

3.15 Safety and Security

3.15.1 Introduction

This section provides an evaluation of safety- and security-related effects associated with the No Build Alternative and Build Alternative Options. Safety relates to the prevention of unintentional harm, such as from accidents, to the public and employees during construction and operation of the passenger rail system. Security relates to the protection of people and property from intentional acts that could injure or harm them.

3.15.2 Regulatory Framework

In accordance with NEPA (42 USC Section 4321 et seq.), CEQ regulations implementing NEPA (40 CFR Parts 1501-1508), FRA's Procedures for Considering Environmental Impacts (64 FR 28545, May 26, 1999) and CEQA, FRA identified potential safety- and security-related effects within the Tier 1/Program EIS/EIR Study Area and evaluated the potential impacts on safety and security from implementation of the Build Alternative Options.

Federal

Federal Railroad Administration Rail Safety Improvement Act of 2008

The Rail Safety Improvement Act of 2008 (RSIA) was a response to fatal rail accidents between 2002 and 2008. The RSIA reauthorized FRA to oversee the nation's rail safety program between 2009 and 2013. The RSIA required the implementation of PTC systems to prevent further train-to-train collisions along specific rail lines by the end of 2015. Additionally, the RSIA aims to improve conditions of rail bridges and tunnels. The RSIA governs hours of service for workers, standards for track inspection, conductor certification, and highway grade crossings.

Federal Railroad Administration System Safety Program (49 Code of Federal Regulations Part 270)

This regulatory program requires commuter and intercity passenger railroads to develop and implement a system safety program to improve the safety of their operations. An SSP is a structured program with proactive processes and procedures, developed and implemented by railroads to identify and mitigate or eliminate hazards to reduce the number and rates of railroad accidents, incidents, injuries, and fatalities.

Fixing America's Surface Transportation Act (23 United States Code 11313[b])

The Fixing America's Surface Transportation Act governs U.S. federal surface transportation spending. Section 11313(b) provides guidance on systematic processes of identifying, quantifying, and comparing expected benefits and costs (including safety benefits).

United States Code on Railroad Safety (49 United States Code 20101 et seq.)

Part A of Subtitle V of Title 49 of USC (49 USC Sections 20101 et seq.) contains a series of statutory provisions affecting the safety of railroad operations. Section 20109 of the act protects the reporting of safety concerns and injuries and prohibits railroads from disciplining, discharging, or retaliating in any form against employees who engage in protected activities. This section also prohibits the delay or interference of an injured employee's treatment.

United States Department of Defense (Railroads for National Defense Program)

In coordination with FRA, the Military Traffic Management Command Transportation Agency established the Railroads for National Defense Program to identify defense rails requirements and assure consideration for national defense in civil railroad policies, plans, and programs. As part of this program, certain railroad corridors were designated by the U.S. Department of Defense as part of the Strategic Rail Corridor Network (STRACNET). STRACNET is an interconnected and continuous rail line network consisting of over 38,000 miles of track serving over 170 defense installations. Railroads designated for STRACNET must comply with defense readiness requirements, including maintenance conditions, clearance, operating speeds, and gross weight capabilities.

United States Department of Homeland Security/Transportation Security Administration

The Transportation Security Administration provides Security Directives for Passenger Rail, including directives for rail transportation operators to implement certain protective measures and report potential threats and security concerns to the Transportation Security Administration. The Rail Transportation Security final rule, published on November 26, 2008, describes the Transportation Security Administration's inspection program, including freight railroad carriers; intercity, commuter, and short-haul passenger train service providers; rail transit systems; and rail operations at certain fixed-site facilities that ship or receive specified hazardous materials by rail.

United States Environmental Protection Agency Emergency Planning and Community Right-to-Know Act

The Emergency Planning and Community Right-to-Know Act provides direct guidance to state and local planning for chemical emergencies, provides for notification in the scenario of emergency releases of chemicals, and addresses a community's right-to-know about toxic and hazardous chemicals.

State

California Emergency Services Act (California Government Code Section 8550 et seq.)

The Emergency Services Act supports the state's responsibility to mitigate adverse effects of natural, human-produced, or war-caused emergencies that threaten human life, property, and environmental resources of the state. The act aims to protect human health and safety and to preserve the lives and property of the people of the state. The act provides the California Office of Emergency Services with the authority to prescribe powers and duties supportive of the act's goals. In addition, the act authorizes the establishment of local organizations to carry out the provisions through necessary and proper actions.

California Public Utilities Commission Code Sections 7710–7727, 7661, and 7665 et seq.

CPUC Code Sections 7710–7727 cover railroad safety and emergency planning and response. Under this code, CPUC is required to adopt safety regulations and report sites on railroad lines that are deemed hazardous within California. The Rail Accident Prevention and Response Fund was created in an effort to support prevention regulations financially through fees paid by surface transporters of hazardous materials. In addition, the Railroad Accident Prevention and Immediate Deployment Force was created to provide immediate on-site response in the event of a large-scale unauthorized release of hazardous materials. Modifications of existing highway-rail crossings require CPUC authorization, and temporarily impaired clearance during construction requires application to CPUC and notice to railroads.

