3.17 Cumulative Effects

3.17.1 Introduction

This section provides an evaluation of overall cumulative effects associated with the Build Alternative Options and No Build Alternative taken together with other past, present, and probable future projects producing related effects, as required by the CEQA Guidelines (14 CCR Section 15130) and reasonably foreseeable future projects under NEPA implementing regulations (40 CFR Part 1508.7).

This analysis has two primary purposes: to determine whether the overall long-term effects of all cumulative projects would be cumulatively adverse and to determine whether the Program itself would cause a cumulatively considerable (and thus adverse) incremental contribution to any such cumulatively adverse effect (CEQA Guidelines [CCR Sections 15064(h), 15065(c), 15130(a), 15130(b), and 15355(b)]. In other words, the required analysis first creates a broad context in which to evaluate the Program's incremental contribution to anticipated cumulative effects, viewed on a geographic scale well beyond the Program. The analysis then determines whether the Program's incremental contribution to any adverse cumulative effects from all projects is itself adverse (i.e., cumulatively considerable). This section presents a discussion of cumulative effects according to the presentation of each resource issue area identified in Sections 3.2 through 3.16 of this Tier 1/Program EIS/EIR.

3.17.2 Regulatory Framework

Federal

NEPA

CEQ regulations implementing provisions of NEPA define cumulative effects as "the effect on the environment which results from the incremental effect of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions" (40 CFR Part 1508.7). Cumulative effects can result from individually minor, but collectively adverse, actions over time (40 CFR Part 1508.8). They are caused by the incremental increase in total environmental effects when the evaluated project is added to other past, present, and reasonably foreseeable future actions. Cumulative effects can thus arise from causes that are totally unrelated to the project being evaluated, and the analysis of cumulative effects looks at the life cycle of the effects, not the project at issue.

State

CEQA

Cumulative effects are defined in the CEQA Guidelines (CCR Section 15355) as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental effects." A cumulative effect occurs from "the change in the environment which results from the incremental effect of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative effects can result from individually minor but collectively adverse projects taking place over a period of time" (CCR Section 15355[b]).

Consistent with the CEQA Guidelines (CCR Section 15130[a]), the discussion of cumulative effects in this Tier 1/Program EIS/EIR focuses on adverse and potentially adverse cumulative effects. The CEQA Guidelines (CCR Section 15130[b]) state that:

> *The discussion of cumulative effects shall reflect the severity of the effects and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the Project alone. The discussion should be guided by the standards of practicality and reasonableness and should focus on the cumulative effect to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative effect.*

3.17.3 Methods for Evaluating Environmental Effects

The CEQA Guidelines identify two basic methods for establishing the cumulative environment in which the Program is to be considered: the use of a list of past, present, and probable future projects (i.e., the list approach) or the use of adopted projections from a general plan, other regional planning document, or certified EIR for such a planning document (i.e., the plan approach). Either of these methodologies also fulfills the NEPA requirements for cumulative effect analysis (CEQ 1997a). For this Tier 1/Program EIS/EIR evaluation, the list approach was utilized to generate the most reliable future projections possible for assessing potential cumulative effects at the regional scale and temporally over the duration of Program construction and future operation.

Publicly available documents were reviewed in accordance with CEQA and NEPA guidelines on assessing cumulative effects, including the following:

- Identification of major transportation projects in the Tier 1/Program EIS/EIR Study Area, as defined in Chapter 2, Program Alternatives, through planning documents and transportation improvement plans

- Internet sources, such as agency or news websites
- Land use information

To correspond to the level of detail associated with this Tier 1/Program EIS/EIR evaluation, the list of past, present, and reasonably foreseeable future related projects includes broader categories of projects and actions, rather than site-specific projects. During the Tier 2/Project-level analysis, when infrastructure improvement and station locations have been identified, site-specific projects would be analyzed for cumulative effects.

3.17.4 Affected Environment

The cumulative context includes the geographic area, timeframe, and/or type of projects or planning activities that would contribute to the potential cumulative effect. This context may differ for each resource issue area because the geographic range considered for the cumulative analysis can vary based on the resource area. Table 3.17-1 presents the projects considered as part of the regional cumulative analysis within the Program Corridor. State, regional, and local planning documents were reviewed and considered as part of the cumulative analysis in this Tier 1/Program EIS/EIR evaluation.

The list of past, present, and probable future projects used for this cumulative analysis is restricted to major development, transportation, and infrastructure projects that overlap with the Tier 1/Program EIS/EIR Study Area. For the purposes of this cumulative analysis, the projects that may have a cumulative effect on resources considered in this Tier 1/Program EIS/EIR evaluation are referred to as the cumulative projects. These projects are identified in Table 3.17-1. The analysis of cumulative environmental effects associated with the Build Alternative Options and No Build Alternative addresses the potential incremental contributions of the Program to cumulative environment effects in combination with these related projects. The list of projects in Table 3.17-1 is not intended to be an all-inclusive list of projects, but rather an identification of larger projects approved or planned within the Tier 1/Program EIS/EIR Study Area that could contribute to cumulative effects for one or more resources.

3.17.5 Environmental Consequences

Overview

The following section discusses the potential for the Program to result in cumulatively considerable effects together with the related projects and regional development (Table 3.17-1) for each of the environmental issue areas evaluated in Chapter 3, Environmental Analysis, Consequences, and Mitigation, of this Tier 1/Program EIS/EIR.

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Table 3.17-1. Cumulative Projects

Project Identification	Project Title	Project Description	Location	Stage/Schedule[a]	Construction[b]	Operation[c]
1	California HSR System – Burbank to Los Angeles and Los Angeles to Anaheim Project Sections	California High-Speed Rail Authority is planning for the introduction of the HSR system from San Francisco to the Los Angeles basin by 2033. The Burbank to Los Angeles Project Section would extend from LAUS to the north, and the Los Angeles to Anaheim Project Section would extend from LAUS to the south. California High-Speed Rail Authority would conduct a full project-level environmental review for the planned HSR system, including the construction and operational environmental evaluation for the entirety of the planned HSR system.	Various locations within Los Angeles County	Anticipated between 2033 and 2035	No	Yes
2	Metro Division 20 Portal Widening and Turnback Facility	To accommodate increased service levels on the Metro Red/Purple Lines, Metro is planning critical facility improvements, including a widening of the heavy rail tunnel south of US-101 (Portal Widening) and a new turnback facility (Turnback Facility) in the Division 20 rail yard. With these improvements, new tracks and switches would allow trains to turn around more quickly at LAUS.	Division 20 rail yard	Under construction; anticipated project completion in 2023	No	Yes

