

4.16 Wildfire

This section analyzes wildfire impacts from buildout of the 2022 RTP/SCS. Impacts related to emergency response plans, exposure to wildfire risk factors, associated infrastructure, and exposure to people or structures due to post-fire risks are addressed.

4.16.1 Setting

a. Physical Setting

Wildfires

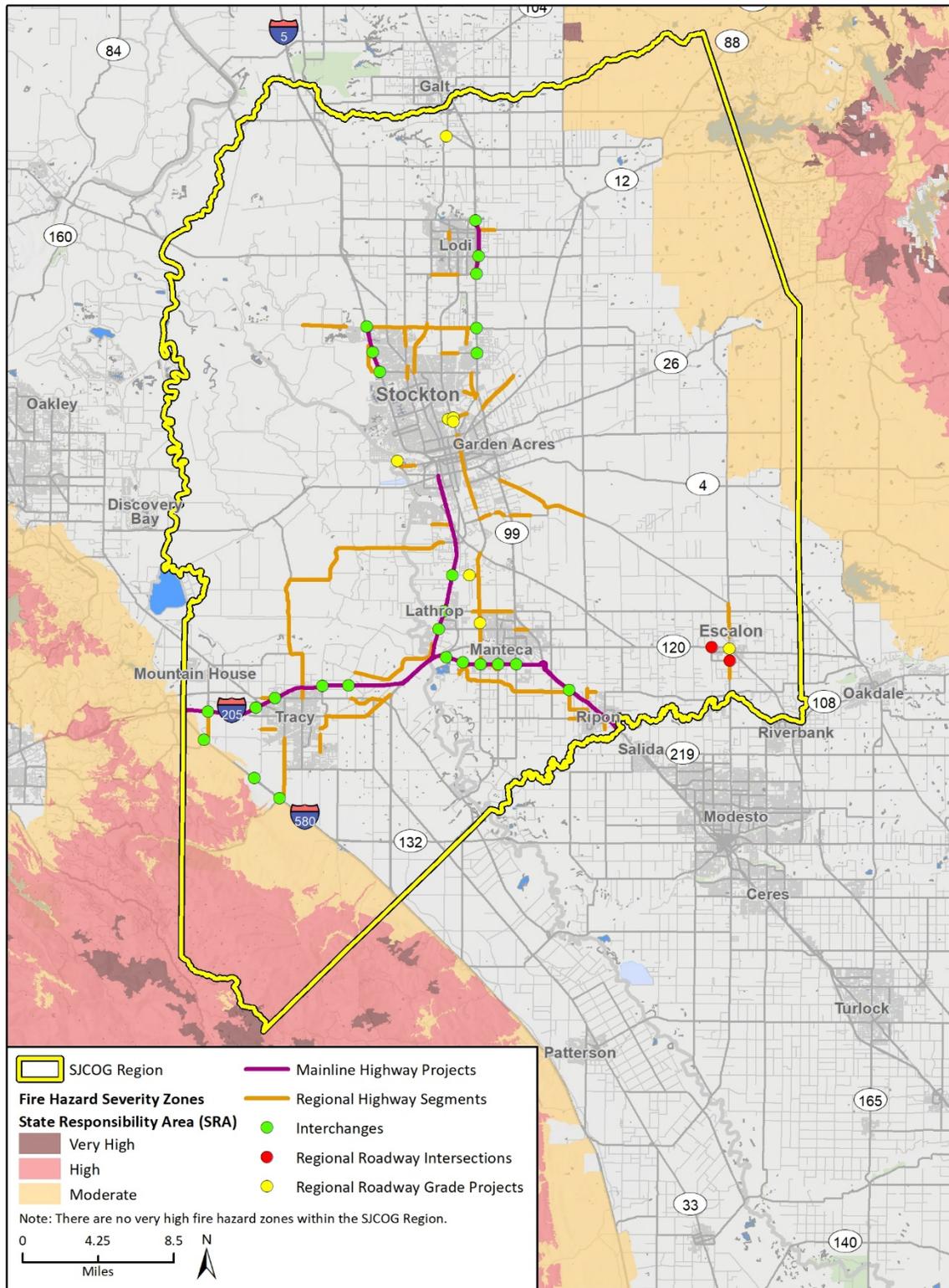
In California, responsibility for wildfire prevention and suppression is shared by federal, State, and local agencies. Federal agencies are responsible for federal lands in Federal Responsibility Areas. California has determined that some non-federal lands in unincorporated areas with watershed value are of statewide interest and have classified those lands as State Responsibility Areas (SRA), which are managed by the California Department of Forestry and Fire Protection (CAL FIRE). All incorporated areas and other unincorporated lands are classified as Local Responsibility Areas (LRA).

While all of California is subject to some degree of wildfire hazard, there are specific features that make certain areas more hazardous. CAL FIRE is required by law to map areas of significant fire hazards based on fuels, terrain, weather, and other relevant factors (Public Resources Code [PRC] 4201-4204 and California Government Code 51175-89). Factors that increase an area's susceptibility to fire hazards include slope, vegetation type and condition and atmospheric conditions. CAL FIRE has identified two types of wildfire risk areas: 1) Wildland Areas That May Contain Substantial Forest Fire Risks and Hazards and 2) Very High Fire Hazard Severity Zones. Each risk area carries with it code requirements to reduce the potential risk of wildfires. Under state regulations, areas within very high fire hazard risk zones must comply with specific building and vegetation management requirements intended to reduce property damage and loss of life within these areas.

