3.16 Safety and Security

3.16.1 Introduction

This section describes the regulatory and environmental setting for safety and security in the vicinity of the Proposed Project and the Atwater Station Alternative. It also describes the impacts on safety and security that would result from implementation of the Proposed Project and the Atwater Station Alternative.

Safety and security concerns discussed in this section include the potential for hazards associated with public airports/private airstrips/airplane land use plans, risks involving wildland fires, impediments to emergency response or emergency evacuation plans, and changes or increases in passenger rail and freight movements. Additional considerations of safety and security are presented in other sections of this environmental impact report (EIR): Section 3.7, *Geology and Soils*, discusses seismic and soil failure hazards; Section 3.9, *Hazardous Materials*, discusses the management of hazardous materials and the disturbance of existing hazardous materials present in soil, ballast, groundwater, and building materials within the environmental footprint for the Proposed Project and the Atwater Station Alternative; Section 3.10, *Hydrology and Water Quality*, evaluates risks involving floods and inundation; Section 3.14, *Public Services*, describes impacts on fire protection, law enforcement, and other emergency response services; and Section 3.17, *Transportation*, examines traffic impacts at rail grade crossings, including impacts on emergency access. Cumulative impacts on safety and security, in combination with planned, approved, and reasonably foreseeable projects, are discussed in Chapter 4, *Other CEQA-Required Analysis*.

3.16.2 Regulatory Setting

This section summarizes federal, state, regional, and local regulations related to safety and security and applicable to the Proposed Project and the Atwater Station Alternative.

3.16.2.1 Federal

Department of Homeland Security

The Department of Homeland Security (DHS) is responsible for public security at the federal level and has the goal of preparing for, preventing, and responding to domestic emergencies. Agencies under DHS include the Transportation Security Administration (TSA) and the Federal Emergency Management Agency (FEMA). As part of DHS, TSA and FEMA are responsible for keeping the railway system safe and secure.

TSA is responsible for the traveling public. Rail Transportation Security (49 Code of Federal Regulations [C.F.R.] 1580) codify the TSA inspection program. These regulations also include security requirements for 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. Security requirements for commuter passenger train services include allowing TSA to inspect the transit system, appointing a rail security coordinator, and reporting significant security concerns, including reporting suspicious activities, people, or packages. Additionally, Security Directives RAILPAX-04-01 and RAILPAX-04-02

require rail transportation operators to implement certain protective measures, report potential threats and security concerns to TSA, and designate a primary and alternate security coordinator (U.S. Department of Homeland Security 2008).

FEMA's mission is to build, sustain, and improve the country's capability to prepare for, prevent, respond to, recover from, and mitigate all hazards, including hazards from natural disasters, hazardous substances, and other emergencies (Federal Emergency Management Agency 2020). FEMA sponsors Incident Command System (ICS) training to meet the demands of small or large emergency or nonemergency situations (Federal Emergency Management Agency 2013). An ICS is implemented by the owner/agency responder to an incident involving the release of a hazardous chemical (Federal Emergency Management Agency 2013). Railway system operator/staff complete ICS training in order to be prepared in advance for an incident. The ICS facilitates a coordinated response by all involved parties, establishes a common process for planning/managing resources, facilities, response equipment, personnel, and communications all within a common, organized framework.

U.S. Department of Transportation—Federal Railroad Administration

U.S. Department of Transportation's (USDOT) Federal Railroad Administration (FRA) goal is to reduce safety risk by reducing both the likelihood of accidents occurring and the consequence should they occur. Federal Rail Safety Improvement Act of 2008, Sections 101–104, promulgate railroad safety rules governing tracks, locomotives, train cars, braking systems, operating practices, locomotive engineer certification, alcohol and drug use, and transportation of hazardous materials via rail.

FRA is responsible for requiring each railroad carrier providing intercity rail passenger or commuter rail passenger transportation to develop a Railroad Safety Risk Reduction Program, which includes railroad safety improvements, highway-rail grade crossing and pedestrian safety and trespasser prevention, and railroad safety enhancements. As part of the program, a railroad carrier is responsible for developing a long-term strategy that maintains or improves railroad safety, including a risk analysis, technology implementation plan, implementation schedule, and fatigue management plan.

Additionally, FRA is responsible for enforcing safety rules and standards under C.F.R., Title 49, Sections 200–272, which address a comprehensive range of railroad safety topics, such as track safety, roadway workplace safety, freight car safety, railroad operation rules, communications, occupational noise, locomotive safety standards, inspections and maintenance, signal systems, grade crossing safety, bridge safety standards, emergency preparedness, passenger safety, safety training, dispatching, and qualification/certification of conductors.

In May 2015, FRA issued *Enhanced Tank Car Standards and Operational Controls for High-Hazard Flammable Trains* (HHFT). This action codified Fixing America's Surface Transportation Act of 2015 (FAST Act) requirements for flammable liquids and rail tank cars. These standards set the following requirements for HHFT trains (U.S. Department of Transportation 2014, 2015).

- HHFTs must have enhanced braking systems, such as a two-way end-of-train device or distributive power (DP) braking system and electronically controlled pneumatic to mitigate derailments.
- Tank cars constructed after October 1, 2015 used in HHFTs must meet USDOT Specification 117 design or performance (the prescribed car has a 9/16 inch tank shell, 11 gauge jacket, 1/2 inch

full-height head shield, thermal protection, and improved pressure relief valves and bottom outlet valves); or existing tank cars must be retrofitted in accordance with the USDOT retrofit design.

- All HHFTs must travel 50 miles per hour (mph) or slower in all areas; or HHFTs that contain any tank cars not meeting the Specification 117 must operate at 40 mph or slower in high-threat urban areas defined by TSA regulations (C.F.R., Title 49, Section 1580.3).
- A modified phase-out schedule must be instituted for older USDOT Specification 111 tank cars transporting highly flammable liquids based on the type of product.
- Railroads operating HHFTs must perform a routing analysis that considers, at a minimum, 27 safety and security factors, including "track type, class, and maintenance schedule" and "track grade and curvature," and select a route based on its findings.
- Rail routing to improve information sharing must be instituted. This ensures that railroads notify state and/or regional fusion centers and state, local, and tribal officials who contact a railroad to discuss routing decisions are provided appropriate contact information for the railroad in order to request information related to the routing of hazardous materials through their jurisdictions.
- Shippers of unrefined petroleum-based products (offerors) must develop and carry out sampling and testing programs for all unrefined petroleum-based products. Additionally, offerors must certify that hazardous materials subject to the program are packaged in accordance with the test results, document the testing and sampling program outcomes, and make that information available to USDOT personnel upon request.

U.S. Code on Railroad Safety

The purpose of Part A of Subtitle V of Title 49 of the United States Code (49 U.S.C. 20101–20121) is to promote safety in every area of railroad operations and reduce railroad-related accidents and incidents. The U.S.C. contains a series of statutory provisions affecting the safety of railroad operations and gives the Secretary of Transportation authority to do the following.

- Order restrictions and prohibitions, of a condition or practice that caused an emergency involving death, injury, or significant harm to the environment, and prescribe standards and procedures for obtaining relief from the order.
- Prescribe investigative and surveillance activities necessary to enforce the safety regulations prescribed that apply to railroad equipment, facilities, and operations.
- Conduct investigations, make reports, and prescribe recordkeeping.
- Delegate to a public entity or qualified person the inspection, examination and testing of railroad equipment, facilities, operations, and staff.
- Carry out, as necessary, research, development, testing, evaluation, and training for every area of railroad safety.