Project Identification	Project Title	Project Description	Location	Stage/Schedule[a]	Construction[b]	Operation[c]
3	Regional Connector Transit Project – Little Tokyo/Arts District Station (at 1st Street/Central Avenue)	The 1.9-mile Metro Regional Connector Transit Project includes development of three new stations, including one located on the southeast corner of 1st Street and Central Avenue.	LAUS, First Street, and Central Avenue	Under construction; operational in 2022	No	Yes
4	Link Union Station	The project proposes to reconstruct the track and station infrastructure at LAUS to meet long-term rail travel needs and improve passenger comfort, safety, and ease of navigation through the facility.	LAUS	Final EIR for the Link Union Station Project was approved in June 2019; a Draft EIS is under preparation	No	Yes
5	Third Main Line Track Project	The project would provide 32 additional passenger/commuter slots between Los Angeles and Fullerton	15 miles between Los Angeles and Fullerton within BNSF's ROW	Construction underway	No	Yes
6	2159 Bay Street Project	The project includes development of a three-building office campus that would be comprised of an eight-story commercial high-rise building and two two-story commercial buildings.	Los Angeles	NOC issued	No	No

Project Identification	Project Title	Project Description	Location	Stage/Schedule[a]	Construction[b]	Operation[c]
7	Rosecrans/Marquardt Grade Separation Project	The project proposes to improve the safety and track flow of the Rosecrans and Marquardt Avenues intersection by eliminating the existing at-grade crossing of BNSF's San Bernardino Subdivision, which runs diagonally through the intersection of the two streets, and replacing it with an overpass that would carry Rosecrans Avenue above the tracks.	City of Santa Fe Springs	Under construction; anticipated completion in 2023	No	Yes
8	Norwalk/Los Nietos Grade Separation	The project proposes grade separation on BNSF's San Bernardino Subdivision in the City of Santa Fe Springs.	City of Santa Fe Springs	Proposed	No	Yes
9	Lakeland Road Grade Separation	The project proposes grade separation on BNSF's San Bernardino Subdivision in the City of Santa Fe Springs.	City of Santa Fe Springs	Proposed	No	Yes
10	Pioneer Boulevard Grade Separation	The project proposes grade separation on BNSF's San Bernardino Subdivision in the City of Santa Fe Springs.	City of Santa Fe Springs	Proposed	No	Yes
11	San Bernardino Freeway (I-10) High-Occupancy Vehicle-Lane Project (Caltrans)	The project proposes construction of one high-occupancy vehicle lane along the San Bernardino Freeway (I-10) in each direction between the San Gabriel River Freeway (I-605) and Orange Freeway (SR 57).	City of West Covina	Under construction; anticipated to completed by Summer 2021	No	Yes

Project Identification	Project Title	Project Description	Location	Stage/Schedule[a]	Construction[b]	Operation[c]
12	Westbound SR 91 Project	The project proposes improvements, include widening the SR 91 by adding one new general-purpose lane in the westbound direction in Cerritos and Artesia.	Cities of Cerritos and Artesia	Notice of determination issued; construction anticipated to start in 2021	No	No
13	Santa Ana River Trail – Phase 1 Project (RCTC)	The project proposes a 12.8-mile trail along the Santa Ana River Trail system, connecting Orange, Riverside, and San Bernardino Counties. This portion of the trail along the Prado Basin would facilitate pedestrian, equestrian, and cycling trail use with nature-viewing opportunities, and provide a non-motorized transit route that would not otherwise exist in the area.	West of Norco	Engineering and environmental studies are underway	No	No
14	West of Devers Upgrade Project (Southern California Edison)	The project includes the removal and upgrade of existing 220-kilovolt transmission lines.	Riverside and San Bernardino Counties	Under construction; anticipated completion in 2022	No	No

Project Identification	Project Title	Project Description	Location	Stage/Schedule[a]	Construction[b]	Operation[c]
15	Coachella Valley Link (Coachella Valley Association of Governments)	Coachella Valley Link is a 50-mile, alternative transportation corridor for bicycles, pedestrians, and low-speed (up to 25 miles per hour) electric vehicles along the Whitewater River and Tahquitz Creek that would initially stretch from Palm Springs to Coachella.	Palm Springs to Coachella	First segment constructed; construction anticipated to start on additional 20-mile segment in early 2021 once construction contracts have been authorized	Yes	Yes
16	Agua Caliente Casino expansion Project	The Agua Caliente Band of Cahuilla Indians proposes an expansion of the Agua Caliente Casino Resort Spa.	Rancho Mirage	Proposed; NOP for Tribal EIR issued	Yes	Yes
17	Agua Caliente Band of Cahuilla Indians Cathedral City Fee-to-Trust Casino Project	The Agua Caliente Band of Cahuilla Indians proposed to build a gaming facility and ancillary amenities on land it owns within the City of Cathedral City.	Cathedral City	Under construction	Yes	Yes
18	Rehabilitate Whitewater River Bridges Project	The project would include rehabilitation of two bridges located on I-10 between Tipton Road and Kellogg Road at Milepost 27.69.	Palm Springs	Notice of determination issued	Yes	No

Project Identification	Project Title	Project Description	Location	Stage/Schedule[a]	Construction[b]	Operation[c]
19	2017/18 Non-Potable Water Connections Project (Coachella Valley Water District)	The project proposes construction and operation of approximately 9.5 miles of non-potable water pipeline segments and connections to provide irrigation water for several locations.	Palm Desert and Bermuda Dunes	Notice of determination issued	Yes	No
20	20/21 Non-Potable Water Connections Project (Coachella Valley Water District)	The project proposes construction and operation of approximately 12.9 miles of non-potable water pipeline segments and connections to provide irrigation water for several locations.	Palm Desert, Thousand Palms, Rancho Mirage, Indian Wells, and La Quinta	Notice of determination issued	Yes	No

Notes:

[a] Information available as of March 2021.

[b] The project has the potential to overlap in time or location with the Program. Tier 2/Project-level analysis would consider updates to construction schedules.

[c] The operation of the project has the potential to have cumulative impacts with the Program.

