

Draft

Supplemental Environmental Impact Report

2022 Regional Transportation Plan and Sustainable Communities Strategy for the Shasta Region Shasta County, California

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EXECUTIVE SUMMARY

S.1 Introduction

This Draft Supplemental Environmental Impact Report (DSEIR) evaluates the potential environmental effects of the proposed roadway and circulation improvements of the 2022 Regional Transportation Plan and Sustainable Communities Strategy for the Shasta Region (Proposed Project) in Shasta County, California. This DSEIR augments the previously certified Programmatic Environmental Impact Report (EIR) for the 2015 Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS) (State Clearinghouse #2014022018) as well as the 2018 Supplemental Environmental Impact Report for the 2018 RTP/SCS.

The Shasta Regional Transportation Agency (SRTA) is the Lead Agency responsible for preparation of this DSEIR. This DSEIR was prepared in accordance with the requirements of the CEQA (Public Resources Code Section 21000 et. seq.) and the CEQA Guidelines (California Code of Regulations, Title 14, Sections 15000 et seq). CEQA requires that the Lead Agency, in this case SRTA, consider the information contained in the SEIR prior to taking any discretionary action on the Project. The Lead Agency is the agency with primary responsibility for approval of a project. Other public agencies may also use this SEIR to inform discretionary actions related to the Proposed Project.

This Summary has been prepared in accordance with the CEQA Guidelines Section 15123, which states that an EIR should contain a brief summary of the Proposed Project and its consequences, and should identify:

1. each significant effect with proposed mitigation measures and alternatives that would reduce or avoid that effect,
2. areas of public controversy known to the lead agency, including issues raised by the agencies and the public, and
3. issues to be resolved, including the choice among alternatives and how to mitigate the significant effects.

S.1.1 Background

For purposes of this 2022 SEIR, the previously certified 2015 EIR completed for the 2015 RTP/SCS is referred to herein as the 2015 EIR, while the 2018 SEIR completed for the 2018 RTP/SCS is referred to as the 2018 SEIR. The impacts of the current 2018 RTP/SCS were analyzed in the previously certified 2018 SEIR, which was a Program EIR. The 2018 SEIR included the mitigation measures that were identified in the 2015 EIR that were required to be continued as a part of the 2018 RTP/SCS, as well as new mitigations measures required to reduce potential impacts to a less than significant level. The proposed 2022 RTP/SCS is an update of the current 2018 RTP/SCS. The analysis in this SEIR is also programmatic and is focused on the potential changes in environmental effects that could result from the updates to the 2018 RTP/SCS that are included in the proposed 2022 RTP/SCS, including updates or changes to policies,

projects, and growth scenarios. Therefore, this 2022 SEIR is being prepared to analyze only the changes to the 2018 RTP/SCS or changes in circumstances under which the RTP/SCS projects would be implemented since certification of the 2018 SEIR.

An Initial Study was prepared for the 2015 RTP/SCS and served as the preliminary review of the environmental impacts analyzed in the 2015 EIR to determine what issue areas require further review in this SEIR. The 2022 SEIR incorporates this Initial Study by reference. For any issue areas where impacts would be similar to, or less than the impact level identified in, the previous 2015 EIR or 2018 SEIR, no further analysis beyond the Initial Study was warranted. If previous mitigation measures from the 2015 EIR or 2018 SEIR still apply and would reduce impacts to a less than significant level, those measures are listed herein, with minor clarification and revisions, as directed by SRTA.

S.2 Project Location and Setting

The Proposed Project region consists of Shasta County, including incorporated cities and unincorporated areas. The regional setting of Shasta County has not changed substantially since the certification of the 2015 EIR, which occurred on June 30, 2015, or the 2018 SEIR, which occurred on October 9, 2018. The County encompasses 3,847 square miles and is located where the Central Valley of California meets the convergence of the Klamath and Coastal Mountain Ranges to the northwest and west, with the Cascade Mountain Range to the northeast and east. Elevations in the Central Valley area of Shasta County range between 400 and 700 feet above sea level. The Cascade Range divides the Central Valley region of Shasta County from the Modoc Plateau. Elevations range from 420 feet at the valley floor to Lassen Peak, standing 10,457 feet in Lassen Volcanic National Park. Residential, commercial, and industrial development has occurred in the Sacramento, Fall River, and Burney valleys. Shasta County is bordered by Lassen County to the east, Siskiyou County to the north, Tehama County to the south and Trinity County to the west (SRTA 2015). There are three incorporated cities in Shasta County: Anderson, Redding, and Shasta Lake. There are also numerous unincorporated communities in the County, including but not limited to Burney, Cottonwood, Fall River Mills, French Gulch, Hat Creek, McArthur, Palo Cedro, Shasta, Shingletown, and Lakehead. According to the California Department of Finance (DOF), as of January 1, 2023, the population of Shasta County was 179,436 (DOF 2023)¹.

S.3 Description of Proposed Project

The 2022 RTP/SCS is an update to the current 2018 RTP/SCS that was adopted in October 2018. The 2022 RTP/SCS reflects changes in legislative requirements, local land use policies, and resource constraints that have occurred since adoption of the current 2018 RTP/SCS. The 2022 update to the 2018 RTP/SCS is focused on continued implementation of the 2018 RTP/SCS, with minor updates to ensure consistency with federal, state, and local planning requirements.

¹ Department of Finance (DOF). 2023. Table 2: E-5 City/County Population and Housing Estimates, 1/1/2023. <https://dof.ca.gov/forecasting/demographics/estimates/e-5-population-and-housing-estimates-for-cities-counties-and-the-state-2020-2023/>

The 2022 RTP/SCS illustrates how SRTA will meet the transportation needs of the region for the period from 2022 to 2042, considering existing and projected future land use patterns as well as forecasted population and job growth. The 2022 RTP/SCS identifies that a total of \$3,694,397,000 is forecast to be available during the 2022-2042 period. The RTP/SCS identifies and prioritizes expenditures of anticipated funding for transportation projects that involve all transportation modes: highways, streets and roads, transit, rail, bicycle and pedestrian; aviation, as well as transportation demand management (TDM) and transportation system management (TSM).

The 2022 RTP/SCS transportation improvements project list includes 72 new minor transportation projects. None of the modified or new projects on the 2022 RTP/SCS list would be substantially different in terms of geographical location, type of project, or size of project to those on the 2015 and 2018 RTP/SCS lists. A list of new transportation improvement projects included in the proposed 2022 RTP/SCS is provided in Appendix B. This SEIR only evaluates the new 2022 RTP/SCS projects for their potential to impact the environment as those 2015 and 2018 RTP/SCS projects continued in the 2022 RTP/SCS were evaluated previously. For a complete list of RTP/SCS projects, see the Draft 2022 RTP/SCS.

Chapter 2 of this DSEIR contains a detailed description of the Proposed Project.

S.4 Project Objectives

Project objectives are required to be provided in an EIR. CEQA Guidelines Section 15124(b) states that “[a] clearly written statement of objectives will help the lead agency develop a reasonable range of alternatives to evaluate in the EIR and will aid the decision makers in preparing findings or a statement of overriding considerations, if necessary. The statement of objectives should include the underlying purpose of the Project and may discuss the Project benefits.”

The underlying purpose of the 2022 RTP/SCS is to coordinate and facilitate the programming and budgeting of all transportation facilities and services within Shasta County through 2042 and demonstrate how the region will integrate transportation and land use planning to meet the GHG reduction targets established by the California Air Resources Board (CARB) and in accordance with other state and federal regulations. The 2022 RTP/SCS is intended to also show how SRTA will meet the transportation needs of the region through 2042, considering existing and projected future land use patterns as well as forecasted population and job growth. The primary objective of the 2022 RTP/SCS is to comply with applicable regulatory requirements, including changes in legislative requirements that have occurred since the current 2018 RTP/SCS was adopted in October 2018.

The 2022 RTP is guided by the following overarching regional vision and goal statements:

Regional Vision

SRTA will meet the region’s evolving mobility needs and generally avoid traffic congestion and other growth-related pitfalls commonly observed in larger metropolitan regions. This will be accomplished through strategic and timely transportation system improvements; the integration of travel options into a seamless network; and collaborative effort toward transportation-efficient land use patterns where it is

most beneficial. As appropriate, SRTA will utilize its unique regional role and resources to lead transformative projects aligned with the regional vision.

SRTA acknowledges that its efforts are intertwined with regional prosperity, environmental quality, community health and well-being, and various other elements that collectively define quality of life, and will use regional transportation planning, policy-making, and project programming to lead the development of projects that yield multiple community benefits. Planning and decision-making processes will engage partner agencies, community stakeholders, and the public, and be transparent and responsive to documented community values and priorities.

Goal #1: Keep people and freight moving safely, efficiently, and effectively

supported by current or planned mobility options

Goal #2: Optimize the use of existing interregional and regionally significant roadways to prolong functionality and maximize return-on-investment

Goal #7: Ensure historically marginalized and otherwise disadvantaged communities have an equitable role in the planning and decision-making processes

Goal #3: Strengthen Performance-Based Planning and Programming

Goal #8: Improve the reliability, safety, efficiency, and resiliency of regionally significant roadways based on transportation system data and alignment with regional performance targets

Goal #4: Strengthen regional economic sustainability and competitiveness to help support long-term prosperity

Goal #9: Work with regional partners to create people-centered communities that support public safety, health, and well-being

Goal #5: Integrate multimodal options via a 'one system' network of infrastructure, services, programs, and technologies

Goal #6: Help encourage transportation-efficient growth and development where it is

S.5 Project Alternatives

The CEQA Guidelines Section 15126.6 specifies that an EIR must describe and evaluate a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic project objectives but would avoid or substantially lessen any of the significant effects of the project. Chapter 5 of this DSEIR describes the alternatives to the Proposed Project. These alternatives include:

- Alternative 1: No New Transportation Projects 2022 RTP/SCS Alternative;
- Alternative 2 Increased Infill Alternative; and
- Alternative 3: No Project.

S.5.1 Alternative 1: No New Transportation Projects 2022 RTP/SCS Alternative

Alternative 1, No New Transportation Projects 2022 RTP/SCS Alternative, represents the continued implementation of the current 2018 RTP/SCS, updated to reflect current conditions and forecasts. Because Alternative 1 updates the 2018 RTP/SCS with current conditions and forecasts, the land use scenario under this alternative would be similar to the land use scenario envisioned by the 2022 RTP/SCS. Briefly, this land use scenario concentrates the forecasted growth in population and employment in the region in urban areas and corridors of the County while preserving the distinct identity of existing cities and towns. The existing 2018 RTP/SCS transportation improvements included under Alternative 1 also would be similar to the 2022 RTP/SCS. However, the 72 new transportation improvement projects that would be added to the project list under the 2022 RTP/SCS would not be added to the list or constructed under this alternative.

S.5.2 Alternative 2: Increased Infill Alternative

Alternative 2, Increased Infill Alternative, provides for more compact development, more infill development, and less city expansion than the proposed 2022 RTP/SCS. Alternative 2 would result in higher average residential density, a greater percentage of multi-family housing, and a greater percentage of housing within and near downtown areas and job centers relative to the proposed 2022 RTP/SCS. The transportation network in this alternative includes additional transit investments in alternative modes intended to serve shorter, local trips given the more concentrated growth pattern. Specifically, active transportation investments such as bicycle facilities, sidewalks, traffic calming measures and intersection safety improvements would be prioritized. Under Alternative 2, investment would be focused on closing transit gaps by enhancing local transit bus service rather than interregional or long-distance services. In addition, active transportation projects such as bicycle facilities, trails and pedestrian improvements would be programmed throughout the region under this alternative.

S.5.3 Alternative 3: No Project Alternative

Section 15126.6 of the State CEQA Guidelines requires analysis of the No Project Alternative. Consistent with Section 15126.6(e)(a), Alternative 3, No Project Alternative, includes a land use pattern comprised of existing land use trends dictated by the current land use plans of the applicable jurisdictions within the region, such as the Shasta County General Plan (Shasta County 2004) and City of Redding General Plan (City of Redding 2000). In other words, it assumes that current regional growth trends would continue, but it updates the total growth to be consistent with the updated Regional Growth Forecast, as population dynamics in the region would occur regardless of the 2022 RTP/SCS. Rather than focusing on coordinating transportation projects that serve infill and transit-oriented development, the transportation network would be comprised of committed transportation projects included in the Regional Transportation Improvement Program (RTIP) (SRTA 2020) and Federal Transportation Improvement Program (FTIP) (SRTA 2023).

S.6 Areas of Controversy/Issues to be Resolved by Lead Agency

CEQA Guidelines Section 15123(b)(2) requires an EIR to identify areas of controversy or public interest. SRTA distributed the NOP for review and comment to the State Clearinghouse and interested parties for a 30-day comment period from October 11, 2022, to November 9, 2022. Letters received from agencies and the public during the scoping period are provided in Appendix A. These comments were considered during preparation of the SEIR. Additionally, on October 25, 2022, SRTA held an online scoping meeting starting at 3:30 pm in order to allow early public/agency input and comments about the Proposed Project and future environmental review. No public agencies or members of the public attended the meeting nor did SRTA receive any written comments during or about the scoping meeting.

Based on information and comments received in response to the NOP and during the scoping meeting there were no areas of controversy related to the Proposed Project.

S.7 Summary of Impacts and Mitigation Measures

Table S.7-1 presents a summary of project-specific environmental impacts analyzed and identified in this DSEIR, the mitigation measures proposed for those impacts (if required), and the level of significance after mitigation.

The analysis in this DSEIR concludes that, although certain impacts are considered significant or potentially significant, the majority of these impacts could be avoided or reduced to less than significant with implementation of mitigation measures. All impacts would be less than significant after the implementation of mitigation measures, with the exception of impacts related to air quality, greenhouse gas emissions, transportation and wildfire as shown in Table S.7-1 below, which would remain significant even after all feasible mitigation is implemented.

Table S.7-1. Summary of Proposed Project Impacts and Mitigation Measures

Environmental Impacts	Mitigation Measures	Residual Impact (with Mitigation)*
AIR QUALITY		
<p>AIR-2: Proposed Project implementation could result in a cumulatively considerable net increase of any criteria air pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.</p> <p>Impact Determination: <i>Potentially Significant</i></p>	<p>AQ-1: Control Measures for Construction Air Pollutant Emissions</p> <p>The individual project lead agency shall ensure that all feasible and appropriate Shasta County AQMD Standard Mitigation Measures (SMMs) and Best Available Mitigation Measures (BAMMs) are implemented. The measures shall be noted on all construction plans and the lead agency shall perform periodic site inspections. Shasta County AQMD SMMs and BAMMs include, but are not limited to, the following:</p> <ul style="list-style-type: none"> • Fugitive Dust Emissions <ul style="list-style-type: none"> ○ Implement all adequate dust control measures in a timely and effective manner during all phases of project development and construction. ○ Water all excavated, stockpiled, or graded material to prevent fugitive dust from leaving property boundaries and causing a public nuisance or a violation of an ambient air standard. Watering shall occur at least twice daily with complete site coverage, preferably in the midmorning and after work is completed each day. ○ During initial grading, earth moving, or site preparation, construct a paved (or dust palliative treated) apron, at least 100 feet in length, onto the project site from the adjacent paved road(s). ○ Sweep adjacent paved streets (recommend water sweeper with reclaimed water) at the end of each day if substantial volumes of soil materials have been carried onto adjacent public paved roads from the project site. ○ Install sandbags or other erosion control measures to prevent silt runoff to roadways. 	LTS

Table S.7-1. Summary of Proposed Project Impacts and Mitigation Measures

Environmental Impacts	Mitigation Measures	Residual Impact (with Mitigation)*
	<ul style="list-style-type: none"> ○ Apply Department of Public Works approved non-toxic soil stabilizers in accordance with manufacturer's specifications to all inactive construction areas (i.e., previously graded areas which remain inactive for 96 hours). ○ Replant native vegetation in disturbed areas as quickly as possible. ○ Cover all trucks hauling soil, sand, and other loose materials, or require all trucks to maintain at least two feet of freeboard. ○ Use wheel washers or wash off tires of all trucks exiting the construction site. ○ Mitigate fugitive dust emissions from wind erosion in areas disturbed by construction activities (including storage piles) by application of either water or chemical dust suppressant. • Exhaust emissions from diesel heavy equipment <ul style="list-style-type: none"> ○ Shut down equipment when not in use to limit engine idling time. Idling time shall be limited to no more than 3 minutes. This idling limit does not apply to circumstances as stated in the California Environmental Protection Agency Air Resources Board Advisory Number 377 (2008). ○ Provide regular equipment maintenance to prevent emission increases due to engine problems. ○ Use low sulfur and low aromatic fuels meeting California standards for motor vehicle diesel fuel. ○ Use low-emitting gas and diesel engines meeting state and federal emissions standards (Tier II, III, IV) for construction equipment. 	

Table S.7-1. Summary of Proposed Project Impacts and Mitigation Measures

Environmental Impacts	Mitigation Measures	Residual Impact (with Mitigation)*
	<ul style="list-style-type: none"> Other emissions <ul style="list-style-type: none"> Use low VOC coatings for the architectural coating phase of construction. All coatings must meet the VOC limits per Shasta County AQMD Rule 3-31. Use asphalt mixtures appropriate for the time of year of application, while maintaining compliance with the lead agency's road design and construction standards. Use alternatives to open burning of vegetative material on the project site, unless otherwise deemed infeasible by the Shasta County AQMD. Suitable alternatives include chipping, mulching, or conversion to biomass fuel. Provide for temporary traffic control as appropriate during all phases of construction to improve traffic flow as deemed appropriate by the Department of Public Works and/or Caltrans. Schedule construction activities that redirect traffic flow during off-peak hours as much as practicable. 	
<p>AIR-3: Construction and/or operation of the Proposed Project could expose sensitive receptors to substantial pollutant concentrations.</p> <p>Impact Determination: Significant and Unavoidable <i>Potentially Significant</i></p>	<p>AQ-3: Air Toxics Health Risk Reduction Measures</p> <p>Consistent with the provisions contained in the CARB Air Quality and Land Use Handbook (June 2005), lead agencies shall identify appropriate and feasible measures to be incorporated into project building design for residential, school and other sensitive uses located within 500 feet of freeways, heavily travelled arterials, railways and other sources of DPM and other known carcinogens. The appropriate measures shall include one or more of the following methods as applicable:</p> <ul style="list-style-type: none"> The lead agency shall retain a qualified air quality consultant to prepare a health risk assessment in 	<p>SU</p>

Table S.7-1. Summary of Proposed Project Impacts and Mitigation Measures

Environmental Impacts	Mitigation Measures	Residual Impact (with Mitigation)*
	<p>accordance with CARB and the Office of Environmental Health and Hazard Assessment requirements to determine the exposure of project residents/occupants/users to stationary air quality pollutants prior to issuance of a demolition, grading, or building permit. The health risk assessment shall be submitted to the lead agency for review and approval. The lead agency shall implement any approved health risk assessment recommendations to a level which would not result in exposure of sensitive receptors to substantial pollutant concentrations. Such measures may include:</p> <ul style="list-style-type: none"> ○ Do not locate sensitive receptors near the entry and exit points of a distribution center. ○ Do not locate sensitive receptors in the same building as a perchloroethylene dry cleaning facility. ○ Maintain a 50-foot buffer from a typical gas dispensing facility (under 3.6 million gallons of gas per year). ○ Install, operate, and maintain in good working order a central heating and ventilation system or other air take system in the building, or in each individual residential unit, that meets the efficiency standard of the minimum efficiency reporting value 13. The heating and ventilation system should include the following features: Installation of a high efficiency filter and/or carbon filter-to-filter particulates and other chemical matter from entering the building. Either high efficiency particulate absorption filters or American Society of Heating, Refrigeration, and Air-Conditioning Engineers 85% supply filters should be used. 	