Throughout the SJCOG region, there is a full range of conditions and fire hazards as indicated in the applicable Fire Hazard Severity Zone Maps for the region. According to the San Joaquin County Fire Hazard Severity Zones in SRAs (CAL FIRE 2007), moderate hazard zones are present in the northeastern and southwestern portions of the county, and high hazard zones are mapped in the southwestern portion of the county (CAL FIRE 2007). CAL FIRE has determined that this county has no Very High Fire Hazard Severity Zones in LRAs (CAL FIRE 2008). Moderate Fire Hazard Severity Zones in LRAs exist throughout the SJCOG region (CAL FIRE 2008).

Development that has spread into less densely populated, often hilly areas, has increased the number of people living in heavily vegetated areas that are prone to wildfire and more difficult to battle due to the hilly terrain. The area where wildlands meet urban development is referred to as the wildland-urban interface, where urban wildfires occur. The 2020 Santa Clara Unit (SCU) Lightning Complex Fire started in multiple locations throughout Santa Clara County, Alameda County, Contra Costa County, San Joaquin County, Merced, and Stanislaus County and is ranked as the fourth largest wildfire in California history (CAL FIRE 2022). The SCU Lightning Complex Fire resulted in 396,624 burned acres and destroyed 222 structures (CAL FIRE 2022) and is an example of the major losses that can result from a fire in the wildland-urban interface.

Figure 4.16-1 San Joaquin County Fire Hazard Severity Zone Map



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 Additional data provided by Cal Fire, 2008; San Joaquin General Plan, 2016

Fig 4.16-1 Fire Hazard Severity Zone Map in the SJCOG Region

4.16.2 Regulatory Setting

a. Federal Regulations

International Fire Code

The International Fire Code (IFC), created by the International Code Council, is the primary means for authorizing and enforcing procedures and mechanisms to ensure the safe handling and storage of any substance that may pose a threat to public health and safety. The IFC regulates the use, handling, and storage requirements for hazardous materials at fixed facilities. The IFC and the International Building Code use a hazard classification system to determine what protective measures are required for fire and life safety. These measures may include construction standards, separations from property lines, and specialized equipment. To ensure that these safety measures are met, the IFC employs a permit system based on hazard classification. The IFC is updated every three years and is the basis for the California Fire Code (CFC) (also updated triennially). Local jurisdictions, including the SJCOG region cities, then adopt the CFC, in some cases with local amendments.

Federal Disaster Mitigation Act

The Disaster Mitigation Act of 2000 provided a new set of mitigation plan requirements that encourage state and local jurisdictions to coordinate disaster mitigation planning and implementation. States are encouraged to complete a “Standard” or an “Enhanced” Natural Mitigation Plan. “Enhanced” plans demonstrate increased coordination of mitigation activities at the state level and, if completed and approved, increase the amount of funding through the Hazard Mitigation Grant Program. The State of California Multi-Hazard Mitigation Plan (SHMP) complies with this act.

National Fire Plan

The U.S. Department of the Interior’s National Fire Plan is intended to ensure an appropriate federal response to severe wildland fires, reduce fire impacts on rural communities, and ensure sufficient firefighting capacity in the future. The Rural Fire Assistance program is funded to enhance the fire protection capabilities of rural fire districts and safe and effective fire suppression in the wildland/urban interface. The program promotes close coordination among local, state, tribal, and federal firefighting resources by conducting training, equipment purchase, and prevention activities on a cost-shared basis.

b. State Regulations

2019 Strategic Plan for California

The 2019 Strategic Plan prepared by CAL FIRE and the California Natural Resources Agency lays out central goals for reducing and preventing the impacts of fire in the State. The goals are meant to establish, through local, State, federal, and private partnerships, a natural environment that is more resilient and human-made assets that are more resistant to the occurrence and effects of wildland fire.

In addition to the 2019 Strategic Plan for California, individual CAL FIRE units develop fire plans, which are major strategic documents that establish a set of tools for each CAL FIRE unit for its local

area. Updated annually, unit fire plans identify wildfire protection areas, initial attack success, assets and infrastructure at risk, pre-fire management strategies, and accountability within their unit's geographical boundaries. The unit fire plan identifies strategic areas for pre-fire planning and fuel treatment as defined by the people who live and work locally. The plans include contributions from local collaborators and stakeholders and are aligned with other plans for the area.

California Building Code (2019)

Chapter 7A of the California Building Code (California Code of Regulations, Title 24, Part 2) includes specific requirements related to exterior wildfire exposure. These requirements establish minimum standards to protect buildings located in Fire Hazard Severity Zone within SRAs and Wildland-Urban Interface Fire Areas. This code includes provisions for ignition resistant construction standards for new buildings.

California Fire Code

The 2019 California Fire Code (California Code of Regulations, Title 24, Part 9) establishes the minimum requirements consistent with nationally recognized good practices to safeguard the public health, safety, and general welfare for the hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures, and premises, and to provide safety and assistance to firefighters and emergency responders during emergency operations. The provisions of this code apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal, and demolition of buildings or structures or any appurtenances connected or attached to such building structures throughout California.

Wildland-Urban Interface Building Standards

On September 20, 2007, the Building Standards Commission approved the Office of the State Fire Marshal emergency regulations amending the California Code of Regulations, Title 24, Part 2, known as the California Building Code (CBC). These codes include provisions for ignition-resistant construction standards in the WUI.

California Emergency Services Act

The California Emergency Services Act of 2008 merged the duties, powers, purposes, and responsibilities of OES and the Governor's Office of Homeland Security into a new cabinet-level agency, the California Emergency Management Agency (Cal EMA). In 2013, the Governor merged the California Emergency Management Agency with the Office of Public Safety Communications and renamed the organization the California Governor's Office of Emergency Services (Cal OES). CAL OES is responsible for overseeing and coordinating emergency preparedness, response, recovery, and homeland security activities within the California. Section 8687.7 of the California Disaster Assistance Act required the development of a Standard Emergency Management System (SEMS) program, for managing multiagency and multijurisdictional responses to emergencies in California. The Cal OES Emergency Management Systems Unit is a multi-agency group charged with methodical review, evaluation, and approval of needed improvements to SEMS. State agencies are required to use SEMS and local government entities must use SEMS in order to be eligible for any reimbursement of response-related costs under the State's disaster assistance programs.