Section 7661 requires every railroad corporation operating in the state to develop a protocol for rapid communications with the California Office of Emergency Services, the Department of the California Highway Patrol, and designated county public safety agencies in an endangered area if there is a runaway train or any other uncontrolled train movement that threatens public health and safety. Section 7665 is also known as the Local Community Rail Security Act of 2006 and provides for the security and safety of local communities and local community facilities, to protect local communities from transportation practices that fail to secure rail facilities and equipment from the threat of

terrorism, and to ensure proper communication between the owners and operators of rail facilities and equipment with local and state first responders.

Regional

Goals and policies related to safety and security and applicable to the Build Alternative Options were identified in the Los Angeles, Orange, San Bernardino, and Riverside Counties' general plans.

Los Angeles County 2035 General Plan

Policies in the Mobility Element of the *Los Angeles County 2035 General Plan* (County of Los Angeles 2015) include the following:

- Policy M 1.2: Ensure that streets are safe for sensitive users, such as seniors and children.
- Policy M 2.4: Ensure a comfortable walking environment for pedestrians by implementing the following, whenever appropriate and feasible: safe and convenient crossing locations at transit stations and transit stops located at safe intersections.

Orange County General Plan

One goal of the Transportation Element of the *Orange County General Plan* (Orange County 2005) is to provide a circulation plan that facilitates the safe, convenient, and efficient movement of people and goods throughout unincorporated areas of the county.

County of Riverside General Plan

The Circulation Element of the *Riverside County General Plan* (County of Riverside 2003) states that Riverside County continues to support operation of passenger and freight rail systems that offer efficient, safe, convenient, and economical transport of Riverside County residents and commodities.

County of San Bernardino General Plan

The Transportation and Mobility Element of the *San Bernardino County General Plan* (County of San Bernardino 2014) includes goals for pedestrian, cyclist, and other active transportation infrastructure in mobility focus areas to safely connect neighborhoods and communities to key destinations.

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.

3.15.3 Methods for Evaluating Environmental Effects

Public safety and security is generally evaluated to understand the effects of passenger rail construction and operation on the following:

- Safety of construction workers and the traveling public during construction
- Public safety at railroad-highway crossings
- Safety of train passengers and operators during passenger rail operation
- Effects of construction and operation on emergency response routes and times
- Crime risk at construction sites and within the passenger rail system during operation

This evaluation considers the operational and infrastructure aspects of each of the Build Alternative Options, including the safety and security of passenger rail as a travel mode compared with other modes (motor vehicle and aviation), access to the existing railroad ROW, and how it is secured and maintained. For this Tier 1/Program EIS/EIR evaluation, compliance with current and proposed safety standards and regulations are discussed qualitatively.

Safety and security aspects include the safe operation of the passenger railroad, equipment, and infrastructure (e.g., tracks, structures, systems, stations, yards, etc.), as well as access to the ROW. Safety considerations are consistent with FRA's mission to improve railroad safety and reduce the number of accidents by reducing the number and rates of accidents involving railroad train collisions or derailments, highway-rail grade crossings, trespassers, and railroad infrastructure. A detailed assessment of compliance with safety and security regulations would be considered during the Tier 2/Project-level analysis.

Tier 1/Program EIS/EIR Study Area

This service-level evaluation is limited to a desktop evaluation of the data sources described in Section 3.15.3. A detailed description of the Tier 1/Program EIS/EIR Study Area is provided in Section 3.1, Introduction to Environmental Analysis, of this Tier 1/Program EIS/EIR.

Data Sources

Data from the National Highway Traffic Safety Administration, Bureau of Transportation Statistics, National Transportation Safety Board, California Highway Patrol, FRA, FTA, and Federal Aviation Administration were reviewed to establish the existing conditions for modal safety. A desktop review using Google Earth was conducted to generally understand how the existing railroad ROW is

secured. Federal safety and security rules and design standards were reviewed to determine required design and operational practices for passenger rail systems.

Related Resources

This analysis incorporates data and evaluation from related resources pertaining to safety and security. These related resources are identified in Table 3.15-1.

Table 3.15-1. Related Resource Inputs for Safety and Security Assessment

Resource	Input for Safety and Security Assessment
Transportation (Section 3.3)	Existing and proposed rail operations (including service plans and fleet assumptions) and the corresponding shift or change in ridership was determined.

3.15.4 Affected Environment

FRA defines total accidents/incidents as the sum of train accidents, highway-rail incidents, and other incidents. Train accidents are defined as a safety-related event involving on-track equipment, whether standing or moving, including derailments and collisions (FRA 2014). Highway/rail incidents are defined as involving injuries or fatalities (casualties) but not involving property damage above reportable thresholds. Other incidents include any event other than a highway-rail incident that caused a death, injury, or occupational illness to a railroad employee or that resulted in an injury or fatality, including incidents involving pedestrians in the rail ROW (FRA 2014).