Table S.7-1. Summary of Proposed Project Impacts and Mitigation Measures

Environmental Impacts	Mitigation Measures	Residual Impact (with Mitigation)*
	<ul style="list-style-type: none"> ○ Retain a qualified heating and ventilation consultant or high efficiency particulate absorption rate during the design phase of the project to locate the heating and ventilation system based on exposure modeling from the mobile and/or stationary pollutant sources. ○ Maintain positive pressure within the building. ○ Achieve a performance standard of at least one air exchange per hour of fresh outside filtered air. ○ Achieve a performance standard of at least 4 air exchanges per hour of recirculation. ○ Achieve a performance standard of 0.25 air exchanges per hour in unfiltered infiltration if the building is not positively pressurized. 	
GREENHOUSE GAS EMISSIONS		
<p>GHG-1: Proposed Project implementation could, either directly or indirectly, generate greenhouse gas emissions that may have a significant impact on the environment.</p> <p>Impact Determination: <i>Potentially Significant</i></p>	<p>GHG-1: Control Measures for Construction GHG Emissions</p> <p>The individual project lead agency shall ensure that applicable GHG-reducing emissions measures for off-road construction vehicles are implemented during construction. The measures shall be noted on all construction plans and the lead agency shall perform periodic site inspections. Applicable GHG-reducing measures include the following:</p> <ul style="list-style-type: none"> • Use of diesel construction equipment meeting CARB's Tier 2 standards or cleaner (i.e., Tier 3 or 4) off-road heavy-duty diesel engines, and comply with the State Off-Road Regulation. • Use of on-road heavy-duty trucks that meet the CARB's 2007 or cleaner certification standard for on-road heavy- 	<p>LTS</p>

Table S.7-1. Summary of Proposed Project Impacts and Mitigation Measures

Environmental Impacts	Mitigation Measures	Residual Impact (with Mitigation)*
	<p>duty diesel engines and comply with the State On-Road Regulation.</p> <ul style="list-style-type: none"> • All on and off-road diesel equipment shall not idle for more than 5 minutes. Signs shall be posted in the designated queuing areas and or job sites to remind drivers and operators of the 5-minute idling limit. • Use of electric equipment in place of diesel-powered equipment, where feasible. • Substitute gasoline-powered in place of diesel-powered equipment, where feasible. • Use of alternatively fueled construction equipment on-site where feasible, such as compressed natural gas (CNG), liquefied natural gas (LNG), propane or biodiesel, in place of diesel-powered equipment for 15 percent of the fleet. • Use of materials sources from local suppliers • Recycling or reuse of at least 65 percent of construction waste materials. 	
TRANSPORTATION		
<p>TR-2: Proposed Project implementation could conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b).</p> <p>Impact Determination: Significant and Unavoidable <i>Potentially Significant</i></p>	No feasible mitigation possible	SU
TRIBAL CULTURAL RESOURCES		
<p>TCR-1: Proposed Project implementation could cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074.</p> <p>Impact Determination: <i>Potentially Significant</i></p>	<p>TCR-1a: Identified Tribal Cultural Resources Impact Minimization</p> <p>Implementing agencies shall comply with AB 52, which may require formal tribal consultation. If the implementing agency determines that a project may cause a substantial adverse</p>	LTS

Table S.7-1. Summary of Proposed Project Impacts and Mitigation Measures

Environmental Impacts	Mitigation Measures	Residual Impact (with Mitigation)*
	<p>change to a tribal cultural resource, they shall implement mitigation measures identified in the consultation process required under PRC Section 21080.3.2, or shall implement the following measures where feasible to avoid or minimize the project-specific significant adverse impacts:</p> <ul style="list-style-type: none"> • Avoidance and preservation of the resources in place, including, but not limited to: designing and building the project to avoid the resources and protect the cultural and natural context, or planning greenspace, parks, or other open space to incorporate the resources with culturally appropriate protection and management criteria. • Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following: • Protecting the cultural character and integrity of the resource <ul style="list-style-type: none"> ○ Protecting the traditional use of the resource ○ Protecting the confidentiality of the resource ○ Establishment of permanent conservation easements or other culturally appropriate property management criteria for the purposes of preserving of utilizing the resources or places. • Native American monitoring by the appropriate tribe during soil disturbance for all projects in areas identified as sensitive for potential tribal cultural resources and/or in the vicinity (within 100 feet) of known tribal cultural resources. <p>TCR-1b: Unanticipated Tribal Cultural Resources Impact Minimization</p>	

Table S.7-1. Summary of Proposed Project Impacts and Mitigation Measures

Environmental Impacts	Mitigation Measures	Residual Impact (with Mitigation)*
	<p>If potential tribal cultural resources are encountered during ground-disturbing activities, work in the immediate area must halt and the appropriate tribal representative(s), the implementing agency, and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (National Park Service [NPS] 1983) shall be contacted immediately to evaluate the find. If, in consultation with the implementing agency, the archaeologist and/or tribal representative determines the discovery to be a tribal cultural resource and thus, significant under CEQA, a mitigation plan shall be prepared and implemented in accordance with state guidelines and in consultation with tribal representatives. If the resource cannot be avoided, a mitigation plan shall be developed to address tribal concerns.</p>	
WILDLAND FIRE		
<p>WILD-1: Proposed Project implementation could expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.</p> <p>Impact Determination: <i>Potentially Significant</i></p>	<p>HAZ-1: Wildland Fire Risk Reduction</p> <p>SRTA shall implement the following mitigation measure developed for the 2018 RTP/SCS where applicable for transportation projects that result in impacts related to wildland fire. Cities and counties in the SRTA 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.</p> <p>If an individual transportation or land use project included in the 2018 RTP/SCS is located within the wildland-urban interface or areas favorable for wildland fires such that project-specific CEQA analysis finds a significant risk of loss, injury or death from fire,</p>	<p>SU</p>

Table S.7-1. Summary of Proposed Project Impacts and Mitigation Measures

Environmental Impacts	Mitigation Measures	Residual Impact (with Mitigation)*
	<p>the implementing agency shall require appropriate mitigation to reduce the risk.</p> <p>Examples of mitigation to reduce risk of loss, injury or death from wildlife include, but are not limited to:</p> <ul style="list-style-type: none"> • Require adherence to the local hazards mitigation plan, as well as the local general plan policies and programs aimed at reducing the risk of wildland fires through land use compatibility, training, sustainable development, brush management, public outreach and service standards for fire departments. • Encourage the use of fire-resistant vegetation native to the SRTA region and/or the local microclimate of the project site, and discourage the use of fire-prone species especially nonnative, invasive species such as pampas grass or giant reed. • 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 wildland fires during redflag 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. 	

Table S.7-1. Summary of Proposed Project Impacts and Mitigation Measures

Environmental Impacts	Mitigation Measures	Residual Impact (with Mitigation)*
	<ul style="list-style-type: none"> 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. 	
<p>WILD-2: If the Proposed Project is located in or near state responsibility areas or lands classified as very high fire hazard severity zones, Proposed Project implementation could substantially impair an adopted emergency response plan or emergency evacuation plan.</p> <p>Impact Determination: <i>Potentially Significant</i></p>	Implement mitigation measure HAZ-1	LTS
<p>WILD-3: If the Proposed Project is located in or near state responsibility areas or lands classified as very high fire hazard severity zones, Proposed Project implementation could, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, exposing Project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.</p> <p>Impact Determination: <i>Potentially Significant</i></p>	Implement mitigation measure HAZ-1	LTS
<p>WILD-4: If the Proposed Project is located in or near state responsibility areas or lands classified as very high fire hazard severity zones, Proposed Project implementation could 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.</p> <p>Impact Determination: <i>Potentially Significant</i></p>	Implement mitigation measure HAZ-1	LTS

Table S.7-1. Summary of Proposed Project Impacts and Mitigation Measures

Environmental Impacts	Mitigation Measures	Residual Impact (with Mitigation)*
<p>WILD-5: If the Proposed Project is located in or near state responsibility areas or lands classified as very high fire hazard severity zones, Proposed Project implementation could 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.</p> <p>Impact Determination: <i>Potentially Significant</i></p>	<p>Implement mitigation measure HAZ-1</p>	<p>LTS</p>
<p>WILD-6: Implementation of the Proposed Project, along with any foreseeable development in the project vicinity, could result in cumulative impacts to wildfire.</p> <p>Impact Determination: <i>Potentially Significant</i></p>	<p>Implement mitigation measure HAZ-1</p>	<p>CC and SU</p>

Notes: NI = No Impact, LTS = Less than Significant, SU= Significant and Unavoidable, CC = Cumulatively Considerable

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ACRONYMS AND ABBREVIATIONS

Term	Description
AB	Assembly Bill
APS	Alternative Planning Strategy
ATCM	Airborne toxics control measure
AQMP	Air Quality Management Plan
BACT	Best Available Control Technology
BAMM	Best Available Mitigation Measures
BIL	Bipartisan Infrastructure Law
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAL FIRE	California Department of Forestry and Fire Protection
Caltrans	California Department of Transportation
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCAA	California Clean Air Act
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CH ₄	Methane
CNG	Compressed Natural Gas
CO	Carbon monoxide
County	Shasta County
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalents
CTC	California Transportation Commission
CTSA	Consolidated Transportation Services Agency
DHCL	Dignity Health Connected Living
DOF	Department of Finance
DPM	Diesel particulate matter
DSEIR	Draft Supplemental Environmental Impact Report
EIR	Environmental Impact Report
EMFAC	Emission Factor Model
EO	Executive Order
FAA	Federal Aviation Administration
FAST	Fixing America's Surface Transportation
FTIP	Federal Transportation Improvement Program
GHG	Greenhouse gas emissions
HRA	Health Risk Assessment
HVAC	Heating, Ventilation, and Air Conditioning
IJA	Infrastructure Investment and Jobs Act
I-5	Interstate 5
lb.	pound
LFT	Local Transportation Fund
LOS	Level of Service
LNG	Liquefied Natural Gas
LRA	Local Responsibility Area
MAP-21	Moving Ahead for Progress in the 21st Century Act

Term	Description
MPO	Metropolitan Planning Organization
msl	Mean Sea Level
MTP	Metropolitan Transportation Plan
µg/m ³	Micrograms per cubic meter
N ₂ O	Nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NO ₂	Nitrogen dioxide
NO _x	Nitrous oxides
NPS	National Park Service
NSVAB	Northern Sacramento Valley Air Basin
O ₃	Ozone
OEHHA	Office of Environmental Health Hazard Assessment
ppm	parts per million
PCR	Public Resources Code
PM ₁₀	Coarse particulate matter
PM _{2.5}	Fine particulate matter
ppb	Parts per billion
Proposed Project	2022 Regional Transportation Plan and Sustainable Communities Strategy for the Shasta Region
RABA	Redding Area Bus Authority
RHNA	Regional Housing Needs Allocation
ROG	Reactive organic gases
RTIP	Regional Transportation Improvement Program
RTP	Regional Transportation Plan
RTPA	Regional Transportation Planning Agency
RTP/SCS	Regional Transportation Plan and Sustainable Communities Strategy
SB	Senate Bill
SCAQMD	Shasta County Air Quality Management District
SCS	Sustainable Community Strategies
SEIR	Supplemental Environmental Impact Report
ShastaSIM	SRTA's Regional Activity-based Travel Demand Model
SHMP	State of California Multi-Hazard Mitigation Plan
SIP	State Implementation Plan
SMM	Standard Mitigation Measures
SO ₂	Sulfur Dioxide
SRA	State Responsibility Area
SRTA	Shasta Regional Transportation Agency
STIP	State Transportation Improvement Program
SVAQEPP	Sacramento Valley Air Quality Engineering and Enforcement Professionals
TAC	Toxic Air Contaminants
TDM	Transportation Demand Management
tpy	Tons per year
TSM	Transportation System Management
UPRR	Union Pacific Railroad
USEPA	U.S. Environment Protection Agency
U.S. DOT	U.S. Department of Transportation

Term	Description
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compounds

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1.0 INTRODUCTION

1.1 Purpose of the Draft SEIR and Project Background

This 2022 Draft Supplemental Environmental Impact Report (DSEIR) identifies and evaluates the potential environmental impacts associated with the implementation of the Shasta Regional Transportation Agency's 2022 Regional Transportation Plan and Sustainable Communities Strategy for the Shasta Region (Project, Proposed Project). The 2022 Regional Transportation Plan and Sustainable Communities Strategy (2022 RTP/SCS) is the second update of the 2015 RTP/SCS, with the 2018 RTP/SCS being the first update. This 2022 SEIR augments the previously certified 2015 Environmental Impact Report (2015 EIR) for the 2015 RTP/SCS as well as the 2018 SEIR for the 2018 RTP/SCS (State Clearinghouse # 2014022018). The SRTA Board of Directors certified the 2015 EIR on June 30, 2015, at which time it also adopted the 2015 RTP/SCS. The Board of Directors certified the 2018 SEIR on October 9, 2018, at which time it also adopted the 2018 RTP/SCS.

The impacts of the current 2018 RTP/SCS were analyzed in the previously certified 2018 SEIR, which was a Program EIR. The 2018 SEIR included mitigation measures identified in the 2015 EIR that were required to be continued as a part of the 2018 RTP/SCS analysis as well as any new mitigations measures required to reduce any potential impacts to a less than significant level. The proposed 2022 RTP/SCS is an update of the current 2018 RTP/SCS. The analysis in this SEIR is also programmatic and is focused on the potential changes in environmental effects that could result from the updates to the 2018 RTP/SCS that are included in the proposed 2022 RTP/SCS, including updates or changes to policies, projects, and growth scenarios. Therefore, this 2022 SEIR is being prepared to analyze only the changes to the 2018 RTP/SCS or changes in circumstances under which the RTP/SCS projects would be implemented since certification of the 2018 SEIR.

An Initial Study was prepared for the 2015 RTP/SCS and served as the preliminary review of the environmental impacts analyzed in the 2015 EIR to determine what issue areas require further review in this SEIR. The 2022 SEIR incorporates this Initial Study by reference. For any issue areas where impacts would be similar to or less than the impact level identified in the previous 2015 EIR or 2018 SEIR, no further analysis beyond the Initial Study was warranted. As such, this 2022 SEIR focuses on five analysis areas; Air Quality, Greenhouse Gas Emissions/Climate Change, Transportation, Tribal Cultural Resources and Wildfires. Those mitigation measures from the 2015 EIR or 2018 SEIR still apply and would reduce impacts to a less than significant level. These mitigation measures are listed in Table 1.0-1, with minor updates referencing the 2022 RTP/SCS instead of a previous RTP/SCS, as necessary. No other revisions to these mitigations were made.

Table 1.0-1: Existing Mitigation Measures
Aesthetics/Visual Resources
AES-1(a) Where a particular 2022 RTP/SCS transportation improvement project affects adjacent landforms, the project sponsor shall ensure that recontouring provides a smooth and gradual transition between modified landforms and existing grade.
AES-1(b) The project sponsor shall ensure that landscaping is installed to restore natural features along corridors after widening, interchange modifications, realignment, or construction of ancillary facilities. Associated landscape materials and design shall enhance landform variation, provide erosion control, and blend with the natural setting. To ensure compliance with approved landscape plans, the implementing agency shall provide a performance security equal to the value of the landscaping/irrigation installation.
AES-1(c) The project sponsor shall ensure that a project in a scenic view corridor will have the minimum possible impact upon foliage, existing landscape architecture and natural scenic views, consistent with project goals.
AES-1(d) Potential noise impacts arising from increased traffic volumes associated with adjacent land development shall be preferentially mitigated through the use of setbacks and the acoustical design of adjacent proposed structures. The use of sound walls, or any other architectural features that could block views from the scenic highways or other view corridors, shall be discouraged to the extent possible. Where use of sound walls is found to be necessary, walls shall incorporate offsets, accents, and landscaping to prevent monotony. In addition, sound walls should be complementary in color and texture to surrounding natural features.
AES-2(a) Roadway extensions and widenings shall avoid the removal of existing mature trees to the extent possible. The loss of trees that are protected by local agencies shall be replaced at a minimum 2:1 basis and incorporated into the landscaping design for the roadway. The project sponsor of a particular 2022 RTP/SCS project shall ensure the continued vitality of replaced trees through periodic maintenance (see Mitigation Measure B-1(j)).
AES-2(b) Roadway lighting shall be minimized to the extent possible and shall not exceed the minimum height requirements of the local jurisdiction in which the project is proposed. This may be accomplished through the use of hoods, low intensity lighting, and using as few lights as necessary to achieve the goals of the project.
AES-2(c) Bus shelters and other ancillary facilities constructed as part of roadway improvements under the 2022 RTP/SCS shall be designed in accordance with the architectural review requirements of the local jurisdiction in which the project is proposed.
Air Quality
<p>AQ-1: Control Measures for Construction Air Pollutant Emissions The individual project lead agency shall ensure that all feasible and appropriate Shasta County AQMD Standard Mitigation Measures (SMMs) and Best Available Mitigation Measures (BAMMs) are implemented. The measures shall be noted on all construction plans and the lead agency shall perform periodic site inspections. Shasta County AQMD SMMs and BAMMs include, but are not limited to, the following:</p> <ul style="list-style-type: none"> • Fugitive Dust Emissions <ul style="list-style-type: none"> ○ Implement all adequate dust control measures in a timely and effective manner during all phases of project development and construction.

- Water all excavated, stockpiled, or graded material to prevent fugitive dust from leaving property boundaries and causing a public nuisance or a violation of an ambient air standard. Watering shall occur at least twice daily with complete site coverage, preferably in the midmorning and after work is completed each day.
- During initial grading, earth moving, or site preparation, construct a paved (or dust palliative treated) apron, at least 100 feet in length, onto the project site from the adjacent paved road(s).
- Sweep adjacent paved streets (recommend water sweeper with reclaimed water) at the end of each day if substantial volumes of soil materials have been carried onto adjacent public paved roads from the project site.
- Install sandbags or other erosion control measures to prevent silt runoff to roadways.
- Apply Department of Public Works approved non-toxic soil stabilizers in accordance with manufacturer's specifications to all inactive construction areas (i.e., previously graded areas which remain inactive for 96 hours).
- Replant vegetation in disturbed areas as quickly as possible.
- Cover all trucks hauling soil, sand, and other loose materials, or require all trucks to maintain at least two feet of freeboard.
- Use wheel washers or wash off tires of all trucks exiting the construction site.
- Mitigate fugitive dust emissions from wind erosion in areas disturbed by construction activities (including storage piles) by application of either water or chemical dust suppressant.
- Exhaust emissions from diesel heavy equipment
 - Shut down equipment when not in use to limit engine idling time. Idling time shall be limited to no more than 3 minutes. This idling limit does not apply to circumstances as stated in the California Environmental Protection Agency Air Resources Board Advisory Number 377 (2008).
 - Provide regular equipment maintenance to prevent emission increases due to engine problems.
 - Use low sulfur and low aromatic fuels meeting California standards for motor vehicle diesel fuel.
 - Use low-emitting gas and diesel engines meeting state and federal emissions standards (Tier II, III, IV) for construction equipment.
- Other emissions
 - Use low VOC coatings for the architectural coating phase of construction. All coatings must meet the VOC limits per Shasta County AQMD Rule 3-31.
 - Use asphalt mixtures appropriate for the time of year of application, while maintaining compliance with the lead agency's road design and construction standards.
 - Use alternatives to open burning of vegetative material on the project site, unless otherwise deemed infeasible by the Shasta County AQMD. Suitable alternatives include chipping, mulching, or conversion to biomass fuel.
 - Provide for temporary traffic control as appropriate during all phases of construction to improve traffic flow as deemed appropriate by the Department of Public Works and/or Caltrans.
 - Schedule construction activities that redirect traffic flow during off-peak hours as much as practicable.

AQ-3: Air Toxics Health Risk Reduction Measures Consistent with the provisions contained in the CARB Air Quality and Land Use Handbook (June 2005), lead agencies shall identify appropriate and feasible measures to be incorporated into project building design for residential, school and other sensitive uses located within 500 feet of freeways, heavily travelled arterials, railways and other sources of DPM and other known carcinogens. The appropriate measures shall include one or more of the following methods as applicable:

- The lead agency shall retain a qualified air quality consultant to prepare a health risk assessment in accordance with CARB and the Office of Environmental Health and Hazard Assessment requirements to determine the exposure of project residents/occupants/users to stationary air quality pollutants prior to issuance of a demolition, grading, or building permit. The health risk assessment shall be submitted to the lead agency for review and approval. The lead agency shall implement any approved health risk assessment recommendations to a level which would not result in exposure of sensitive receptors to substantial pollutant concentrations. Such measures may include:
 - Do not locate sensitive receptors near the entry and exit points of a distribution center.
 - Do not locate sensitive receptors in the same building as a perchloroethylene dry cleaning facility.
 - Maintain a 50-foot buffer from a typical gas dispensing facility (under 3.6 million gallons of gas per year).
 - Install, operate, and maintain in good working order a central heating and ventilation system or other air take system in the building, or in each individual residential unit, that meets the efficiency standard of the minimum efficiency reporting value 13. The heating and ventilation system should include the following features: Installation of a high efficiency filter and/or carbon filter-to-filter particulates and other chemical matter from entering the building. Either high efficiency particulate absorption filters or American Society of Heating, Refrigeration, and Air-Conditioning Engineers 85% supply filters should be used.
 - Retain a qualified heating and ventilation consultant or high efficiency particulate absorption rate during the design phase of the project to locate the heating and ventilation system based on exposure modeling from the mobile and/or stationary pollutant sources.
 - Maintain positive pressure within the building.
 - Achieve a performance standard of at least one air exchange per hour of fresh outside filtered air.
 - Achieve a performance standard of at least 4 air exchanges per hour of recirculation.
 - Achieve a performance standard of 0.25 air exchanges per hour in unfiltered infiltration if the building is not positively pressurized.

Biological Resources

B-1(a): Biological Screening and Assessment Because of the programmatic nature of the 2022 RTP/SCS and specific impacts for a given project are unknown at this time, on a project-by project basis upon completion of final design, a preliminary biological resource screening shall be performed as part of the environmental review process to determine whether the project has any potential to impact biological resources. If it is determined that the project has no potential to impact biological resources, no further action is required. If the project would have the potential to impact biological resources, prior to construction, a qualified biologist shall conduct a biological resources assessment (BRA) or similar type of study to document the existing biological resources within the project footprint plus a buffer and to determine the potential impacts to those resources. The BRA shall evaluate the potential for impacts to all biological resources including, but not limited to special status species, nesting birds, wildlife movement corridors, potential for installation or retrofitting of existing structures for wildlife movement corridors, evaluation of culverts or other watercourse structures to remove barriers to fish passage, sensitive plant communities/critical habitat, and other resources judged to be sensitive by local, state, and/or federal agencies. Pending the results of the BRA, design alterations, further technical studies (i.e. protocol surveys) and/or consultations with the USFWS, CDFW and/or other local, state, and federal agencies may be required. The following mitigation measures [B- 1(b) through B-1(k)] shall be incorporated, only as applicable, into the BRA for projects where specific resources

are present or may be present and impacted by the project. Note that specific surveys described in the mitigation measures below may be completed as part of the BRA where suitable habitat is present.

B-1(b): Special Status Plant Species Surveys If completion of the project-specific BRA determines that special status plant species may occur on-site, surveys for special status plants shall be completed prior to any vegetation removal, grubbing, or other construction activity of each segment (including staging and mobilization). The surveys shall be floristic in nature and shall be seasonally timed to coincide with the target species identified in the project specific BRA. All plant surveys shall be conducted by a qualified biologist approved by the implementing agency no more than two years before initial ground disturbance. All special status plant species identified on-site shall be mapped onto a site-specific aerial photograph and topographic map. Surveys shall be conducted in accordance with the most current protocols established by the CDFW, USFWS, and the local jurisdictions if said protocols exist. A report of the survey results shall be submitted to the implementing agency, and the CDFW and/or USFWS, as appropriate, for review and approval.

B-1(c): Special Status Plant Species Avoidance, Minimization, and Mitigation If state listed or California Rare Plant List 1B species are found during special status plant surveys [pursuant to mitigation measure B-1(b)], then the project shall be re-designed to avoid impacting these plant species, if feasible. Rare plant occurrences that are not within the immediate disturbance footprint, but are located within 50 feet of disturbance limits shall have bright orange protective fencing installed at least 30 feet beyond their extent, or other distance as approved by a qualified biologist, to protect them from harm.

B-1(d): Restoration Monitoring If special status plants species cannot be avoided and will be impacted by a project implemented under the 2022 RTP/SCS, all impacts shall be mitigated at a minimum ratio of 2:1 (number of acres/individuals restored to number of acres/individuals impacted) for each species as a component of habitat restoration. A restoration plan shall be prepared and submitted to the jurisdiction overseeing the project for approval. (Note: if a state listed plant species will be impacted, the restoration plan shall be submitted to the CDFW for approval). The restoration plan shall include, at a minimum, the following components:

- Description of the project/impact site (i.e., location, responsible parties, areas to be impacted by habitat type).
- Goal(s) of the compensatory mitigation project [type(s) and area(s) enhanced, and/or preserved; specific functions and values of habitat type(s) to be established, restored, enhanced, and/or preserved].
- Description of the proposed compensatory mitigation site (location and size, ownership status, existing functions and values).
- Implementation plan for the compensatory mitigation site (rationale for expecting implementation success, responsible parties, schedule, site preparation, planting plan).
- Maintenance activities during the monitoring period, including weed removal as appropriate (activities, responsible parties, schedule).
- Monitoring plan for the compensatory mitigation site, including no less than quarterly monitoring for the first year (performance standards, target functions and values, target acreages to be established, restored, enhanced, and/or preserved, annual monitoring reports).
- Success criteria based on the goals and measurable objectives; said criteria to be, at a minimum, at least 80 percent survival of container plants and 30 percent relative cover by vegetation type.
- An adaptive management program and remedial measures to address any shortcomings in meeting success criteria.
- Notification of completion of compensatory mitigation and agency confirmation.
- Contingency measures (initiating procedures, alternative locations for contingency compensatory mitigation, funding mechanism).