Cal OES serves as the lead State agency for emergency management and coordinates the State response to major emergencies in support of local government. SEMS provides the mechanism by

which local governments request assistance from Cal OES, and Cal OES maintains oversight of the State's mutual aid system.

State of California Emergency Plan

The Cal OES Emergency Plan outlines a state-level strategy to support local government efforts during a large-scale emergency. In accordance with the California Emergency Services Act, the State Emergency Plan describes methods for carrying out emergency operations, mutual aid processes, emergency services of governmental agencies, resource mobilization, emergency public information, and continuity of government (Cal OES 2017).

California Multi-Hazard Mitigation Plan

The California Office of Emergency Services prepares the State Hazard Mitigation Plan (SHMP), which identifies hazard risks and includes a vulnerability analysis and a hazard mitigation strategy (Cal OES 2018). The SHMP is required under the Disaster Mitigation Act of 2000 for the State to receive federal funding. The Disaster Mitigation Act of 2000 requires a State mitigation plan as a condition of disaster assistance.

The SHMP represents the state's primary hazard mitigation guidance document - providing an updated analysis of the state's historical and current hazards, hazard mitigation goals and objectives, and hazard mitigation strategies and actions. The plan represents the state's overall commitment to supporting a comprehensive mitigation strategy to reduce or eliminate potential risks and impacts of disasters in order to promote faster recovery after disasters and, overall, a more resilient state. State Hazard Mitigation Plans are required to meet the Elements outlined in FEMA's State Mitigation Plan Review Guide (revised March 2015, effective March 2016).

OES is responsible for the development and maintenance of the State's plan for hazard mitigation. The State's multi-hazard mitigation plan was last approved by the Federal Emergency Management Agency (FEMA) as an Enhanced State Mitigation Plan in 2018. The plan is designed to reduce the effects of disasters caused by natural, technological, accidental, and adversarial/human-caused hazards. The SHMP sets the mitigation priorities, strategies, and actions for the state. The plan also describes how risk assessment and mitigation strategy information is coordinated and linked from local mitigation plans into the SHMP and provides a resource for local planners of risk information that may affect their planning area. The State of California is required to review and revise its mitigation plan and resubmit for FEMA approval at least every five years to ensure continued funding eligibility for certain federal grant programs.

Senate Bill 1241 (Kehoe) of 2012

Senate Bill 1241 (Chapter 311, Statutes of 2012) requires cities and counties to address fire risk in SRAs and VHFHSZs in the safety element of their general plans. It also requires cities and counties to make certain findings regarding available fire protection and suppression services before approving a tentative subdivision map or parcel map.

Assembly Bill 3074 (Friedman) of 2020

Assembly Bill 3074 (Chapter 259, Statutes of 2020) imposes additional fuel reduction requirements on a person who owns, leases, controls, operates, maintains, or builds an occupied dwelling or structure in, upon, or adjoining wild lands within a very high fire hazard severity zone.

SRA Fire Safe Regulations

The State Responsibility Area (SRA) Fire Safe Regulations CCR Title 14, Division 1.5, Section 1270 et seq. establishes CAL FIRE's basic wildland fire protection standards for new development and is applicable in all SRAs in California—areas where CAL FIRE is responsible for wildfire protection.

c. Regional and Local Laws, Regulations, and Policies

Local Hazard Mitigation Plan

Due to the extensive history of natural disasters occurring throughout California, the State encourages communities to adopt Local Hazard Mitigation Plans (LHMPs) to gather hazard risk data and ensure local-level mitigation and preparedness. Local jurisdictions develop, adopt and update hazard mitigation plans to establish guiding principles for reducing hazard risk, as well as specific mitigation actions to eliminate or reduce identified vulnerabilities. The San Joaquin County Local Hazard Mitigation Plan (2017) serves to reduce or eliminate long-term risk to people and property from natural hazards and their effects in the SJCOC region, including the County of San Joaquin and the cities of Stockton, Lodi, Manteca, Tracy, Ripon, Escalon, and Lathrop. The plan includes goals and policies to reduce fire severity and intensity in the county through wildfire prevention, fuels management, and maintenance of evacuation routes. The Local Hazard Mitigation Plan is required to be updated every five years.

General Plans

Local planning policies related to wildfire hazards are established in each jurisdiction's general plan, generally in the Safety Element or equivalent chapter. For emergency services, some of the relevant policies include coordinating with other agencies responsible for planning medical facilities to meet the health care needs of residents in the region, retaining hospitals, evaluating medical facility proposals, providing emergency response services, and participating in mutual-aid agreements. Example county General Plan goals and policies are provided below.

County of San Joaquin General Plan

The San Joaquin County Public Health and Safety Element contains goals and policies with the specific intention of reducing the region's fire hazard risk. It was adopted in 2016 and demonstrates the County's compliance with fire prevention and protection requirements outlined in State law (San Joaquin 2016).

