition, there are no programmed or funded infrastructure projects in the Eastern Section under the No Build Alternative.

Counties and cities in the Program Corridor would continue to grow, which would increase regional transportation demand; therefore the No Build Alternative assumes completion of those reasonably foreseeable transportation, development, and infrastructure projects that are already in progress; are programmed; or are included in the fiscally constrained RTP. An increase in traffic and vehicle miles traveled is expected under the No Build Alternative because more cars would be on the roadways compared with what would occur with implementation of the Program. An increase in rail service and an increase in cars on the roadways would not result in new effects on views of visual resources, visual character or quality, or light and glare conditions.

6.2 Build Alternative Options 1, 2, and 3

6.2.1 Visual Resources and Visual Character Effects

Western Section

Construction

No construction activities would be required to implement any of the Build Alternative Options within the Western Section of the Program Corridor because the existing railroad ROW and station areas from Los Angeles Union Station to Colton would be used. The Build Alternative Options would not require construction of new stations, new main line track or extensions to existing track, or the addition of sidings, wayside signals, drainage, or at-grade separations within the Western Section of the Program Corridor. No effects on visual resources, visual character or quality, or light and glare conditions would be expected to occur, as no additional infrastructure is planned in the Western Section.

Operation

Operation of Build Alternative Options 1, 2, or 3 within the Western Section would not result in effects on existing visual resources as the additional train trips would travel within an existing railroad ROW. Passenger train frequencies proposed as part of the Program would consist of adding four daily one-way trips (two daily round-trips) operating the entire length of the Program Corridor between Los Angeles and Coachella. Current (2018) daily rail traffic volumes on the Western Section (as shown in Chapter 2 of the Tier 1 Program EIS/EIR) vary by segment (RCTC and FRA 2021a). The highest density segment is between Los Angeles and Fullerton and has an average of 86 daily trains, while the lowest density segment is between Fullerton and Atwood and has an average of 43 daily trains. An additional two daily round-trip intercity passenger trains, even when compared with the lowest density segment, would represent a minor increase in train activity compared with current (2018) traffic volume along the existing railroad ROW. In 2024 and 2044, the Program would add the same number of rail operations to higher baseline conditions. Therefore, the Program's effects in 2024 (see Chapter 2 of the Tier 1 Program EIS/EIR) and 2044 (see Chapter 2 of the Tier 1 Program EIS/EIR) would be lower than those evaluated under existing conditions for the lowest density segment. The two additional daily round-trips would be a transient feature (only visible for short periods of time) and consistent with the existing views within the viewshed of the Western Section. No effects on visual resources, visual character or quality, or light and glare conditions would be expected to occur as a result of operation of the Build Alternative Options in the Western Section.

Eastern Section

Construction

Temporary effects on visual resources and the landscape would occur during construction within the Eastern Section of the Program Corridor under Build Alternative Option 1. These changes would include views of construction equipment, dust, material stockpiling, nighttime construction lighting and glare, potentially increased traffic in construction areas and along detour routes, and construction and detour signage. However, effects would be temporary and construction would not permanently obstruct views of the landscape, change the visual character, or result in degradation of visual quality within the Eastern Section. When compared with the No Build Alternative, the temporary visual changes associated with Build Alternative Option 1 would have negligible effects on the visual quality, as construction activities would not permanently obstruct views of the landscape, change the visual character, or result in degradation of visual quality within the Eastern Section of the Program Corridor. When compared with Build Alternative Option 1, Build Alternative Option 2 would have slightly reduced construction effects due to a shorter route alignment and reduced station options (i.e., less construction activity and, as such, fewer visual quality and aesthetic effects). However, the magnitude of effects would be similar and considered negligible when compared with the No Build Alternative. When compared with Build Alternative Options 1 or 2, Build Alternative Option 3 may have slightly reduced effects due to a smaller footprint associated with a shorter route alignment, reduced station options, and reduced third track rail infrastructure. However, the magnitude of effects would be similar for Build Alternative Option 3 and would be considered negligible when compared with the No Build Alternative. Effects associated with construction within the Eastern Section are anticipated to be minimal.