Caltrans=California Department of Transportation; EIR=environmental impact report; EIS=environmental impact statement; HSR=high-speed rail; I=Interstate; LAUS=Los Angeles Union Station; Metro=Los Angeles County Metropolitan Transportation Authority; NOC=notice of completion; NOP=notice of preparation; RCTC=Riverside County Transportation Commission; ROW=right-of-way; SR=State Route; US-101=United States Highway 101

No Build Alternative

The No Build Alternative, as described in Chapter 2, Program Alternatives, of Tier 1/Program EIS/EIR is used as the baseline for comparison. The No Build Alternative would not implement the Program associated with this service-level evaluation and would not meet the Purpose and Need of the Program. 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.

Cumulative Land Use and Planning Effects

The No Build Alternative would not be consistent with federal, state, and local plans and policies that promote expansion of existing transportation options and multimodal connectivity throughout the region. Therefore, traffic congestion is likely to worsen with the No Build Alternative, resulting in air quality impacts and potentially additional noise impacts on the surrounding land uses, which could disrupt established communities adjacent to existing transportation corridors.

Cumulative Transportation Effects

Under the No Build Alternative, accommodation of additional future transportation demand resulting from continued local and regional growth would be limited by the existing transportation infrastructure's capacity and capacity increases resulting from other approved projects in the region. An increase in traffic and VMT 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. Therefore, the No Build Alternative could result in air quality impacts and potential additional noise impacts on the surrounding land uses, which could disrupt established communities adjacent to existing transportation corridors. However, disruption of established communities related to construction and operation of the Program would be avoided.

Cumulative Visual Quality and Aesthetic Effects

Under the No Build Alternative, an enhanced passenger rail system would not be built, and impacts on visual quality and aesthetics are not anticipated beyond those that would occur as a result of other reasonably foreseeable transportation, development, and infrastructure projects.

Cumulative Air Quality and Greenhouse Gases Effects

Under the No Build Alternative, an increase in traffic and VMT is expected because more cars would be on the roadways compared with what would occur with implementation of enhanced passenger rail service within the Program Corridor. Therefore, traffic congestion is likely to worsen with the No Build Alternative, resulting in air quality impacts. With the continued trend in substantial increases in VMT within the Program Corridor, energy consumption and GHG emissions would likely increase under the No Build Alternative.

Cumulative Noise and Vibration Effects

Under the No Build Alternative, no construction or increase in noise level that would be associated with Program implementation would occur. Ambient noise and vibration levels from existing train operations and local traffic would continue; however, an increase in traffic and VMT 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. Therefore, the No Build Alternative could result in potential additional noise impacts on the surrounding land uses, which could disrupt established communities adjacent to existing transportation corridors.

Cumulative Jurisdictional Waters and Wetlands Effects

Under the No Build Alternative, an enhanced passenger rail system would not be built, and impacts on jurisdictional waters and wetland resources are not anticipated beyond those that would occur as a result of other reasonably foreseeable transportation, development, and infrastructure projects.

Cumulative Biological Resource Effects

Under the No Build Alternative, an enhanced passenger rail system would not be built, and impacts on biological resources are not anticipated beyond those that would occur as a result of other reasonably foreseeable transportation, development, and infrastructure projects.

Cumulative Floodplains, Hydrology, and Water Quality Effects

Under the No Build Alternative, an enhanced passenger rail system would not be built; therefore, impacts are on floodplains, hydrology, and water quality are not anticipated beyond those that would occur as a result of other reasonably foreseeable transportation, development, and infrastructure projects.

Cumulative Geology, Soils, Seismicity, and Paleontological Resource Effects

Under the No Build Alternative, an enhanced passenger rail system would not be built; therefore, geology, soils, seismicity, or paleontological resource impacts are not anticipated beyond those that would occur as a result of other reasonably foreseeable transportation, development, and infrastructure projects.

Cumulative Hazard and Hazardous Material Effects

Under the No Build Alternative, an enhanced passenger rail system would not be built; therefore, hazards and hazardous materials impacts are not anticipated beyond those that would occur as a result of other reasonably foreseeable transportation, development, and infrastructure projects.

Cumulative Public Utilities and Energy Effects

Under the No Build Alternative, existing utility infrastructure and energy use within the Program Corridor would be unaffected, and the energy associated with on-road vehicle travel would not be reduced. With the continued trend in increases in VMT and energy consumption within the Program Corridor associated with local and regional growth, cumulative energy effects would likely increase under the No Build Alternative.

Cumulative Cultural Resource Effects

Under the No Build Alternative, an enhanced passenger rail system would not be built. Therefore, impacts on cultural resources are not anticipated beyond those that would occur as a result of other reasonably foreseeable transportation, development, and infrastructure projects.

Cumulative Parkland and Community Service Effects

Under the No Build Alternative, an enhanced passenger rail system would not be built. Therefore, impacts on parklands or community services are not anticipated beyond those that would occur as a result of other reasonably foreseeable transportation, development, and infrastructure projects.

Cumulative Safety and Security Effects

Under the No Build Alternative, no Program construction activities or increase in passenger rail service would occur. However, existing train operations and local traffic would continue, and the Los Angeles Basin and San Gorgonio Pass would continue to face substantial mobility challenges as growth in population, employment, and tourism activity is expected to generate increased travel demand. Traffic volumes in the Los Angeles Basin and San Gorgonio Pass would likely increase,

contributing to a likely increase in traffic accidents. In addition, with increases in traffic volumes, the potential for crossing conflicts on existing rail lines would also likely increase.

Cumulative Socioeconomic and Community Effects

Under the No Build Alternative, an enhanced passenger rail system would not be built; however, existing train operations and local traffic would continue within the Program Corridor. An increase in traffic and VMT 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. Therefore, the No Build Alternative could result in air quality impacts and potential additional noise impacts on the surrounding land uses, which could disrupt established communities adjacent to existing transportation corridors. Disruption of established communities related to construction and operation of the Program would be avoided.

Benefits associated with increases in economic growth (e.g., creation of new jobs and services) or fiscal gains (e.g., additional revenue from operation of passenger trains and stations) from implementation of the Program would not occur under the No Build Alternative beyond those that would occur as a result of other reasonably foreseeable transportation, development, and infrastructure projects.

Build Alternative Options 1, 2, and 3

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 stations from LAUS to Colton would be used. The Build Alternative Options would not require infrastructure improvements (such as sidings, additional main line track, wayside signals, drainage, grade-separation structures, and stations) to accommodate the proposed service within the Western Section of the Program. For the Eastern Section of the Program, construction of rail infrastructure improvements and station facilities would be required.

During 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 Coachella. Operational activities are anticipated to be limited to maintenance of culverts, bridges, embankments, and station areas, which are not anticipated to result in ground-disturbing activities.