- **Policy IS-5.6 Consistent Fire Protection Standards for New Development** The County, in coordination with local water agencies and fire protection agencies, shall ensure consistent and adequate standards for fire flows and fire protection for new development. (RDR/IGC)
- **Goal PHS-4 To minimize the risk of wildland and urban fire hazards**
- **PHS-4.1 Community Wildfire Protection Plan** The County shall maintain and implement the Community Wildfire Protection Plan as a mechanism for community input and identification of areas with high fire hazard risk. (PSP)
- **PHS-4.2 Residential Densities in High Hazard Areas** The County shall restrict development to rural residential densities or lower and require on-site fire suppression measures in areas with high or extreme wildfire hazards. (RDR/PSP)
- **PHS-4.3 Fire Prevention Measures** The County shall implement State recommendations for fire prevention in Fire Hazard Severity Zones and require new and/or existing development to

provide clearance around structures, use fire-resistant ground cover, build with fire-resistant roofing materials, participate in fuel load reduction, and take other appropriate measures. (RDR/PSP)

- **PHS-4.4 Clear Zones** The County shall require clear zones and regular weed abatement around residential structures in high fire hazard areas and assist property owners in identifying how clear zones should be maintained. (RDR)
- **PHS-4.5 Vegetation and Fuel Management** The County shall require new development in high fire-hazard areas to have fire-resistant vegetation, cleared fire breaks separating communities or clusters of structures from native vegetation, or a long-term comprehensive vegetation and fuel management program consistent with State codes 4290 and 4291 for wildland fire interface and vegetation management. (RDR/PSP)
- **PHS-4.6 Fire Protection Coordination** The County shall encourage well-organized and efficient coordination among fire agencies, CalFire, and the County. (IGC)

City General Plans

The City of Lathrop General Plan Part VI, Hazard Management Plan, combines the Safety and Noise elements into a single element (City of Lathrop 1991). The Hazard Management Plan contains policies which primarily focus on mitigating structural fires, rather than wildland fires. Other cities in the SJCOG Region, such as Stockton and Escalon, have similar General Plan goals and policies that address municipal and structural fire, as the cities are not located in an area identified with past or projected wildfire hazards.

However, the City of Lathrop General Plan does have policies that address wildland fires and emphasize community response such as Goal Number 8 - Policies 1, 3 4, 5, 6, and 7 and water supply with Goal Number 8 - Policy 2. Goal No. 8 Public Safety Hazards establishes the following policies:

1. The reduction of loss of life or property due to crime, fire, earthquake, flooding or other disasters or hazards.
2. The provision of adequate medical and emergency services to reduce the effects of natural or manmade disasters.
3. The promotion of citizen awareness and preparedness for emergency/disaster situations or potential for the incidence of crime.
4. The implementation of adequate inter-agency disaster planning.

The City of Ripon's Community Health and Safety Element contains policies to protect people and property from fire risk (City of Ripon 2006). Goal D seeks to prevent loss of life, injury, and property damage due to wild land and urban fires. The policies to address Goal D include Policy D1, D2, D3, D4, D5, and D6. The policies are as follows:

D1. All new non-residential development will be equipped with automatic interior sprinkler systems to meet the Uniform Building Code.

D2. Encourage the Ripon Consolidated Fire District to maintain a regular program of fire inspection for existing commercial and industrial buildings. Involve the District at the planning stage of new development to ensure Volume I- Chapter Four Community Health and Safety 4-3 Adopted September 19, 2006, appropriate life safety and fire issues are addressed.

D3. Require that the construction of new roads and streets be adequate as to width and turning radius to simplify access by firefighting apparatus. Plans for new streets will be submitted for review and comment to the Ripon Consolidated Fire District.

D4. All development will be required to meet the minimum fire flow rates specified by the City's Fire Code.

D5. Enforce building and fire codes and City ordinances regarding fire protection.

D6. Support the Ripon Consolidated Fire District in the establishment and adjustments of fees and/or funds collected from new development for capital facilities, apparatus, and equipment required to mitigate the impact of new growth.

The City of Tracy General Plan Safety Element contains five policies specifically related to fire hazards that evaluate the potential for wildland fire hazards when considering new development (City of Tracy 2011). Policies P1-P5 in the City of Tracy General Plan require the following:

P1. All development in areas of potential wildland fire hazards shall include the following:

- Clearance around structures.
- Fire-resistant ground cover.
- Fire-resistant roofing materials.

P2. Development in areas with steep terrain shall be restricted as necessary in order to ensure fire safety.

P3. New developments shall satisfy fire flow and hydrant requirements, street widths and design requirements as established by the City.

P4. The City shall incorporate drought-resistant and fire-resistant plants in public works projects in areas subject to wildland fires.

P5. The City of Tracy Fire Department shall train regularly for urban and wildland firefighting conditions.

These policies are achieved through Action A1 which requires the maintenance of a current map of areas subject to wildland fires.

Other cities in the SJCOG Region, such as Manteca and Lodi, have similar provisions, goals, policies, and regulations in their General Plans and municipal ordinances.

City of Tracy Local Hazard Mitigation Plan

City of Tracy developed this Local Hazard Mitigation Plan (LHMP) update to make the city and its residents less vulnerable and more resilient to future hazard events, including wildfires. The LHMP identifies communities within their jurisdiction that are most at risk for wildfires. The LHMP also identifies guidance for future development within the City of Tracy to combat wildfire risk.

4.16.3 Impact Analysis

a. Methodology and Significance Thresholds

Pursuant to the CEQA Guidelines, potentially significant impacts would result if the project would:

1. If located in or near SRAs or lands classified as very high fire hazard severity zones, would the project:
 - a. Substantially impair an adopted emergency response plan or emergency evacuation plan.
 - b. Due to 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.
 - c. 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 to the environment.
 - d. 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.

The methodology used for the following evaluation is based on a review of documents and publicly available information about wildfire conditions in the SJCOG region to determine the potential for implementation of projects in 2022 RTP/SCS to result in increased wildfire risks. This includes city and county planning documents. This program-level analysis is based on an overall understanding of the key fire safety concerns that could result from implementation of 2022 RTP/SCS. The evaluation of wildfire impacts reasonably assumes that the construction and development under 2022 RTP/SCS would adhere to the latest federal, state, and local regulations, and conform to the latest required standards in the industry, as appropriate for individual projects.

b. Project Impacts and Mitigation Measures

The following section discusses potential impacts and mitigation measures that may be associated with projects contained within the 2022 RTP/SCS. Section 4.15.3 summarizes the impacts associated with capital improvement projects proposed in the 2022 RTP/SCS. Due to the programmatic nature of the 2022 RTP/SCS, a precise, project-level analysis of the specific impacts associated with individual transportation and land use projects is not possible at this time. In general, however, implementation of proposed transportation improvements and future projects under the land use scenario envisioned by the 2022 RTP/SCS could result in the impacts as described in the following section.