Passenger Rail System Safety

According to data from USDOT Bureau of Transportation Statistics, in 2016 there were 791 deaths in the U.S. due to railroad-related accidents (USDOT Bureau of Transportation Statistics 2017). Unlike highway crashes, boating, or aviation accidents, most fatalities associated with train operations occur outside the train, such as people who are struck by trains while on track ROWs or people in cars struck at highway-rail grade crossings. Very few train passengers or crew members die in train accidents. In the 10-year period from 2007 to 2016, no passengers were killed on a train, but a total of 7,749 people died in railroad accidents or incidents (USDOT Bureau of Transportation Statistics 2017). Several hundred people die every year when struck by trains while on railroad property or ROWs. If they were unauthorized, they are classified as trespassers. Trespassers accounted for 57.2 percent of the total railroad fatalities between 2007 and 2016, an average of 443 deaths per year. Highway-rail grade crossing fatalities averaged about 260 per year in the 2007 to 2016 period, or roughly one-third of the total railroad-related fatalities.

Within the Tier 1/Program EIS/EIR Study Area, the existing railroad ROW is a shared track with the existing UP Yuma Subdivision between Indio and Colton and the BNSF San Bernardino Subdivision from Colton through Riverside and Fullerton before reaching LAUS. Current service frequency and operators are described in Section 2.2.2 of Chapter 2, Program Alternatives, of this Tier 1/Program EIS/EIR. Safety incidents along the existing railroad ROW can include injuries and fatalities associated with incidents at at-grade crossings and trespassing on railroad property. Accidents can involve train collision or derailment.

PTC is a predictive collision avoidance technology designed to stop a train in motion where the continued movement may result in an accident. The RSIA required the implementation of PTC technology across most railroad systems, including the existing railroad ROW, by December 31, 2018.¹ PTC has been implemented for Metrolink service within the Western Section of the Program Corridor.

Build Alternative Option 1 (Coachella Terminus)

Table 3.15-2 summarizes the number of train accidents and incidents for all railroads, freight trains, and Amtrak and commuter trains operating within those counties traversed by Build Alternative Option 1 between 2013 and 2017. Table 3.15-3 summarizes the number of train highway-rail incidents by county for all railroads, freight trains, and Amtrak and commuter trains between 2013 and 2017.

¹ In late 2015, Congress extended the deadline by at least 3 years to December 31, 2018, with the possibility of an extension to a date no later than December 31, 2020, if a railroad completes certain statutory requirements that are necessary to obtain an extension.

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Table 3.15-2. Number of Train Accidents and Incidents by County, 2013–2017

County	Total Accidents/ Incidents ^a	Total Accidents/ Incidents Fatalities	Total Accidents/ Incidents Non-Fatal	Trespasser Deaths ^b	Trespasser Injuries ^b	Train Accidents (Not at Grade-Crossings): Collisions	Train Accidents (Not at Grade-Crossings): Derailments	Train Accidents (Not at Grade-Crossings): Human Factor Caused	Train Accidents (Not at Grade-Crossings): Track Caused	Train Accidents (Not at Grade-Crossings): Motive Power/ Equipment Caused
All Railroads										
Los Angeles	942	81	768	56	51	8	66	59	15	9
Orange	131	25	92	17	7	—	3	2	—	1
San Bernardino	434	30	280	18	41	19	82	41	24	17
Riverside	197	31	136	17	18	—	9	4	3	4
Freight Operations										
Los Angeles	430	29	284	20	40	8	61	56	13	7
Orange	32	8	8	7	2	—	3	2	—	1
San Bernardino	345	21	205	15	39	8	82	41	24	17
Riverside	127	24	75	15	15	—	9	4	3	4
Amtrak and Commuter Railroads										
Los Angeles	515	52	484	36	11	—	7	3	4	2
Orange	99	17	76	10	5	—	—	—	—	—
San Bernardino	91	9	75	3	2	—	2	1	1	—
Riverside	71	7	61	2	3	—	1	1	—	—

Source: FRA Office of Safety Analysis 2018a, 2018b

Notes:

^a Total accidents is the sum of train accidents, crossing incidents, and other accidents/incidents as reported in FRA Tables 1.2 and 1.3 (FRA Office of Safety Analysis 2018a, 2018b)^b Not at highway-rail crossing

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Table 3.15-3. Number of Train Highway-Rail Incidents by County, 2013–2017 (Build Alternative Options 1, 2, and 3)

County	Total Highway-Rail Incidents	Highway-Rail Incident Deaths	Highway-Rail Incident Injuries	Incidents at Public Crossings
All Railroads				
Los Angeles	120	21	78	104
Orange	22	8	4	20
San Bernardino	48	7	12	43
Riverside	39	12	9	38
Freight Operations				
Los Angeles	73	6	33	57
Orange	7	1	2	7
San Bernardino	33	2	11	28
Riverside	30	7	7	29
Amtrak and Commuter Railroads				
Los Angeles	47	15	45	47
Orange	15	7	2	13
San Bernardino	15	5	1	15
Riverside	9	5	2	9

Source: FRA Office of Safety Analysis 2018a, 2018b

Build Alternative Option 2 (Indio Terminus)

Existing passenger rail system safety data and information within Build Alternative Option 2 is the same as Build Alternative Option 1.