Emergency Planning and Community Right-to-Know Act

The objective of the Emergency Planning and Community Right-to-Know Act (42 U.S.C. 116) is to allow state and local planning for chemical emergencies, provide for notification of emergency

releases of chemicals, and address a community's right to know about toxic and hazardous chemicals.

3.16.2.2 State

California Public Utilities Commission

The California Public Utilities Commission (CPUC) regulates privately-owned railroads, railroad transit, and passenger transportation companies, through the following: Safety and Enforcement Division (SED) of the CPUC; the California Public Utilities Code; CPUC rules of Practice and Procedure; and CPUC General Orders. SED is responsible for inspection, surveillance, and investigation of the rights-of-way (ROW), facilities, equipment, and operations of railroads and public mass transit guideways, and enforcing federal and state laws. The SED advises the CPUC on matters related to rail safety and proposes measures necessary to reduce the dangers caused by unsafe conditions on the railroads.

The California Public Utilities Code covers railroad safety and emergency planning and response to locomotives, including both passenger and freight trains. Under this code, the CPUC is required to adopt safety regulations and to report sites on railroad lines that are deemed hazardous within California. California Public Utilities Code Article 10, Railroad Safety and Emergency Planning and Response, Sections 7710–7727, deal with funding for rail safety and accident prevention and responding to accidents, including release of hazardous materials.

Pursuant to Section 7713, the Rail Accident Prevention and Response Fund was created in the State Treasury for the purpose of having money in a fund that is appropriated by the California Legislature to carry out efforts related to rail accident prevention and/or response to accidents. Pursuant to Section 7714, the Hazardous Spill Prevention Account in the Railroad Accident Prevention and Response, moneys can be used to support rail accident prevention and state-level and local toxic emergency response teams to provide immediate onsite response capability in the event of large-scale releases of toxic substances resulting from surface transportation accidents. In addition, pursuant to Section 7718, the Railroad Accident Prevention and Immediate Deployment Force provides immediate onsite response in the event of a large-scale unauthorized release of hazardous materials.

Lastly, the CPUC rules of Practice and Procedure and CPUC General Orders set protocols for railroad safety. CPUC's Rules 3.7 to 3.11 discuss rail crossings, including public road access, railroad across railroad, railroad across public road, and alteration or relocation of existing railroad crossings (California Public Utilities Commission 2018a).

CPUC General Orders related to railroad safety are listed below (California Public Utilities Commission 2018a).

- General Order (GO) 22-B: Requires reporting of incidents resulting in the loss of life or serious injury, including: collisions involving locomotives, trains and cars; derailments; highway crossing accident and bridge failure.
- GO 26-D: Sets regulations related to clearances on railroads and street railroads to side and overhead structures, parallel tracks, and crossings.
- GO 72-B: Sets regulations governing construction and maintenance for crossings at grade of railroads with public streets, roads, and highways.

- GO 75-D: Sets regulations governing warning devices for at-grade highway-railroad crossings to reduce hazards associated with at-grade crossings.
- GO 88-B: Establishes criteria for alterations of existing public highway-rail crossings.
- GO 143-B: Sets safety rules and regulations governing design, construction, and operation of light rail transit systems to reduce hazards to patrons, employees, and the public.
- GO 145: Sets regulations governing railroad grade crossings to be classified exempt from the mandatory stop requirements of Section 22452 of the Vehicle Code.
- GO 164-E: Sets regulations governing State Safety Oversight of Rail Fixed Guideway Systems, which include any light, heavy, or rapid rail system, monorail, inclined plane, funicular, trolley, cable car, automatic people mover, or automated guideway transit system used for public transit and not regulated by the FRA or not specifically exempted by statute from CPUC oversight.

Under CPUC Rule 3.1, each new rail transit agency (RTA) will submit its initial system safety program plan (SSPP), a document adopted by an RTA detailing its safety policies, objectives, responsibilities, and procedures, to CPUC for approval. No new RTA will begin transit operations prior to CPUC approval of its initial SSPP (California Public Utilities Commission 2018b).

California Department of Occupational Safety and Health

The California Department of Occupational Safety and Health (Cal/OSHA) protects the health and safety of workers throughout California. California Code of Regulations (Cal. Code Regs., title 8) establishes industrial safety standards for construction (California Department of Occupational Safety and Health 2018). Employers are required to have an effective Injury and Illness Prevention Program (IIPP), which includes training and instruction on safe work practices (California Department of Occupational Safety and Health 2005). Cal/OSHA conducts onsite inspections of construction sites and has the authority to fine or cite unsafe practices or incomplete IIPPs to ensure the practice of safe work environments (California Department of Occupational Safety and Health 2005).

California Emergency Services Act

The Emergency Services Act supports the state's responsibility to mitigate effects of natural, human-made, or war-caused emergencies that threaten human life, property, and environmental resources of the state. Its mission is to protect human health and safety and to preserve the lives and property of the people of the state. Under the act, California Office of Emergency Services (CalOES), part of the Governor's Office of Emergency Services, is responsible for overseeing and coordinating emergency preparedness, response, and homeland security activities (California Office of Emergency Services 2017).

CalOES has developed an emergency response plan to coordinate emergency services provided by federal, state, and local governments and private agencies. Responding to hazardous materials incidents is one part of this plan. Emergency Response Team members respond and work with local fire and police agencies,[1] emergency medical providers, California Highway Patrol, California Department of Fish and Wildlife, and California Department of Transportation (Caltrans).

[1] Emergency Response Teams are formed by members who are thoroughly trained for potential crises and know about toxic hazards in the workplace.

California Department of Transportation, Division of Aeronautics

The California Public Resources Code requires that the Caltrans Division of Aeronautics *California Airport Land Use Planning Handbook* (California Department of Transportation 2011) be used as a technical resource to assist in the preparation of an EIR for any projects situated within the boundaries of an Airport Land Use Compatibility Plan (ALUCP). The handbook supports the State Aeronautics Act (California Department of Transportation 2011), providing compatibility planning guidance to airport land use commissions, their staffs and consultants, the counties and cities having jurisdiction over airport area land uses, and proprietors. The Cal. Code Regs., Title 21, Airports and Heliports, identifies airport design standards, including standards for markings, lighting, and visual aid, and operation standards for the safe design and operation of airports.

The Federal Aviation Administration (FAA) establishes distances of ground clearance for take-off and landing safety based on criteria such as the type of aircraft using the airport. These distances affect land uses and dimensional standards for buildings within the approaches.

Local municipal airports are subject to the FAA, the *California Airport Land Use Planning Handbook*, the regional aviation system plan, and county- and city-level ALUCPs. These plans identify future improvements for the airport to meet future aviation needs and address airport safety by identifying compatible land uses for adjacent areas. The county-level airport land use commission is an advisory body that assists local agencies with ensuring the compatibility of land uses in the vicinity of airports. They review proposed development projects for consistency with airport land uses.

California Department of Forestry and Fire Protection

California Department of Forestry and Fire Protection (CAL FIRE) implements fire safety regulations in the state of California. The California Public Resources Code (Title 14 and Title 19) includes fire safety regulations that restrict the use of equipment that may produce a spark, flame, or fire; require the use of spark arrestors on construction equipment that use an internal combustion engine; specify requirements for the safe use of gasoline-powered tools in fire hazard areas; and specify fire suppression equipment that must be provided onsite for various types of work in fire-prone areas (California Department of Forestry and Fire Protection 2020).