- Threshold 1:** If located in or near state responsibility areas or lands classified as VHFHSZs:
- a) due to 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
 - b) 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 to the environment
 - c) 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
 - d) expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires

Impact WF-1 PROPOSED TRANSPORTATION IMPROVEMENTS AND LAND USE PROJECTS ENVISIONED BY THE 2022 RTP/SCS WOULD BE LOCATED IN OR NEAR AN SRA OR VERY HIGH FIRE HAZARD SEVERITY ZONE, AND SIGNIFICANT RISKS OF LOSS, INJURY, OR DEATH FROM WILDFIRES OR DOWNSTREAM FLOODING OR LANDSLIDES WOULD OCCUR. IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.

Wildland Fire

As shown in Figure 4.16-1, moderate hazard zones are present in the northeastern and southwestern portions of the SJCOG region, and high hazard zones are mapped in the southwestern portion of the region. The land use scenario envisioned by the 2022 RTP/SCS concentrates the forecasted population and employment growth in urban areas and corridors of the County, such as incorporated cities, unincorporated towns, and major roadways, where the risk of wildfire is less than in more rural, forested, or mountainous areas where fuels are abundant and emergency response access is restricted. 2022 RTP/SCS transportation improvements, including roadway improvements, transportation demand management, and transit improvements, would not involve developing residential uses that would include occupants. While some transportation projects may include office or maintenance structures, occupation would be temporary and would not be situated in very high FHSZs or SRAs. Additionally, transportation projects associated with the 2022 RTP/SCS would improve mobility in the SJCOG region, which could facilitate an expedited evacuation or escape during a wildfire. These projects would increase the exposure of transportation infrastructure to risk of loss or damage from wildfire.

Fire-related impacts may extend far beyond the fire footprint as damage to homes, infrastructure, and ecosystems, and diminished air and water quality could all occur. People residing in residential development could be exposed to smoke and air pollution from wildfires regardless of their location within urbanized areas or the WUI. However, requirements to adhere to the local hazard mitigation plan, as well as the local general plan policies and programs aimed at reducing the risk of wildfires through land use compatibility, training, sustainable development, brush management, public outreach, and service standards for fire departments would reduce the risk of wildfire for these projects. Additionally, CBC regulations have been prepared and adopted for the purpose of establishing minimum wildfire protection standards in conjunction with building, construction, and development in a SRA. Title 14 sets forth the minimum development standards for emergency access, including fuel modification, setback, signage, and water supply, which are intended to result

in development that avoids or minimizes the hazards associated with development including associated infrastructure to roads, fuel breaks, emergency water sources, power lines or other utilities in wildfire-prone areas.

Potential impacts associated with the proposed circulation and emergency access routes for 2022 RTP/SCS are discussed in Section 4.14, *Transportation and Circulation*. As discussed therein, 2022 RTP/SCS projects would require adequate emergency access and the approval of project-specific on-site circulation plans that would comply with County design standards to accommodate emergency vehicles and service vehicles. Therefore, impacts associated with impairment of emergency response and evacuation plans would be less than significant.

Although there are limited instances where the proposed land use pattern and planned transportation investments of 2022 RTP/SCS may result in growth in or near wildfire prone areas, substantial wildfire-related effects could still occur. The 2022 RTP/SCS plans for the construction and maintenance of associated infrastructure and envisions land development near SRAs. Title 14 sets forth the minimum development standards for emergency access, fuel modification, setback, signage, and water supply, which are intended to result in development that avoids or minimizes the hazards associated with development including associated infrastructure to roads, fuel breaks, emergency water sources, power lines or other utilities in wildfire-prone areas. Global climate change will pose an increasing threat to wildland areas and nearby urban environments. The 2022 RTP/SCS plans for the construction and maintenance of associated infrastructure and envisions land development within and near these areas. The potential for slope failure and landslides can be exacerbated in these regions in the aftermath of a wildfire. Due to the unpredictable nature of wildfires in California, it is anticipated that projects in the 2022 RTP/SCS could exacerbate wildfire risk both in exposure to wildfires and in the aftermath conditions as a result of runoff, post-fire slope instability, or drainage changes as a result of wildfires denuding a slope. However, requirements to adhere to the local hazards mitigation plan, as well as the local general plan policies and programs aimed at reducing the risk of wildfires through land use compatibility, training, sustainable development, brush management, public outreach, and service standards for fire departments in addition to implementation of Mitigation Measures WF-1(a) and WF-1(b) reduce the risk of wildfire for these projects. With implementation of these measures and compliance with aforementioned plans and regulations, impacts would be reduced to less than significant.

Construction and Fire Risk

There are 2022 RTP/SCS projects that are adjacent to SRAs. However, even though there are no projects located within an SRA, construction activities for transportation and land use projects within the 2022 RTP/SCS involving the use of vehicles and heavy machinery could result in the ignition of a wildfire. During construction, heavy equipment and passenger vehicles driving on vegetated areas prior to clearing and grading could increase the risk of fire. Heated mufflers, explosives used during site preparation or line spicing, and improper disposal of cigarettes could potentially ignite surrounding vegetation. The use of heavy equipment, such as bulldozers and graders, has the potential to accidentally ignite a fire from sparks created when equipment blades strike rocks or metal objects. If noticed by the equipment operator or other project specific personnel, small ignitions can easily be suppressed by the construction equipment and/or on-site fire watch personnel. A fire could also be started by project personnel improperly disposing of burning cigarettes in areas covered with wildland vegetation and within 50 feet of combustible material storage.