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

Existing passenger rail system safety data and information within Build Alternative Option 3 is the same as Build Alternative Option 1.

Grade Crossing Safety

At-grade crossings present a risk of collisions between trains and other travel modes, as well as a risk of collisions between vehicles, particularly rear-end-type crashes when vehicles stop at a crossing. Grade-separated crossings eliminate this type of safety risk because trains are separated from other travel modes.

Build Alternative Option 1 (Coachella Terminus)

Table 3.15-4 summarizes the number of at-grade railroad crossing incidents for all cities crossed by the existing railroad ROW between 2013 and 2017. A total of 101 at-grade crossing incidents occurred in the 32 cities crossed by the existing railroad ROW between 2013 and 2017. Of these, 53 occurred within the Tier 1/Program EIS/EIR Study Area, with 18 fatalities, 17 injuries, and 33 incidents with property damage.

Table 3.15-4. Number of At-Grade Incidents by City for All Railroads, 2013–2017 (Build Alternative Options 1, 2, and 3)

City	Total Accidents/ Incidents	Total within the Tier 1/ Program EIS/EIR Study Area	Incidents with Fatalities within the Tier 1/ Program EIS/EIR Study Area	Incidents with Injuries within the Tier 1/ Program EIS/EIR Study Area	Incidents with Property Damage within the Tier 1/ Program EIS/EIR Study Area
Los Angeles	30	2	—	—	2
Vernon	6	3	—	3	3
Commerce ^a	—	—	—	—	—
Montebello	3	1	—	1	—
Pico Rivera	2	—	—	—	—
Santa Fe Springs	11	11	5	2	7
Norwalk ^a	—	—	—	—	—
La Mirada	3	1	—	1	1
Buena Park ^a	—	—	—	—	—
Fullerton ^a	—	—	—	—	—

City	Total Accidents/ Incidents	Total within the Tier 1/ Program EIS/EIR Study Area	Incidents with Fatalities within the Tier 1/ Program EIS/EIR Study Area	Incidents with Injuries within the Tier 1/ Program EIS/EIR Study Area	Incidents with Property Damage within the Tier 1/ Program EIS/EIR Study Area
Anaheim	6	3	—	1	3
Placentia	3	3	2	1	1
Yorba Linda ^b	—	—	—	—	—
Chino Hills ^b	—	—	—	—	—
Corona	9	9	4	2	3
Riverside	20	16	5	6	11
Grand Terrace	2	1	1	—	1
Colton	1	1	—	—	1
San Bernardino	3	—	—	—	—
Loma Linda ^a	—	—	—	—	—
Redlands ^a	—	—	—	—	—
Calimesa ^a	—	—	—	—	—
Beaumont ^a	—	—	—	—	—
Banning	1	1	—	—	—
Cabazon	1	1	1	—	—
Palm Springs ^a	—	—	—	—	—
Cathedral City ^b	—	—	—	—	—
Thousand Palms ^a	—	—	—	—	—
Rancho Mirage ^a	—	—	—	—	—
Palm Desert ^a	—	—	—	—	—

City	Total Accidents/ Incidents	Total within the Tier 1/ Program EIS/EIR Study Area	Incidents with Fatalities within the Tier 1/ Program EIS/EIR Study Area	Incidents with Injuries within the Tier 1/ Program EIS/EIR Study Area	Incidents with Property Damage within the Tier 1/ Program EIS/EIR Study Area
Indio ^b	—	—	—	—	—
Coachella ^a	—	—	—	—	—

Source: FRA Office of Safety Analysis 2018c

Notes:

^a No accidents/incidents reported from 2013/2017

^b No public crossings at-grade

EIR=environmental impact report; EIS=environmental impact statement

Build Alternative Option 2 (Indio Terminus)

Existing grade crossing data and information within Build Alternative Option 2 is the same as Build Alternative Option 1.

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

Existing grade crossing data and information within Build Alternative Option 3 is the same as Build Alternative Option 1.

Crime Prevention and Security

As mentioned above, security refers to how the railroad ROW and station areas are secured and access to the ROW maintained within the Program Corridor.