CAL FIRE maps out California and rates areas for their potential fire hazards. The risk of wildland fires is related to a combination of factors, including winds, temperatures, humidity levels, and fuel moisture content. Of these four factors, wind is the most crucial. Steep slopes also contribute to fire hazard by intensifying the effects of wind and making fire suppression difficult. Where there is easy human access to dry vegetation, fire hazards increase because of the greater chance of human carelessness.

To quantify this potential risk, CAL FIRE has developed a fire hazard severity scale with three criteria for designating potential fire hazards in wildland areas (California Department of Forestry and Fire Protection 2020). The criteria are (1) fuel loading (vegetation), (2) fire weather (winds, temperatures, humidity levels, and fuel moisture contents), and (3) topography (degree of slope).

3.16.2.3 Regional and Local

The San Joaquin Regional Rail Commission (SJRRC), a state joint powers agency, proposes facilities inside and outside of the Union Pacific Railroad (UPRR) right-of-way (ROW). The Interstate Commerce Commission Termination Act (ICCTA) affords railroads engaged in interstate commerce

considerable flexibility in making necessary improvements and modifications to rail infrastructure,[2] subject to the requirements of the Surface Transportation Board. ICCTA broadly preempts state and local regulation of railroads and this preemption extends to the construction and operation of rail lines. As such, activities within the UPRR ROW are clearly exempt from local building and zoning codes and other land use ordinances. However, facilities located outside of the UPRR ROW, including proposed stations, the proposed Merced Layover & Maintenance Facility, and the Atwater Station Alternative would be subject to regional and local plans and regulations. Though ICCTA does broadly preempt state and local regulation of railroads, SJRRC intends to obtain local agency permits for construction of facilities that fall outside of the UPRR ROW even though SJRRC has not determined that such permits are legally necessary and may not be required.

Appendix G of this EIR, *Regional Plans and Local General Plans*, provides a list of applicable goals, policies, and objectives from regional and local plans of the jurisdictions in which the Proposed Project and the Atwater Station Alternative would be located. Section 15125(d) of the California Environmental Quality Act (CEQA) Guidelines requires an EIR to discuss "any inconsistencies between the Proposed Project and applicable general plans, specific plans, and regional plans." These plans were considered during the preparation of this analysis and were reviewed to assess whether the Proposed Project and the Atwater Station Alternative would be consistent with the plans of relevant jurisdictions.[3] The Proposed Project and Atwater Station Alternative would be generally consistent with the applicable goals, policies, and objectives related to safety and security identified in Appendix G.

3.16.3 Environmental Setting

This section describes the environmental setting related to safety and security for improvements associated with the Proposed Project and the Atwater Station Alternative. Topics covered in this section include airports/airstrips, wildfire hazards, emergency response and evacuation plans, and train operations safety. For the purposes of this analysis, the study area for safety and security consists of the following:

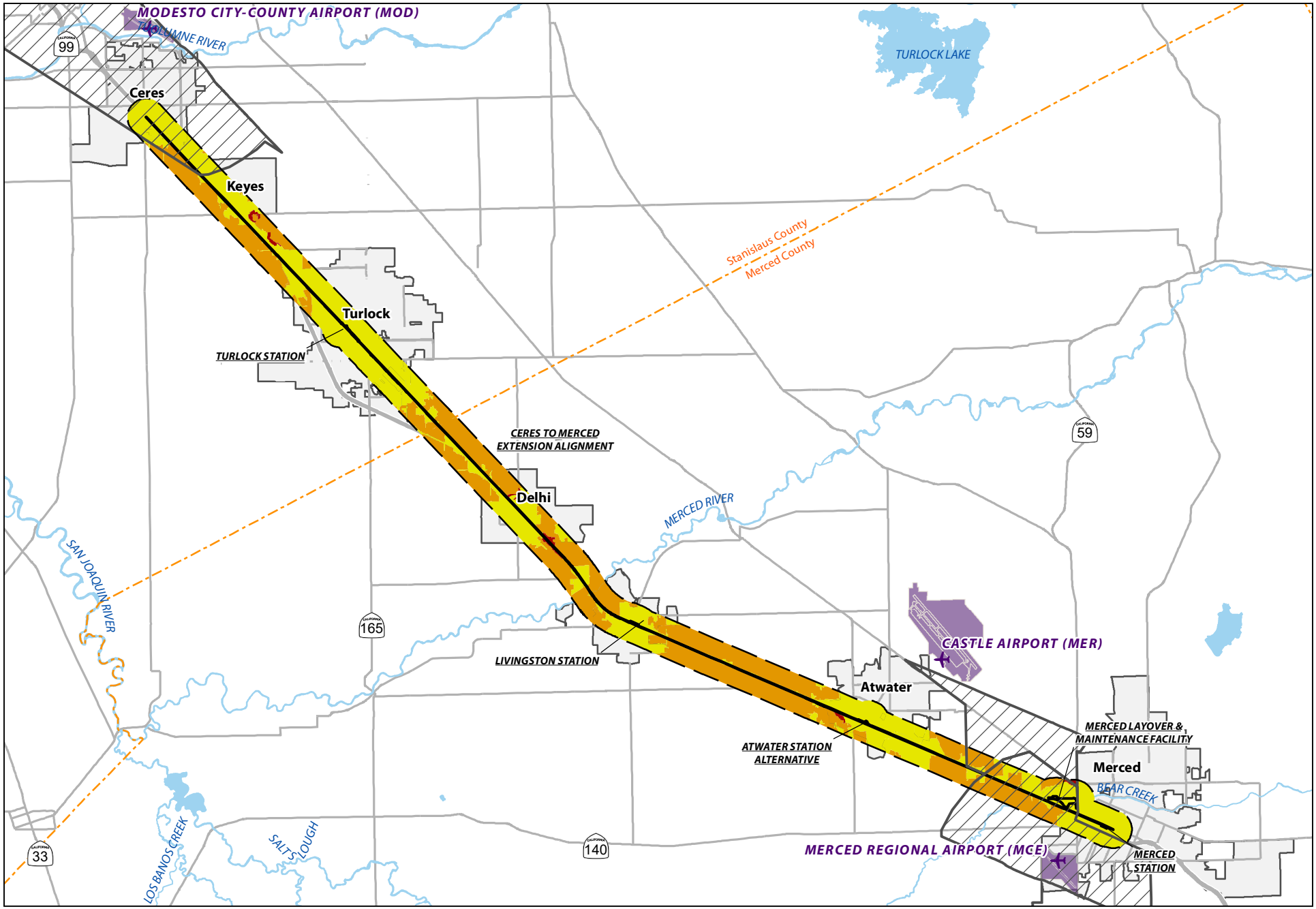
- Airports or airstrips within 2 miles of the environmental footprint for the Proposed Project and the Atwater Station Alternative.
- Wildfire hazard areas within 0.5 mile of the environmental footprint for the Proposed Project and the Atwater Station Alternative.
- The emergency response jurisdiction in which the Proposed Project and the Atwater Station Alternative would be located.

Figures 3.16-1 depicts the study area for airports/airstrips and wildfire hazards in the vicinity of the Proposed Project and the Atwater Station Alternative. Information presented in this section regarding safety and security was obtained from the following sources.