Moreover, if the introduction of invasive, non-native plants is not controlled during construction, a project site could progressively become dominated by non-native plants which tend to increase the frequency and severity of wildfires. Based on recent scientific evidence, it is likely that anthropogenic climate change will continue to chronically enhance the potential for western U.S. forest fire activity when fuels are not limiting. As discussed further in Section 4.9, *Greenhouse Gas Emissions and Climate Change*, increasingly difficult drought conditions and extreme weather events will continue to raise wildfire risk within the SJCOG region.

New construction would be subject to the latest California Fire Code, which contains safety measures to minimize the threat from wildfires. Title 14 of the California Code of Regulations sets forth the minimum development standards for emergency access, fuel modification, setback, signage, and water supply, which help prevent loss of structures or life by reducing wildfire hazards. The codes and regulations would reduce the risk of loss, injury, or death from wildfire for new development envisioned by the 2022 RTP/SCS. With implementation of Mitigation Measures WF-1(a) and WF-1(b) and compliance with aforementioned plans and regulations, impacts would be reduced to less than significant.

Exacerbated Fire Risks

Slope failure and landslides can be exacerbated in regions in the aftermath of a wildfire. Hillsides can become denuded of vegetation and become unstable, increasing the potential for landslide risks and associated hazards downslope from such landslides. Potential impacts related to slope stability and landslides are discussed in Section 4.8, *Geology and Soils*. As discussed therein, stable slope conditions vary depending on location of the project within the region and the potential for substantial landslides was found to be low to moderate in most of the proposed project regions. Steep slopes within the SJCOG region are relatively limited and primarily found in the southwestern portion of San Joaquin County, along with smaller slopes susceptible to instability located throughout the Delta area's levee system (San Joaquin County 2014). In addition, in areas of high susceptibility to landslides (near foothill areas), 2022 RTP/SCS projects would be required to conform to San Joaquin County slope stability guidelines of Chapter 14 Grading Ordinance 4477, prior to approval of construction. With compliance to County regulations, this impact would be less than significant.

This same issue applies to runoff and flooding potential after a wildfire with denuded and unstable hillsides. Potential impacts related to flooding, runoff, and drainage are discussed in Section 4.11, *Hydrology and Water Quality*. Projects would be required to comply with existing design guidelines and local requirements for post-development peak stormwater flows and Best Management Practices to avoid and/or minimize flooding impacts and impacts to on-site and off-site drainage. Even through adherence to these regulations, impacts associated with exposure of people or structures to downslope or downstream flooding or landslides as a result of runoff due to post-fire slope instability would continue to be significant. The project would be required to comply with existing design guidelines, applicable San Joaquin County Flood Control & Water Conservation District (Flood Control) requirements for post-development peak stormwater flows and Best Management Practices, and maintenance requirements described in the Neighborhood Stormwater Control Plans to avoid and/or minimize flooding impacts and impacts to on-site and off-site drainage. Compliance with Flood Control rules and regulations and local General Plan policies in addition to implementation of Mitigation Measures WF-1(a) and WF-1(b) would minimize the potential for adverse wildfire impacts to result from buildout of the 2022 RTP/SCS. Furthermore, reasonably foreseeable development facilitated by the 2022 RTP/SCS would be required to

implement additional mitigation if project-specific analysis identifies the potential for wildfire impacts. Therefore, impacts would be less than significant with mitigation incorporated.

Mitigation Measures

Transportation project sponsor agencies can and should implement, the following mitigation measures for applicable transportation projects that would result in wildfire impacts. The County and cities in the SJCOG region can and should implement these measures, where relevant to land use projects implementing the 2022 RTP/SCS. Project-specific environmental documents may adjust these mitigation measures as necessary to respond to site-specific conditions.

WF-1(a) Wildfire Risk Reduction

If an individual transportation or land use project included in 2022 RTP/SCS is located within or less than two miles from an SRA or very high fire hazard severity zones, the implementing agency shall require appropriate mitigation to reduce the risk. Examples of mitigation to reduce risk of loss, injury or death from wildfire include, but are not limited to:

- Require the use of fire-resistant vegetation native to San Joaquin County and/or the local microclimate of the project site and discourage the use of fire-prone species especially nonnative, invasive species.
- Enforce defensible space regulations to keep overgrown and unmanaged vegetation, accumulations of trash and other flammable material away from structures.
- Provide public education about wildfire risk, fire prevention measures, and safety procedures and practices to allow for safe evacuation and/or options to shelter-in-place.
- Require adherence to the local hazard mitigation plan, as well as the local general plan policies and programs aimed at reducing the risk of wildfires through land use compatibility, training, sustainable development, brush management, public outreach, and service standards for fire departments.
- Ensure sufficient emergency water supply.
- Encourage the use of fire-resistant vegetation native to San Joaquin County and/or the local microclimate of the project site and discourage the use of fire-prone species especially non-native, invasive species.
- Require a fire safety plan be submitted to and approved by the local fire protection agency. The fire safety plan shall include all of the fire safety features incorporated into the project and the schedule for implementation of the features. The local fire protection agency may require changes to the plan or may reject the plan if it does not adequately address fire hazards associated with the project as a whole or the individual phase of the project.
- Prohibit certain project construction activities with potential to ignite wildfires during red-flag warnings issued by the National Weather Service for the project site location. Example activities that should be prohibited during red-flag warnings include welding and grinding outside of enclosed buildings.
- Require fire extinguishers to be onsite during construction of projects. Fire extinguishers shall be maintained to function according to manufacturer specifications. Construction personnel shall receive training on the proper methods of using a fire extinguisher.
- Smoking and open fires shall be prohibited at individual transportation or land use projects sites included in 2022 RTP/SCS during construction and operations. A copy of the notification to all contractors regarding prohibiting smoking and burning shall be provided to the County.