Build Alternative Option 1 (Coachella Terminus)

Starting in the west, from LAUS to the Fullerton Transportation Center, the existing railroad ROW within Build Alternative Option 1 is intermittently secured by fencing and property walls. In the developed areas in San Bernardino and Riverside Counties, the existing railroad ROW is generally secured with fencing and property walls. From the City of Loma Linda to the eastern terminus of Coachella, the existing railroad ROW is generally unsecured with some areas secured by fencing, short-wire and wood-post fencing, or residential property boundary walls. The existing at-grade crossings within the Tier 1/Program EIS/EIR Study Area also have various forms of warning devices, such as gate arms, signs/signals, pavement markings, mast-mounted flashing lights, and alarm bells.

Existing stations within the Program Corridor generally have close-circuit security cameras, roving code enforcement or compliance inspectors, and a transit security force. Additionally, signs with phone numbers are posted at stations for use if transit patrons or the general public observe suspicious activity within the station areas. Consistent with current transit provider policies, anyone observed by the roving code enforcement inspectors in fare paid areas without proof of a paid fare would be asked to leave the premises.

The entire Program Corridor from LAUS to Coachella is classified as part of STRACNET. The Military Traffic Management Command Transportation Engineering Agency and FRA requires STRACNET rail lines to meet defense readiness requirements, including maintenance conditions, clearance, operating speeds, and gross-weight capabilities.

Build Alternative Option 2 (Indio Terminus)

Existing crime prevention and security features within Build Alternative Option 2 are the same as Build Alternative Option 1.

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

Existing crime prevention and security features within Build Alternative Option 3 are the same as Build Alternative Option 1.

3.15.5 Environmental Consequences

Overview

This service-level evaluation describes the effects of the Build Alternative Options on the safety of the passenger rail system, grade crossings, pedestrians and bicyclists, trespassing, rail safety and transport of hazards materials, crime prevention and security, community emergency response services, and seismic safety. Certain safety and security topics (such as community emergency response services and seismic safety) have already been discussed in other Tier 1/Program EIS/EIS sections and are referenced as appropriate. Effects as a result of implementing the Build Alternative Options can be broadly classified into construction and operational effects. Long-term or permanent effects and short-term or temporary effects on safety and security would be anticipated as a result of constructing any of the Build Alternative Options.

No Build Alternative

The No Build Alternative, as described in Chapter 2, Program Alternatives, of this 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. Several existing and committed transportation improvement projects would still occur in the Program Corridor under the No Build Alternative.

Under the No Build Alternative, the Los Angeles Basin and San Gorgonio Pass would continue to face substantial mobility challenges as growth in population, employment, and tourism activity is anticipated to generate increased travel demand. With the growth in population, employment, and tourism activity, 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.

Build Alternative Options 1, 2, and 3

Passenger Rail System Safety Effects

CONSTRUCTION

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

Eastern Section. Construction of rail infrastructure improvements, such as sidings, additional main line track, wayside signals, drainage, grade-separation structures, and stations could require temporary closure of lanes, sidewalks, bicycle lanes and routes, driveways, streets, and freeway lanes. All construction activities affecting roadways, bicycle paths, and pedestrian paths would be required to meet the requirements of the California MUTCD (Caltrans 2020). Once site specifics associated with the rail infrastructure improvement or station facility are known, the Tier 2/Project-level analysis would identify and evaluate where temporary road closures and traffic detours would be needed. Mitigation strategies that require the preparation and implementation of a site-specific transportation management plan would help minimize, reduce, or avoid potential safety effects during construction activities. When compared with the No Build Alternative, short-term and temporary effects related to passenger rail system safety would be moderate within the Eastern Section under Build Alternative Option 1. When compared with Build Alternative Option 1, Build Alternative Option 2 may have slightly reduced effects due to a smaller footprint associated with a

shorter route alignment and reduced station options; however, effects would have the same magnitude and 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 considered moderate when compared with the No Build Alternative.

OPERATION

Western Section. Under Build Alternative Options 1, 2, and 3, 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 the Coachella Valley. Operation of the Build Alternative Options in the Western Section would use the existing railroad infrastructure and stations from LAUS to Colton.

The potential exists for passenger rail trains to derail within the Western Section of the Program Corridor; however, derailment is very rare. In case of a derailment, the accident would be communicated to all rail operators in the area and any safety measures and cleanup would be under the control of local jurisdiction emergency responders with assistance from rail operators. The addition of two daily round trips would not change the existing safety and security protocols for passengers, transit employees, and the public in or near the existing passenger rail system or station facilities. The operation of the two daily round trips on passenger trains would require the additional passenger trains to operate in accordance with standard operating procedures, operator rules, and rail emergency plans currently in place within the Western Section. When compared with the No Build Alternative, effects related to passenger rail system safety would be negligible under Build Alternative Options 1, 2, and 3.