- Airports/airstrips: FAA airport facilities data (FAA 2020) and relevant airport land use plans (Stanislaus County 2016; Merced County 2012).

[2] ACE operates within a ROW and on tracks owned by UPRR, which operates interstate freight rail service in the same ROW and on the same tracks.

[3] An inconsistency with regional or local plans is not necessarily considered a significant impact under the California Environmental Quality Act unless it is related to a physical impact on the environment that is significant in its own right.



ACE
ALTAMONT CORRIDOR EXPRESS

N

0 2 4
Miles

Environmental Footprint
Study Area (0.50-Mile Buffer)
Airport Area of Influence
Airports

Wildfire Risk
Moderate
Non-Wildland/Non-Urban
Urban Unzoned

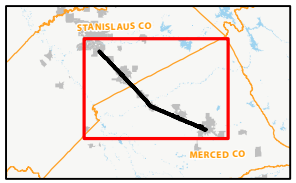


Figure 3.16-1
Airports and Fire Hazard Severity Zones in Study Area
ACE Ceres-Merced Extension Project

- Wildfire hazards: CAL FIRE fire hazard severity zone maps (CAL FIRE 2007a, 2007b, 2008a, 2008b).
- Emergency operations plans: local and regional emergency operations plans (EOPs) (California Governor's Office of Emergency Services 2017; Stanislaus County 2019; Merced County 2017).
- Train operation safety: FRA rider and safety statistics (Federal Railroad Administration 2020a through 2020e).

3.16.3.1 Airports

Table 3.16-2 lists the airports and distance of the airport to the Proposed Project and Atwater Station Alternative in the study area. Figure 3.16-1 depicts the locations of these airports and their respective airport influence area (AIA).

Table 3.16-1. Airports in the Study Area

Facility (Airport Code)	County	Nearest Proposed Facility
Turlock Airpark (9CL0)	Stanislaus County	Ceres to Merced Extension Alignment
Castle Airport (MER)	Merced County	Ceres to Merced Extension Alignment
Merced Regional Airport (MCE)	Merced County	Ceres to Merced Extension Alignment, Merced Layover & Maintenance Facility

Source: Federal Aviation Administration 2020.

The Turlock Airpark (9CL0) is located at 519 East Greenway Avenue in southern Turlock. This private airstrip contains two runways, is owned and operated by Turlock Airpark, Inc., and is located approximately 1 mile southwest of the Proposed Project.

The Castle Airport (MER) is located at 1900 Airdrome Entry in northeastern Atwater, approximately 2 miles northeast of the Proposed Project. This public airport is jointly owned by Merced County, City of Atwater, and City of Merced. The *Merced County Airport Land Use Compatibility Plan* (Merced County 2012) identifies the AIA as spanning the northern portions of Atwater, western portions of Merced, and unincorporated Merced County areas. The Ceres to Merced Extension Alignment is located within the Castle Airport's AIA Compatibility Zone D, just north of the southern boundary of the AIA. Actions within Zone D that are incompatible include uses that create visual or electronic hazards to flight, hazardous materials production (oil refineries or chemical plants), and solid waste disposal facilities (landfill and incineration). Zone D is considered a low risk level for safety and airspace protection factors, and the concern is with objects greater than 150 feet tall.

The Merced Regional Airport (MCE) is located at 20 Macready Drive in southwestern Merced, approximately 1.5 miles south of the Proposed Project. This public airport is owned by the City of Merced and operated through the City Manager's office. The airport provides general aviation and commercial passenger airline services. The *Merced County Airport Land Use Compatibility Plan* (Merced County 2012) identifies the AIA as spanning the southern portions of Merced and unincorporated Merced County areas. The Ceres to Merced Extension Alignment and Merced Layover & Maintenance Facility are located within the Merced Regional Airport's AIA Compatibility Zones B2, C, and D along the northern boundary of the AIA. Actions within Zone B2 that are

incompatible include uses that create visual or electronic hazards to flight, indoor and outdoor major/large assembly facilities with capacity of more than 300 people, community libraries, certain residential and lodging uses (multi-family residential, long-term lodging, and congregate care), in-patient medical uses, penal institutions, major retail uses, hazardous materials production (oil refineries or chemical plants), heavy industrial uses, power plants, solid waste disposal facilities (landfill and incineration), and solid waste transfer facilities. Zone B2 is considered a moderate risk level for safety and airspace protection factors, and object height is generally restricted to less than 100 feet tall except in areas lateral to the runway. Actions within Zone C that are incompatible include uses that create visual or electronic hazards to flight, indoor and outdoor major assembly facilities with capacity of more than 1,000 people, hazardous materials production (oil refineries or chemical plants), power plants, solid waste disposal facilities (landfill and incineration), and solid waste transfer facilities. Zone C is considered a low to moderate risk level for safety and airspace protection factors, and object height is generally restricted to less than 100 feet tall. Actions within Zone D that are incompatible include uses that create visual or electronic hazards to flight, hazardous material production (oil refineries or chemical plants), and solid waste disposal facilities (landfill and incineration). Zone D is considered a low risk level for safety and airspace protection factors, and the concern is with objects greater than 150 feet tall (Merced County 2012).

3.16.3.2 Wildfire Hazards

As shown in Figure 3.16-1, there are small pockets of moderate fire hazard severity zones in the vicinity of the Proposed Project (CAL FIRE 2007a, 2007b, 2008a, 2008b). Several of these moderate fire hazard severity zones are located in the vicinity of the Proposed Project. There are no very high or high fire hazard severity zones mapped in the vicinity of the Proposed Project.

There is one small area identified as a moderate fire hazard severity zone within a Local Responsibility Area located approximately 0.4 mile southwest of the Atwater Station Alternative (CAL FIRE 2007b, 2008b). There are no very high or high fire hazard severity zones mapped in the vicinity of the Atwater Station Alternative**.**

3.16.3.3 Emergency Response and Evacuation Plans

Local county and city general plans typically include a health and safety element that includes goals, policies, and objectives for emergency operations. In addition to emergency operations requirements set forth in the county and city general plans, all counties and cities operate under the guidance of EOPs. These plans outline procedures for operations during emergencies, such as earthquakes, floods, fires, and other natural disasters; hazardous materials spills; transportation emergencies; civil disturbance; and terrorism. The plans also identify the location of critical emergency response facilities, such as emergency dispatch and operations centers, government structures, and hospitals or other major medical facilities.

Table 3.16-3 summarizes the state and county emergency response plans that have been reviewed and considered for the preparation of this analysis. Appendix G, *Regional Plans and Local General Plans,* contains a list of applicable safety and security goals, policies, and objectives from these plans.