B-1(e): Endangered/Threatened Species Habitat Assessment and Protocol Surveys Specific habitat assessment and survey protocol surveys are established for several federally and state endangered or threatened species. If the results of the BRA determine that suitable habitat may be present any such species,

protocol habitat assessments/surveys shall be completed in accordance with CDFW and/or USFWS protocols prior to issuance of any construction permits. If through consultation with the CDFW and/or USFWS it is determined that protocol habitat assessments/surveys are not required, said consultation shall be documented prior to issuance of any construction permits. Each protocol has different survey and timing requirements. The applicants for each project shall be responsible for ensuring they understand the protocol requirements.

B-1(f): Endangered/Threatened Species Avoidance and Minimization The habitat requirements of endangered and threatened species throughout Shasta County are highly variable. The potential impacts from any given project implemented under the 2022 RTP/SCS are likewise highly variable. However, there are several avoidance and minimization measures that can be applied for a variety of species to reduce the potential for impact, with the final goal of no net loss of the species. The following measures may be applied to aquatic and/or terrestrial species. Project lead agencies shall select from these measures as appropriate. Additionally, projects with the potential to affect endangered or threatened state and federal species may require take authorization from CDFW and/or USFWS.

- Ground disturbance shall be limited to the minimum necessary to complete the project. The project limits of disturbance shall be flagged. Areas of special biological concern within or adjacent to the limits of disturbance shall have highly visible orange construction fencing installed between said area and the limits of disturbance.
- All projects occurring within/adjacent to aquatic habitats (including riparian habitats and wetlands) shall be completed during the typical low flow period or when water is unlikely to be present (generally between April 1 and October 31), if feasible, to avoid impacts to sensitive aquatic species. Additional timing restrictions shall be incorporated into the project schedule on a species by species basis in coordination with the resource agencies (e.g. National Marine Fisheries Service, CDFW, USFWS).
- All projects occurring within or adjacent to sensitive habitats that may support federally and/or state endangered/threatened species shall have a CDFW and/or USFWS approved biologist present during all initial ground disturbing/vegetation clearing activities. Once initial ground disturbing/vegetation clearing activities have been completed, said biologist shall conduct daily pre-activity clearance surveys for endangered/threatened species. Alternatively, and upon approval of the CDFW and/or USFWS, said biologist may conduct site inspections at a minimum of once per week to ensure all prescribed avoidance and minimization measures are being fully implemented.
- No endangered/threatened species shall be captured and relocated without expressed permission from the CDFW and/or USFWS.
- If at any time during construction of the project an endangered/threatened species enters the construction site or otherwise may be impacted by the project, all project activities shall cease. A CDFW/USFWS-approved biologist shall document the occurrence and consult with the CDFW and/or USFWS as appropriate.
- For all projects occurring in areas where endangered/ threatened species may be present and are at risk of entering the project site during construction, exclusion fencing shall be placed along the project boundaries prior to start of construction (including staging and mobilization). The placement of the fence shall be at the discretion of the CDFW/USFWS-approved biologist. This fence shall consist of solid silt fencing placed at a minimum of 3 feet above grade and 2 feet below grade and shall be attached to wooden stakes placed at intervals of not more than 5 feet. The fence shall be inspected daily and following rain events and high wind events and shall be maintained in good working condition until all construction activities are complete.
- All vehicle maintenance/fueling/staging shall occur not less than 100 feet from any riparian habitat or water body. Suitable containment procedures shall be implemented to prevent spills. A minimum of one spill kit shall be available at each work location near riparian habitat or water bodies.
- No equipment shall be permitted to enter wetted portions of any affected drainage channel.

- All equipment operating within streams shall be in good conditions and free of leaks. Spill containment shall be installed under all equipment staged within stream areas and extra spill containment and clean up materials shall be located in close proximity for easy access.
- If project activities could degrade water quality, water quality sampling shall be implemented to identify the pre-project baseline, and to monitor during construction for comparison to the baseline.
- If water is to be diverted around work sites, a diversion plan shall be submitted (depending upon the species that may be present) to the CDFW, RWQCB, USFWS, and/or NMFS for their review and approval prior to the start of any construction activities (including staging and mobilization). If pumps are used, all intakes shall be completely screened with wire mesh not larger than five millimeters to prevent animals from entering the pump system.
- At the end of each workday, excavations shall be secured with cover or a ramp provided to prevent wildlife entrapment.
- All trenches, pipes, culverts or similar structures shall be inspected for animals prior to burying, capping, moving, or filling.
- The CDFW/USFWS-approved biologist shall remove invasive aquatic species such as bullfrogs and crayfish from suitable aquatic habitat whenever observed and shall dispatch them in a humane manner and dispose of properly.
- If any federally and/or state protected species are harmed, the CDFW/USFWS-approved biologist shall document the circumstances that led to harm and shall determine if project activities should cease or be altered in an effort to avoid additional harm to these species. Dead or injured special status species shall be disposed of at the discretion of the CDFW and USFWS. All incidences of harm shall be reported to the CDFW and USFWS within 48 hours.
- Considering the potential for projects to impact federal and state listed species and their habitat, SRTA and lead agencies shall contact the CDFW and USFWS to identify mitigation banks within Shasta County during development of the RTP. Upon implementation of projects included in the RTP, but on a project-by-project basis, if the results of the BRA determines that impacts to federal and state threatened or endangered species habitat are expected, lead agencies shall explore species appropriate mitigation bank(s) servicing the county for purchase of mitigation credits. If mitigation banks or credits are not available, mitigation options may include, but are not limited to, onsite or offsite habitat creation and restoration, land acquisitions, and conservation easements.

B-1(g): Non-listed Special Status Animal Species Avoidance and Minimization Several State Species of Special Concern may be impacted by projects implemented under the 2022 RTP/SCS. The ecological requirements and potential for impacts is highly variable among these species. Depending on the species identified in the BRA, several of the measures identified under B-1(f) shall be applicable to the project. In addition, measures shall be selected from among the following to reduce the potential for impacts to non-listed special status animal species:

- For non-listed special-status terrestrial amphibians and reptiles, coverboard surveys shall be completed within three months of the start of construction. The coverboards shall be at least four feet by four feet and constructed of untreated plywood placed flat on the ground. The coverboards shall be checked by a qualified biologist once per week for each week after placement up until the start of vegetation removal. All non-listed special status and common animals found under the coverboards shall be captured and placed in five gallon buckets for transportation to relocation sites. All relocation sites shall be reviewed by the project lead agency and shall consist of suitable habitat. Relocation sites shall be as close to the capture site as possible but far enough away to ensure the animal(s) is not harmed by construction of the project. Relocation shall occur on the same day as capture. If a relocation site immediately adjacent to the project site is unavailable, the CDFW shall be consulted to determine an appropriate relocation site. CNDDb Field Survey Forms shall be submitted to the CDFW for all special-status animal species observed.
- Pre-construction clearance surveys shall be conducted within 14 days of the start of construction (including staging and mobilization). The surveys shall cover the entire disturbance footprint plus a minimum 200-foot buffer, if feasible, and shall identify all special status animal species that may occur on-

site. All non-listed special status species shall be relocated from the site either through direct capture or through passive exclusion (e.g., American badger). A report of the pre-construction survey shall be submitted to the lead agency for their review and approval prior to the start of construction.

- A qualified biologist shall be present during all initial ground disturbing activities, including vegetation removal to recover special status animal species unearthed by construction activities.
- Upon completion of the project, a qualified biologist shall prepare a Final Compliance report documenting all compliance activities implemented for the project, including the preconstruction survey results. The report shall be submitted within 30 days of completion of the project to the project lead agency and CDFW.
- If special-status bat species may be present and impacted by the project, a qualified bat biologist shall conduct within 30 days of the start of construction presence/absence surveys for special-status bats in consultation with the CDFW where suitable roosting habitat is present. Surveys shall be conducted using acoustic detectors and by searching tree cavities, crevices, and other areas where bats may roost. If active roosts are located, exclusion devices such as netting shall be installed to discourage bats from occupying the site. If a roost is determined by a qualified bat biologist to be used by a large number of bats (large hibernaculum), bat boxes shall be installed near the project site. The number of bat boxes installed will depend on the size of the hibernaculum and shall be determined through consultations with the CDFW. If a maternity colony has become established, all construction activities shall be postponed within a 500-foot buffer around the maternity colony until it is determined by a qualified bat biologist that the young have dispersed. If it is determined that a maternity colony would be removed, it would be done only if the roost is clear of bats. The decision on whether or not the maternity roost would be removed shall be made in consultation with CDFW.

B-1(h): Preconstruction Surveys for Nesting Birds for Construction Occurring within Nesting Season For projects that may result in tree felling or removal of trees or vegetation that may contain a nesting bird, if feasible, construction activities should occur generally between September 16 to January 31 (thus outside of the nesting season). However, if construction activities must during the nesting season (generally February 1 to September 15), surveys for nesting birds covered by the California Fish and Game Code and the Migratory Bird Treaty Act shall be conducted by a qualified biologist no more than 7 days prior to vegetation removal. The surveys shall include the entire segment disturbance area plus a 200-foot buffer around the site. If active nests are located, all construction work shall be conducted outside a buffer zone from the nest to be determined by the qualified biologist. The buffer shall be a minimum of 50 feet for non-raptor bird species and at least 150 feet for raptor species or as determined in consultation with CDFW and/or USFWS. Larger buffers may be required depending upon the status of the nest and the construction activities occurring in the vicinity of the nest. The buffer area(s) shall be closed to all construction personnel and equipment until the adults and young are no longer reliant on the nest site. A qualified biologist shall confirm that breeding/nesting is completed and young have fledged the nest prior to removal of the buffer. A report of these preconstruction nesting bird surveys shall be submitted to the lead agency to document compliance and to the CDFW.

B-1(i): Worker Environmental Awareness Program (WEAP) Prior to initiation of construction activities for applicable projects (including staging and mobilization), all personnel associated with project construction shall attend WEAP training, conducted by a qualified biologist, to aid workers in recognizing special status resources that may occur in the project area. The specifics of this program shall include identification of the sensitive species and habitats, a description of the regulatory status and general ecological characteristics of sensitive resources, and review of the limits of construction and mitigation measures required to reduce impacts to biological resources within the work area. A fact sheet conveying this information shall also be prepared for distribution to all contractors, their employers, and other personnel involved with construction of the project. All employees shall sign a form documenting provided by the trainer indicating they have attended the WEAP and understand the information presented to them. The form shall be submitted to the lead agency to document compliance.

B-1(j): Tree Protection If it is determined that construction may impact trees protected by local agencies, the project lead agency shall procure all necessary tree removal permits. A certified arborist shall develop a tree protection and replacement plan as appropriate. The plan shall include, but would not be limited to, an inventory of trees to within the construction site, setbacks from trees and protective fencing, restrictions regarding grading and paving near trees, direction regarding pruning and digging within root zone of trees, and requirements for replacement and maintenance of trees. If protected trees will be removed, replacement tree plantings of like species in accordance with local agency standards, but at a minimum ratio of 2:1 (trees planted to trees impacted), shall be installed onsite or at an approved off-site location and a restoration and monitoring program shall be developed in accordance with B-1(d) and shall be implemented for a minimum of seven years or until stasis has been determined by certified arborist. If a protected tree shall be encroached upon but not removed, a certified arborist shall be present to oversee all trimming of roots and branches.

B-2(a): Jurisdictional Delineation If projects implemented under the 2022 RTP/SCS occur within or adjacent to wetland, drainages, riparian habitats, or other areas that may fall under the jurisdiction of the CDFW, USACE, and/or RWQCB, a qualified biologist shall complete a jurisdictional delineation. The jurisdictional delineation shall determine the extent of the jurisdiction for each of these agencies and shall be conducted in accordance with the requirement set forth by each agency. The result shall be a preliminary jurisdictional delineation report that shall be submitted to the implementing agency, USACE, RWQCB, and CDFW, as appropriate, for review and approval. If jurisdictional areas are expected to be impacted, then the RWQCB would require a Waste Discharge Requirements (WDR) permit and/or Section 401 Water Quality Certification (depending upon whether or not the feature falls under federal jurisdiction). If CDFW asserts its jurisdictional authority, then a Streambed Alteration Agreement pursuant to Section 1600 et seq. of the California Fish and Game Code would also be required prior to construction within the areas of CDFW jurisdiction. If the USACE asserts its authority, then a permit pursuant to Section 404 of the Clean Water Act would likely be required.

B-2(b): Wetland and Riparian Habitat Restored Impacts to jurisdictional wetland and riparian habitat shall be mitigated at a minimum ratio of 2:1 (acres of habitat restored to acres impacted) and shall occur on-site or as close to the impacted habitat as possible. A mitigation and monitoring plan shall be developed by a qualified biologist in accordance with mitigation measure B-1(d) above and shall be implemented for no less than five years after construction of the segment, or until the lead agency and/or the permitting authority (e.g., CDFW or USACE) has determined that restoration has been successful. Alternatively, mitigation may occur through the purchase of credits at a USACE approved mitigation bank or contribution to the USACE in-lieu fee program within the USACE Sacramento District. If mitigation is required through a Lake or Streambed Alteration Agreement, the mitigation bank or purchase of credits in an in-lieu fee program shall be approved by CDFW.

B-2(c): Landscaping Plan If landscaping is proposed for projects occurring within or adjacent to sensitive habitats, a qualified biologist/landscape architect shall prepare a landscape plan for that project. This plan shall indicate the locations and species of plants to be installed. Drought tolerant, locally native plant species shall be used. Noxious, invasive, and/or non-native plant species that are recognized on the Federal Noxious Weed List, California Noxious Weeds List, and/or California Invasive Plant Council Lists 1, 2, and 4 shall not be permitted. Species selected for planting shall be similar to those species found in adjacent native habitats and if feasible, locally collected seeds and plants shall be used.

B-2(d): Invasive Weed Prevention and Management Program Prior to start of construction for projects occurring within or adjacent to sensitive habitats, an Invasive Weed Prevention and Management Program shall be developed by a qualified biologist to prevent invasion of native habitat by non-native plant species. A list of target species shall be included, along with measures for early detection and eradication. All disturbed areas shall be hydroseeded with a mix of locally native species upon completion of work in those areas. In areas where construction is ongoing, hydroseeding shall occur where no construction activities have occurred within six (6) weeks since ground disturbing activities ceased. If exotic species invade these areas prior to hydroseeding, weed removal shall occur in consultation with a qualified biologist and in accordance with the restoration plan. B-3(a) Fence and Lighting Design. All projects including long segments of fencing and lighting shall be designed to minimize impacts to wildlife. Fencing shall not block wildlife movement through riparian or other natural habitat.

Where fencing is required for public safety concerns, the fence shall be designed in consultation with CDFW and to permit wildlife movement by incorporating design features such as: □ A minimum 16 inches between the ground and the bottom of the fence to provide clearance for small animals; □ A minimum 12 inches between the top two wires, or top the fence with a wooden rail, mesh, or chain link instead of wire to prevent animals from becoming entangled; and □ If privacy fencing is required near open space areas, openings at the bottom of the fence measure at least 16 inches in diameter shall be installed at reasonable intervals to allow wildlife movement. If fencing must be designed in such a manner that wildlife passage would not be permitted, wildlife crossing structures shall be incorporated into the project design as appropriate and in consultation with CDFW. Similarly, lighting installed as part of any project shall be designed to be minimally disruptive to wildlife. This may be accomplished through the use of hoods to direct light away from natural habitat, using low intensity lighting, and using as few lights as necessary to achieve the goals of the project. Lighting for trails and bridges that would overspill onto rivers and/or streams that are known to support anadromous fish shall be approved by CDFW.

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- A minimum 16 inches between the ground and the bottom of the fence to provide clearance for small animals;
- A minimum 12 inches between the top two wires, or top the fence with a wooden rail, mesh, or chain link instead of wire to prevent animals from becoming entangled; and
- If privacy fencing is required near open space areas, openings at the bottom of the fence measure at least 16 inches in diameter shall be installed at reasonable intervals to allow wildlife movement. If fencing must be designed in such a manner that wildlife passage would not be permitted, wildlife crossing structures shall be incorporated into the project design as appropriate and in consultation with CDFW. Similarly, lighting installed as part of any project shall be designed to be minimally disruptive to wildlife. This may be accomplished through the use of hoods to direct light away from natural habitat, using low intensity lighting, and using as few lights as necessary to achieve the goals of the project. Lighting for trails and bridges that would overspill onto rivers and/or streams that are known to support anadromous fish shall be approved by CDFW.

B-3(b) Construction Best Management Practices The following construction Best Management Practices (BMPs) shall be incorporated into all grading and construction plans:

- Designation of a 20-mile-per-hour speed limit in all construction areas.
- All vehicles and equipment shall be parked on pavement, existing roads, and previously disturbed areas, and clearing of vegetation for vehicle access shall be avoided to the greatest extent feasible.
- The number of access routes, number and size of staging areas, and the total area of the activity shall be limited to the minimum necessary to achieve the goal of the project.
- Designation of equipment washout and fueling areas to be located within the limits of grading at a minimum of 100 feet from waters, wetlands, or other sensitive resources as identified by a qualified biologist. Washout areas shall be designed to fully contain polluted water and materials for subsequent removal from the site.
- Daily construction work schedules should be limited to daylight hours only, to the extent feasible.
- Mufflers shall be used on all construction equipment and vehicles shall be in good operating condition.
- Drip pans shall be placed under all stationary vehicles and mechanical equipment.

- All trash shall be placed in sealed containers and shall be removed from the project site a minimum of once per week.
- No pets are permitted on project site during construction.

Cultural Resources

CR-1(a) The individual project lead agency of a 2022 RTP/SCS project involving earth disturbance, the installation of pole signage or lighting, or construction of permanent above ground structures or roadways shall ensure that the following elements are included in the project's individual environmental review: Monitoring and Reporting Program Final Supplemental Environmental Impact Report 33 Mitigation Measure/ Condition of Approval Action Required Monitoring Timing Monitoring Frequency Responsible Agency Compliance Verification Initial Date Comments

1. Prior to construction, a map defining the Area of Potential Effects (APE) shall be prepared on a project by project basis for 2022 RTP/SCS improvements which involve earth disturbance, the installation of pole signage or lighting, or construction of permanent above ground structures. This map will indicate the areas of primary and secondary disturbance associated with construction and operation of the facility and will help in determining whether known archaeological, paleontological or historical resources are located within the impact zone.
2. A preliminary study of each project area, as defined in the APE, shall be completed to determine whether or not the project area has been studied under an earlier investigation, and to determine the impacts of the previous project.
3. If the results of the preliminary studies indicate additional studies are necessary; development of field studies and/or other documentary research shall be developed and completed (Phase I studies). Negative results would result in no additional studies for the project area.
4. Based on positive results of the Phase I studies, an evaluation of identified resources shall be completed to determine the potential eligibility/ significance of the resources (Phase II studies).
5. Based on the evaluations of the Phase II studies, if necessary, Phase III mitigation studies shall be coordinated with the Office of Historic Preservation, as the research design will require review and approval from the OHP. In the case of prehistoric or Native American related resources, the Native American Heritage Commission and/or local representatives of the Native American population shall be contacted and permitted to respond to the testing/mitigation programs.

CR-1(b) If development of the proposed improvement requires the presence of an archaeological, Native American, or paleontological monitor, the individual project lead agency shall ensure that a Native American monitor, certified archaeologist, and/or certified paleontologist, as applicable, monitors the grading and/or other initial ground altering activities. The schedule and extent of the monitoring will depend on the grading schedule and/or extent of the ground alterations. This requirement can be accomplished through placement of conditions on the project by the local jurisdiction during individual environmental review.

CR-1(c) The individual project lead agency shall ensure that materials recovered over the course of any given improvement are adequately cleaned, labeled, and curated at a recognized repository. This requirement can be accomplished through placement of conditions on the project by the local jurisdiction during individual environmental review.

CR-1(d) The individual project lead agency shall ensure that mitigation for potential impacts to significant cultural resources includes one or more of the following:

- Realign the project right-of-way (avoidance; the most preferable method).
- Cap the site and leave it undisturbed.
- Address structural remains with respect to NRHP guidelines (Phase III studies).

- Relocate structures per NRHP guidelines.
- Create interpretative facilities at the site.
- Develop measures to prevent vandalism.

These measures can be accomplished through placement of conditions on the project by the local jurisdiction during individual environmental review.

Energy

E-1(a) New facilities should be designed with energy efficient equipment and passive solar design (e.g., orientation of building to maximize natural heating and cooling, solar water heating, use of daylighting, and placement of trees to aid passive cooling, protection from prevailing winds, and maximum year-round solar access), provided that additional capital costs are offset by estimated energy savings during the first 5 years of operation. Additional improvements with longer payback periods, such as photovoltaic solar electric systems, should be considered where applicable.

E-1(b) All lighting should be energy efficient and designed to use the least amount of energy to serve the purpose of the lighting. Lighting should utilize solar energy wherever feasible.

E-1(c) New landscaping design and irrigation systems should be water efficient. To the extent possible, reclaimed water should be used for roadside landscape irrigation.

Geology and Soils

G-1 The lead agency in which a particular 2022 RTP/SCS bridge project is located shall ensure that the structure is designed and constructed to the latest geotechnical standards. In most cases, this will necessitate site-specific geologic and soils engineering investigations to exceed the code for high groundshaking zones. This can be accomplished through the placement of conditions on the project by the lead agency during individual environmental review.

G-2 If a 2022 RTP/SCS project involves cut slopes over 15 feet in height, the lead agency in which the project is located shall ensure that specific slope stabilization studies are conducted. Possible stabilization methods include buttresses, retaining walls and soldier piles.

Greenhouse Gas

GHG-1 Control Measures for Construction GHG Emissions The individual project lead agency shall ensure that applicable GHG-reducing emissions measures for off-road construction vehicles are implemented during construction. The measures shall be noted on all construction plans and the lead agency shall perform periodic site inspections. Applicable GHG-reducing measures include the following:

- Use of diesel construction equipment meeting CARB's Tier 2 standards or cleaner (i.e., Tier 3 or 4) off-road heavy-duty diesel engines, and comply with the State Off-Road Regulation;
- Use of on-road heavy-duty trucks that meet the CARB's 2007 or cleaner certification standard for on road heavy-duty diesel engines, and comply with the State On-Road Regulation;
- All on and off-road diesel equipment shall not idle for more than 5 minutes. Signs shall be posted in the designated queuing areas and or job sites to remind drivers and operators of the 5 minute idling limit;
- Use of electric equipment in place of diesel-powered equipment, where feasible;
- Substitute gasoline-powered in place of diesel powered equipment, where feasible;

- Use of alternatively fueled construction equipment on-site where feasible, such as compressed natural gas (CNG), liquefied natural gas (LNG), propane or biodiesel, in place of diesel powered equipment for 15 percent of the fleet;
- Use of materials sources from local suppliers;
- Recycling or reuse of at least 65 percent of construction waste materials.