Eastern Section. Operation of the any of the Build Alternative Options would implement similar safety and security principles and guidelines currently used by rail operators in the Western Section of the Program Corridor. These safety and security principles and guidelines currently include onboard safety and security programs, such as regular safety meetings for front-line employees, forward-facing camera systems to help aid in accident investigation, and inward-facing cameras for onboard security. In addition, rail operators and transit system providers along the Program Corridor currently coordinate with local police departments for safety and security presence onboard trains and at stations; consider safety improvement projects such as track and signal upgrades, gate and warning systems, and grade separations that eliminate hazards at at-grade crossing; and engage in public awareness campaigns designed to educate the public about the risks of trespassing on railroad property. It is anticipated that operation of the two daily round trips on passenger trains within the Eastern Section would require the additional passenger trains to operate in accordance

with standard operating procedures, operator rules, and rail emergency plans similar to those currently in place within the Western Section.

The potential exists for passenger rail trains to derail within the Eastern Section of the Program Corridor; however, derailment is very rare. In case of a derailment, the accident would be communicated to all rail operators in the area and any safety measures and cleanup would be under the control of local jurisdiction emergency responders with assistance from rail operators. The addition of two daily round trips within the Eastern Section would not change the existing safety and security protocols for passengers, transit employees, and the public in or near the existing passenger rail system or station facilities. The operation of the two daily round trips on passenger trains would require the additional passenger trains to operate in accordance with standard operating procedures, operator rules, and rail emergency plans currently in place within the Eastern Section.

For proposed station facilities, it is anticipated that new station facilities within the Eastern Section would implement a similar safety and security program for station operations. This would include preparation of safety and security management plans to maintain safety of workers and passengers accessing station facilities, worker safety standards, crime prevention design guidelines, safety and health plans, fire/life safety programs, security plans, and emergency procedures.

Implementing project design features or mitigation measures requiring compliance with FRA's *Collision Hazard Analysis Guide: Commuter and Intercity Passenger Service* (FRA 2007) would identify and determine rail and rail facility hazards and vulnerabilities so that they can be addressed and either eliminated or reduced. In addition, intrusion-detection technology or PTC would also alert the presence of inert objects, such as derailed freight trains, helping to avoid collisions.

The existing railroad ROW is equipped with wayside signaling and centralized traffic control. As mentioned above, the RSIA requires the implementation of PTC technology across most railroad systems by December 31, 2018, and PTC is expected to be implemented throughout the existing railroad ROW prior to operation of the Program. Communication towers and ancillary facilities could be included in the existing railroad ROW to implement the FRA PTC requirements. PTC infrastructure would consist of integrated command, control, communications, and information systems for controlling train movements that improve railroad safety by reducing the potential for collisions between trains, casualties to roadway workers and equipment, and over-speed accidents.

For portions of the railroad that are classified as part of the STRACNET network, additional coordination with the U.S. Army's Transportation Engineering Agency and FRA would occur during Tier 2/Project-level analysis to ensure readiness capability to support defense deployment and peacetime needs. A detailed assessment of safety and security onboard trains and stations, as well as how the railroad ROW would be secured and access would be managed, would be considered in

the Tier 2/Project-level analysis once site-specific rail infrastructure or station facility details are known.

When compared with the No Build Alternative, effects related to passenger rail system safety would be moderate within the Eastern Section under Build Alternative Option 1. When compared with Build Alternative Option 1, Build Alternative Option 2 may have slightly reduced effects due to a smaller footprint associated with a shorter route alignment and reduced station options; however, the magnitude of effect would be similar and 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 considered moderate when compared with the No Build Alternative.

Grade-Crossing Safety Effects

CONSTRUCTION

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

Eastern Section. Construction of rail infrastructure improvements, such as sidings, additional main line track, wayside signals, drainage, grade-separation structures, and stations could require temporary closure of lanes, sidewalks, bicycle lanes and routes, driveways, streets, and freeway lanes near existing grade crossings. All construction activities affecting roadways, bicycle paths, and pedestrian paths would be required to meet the requirements of the California MUTCD (Caltrans 2020). Once site specifics associated with rail infrastructure improvement or station facilities are known, the Tier 2/Project-level analysis would identify and evaluate where temporary road closures and traffic detours would be needed and if those closures and detours would impact existing grade crossings. Mitigation strategies that require the preparation and implementation of a site-specific transportation management plan would help minimize, reduce, or avoid potential grade-crossing effects during construction activities. When compared with the No Build Alternative, short-term and temporary effects related to grade-crossing safety would be moderate within the Eastern Section under Build Alternative Option 1. When compared with Build Alternative Option 1, Build Alternative Option may have slightly reduced effects due to a smaller footprint associated with a shorter route

alignment and reduced station options; however, effects would have the same magnitude and 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 considered moderate when compared with the No Build Alternative.