Cumulative Land Use and Planning Effects

WESTERN SECTION

Operation of any of the Build Alternative Options would utilize existing rail infrastructure and station facilities and would not change existing land uses or result in effects on agricultural resources within the Western Section of the Program Corridor. Based on these considerations, cumulative effects on land use and agricultural resources are not anticipated within the Western Section under Program implementation.

EASTERN SECTION

Implementation of the Program under any of the Build Alternative Options would require the construction of rail infrastructure improvements and station facilities within the Eastern Section of the Program Corridor. Construction of rail infrastructure improvements is anticipated to mainly occur within the existing rail ROW; however, construction of new station facilities may require land use acquisition and potential amendments to local planning documents. Implementation of the Program under any of the Build Alternative Options could result in temporary land use compatibility effects with adjacent land uses and sensitive receptors. However, the identification of specific sensitive receptors near the rail infrastructure improvements and station locations and a review of land use consistency would be identified and evaluated during the Tier 2/Project-level analysis.

The Build Alternative Options, in combination with planned projects including residential, transportation, and commercial projects under the cumulative condition, would also result in changes in the pattern and density of land uses during construction if construction of the Build Alternative Options occurs at the same time as construction of other planned projects. This could result in a cumulative effect on various land uses if they become part of, or are near, a temporary construction easement, such as a staging area. These types of impacts, which could include visual changes, lighting and glare, increased air quality emissions, noise and vibration, and increased traffic, would be limited to the construction activities and temporary. Generally, affected parcels would be returned to previous/existing land use functions in the same or better condition as before their use.

Although these effects would be temporary, when combined with other planned projects, they could be cumulatively considerable. To address these potentially cumulatively considerable impacts, mitigation could include, but is not limited to, the preparation and implementation of a construction management plan, which would detail construction BMPs to reduce or eliminate potential air, noise, visual, traffic, and other construction impacts. Generally, the application of construction BMPs would minimize, reduce, or avoid land use impacts. Site-specific construction effects, along with applicable and appropriate mitigation measures to minimize those effects, would be identified and evaluated at the Tier 2/Project-level analysis.

For agricultural resources, cumulative effects on farmland could occur if future development and transportation projects, in combination with the Build Alternative Options, result in additional land use conversions. When planned projects are within existing transportation corridors, it is not anticipated that there would be cumulative effects on agricultural resources. However, if existing areas of farmland are converted to transportation-related or urban development use, there would be cumulative effects with the Build Alternative Options if the conversions are adjacent to or outside the existing transportation corridor and result in areas being bisected or isolated.

Operation of the Build Alternative Options within the Eastern Section could result in impacts on adjacent, sensitive land uses due to the increase in rail activity at new station facilities. These effects could result in a cumulative impact if combined with additional operational impacts from other projects. However, substantial growth is projected in the Eastern Section of the Build Alternative and the cities and communities along the Build Alternative Alignment. Under the cumulative condition, local land use plans and projects are planned to accommodate that growth. Generally, development would occur in the framework of existing general or specific plans of the municipality in which it occurs. Planning documents relevant to the municipalities (including land use elements of general plans, community plans, and other planning documents) generally encourage infill and higher-density development near transit corridors to provide more travel choices. Local jurisdictions are implementing these policies regardless of whether a project is constructed.

Cumulative Transportation Effects

WESTERN SECTION

Cumulative traffic effects may occur when more than one project has an overlapping construction schedule that generates excessive construction-related traffic. No new rail infrastructure or station facilities would be constructed in the Western Section under any of the Build Alternative Options. Therefore, construction-related effects on transportation are negligible, and cumulative transportation effects are not anticipated within the Western Section.

Operation of the Build Alternative Options within the Western Section would result in an additional two daily, round-trip passenger trains operating within the existing rail railway and accessing existing stations. During operation, local traffic volumes and parking demand is likely to increase around and at the existing stations due to increases in ridership, which could combine with cumulative traffic generated by other local development projects. In addition, anticipating population growth and accompanying development in the Western Section’s metropolitan areas would likely contribute to the cumulative local transportation effects. However, as population growth occurs in these urban areas of the Western Section, there would be a greater number of transportation users and a potentially greater cumulative shift in mode share as rail becomes a more effective alternative

transportation mode within the Program Corridor. This could result in a cumulative reduction in VMT and highway congestion.

EASTERN SECTION

Implementation of the Program under any of the Build Alternative Options would require the construction and operation of rail infrastructure improvements and station facilities within the Eastern Section of the Program Corridor. In the Eastern Section, future planned projects and development could have the potential to cause cumulative local transportation effects during construction if the timing of the Build Alternative Options and projects overlap. Potential increases in vehicle trip generation would vary based on the project type, location, schedule, size of workforce, equipment needs, and other factors. The distribution of construction trips on the road network would also depend on the location of individual projects and the project staging area. While construction activities for the Build Alternative Options would be temporary, such effects would be cumulatively long term given that construction could be ongoing for many years and could combine with other nearby construction projects.

During operation, cumulative effects on local traffic conditions and parking could occur in areas where new development is proposed, combined with the increases in local traffic and parking demand around and at the stations due to increases in rail ridership. However, as population growth occurs within the Eastern Section, there would also be a greater number of transportation users, and a potentially greater cumulative shift in mode share as rail becomes a more effectively alternative transportation mode within the Program Corridor. Therefore, operation of the Build Alternative Options in the Eastern Section is anticipated to reduce vehicle trips and VMT on the regional highways, improve safety, and reduce congestion resulting in a cumulative reduction in VMT and highway congestion.

From a cumulative impact context, future regional and local projects would accommodate increased traffic, reduce congestion, and enhance safety for motorists in the long term. Operation of the Build Alternative Options in the Eastern Section would provide transportation alternatives for regional travel, potentially reducing the number of automobiles travelling across the Eastern Section of the Program Corridor. Taken together, these transportation projects would provide a cumulative regional improvement to transportation circulation and access in the region.

Cumulative Visual Quality and Aesthetics Effects

WESTERN SECTION

No new rail infrastructure or station facilities would be constructed in the Western Section under any of the Build Alternative Options. Therefore, construction-related effects on visual quality and aesthetics are negligible, and cumulative visual quality and aesthetic effects are not anticipated within the Western Section. Operation of the Build Alternative Options within the Western Section would result in an additional two daily, round-trip passenger trains operating within the existing railway and accessing existing stations. The operation of the Build Alternative Options within the Western Section would not change the existing visual environment and would result in a negligible effect on visual quality and aesthetics. Therefore, the Build Alternative Options would result in no cumulative effects on visual resources within the Western Section of the Program Corridor.