WF-1(b) Fire Protection Plan

Individual transportation or land use projects included in the 2022 RTP/SCS shall prepare a Fire Protection Plan that meets Fire Prevention Bureau of San Joaquin County requirements. The plan shall contain (but not be limited to) the following provisions:

- All construction equipment shall be equipped with appropriate spark arrestors and carry fire extinguishers.
- A fire watch with appropriate firefighting equipment shall be available at the Project site at all times when welding activities are taking place. Welding shall not occur when sustained winds exceed that set forth by the Fire Prevention Bureau of San Joaquin County unless a Fire Prevention Bureau of San Joaquin County -approved wind shield is on site.
- A vegetation management plan shall be prepared to address vegetation clearance around all Wind Turbine Generators (WTGs) and a regularly scheduled brush clearance of vegetation on and adjacent to all access roads, power lines, and other facilities.
- Operational fire water tanks shall be installed prior to construction.
- Provisions for fire/emergency services access if roadway blockage occurs due to large loads during construction and operation
- Cleared, maintained parking areas shall be designated; no parking shall be allowed in non-designated areas.
- The need for and/or use of dedicated repeaters for emergency services.
- Appropriate Hot work permits (such as cutting and welding permits) shall be obtained from the jurisdictional fire agency.
- Compliance with California PRC 4291, 4442, and 4443.

IMPLEMENTING AGENCIES AND TIMING

Implementing agencies for transportation projects are SJCOG and transportation project sponsor agencies. Implementing agencies for land use projects are cities and the County. This mitigation measure shall, or can and should, be applied during permitting and environmental review and implemented during construction where appropriate.

Significance After Mitigation

With implementation of Mitigation Measures WF-1(a) and WF-1(b), the risk of loss of structures and transportation infrastructure and the risk of injury or death due to wildfires would be reduced. These measures would make structures and transportation infrastructure more fire resistant and less vulnerable to loss in the event of a wildfire. These measures would also reduce the potential for construction of 2022 RTP/SCS projects to inadvertently ignite a wildfire. In addition, specific project impacts regarding wildfire risk would be addressed prior to project implementation during the planning and design process.

Compliance with local, State, and federal rules and regulations and local General Plan policies in addition to implementation of Mitigation Measures WF-1(a) and WF-1(b) would minimize the potential for adverse wildfire impacts to result from buildout of the proposed 2022 RTP/SCS. Furthermore, reasonably foreseeable development facilitated by the 2022 RTP/SCS would be required to implement additional mitigation if project-specific analysis identifies the potential for wildfire impacts. Therefore, impacts would be less than significant with mitigation incorporated.

c. Specific 2022 RTP/SCS Projects That May Result in Impacts

As discussed above, specific 2022 RTP/SCS projects that could result in significant wildfire impacts are those located within or less than two miles from an SRA or high fire hazard severity zones. These projects would increase the potential to ignite fires and therefore risk exacerbating the potential for loss or damage from wildfire. The public who would use that infrastructure and land uses developed within those areas and the maintenance personnel who would service that infrastructure or work within those areas would also be exposed to exacerbated risk of loss or damage due to wildfire. 2022 RTP/SCS projects that do not meet these criteria would have a lesser wildfire impact.

Table 4.16-1 shows all 2022 RTP/SCS projects that would occur within or less than two miles from an SRA. All transportation or land use projects located within or less than two miles from near SRAs or lands classified as very high fire hazard severity zones would result in potentially exacerbated risks associated with Impact WF-1. Additional specific analysis described in the above mitigation measure would need to be conducted as individual projects are implemented in order to determine the magnitude of project-specific impacts.

Table 4.16-1 2022 RTP/SCS Planned and Programmed Projects Occurring In or Less Than 2 Miles from an SRA or Very High Fire Severity Zone

Project Title	Project Type	Description	Potential Impact
CALTRANS			
CT-2: I-205 Managed Lanes	HWY	Widen I-205 from 6 to 8 lanes from Alameda County line to Eleventh Street	WF-1
City of Tracy			
T-2: I-580 at International Parkway/Patterson Pass Road	HWY	Reconstruct interchange	WF-1
T-3: I-205 at Mountain House/International Parkway	HWY	Reconstruct interchange	WF-1
T-4: I-205 Grant Line Road	HWY	Modification of existing interchange	WF-1
T-5: I-205 at Chrisman Road	HWY	Phase I; Construct new interchange east-west ramps	WF-1
T-6: I-205/MacArthur Interchange Modification	HWY	Modification of existing interchange – environmental only	WF-1
T-7: I-580 at Corral Hollow Road	HWY	Modification of existing interchange – environmental only	WF-1
T-8: I-580 at Lammers Road	HWY	Construction of new interchange – environmental only	WF-1
T-9: I-580 at Iron Horse	HWY	Construction of new interchange – environmental only	WF-1
T-10: International Parkway	ST/RDS	Widen from 2 to 4 lanes, including reconstruction of Delta-Mendota Canal and California Aqueduct bridges from I-205 to I-580	WF-1
T-11: Corral Hollow Road	ST/RDS	Widen from 2 to 4 lanes from Parkside Drive to Linne Road	WF-1
T-14: Corral Hollow Road Widening	ST/RDS	Widen 2 to 4 lanes including ROW and construction of two bridges from Linne Road to I-580	WF-1

San Joaquin Council of Governments
2022 Regional Transportation Plan & Sustainable Communities Strategy