OPERATION

Western Section. Under Build Alternative Options 1, 2, and 3, 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 the Coachella Valley. The number of trains traveling through the existing grade crossings between LAUS and Colton would increase with implementation of the Program. However, the traffic control devices at these existing crossings provide the level of advanced warning and protection from an oncoming train required by CPUC and the California MUTCD (Caltrans 2020). These existing grade crossings currently meet the requirements of CPUC and the California MUTCD. Operation of the Program in the Western Section would not modify the existing grade crossing devices and would not require the approval of CPUC. It is anticipated that gate operation at these existing grade crossings would be optimized to accommodate the increased number of activities. Effects associated with the Western Section of the Program Corridor under Build Alternative Options 1, 2, and 3 would be negligible when compared with the No Build Alternative.

Eastern Section. Similar to the Western Section, under Build Alternative Options 1, 2, and 3, 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 the Coachella Valley. The number of trains traveling through the existing grade crossings between Colton and the eastern terminus (Coachella for Build Alternative Option 1, Indio for Build Alternative Options 2 and 3) would increase with implementation of the Program. The traffic control devices at these existing crossings provide the level of advanced warning and protection from an oncoming train required by CPUC and the California MUTCD (Caltrans 2020). These existing grade crossings currently meet the requirements of CPUC and the California MUTCD.

Depending on the type and location of new rail infrastructure improvements and station facilities being proposed within the Eastern Section, there is the possibility for the creation of new grade crossings or the need for modification of existing grade crossings which would require the approval of the CPUC. A detailed assessment of effects on existing and proposed grade crossings would be prepared during the Tier 2/Project-level analysis once site-specific rail infrastructure improvements

or station facility details are known. When compared with the No Build Alternative, effects related to grade-crossing safety would be moderate within the Eastern Section under Build Alternative Option 1. When compared with Build Alternative Option 1, Build Alternative Option 2 may have slightly reduced effects due to a smaller footprint associated with a shorter route alignment and reduced station options; however, effects would have the same magnitude and 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 considered moderate when compared with the No Build Alternative.

Pedestrian and Bicycle Safety Effects

Pedestrian and bicycle safety effects are discussed in detail in Section 3.3, Transportation, of this Tier 1/Program EIS/EIR.

Transport of Hazardous Materials Effects

Transport of hazard materials effects are discussed in detail in Section 3.11, Hazards and Hazardous Materials, of this Tier 1/Program EIS/EIR.

Community Emergency Response Services Effects

Community emergency response service effects are discussed in detail in Section 3.14, Parklands and Community Services, of this Tier 1/Program EIS/EIR.

Seismic Safety Effects

Seismic safety effects are discussed in detail in Section 3.10, Geology, Soils, Seismicity, and Paleontological Resources, of this Tier 1/Program EIS/EIR.

Crime Prevention and Security Effects

CONSTRUCTION

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

Eastern Section. Construction of Build Alternative Option 1, 2, or 3 in the Eastern Section of the Program Corridor would require the construction of rail stations, reconfiguration of existing or creation of new rail facilities, and potential ROW acquisition. Generally, active construction sites would include fencing, protective barriers, and/or signs that would prohibit and prevent the general public from entering or traversing construction areas. Construction laydown areas would generally be secured using fencing, lighting, and/or night patrols. In addition, contractors would be required to comply with applicable safety training and procedures while working in railroad ROW, including the use of flagman, safety barriers to provide separation between construction activities and active tracks, and temporary slow orders placed on train operations for certain conditions.

Potential effects depend on where the infrastructure improvements, including new stations, would be located, which have not yet been selected. The properties that would be affected by the future construction and operation of a passenger rail system and to what extent cannot be determined at this time. The Tier 2/Project-level analysis would evaluate the safety and security risk for the selected sites. When compared with the No Build Alternative, short-term and temporary effects related to crime prevention and security would be moderate within the Eastern Section under Build Alternative Option 1. When compared with Build Alternative Option 1, Build Alternative Option 2 may have slightly reduced effects due to a smaller footprint associated with a shorter route alignment and reduced station options; however, effects would have the same magnitude and be considered moderate when compared with the No Build Alternative. When compared with Build Alternative Option 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 considered moderate when compared with the No Build Alternative.

OPERATION

Western Section. Under Build Alternative Options 1, 2, and 3, 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 the Coachella Valley. Existing stations within the Western Section of Program Corridor generally have close-circuit security cameras, roving code enforcement or compliance inspectors, and a transit security force. Additionally, signs with phone numbers are posted at stations for use if transit patrons or the general public observe suspicious activity within the station areas. Consistent with current transit provider policies, anyone observed by the roving code enforcement inspectors in a fare paid areas without proof of a paid fare would be asked to leave the premises. When compared with the No Build Alternative, effects related to crime prevention and security would be negligible within the Western Section under Build Alternative Option 1. When compared with Build Alternative Option

1, Build Alternative Options 2 and 3 would have the same magnitude of effect and be considered negligible when compared with the No Build Alternative.