Table 3.16-2. State and County Emergency Response Plans

Jurisdiction	Summary
State of California Emergency Plan (California Governor's Office of Emergency Services 2017)	Based on the foundations described in the California Emergency Services Act. The emergency preparedness, response, recovery, and mitigation actions serve as the basis for emergency operations in California. The concepts presented emphasize mitigation programs to reduce vulnerabilities to disaster and preparedness activities to ensure the capabilities and resources are available for an effective response. To assist communities and governments to recover from the disaster, the emergency plan outlines programs that promote a return to normalcy.
Stanislaus County Emergency Operations Plan Basic Plan (Stanislaus County 2019)	This EOP is based on the National Incident Management System and its component parts, along with the SEMS, including the five functional areas of incident or event management, operational coordination, planning, logistical support, and finance/administration support. The EOP will serve as the basis for response as well as recovery efforts and activities within the county. This plan also identifies ESFs that represent core emergency response categories performed by agencies and jurisdictions with primary and supporting responsibilities within Stanislaus County. These may include public and non-government organizations. These ESFs are based on the EFAs and the ESFAs.
County of Merced Emergency Operations Plan (Merced County 2017)	This EOP provides the basis for a coordinated response before, during and after a disaster incident affecting the County of Merced. The plan is the principal guide for the County's response to, and management of, real or potential emergencies and disasters occurring. The plan is intended to do the following. • Facilitate multi-jurisdictional and interagency coordination. • Serve as a county plan, a reference document, and may be used for pre-emergency planning in addition to emergency operations. • To be utilized in coordination with applicable local, state, and federal contingency plans. • Establish the operational concepts and procedures associated with field response to emergencies, and Emergency Operations Center activities. • Establish the organizational framework for implementation of the California Standardized Emergency Management System and the National Incident Management System within the County of Merced.

EOP = emergency operations plan; SEMS = California Standardized Emergency Management System; ESF = emergency support function; EFA = California Emergency Function Annex; ESFA = Federal Emergency Support Function Annex.

3.16.3.4 Train Operation Safety

This section describes the types and amounts of accidents and incidents that have occurred in the United States, California, and in the counties in which the Proposed Project and the Atwater Station Alternative would be located. A *train accident* is defined as any collision, derailment, fire, explosion, or other event involving the operation of on-track equipment (standing or moving) that results in total damages to all railroads involved in the event that is greater than the current reporting threshold to railroad on-track equipment, signals, track, track structures, and roadbed (Federal Highway Administration 2011). Whereas a *train incident* is an event involving the movement of on-track equipment that results in a reportable casualty but does not cause reportable damage above

the threshold established for train accidents (Federal Highway Administration 2011). Compared to highway travel, transportation by rail is a safer mode of transportation. For the period off 2000 to 2014, there were 6.53 deaths per billion miles traveled by cars and trucks compared to 0.36 deaths per billion miles traveled by commuter rail and Amtrak (APTA 2016).

Vehicular safety issues primarily pertain to motor vehicles and trains at at-grade crossings. An *at-grade crossing* is where a roadway, sidewalk, or pedestrian trail/bikeway crosses the track at the same elevation. Where a roadway, sidewalk, or pedestrian trail/bikeway passes over the tracks via an overpass bridge structure or passes under a railroad track via an underpass bridge structure, these crossings are referred to as *grade separated*. Train tracks crossing streets in urban communities can present safety hazards for pedestrians and cyclists at highway-rail at-grade crossings. Existing safety features and traffic control devices at highway-rail at-grade crossings vary depending on the location of the crossing. Traffic control devices include safety features such as automatic gates, flashing lights, highway signals, wigwags or bells, signage such as cross-buck signs and stop signs, and Americans with Disabilities Act–compliant truncated dome pads indicating a rail crossing (Federal Highway Administration 2019).

Operation Lifesaver, a volunteer organization, works to end collisions and resulting fatalities and injuries at highway-rail at-grade crossings and on railroad ROWs. Operation Lifesaver educates the community through presentations, festivals, and safety fairs. In addition, the CPUC rail safety staff participates in Officer on the Train and other enforcement events with local law enforcement to promote compliance with state motor vehicle laws on railroad at-grade crossings and ROWs (California Public Utilities Commission 2018a).

The explanation for trespasser fatalities includes walking or running across tracks; walking or standing outside track gauge; sleeping/passed out, lying, or sitting on track or in gauge; ATV, bike, snowmobile, etc.; suicide and walking or standing on track (Federal Railroad Administration 2013). Another major cause of fatalities related to highway-rail at-grade incidents, are incidents between a train and highway users, including automobiles, buses, trucks, motorcycles, bicycles, recreational vehicles, farm vehicles, construction vehicles, roadway maintenance vehicles, and pedestrians.

Table 3.16-4 provides the numbers of fatalities and non-fatal injuries from train accidents, highway-rail at-grade crossing accidents, trespasser accidents, and other impacts in California compared to nationwide reporting FRA railroads. The category of “other impacts” includes other accidents caused by equipment, humans, miscellaneous, signal, and track. As shown in Table 3.16-4, trespasser casualties make up the leading group of railroad-related fatalities.

Table 3.16-3. Train Accidents (2019)

	Count		Fatalities		Non-Fatal Injuries	
	California	Nationwide	California	Nationwide	California	Nationwide
Train Accidents	126	2,169	8	65	11	210
Highway-Rail Incidents (at-grade)	175	2,228	51	299	64	823
Trespasser Casualties[a]	233	1,104	138	571	95	533
Other Impacts[b]	6	207	0	0	0	5

Source: Federal Railroad Administration 2020a, 2020b, 2020c, 2020h.

[a] A casualty is defined as a person killed or injured in an accident.

[b] Other Impacts here includes other accidents caused by equipment, humans, miscellaneous, signal, and track.

Derailments are the most common type of train accident in the United States. Derailments can be caused by collision with another object, an operational error (including signal errors), traveling at excessive speeds, improper train handling (such as stopping abruptly), broken rails, or a mechanical failure of a train's wheels. Table 3.16-5 provides the number of train accidents in 2019 due to collisions and derailments. The collision category includes head-on collisions, rear-end collisions, side collisions, raking collisions,[4] and broken train collisions. As shown in Table 3.16-5, derailments occurred more often than other types of train accidents.

Table 3.16-4. Train Accidents by Type (2019)

Type	Train Accidents	
	California	Nationwide
Collision	0	114
Derailment	85	1,317
Total	85	1,431

Source: Federal Railroad Administration 2020d.

Table 3.16-6 shows 2019 accident and incident data for ACE and UPRR in the existing ACE route between Stockton and San Jose, located in San Joaquin, Alameda, and Santa Clara Counties. Table 3.16-7 shows 2019 accident and incident data for UPRR in the existing ACE route and area between Ceres and Merced. As shown, few accidents/incidents, including collisions, derailments, highway-rail and fire/violent ruptures have occurred from ACE and UPRR trains. In Santa Clara County, there was one accident with no injuries or fatalities. In Alameda County, there was one derailment and six other accidents which did not result in any injuries or fatalities. In San Joaquin County, there were nine accidents from derailment and other activities with no injuries or fatalities (Federal Railroad Administration 2020e).

UPRR has implemented Positive Train Control (PTC) on the Fresno Subdivision. PTC is designed to prevent train-to-train collisions and derailments due to train speed.

[4] A raking collision is defined as a collision between parts or lading (i.e., cargo) of a consist (i.e., set of railroad vehicles) on an adjacent track, or with a structure such as a bridge.

Table 3.16-5. Existing ACE Route—ACE and Union Pacific Railroad Accidents and Incidents in California (2019)

Type	ACE Train Accidents/Incidents	UPRR Train Accidents/Incidents
Collision	0	0
Derailment	0	48
Highway-rail	0	0
Fire/Violent Rupture	0	0
Release of Hazardous Materials	0	0
Other	0	27
Total Train Accidents/Incidents	**0**	**75**

Source: Federal Railroad Administration 2020e.
ACE = Altamont Corridor Express; UPRR = Union Pacific Railroad.
Note: Data is for counties as a whole and include accidents on UPRR lines not necessarily traversed by ACE trains.