EASTERN SECTION

Implementation of the Program under any of the Build Alternative Options would require the construction of rail infrastructure improvements and station facilities within the Eastern Section of the Program Corridor. The Build Alternative Options, in combination with planned projects, could cumulatively contribute to light sources during construction or operation.

The operation of additional passenger rail trains along the rail ROW within the Eastern Section would result in relatively minor physical changes to the landscape seen by sensitive viewers. These changes would likely be unnoticeable or barely noticeable to sensitive viewers and is not anticipated result in cumulative effects on aesthetics and visual quality. However, once constructed and operational, built elements would be introduced throughout the Eastern Section in the form of tracks, grade-separated ROWs, and station facilities. Visual changes resulting from these build elements would also be introduced in the form of landform alterations associated with grading/realignment, lighting and signage, and roadway realignments. Visual effects may occur if permanent elements of the Program block views of important visual resources, negatively alter the existing visual character, or introduce new sources of light or glare that have an adverse effect on adjacent land uses. Combined with other planned projects, there is the potential for the Build Alternative Options to cumulatively contribute to effects on aesthetic and visual quality within the Eastern Section, particularly in suburban and rural areas where population growth and related development could occur.

Cumulative Air Quality and Greenhouse Gases Effects

WESTERN SECTION

No new rail infrastructure or station facilities would be constructed in the Western Section under any of the Build Alternative Options. Therefore, construction-related effects on air quality and GHGs are negligible, and cumulative air quality and GHG effects are not anticipated within the Western Section. Based on current ridership projects, it is expected that during operation, the Build Alternative Options would result in a reduction in VMT. This reduction in VMT would result in lower regional air emissions relative to the No Build Alternative. Therefore, the Build Alternative Options would result in beneficial cumulative effects during operation when combined with other planned projects within the Western Section of the Program.

EASTERN SECTION

Implementation of the Program under any of the Build Alternative Options would require the construction of rail infrastructure improvements and station facilities within the Eastern Section of the Program Corridor. Temporary construction emissions are expected from implementation of any of the Build Alternative Options; however, air quality and GHG emissions would vary daily depending on the level of construction activity, specific operation of construction equipment, and duration of construction activities. Future planned projects and developments, such as the Agua Caliente Casino Resort expansion, which is adjacent to the Build Alternative Options, would have the potential to cause cumulative air quality and GHG effects during construction if the timing of the projects overlap. However, these potential cumulative effects would be analyzed during Tier 2/Project-level analysis.

Under the cumulative condition within the Eastern Section of the Program Corridor, planned infrastructure and development projects would result in more vehicles on the roadway and increased emissions of air pollutants and GHGs. However, as population growth occurs in the Eastern Section of the Program Corridor, there would also be a greater number of transportation uses, and a potentially greater cumulative shift in mode share as rail becomes an effective alternative transportation mode within the Program Corridor. Therefore, the cumulative effects of the Build Alternative Options with other planned transit projects are anticipated to promote decreased reliance on highway travel while reducing regional emissions of air pollutants and GHGs.

Cumulative Noise and Vibration Effects

WESTERN SECTION

No new rail infrastructure or station facilities would be constructed in the Western Section under any of the Build Alternative Options. Therefore, construction-related effects on noise and vibration are negligible and cumulative noise and vibration effects are not anticipated within the Western Section. Operation of the Build Alternative Options within the Western Section would result in an additional two daily, round-trip passenger trains operating within the existing railway and accessing existing stations. The operation of the Build Alternative Options within the Western Section would not change the existing noise environment and would result in a negligible effect on noise and vibration. Therefore, the Build Alternative Options would result in no cumulative increase in noise or operational vibration, and cumulative effects would be negligible.

EASTERN SECTION

Implementation of the Program under any of the Build Alternative Options would require the construction of rail infrastructure improvements and station facilities within the Eastern Section of the Program Corridor. Construction activities may result in moderate noise and vibration effects on sensitive noise receptors within, or adjacent to, construction sites identified for the specific rail infrastructure improvement or station facility. There is the potential for cumulative noise and vibration effects during construction within the Eastern Section of the Program Corridor, particularly where a rail infrastructure improvement or station facility and other future transportation and development projects would be constructed adjacent to sensitive land uses. However, the temporary nature of the construction activities, adherence to local noise ordinances, and the use of construction BMPs would likely minimize the potential for cumulative effects.

Operation of the Build Alternative Options within the Eastern Section would result in an additional two daily, round-trip passenger trains operating within the existing rail railway and accessing station facilities. The operation of the Build Alternative Options within the Eastern Section could change the existing noise environment (through the provision of new noise generating sources) and would result in a moderate effect on noise and vibration. Population growth and accompanying development within the Eastern Section would also contribute to increased noise and vibration levels. However, it is anticipated that operational noise and vibration effects of the Build Alternative Options would be avoided, minimized, and mitigated at the Tier 2/Project-level analysis, which would reduce the potential for cumulative effects.

Cumulative Jurisdictional Waters and Wetland Resource Effects

WESTERN SECTION

No new rail infrastructure or station facilities would be constructed in the Western Section under any of the Build Alternative Options. Therefore, construction-related effects on jurisdictional waters and wetlands are negligible, and cumulative effects are not anticipated within the Western Section with implementation of the Program. Operation of the Build Alternative Options within the Western Section would result in an additional two daily, round-trip passenger trains operating within the existing rail railway and accessing existing stations. The operation of the Build Alternative Options within the Western Section would not require modification to jurisdictional waters or wetlands, resulting in a cumulative negligible effect on these resources.

EASTERN SECTION

Implementation of the Program under any of the Build Alternative Options would require the construction of rail infrastructure improvements and station facilities within the Eastern Section of the Program Corridor. Construction activities may result in moderate effects on jurisdictional waters or wetland resources through the permanent removal of wetland area and additional pollutants entering wetland or jurisdictional water areas. The severity of effects is dependent on the location of new rail infrastructure and station facilities, temporary roads, laydown yards, and other Program-related components.

Cumulative projects identified within the Eastern Section of the Program Corridor would result in an increase in impervious surfaces that have the potential to cause additional runoff or the removal of wetlands, which would increase the severity of the effects. Therefore, effects associated with the Build Alternative Options, in combination with development associated with growth and planned projects, would contribute to a cumulative effect on jurisdictional waters and wetlands in the Eastern Section. However, the effects of the Build Alternative Options on jurisdictional waters and wetlands would be avoided, minimized, and mitigated at the Tier 2/Project-level analysis, when feasible, which would reduce the potential for cumulative effects.