Operation

Passenger train frequencies proposed as part of the Program would consist of adding four daily one-way trips (two daily round-trips) operating the entire length of the corridor between Los Angeles and Coachella. Current (2018) daily rail traffic volumes on the Eastern Section (as shown in Chapter 2 of the Tier 1/Program EIS/EIR) average 43 daily trains along the Colton-Coachella segment, consisting of freight and passenger trains (RCTC and FRA 2021a). The addition of two daily round-trip intercity passenger trains would represent a minor increase in train activity compared with current (2018) traffic volume along the existing railroad ROW. In 2024 and 2044, the Program would add the same number of rail operations to higher baseline conditions. Therefore, the Program's effects in 2024 (see Chapter 2 of the Tier 1/Program EIS/EIR) and 2044 (see Chapter 2 of the Tier 1/Program EIS/EIR) would be lower than those evaluated under existing conditions. The two

additional round-trips would be a transient feature (only visible for short periods of time) and consistent with the existing views within the viewshed of the Eastern Section.

Permanent visual changes (physical elements) that could result from implementation of the Build Alternative Option 1 could include the presence of new railroad track, bridges, grade crossing, train stations, parking facilities, noise walls, open cuts, cut-and-fill areas, retaining walls, removed vegetation, and night lighting. The precise location, quantity, and design of these physical elements and the visual changes associated with them are not known at this time.

Because the infrastructure improvements would be located along the existing railroad ROW, the infrastructure improvements would generally not represent a change in visual character from existing conditions. However, effects could occur if the improvements would remove structures or landscaping or introduce visual elements that are out-of-scale or otherwise visually incompatible with the existing visual character.

Effects associated with the Eastern Section of Build Alternative Option 1 on visual character would be moderate when compared with the No Build Alternative. When compared with Build Alternative Option 1, Build Alternative Option 2 would have slightly reduced effects on visual character due to a shorter route alignment and reduced station options. However, the magnitude of effects would be similar and would be considered moderate when compared with the No Build Alternative. When compared with Build Alternative Options 1 or 2, Build Alternative Option 3 may have slightly reduced effects due to a smaller footprint associated with a shorter route alignment, reduced station options, and reduced third track rail infrastructure. However, the magnitude of effects would be similar for Build Alternative Option 3 and would be considered moderate when compared with the No Build Alternative.

6.2.2 Light and Glare

Western Section

Construction

The Build Alternative Options would not require construction of additional rail or station infrastructure in the Western Section of the Program Corridor because the existing railroad ROW and stations from LAUS to Colton would be used. When compared with the No Build Alternative, short-term/temporary effects on light and glare would be negligible because no additional construction activities are planned within the Western Section under Build Alternative Options 1, 2, and 3.

Operation

Passenger train frequencies proposed as part of the Program would consist of adding four daily one-way trips (two daily round trips) operating the entire length of the Program Corridor between Los Angeles and Coachella. Train services currently operating on the existing railroad ROW require the use of train headlamps for safety and security. The addition of two daily round trips would not change the type or intensity of train light that would be used. When compared with the No Build Alternative, long-term/permanent effects on light and glare would be negligible because no additional infrastructure improvements are planned, and existing lighting sources within the Western Section would not change under Build Alternative Options 1, 2, and 3.

Eastern Section

Construction

Temporary effects on visual resources and the landscape could occur during construction within the Eastern Section of the Program Corridor under Build Alternative Option 1. The construction of passenger rail infrastructure and station facilities may require nighttime work that would require lighting for safety and security. Potential staging and storage areas would also require temporary lighting for safety and security purposes; however, these effects would be temporary and construction would not permanently obstruct views of the landscape, change the visual character, or result in degradation of visual quality within the Eastern Section. Therefore, effects associated with the Eastern Section of Build Alternative Option 1 on light and glare would be negligible when compared with the No Build Alternative. When compared with Build Alternative Option 1, Build Alternative Option 2 would have slightly reduced effects on light and glare due to a shorter route alignment and reduced station options; however, the magnitude of effects would be similar and would be considered negligible when compared with the No Build Alternative. When compared with Build Alternative Options 1 or 2, Build Alternative Option 3 may have slightly reduced effects due to a smaller footprint associated with a shorter route alignment, reduced station options, and reduced third track rail infrastructure.