Table 3.16-6. Existing ACE Route and Ceres to Merced Route—Union Pacific Railroad Accidents and Incidents (2019)

County	Accident/ Incident Count	Type	Fatalities	Non-Fatal Injuries
Santa Clara	1	Other	0	0
Alameda	7	Derailment and Other	0	0
San Joaquin	9	Derailment and Other	0	0
Stanislaus	0	--	0	0
Merced	0	--	0	0

Source: Federal Railroad Administration 2020e.
ACE = Altamont Corridor Express; UPRR = Union Pacific Railroad.
Note: Data is for counties as a whole and include accidents on UPRR lines not necessarily traversed by ACE trains.

Summary of 2009 through 2019 Accident Data in the Existing ACE Route and Ceres to Merced Route

In a 10-year time period, between 2009 and 2019 there were a total of eight accidents during ACE operations along the entire ACE route; these resulted in two fatalities in 2018, nine non-fatal injuries in 2016, and one injury in 2013 (ABC7 News 2018; Federal Railroad Administration 2020e; NBC Bay Area 2018). In the FRA database, three of the reported accidents were classified as highway-rail crossing accidents, three fell into the "other" category, and the remaining accident was a raking collision (Federal Railroad Administration 2020e).

Between 2009 and 2019, 110 accidents occurred on UPRR tracks located in five counties (Santa Clara, Alameda, San Joaquin, Stanislaus, and Merced Counties); these accidents resulted in no fatalities and three non-fatal injuries. Derailment accidents were the most common identified accident, which accounted for 59 accidents and was the cause of two of the recorded non-fatal UPRR operation injuries. Accidents classified as "other" were the second-most common identified accident, which accounted for 34 accidents. The remaining accidents for UPRR were caused by highway-rail crossings, which accounted for 10 accidents. The remaining accidents consisted of four obstructions, one raking collision, one rear-end collision, and one fire/violent rupture (Federal Railroad Administration 2020e).

Summary of 2016 and 2018 Accident Data in the Existing ACE Corridor

On March 7, 2016, two cars from an ACE train derailed in Niles Canyon, approximately 1 mile from Sunol in Alameda County (Altamont Corridor Express 2016; Federal Railroad Administration 2020f). The cause of the derailment was from mudslide debris on the tracks. The cars derailed into Alameda Creek (Altamont Corridor Express 2016). There were 196 passengers onboard. This accident injured a total of 9 passengers: 5 sustained minor injuries and 4 sustained serious, non–life-threatening injuries, and there were no deaths (Altamont Corridor Express 2016). There was an additional ACE accident that occurred in San Joaquin Valley in 2016 that was classified as an "other" accident and resulted in no injuries or casualties (Federal Railroad Administration 2020e). On March 12, 2018, there was a collision between an ACE train and a vehicle in Fremont that resulted in one fatality (ABC7 News 2018). In August of 2018, an ACE train collided with and killed a jogger in San Jose while the train was traveling in between Fremont and Great America. There were no injuries to the 436 passengers and four crewmembers on board (NBC Bay Area 2018).

3.16.4 Impact Analysis

3.16.4.1 Methods for Analysis

This analysis evaluates potential impacts on existing safety and security from implementation of the Proposed Project or the Atwater Station Alternative. The analysis of impacts was conducted based on review of information from related agencies and jurisdictions along the extension alignment and the descriptions, construction, and operations plans for the Proposed Project. The environmental footprint of the Proposed Project and the Atwater Station Alternative was reviewed to determine whether the improvements would encroach into a hazard zone, including AIA or areas with wildfire hazards. Available safety and security data from FRA's Office of Safety Analysis was used to assess the probability of a train accident/incident in the study area. Impacts from construction and operation of the Proposed Project and the Atwater Station Alternative on safety and security in the study area were evaluated. Construction impacts are those resulting from building and installing infrastructure. Operation impacts would result from ongoing, routine, and occasional maintenance activities.

To determine impacts, a qualitative assessment is made of whether implementation of the Proposed Project or the Atwater Station Alternative would result in safety and security impacts that would be similar or substantially different from existing conditions. A reduction in train accidents/incidents would result in a reduction of hazards and risks to the public. An increase in train accidents/incidents would result in increased hazards and risks to the public. If train accidents/incidents remain the same, the potential for hazards and risks to the public would also remain unchanged.

3.16.4.2 Thresholds of Significance

The CEQA Guidelines Appendix G (14 Cal. Code Regs. 15000 et seq.) has identified significance criteria to be considered for determining whether a project could have significant impacts on safety and security. An impact would be considered significant if construction or operation of the Proposed Project or the Atwater Station Alternative would have any of the following consequences.

- Be located within an airport land use plan area or, where such a plan has not been adopted, be within 2 miles of a public airport or public-use airport, and result in a safety hazard or excessive noise for people residing or working in the study area.
- Be located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, and expose people residing or working in the project area to excessive noise levels.
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.
- For projects located in or near state responsibility areas or lands classified as very high fire hazard severity zones, an impact would be considered significant if construction or operation of the project would have any of the following consequences:
    - Substantially impair an adopted emergency response plan or emergency evacuation plan.
    - Because of slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.
    - Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts on the environment.
    - Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.
- Substantially increase hazards to workers, passengers, or adjacent human and environmental receptors along rail routes due to a design feature (e.g., sharp curves or dangerous intersections) or increase in passenger train movements.

3.16.4.3 Impacts and Mitigation Measures

Impact SAF-1	The Proposed Project would be located within an airport land use plan area, within 2 miles of a public airport or public-use airport, and within the vicinity of a private airstrip, but would not result in a safety hazard or excessive noise for people residing or working in the study area.
Level of Impact	**No impact**

Impact Characterization and Significance Conclusion

Proposed Project

Turlock Station and Livingston Station

As shown in Figure 3.16-1, the Turlock Station and Livingston Station are not within 2 miles of an operational airport or within an AIA. These facilities would not result in a safety hazard to airport/airstrip operations or excessive noise. Thus, no impact would result from the Turlock Station and Livingston Station.

Ceres to Merced Extension Alignment

The Ceres to Merced Extension Alignment is located just north of the southern boundary for Castle Airport's AIA. The Ceres to Merced Extension Alignment is located within the airport's Compatibility Zone D, which identifies incompatible uses to include uses that create visual or electronic hazards to flight, hazardous materials production (oil refineries or chemical plants), and solid waste disposal facilities (landfill and incineration). In addition, Compatible Zone D is considered a low-risk level for safety and airspace protection factors for objects greater than 150 feet tall. The Ceres to Merced Extension Alignment would not include any of these incompatible uses, and all improvements would be at grade. Thus, no improvements for the Ceres to Merced Extension Alignment would exceed the FAR Part 77 height restriction.[5] In addition, the Ceres to Merced Extension Alignment is located outside the Castle Airport 60 decibel (dB) community noise equivalent level (CNEL)[6] noise contour for airport operation (Merced County 2012).[7] Thus, the Ceres to Merced Extension Alignment would not result in excessive airport-related noise for people residing or working in the vicinity of the Proposed Project.