Hazards and Hazardous Materials

HAZ-1 Wildland Fire Risk Reduction If an individual transportation or land use project included in the 2022 RTP/SCS is located within the wildland-urban interface or areas favorable for wildland fires such that project specific CEQA analysis finds a significant risk of loss, injury or death from fire, the implementing agency shall require appropriate mitigation to reduce the risk. Examples of mitigation to reduce risk of loss, injury or death from wildlife include, but are not limited to:

- Require adherence to the local hazards mitigation plan, as well as the local general plan policies and programs aimed at reducing the risk of wildland fires through land use compatibility, training, sustainable development, brush management, public outreach and service standards for fire departments.
- Encourage the use of fire-resistant vegetation native to the SRTA region and/or the local microclimate of the project site, and discourage the use of fire-prone species especially nonnative, invasive species such as pampas grass or giant reed.
- 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 wildland fires 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.

Hydrology and Water Quality

W-1(a) The individual lead agency of a 2022 RTP/SCS project shall ensure that, where economically feasible, reclaimed water is used for dust suppression during construction activities. This measure shall be noted on construction plans and shall be spot checked by the lead agency.

W-1(b) The individual lead agency of a 2022 RTP/SCS project shall ensure that low water use landscaping (i.e., drought tolerant plants and drip irrigation) is installed. When feasible, native plant species shall be used.

W-1(c) The individual lead agency of a 2022 RTP/SCS project shall ensure that, if feasible, landscaping associated with proposed improvements is maintained using reclaimed water.

W-1(d) The individual lead agency of a 2022 RTP/SCS project shall ensure that porous pavement materials are utilized, where feasible, to allow for groundwater percolation

W-1(e) The individual lead agency of a 2022 RTP/SCS project that requires potable water service should coordinate with water supply system operators to ensure that the existing water supply systems have the capacity to handle the increase. If the current infrastructure servicing the project site is found to be

inadequate, infrastructure improvements for the appropriate public service or utility should be provided by the individual project lead agency. In addition, wherever feasible, reclaimed water should be used for landscaping purposes instead of potable water.
W-2(a) The individual lead agency of a 2022 RTP/SCS project shall ensure that fertilizer/pesticide application plans for any new right-of-way landscaping are prepared to minimize deep percolation of contaminants. The plans shall specify the use of products that are safe for use in and around aquatic environments.
W-2(b) The individual lead agency of a 2022 RTP/SCS widening or roadway extension project shall ensure that the improvement directs runoff into subsurface percolation basins and traps which would allow for the removal of urban pollutants, fertilizers, pesticides, and other chemicals.
W-2(c) For a 2022 RTP/SCS project that would disturb at least one acre, a SWPPP shall be developed prior to the initiation of grading and implemented for all construction activity on the project site. The SWPPP shall include specific BMPs to control the discharge of material from the site and into the creeks and local storm drains. BMP methods may include, but would not be limited to, the use of temporary retention basins, straw bales, sand bagging, mulching, erosion control blankets and soil stabilizers.
W-3(a) If a 2022 RTP/SCS project is located in an area with high flooding potential due a storm event or dam inundation, the individual project lead agency shall ensure that the structure is elevated at least one foot above the 100-year flood zone elevation and that bank stabilization and erosion control measures are implemented along creek crossings.
W-3(b) For 2022 RTP/SCS projects within a dam failure inundation hazard zone, the project's lead agency shall ensure that a comprehensive flood risk communication strategy is developed, which would include an evacuation plan and/or an Emergency Action Plan and promote dam failure risk awareness and safety.
Land Use and Planning
LU-2(a) The individual project lead agency of 2022 RTP/SCS projects with the potential to displace residences or businesses should assure that project-specific environmental reviews consider alternative alignments and developments that avoid or minimize impacts to nearby residences and businesses.
LU-2(b) Where project-specific reviews identify displacement or relocation impacts that are unavoidable, the individual project lead agency should ensure that all applicable local, state, and federal relocation programs are used to assist eligible persons to relocate. In addition, the lead agency shall review the proposed construction schedules to ensure that adequate time is provided to allow affected businesses to find and relocate to other sites.
LU-2(c) For all 2022 RTP/SCS projects that could result in temporary lane closures or access blockage during construction, a temporary access plan should be implemented by the lead agency to ensure continued access to affected cyclists, businesses, and homes. Appropriate signs and safe access shall be guaranteed during project construction to ensure that businesses remain open.
LU-5(a) When new roadway extensions or widenings are planned, the individual project lead agency should assure that project-specific environmental reviews consider alternative alignments that reduce or avoid impacts to Prime Farmlands.
LU-5(b) Rural roadway alignments shall follow property lines to the extent feasible, to minimize impacts to the agricultural production value of any specific property. Farmers should be compensated for the loss of agricultural production at the margins of lost property, based on the amount of land deeded as road right-of-way, as a function of the total amount of production on the property.
LU-5(c) Individual project lead agencies should consider corridor realignment, buffer zones, setbacks, and fencing to reduce conflict between agricultural lands and neighboring uses.

LU-5(d) Quantify potential for direct conversion of Important Farmland using the Land Evaluation and Site Assessment (LESA) model or a similar quantitative tool.

LU-5(e) Individual project lead agencies should consider corridor realignment, buffer zones, setbacks, and fencing to reduce conflict between agricultural lands and neighboring uses.

LU-5(f) Individual project lead agencies should conduct an analysis of potential conflicts with Williamson Act contracts at the project level, consistent with the State CEQA Guidelines. If the impacts of the proposed roadway projects on Williamson Act contract lands are determined to be significant, implement the following measures to reduce the impacts to a less-than-significant level:

- Design the proposed roadway projects to avoid or minimize the displacement of current and reasonably foreseeable agricultural operations from affected Williamson Act contract lands.
- Where it has been determined that cancellation of a Williamson Act contract for a parcel, or a portion of a parcel, may result in impacts to Prime or Important Farmland, Mitigation Measure LU-5(a) shall be implemented.

Noise

N-1(a) Lead agencies of 2022 RTP/SCS projects shall ensure that, where residences or other noise sensitive uses are located within 800 feet of construction sites, appropriate measures shall be implemented to ensure consistency with local noise ordinance requirements relating to construction. Specific techniques may include, but are not limited to, restrictions on construction timing, use of sound blankets on construction equipment, and the use of temporary walls and noise barriers to block and deflect noise.

N-1(b) For any project that requires pilings and is located within 800 feet of sensitive, lead agencies shall require caisson drilling or sonic pile driving as opposed to impact pile driving, where feasible. This shall be accomplished through the placement of conditions on the project during its individual environmental review.

N-1(c) Lead agencies shall ensure that equipment and trucks used for project construction utilize the best available noise control techniques (including mufflers, use of intake silencers, ducts, engine enclosures and acoustically attenuating shields or shrouds).

N-1(d) Lead agencies shall ensure that impact equipment (e.g., jack hammers, pavement breakers, and rock drills) used for project construction be hydraulically or electrically powered, wherever feasible, to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where the use of pneumatically powered tools is unavoidable, use of an exhaust muffler (reduces noise by up to 10 dBA) or external jackets (reduces noise by up to 5 dBA.) is encouraged. Whenever feasible, use of quieter procedures, such as drilling is encouraged.

N-1(e) Locate stationary noise sources as far from sensitive receptors as possible. Stationary noise sources that must be located near existing receptors will be adequately muffled.

N-2(a) Lead agencies of 2022 RTP/SCS projects that would result in noise exceeding normally acceptable levels shall complete detailed noise assessments using applicable guidelines (e.g., FTA Transit Noise and Vibration Impact Assessment for rail and bus projects and the Caltrans Traffic Noise Analysis Protocol for roadway projects). The project lead agency shall ensure that a noise survey is conducted to determine potential alternate alignments which allow greater distance from, or greater buffering of, noise-sensitive areas. The noise survey shall be sufficient to indicate existing and projected noise levels, to determine the amount of attenuation needed to reduce potential noise impacts to applicable state and local standards. This shall be accomplished during the project's individual environmental review as necessary.

N-2(b) Where new or expanded roadways or transit are found to expose receptors to noise exceeding normally acceptable levels, the individual project lead agency shall consider various sound attenuation techniques. The preferred methods for mitigating noise impacts will be the use of appropriate setbacks and sound attenuating building design, including retrofit of existing structures with sound attenuating building materials where feasible. In instances where use of these techniques is not feasible, the use of sound barriers (earthen berms, sound walls, or some combination of the two) will be considered. Long expanses of walls or fences should be interrupted with offsets and provided with accents to prevent monotony. Landscape pockets and pedestrian access through walls should be provided. Whenever possible, a combination of elements should be used, including open grade paving, solid fences, walls, and, landscaped berms. Determination of appropriate noise attenuation measures will be assessed on a case-by-case basis during a project's individual environmental review pursuant to the regulations of the applicable lead agency.

N-3 If a 2022 RTP/SCS project is located in an area with exterior ambient noise levels above local noise standards or in an area with potential cumulative noise levels above local noise standards (based on traffic volumes from regionally adopted travel demand model), the project lead agency shall ensure that a noise study is conducted to determine existing and projected noise levels and feasible attenuation measures needed to reduce potential noise impacts to such uses to an exterior and interior noise level below local standards. Such measures may include, but are not limited to: dual-paned windows, solid core exterior doors away from roads. This shall be accomplished during the project's individual environmental review.

Tribal Cultural Resources

TCR-1a. Identified Tribal Cultural Resources Impact Minimization. Implementing agencies shall comply with AB 52, which may require formal tribal consultation. If the implementing agency determines that a project may cause a substantial adverse change to a tribal cultural resource, they shall implement mitigation measures identified in the consultation process required under PRC Section 21080.3.2, or shall implement the following measures where feasible to avoid or minimize the project-specific significant adverse impacts:

- Avoidance and preservation of the resources in place, including, but not limited to, designing and building the project to avoid the resources and protect the cultural and natural context, or planning greenspace, parks, or other open space to incorporate the resources with culturally appropriate protection and management criteria.
- Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
 - o Protecting the cultural character and integrity of the resource
 - o Protecting the traditional use of the resource
 - o Protecting the confidentiality of the resource
- Establishment of permanent conservation easements or other culturally appropriate property management criteria for the purposes of preserving or utilizing the resources or places.
- Native American monitoring by the appropriate tribe during soil disturbance for all projects in areas identified as sensitive for potential tribal cultural resources and/or in the vicinity (within 100 feet) of known tribal cultural resources

TCR-1b. Unanticipated Tribal Cultural Resources Impact Minimization. If potential tribal cultural resources are encountered during ground-disturbing activities, work in the immediate area must halt and the appropriate tribal representative(s), the implementing agency, and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (National Park Service [NPS] 1983) shall be contacted immediately to evaluate the find. If, in consultation with the implementing agency, the archaeologist and/or tribal representative determines the discovery to be a tribal cultural resource

and thus, significant under CEQA, a mitigation plan shall be prepared and implemented in accordance with state guidelines and in consultation with tribal representatives. If the resource cannot be avoided, a mitigation plan shall be developed to address tribal concerns.

1.2 CEQA Requirements for the Use of a Supplement to an EIR

The California Environmental Quality Act (CEQA) requires that an EIR be prepared by the agency with primary responsibility over the approval of a project (the Lead Agency). The Lead Agency, Shasta Regional Transportation Agency (SRTA) has prepared this DSEIR in accordance with CEQA (Public Resources Code Sections 21000 et. seq.) and the Guidelines for the Implementation of CEQA (California Code of Regulations, Title 14, Sections 15000 et seq.).

As described in CEQA Guidelines Section 15121(a), an EIR is an informational document that informs agency decision makers and the general public of the potentially significant environmental impacts of a project, identifies ways to minimize the significant impacts, and describes a reasonable range of alternatives to the project. This 2022 DSEIR is a supplement to the 2015 EIR and 2018 SEIR. CEQA Guidelines Section 15163 discusses the use and requirements for a supplement to an EIR. Section 15163 is as follows:

15163. SUPPLEMENT TO AN EIR

(a) The Lead or Responsible Agency may choose to prepare a supplement to an EIR rather than a subsequent EIR if:

- (1) Any of the conditions described in Section 15162 would require the preparation of a subsequent EIR, and
- (2) Only minor additions or changes would be necessary to make the previous EIR adequately apply to the project in the changed situation.

(b) The supplement to the EIR need contain only the information necessary to make the previous EIR adequate for the project as revised.

(c) A supplement to an EIR shall be given the same kind of notice and public review as is given to a draft EIR under Section 15087.

(d) A supplement to an EIR may be circulated by itself without recirculating the previous draft or final EIR.

(e) When the agency decides whether to approve the project, the decision-making body shall consider the previous EIR as revised by the supplemental EIR. A finding under Section 15091 shall be made for each significant effect shown in the previous EIR as revised.

Pursuant to Section 15163, SRTA prepared this SEIR because only minor additions and changes would be necessary to make the previously certified 2015 EIR and 2018 SEIR adequately apply to the 2022 RTP/SCS. An SEIR is the appropriate level of CEQA documentation for several reasons. First, the 2022 RTP/SCS would incorporate new requirements and regulations such as safety-related performance measures and targets under the FAST Act transportation bill , Infrastructure Investment and Jobs Act (IIJA) also known as the Bipartisan Infrastructure Law (BIL), and draft guidelines from the Governor's Office of Planning and Research for California's Senate Bill (SB) 743 (Steinberg 2013). While these new components are necessary, they are not anticipated to substantially increase the severity of impacts identified in the previously

certified 2015 EIR and 2018 SEIR. Second, new funding for transportation projects through California's recently approved Road Repair and Accountability Act of 2017 (SB 1) may help accelerate some regional/local projects over the next ten years. Lastly, the 2022 RTP/SCS continues topics initiated in the 2018 RTP/SCS focusing on freight, electric vehicles and autonomous vehicles. All of these components are anticipated to result in only minor updates to transportation projects and the land use scenario envisioned in the RTP/SCS (specifically focused on growth that has taken place since the last RTP/SCS).

The 2015 EIR and 2018 SEIR were Program EIRs as defined in CEQA Guidelines Section 15168 because it enabled SRTA, as the Lead Agency, to examine the overall effects of a series of actions that can be characterized as one large project. Consistent with the 2015 EIR and 2018 SEIR, this 2022 SEIR is a program EIR under Section 15168(a) of the State CEQA Guidelines. Section 15168(a) states that:

A Program EIR is an EIR which may be prepared on a series of actions that can be characterized as one large project and are related either: (1) geographically; (2) as logical parts in a chain of contemplated actions; (3) in connection with issuance of rules, regulations, plans, or other general criteria, to govern the conduct of a continuing program; or (4) as individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways.

Once a Program EIR has been prepared, subsequent activities under the program must be evaluated to determine what, if any, additional CEQA documentation needs to be prepared. If the Program EIR addresses the program's effects as specifically and comprehensively as possible, many subsequent activities could be found to be in the Program EIR scope and additional environmental documents may not be required (CEQA Guidelines Section 15168(c)). When a Program EIR is relied upon for a subsequent activity, the Lead Agency must incorporate feasible mitigation measures and alternatives developed in the Program EIR into the subsequent activities (CEQA Guidelines Section 15168(c)(3)). If a subsequent activity would have effects not addressed in the Program EIR, the Lead Agency must prepare a new Initial Study leading to a Negative Declaration, Mitigated Negative Declaration, or project-level EIR. In this case, the Program EIR still serves a valuable purpose as the first-tier environmental analysis.

Under CEQA, the analysis in an EIR may be focused on issues determined in the Initial Study to be potentially significant, whereas issues found to have no impact or a less than significant impact do not require further evaluation. As a part of the 2018 SEIR process, an Initial Study was completed. The Initial Study determined that with the mitigation measures included in the 2015 EIR, the following issues did not warrant further analysis in the 2018 SEIR:

- | | |
|---|--------------------------------|
| ■ Aesthetics | ■ Hydrology and Water Quality |
| ■ Agriculture and Forestry Resources | ■ Land Use and Planning |
| ■ Biological Resources | ■ Noise |
| ■ Cultural Resources | ■ Population and Housing |
| ■ Energy | ■ Public Services |
| ■ Environmental Justice | ■ Recreation |
| ■ Geology and Soils | ■ Utilities and Service System |
| ■ Hazards and Hazardous Materials (except for wildland fires) | |

As shown above, the Initial Study determined that the 2018 RTP/SCS would have a less than significant or no impact to the vast majority of environmental issue areas, thereby focusing further analysis in the 2018 SEIR on five environmental issue areas, these were: air quality, hazards (for wildland fires), greenhouse gas emissions/climate change, transportation and circulation, and tribal cultural resources. Because the 2022 RTP/SCS only contains minor additions to the 2018 RTP/SCS, environmental impact levels, including those requiring mitigation, would be similar in nature. As such, this 2022 SEIR also focuses on these environmental issue areas. In addition, while the 2018 SEIR did analyze potential impacts as a result of wildland fires, the 2022 SEIR analyzes this issue area in greater detail because of California legislation which came into effect in January 2019. This legislation made wildfires a separate environmental issue area, separate from the hazards and hazardous materials issue area, and requires more analysis related to wildfires. As such, a re-analysis based on current standards is completed in this SEIR and this analysis replaces the wildland fire discussion used previously in the 2018 SEIR under Hazards and Hazardous Materials.

This DSEIR is intended to provide information to public agencies and the general public regarding the potential direct, indirect, and cumulative environmental impacts associated with the Proposed Project. Public agencies are charged with the duty to consider and minimize environmental impacts of proposed development, where feasible, and are obligated to balance a variety of public objectives including economic, environmental, and social factors in their decision-making. SRTA has determined that an SEIR is the appropriate CEQA documentation due to the potential for significant environmental impacts that could result from approval of the requested actions and development of the Proposed Project. This DSEIR evaluates the existing environmental conditions in the area, analyzes potential environmental impacts due to the implementation of the Project, and identifies feasible mitigation measures that could avoid or reduce the magnitude of those impacts. CEQA requires a Lead Agency neither approve nor implement a project unless significant environmental impacts have been reduced, or, if a Lead Agency approves the project even though significant impacts identified in the DSEIR cannot be fully mitigated, the Lead Agency must state in writing the reasons for its action by adopting Findings and a Statement of Overriding Considerations (CEQA Guidelines Section 15091).

1.3 Known Trustee and Responsible Agencies

For the purpose of CEQA, the term *trustee agency* means a state agency having jurisdiction by law over natural resources affected by a project which are held in trust for the people of California. In CEQA, the term *responsible agency* includes all public agencies other than the lead agency that may have approval authority in some regard associated with the Proposed Project. *Interested agencies* may have a general interest in the proposal with respect to issues germane to their organization. Approval of the 2022 RTP/SCS is at the discretion of the SRTA Board of Directors. Additional environmental review will be conducted by the responsible lead agency prior to implementation of individual projects contained within the RTP/SCS. Lead agencies may include the following:

- California Department of Fish and Wildlife;
- California Department of Transportation (Caltrans);
- California Transportation Commission (CTC);

- California Public Utilities Commission’s Rail Crossings Engineering Section (RCES);
- Regional Water Quality Control Board;
- Cities of Redding, Anderson, and Shasta Lake;
- County of Shasta;
- Federal Land Management Agencies (FLMA) - Bureau of Land Management (BLM), the Fish and Wildlife Service (FWS), the National Park Service (NPS) and the Forest Service (USFS);
- Federal Railroad Administration (FRA);
- U.S. Army Corps of Engineers;
- US Bureau of Reclamation;
- Redding Area Bus Authority (RABA);
- Nor-Rel-Muk Nation,
- Redding Rancheria,
- Winnemem Wintu Tribe,
- Wintu Tribe of Northern California, and
- Local transit providers and airport operators.

1.4 Environmental Review Process

1.4.1 Notice of Preparation

In accordance with the CEQA Guidelines, SRTA prepared an NOP for an SEIR on the Proposed Project. A copy of the NOP is provided in Appendix A. SRTA distributed the NOP for review and comment to the State Clearinghouse and interested parties for a 30-day comment period from October 11, 2022 to November 9, 2022. Letters received from agencies and the public during the scoping period are provided in Appendix A. These comments were considered during preparation of the SEIR and a generalized summary of the written comments are shown in Table 1.0-2 below.

Table 1.0-2. List of NOP Comment Letters and Summary of Comments		
Interested Party/Agency	Date	Summary of Comment(s)
Native American Heritage Commission	Oct. 13, 2022	The comment letter discusses the provisions of Assembly Bill 52 (AB 52) Senate Bill 18 (SB 18) Native American tribal consultation requirements. The comment letter also provides recommendations for cultural resources assessments.

1.4.2 Scoping Meeting

On October 25, 2022, SRTA held an online scoping meeting starting at 3:30 pm in order to allow early public/agency input and comments about the Project and future environmental review. No public agencies or members of the public attended the meeting nor did SRTA receive any written comments during or about the scoping meeting.

1.4.3 Draft SEIR

SRTA is distributing this DSEIR for review and comment to the same public agencies and interested groups and individuals as the NOP, in addition to any others that have requested to be on the project mailing list. The DSEIR is also available for review at <https://srta.ca.gov/355/2022-RTPand> at the following location: SRTA Office at 1255 East Street, Suite 202, Redding, CA, 96001

This document constitutes the DSEIR. The Draft SEIR contains a description of the Proposed Project including the three potential project alternatives, description of the environmental setting, identification of Project impacts for each Project alternative, and feasible mitigation measures for impacts found to be significant. Upon completion of the Draft SEIR, SRTA will file the Notice of Completion (NOC) with the California Office of Planning and Research (OPR) to begin the public review period (PRC § 21161).

1.4.4 Public Notice/Public Review

Concurrent with the NOC, SRTA will provide public notice of the availability (NOA) of the DSEIR for public review and invite comment from the general public, agencies, organizations, and other interested parties.

Agencies, organizations, and individuals are invited to comment on the information presented in the DSEIR during the 45-day comment period from August 17, 2023 to October 2, 2023. Specifically, comments are requested on the scope and adequacy of the environmental analysis presented in the DSEIR. All comments on the DSEIR should be sent to the following contact:

Jenn Pollom, Senior Transportation Planner
Shasta Regional Transportation Agency (SRTA)
1255 East Street, Suite 202
Redding, California 96001

Comments may also be sent to Ms. Pollom via e-mail at srta@srta.ca.gov.

1.4.5 Response to Comments/Final SEIR

Following the 45-day public review period, SRTA will prepare responses to all comments and will compile these comments and responses into a Final SEIR and may contain revisions to the DSEIR, if necessary.