Cumulative Biological Resource Effects

WESTERN SECTION

No new rail infrastructure or station facilities would be constructed in the Western Section under any of the Build Alternative Options. Therefore, construction-related effects on biological resources are negligible, and cumulative effects are not anticipated within the Western Section with implementation of the Program. Operation of the Build Alternative Options within the Western Section would result in an additional two daily, round-trip passenger trains operating within the existing rail railway and

accessing existing stations. Operational activities associated with the two daily, round-trip intercity passenger trains are anticipated to have negligible effects on special-status plant species, wildlife species, or wildlife movement corridors. Wildlife that may be present within the Western Section of the Program Corridor have been exposed to disturbances associated with railroad operations and habituated to existing noise and vibrations associated with railroad operations. Therefore, the operation of the Build Alternative Options within the Western Section would remain similar to existing conditions, resulting in a negligible cumulative effect on biological resources.

EASTERN SECTION

Implementation of the Program under any of the Build Alternative Options would require the construction of rail infrastructure improvements and station facilities within the Eastern Section of the Program Corridor. Construction activities may result in substantial effects on biological resources within, or adjacent to, construction sites identified for the specific rail infrastructure improvement or station facility. Construction effects could include removal or disturbance of vegetation, dust, soil compaction, accidental spills, habitat degradation, separation or fragmentation, erosion and runoff, altered hydrology, risk of fire, introduction of invasive or noxious plant species, noise and vibration, and potential for equipment or vehicles strikes. Severity of effects is dependent on the location of new infrastructure, temporary roads, laydown yards, and other Program-related components in relation to potential biological resources that may be present. There is the potential for cumulative biological resources effects during construction within the Eastern Section of the Program Corridor, particularly where a rail infrastructure improvement or station facility and other future transportation and development projects would be constructed adjacent to biological resources. Therefore, the Build Alternative Options would result in a potential cumulative effect on biological resources within these areas. The effects of the Build Alternative Options on biological resources would be avoided, minimized, and mitigated at the Tier 2/Project-level analysis, when feasible, which would reduce the potential for cumulative effects.

Operation of the Build Alternative Options within the Eastern Section would result in an additional two daily, round-trip passenger trains operating within the existing rail railway. Although operational activities are anticipated to be the same at the stations within the Eastern Section as they are in the Western Section, the station facilities could result in moderate effects on biological resources as they could be constructed adjacent to areas containing biological resources. Due to the anticipated population growth and associated development within the Eastern Section, the Build Alternative Options could have a cumulative effect on biological resources. However, the effects of the Build Alternative Options on biological resources would be avoided, minimized, and mitigated at the Tier 2/Project-level, when feasible, which would reduce the potential for cumulative effects.

Cumulative Floodplains, Hydrology, and Water Quality Effects

WESTERN SECTION

No new rail infrastructure or station facilities would be constructed in the Western Section under any of the Build Alternative Options. Therefore, construction-related effects on floodplains, hydrology, and water quality are negligible, and cumulative effects on these resources are not anticipated within the Western Section. Operation of any of the Build Alternative Options within the Western Section of the Program Corridor would remain within the existing rail ROW, and station facilities and would not introduce new pollutants or result in new effects on floodplains, hydrology, and water quality. As a result, operational activities would have a negligible effect on floodplains, hydrology, and water quality, and it is unlikely that any of the Build Alternative Options would contribute to cumulative water quality effects within the Western Section.

EASTERN SECTION

Implementation of the Program under any of the Build Alternative Options would require the construction of rail infrastructure improvements and station facilities within the Eastern Section of the Program Corridor. Construction activities in the Eastern Section could result in soil erosion and stormwater discharges of suspended solids, increased turbidity, and potential mobilization of other pollutants from Program-related construction sites. The Build Alternative Options would have effects on hydrology and water quality during construction activities and could have cumulative effects with other planned transportation and development projects in the Eastern Section of the Program Corridor. However, because appropriate design features and construction BMPs (as required by the CWA and other regulations) would be incorporated, effects on hydrology and water quality are expected to be moderate. Implementation of these regulatory requirements would reduce water quality and erosion effects associated with construction activities. Although there are no assurances that other cumulative projects would incorporate the same degree or methods of treatment as the Program, each related project would be required to comply with its NPDES General Construction Permit and local stormwater ordinances, at a minimum. Water quality effects during construction would be minimized and are not anticipated to result in cumulative effects.

Operation of the Program within the Eastern Section would result in an increase in pollutants (e.g., fuel and oils) from trains and station parking lots and an increase in impervious surfaces and runoff that could result in substantial hydrology and water quality effects. Depending on where the rail infrastructure improvements and station facilities are located, cumulative effects on hydrology and water quality could be potentially greater if future transportation projects and new development is located in the same area, or adjacent, to the location. However, regional programs and the MS4 Permit Program have been designed in anticipation of future urbanization with the regional control

measures taking into account cumulative hydrology and water quality effects of proposed development. In addition, the Build Alternative Options and cumulative projects would be required to comply with the regulations. Because appropriate design features and operational BMPs would be expected to be incorporated, cumulative hydrology and water quality effects are anticipated to be moderate.

Cumulative Geology, Soils, Seismicity, and Paleontological Resources Effects

WESTERN SECTION

No new rail infrastructure or station facilities would be constructed in the Western Section under any of the Build Alternative Options. Therefore, construction-related effects on geologic resources are negligible, and cumulative effects on these resources are not anticipated within the Western Section. Operation of any of the Build Alternative Options within the Western Section of the Program Corridor would remain within the existing rail ROW and station facilities. As a result, operational activities would have a negligible effect on geologic resources, and it is unlikely that any of the Build Alternative Options would contribute to cumulative geologic resource effects within the Western Section.