Eastern Section. Under Build Alternative Options 1, 2, and 3, 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 the Coachella Valley. Existing stations within the Eastern Section of the Program Corridor would continue to implement existing security protocols, such as station monitoring, roving code enforcement or compliance inspectors, and a transit security force. New stations that could be constructed within the Eastern Section of the Program Corridor would be anticipated to implement a similar set of crime prevention and security protocols. In addition, new stations would be designed using Crime Prevention Through Environmental Design principles and would require preparation of safety and security certification plans that addresses design, construction, testing, and initiation into revenue service. When compared with the No Build Alternative, effects related to crime prevention and security would be moderate within the Eastern Section under Build Alternative Option 1. When compared with Build Alternative Option 1, Build Alternative Option 2 may have slightly reduced effects due to a smaller footprint associated with a shorter route alignment and reduced station options; however, effects would have the same magnitude and 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 considered moderate when compared with the No Build Alternative.

3.15.6 NEPA Summary of Potential Effects

Table 3.15-5 summarizes the qualitative assessment of potential effects (negligible, moderate, or substantial) under NEPA for each of the Build Alternative Options. This service-level evaluation uses the Tier 1/Program EIS/EIR Study Area to determine how safety and security may be affected and, more importantly, the relative magnitude of potential effects. Specific mitigation measures to avoid and minimize effects would be analyzed during the Tier 2/Project-level environmental process.

Table 3.15-5. NEPA Summary of Effects on Safety and Security

Alternative Options	Potential Intensity of Effect: Western Section	Potential Intensity of Effect: Eastern Section
No Build Alternative ^a	Construction: None Operation: Negligible	Construction: None Operation: Negligible
Build Alternative Option 1 (Coachella Terminus)	Construction: Negligible Operation: Negligible	Construction: Moderate Operation: Moderate
Build Alternative Option 2 (Indio Terminus)	Construction: Negligible Operation: Negligible	Construction: Moderate Operation: Moderate
Build Alternative Option 3 (Indio Terminus with Limited Third Track)	Construction: Negligible Operation: Negligible	Construction: Moderate Operation: Moderate

Notes:

^a The No Build Alternative includes existing and potential expansion of roadway, passenger rail, and air travel facilities within the Tier 1/Program EIS/EIR Study Area; however, for the service-level evaluation, identifying levels of effect from potential expansion of those facilities is speculative and would be dependent on Tier 2/Project-level analysis.

3.15.7 CEQA Summary of Potential Impacts

The CEQA Guidelines Appendix G checklist does not include a safety and security section; however, elements pertaining to safety and security (including road closures, evacuation routes, and other hazards) are analyzed in Section 3.3, Transportation; Section 3.10, Geology, Soils, Seismicity, and Paleontological Resources; Section 3.11, Hazards and Hazardous Materials; and Section 3.14, Parklands and Community Services; of this Tier 1/Program EIS/EIR.

3.15.8 Avoidance, Minimization, and Mitigation Strategies

Identified below are proposed programmatic mitigation strategies for further consideration in the Tier 2/Project-level analysis. Coordination with local agencies and stakeholders would occur to develop Project-specific mitigation measures during the Tier 2/Project-level analysis after design details are known. Proposed programmatic mitigation strategies or design considerations, consistent with state and federal regulations may include, but are not limited to, the following:

Mitigation Strategy LU-2: Based on the results of a subsequent Tier 2/Project-level analysis and recommendations, the identified lead agency or agencies shall determine if a construction management plan is required for construction activities of the Tier 2/Project-level improvement being proposed. If required, a construction management plan shall be developed by the contractor and reviewed by the lead agency or agencies prior to construction and implemented during construction activities. The construction management plan shall include, but not be limited to, the following:

- Measures that minimize effects on populations and communities within the Tier 2/Project Study Area
- Measures pertaining to visual protection, air quality, safety controls, noise controls, and traffic controls to minimize effects on populations and communities within the Tier 2/Project Study Area
- Measures to ensure property access is maintained for local businesses, residences, and community and emergency services
- Measures to consult with local transit providers to minimize effects on local and regional bus routes in affected communities
- Measures to consult with local jurisdictions and utility providers to minimize effects on utilities in affected communities

Mitigation Strategy SS-1: During Tier 2/Project-level analysis, a Project-specific collision hazard analysis shall be required and would be prepared in coordination local jurisdictions in which the specific rail infrastructure or station facility is located. The collision hazard analysis shall be prepared in compliance with the Federal Railroad Administration's *Collision Hazard Analysis Guide: Commuter and Intercity Passenger Service* (Federal Railroad Administration 2007), which provides a step-by-step procedure on how to perform a hazard analysis and how to develop effective mitigation strategies that would improve passenger rail safety.

Mitigation Strategy SS-2: Based on the results of a subsequent Tier 2/Project-level analysis and recommendations, safety and security certification plans shall be developed for the specific rail infrastructure or station facility proposed. The safety and security certification plan shall be prepared in compliance with the Federal Railroad Administration, Occupational Safety and Health Administration, California Public Utilities Commission, and other applicable agencies and address design, construction, testing and initiation into revenue service.