1.4.6 Certification of the SEIR/Project Consideration

The SRTA Board of Directors will consider the information in the Draft and Final SEIR when making a decision to approve or deny the Proposed Project. If the Board finds that the SEIR is "adequate and complete," the Board may certify the Final SEIR. Additionally, upon review and consideration of the Final SEIR, the Board may take action to approve, revise, or reject the Proposed Project. Any decision to approve the Project would be accompanied by written findings in accordance with CEQA Guidelines Section 15091 and Section 15093. A Mitigation Monitoring and Reporting Program (MMRP), as described below, must also be adopted for mitigation measures that have been incorporated into or imposed on the Project to reduce or avoid significant effects on the environment. The MMRP will be designed to ensure that these measures are enforceable and carried out during Project implementation.

1.4.7 Mitigation Monitoring and Reporting Program

CEQA Section 21081.6(a) requires lead agencies to adopt an MMRP to describe measures that will be adopted and made a condition of Project approval in order to mitigate or avoid significant effects on the environment. The specific reporting or monitoring program required by CEQA is not required to be included in an EIR; however, it must be presented to the SRTA Board of Directors for adoption.

Throughout the CEQA process, including the 2015 EIR, 2018 SEIR and 2022 DSEIR, mitigation measures for potentially significant environmental impacts have been clearly identified and presented in language that will facilitate establishment of an MMRP. Any mitigation measures adopted by the Board as conditions for approval of the Project will be included in an MMRP to ensure enforceability and verify compliance.

1.5 Draft SEIR Organization

This DSEIR is organized as follows:

- The **Summary** provides summary information on the Project location and setting, Project characteristics, areas of controversy and issues to be resolved, Project alternatives, and a summary of impacts and mitigation measures.
- **Section 1.0** of the DSEIR provides an introduction to the Proposed Project, the purpose of the DSEIR, a description of the organization of the DSEIR, the intended uses of the DSEIR, and a description of the public review process.
- **Section 2.0** provides a description of the Project location, Project objectives, and the elements of the Proposed Project.
- **Section 3.0** provides the environmental analysis of the Proposed Project. This includes the description of the regulatory background, environmental setting (existing conditions), the analysis of environmental impacts, and a discussion of mitigation measures to reduce or eliminate any significant environmental impacts.
- **Section 4.0** addresses other aspects of compliance with CEQA including a description of significant and unavoidable adverse impacts, effects found not to be significant, significant irreversible environmental changes, and growth-inducing impacts.
- **Section 5.0** discusses the alternatives considered and rejected, alternatives considered and analyzed, and potential environmental impacts of implementing alternatives to the Proposed Project, including the No Project Alternative. This chapter also identifies the Environmentally Superior Alternative in accordance with CEQA Guidelines Section 15126.6(e)(2).
- **Section 6.0** provides the references used to prepare the DSEIR.
- **Section 7.0** provides a list of the DSEIR preparers.
- **Appendices** contain information that supplements or supports the DSEIR.

1.6 Documents Incorporated by Reference

An EIR may incorporate all or portions of any publicly available document by reference (CEQA Guidelines Section 15150). The following documents are available for public review on the SRTA website at <https://www.srta.ca.gov/142/Regional-Transportation-Plan> and are hereby incorporated by reference into this EIR:

- 2015 RTP/SCS and 2015 EIR
- 2018 RTP/SCS and 2018 SEIR

2.0 PROJECT DESCRIPTION

2.1 Project Location and Setting

The proposed 2022 RTP/SCS is an update of the current 2018 RTP/SCS and involves the entirety of Shasta County and its incorporated cities, which are located at the geographical center and transportation crossroads of northern California. As shown in the regional location map in Figure 2-1, the county is situated at the north end of the Sacramento Valley, approximately 150 miles north of Sacramento and approximately 110 miles south of the Oregon border. Interstate 5 (I-5), one of the major north-south routes through California, traverses the central-western portion of Shasta County. I-5 runs along the western side of the Sacramento River in the northern and southern portions of the county, crossing over the Sacramento River to run along its eastern side between the City of Anderson and the unincorporated community of Lakehead. State Route 273 provides north and south connectivity parallel to Interstate 5 on the western side of the Sacramento River between the cities of Anderson and Redding before merging back into I-5 north of the river. State Routes 44 and 299 provide connectivity to the east and west. These major transportation corridors converge in the City of Redding, which is the county seat and the region's socio-economic center. Shasta County is bordered by Trinity County to the west, Siskiyou County to the north, Modoc County to the northeast, Lassen County to the east, and Tehama County to the south.

2.1.1.1 Regional Transportation System

The county's transportation network continues to be served by highway, rail, aviation, public transportation, and facilities that support bicycle and pedestrian circulation modes. The safe and efficient transport of people and goods within the county is of crucial importance to the well-being of residents and the economic viability of the county and thus, is the primary focus of the 2022 RTP/SCS.

I-5, one of the major north-south routes through California, traverses the western portion of the county and is the only interstate in the county. I-5 runs along the western side of the Sacramento River in the northern and southern portions of the county, crossing over the river to run along its eastern side between the City of Anderson and the unincorporated community of Lakehead. Shasta County has six state highways that serve as regional highways: State Routes 36, 44, 89, 151, 273, and 299. SR 273 provides north and south connectivity parallel to I-5 on the western side of the Sacramento River between the cities of Anderson and Redding, before merging back into I-5 north of the river. State Route 44 and State Route 299 provide connectivity to the east and west. These major transportation corridors converge in the City of Redding, the county seat and the region's socioeconomic center.

The Redding Area Bus Authority (RABA) provides both a fixed-route and complementary paratransit public transportation service within a service area that includes most of the cities of Anderson, Redding, and Shasta Lake. The City of Anderson is serviced primarily by Route 9 and operates mainly from a retail shopping center. The City of Redding is serviced by Routes 2, 3, 5, 6, 9 and 11, all of which are based out of the Downtown Transit center. The City of Shasta Lake is served by Routes 1 and 7, both of which provide service from the Masonic Avenue Transit Center (RABA 2022).

Figure 2-1. Regional Location

The complementary paratransit system operated by RABA is designed for individuals who are permanently or temporarily mobility impaired. The service area for the complementary paratransit system runs in a north-south direction from the City of Shasta Lake to the City of Anderson and in an east-west direction from Shasta College to the west end of the City of Redding. Additional demand response services are provided for the elderly and disabled by public and private social service providers. Shasta County contracts with RABA to provide Burney Express, an express commuter bus service that provides round-trip express bus service from Redding to Burney twice a day. Connecting service providers linking to public transit providers within the county include: Trinity Transit, Sage Stage (Modoc), Greyhound, and Amtrak (rail and bus service).

Dignity Health Connected Living (DHCL), is a non-profit organization designated as the Consolidated Transportation Services Agency (CTSA) within Shasta County. DHCL provides transportation services to the senior and mobility impaired populations in the rural areas of the county not served by RABA and provides on-demand Sunday transit service under the ShastaConnect brand (SRTA 2022).

The county is served by freight and passenger rail service. The Union Pacific Railroad (UPRR) parallels I-5 and carries both passengers and freight. The UPRR provides freight loading and unloading opportunities at the following rail locations: Cottonwood, Culp, Anderson, Girvan, Redding, Silverthorn, O'Brien, Mead, Lakehead, Delta, Lamoine, Gibson, Sims, Contant, Dirigo, and Castle Crags (SRTA 2015).

Amtrak motorcoaches connect Redding to the Capitol Corridor and San Joaquin train routes in the cities of Sacramento and Stockton for rail ticket passengers only, respectively. Amtrak's Coast Starlight Seattle/Portland/Los Angeles rail route services Redding with one northbound stop and one southbound stop daily in the middle of the night. Greyhound offers north and southbound bus service from the Redding Greyhound Station. There is no east or westbound commercial bus connection. Sage Stage, operated by the Modoc County Transportation Commission, provides bus service on Tuesdays between Alturas and Redding. Trinity County began service from Weaverville to Redding in January 2010. According to the Federal Aviation Administration (FAA), there are three public use airports in Shasta County: Redding Regional Airport, Benton Field Airport, and Fall River Mills Airport (FAA 2018). The City of Redding owns the Redding Municipal Airport and Benton Field Airport, and the county owns the Fall River Mills Airport. There are two other airports in the county, both of which are privately owned for private use. The five heliports in the county are also privately owned for private use (FAA 2022).

2.2 Cumulative Project Setting

2.2.1 CEQA Requirements

State CEQA Guidelines Section 15130(a)(1), identifies a cumulative impact as follows:

"a cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the environmental impact report (EIR) together with other projects causing related impacts."

In addition, an EIR must discuss cumulative impacts if the incremental effect of a project, combined with the effects of other projects, is "cumulatively considerable" (Section 15130[a]). Such incremental effects

are to be “viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects” (Section 15164[b][1]). Together, these projects comprise the cumulative scenario which forms the basis of the cumulative impact analysis. A cumulative impact analysis should highlight past actions that are closely related (either in time or location) to the project being considered, catalogue past projects, and discuss how past projects have harmed the environment, and discuss past actions, even if they were undertaken by another agency or another person.

Both the severity of impacts and the likelihood of their occurrence are to be reflected in the discussion, “but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The discussion of cumulative impacts shall be guided by standards of practicality and reasonableness and shall focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact” (Section 15130[b]). However, the analysis must be in sufficient detail to be useful to decision makers in deciding whether, or how, to alter the program to lessen cumulative impacts.

Section 15130 of the *State CEQA Guidelines* prescribes two methods for analyzing cumulative impacts:

- (1) use of a list of past, present, and reasonably anticipated future projects producing related or cumulative impacts; or
- (2) use of a summary of projections contained in an adopted general plan or related planning document.

As described in Section 1.1, this document is a Program SEIR that analyzes the effects of buildout of the 2022 RTP/SCS. The proposed 2022 RTP/SCS considers the past, present, and future projects described in method 1 above and proposed transportation projects designed to meet the 2022 RTP/SCS goals and current and projected future transportation infrastructure needs of the county. The project also constitutes the cumulative scenario described in method 2. Therefore, the cumulative effects of the 2022 RTP/SCS from future transportation system improvements and land use projects in the region are included in the analysis of the proposed 2022 RTP/SCS impacts. The analysis of project impacts contained in this SEIR will form the basis for the cumulative analysis contained in any subsequent environmental documentation for specific projects proposed under the 2022 RTP/SCS.

2.2.2 Growth Projections in the Region

The 2022 RTP/SCS is based on the preferred land use and transportation scenario defined in *ShastaForward*>> Regional Blueprint, which SRTA published in March 2010 and used for the current 2018 RTP/SCS. *ShastaForward*>> Regional Blueprint provides direction on regional growth within the county and the basis for the 2022 RTP/SCS evaluated herein. Growth projections for the entire county were prepared by SRTA in association with Shasta County and the cities of Anderson, Redding, and Shasta Lake. In addition to working with the county and three incorporated cities, the SRTA reviewed population data provided by the US Census Bureau for the 2020 Decennial Census and California DOF data on estimated and projected population for local agencies in the Shasta Region. SRTA found 2020 US Decennial Census population numbers to be four percent lower than estimated in the 2018 RTP/SCS, while 2040 population projections in the 2018 RTP/SCS were twenty-one percent higher than those estimated by California DOF

projections. The 2022 RTP/SCS population numbers start with a revised estimate for 2020, based on the 2020 Decennial Census. Future growth projections use the yearly growth rate from the California DOF P-1 Tables published in September 2020. Population in the Shasta Region is projected to grow from 182,155 in 2020 to 188,049 by 2042, an increase of approximately 3.2 percent. The transportation projects identified in the 2022 RTP/SCS (as listed in Appendix B of this SEIR), provide the framework for growth within the region and the cumulative impact analysis approach discussed above.

2.3 Project Objectives

Project objectives are required to be provided in an EIR. CEQA Guidelines Section 15124(b) states that “[a] clearly written statement of objectives will help the lead agency develop a reasonable range of alternatives to evaluate in the EIR and will aid the decision makers in preparing findings or a statement of overriding considerations, if necessary. The statement of objectives should include the underlying purpose of the Project and may discuss the Project benefits.”

The underlying purpose of the 2022 RTP/SCS is to coordinate and facilitate the programming and budgeting of all transportation facilities and services within Shasta County through 2042 and demonstrate how the region will integrate transportation and land use planning to meet the GHG reduction targets established by CARB and in accordance with other State and federal regulations. The 2022 RTP/SCS is intended to also show how SRTA will meet the transportation needs of the region through 2042, considering existing and projected future land use patterns as well as forecasted population and job growth. The primary objective of the 2022 RTP/SCS is to comply with applicable regulatory requirements, including changes in legislative requirements that have occurred since the current 2018 RTP/SCS was adopted in October 2018.

The 2022 RTP is guided by the following overarching regional vision and goal statements:

Regional Vision

SRTA will meet the region’s evolving mobility needs and generally avoid traffic congestion and other growth-related pitfalls commonly observed in larger metropolitan regions. This will be accomplished through strategic and timely transportation system improvements; the integration of travel options into a seamless network; and collaborative effort toward transportation-efficient land use patterns where it is most beneficial. As appropriate, SRTA will utilize its unique regional role and resources to lead transformative projects aligned with the regional vision.

SRTA acknowledges that its efforts are intertwined with regional prosperity, environmental quality, community health and well-being, and various other elements that collectively define quality of life, and will use regional transportation planning, policy-making, and project programming to lead the development of projects that yield multiple community benefits. Planning and decision-making processes shall engage partner agencies, community stakeholders, and the public, and be transparent and responsive to documented community values and priorities.

Goal #1: Keep people and freight moving safely, efficiently, and effectively

Goal #2: Optimize the use of existing interregional and regionally significant roadways

to prolong functionality and maximize return-on-investment

Goal #3: Strengthen Performance-Based Planning and Programming

Goal #4: Strengthen regional economic sustainability and competitiveness to help support long-term prosperity

Goal #5: Integrate multimodal options via a 'one system' network of infrastructure, services, programs, and technologies

Goal #6: Help encourage transportation-efficient growth and development where it is supported by current or planned mobility options

Goal #7: Ensure historically marginalized and otherwise disadvantaged communities have an equitable role in the planning and decision-making processes

Goal #8: Improve the reliability, safety, efficiency, and resiliency of regionally significant roadways based on transportation system data and alignment with regional performance targets

Goal #9: Work with regional partners to create people-centered communities that support public safety, health, and well-being

Listed below are the various legislative acts pertaining to the RTP/SCS process.

2.4 General Legislative Requirements

SRTA, as both the federally-designated metropolitan planning organization (MPO) and the state designated regional transportation planning agency (RTPA) for Shasta County, is required by federal and state law to prepare a long-range (at least 20 years) transportation planning document, known as a Regional Transportation Plan (RTP).

SRTA must update its Sustainable Communities Strategy (SCS) as part of the RTP update, pursuant to the requirements of California SB 375, as adopted in 2008. The SCS sets forth a forecasted development pattern for the region, which, when integrated with the transportation network and other transportation measures and policies, is intended to reduce greenhouse gas (GHG) emissions from passenger vehicles and light trucks to achieve the regional GHG reduction targets set by the California Air Resources Board (CARB).

The California Transportation Commission's (CTC's) document *2017 California Regional Transportation Plan Guidelines* serves as the guidance for RTP development. The CTC adopted the 2017 guidelines document on January 18, 2017. All RTP updates started after this adoption date must use the new RTP Guidelines. Under both federal and state law, the RTPAs and MPOs must update the RTPs and Metropolitan Transportation Plans (MTPs) every four years.¹ SRTA adopted the region's first 2015 RTP/SCS in June 2015. The 2015 RTP/SCS covered a 20 year period between 2015 and 2035. The RTP/SCS was updated in October 2018 and is referred to as the 2018 RTP/SCS. The 2022 RTP/SCS, the subject of this SEIR, is a continuation of the RTP four-year update cycle, as required.

¹ 23 C.F.R. §450.322(c); Gov. Code §65080(d).

2.4.1.1 Sustainable Communities & Climate Protection Act Requirements (SB 375)

The Sustainable Communities Strategy and Climate Protection Act, SB 375 (codified at CAL. GOVT CODE §§ 14522.1, 14522.2, 65080.01, 65080, 65400, 65583, 65584.01, 65584.02, 65584.04, 65587, 65588; CAL. PUB. RES. CODE §§2161.3, 21155, 21159.28), is a law passed in 2008 by the California legislature that requires each MPO to demonstrate, through the development of an SCS, how its region will integrate transportation, housing and land use planning to meet the GHG reduction targets set by the State. In addition to creating requirements for MPOs, it also creates requirements for the CTC and CARB. Some of the requirements include the following:

- The CTC must maintain guidelines for the travel demand models that MPOs develop for use in the preparation of their RTPs or MTPs.
- The CARB must develop regional GHG emission reduction targets for automobiles and light trucks for 2020 and 2035 by September 30, 2010. These targets were approved on September 23, 2010.
- Each MPO must prepare an SCS as part of its RTP or MTP to demonstrate how it will meet the regional GHG targets.
- Each MPO must adopt a public participation plan for development of the SCS that includes informational meetings, workshops, public hearings, consultation and other outreach efforts.
- If an SCS cannot achieve the regional GHG target, the MPO must prepare an Alternative Planning Strategy (APS) showing how it would achieve the targets with alternative development patterns, infrastructure, or transportation measures and policies.
- Each MPO must prepare and circulate a draft SCS at least 55 days before it adopts a final RTP or MTP.
- After adoption, each MPO must submit its SCS to CARB for review.
- CARB must review each SCS to determine whether or not, if implemented, it would meet the GHG targets. CARB must complete its review within 60 days.

For the 2015 RTP, the CARB issued SRTA a regional GHG target of no increase in per capita GHG emissions for the planning years 2020 and 2035, as compared to baseline per capita emissions levels in 2005. CARB adopted revised targets on March 22, 2018. These targets apply to the 2022 RTP/SCS.

SB 375 specifically states that nothing in the law changes local governments local land use authorities. The 2022 RTP/SCS provides a regional policy foundation that local governments may build upon, if they so choose. The 2022 RTP/SCS includes and accommodates the growth projections for the region. SB 375 also requires that forecasted development patterns for the region be consistent with the eight-year regional housing needs as allocated to member jurisdictions through the Regional Housing Needs Allocation (RHNA) process under State housing law.

In addition, this 2022 RTP/SCS SEIR lays the groundwork for the streamlined review of qualifying development projects. Qualifying projects that meet statutory criteria and are consistent with the 2022 RTP/SCS are eligible for streamlined environmental review pursuant to CEQA under SB 375 and other laws.

2.4.1.2 Fixing America's Surface Transportation Act (FAST Act)

The most recent federal transportation legislation, Fixing America's Surface Transportation (FAST) Act builds on the changes made by MAP-21, and, was enacted in 2015. The Moving Ahead for Progress in the 21st Century Act (MAP-21), enacted in 2012, made a number of reforms to the metropolitan and statewide transportation planning processes, including incorporating performance goals, measures, and targets into the process of identifying needed transportation improvements and project selection. The FAST Act includes provisions to support and enhance these reforms. Public involvement remains a hallmark of the planning process.

The FAST Act continues requirements for a long-range plan and a short-term transportation improvement program (TIP), with the long-range statewide and metropolitan plans now required to include facilities that support intercity transportation, including intercity buses. The statewide and metropolitan long-range plans must describe the performance measures and targets that states and MPOs use in assessing system performance and progress in achieving the performance targets. Additionally, the FAST Act requires the planning process to consider projects/strategies to improve the resilience and reliability of the transportation system, address stormwater mitigation, and enhance travel and tourism.

Finally, in an effort to engage all sectors and users of the transportation network, the FAST Act requires that the planning process include public ports and private transportation providers, and further encourages MPOs to consult during this process with officials of other types of planning activities, including tourism and natural disaster risk reduction. MAP-21 and the FAST Act also change criteria for MPO officials to provide transit provider representatives with equal authority and allow the representative to also serve as the representative of a local municipality.

Through the RTP development process, the FAST Act encourages SRTA to:

- Consult with officials responsible for other types of planning activities that are affected by transportation in the area (including State and local planned growth, economic development, environmental protection, airport operations, and freight movements) or to coordinate its planning process, to the maximum extent practicable, with such planning activities.²

Specifically, the FAST Act requires that the RTP planning process:

- Provide for consideration of projects and strategies that will:
 - Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency;
 - Increase the safety of the transportation system for motorized and non-motorized users;
 - Increase the security of the transportation system for motorized and non-motorized users;
 - Increase the accessibility and mobility of people and for freight;
 - Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns;

² 23 U.S.C. §134(g)(3)(A).

- Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;
- Promote efficient system management and operation;
- Emphasize the preservation of the existing transportation system.
- Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation; and
- Enhance travel and tourism.³

2.4.1.3 Planning Final Rule – FAST Act

On May 27, 2016, the Statewide and Nonmetropolitan Transportation Planning and Metropolitan Transportation Planning Final Rule was issued, with an effective date of June 27, 2016, for Title 23 CFR Parts 450 and 771 and Title 49 CFR Part 613. This final rule states, "On or after May 27, 2018, an RTPA may not adopt an RTP that has not been developed according to the provisions of MAP-21/FAST Act as specified in the Planning Final Rule." This rule applies to the 2018 RTP/SCS as its adoption date, if adopted, would occur after May 2018.

2.5 Project Characteristics

As described previously, the 2022 RTP/SCS is an update to the current 2018 RTP/SCS that was adopted in October 2018. The 2022 RTP/SCS reflects changes in legislative requirements, local land use policies, and resource constraints that have occurred since adoption of the current 2018 RTP/SCS. The 2022 update to the 2018 RTP/SCS is focused on continued implementation of the 2018 RTP/SCS, with minor updates to ensure consistency with federal, state and local planning requirements. The most notable changes to the 2018 RTP/SCS in this 2022 update include:

- Infrastructure Investment and Jobs Act (IIJA), aka Bipartisan Infrastructure Law (BIL) – Signed into law November 15, 2021, BIL includes provisions related to federal-aid highway, transit, highway safety, motor carrier, research, hazardous materials, and rail programs of the U.S. Department of Transportation (U.S. DOT). It also includes federal policy direction and funding in the areas of climate action, zero-emission vehicle deployment, social equity, goods movement and multi-modal transportation investment.
- Fixing America's Surface Transportation (FAST) Act – Signed into law December 4, 2015, the FAST Act continues the federal emphasis on performance-based transportation planning and programming. MPOs are required to incorporate performance goals, measures, and targets into the process of identifying needed transportation improvements and in the project selection process. Performance measures are Safety (PM1), Pavement and Bridge Condition (PM2), and System Performance (PM3). In December 2017, the SRTA board of directors adopted statewide performance measure targets for PM1, PM2, and PM3 and authorized the executive director to reaffirm these performance targets annually so long as there are no substantive changes to statewide targets and no compelling reason to develop region-specific targets.

³ 23 U.S.C. §134(h)(1).

- SB 743 (Steinberg, 2013) – Under SB 743, traditional measures for mitigating congestion (e.g., widening roads, adding turn lanes, and making similar investments in the transportation network) are replaced with measures that mitigate additional driving, such as increasing transit options, facilitating biking and walking, changing development patterns and charging for parking. The bill was implemented in 2018 through the adoption of new CEQA regulations. Additionally, SB 743 changes the transportation impact analysis under CEQA from "Level of Service" to "Vehicle Miles Traveled (VMT)" and requires that lead agencies evaluate projects based on whether or not they may increase VMT by various land use types.