Operation

Lighting at stations and parking lots could result in increased light levels or spillover lighting into adjacent areas. Site-specific effects would be considered during Tier 2/Project-level analysis. The addition of grade separations, which would be identified during the Tier 2/Project-level analysis process, could result in roadway alignments that may result in headlight glare effects on adjacent uses above those under existing conditions. Materials used for the infrastructure improvements or stations would be unlikely to introduce substantial sources of glare. Station design would be

consistent with local codes and guidelines, where applicable. Therefore, effects associated with the Eastern Section of Build Alternative Option 1 on light and glare would be moderate when compared with the No Build Alternative. When compared with Build Alternative Option 1, Build Alternative Option 2 would have slightly reduced effects on light and glare due to a shorter route alignment and reduced station options. However, the magnitude of effects would be similar and would be considered moderate when compared with the No Build Alternative. When compared with Build Alternative Options 1 or 2, Build Alternative Option 3 may have slightly reduced effects due to a smaller footprint associated with a shorter route alignment, reduced station options, and reduced third track rail infrastructure.

7 Tier 2 Environmental Review Considerations

The Tier 1/Program EIS/EIR evaluation provides an overview of potential effects resulting from development of the Build Alternative. Specific station locations, Tier 2/Project-level design, and construction methods have not been determined.

Tier 2/Project-level analysis would address site-specific potential effects resulting from construction and operation of infrastructure improvements (such as sidings, additional main line track, wayside signals, drainage, grade-separation structures, and stations) when the site-specific locations and design requirements are known. The analysis would include the potential for new vertical structures, such as grade separations, stations, and noise barriers, to block views of visual resources. It would also address the potential for physical changes to affect the visual character within the viewshed by removing structures or landscaping or by introducing visually incompatible elements. At the time specific lighting design is known, the potential for increased light levels or spillover lighting would also be analyzed.

Potential mitigation measures have been developed on a programmatic scale for further consideration in the Tier 2/Project-level analysis and are listed below. Examples of programmatic mitigation measures for visual and aesthetic resources would include, but are not limited to, the following:

- During the Tier 2/Project-level environmental process, the identified lead agency or agencies shall conduct an inventory of visual or aesthetic resources at the location of specific rail infrastructure and station facility proposed. If visual or aesthetic resources are present, the identified lead agency or agencies shall undertake an analysis associated with the specific rail infrastructure and station facility proposed. The analysis shall include, but not be limited to, the following:
 - Infrastructure/station effects and impacts associated with blocking views of identified visual resources (e.g., local scenic resources, mountain/foothill views)
 - Infrastructure/station effects and impacts associated with change in visual character (e.g., removal of structures or landscaping)
 - Infrastructure/station effects and impacts associated with local design criteria and guidelines

- Infrastructure/station effects and impacts associated with local lighting design criteria and guidelines
- Criteria to determine the type of site-specific mitigation for visual resources would be developed by the identified lead agency or agencies in consultation with local jurisdictions during the Tier 2/Project-level environmental process.
- To address potential lighting impacts related to nighttime construction lighting, the contractor shall use construction lighting during nighttime that is limited to the minimum necessary for safety and security, and the use of downward facing, cut off fixtures that do not allow spillover onto adjacent land uses. A construction lighting plan shall be developed for each station facility, taking into account local and regional lighting policies, including but not limited to, the Mount Palomar Nighttime Lighting Policy.

8 References

Federal Highway Administration. 2015. *Guidelines for the Visual Impact Assessment of Highway Projects*.

https://www.environment.fhwa.dot.gov/env_topics/other_topics/VIA_Guidelines_for_Highway_Projects.pdf.

Federal Railroad Administration (FRA). 1999. Procedures for Considering Environmental Impacts. Section 14(n)(12). Accessed July 24, 2018.

https://www.transportation.gov/sites/dot.gov/files/docs/FRAEnvProcedures_FED_REG_Notice.pdf.

Riverside County Transportation Commission (RCTC) and Federal Railroad Administration (FRA).

2021a. *Coachella Valley San Gorgonio Pass Rail Corridor Service Project Environmental Impact Statement/Environmental Impact Report* (Draft). Prepared by HDR Engineering Inc.

——— 2021b. *Land Use and Planning Technical Memorandum*. Prepared by HDR Engineering Inc.

——— 2021c. *Biological and Wetland Resources Technical Memorandum*. Prepared by HDR Engineering Inc.

——— 2021d. *Cultural, Historic, and Tribal Resources Technical Memorandum*. Prepared by HDR Engineering Inc.

This page is intentionally blank.