Project Title	Project Type	Description	Potential Impact
T-15: MacArthur Drive	ST/RDS	Extend 4 lane roadway on new alignment and construct railroad grade separation from Mt. Diablo Road to Eleventh Street	WF-1
T-16: Tracy Boulevard	ST/RDS	Widen from 4 lane minor arterial to 4 lane major arterial from I-205 to Eleventh Street	WF-1
T-17: TRACER Capital	Transit	Purchase replacement buses	WF-1
T-21: TRACER Capital	Transit	Construction of bus stop improvements every five years	WF-1
T-22: Tracy Municipal Airport	Airport	Install Helicopter Pad	WF-1
T-23: Tracy Municipal Airport	Airport	Aircraft Wash Facility	WF-1
T-24: Tracy Municipal Airport	Airport	Perimeter Fencing (1,100LF)	WF-1
T-25: Tracy Municipal Airport	Airport	Build Permanent Public Restrooms	WF-1
T-26: Tracy Municipal Airport	Airport	FBO Office - Repair FBO Building	WF-1
T-27: Tracy Municipal Airport	Airport	Land Acquisition Identified in Airport Master Plan	WF-1
San Joaquin County			
SJC-2: Grant Line Road Corridor Improvements	ST/RDS	Realign roadway and widen from 2 to 4 lanes with operational and safety improvements from Tracy City Limits to 11 th Street	WF-1
SJC-3: Tracy Boulevard	ST/RDS	Passing lanes and channelization from I-205 to Howard Road	WF-1
SJC-4: Eleventh Street	ST/RDS	Operational and safety improvements along corridor and at intersections from Tracy City limits to I-5	WF-1
SJC-5: Roth Road	ST/RDS	Widen from 2 to 4 lanes with shoulders from UPRR to Airport Way	WF-1
SJRRC			
SJ07-6009	Rail	Realignment of tracking near Altamont Pass	WF-1
SJ07-6013	Rail	Restoration of abandoned Western Pacific Depot building	WF-1
SJ07-6016	Rail	Enhance/extend rail to benefit residents; integrate ACE with the State intercity rail service; extend ACE service	WF-1
SJ07-6017	Transit	Acquisition of ACE Corridor between Stockton and Niles Junction	WF-1
SJ07-6018	Rail	Commuter rail service	WF-1
SJ07-6017	Rail	Maintenance Facility Expansion from 9 train sets to 17 train sets Phase 2	WF-1
SJ07-9003	TCM	Signal system improvements, operational and intersection improvements to smooth traffic flow, closed circuit TV, freeway service patrols	WF-1
SJ14-6001	Rail	Extension of Wyche Siding	WF-1
SJ14-6002	Rail	Connection from UPRR Fresno Sub to UPRR Oakland Sub	WF-1

Project Title	Project Type	Description	Potential Impact
SJ14-6003	Rail	Grade crossing improvements/grade separations	WF-1
SJ14-6005	Rail Station	Facilities and information technology maintenance and enhancements, fleet vehicle replacements and expansion	WF-1
SJ14-6006	Rail Station	Construct park and ride lot and related on-street parking, sidewalks, lighting, security, and other passenger amenity improvements	WF-1
SJ14-5033	TCM	Construct solar power facilities for RTD Solar Power Project	WF-1
SJ18-6011	Rail Improvements	Improve the Union Pacific Railroad right-of-way from the San Joaquin County Line for a passenger rail service. Construction of a station and platform to accommodate the new passenger rail service with parking and access onto Patterson Pass Road. Construction of an operations and maintenance facility at Hanson Road in Tracy along the alignment.	WF-1

Notes:

Bike/Ped - Bicycle or Pedestrian

HWY – Highway

ST/RDS = Street or Roadway

TCM = Transportation control measure

Transit = Public Transportation Infrastructure

Various = Project/funding of different types

4.16.4 Cumulative Impacts

The cumulative impact analysis area for wildfires consists of the SJCOG region and adjoining counties. Information regarding these adjoining counties can be found in Section 3.1 – Environmental Setting, Table 3-1. The analysis in this section examines wildfire impacts of 2022 RTP/SCS transportation projects and land use scenario throughout the SJCOG region that are cumulative in nature. Land use development within the SJCOG region combined with the growth in the adjoining counties could potentially contribute to a cumulatively considerable increase in wildfire risk as portions of the SJCOG region and adjoining counties are in SRA high fire hazard severity zones.

The 2022 RTP/SCS is not expected to substantially increase wildfires, but the occurrence of wildfires always exists within the SJCOG region and transportation and land use projects under 2022 RTP/SCS could place people and structures within or less than two miles from an near SRAs or lands classified as very high fire hazard severity zones. Construction and operation of projects would risk exacerbating these existing fire hazards by creating additional potential sources of fire ignition.

During construction and operation of 2022 RTP/SCS projects, if one of these cumulative projects were to simultaneously result in a wildland fire ignition during construction, they could combine and increase the frequency of wildland fires beyond existing conditions. The combination of these projects being constructed concurrently could substantially increase the frequency of fire in the area above natural conditions. Cumulative impacts would be significant.

The land use scenario envisioned by the 2022 RTP/SCS that would be located within or less than two miles from an near SRAs or lands classified as very high fire hazard severity zones, would have potentially significant wildfire impacts, as existing codes and regulations cannot fully prevent wildfires from being generated and damaging structures or populations. These projects would increase the potential to ignite fires and therefore risk exacerbating the potential for loss or damage from wildfire. This added risk could start wildfires that could spread outside the SJCOG region impacting adjacent counties and communities. As a result, the 2022 RTP/SCS could result in a cumulatively considerable increase in wildfire risk. Mitigation measures described earlier in this section would minimize the contribution to this cumulative impact to a less-than-cumulatively-considerable level.