The 2022 RTP/SCS illustrates how SRTA will meet the transportation needs of the region for the period from 2022 to 2042, considering existing and projected future land use patterns as well as forecasted population and job growth. The 2022 RTP/SCS identifies that a total of \$3,694,397,000 is forecast to be available during the 2022-2042 period. The RTP/SCS identifies and prioritizes expenditures of anticipated funding for transportation projects that involve all transportation modes: highways, streets and roads, transit, rail, bicycle and pedestrian; aviation, as well as transportation demand management (TDM) and transportation system management (TSM).

The 2022 RTP/SCS transportation improvements project list includes 72 new minor projects. None of the modified or new projects on the 2022 RTP/SCS list would be substantially different in terms of geographical location, type of project, or size of project to those on the 2015 and 2018 RTP/SCS lists. A list of new transportation improvement projects included in the proposed 2022 RTP/SCS is provided in Appendix B. This SEIR only evaluates the new projects for their potential to impact the environment as 2015 and 2018 RTP/SCS projects were evaluated previously. For a completed list of RTP/SCS projects, see the 2022 RTP/SCS.

In addition, the land use scenario envisioned by the 2022 RTP/SCS is similar to that contained in the 2015 and 2018 RTP/SCS. Briefly, this land use scenario, consistent with the 2018 RTP/SCS, concentrates the forecasted growth in population and employment in the region in urban areas and corridors of the county while preserving the distinct identity of existing cities and towns.

2.5.1.1 2022 RTP/SCS Organization

The 2022 RTP/SCS is organized into nine chapters:

- 1) **Executive Summary.** Provides a summary of the RTP/SCS.
- 2) **Introduction.** Provides background information on SRTA, the purpose of and planning process for an RTP/SCS, and new legislative requirements.
- 3) **RTP Planning Process.** Outlines the contributing components of this RTP/SCS and the general process whereby the community and affected stakeholders may participate in its development. A brief overview of how the RTP component of the RTP/SCS is implemented through shorter-term transportation improvement and work programs is also provided.
- 4) **State of the Region.** Provides an overview of the regional geography, demographics disadvantaged communities, economy, and public health; of travel characteristics; of the performance and utilization of Shasta County's transportation network; and of accomplishments since the most recent 2018 RTP/SCS.

- 5) **Modal Assessment.** Provides a modal breakdown of the regional transportation system in detail, focusing on the current state of the system.
- 6) **Regional Transportation Policy and Action Plan.** Includes a regional vision; a summary of planning consistency and coordination; goals, objectives, strategies, and performance measures for the 2022 RTP/SCS, and performance targets to meet the transportation related needs of Shasta County. These goals, objectives, and strategies are established to determine specific courses of action to guide Shasta County toward implementation of the 2022 RTP/SCS.
- 7) **Performance Management.** Provides a discussion and requirements for performance-based planning and programming increases the accountability and transparency of the federal aid program and offers a framework to support improved investment decision-making by focusing on performance outcomes for national transportation goals.
- 8) **Sustainable Communities Strategy.** Discusses regional targets for reducing GHG emissions, opportunities and challenges, the technical approach, public participation, tools and techniques, and travel demand and emissions modeling outputs. This chapter also sets forth a future land development pattern in coordination with transportation policies, programs, and investment strategies.
- 9) **Financial Element.** Provides projections of the cost and funds available from public and private sources to implement the transportation improvement projects included in the 2018 RTP/SCS. This element includes separate lists of candidate projects with available funding and projects which would depend on additional funding for implementation.

Of these chapters, the Regional Transportation Policy and Action Plan, the Sustainable Communities Strategy, and the Financial Element include provisions with the potential to create physical changes to the environment. Consequently, these three chapters are described in more detail below:

Regional Transportation Policy and Action Plan Chapter

The Regional Transportation Policy section of the 2022 RTP/SCS identifies transportation goals, objectives, strategies, and performance measures that will help meet the transportation related needs of Shasta County. The goals and objectives that were developed to guide the transportation system decision-making process have not changed since the 2022 RTP/SCS.

Sustainable Communities Strategy (SCS)

The SCS ultimately consists of the preferred land use and transportation scenario selected by SRTA as best capable of meeting RTP/SCS goals which are focused on a preferred growth scenario. As described above, the land use scenario envisioned by the 2022 RTP/SCS is similar to that contained in the 2018 RTP/SCS.

In order to meet the regulatory requirements of SB 375, the SCS component of the 2022 RTP/SCS:

- Identifies existing and future land use patterns;
- Establishes a future land use pattern to meet GHG emission reduction targets;
- Identifies transportation needs and the planned transportation network;

- Considers statutory housing goals and objectives;
- Identifies areas to accommodate long-term housing and 8-year housing needs;
- Considers resource areas and farmland; and
- Complies with State and federal law for developing an RTP.

These requirements, as outlined in California Government Code Section 65080(b)(2)(B), do not mean that the SCS creates a mandate for certain land use policies at the local level. In fact, SB 375 specifically states that the SCS cannot dictate local General Plan policies (see Government Code Section 65080(b)(2)(J)). Rather, the SCS is intended to provide a regional policy foundation that local governments may choose to build upon and generally includes quantitative growth projections.

Financial Element

The Financial Element delineates the current program of highway, streets and roadways, transit, rail, bikeway, pedestrian and aviation projects proposed by the various jurisdictions within the region including each city, Shasta County, and the California Department of Transportation (Caltrans).

Federal law requires that the RTP be “fiscally constrained”, meaning that the collective program of projects found in the RTP and subjected to environmental impact review must be consistent with reasonably anticipated revenue over the 20 year planning horizon. Under California state law, the region’s Sustainable Communities Strategy for reducing per capita greenhouse gas emissions must also be fiscally constrained. Funding sources included in the Federal Transportation Improvement Program (FTIP) and Regional Transportation Improvement Program (RTIP) were evaluated. Other anticipated revenue sources, including impact fees and other specific jurisdictional revenues, were also considered. Funding levels were based on typical amounts that are procured by way of formula allocations and competitively awarded grants.

Varying assumptions regarding the escalation of revenues are included for each fund source. An escalation rate of 2.5 percent per year was generally used for local jurisdiction-derived fees, transit fares, and Local Transportation Fund (LTF) revenues. Federal and state revenues as well as city and county gas tax subventions were held constant over the life of the plan, representing a conservative fund estimate from these sources. No new funding sources, such as local sales tax measures or other innovative financing methods, are included in the plan. The 2022 RTP is consistent with the first four years of the State Transportation Improvement Program (STIP) fund estimate in accordance with 23 CFR Part 450.324(f)(11)(ii); consistent with the Interregional Transportation Improvement Program (ITIP) in accordance with the 2016 STIP Guidelines. Total forecast revenue for the 2022-2042 RTP cycle is \$3,649,397,000.

Transportation projects delineated in the Financial Element include highway/roadway, transit, rail, and aviation projects, as discussed in each section below. The 2022 RTP/SCS does not provide project designs or a construction schedule, and adoption of the 2022 RTP/SCS would not represent an approval action for any of the individual transportation programs and projects. Detailed sites specific alignment, location, design, and scheduling of the improvement projects which are included in the 2022 RTP/SCS are not fixed. These individual projects may be modified substantially from their initial description at the time they are considered for implementation, which could happen at any time through 2042. Many of the programmed and planned transportation improvement projects carry over from the 2018 RTP/SCS. However, the 2022

RTP/SCS also includes a number of new projects as described below. Appendix B lists the proposed new transportation projects grouped by type and jurisdiction.

- **Highway/Roadway Projects.** Continued operation and maintenance of the county's highway, arterial and local street system is a primary policy of the 2022 RTP/SCS. Caltrans, the county and local jurisdictions within the region have proposed projects for the roadway system that address current and future needs based on existing traffic conditions and projected traffic increases. These include a range of road widening and extension projects; interchange/ intersection improvements, and freeway overcrossings. In addition, projects that improve or rehabilitate existing roadway infrastructure are included in the 2022 RTP/SCS. These projects include resurfacing, restriping, signal modifications, drainage improvements, and related improvements.

New highway and roadway projects that were not previously included in the 2018 RTP/SCS include a local capacity improvement for the Pine Grove Avenue/Ashby Road intersection in the City of Lake Shasta. Other projects include a variety of Complete Street improvements such as the addition of sidewalks, bike lanes, and crosswalks on various roadways in Shasta County. Additionally, projects included in the 2015 RTP/SCS that have yet to be completed remain in the 2022 RTP/SCS.

- **Safety/Recreation Projects.** A number of new safety/recreation projects are provided in the 2022 RTP/SCS, including: Great Shasta Rail Trail Association projects aimed towards constructing culvert replacements, providing for additional shuttles and routes, Dry Creek bridge replacement, and construction of bike lanes/routes. Projects also includes new bike lanes on the Volcanic Scenic Byway and a trail extension on the Shasta Divide Trail. Projects not completed from the 2018 RTP/SCS remain in the 2022 RTP/SCS.
- **Aviation Roadway Projects.** The 2022 RTP/SCS includes the reconstruction of the Redding Municipal Airport terminal access loop and surrounding roadways.

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3.0 ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION

3.1 Introduction

Chapter 3 of this DSEIR provides separate sections for each environmental topic. Each section describes the environmental setting (existing conditions) and regulatory setting; direct, indirect, and cumulative impacts from the Proposed Project; and mitigation measures to reduce or avoid significant impacts.

As part of the scoping process described in Section 1.4, SRTA prepared a NOP for an SEIR on the Proposed Project and received comments on the scope of the EIR from interested agencies, organizations and individuals (Appendix A). As a result of the scoping process and previous analysis, SRTA determined that the environmental issue areas to be evaluated in the DSEIR are:

- Air Quality
- Greenhouse Gas and Climate change
- Transportation
- Tribal Cultural Resources
- Wildfire

Section 15128 of the CEQA Guidelines requires a statement that briefly indicates the reasons that various possible significant effects of a project were determined not to be significant and were, therefore, not discussed in detail in the DSEIR. As documented in the 2018 SEIR, the certain issue areas were determined to have no impacts, less than significant impacts, or less than significant impacts with mitigation incorporated, or were determined to have the same impacts relative to the 2015 RTP/SCS. Since the 2022 RTP/SCS is in essence a continuation of the 2015 and 2018 RTP/SCS with a list of new but similar projects, the following subject areas are also not evaluated in the 2022 SEIR:

- | | |
|--|---------------------------------|
| ▪ Aesthetics | ▪ Hydrology and Water Quality |
| ▪ Agricultural/Forestry Resources | ▪ Land Use |
| ▪ Biological Resources | ▪ Mineral Resources |
| ▪ Cultural Resources | ▪ Noise |
| ▪ Energy | ▪ Population and Housing |
| ▪ Environmental Justice | ▪ Public Services |
| ▪ Geology, Soils and Paleontology | ▪ Recreation |
| ▪ Hazards and Hazardous Materials
(except wildfire) | ▪ Utilities and Service Systems |

3.1.1 Environmental Baseline

Pursuant to the State CEQA Guidelines (Section 15125(a)), the environmental setting used to determine the impacts associated with the Project normally is based on the environmental conditions that existed in the project area at the time the NOP was published. However, the CEQA Guidelines (Section 15125(a)) also says that where existing conditions change or fluctuate over time, a lead agency may define existing conditions by referencing historic conditions, conditions expected when a project becomes operational, or projected future conditions beyond the date of initial project operations, if doing so would meet CEQA's objective of giving the public and decisionmakers the most accurate and understandable picture practically possible of the project's likely near-term and long-term impacts.

For purposes of this DSEIR, environmental baseline is generally defined as conditions that existed within the Project Study Area at the time of NOP circulation, or October 11, 2022. This provides the basis for the determination of the majority of Project impacts, i.e., the changes to those conditions brought about by Project construction and operation either directly or indirectly. When the environmental baseline is substantially different than described above, the specific conditions and assumptions relied on for the issue area are described, such as in Section 3.4 Transportation.

3.1.2 Impact and Mitigation Measure Terminology

This DSEIR analyzes the potential direct, indirect, and cumulative environmental impacts of the proposed Project. The determination of whether an impact is considered significant is based on specific significance criteria. Under CEQA, these criteria (also called thresholds of significance) are used to make a determination of significance for each environmental impact evaluated. An adverse impact that exceeds the significance criteria is considered significant, and an impact that does not exceed the criteria is considered less than significant. The CEQA significance criteria used in this DSEIR are based on CEQA's mandatory findings of significance (as summarized in State CEQA Guidelines Section 15065); the checklist presented in Appendix G of the State CEQA Guidelines in effect when the DSEIR was prepared; and where appropriate, factual or scientific data and regulatory standards of federal, state, and local agencies. For CEQA purposes, impacts in this DSEIR are classified as:

- No Impact – There would not be any change to the environment as a result of the project.
- Less than Significant Impact - A project impact is considered less than significant if it would not exceed the threshold of significance and therefore would not cause a substantial adverse change in the environment. No mitigation is required for a less-than-significant impact.
- Less than Significant Impact with Mitigation - A project impact is considered significant if it results in a substantial adverse change in the physical conditions of the environment. Significant impacts are identified by the comparison of the project's effects to the established thresholds of significance. Mitigation measures are identified, where feasible, to avoid, minimize, rectify, reduce, or compensate for significant impacts of the project, in accordance with the State CEQA Guidelines (Section 15126.4). If project impacts would be reduced to a less-than-significant level after the implementation of mitigation, the impact is classified as less-than-significant with mitigation.

- Significant and Unavoidable Impact - A project impact is considered significant and unavoidable if it would result in a substantial adverse change in the environment and if that impact would remain significant even after the implementation of mitigation. A lead agency can approve a project with significant unavoidable impacts if the specific economic, legal, social, technological, or other benefits of a proposed project outweigh the unavoidable adverse effects. In this case, the lead agency must adopt a statement of overriding considerations describing the specific reasons to support its action (State CEQA Guidelines Section 15093(b)).

3.1.3 Cumulative Impact Scenario

Section 15130(a) of the CEQA Guidelines requires a discussion of cumulative impacts of a project “when the project’s incremental effect is cumulatively considerable.” The CEQA Guidelines, Section 15355, defines a cumulative impact as “two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.” Cumulatively considerable impacts are defined in Section 15065(a)(3) of the CEQA Guidelines as the “incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.”

Section 15130(b) of the CEQA Guidelines states “[t]he discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided of the effects attributable to the project alone. The discussion should be guided by the standards of practicality and reasonableness and should focus on the cumulative impact to which the identified other project contribute rather than the attributes of other projects which do not contribute to the cumulative impact.”

To analyze the cumulative impacts of the Project in combination with other expected projects, the amount and location of development expected to occur must be predicted. Section 15130(b) of the CEQA Guidelines allows two methods of prediction:

“Either:

- (A) A list of relevant past, present and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency, or
- (B) A summary of projections contained in adopted local, regional or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect...”

As described in Section 1.1, this document is a Program SEIR that analyzes the effects of buildout of the 2022 RTP/SCS. The proposed 2022 RTP/SCS considers the past, present, and future projects described in method 1 above and proposed transportation projects designed to meet the 2022 RTP/SCS goals and current and projected future transportation infrastructure needs of the county. The Project also constitutes the cumulative scenario described in method 2. Therefore, the cumulative effects of the 2022 RTP/SCS from future transportation system improvements and land use projects in the region are included in the analysis of the proposed 2022 RTP/SCS impacts. The analysis of Project impacts contained

in this DSEIR will form the basis for the cumulative analysis contained in any subsequent environmental documentation for specific projects proposed under the 2022 RTP/SCS.

3.2 Air Quality

This section analyzes the additional impacts of the 2022 RTP/SCS, relative to the 2018 RTP/SCS, upon local and regional air quality. Both temporary impacts relating to construction activity and long-term impacts associated with population growth and associated growth in vehicle traffic and energy consumption are discussed. This analysis was prepared using methodologies and assumptions recommended by the Shasta County Air Quality Management District (SCAQMD).

3.2.1 Local Climate and Meteorology

Air quality is affected by the rate and location of pollutant emissions and by climatic conditions that influence the movement and dispersion of pollutants. Atmospheric conditions, such as wind speed, wind direction, and air temperature gradients, along with local and regional topography, mediate the relationship between air pollutant emissions and air quality.

The proposed 2022 RTP/SCS covers the entirety of Shasta County and its incorporated cities, which are located at the geographical center and transportation crossroads of northern California. The county is situated at the north end of the Sacramento Valley, 150 miles north of Sacramento and 110 miles south of the Oregon border. Shasta County's 3,847 square miles encompass a diverse topography, ranging from 420 feet above mean sea level (msl) in the Sacramento Valley to more than 10,000 feet above msl at Lassen Peak in Lassen Volcanic National Park.

Shasta County is located at the northernmost end of the Northern Sacramento Valley Air Basin (NSVAB). The NSVAB consists of a total of seven counties: Sutter, Yuba, Colusa, Butte, Glenn, Tehama, and Shasta. The NSVAB is bounded on the north and west by the Coastal Mountain Range and on the east by the southern portion of the Cascade Mountain Range and the northern portion of the Sierra Nevada. These mountain ranges reach heights in excess of 6,000 feet above msl, with individual peaks rising much higher. The mountains form a substantial physical barrier to locally created pollution as well as that transported northward on prevailing winds from the Sacramento metropolitan area (SVAQEEP 2021).

The environmental conditions of NSVAB are conducive to potentially adverse air quality conditions. The region is characterized by moderately wet winters followed by hot and dry summers. The basin area traps pollutants between two mountain ranges to the east and the west. This problem is exacerbated by a temperature inversion layer that traps air at lower levels below an overlying layer of warmer air. Prevailing winds in the area are from the south and southwest. Sea breezes flow over the San Francisco Bay Area and into the Sacramento Valley, transporting pollutants from the large urban areas. Growth and urbanization in Shasta County have also contributed to an increase in emissions.

3.2.2 Criteria Air Pollutants

Criteria air pollutants are defined as those pollutants for which the federal and state governments have established air quality standards for outdoor or ambient concentrations to protect public health with a determined margin of safety. Ozone (O₃), coarse particulate matter (PM₁₀), and fine particulate matter (PM_{2.5}) are generally considered to be regional pollutants because they or their precursors affect air

quality on a regional scale. Pollutants such as carbon monoxide (CO), nitrogen dioxide (NO₂), and sulfur dioxide (SO₂) are considered to be local pollutants because they tend to accumulate in the air locally. Both PM_{2.5} and PM₁₀ are also considered local pollutants. Health effects commonly associated with criteria pollutants are summarized in Table 3.2-1.

Table 3.2-1. Summary of Criteria Air Pollutants Sources and Effects		
Pollutant	Major Manmade Sources	Human Health and Welfare Effects
CO	An odorless, colorless gas formed when carbon in fuel is not burned completely; a component of motor vehicle exhaust.	Reduces the ability of blood to deliver oxygen to vital tissues, effecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death.
NO ₂	A reddish-brown gas formed during fuel combustion for motor vehicles, energy utilities and industrial sources.	Respiratory irritant; aggravates lung and heart problems. Precursor to ozone and acid rain. Causes brown discoloration of the atmosphere.
O ₃	Formed by a chemical reaction between reactive organic gases (ROGs) and nitrous oxides (N ₂ O) in the presence of sunlight. Common sources of these precursor pollutants include motor vehicle exhaust, industrial emissions, solvents, paints and landfills.	Irritates and causes inflammation of the mucous membranes and lung airways; causes wheezing, coughing and pain when inhaling deeply; decreases lung capacity; aggravates lung and heart problems. Damages plants; reduces crop yield.
PM _{2.5} & PM ₁₀	Power plants, steel mills, chemical plants, unpaved roads and parking lots, wood-burning stoves and fireplaces, automobiles and others.	Increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing; aggravated asthma; development of chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. Impairs visibility (haze).
SO ₂	An odorless, colorless gas formed when carbon in fuel is not burned completely; a component of motor vehicle exhaust.	Reduces the ability of blood to deliver oxygen to vital tissues, effecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death.

Source: California Air Pollution Control Offices Association (CAPCOA 2013)

Carbon Monoxide

CO, in the urban environment, is associated primarily with the incomplete combustion of fossil fuels in motor vehicles. CO combines with hemoglobin in the bloodstream and reduces the amount of oxygen that can be circulated through the body. High CO concentrations can cause headaches, aggravate cardiovascular disease and impair central nervous system functions. CO concentrations can vary greatly over comparatively short distances. Relatively high concentrations of CO are typically found near crowded intersections and along heavy roadways with slow moving traffic. Even under the most severe

meteorological and traffic conditions, high concentrations of CO are limited to locations within relatively short distances (i.e., up to 600 feet or 185 meters) of the source. Overall CO emissions are decreasing as a result of the Federal Motor Vehicle Control Program, which has mandated increasingly lower emission levels for vehicles manufactured since 1973.

Nitrogen Oxides

Nitrogen gas comprises about 80 percent of the air and is naturally occurring. At high temperatures and under certain conditions, nitrogen can combine with oxygen to form several different gaseous compounds collectively called nitric oxides (NO_x). Motor vehicle emissions are the main source of NO_x in urban areas. NO_x is very toxic to animals and humans because of its ability to form nitric acid with water in the eyes, lungs, mucus membrane, and skin. In animals, long-term exposure to NO_x increases susceptibility to respiratory infections, and lowering resistance to such diseases as pneumonia and influenza. Laboratory studies show that susceptible humans, such as asthmatics, who are exposed to high concentrations can suffer from lung irritation or possible lung damage. Precursors of NO_x, such as NO and NO₂, attribute to the formation of O₃ and PM_{2.5}. Epidemiological studies have also shown associations between NO₂ concentrations and daily mortality from respiratory and cardiovascular causes and with hospital admissions for respiratory conditions.

Ozone

Ozone (O₃) is a secondary pollutant, meaning it is not directly emitted. It is formed when volatile organic compounds (VOCs) also known as reactive organic gases (ROG) and NO_x undergo photochemical reactions that occur only in the presence of sunlight. The primary source of ROG emissions is unburned hydrocarbons in motor vehicle and other internal combustion engine exhaust. Sunlight and hot weather cause ground-level O₃ to form. Ground-level O₃ is the primary constituent of smog. Because O₃ formation occurs over extended periods of time, both O₃ and its precursors are transported by wind and high O₃ concentrations can occur in areas well away from sources of its constituent pollutants.

People with lung disease, children, older adults, and people who are active can be affected when O₃ levels exceed ambient air quality standards. Numerous scientific studies have linked ground-level O₃ exposure to a variety of problems including lung irritation, difficult breathing, permanent lung damage to those with repeated exposure, and respiratory illnesses.