EASTERN SECTION

Implementation of the Program under any of the Build Alternative Options would require the construction of rail infrastructure improvements and station facilities within the Eastern Section of the Program Corridor. Construction activities would require clearing, grading, and excavating of soils, which could include cut and fill activities that cause slope instability and landslides, as well as the loss of availability of known mineral and paleontological resources. Project-specific effects associated with geologic hazards would not be considered cumulative because the effects are not incrementally affected by additional projects (for example, the effect on a single project by an earthquake or the shrink/swell of clay soils would not be affected by other projects in the area). However, effects on geologic resources could be incrementally affected by multiple projects. Cumulative effects on geologic resources would be expected if construction of multiple projects resulted in slope instability in a given area or if use of mineral resources for construction (such as sand and gravel) caused a substantial overall depletion of these resources. While there are areas within the Eastern Section that have steep-slope topography, the majority of the Eastern Section of the Program Corridor has generally flat topography. Potential effects due to slope instability (such as landslides or earthquake-induced liquefaction) would be easily addressed during Tier 2/Project-level analysis and final design. Sand and gravel would be needed for construction of any of the Build Alternatives, but because reserves are plentiful throughout the region, none of the Build Alternative

Options, in combination with other planned projects in the area, would be expected to contribute to limiting availability to these resources.

Operation of any of the Build Alternative Options within the Eastern Section of the Program Corridor would require ongoing maintenance activities associated with the rail infrastructure and station facilities with maintenance activities not requiring ground-disturbing activities. As a result, operational activities would have a negligible effect on geologic resources, and it is unlikely that any of the Build Alternative Options would contribute to cumulative geologic resource effects within the Eastern Section.

Cumulative Hazards and Hazardous Materials Effects

WESTERN SECTION

No new rail infrastructure or station facilities would be constructed in the Western Section under any of the Build Alternative Options. Therefore, construction-related effects on hazards and hazardous materials are negligible, and cumulative effects are not anticipated within the Western Section. Operation of any of the Build Alternative Options within the Western Section of the Program Corridor would remain within the existing rail ROW and station facilities. As a result, operational activities would have a negligible effect on hazards and hazardous materials, and it is unlikely that any of the Build Alternative Options would contribute to cumulative hazards and hazardous material effects within the Western Section.

EASTERN SECTION

Implementation of the Program under any of the Build Alternative Options would require the construction and operation of rail infrastructure improvements and station facilities within the Eastern Section of the Program Corridor. Construction activities could include disturbances on properties with known potential for hazardous materials exposure. Any hazardous wastes or materials encountered through ground-disturbing activities would be handled and disposed of in accordance with federal, state, and local regulatory requirements. All planned projects would also be subject to the same local, regional, state, and federal regulations. During operation, the Build Alternative Options and cumulative projects would all involve the storage, use, disposal, and transport of hazardous materials to varying degrees during construction and operation. Effects from the Build Alternative Options would be negligible because the storage, use, disposal, and transport of hazardous materials are extensively regulated by federal, state, and local laws, regulations, and policies. Based on these considerations, the Build Alternative Options combined with planned projects are not anticipated to not result in cumulative effects on hazards and hazardous materials.

Cumulative Public Utilities and Energy Effects

WESTERN SECTION

No new rail infrastructure or station facilities would be constructed in the Western Section under any of the Build Alternative Options. Therefore, construction-related effects associated with public utilities and energy consumption are negligible, and cumulative effects on public utilities and energy are not anticipated within the Western Section. Operation of any of the Build Alternative Options within the Western Section of the Program Corridor would remain within the existing rail ROW, and station facilities and would not result in changes in land use or the provision of public utilities within the Western Section. As a result, operational activities would have a negligible effect on public utilities, and it is unlikely that any of the Build Alternative Options would contribute to cumulative public utility effects within the Western Section.

Operation of the Program within the Western Section is expected to increase transit ridership under the Build Alternative Options. Therefore, operation of the Build Alternative Options would result in a long-term net energy benefit because of changes in ridership from high-energy consumption modes of travel to the lower-energy mode of passenger rail. The Build Alternative Options, combined with other future transit projects within the Western Section, would have a beneficial cumulative effect on energy consumption and would contribute toward offsetting increased energy consumption that would result from future road transportation projects and new development to accommodate population growth.

EASTERN SECTION

Implementation of the Program under any of the Build Alternative Options would require the construction of rail infrastructure improvements and station facilities within the Eastern Section of the Program Corridor. Construction activities would generate wastewater and could potentially conflict with existing utilities (e.g., electrical transmission lines and natural gas pipelines), particularly in urban areas where there is a high density of utility lines. The Build Alternative Options combined with planned projects would contribute to potential cumulative effects on utilities. However, the effects of the Build Alternative Options on utilities would be avoided, minimized, and mitigated at the Tier 2/Project-level analysis once rail infrastructure improvements and station facilities locations are identified, which would reduce the potential for cumulative effects.

Construction activities would also require the consumption of energy in the form of gasoline and diesel fuel. Under cumulative conditions within the Eastern Section, future transportation projects and new development to accommodate population growth would also result in consumption of energy during construction. The Build Alternative Options combined with these future projects would cumulatively contribute to the consumption of energy during construction. However, operation of the

Build Alternative Options would result in a long-term net energy benefit because of the changes in ridership from high-energy consumption modes of travel to the lower-energy mode of passenger rail. The Build Alternative Options, combined with other future transit projects in the Eastern Section, would have a beneficial cumulative effect on energy consumption and would contribute toward offsetting increased energy consumption that would result from future road transportation projects and new development to accommodate population growth.

Cumulative Cultural Resource Effects

WESTERN SECTION

No new rail infrastructure or station facilities would be constructed in the Western Section under any of the Build Alternative Options. Therefore, construction-related effects associated with archaeological, historical, or TCRs are anticipated to be negligible, and cumulative effects on cultural resources are not anticipated within the Western Section. Operation of any of the Build Alternative Options within the Western Section of the Program Corridor would remain within the existing rail ROW and station facilities and would not result in changes that could affect cultural resources. As a result, operational activities would have a negligible effect on archaeological, historical, or TCRs, and it is unlikely that any of the Build Alternative Options would contribute to cumulative cultural resource effects within the Western Section.

EASTERN SECTION

Implementation of the Program under any of the Build Alternative Options would require the construction of rail infrastructure improvements and station facilities within the Eastern Section of the Program Corridor. Construction activities would involve ground-disturbing activities that could have the potential to affect archeological, historic, or tribal resources. Disturbance of such resources under the Build Alternative Options, in combination with other future planned projects, would have a cumulatively substantial effect and contribute to the loss of cultural resources within the Eastern Section of the Program Corridor. Compliance with Section 106 of NHPA would ensure cultural resources are treated properly, which may include avoidance, data collection, or other mitigation strategies. Site-specific effects would be identified and evaluated in the Tier 2/Project-level analysis, which would reduce the potential for cumulative effects.