The Ceres to Merced Extension Alignment is located along the northern boundary of the Merced Regional Airport's AIA. It is located within the airport's AIA Compatibility Zones B2 and C. Actions within Zone B2 and C that are incompatible include uses that create visual or electronic hazards to flight, indoor and outdoor major/large assembly facilities with capacity of more than 300 people, community libraries, certain residential and lodging uses (multi-family residential, long-term lodging, and congregate care), in-patient medical uses, penal institutions, major retail uses, hazardous materials production (oil refineries or chemical plants), heavy industrial uses, power plants, solid waste disposal facilities (landfill and incineration), and solid waste transfer facilities. The Ceres to Merced Extension Alignment would not include any of these incompatible uses. In addition, Compatible Zone B2 and C are considered a low to moderate risk level for safety and airspace protection factors, and object height is generally restricted to less than 100 feet tall except in areas lateral to the runway. The Ceres to Merced Extension Alignment facilities would be located at grade and would not include any of the incompatible uses. Thus, no improvements would exceed the FAR Part 77 height restriction. In addition, the Ceres to Merced Extension Alignment is located outside the Merced Regional Airport 60 dB CNEL noise contour for airport operation (Merced County 2012). Thus, the Ceres to Merced Extension Alignment would not result in excessive airport-related noise for people residing or working in the vicinity of the Proposed Project.

In addition, the Turlock Airpark is located 1 mile east of the Ceres to Merced Extension Alignment in southern Turlock. There is no airport land use compatibility plan associated with this private airstrip or AIA. However, the Ceres to Merced Extension Alignment facilities would be located at grade. Due to the distance between airstrip and the Ceres to Merced Extension Alignment and given the improvements would not interfere with the airstrip's air space and operations, no safety hazard to airport/airstrip operations or excessive noise is anticipated.

[5] As stated in the *Merced County Airport Land Use Compatibility Plan*, the FAR Part 77 height restrictions refer to the part of the Federal Aviation Regulation that deals with objects affecting navigable airspace in the vicinity of airports. Objects that exceed the Part 77 height limits constitute airspace obstructions.

[6] The CNEL is the level of noise acceptable to a reasonable person residing in the vicinity of an airport. In this case. the CNEL is 60 dB.

[7] Noise contours are used as a guide for establishing land use that minimize the exposure of community residents to excessive noise.

Although the Ceres to Merced Extension Alignment is located within airport land use plan areas that identify restrictions for the areas in which the improvements are located, these improvements would not exceed applicable height restrictions or generate excessive noise. Thus, implementation of the Ceres to Merced Extension Alignment would be consistent with airport land use plans and would not result in a safety hazard or excessive noise. No impact would result from the Ceres to Merced Extension Alignment.

Merced Station

The Merced Station is not located within the Merced Regional Airport's AIA or CNEL noise contour. The Merced Station is, however, located within the FAR Part 77 boundary for the Merced Regional Airport. The tallest improvements would be less than 100 feet tall. Thus, no improvements for the Merced Station would exceed the FAR Part 77 height restriction. Thus, implementation of the Merced Station would be consistent with airport land use plans and would not result in a safety hazard or excessive noise. No impact would result from the Merced Station.

Merced Layover and Maintenance Facility

The Merced Layover & Maintenance Facility is located along the northern boundary of the Merced Regional Airport's AIA. The Merced Layover & Maintenance Facility is located within the airport's AIA Compatibility Zone D. Actions within Zone D that are incompatible include uses that create visual or electronic hazards to flight, hazardous material production (oil refineries or chemical plants), and solid waste disposal facilities (landfill and incineration), Zone D is considered a low risk level for safety and airspace protection factors for objects greater than 150 feet tall. The Merced Layover & Maintenance Facility would not include any of these incompatible uses. In addition, the tallest improvements would be facilities associated with the Merced Layover & Maintenance Facility, which would be less than 150 feet tall. Thus, no improvements for the Merced Layover & Maintenance Facility would exceed the FAR Part 77 height restriction. As such, implementation of the Merced Layover & Maintenance Facility would be consistent with the airport land use plan and would not result in a safety hazard.

Regarding airport noise, the Merced Layover and Maintenance Facility is located outside of the 60 dB CNEL noise contour for airport operation (City of Merced 2012). Therefore, the Merced Layover & Maintenance Facility would not result in excessive airport-related noise for people residing or working in the vicinity of the Proposed Project.

Atwater Station Alternative

As shown in Figure 3.16-1, the Atwater Station Alternative is not within 2 miles of an operational airport or within an AIA. Thus, the Atwater Station Alternative would not result in a safety hazard to airport/airstrip operations or excessive noise. No impact would result from implementation of the Atwater Station Alternative. There would be no difference in the impact between the proposed Livingston Station and the Atwater Station Alternative (both would result in no impact).

Impact SAF-2	Construction and operation of the Proposed Project could impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
Level of Impact	**Potentially significant impact**
Mitigation Measures	TR-4.1: Implement a construction road traffic control plan
Level of Impact with Mitigation	**Less than significant impact**

Impact Characterization

Proposed Project

Construction

During construction of the Proposed Project, staging areas would be primarily within the existing UPRR ROW. There would be limited temporary road closures and road construction that could potentially cause increased traffic congestion in areas where emergency vehicles operate. Construction activities near at-grade crossings could interfere with emergency response by increasing traffic congestion and vehicle wait time. Construction of the Proposed Project has the potential to cause significant impacts on emergency response by increasing traffic congestion and vehicle wait time. Although added construction traffic would be short-term and temporary, and in some cases periodic over multiple seasons, the construction impact on traffic operations would be potentially significant.

Operations

The majority of the Proposed Project would be located within the existing UPRR ROW; thus, Proposed Project facilities have limited potential to interfere with adopted emergency response plans or emergency evacuation plans. The operation of new passenger trains within the existing UPRR ROW would be unlikely to interfere with implementation of emergency response plans or emergency evacuation plans.

As described in Section 3.17, *Transportation*, the existing roadways surrounding new ACE stations in the study area enable emergency vehicle responses to all areas of the stations. Emergency vehicles often identify and use multiple routes dependent on time of day and traffic conditions. Peak period traffic congestion generally does not result in delay for emergency vehicles, which have the ROW and often utilize multi-lane major arterials for access. Emergency vehicles also are permitted to use transit-only lanes or other vehicle-restricted lanes, if necessary.

Emergency vehicles traveling on streets that cross the tracks at the at-grade crossings would experience some additional delay at the intersections that would exceed the acceptable levels of service and that would have more frequent gate-down times with Proposed Project operations. Unlike at intersections with traffic signals where emergency vehicles can pass through the intersection at reduced speeds even when receiving a red signal indication, emergency vehicles would not be able to proceed through the at-grade crossings when the railroad gates are down. This may cause some minor delay to emergency vehicles because typical gate down time would be approximately 1 minute for ACE passenger train services.

Despite these localized traffic delay impacts, emergency vehicle response times are a function of travel along the entire path from their base to the incident location. Project operations would

substantially reduce overall vehicle miles travelled (VMT), which would generally reduce congestion. Most of the VMT reductions would be during peak hours, which is especially important in reducing congestion. This broad-based congestion improvement is expected to more than offset the localized effects at individual at-grade crossings and near ACE stations, resulting in a net improvement (compared with the No Project Alternative) in emergency response times.

Thus, operation impacts related to emergency plans emergency response plan or emergency evacuation plans would be less than significant.

Atwater Station Alternative

Like the Proposed Project, construction of the Atwater Station Alternative could potentially cause increased traffic congestion in areas where emergency vehicles operate. Construction of the Atwater Station Alternative could interfere with emergency response by increasing traffic congestion and vehicle wait time. As such, although added construction traffic would be short-term and temporary, and in some cases periodic over multiple seasons, the construction impact on traffic operations would be potentially significant.