Sulfur Dioxide

SO₂ is a colorless gas with a pungent odor, however sulfur dioxide can react with other particulates in the atmosphere to form particulates which contribute to the haze effect. SO₂ standards have been developed by the EPA to regulate all sulfur oxides, however SO₂ is by far the most abundant sulfur oxide in the atmosphere. Currently, SO₂ is primarily a result of the burning of fossil fuels for power generation and other industrial sources. Modern regulations on diesel fuel have greatly reduced the amount of SO₂ in the atmosphere and there are currently no areas in California that have levels of SO₂ that are not acceptable by state or federal standards.

Particulate Matter

Particulate matter includes both aerosols and solid particulates of a wide range of sizes and composition. Of concern are those particles smaller than or equal to 10 microns in diameter size (PM₁₀) and small than or equal to 2.5 microns in diameter (PM_{2.5}). Smaller particulates are of greater concern because they can penetrate deeper into the lungs than larger particles. PM₁₀ is generally emitted directly as a result of mechanical processes that crush or grind larger particles or form the resuspension of dust, typically through construction activities and vehicular travel. PM₁₀ generally settles out of the atmosphere rapidly and is not readily transported over large distances. PM_{2.5} is directly emitted in combustion exhaust and is formed in atmospheric reactions between various gaseous pollutants, including NO_x, sulfur oxides (SO_x) and VOCs. PM_{2.5} can remain suspended in the atmosphere for days and/or weeks and can be transported long distances.

The principal health effects of airborne PM are on the respiratory system. Short-term exposure of high PM_{2.5} and PM₁₀ levels are associated with premature mortality and increased hospital admissions and emergency room visits. Long-term exposure is associated with premature mortality and chronic respiratory disease. According to the U.S. Environmental Protection Agency (USEPA), some people are much more sensitive than others to breathing PM₁₀ and PM_{2.5}. People with influenza, chronic respiratory and cardiovascular diseases, and the elderly may suffer worse illnesses; people with bronchitis can expect aggravated symptoms; and children may experience decline in lung function due to breathing in PM₁₀ and PM_{2.5}. Other groups considered sensitive include smokers and people who cannot breathe well through their noses. Exercising athletes are also considered sensitive because many breathe through their mouths.

3.2.3 Toxic Air Contaminants

TACs are airborne substances that are capable of causing short-term (acute) and/or long-term (chronic or carcinogenic, i.e., cancer causing) adverse human health effects (i.e., injury or illness). TACs include both organic and inorganic chemical substances. They may be emitted from a variety of common sources including gasoline stations, automobiles, dry cleaners, industrial operations, and painting operations. The current California list of TACs includes approximately 200 compounds.

TACs do not have ambient air quality standards because safe levels of TACs cannot be determined. Instead, TAC impacts are evaluated by calculating the health risks associated with a given exposure. The requirements of the Air Toxic "Hot Spots" Information and Assessment Act (Assembly Bill [AB] 2588) apply to facilities that use, produce, or emit toxic chemicals. Facilities subject to the toxic emission inventory requirements of the act must prepare and submit toxic emission inventory plans and reports, and periodically update those reports.

Toxic contaminants often result from fuel storage and transfer activities and from leaking valves and pipes. For example, the electronics industry, including semiconductor manufacturing, uses highly toxic chlorinated solvents in semiconductor production processes. Sources of air toxics go beyond industry, however. Automobile exhaust also contains TACs.

Diesel Particulate Matter

Diesel particulate matter (DPM) is emitted from both mobile and stationary sources. In California, on-road diesel-fueled engines contribute approximately 24 percent of the statewide total, with an additional 71 percent attributed to other mobile sources such as construction and mining equipment, agricultural equipment, and transport refrigeration units. Stationary sources contribute about five percent of total DPM. It should be noted that CARB has developed several plans and programs to reduce diesel emissions such as the Diesel Risk Reduction Plan, the Statewide Portable Equipment Registration Program, and the Diesel Off-Road Reporting System.

Diesel exhaust and many individual substances contained in it (including arsenic, benzene, formaldehyde, and nickel) have the potential to contribute to mutations in cells that can lead to cancer. Long-term exposure to diesel exhaust particles poses the highest cancer risk of any TAC evaluated by OEHHA. CARB estimates that about 70 percent of the cancer risk that the average Californian faces from breathing toxic air pollutants stems from diesel exhaust particles.

In its comprehensive assessment of diesel exhaust, OEHHA analyzed more than 30 studies of people who worked around diesel equipment, including truck drivers, railroad workers, and equipment operators. The studies showed these workers were more likely to develop lung cancer than workers who were not exposed to diesel emissions. These studies provide strong evidence that long-term occupational exposure to diesel exhaust increases the risk of lung cancer. Using information from OEHHA's assessment, CARB estimated that diesel particle levels measured in California's air in the year 2000 could cause 540 "excess" cancers in a population of one million people over a 70-year lifetime. Other researchers and scientific organizations, including the National Institute for Occupational Safety and Health, have calculated cancer risks from diesel exhaust similar to those developed by OEHHA and CARB.

Exposure to diesel exhaust can have immediate health effects. Diesel exhaust can irritate the eyes, nose, throat, and lungs, and it can cause coughs, headaches, lightheadedness, and nausea. In studies with human volunteers, diesel exhaust particles made people with allergies more susceptible to the materials to which they are allergic, such as dust and pollen. Exposure to diesel exhaust also causes inflammation in the lungs, which may aggravate chronic respiratory symptoms and increase the frequency or intensity of asthma attacks.

Diesel engines are a major source of fine particulate pollution. The elderly and people with emphysema, asthma, and chronic heart and lung disease are especially sensitive to fine-particulate pollution. Numerous studies have linked elevated particle levels in the air to increased hospital admissions, emergency room visits, asthma attacks, and premature deaths among those suffering from respiratory problems. Because children's lungs and respiratory systems are still developing, they are also more susceptible than healthy adults to fine particles. Exposure to fine particles is associated with increased frequency of childhood illnesses and can also reduce lung function in children. In California, diesel exhaust particles have been identified as a carcinogen.

3.2.4 Ambient Air Quality

Ambient air quality in the county can be inferred from ambient air quality measurements conducted at nearby air quality monitoring stations. The California Air Resources Board (CARB) maintains more than 60 monitoring stations throughout California. Shasta County has a total of five air quality monitoring station located through the county. Ambient emission concentrations will vary due to localized variations in emission sources and climate and should be considered “generally” representative of ambient concentrations in the county.

Table 3.2-2 summarizes the published data concerning O₃, PM₁₀ and PM_{2.5} from the five air quality monitoring stations located throughout the county between 2019 and 2021 for each year that the monitoring data is provided. The historical air quality is compared to state and federal standards which are explained in detail below. O₃, PM₁₀ and PM_{2.5} are the pollutants of greatest concern in the Project region due to attainment issues. State and federal concentrations are different due to different attainment determination calculations. Days over standard for some PM measurements are not whole numbers as they are estimated using samples from USEPA recommended three (PM_{2.5}) and six (PM₁₀) day sampling schedules.

Table 3.2-2. Summary of Ambient Air Quality Data			
Pollution Standards	2019	2020	2021
O₃ Concentrations			
O₃- Anderson- North Street			
Max 1-hour concentration (ppm)	0.073	0.079	0.076
Max 8-hour concentration (ppm) (state/federal)	0.066 / 0.065	0.074 / 0.073	0.67 / 0.67
Number of days above 1-hour standard (state/federal)	0 / 0	0 / 0	0 / 0
Number of days above 8-hour standard (state/federal)	0 / 0	1 / 1	0 / 0
O₃- Lassen Volcanic National Park-Manzanita Lake			
Max 1-hour concentration (ppm)	0.066	0.086	0.092
Max 8-hour concentration (ppm) (state/federal)	0.061 / 0.061	0.079 / 0.079	/ 0.077
Number of days above 1-hour standard (state/federal)	0 / 0	0 / 0	0 / 0
Number of days above 8-hour standard (state/federal)	0 / 0	2 / 2	9 / 9
O₃- Redding-Health Department Roof			
Max 1-hour concentration (ppm)	0.072	0.077	0.089
Max 8-hour concentration (ppm) (state/federal)	0.070 / 0.070	0.070 / 0.069	0.068 / 0.067
Number of days above 1-hour standard (state/federal)	0 / 0	0 / 0	0 / 0
Number of days above 8-hour standard (state/federal)	0 / 0	0 / 0	0 / 0

Table 3.2-2. Summary of Ambient Air Quality Data			
Pollution Standards	2019	2020	2021
O₃- Shasta Lake- 13791 Lake Boulevard			
Max 1-hour concentration (ppm)	0.072	0.088	0.079
Max 8-hour concentration (ppm) (state/federal)	0.068 / 0.067	0.078 / 0.078	0.073 / 0.073
Number of days above 1-hour standard (state/federal)	0 / 0	0 / 0	0 / 0
Number of days above 8-hour standard (state/federal)	0 / 0	1 / 1	1 / 0
PM₁₀ Concentrations			
PM₁₀- Anderson- North Street			
Max 24-hour concentration (µg/m3) (state/federal)	34.9 / 32.8	107.8 / 108.7	22.3 / 23.4
Number of days above 24-hour standard (state/federal)	0 / 0	* / 0	* / *
PM₁₀- Redding-Health Department Roof			
Max 24-hour concentration (µg/m3) (state/federal)	28.1 / 26.4	94.4 / 95.4	121.6 / 126.2
Number of days above 24-hour standard (state/federal)	* / 0	23.0 / 0	* / 0
PM_{2.5} Concentrations			
PM_{2.5}- Redding-Health Department Roof			
Max 24-hour concentration (µg/m3) (state/federal)	24.1 / 24.1	68.3 / 68.3	165.3 / 165.3
Number of days above federal 24-hour standard	0	18.4	26.4

Source: CARB 2022a

Notes: Concentrations are not available for all pollutants at each air quality monitoring station.

µg/m3 = micrograms per cubic meter; ppm = parts per million

* = Insufficient data available.

The USEPA and CARB designate air basins or portions of air basins and counties as being in “attainment” or “nonattainment” for each of the criteria pollutants. Areas that do not meet the standards are classified as nonattainment areas. Acceptable exceedances of the maximum value vary for the National Ambient Air Quality Standards (NAAQS) from 4th highest concentration for the 8-hour O₃ standard to 99th percentile for the SO₂ standard. The NAAQS for O₃, PM₁₀, and PM_{2.5} are based on statistical calculations over one- to three-year periods, depending on the pollutant. The California Ambient Air Quality Standards (CAAQS) are not to be exceeded during a three-year period.

The determination of whether an area meets the state and federal standards is based on air quality monitoring data. Some areas are unclassified, which means there is insufficient monitoring data for determining attainment or nonattainment. Unclassified areas are typically treated as being in attainment. Because the attainment/nonattainment designation is pollutant-specific, an area may be classified as nonattainment for one pollutant and attainment for another. Similarly, because the state and federal standards differ, an area could be classified as attainment for the federal standards of a pollutant and as

nonattainment for the state standards of the same pollutant. Shasta County is classified as an attainment area for all federal standards. However, the county is designated as a nonattainment area for the state standard of O₃ (CARB 2022b), as shown in Table 3.2-3 below.

Table 3.2-3. Attainment Status of Criteria Pollutants in the Shasta County Portion of the NSVAB		
Pollutant	State Designation	Federal Designation
O ₃	Nonattainment	Unclassified/Attainment
PM ₁₀	Attainment	Unclassified
PM _{2.5}	Attainment	Unclassified/Attainment
CO	Unclassified	Unclassified/Attainment
NO ₂	Attainment	Unclassified/Attainment
SO ₂	Attainment	Unclassified/Attainment

Source: CARB 2022b

3.2.5 Regulatory Setting

3.2.5.1 Federal

Clean Air Act

The Clean Air Act (CAA) of 1970 and the CAA Amendments of 1971 required the USEPA to establish the NAAQS, with states retaining the option to adopt more stringent standards or to include other specific pollutants. On April 2, 2007, the Supreme Court found that carbon dioxide (CO₂) is an air pollutant covered by the CAA; however, no NAAQS have been established for CO₂.

These standards are the levels of air quality considered safe, with an adequate margin of safety, to protect the public health and welfare. They are designed to protect those “sensitive receptors” most susceptible to further respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

The USEPA has classified air basins (or portions thereof) as being in attainment, nonattainment, or unclassified for each criteria air pollutant, based on whether or not the NAAQS have been achieved. If an area is designated unclassified, it is because inadequate air quality data were available as a basis for a nonattainment or attainment designation. Table 3.2-3 lists the federal attainment status of the Shasta County portion of the NSVAB for the criteria pollutants.

3.2.5.2 State

California Clean Air Act

The California Clean Air Act (CCAA) allows the state to adopt ambient air quality standards and other regulations provided that they are at least as stringent as federal standards (NAAQS). CARB, a part of the California Environmental Protection Agency, is responsible for the coordination and administration of both federal and state air pollution control programs within California, including setting the CAAQS. CARB also conducts research, compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. CARB also has primary responsibility for the development of California's State Implementation Plan (SIP), for which it works closely with the federal government and the local air districts.

California State Implementation Plan

The federal CAA (and its subsequent amendments) requires each state to prepare an air quality control plan referred to as the SIP. The SIP is a living document that is periodically modified to reflect the latest emissions inventories, plans, and rules and regulations of air basins as reported by the agencies with jurisdiction over them. The CAA Amendments dictate that states containing areas violating the NAAQS revise their SIPs to include extra control measures to reduce air pollution. The SIP includes strategies and control measures to attain the NAAQS by deadlines established by the CAA. The USEPA has the responsibility to review all SIPs to determine if they conform to the requirements of the CAA.

State law makes CARB the lead agency for all purposes related to the SIP. Local air districts and other agencies prepare SIP elements and submit them to CARB for review and approval. CARB then forwards SIP revisions to the USEPA for approval and publication in the Federal Register. Local air districts, such as the VCAPCD, prepare air quality attainment plans or air quality management plans and submit them to CARB for review, approval, and incorporation into the applicable SIP. The air districts develop the strategies stated in the SIPs for achieving air quality standards on a regional basis.

The *2021 Northern Sacramento Valley Planning Area Triennial Air Quality Attainment Plan* (2021 AQMP) is the most recent air quality planning document covering Shasta County and contains mechanisms to achieve O₃ standards. Air quality attainment plans are a compilation of new and previously submitted plans, programs (such as monitoring, modeling, permitting, etc.), district rules, state regulations, and federal controls describing how the state will attain ambient air quality standards. These pollutant control strategies are based on the latest scientific and technical information and planning assumptions, updated emission inventory methodologies for various source categories, and the latest population growth projections and associated vehicle miles traveled projections for the region.

Tanner Air Toxics Act and Air Toxics "Hot Spots" Information and Assessment Act

CARB's statewide comprehensive air toxics program was established in 1983 with Assembly Bill (AB) 1807, the Toxic Air Contaminant Identification and Control Act (Tanner Air Toxics Act of 1983). AB 1807 created

California's program to reduce exposure to air toxics and sets forth a formal procedure for CARB to designate substances as TACs. Once a TAC is identified, CARB adopts an airborne toxics control measure (ATCM) for sources that emit designated TACs. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate toxics best available control technology to minimize emissions.

CARB also administers the state's mobile source emissions control program and oversees air quality programs established by state statute, such as AB 2588, the Air Toxics "Hot Spots" Information and Assessment Act of 1987. Under AB 2588, TAC emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High priority facilities are required to perform a health risk assessment (HRA) and, if specific thresholds are exceeded, required to communicate the results to the public in the form of notices and public meetings. In September 1992, AB 2588 was amended by Senate Bill (SB) 1731, which required facilities that pose a significant health risk to the community to reduce their risk through a risk management plan.

3.2.5.3 *Regional*

Shasta County Air Quality Management District

SCAQMD is responsible for assuring that the federal and state ambient air quality standards are attained and maintained in the NSVAB. The agency is also responsible for adopting and enforcing rules and regulations concerning air pollutant sources, issuing permits for stationary sources, inspecting stationary sources, evaluating potential health risks from air pollutants, and adopting air pollution control measures. The following rules may be applicable to the proposed 2022 RTP/SCS:

Rules

2-1A: Authorities to Construct/Permits to Operate. Allows any person to use construction equipment for construction activities and must obtain a permit to operate prior to installation activities.

3-2: Specific Air Contaminants. Controls the amount of air contaminants allowed to be discharged into the atmosphere.

3-31: Architectural Coatings. Architectural coatings and solvents used at the Project shall be compliant with SCAQMD.

3-15: Cutback and Emulsified Asphalt. Cutback and emulsified asphalt application shall be conducted in accordance with SCAQMD.

3-16: Fugitive, Indirect, or Non-traditional Sources. Controls the emission of fugitive dust during earth-moving, construction, demolition, bulk storage, and conditions resulting in wind erosion.

3.2.5.4 Local

Shasta County General Plan

Shasta County General Plan's Air Quality Element lays out a series of objectives and policies aimed at protecting the health and wellness of its community members. The following policies are applicable to the Proposed Project:

Policies

AQ-2a: The County will cooperate with the SCAQMD, the California Air Resources Board, and the Regional Transportation Planning Agency in implementing programs designed to comply with provisions of Federal and State Clean Air Acts and the County's Air Quality Attainment Plan.

AQ-2b: The County will work to accurately determine and fairly mitigate the local and regional air quality impacts of projects proposed in the unincorporated portions of Shasta County.

AQ-2c: Land use decisions, where feasible, should contribute to the improvement of air quality. New projects shall be required to reduce their respective air quality impacts to below the County's levels of significance thresholds.

AQ-2d: Shasta County shall ensure that air quality impacts identified during CEQA review are: (1) consistently and fairly mitigated, and (2) mitigation measures are feasible.

AQ-2j: The County shall work toward measures to reduce particulate emissions from construction, grading, excavation, and demolition to the maximum extent feasible.

AQ-3a: The County shall consider potential air quality impacts when planning the land uses and transportation systems needed to accommodate expected growth.

AQ-3c: The County shall encourage projects proposing pedestrian- or transit-oriented designs at suitable locations.

AQ-4a: All County proposals and programs for transportation improvement projects to be included in regional transportation plans shall be consistent with the air quality objectives and policies of the General Plan.

AQ-4f: The County shall consult as appropriate with transit providers to determine potentially significant project impacts on long-range transit plans to ensure that impacts are adequately mitigated.

AQ-4g: The County will work with Caltrans and the Regional Transportation Planning Agency to minimize the air quality, mobility, and social impacts of large-scale transportation projects on existing neighborhoods and communities.

AQ-5a: Shasta County will work together with its incorporated cities plus other affected agencies to coordinate air quality programs and implementation measures to address mutual air quality and transportation related issues of local and/or regional significance.

City of Redding General Plan

The City of Redding 2000-2020 General Plan serves as a long-term policy guide for physical, economic, and environmental growth. It is a statement of the community's vision for ultimate growth. The Redding General Plan Air Quality Element includes policies that ensures the health of its citizens. These include:

Policies

Policy 1: The City will require an air quality impact analysis using the recommended methods promulgated by the Air Quality Management District (AQMD) for all projects that are subject to CEQA review and which exceed emissions thresholds established by the AQMD.

Policy 4: The City will support the development, refinement, and use of uniform air quality impact-assessment guidelines that will provide standard criteria for determining significant environmental effects, that will provide a uniform method of calculating project emissions, and that will provide standard mitigation measures to reduce air quality impacts.

Policy 5: The City will coordinate with other jurisdictions in the County to establish parallel air quality programs, application of CEQA, and implementation measures (trip-reduction ordinances, wood stove ordinance, and indirect source programs, etc.).

Policy 7: The City will continue to integrate land use, transportation, and air quality planning to make the most efficient use of public resources and to carry out the policies and goals of this element.

Policy 8: All City submittal of projects to be included in regional transportation plans (Regional Transportation Improvement Plan [RTIP], County's Congestion Management Plan [CMP], etc.) should be consistent with the goals and policies of this General Plan Element.

Policy 17: The City shall make air quality and mobility prime considerations when reviewing any proposed change to the land-use pattern. Such consideration shall include, as much as possible, increased transit and pedestrian mobility. This step shall be part of the CEQA process and apply reasonable Best Available Mitigation Measures (BAMM) to projects that exceed the significance thresholds promulgated by the Air Quality Management District.

Policy 29: The City will require measures to reduce particulate emissions from construction, grading, and demolition to the maximum extent feasible.

City of Shasta Lake General Plan

The City of Shasta Lake finalized the 2040 General Plan in January 2023. The General Plan is comprehensive and long-range in its scope. It will be used on an ongoing basis to direct the City's decision making, reflecting the community's commitment to the planning ideals and vision set forth herein. It is the City's goal that all actions related to the City's physical development should be consistent with the General Plan vision. The 2040 General Plan Health and Safety Element and the Circulation Element provides policies aimed at protecting the wellbeing of its citizens. The following policies are applicable to the Proposed Project:

Policies

HS-9.1: Improve and maintain air quality to protect human health and preclude damage to plants and property.

HS-9.2: Cooperate with the Air Quality Management District and the Regional Transportation Agency to meet air quality standards and implement provisions of the California and Federal Clean Air Acts.

HS-9.3: Encourage integration of land use, transportation, and energy planning efforts to help reduce air pollution.

HS-9.4: Review land use decisions with consideration of the potential for improvement of air quality and mitigate air quality impacts to the greatest extent practicable. Consult with the Air Quality Management District regarding mitigation of air quality impacts.

HS-9.7: Encourage a reduction in vehicle trips and vehicle miles traveled by promoting: - Public transportation; - Carpooling, ridesharing, and vanpooling; - Shortened and combined motor vehicle trips for work, shopping, and services; - Use of bicycles; and - Pedestrian access and walking.

HS-9.8: Encourage pedestrian-oriented and transit-oriented design in new development.

HS-9.14: The City will support the Air Quality Management District's efforts to reduce and track emissions through appropriate analysis of project level air quality impacts during the CEQA process.

CIR-1.10: Improve air quality from transportation sources to protect human and environmental health and minimize impacts on sensitive populations by routing heavy truck traffic away from residential zones and promoting safety at rail crossings.

CIR 3.2: Plan for transportation modes and strategies that ensure good air quality, reduce greenhouse gas emissions, and reduce the need to devote additional lands to transportation uses.

City of Anderson General Plan

The City of Anderson General Plan serves as a long-term policy guide for Anderson's physical, economic, and environmental growth. It is a statement of the community's vision for ultimate growth. The Plan will allow needed growth while protecting the "small town" characteristics of Anderson. The Plan emphasizes planning for the health and safety of all residents—now and in the future. Extending the various general plan diagrams to cover the entire planning area is a new feature of the General Plan.

The City of Anderson Open Space and Conservation Element contains policies aimed at promoting air quality measures when considering development, including the following:

Policies

AQP-1: Support efforts to maintain and improve the air quality of the area.

AQP-5: Encourage compliance with the Air Quality Attainment Plan.