Similar to the Western Section, operational activities under any of the Build Alternative Options are not be expected to result in effects on cultural, historic, and tribal resources. Therefore, it is unlikely that any of the Build Alternative Options would contribute to cumulative cultural resource effects within the Eastern Section.

Cumulative Parklands and Community Service Effects

WESTERN SECTION

No new rail infrastructure or station facilities would be constructed in the Western Section under any of the Build Alternative Options. Therefore, construction-related effects associated with parklands and community services are negligible, and cumulative effects on parklands and community services are not anticipated within the Western Section. Operation of any of the Build Alternative Options within the Western Section of the Program Corridor would remain within the existing rail ROW, and station facilities and would not result in changes in parklands or the provision of community services. As a result, operational activities would have a negligible effect on parklands and community services, and it is unlikely that any of the Build Alternative Options would contribute to cumulative parkland and community service effects within the Western Section.

EASTERN SECTION

Implementation of the Program under any of the Build Alternative Options would require the construction and operation of rail infrastructure improvements and station facilities within the Eastern Section of the Program Corridor. Construction activities could result in temporary disruption of access to existing community facilities and parks and could result in detours, which could affect travel patterns for fire and law enforcement. Under cumulative conditions within the Eastern Section, future transportation projects and new development to accommodate population growth may also result in temporary disruptions of access to existing parks and require detours, which could affect travel patterns for fire and law enforcement if located in the same construction area. The Build Alternative Options, combined with these future projects, could result in cumulative effects on parks and community facilities. However, these effects would be identified and evaluated during the Tier 2/Project-level analysis, once rail infrastructure improvements and station locations are identified.

The communities within the Eastern Section are expected to incrementally add park resources and community services according to their development plans, which is appropriate for the projected rate of growth. Therefore, park resources and community services within the Eastern Section are likely to increase proportionately to population-driven development, which would result in a net increase in park resources and community services. With avoidance of existing park resources, and an increase in park resources proportional to development, there is a low likelihood for the Build Alternative Options to contribute to a cumulative effect of park resources during operation.

Cumulative Safety and Security Effects

WESTERN SECTION

No new rail infrastructure or station facilities would be constructed in the Western Section under any of the Build Alternative Options. Therefore, safety and security construction-related effects are negligible since there would be no construction that would occur. Operation of any of the Build Alternative Options within the Western Section of the Program Corridor would result in negligible safety and security effects as operational activities would remain the same as existing conditions. As a result, operational activities would have a negligible effect on safety and security, and it is unlikely that any of the Build Alternative Options would contribute to cumulative safety and security effects within the Western Section.

EASTERN SECTION

Implementation of the Program under any of the Build Alternative Options would require the construction and operation of rail infrastructure improvements and station facilities within the Eastern Section of the Program Corridor. Where future planned projects and development are adjacent to the Build Alternative Options, there is the potential for cumulative safety and security effects during construction if the timing of the projects overlap. Mitigation identified in the Tier 2/Project-level analysis would reduce cumulative effects.

Operation of the Build Alternative Options, in combination with cumulative projects, could result in an increased potential for rail incidents, including collisions at-grade roadway-rail crossings, derailed or errant vehicle in the ROW obstructing the tracks, or derailments. However, these potential effects would be mitigated by complying with FRA's *Collision Hazard Analysis Guide: Commuter and Intercity Passenger Service* and requiring preparation of safety and security management plans. Site-specific cumulative effects would be identified and evaluated at the Tier 2/Project-level analysis.

The operation of any of the Build Alternative Options would include passenger trains, stations, and other maintenance facilities. Combined with other planned development, the Build Alternative Options may contribute to an increased demand for emergency services. However, transportation and new or expanded development projects would be designed and constructed to be consistent with local land use plans and would comply with agencies' approval conditions, including fair-share development fees to pay for additional emergency services required to maintain service standards. With the payment of development fees, the cumulative effect on emergency services from operation of the Build Alternative Options, in combination with planned development projects, would not be cumulatively considerable.

Cumulative Socioeconomics and Community Effects

WESTERN SECTION

No new rail infrastructure or station facilities would be constructed in the Western Section under any of the Build Alternative Options. Therefore, construction-related effects associated with socioeconomics and communities are negligible since there would be no land acquisition, displacement, and relocations needed within the Western Section.

Operation of any of the Build Alternative Options within the Western Section of the Program Corridor would remain within the existing rail ROW and station facilities and would not result in changes in land use or community cohesion. The additional passenger rail services that would occur under any of the Build Alternative Options would result in several benefits: the creation of direct, indirect, and induced jobs; permanent increases in sales tax revenues within the counties and cities where the Build Alternative Options operate; and improved regional mobility and connectivity. Several projects listed in Table 3.17-1 would also result in creation of jobs, sales tax revenues, and improved regional mobility and connectivity, resulting in a beneficial cumulative effect.

EASTERN SECTION

Implementation of the Program under any of the Build Alternative Options would require the construction and operation of rail infrastructure improvements and station facilities within the Eastern Section of the Program Corridor. Socioeconomic and community effects are expected to be both positive and negative. In terms of negative socioeconomic and community effects, land acquisition for the Build Alternative Options could result in property tax revenue losses for local jurisdictions if residential or business properties are removed from the property tax assessment roll. Community effects could include disruptions to local communities and may require displacements or relocations of residences and businesses. If cumulative projects in the area also require land acquisition and displace and relocate sales and use tax-generating businesses outside of their current tax district, then the Build Alternative Options could contribute to cumulative effects on socioeconomics and communities. Without the specific station locations and unknown cumulative projects in the vicinity of the station locations, the severity of this impact is unknown. Site-specific effects related to potential land acquisitions, displacements or relocations, and property or sales and use tax losses would be identified and evaluated during the Tier 2/Project-level analysis.

The additional passenger rail services that would occur under any of the Build Alternative Options within the Western and Eastern Section of the Program Corridor would result in several socioeconomic and community benefits: the creation of direct, indirect, and induced jobs, permanent increases in sales tax revenues within the counties and cities where the Build Alternative Options would operate, and improved regional mobility and connectivity.

Within the Eastern Section of the Program Corridor, new station facilities could encourage redevelopment in the surrounding area and the potential for transit-oriented development. These additional developments could provide additional employment opportunities and new housing opportunities to address the projected employment and population growth within the Eastern Section of the Program Corridor. The potential for development around each station facility would depend on the type of station planned, which would be determined during the Tier 2/Project-level analysis. Any new development in the station areas would also result in the potential for additional property tax and sales tax revenues, which would benefit the counties and cities where the station facilities would be located.

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