Operation of the Atwater Station Alternative would have the same impact as the Proposed Project. Emergency vehicles would be able to access the Atwater Station Alternative using the existing roadways. Furthermore, like the Proposed Project, operation of the Atwater Station Alternative would reduce VMT, which would reduce congestion, which could improve emergency response times. As such, operation impacts related to emergency plans emergency response plan or emergency evacuation plans would be less than significant due to operation of the Atwater Station Alternative.

Mitigation Measures

Mitigation Measure TR-4.1 would apply to the Proposed Project for potential impacts on traffic operations during the construction period. Likewise, Mitigation Measure TR-4.1 would apply to the Atwater Station Alternative for potential impacts on traffic operations during the construction period.

Mitigation Measure TR-4.1: Implement a construction road traffic control plan

Refer to measure description in Section 3.17, *Transportation*.

Significance with Application of Mitigation

Mitigation Measure TR-4.1 would require the implementation of a construction road traffic control plan, which would ensure that adequate local emergency access would be maintained throughout the entire construction duration. As a result of this mitigation, coordination with local jurisdictions on emergency vehicle access would be included to mitigate these disruptions and to maintain access by firefighters, law enforcement, and emergency medical responders. In addition, the construction transportation plan would include a traffic control plan that would address temporary road closures, detour provisions, allowable routes, and alternative access. With implementation of Mitigation Measure TR-4.1, impacts would be reduced to a less-than-significant level for the Proposed Project.

For the same reasons listed above, implementation of Mitigation Measure TR-4.1 would reduce the impacts from the Atwater Station Alternative to a less-than-significant level.

Comparison of the Proposed Livingston Station and the Atwater Station Alternative

There would be no difference in the impact between the proposed Livingston Station and the Atwater Station Alternative (both would result in a less than significant impact after mitigation).

Impact SAF-3	Construction and operation of the Proposed Project would not increase exposure of people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires and the Proposed Project is not located in or near state responsibility areas or lands classified as high or very high fire hazard severity zones so would not result in any of the associated consequences of being in such a zone.
Level of Impact	**Less than significant impact**

Impact Characterization and Significance Conclusion

As shown in Figure 3.16-1, there are no very high or high wildfire hazard zones in the vicinity of the Proposed Project. Although there are moderate fire hazard severity zones in the vicinity of Proposed Project, these areas are non-contiguous and are limited in number. Construction and operation of new passenger trains within the existing UPRR ROW would be unlikely to expose more individuals to wildfire risk. Trains would not operate where there is a safety risk to the train and its passengers due to wildfire. The existing UPRR ROW would continue to be maintained according to ACE's and UPRR's existing maintenance and management standards. Vegetation maintenance would reduce potential fire fuel along the tracks or cover the area along the tracks with nonflammable materials. In addition, fire safety measures would be implemented during construction pursuant to Cal. Code Regs., Title 14 and Title 19, and operations of new stations would comply with applicable building code and fire code regulations per city, county, and state requirements. Thus, the impact related to exposing people or structures to a significant risk of loss, injury, or death involving wildland fires would be less than significant under the Proposed Project.

Likewise, for the same reasons listed for the Proposed Project above, the impact related to exposing people or structures to a significant risk of loss, injury, or death involving wildland fires would be less than significant under the Atwater Station Alternative**.** There would be no difference in the impact between the proposed Livingston Station and the Atwater Station Alternative (both would result in a less-than-significant impact).

Impact SAF-4	Construction and operation of the Proposed Project would not increase hazards to workers, passengers, or adjacent human and environmental receptors along rail routes due to a design feature (e.g., sharp curves or dangerous intersections) or increase in passenger train movements.
Level of Impact	**Less than significant impact**

Impact Characterization and Significance Conclusion

Proposed Project

Construction

Safety measures would be implemented during construction of the Proposed Project to manage potential hazards to workers, passengers, or adjacent human and environmental receptors. Any potential hazards during construction would be temporary and would be limited to when construction is occurring. Cal/OSHA safety rules and regulations would be strictly followed to

prevent occupational injuries or illness. Cal/OSHA's Title 8 regulations require an emergency action plan that establishes protocol for any emergency scenarios and establishes safety measures to prevent and respond to medical emergencies. USDOT's and FRA's safety rules and standards under the Rail Safety Improvement Act would be followed. For example, construction of Proposed Project would include oversight of workers. FRA requires that railroads and contractors that employ safety-related railroad employees develop and submit a training program to FRA for approval and designate the minimum training qualifications. In addition, construction would comply with CPUC's GO 72-B: regulations governing construction and maintenance for crossings at grade of railroads with public street, roads, and highways. Thus, compliance with existing regulations would ensure that hazards from the Proposed Project's construction activities would be less than significant.

Operations

Based on the characteristics of the Proposed Project improvements (e.g., physical changes to existing infrastructure, such as replacing existing tracks or installing a bridge over tracks and rail siding), these improvements would not be expected to increase safety hazards or risks to workers, passengers, or adjacent human and environmental receptors. Proposed Project improvements that entail new or upgraded tracks would occur primarily within the existing UPRR ROW and would improve the conditions of existing tracks. New stations are designed according to applicable local city and county standards for safety.

Proposed Project improvements would adhere to FRA rules, regulations, and guidelines for the operation of trains which would include implementation of safety measures, compliance with strict maintenance and reporting requirements, and would maintain the existing PTC system designed to automatically stop a train before certain accidents occur. In particular, PTC is designed to prevent train-to-train collisions, derailments caused by excessive train speeds, and train movements through misaligned track switches. Adherence to the FRA rules, regulations, and guidelines would reduce the potential for derailment, train-to-train collisions, and the release of hazardous materials. In addition, the accident rate for the Proposed Project's operations would be similar to the historic national commuter rail safety data for ACE because the same safety protocols, rules, regulations, and technology will be utilized for the Proposed Project. Pursuant to the Federal Rail Safety Improvement Act, Title 49 of the C.F.R., and CPUC Rules and General Orders, Proposed Project facilities include standard safety features to increase safety and minimize the potential for accidents at new and modified at-grade crossings. Additionally, design of Proposed Project facilities incorporates engineering measures and management practices based upon federal and state regulations. Project operations are unlikely to substantially increase hazards to workers, passengers, or adjacent human and environmental receptors along rail routes due to design features, because rail systems must comply with FRA and CPUC requirements for tracks, equipment, railroad operating rules, and practices, including the Passenger Equipment Safety Standards (49 C.F.R. 238) and track safety standards (49 C.F.R. 213), which would reduce the likelihood of an accident occurring. Thus, impacts regarding hazards to the public under the Proposed Project would be less than significant.

Atwater Station Alternative

Construction and operation of the Atwater Station Alternative would be required to adhere to the same regulations protecting workers, passengers, and adjacent human and environmental receptors, as the Proposed Project. The regulations identified above for the Proposed Project would also apply to the Atwater Station Alternative. Thus, construction and operation of the Atwater

Station Alternative would result in the same less-than-significant impact on hazards as the Proposed Project. There would be no difference in the impact between the proposed Livingston Station and the Atwater Station Alternative (both would result in a less than significant impact).

3.16.4.4 Overall Comparison of the Proposed Livingston Station and Atwater Station Alternative

Overall, there would be no substantial difference in safety and security impacts between implementation of the Atwater Station Alternative or the proposed Livingston Station (both are expected to result in less than significant impacts after mitigation).