AQI-2: Cooperate with the Air Pollution Control District to maintain and improve air quality of the Anderson area.

AQI-6: Support Shasta County policies and projects relating to improvement of the area's air quality.

3.2.6 Environmental Impacts

3.2.6.1 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, air quality impacts are considered significant if implementation of the Proposed Project would:

- Conflict with or obstruct implementation of an applicable air quality plan;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);
- Expose sensitive receptors to substantial pollutant concentrations;
- Result in other emissions (such as those leading to odors adversely affecting a substantial number of people).

By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size, by itself, to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. To assist local jurisdictions in the evaluation of air quality impacts under CEQA, the SCAQMD has established significance thresholds which are used to determine air quality impacts in this analysis. These thresholds are consistent with New Source Review Rule 2-1 adopted by the SCAQMD Board in 1993, which establishes preconstruction review requirements for new and modified stationary sources for use of Best Available Control Technology (BACT), analysis of air quality impacts, and to ensure that the operation of such sources does not interfere with the attainment or maintenance of ambient air quality standards. As applied to CEQA project emissions, these thresholds apply to all land use project operational emissions, including mobile source emissions. Because the 2022 RTP/SCS itself does not directly generate project-level emissions, Shasta County thresholds do not apply. However, they are provided here for informational purposes to illustrate the thresholds that would apply to individual projects developed within the planning area of the 2022 RTP/SCS.

Table 3.2-4. SCAQMD Thresholds of Significance – Pounds per Day

Threshold	NO_x	ROG	PM₁₀
Level A Thresholds	25	42	80
Level B Thresholds	137	137	137

Source: SCAQMD 2004

The SCAQMD recommends that projects apply Standard Mitigation Measures (SMM) and appropriate Best Available Mitigation Measures (BAMM) when a project exceeds Level A thresholds and SMM, BAMM, and special BAMM when a project exceeds Level B thresholds. Projects that cannot mitigate emissions to levels below the Level B thresholds are considered significant.

3.2.6.2 Methods of Analysis

Implementation of the 2022 RTP/SCS could create both short-term and long-term impacts to air quality. Short-term air quality impacts would be generated during construction of the capital improvements listed in the RTP/SCS as well as future development facilitated by the RTP/SCS. Long term emissions would be generated indirectly by the on-road vehicles that would utilize the capital improvements and proposed land uses.

Short-term Emissions

Emissions from construction activities represent temporary impacts that are typically short in duration and depend on the size, phasing, and type of project. Air quality impacts can nevertheless be acute during construction periods, resulting in significant localized impacts to air quality. Construction-related emissions are speculative at the RTP level because such emissions are dependent on the characteristics of individual projects. Implementation of the 2022 RTP would generate temporary criteria pollutant emissions, primarily due to the operation of construction equipment and truck trips, and therefore, a qualitative analysis is provided.

Long-term Emissions

Projected air emissions from mobile sources were calculated using the Emission FACtors (EMFAC) 2014 emissions model and vehicle miles traveled (VMT) estimated using the ShastaSIM SRTA's Regional Activity-based Travel Demand Model (ShastaSIM). EMFAC 2014 takes activity data, such as VMT and determines pollutant emissions based on county specific emissions factors (e.g., tons of NO_x per VMT).

Emissions were modeled in EMFAC 2014 for three scenarios: 2015 baseline conditions, 2042 growth and development with the 2022 RTP/SCS road network and land use scenario (i.e., 2042 Project), and 2042 growth and development with the road network and land use scenario envisioned in the 2018 RTP/SCS for its planning horizon (i.e., 2042 No Project). EMFAC 2014 was run using default EMFAC data for the Shasta Region customized to match the total average VMT and total average daily VMT per speed bin for each scenario; VMT for all scenarios included pass-through trips. 2015 baseline emissions are different than

those presented in the 2018 RTP/SCS EIR because EMFAC 2011, rather than EMFAC 2014, was previously used for modeling emissions for the 2015 baseline.

3.2.6.3 ***Project Impacts and Mitigation Measures***

Impact AIR-1	Air pollutant emissions associated with the Proposed Project could conflict with or obstruct the applicable air quality plan.
<i>Impact Determination</i>	<i>Less than Significant.</i>
Threshold	Conflict with or obstruct implementation of the applicable air quality plan.

Impact Discussion

As part of its enforcement responsibilities, the USEPA requires each state with nonattainment areas to prepare and submit a SIP that demonstrates the means to attain the federal standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution in nonattainment areas, using a combination of performance standards and market-based programs. Similarly, under state law, the California Clean Air Act requires an air quality attainment plan to be prepared for areas designated as nonattainment with regard to the federal and state ambient air quality standards. Air quality attainment plans outline emissions limits and control measures to achieve and maintain these standards by the earliest practical date. As previously stated, the Shasta County portion of the NSVAB is classified nonattainment for the state O₃ standard.

The 2021 AQMP is the most recent air quality planning document covering Shasta County. Air quality attainment plans are a compilation of new and previously submitted plans, programs (such as monitoring, modeling, permitting, etc.), district rules, state regulations, and federal controls describing how the state will attain ambient air quality standards. The 2021 AQMP includes forecast ROG and NO_x emissions (O₃ precursors) for the entire NSVAB through the year 2025. The plan also includes control strategies necessary to attain the State's O₃ standard at the earliest practicable date, as well as developed emissions inventories and associated emissions projections for the region showing a downtrend for both ROG and NO_x.

Policies and land use patterns facilitated by the 2022 RTP/SCS are projected to reduce emissions of ozone precursors, consistent with the goals of the 2021 AQMP (see Table 3.2-5 below). This decrease in emissions is due to the proposed transportation improvements and land use patterns envisioned by the 2022 RTP/SCS, which, among other strategies, would encourage transportation efficient development and supportive infrastructure. This strategy prioritizes the safety and efficiency of transportation within the county, promotes the integration of a single system infrastructure and services network, encourages transportation-efficient growth and development, prioritizes regional economic sustainability, and ensures that historically marginalized and disadvantaged communities have a role in the planning processes. The

prioritization of improved transportation projects would result in reduced regional criteria air pollutant emissions and toxic air contaminant emissions from mobile sources. Therefore, the 2022 RTP/SCS would not introduce any new impacts relative to the 2018 RTP/SCS. This impact would remain less than significant, and mitigation is not required.

The 2022 RTP/SCS would remain compliant with the local air quality plans as well. The General Plans from Shasta County, the City of Shasta Lake, the City of Redding, and the City of Anderson have a series of local policies that aim to maintain air quality standards, promote thresholds set out by the SCAQMD, and encourage coordination between air quality and transportation plans. Because the 2022 RTP/SCS involves a variety of projects including bridge replacements, street improvements, trails and trailheads, bike lanes, airport roadway access improvements, as well as others. The types of projects envisioned in the 2022 RTP/SCS would promote pedestrian and bikeway transportation methods, and reduce regional air pollutant emissions (shown in Table 3.2-5), which would comply with policies outlined in the local air quality plans. As such, this would be a less than significant impact and no mitigation is required.

Mitigation Measures

No mitigation measures are required.

Impact AIR-2	Project implementation could result in a cumulatively considerable net increase of any criteria air pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard.
<i>Impact Determination</i>	<i>Less than Significant with Mitigation.</i>
Threshold	Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).

Impact Discussion

Air pollution is largely a cumulative impact. No single project is sufficient in size, by itself, to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's individual emissions exceed its identified significance thresholds, the project would be cumulatively considerable. Projects that do not exceed significance thresholds would not be considered cumulative considerable.

Implementation of the 2022 RTP/SCS would create both short-term and long-term impacts to air quality. Short-term air quality impacts would be generated during construction of the capital improvements listed

in the RTP/SCS as well as future development facilitated by the RTP/SCS. Long term emissions would be generated indirectly by the on-road vehicles that would utilize the capital improvements and proposed land uses.

Construction Emissions

Implementation of the RTP/SCS would result in short-term emissions from construction of transportation projects and future development envisioned under the RTP/SCS. The 2022 RTP/SCS includes 72 new minor projects relative to the 2018 RTP/SCS. None of the modified or new projects in the 2022 RTP/SCS list would be substantially different from those on the 2018 RTP/SCS list in terms of geographical location, type of project, or size of project. In addition, the land use scenario envisioned by the 2022 RTP/SCS is similar to that contained in the 2018 RTP/SCS and concentrates the forecasted growth in population and employment in the region in urban areas and corridors of the county while preserving the distinct identity of existing cities and towns. Appendix B provides a list of new projects included in the 2022 RTP/SCS. As shown, there are a variety of new construction projects listed in the 2022 RTP/SCS including bridge replacements, street improvements, trails and trailheads, bike lanes, airport roadway access improvements, as well as others. Nevertheless, because the 2022 RTP/SCS includes more projects, it would potentially result in a greater amount of short-term air pollutant emissions. However, with incorporation of existing mitigation measures included in the 2018 RTP/SCS (shown below as AIR-1), construction emissions impacts would continue to be reduced to a less than significant level.

Operational Emissions

Transportation improvements associated with the 2022 RTP/SCS would result in an overall reduction of on-road vehicle emissions when compared to existing conditions. The projected reduction in air pollutant emissions is largely the result of currently adopted policies and regulations that would decrease mobile source emissions over time, such as the Advanced Clean Cars Program and a range of other programs developed by CARB. These programs aim to raise emission standards for passenger cars and other vehicles, offer incentives for adoption of low emission and zero-emission vehicles, expand the electric vehicle charging infrastructure throughout the state, and prioritize clean transit systems. Table 3.2-5. summarizes projected on-road vehicle emissions for baseline (year 2015), 2042 Project, and 2042 No Project conditions.

Table 3.2-5. Regional Air Pollutant Emissions (tons/day)

Scenario	PM₁₀	NO_x	ROG
2015 Baseline	0.38	6.99	2.86
2042 Project	0.28	1.27	0.55
2042 No Project	0.38	1.42	0.76

Source: EMFAC 2014 (see Appendix C)

Note: Emissions were modeled in EMFAC 2014 for three scenarios: 2015 baseline conditions, 2042 growth and development with the 2022 RTP/SCS road network and land use scenario (i.e., 2042 Project), and 2042 growth and development with the road network and land use scenario envisioned in the 2018 RTP/SCS for its planning horizon (i.e., 2042 No Project).

As shown above in Table 3.2-5, transportation improvements associated with the 2022 RTP/SCS would result in an overall reduction of all on-road vehicle emissions when compared to 2015 Baseline and the 2042 No Project Scenario. As such, operations associated with the 2022 RTP/SCS would result in the lowest pollutant concentrations when compared to the baseline and no project scenarios, and therefore would not introduce any new regional or localized impacts than those described in the 2018 RTP/SCS EIR.

Existing Mitigation Measures

The following mitigation measure was implemented as a result of the 2015 RTP and the 2018 SEIR air quality analysis determination. Implementation of this mitigation measure resulted in a less than significant impact in the 2018 RTP/SCS EIR. For the 2022 RTP/SCS, implementation of this mitigation measure would continue to provide air quality emission reduction measures for the Proposed Project.

AQ-1: Control Measures for Construction Air Pollutant Emissions

The individual project lead agency shall ensure that all feasible and appropriate Shasta County AQMD Standard Mitigation Measures (SMMs) and Best Available Mitigation Measures (BAMMs) are implemented. The measures shall be noted on all construction plans and the lead agency shall perform periodic site inspections. Shasta County AQMD SMMs and BAMMs include, but are not limited to, the following:

- Fugitive Dust Emissions
 - Implement all adequate dust control measures in a timely and effective manner during all phases of project development and construction.
 - Water all excavated, stockpiled, or graded material to prevent fugitive dust from leaving property boundaries and causing a public nuisance or a violation of an ambient air standard. Watering shall occur at least twice daily with complete site coverage, preferably in the midmorning and after work is completed each day.

- During initial grading, earth moving, or site preparation, construct a paved (or dust palliative treated) apron, at least 100 feet in length, onto the project site from the adjacent paved road(s).
- Sweep adjacent paved streets (recommend water sweeper with reclaimed water) at the end of each day if substantial volumes of soil materials have been carried onto adjacent public paved roads from the project site.
- Install sandbags or other erosion control measures to prevent silt runoff to roadways.
- Apply Department of Public Works approved non-toxic soil stabilizers in accordance with manufacturer's specifications to all inactive construction areas (i.e., previously graded areas which remain inactive for 96 hours).
- Replant vegetation in disturbed areas as quickly as possible.
- Cover all trucks hauling soil, sand, and other loose materials, or require all trucks to maintain at least two feet of freeboard.
- Use wheel washers or wash off tires of all trucks exiting the construction site.
- Mitigate fugitive dust emissions from wind erosion in areas disturbed by construction activities (including storage piles) by application of either water or chemical dust suppressant.
- Exhaust emissions from diesel heavy equipment
 - Shut down equipment when not in use to limit engine idling time. Idling time shall be limited to no more than 3 minutes. This idling limit does not apply to circumstances as stated in the California Environmental Protection Agency Air Resources Board Advisory Number 377 (2008).
 - Provide regular equipment maintenance to prevent emission increases due to engine problems.
 - Use low sulfur and low aromatic fuels meeting California standards for motor vehicle diesel fuel.
 - Use low-emitting gas and diesel engines meeting state and federal emissions standards (Tier II, III, IV) for construction equipment.
- Other emissions
 - Use low VOC coatings for the architectural coating phase of construction. All coatings must meet the VOC limits per Shasta County AQMD Rule 3-31.
 - Use asphalt mixtures appropriate for the time of year of application, while maintaining compliance with the lead agency's road design and construction standards.

- Use alternatives to open burning of vegetative material on the project site, unless otherwise deemed infeasible by the Shasta County AQMD. Suitable alternatives include chipping, mulching, or conversion to biomass fuel.
- Provide for temporary traffic control as appropriate during all phases of construction to improve traffic flow as deemed appropriate by the Department of Public Works and/or Caltrans.
- Schedule construction activities that redirect traffic flow during off-peak hours as much as practicable.

Residual Impact After Mitigation

Impacts would remain less than significant after mitigation.

Impact AIR-3	Construction and/or operation of the Proposed Project could expose sensitive receptors to substantial pollutant concentrations.
<i>Impact Determination</i>	<i>Significant and Unavoidable.</i>
Threshold	Exposure of sensitive receptors to substantial pollutant concentrations.

Impact Discussion

Implementation of the 2022 RTP/SCS would result in short term and long-term emissions from construction of transportation projects and future use of the developments that may affect sensitive receptors. Sensitive receptors are defined as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over age 65, children under age 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis. Exposure to the pollutant emissions as a result of transportation projects in the region would vary based on specific local parameters, such as the amount of vehicle trips on a roadway and proximity to high volume roadways and transport areas.

As previously mentioned, the 2022 RTP/SCS would add over 72 new minor projects relative to the 2018 RTP/SCS. None of the modified or new projects on the 2022 RTP/SCS list would be substantially different from those on the 2018 RTP/SCS list in terms of geographical location, type of project, or size of project. In addition, the land use scenario envisioned by the 2022 RTP/SCS is similar to that contained in the 2018 RTP/SCS and concentrates the forecasted growth in population and employment in the region in urban areas and corridors of the county.

Construction-Generated Air Contaminants

Construction would result in short-term emissions of DPM, ROG, NO_x, CO, and PM₁₀ from the exhaust of off-road, heavy-duty diesel equipment for site preparation (e.g., clearing, grading); soil hauling truck traffic; paving; and other miscellaneous activities. As previously described, the mitigation measure AIR-1 would continue to reduce pollutant concentrations associated with the buildout of the projects as a part of the 2022 RTP/SCS. This mitigation measure ensures that all feasible and appropriate SCAQMD SMMs and BAMMs are implemented and would continue to provide air quality emission reduction measures for all projects as a part of the 2022 RTP/SCS. This would reduce impacts that may affect sensitive receptors during the construction of transportation improvements to a less than significant level.

Operational Air Contaminants – Diesel Toxics

During operations, the transportation projects would contribute to mobile sources of pollutant emissions. Mobile sources (including trucks, buses, automobiles, trains, ships, and farm equipment) are the largest source of diesel emissions. The exhaust from diesel engines includes hundreds of different gaseous and particulate components, many of which are toxic. Diesel exhaust is composed of two phases, either gas or particulate – both contribute to the risk. Diesel exhaust is emitted from a broad range of on- and off-road diesel engines. Table 3.2-6 below shows the diesel toxic emissions as a result of the 2015 baseline conditions, 2042 growth and development with the 2022 RTP/SCS road network and land use scenario (i.e., 2042 Project), and 2042 growth and development with the road network and land use scenario envisioned in the 2018 RTP/SCS for its planning horizon (i.e., 2042 No Project).

Table 3.2-6. Diesel Toxics Emissions (tons/day)		
Scenario	PM_{2.5}	NO_x
2015 Baseline	0.10	6.99
2042 Project	0.0003	1.27
2042 No Project	0.04	1.42

Source: EMFAC 2014 (see Appendix C)

Note: Emissions were modeled in EMFAC 2014 for three scenarios: 2015 baseline conditions, 2042 growth and development with the 2022 RTP/SCS road network and land use scenario (i.e., 2042 Project), and 2042 growth and development with the road network and land use scenario envisioned in the 2018 RTP/SCS for its planning horizon (i.e., 2042 No Project).

As shown above in Table 3.2-6, toxic diesel air contaminant concentrations due to mobile sources in the county would decrease compared to the baseline and 2042 No Project scenarios. Nevertheless, because the 2022 RTP/SCS includes additional projects that may occur in proximity to existing sensitive receptors, the build out of these projects has the potential to result in the exposure of sensitive receptors to hazardous air pollutant that may cause health risks. However, with the application of existing mitigation measure AQ-3, the implementation of the 2022 RTP/SCS would not introduce any new regional impacts or localized impacts than those described in the 2018 RTP/SCS EIR.

Operational Air Contaminants – Re-entrainment Particulate Matter

Additionally, particulate matter (PM₁₀ and PM_{2.5}) emissions are a concern as a result of the individual projects associated with the transportation and roadway improvements proposed by the 2022 RTP/SCS. Particulate matter contains microscopic solids or liquid droplets that are so small that they can get deep into the lungs and cause serious health problems. Particulate matter exposure has been linked to a variety of problems, including premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms such as irritation of the airways, coughing, or difficulty breathing. Commonly occurring sand and dirt on the roadways pose a serious safety concern as motorists drive through or around the sediment deposits. Vehicles travel over sand and other particles deposited on the roadway and break up and disperse these particles. This process, called “re-entrainment”, results in emissions of particulate matter. Thus, increases in VMT can increase the extent of localized PM₁₀ concentrations.

Countywide VMT, as predicted by the SRTA Travel Model for 2015 baseline conditions, the 2042 Project, and the 2042 No Project is shown in Table 3.2-7.

Table 3.2-7. VMT Summary (miles/day)	
Scenario	Total Daily VMT
2015 Baseline	5,955,776
2042 Project	6,198,874
2042 No Project	7,806,135

Source: SRTA Travel Model

Note: SRTA Travel model for three scenarios: 2015 baseline conditions, 2042 growth and development with the 2022 RTP/SCS road network and land use scenario (i.e., 2042 Project), and 2042 growth and development with the road network and land use scenario envisioned in the 2018 RTP/SCS for its planning horizon (i.e., 2042 No Project).

As shown in Table 3.2-7, the proposed 2022 RTP/SCS would result in a reduction of VMT compared to the no Project scenario yet would result in an increase of VMT compared with the 2015 baseline scenario. An increase in VMT generated from the build out and operations of the 2022 RTP/SCS may result in a cumulatively considerable increase of localized PM₁₀ concentrations from road dust. While implementation of the 2022 RTP/SCS would result in a decrease of overall regional PM₁₀ emissions, as shown in Table 3.2-5, the increase in VMT from the 2015 baseline would nevertheless still pose a risk of increased exposure of sensitive receptors to localized PM₁₀ concentrations along roadways throughout Shasta County. There are no feasible mitigation measures to substantially reduce re-entrained particulate matter and dust from an increase in VMT. The previous 2018 RTP/SCS SEIR has already determined that the re-entrainment of PM₁₀ will have a significant and unavoidable impact. This impact would remain the same under the 2022 RTP/SCS.

Existing Mitigation Measures

The following mitigation measure was implemented as a result of the 2015 RTP and the 2018 SEIR air quality analysis determination. Implementation of this mitigation measure would continue to provide air quality emission reduction measures for the Proposed Project.

AQ-3: Air Toxics Health Risk Reduction Measures

Consistent with the provisions contained in the CARB Air Quality and Land Use Handbook (June 2005), lead agencies shall identify appropriate and feasible measures to be incorporated into project building design for residential, school and other sensitive uses located within 500 feet of freeways, heavily travelled arterials, railways and other sources of DPM and other known carcinogens. The appropriate measures shall include one or more of the following methods as applicable:

- The lead agency shall retain a qualified air quality consultant to prepare a health risk assessment in accordance with CARB and the Office of Environmental Health and Hazard Assessment requirements to determine the exposure of project residents/occupants/users to stationary air quality pollutants prior to issuance of a demolition, grading, or building permit. The health risk assessment shall be submitted to the lead agency for review and approval. The lead agency shall implement any approved health risk assessment recommendations to a level which would not result in exposure of sensitive receptors to substantial pollutant concentrations. Such measures may include:
 - Do not locate sensitive receptors near the entry and exit points of a distribution center.
 - Do not locate sensitive receptors in the same building as a perchloroethylene dry cleaning facility.
 - Maintain a 50-foot buffer from a typical gas dispensing facility (under 3.6 million gallons of gas per year).
 - Install, operate, and maintain in good working order a central heating and ventilation system or other air take system in the building, or in each individual residential unit, that meets the efficiency standard of the minimum efficiency reporting value 13. The heating and ventilation system should include the following features: Installation of a high efficiency filter and/or carbon filter-to-filter particulates and other chemical matter from entering the building. Either high efficiency particulate absorption filters or American Society of Heating, Refrigeration, and Air-Conditioning Engineers 85% supply filters should be used.
 - Retain a qualified heating and ventilation consultant or high efficiency particulate absorption rate during the design phase of the project to locate the heating and ventilation system based on exposure modeling from the mobile and/or stationary pollutant sources.
 - Maintain positive pressure within the building.

- Achieve a performance standard of at least one air exchange per hour of fresh outside filtered air.
- Achieve a performance standard of at least 4 air exchanges per hour of recirculation.
- Achieve a performance standard of 0.25 air exchanges per hour in unfiltered infiltration if the building is not positively pressurized.

Residual Impact After Mitigation

Construction related impacts associated with of the 2022 RTP/SCS to sensitive receptors would be less than significant after mitigation. Additionally, with the application of existing mitigation measure AQ-3, the implementation of the 2022 RTP/SCS would not introduce any new regional or localized diesel toxic-related impacts than those described in the 2018 RTP/SCS EIR. However, the impacts to sensitive receptors associated with the operation and use of the transportation projects and the re-entrainment of roadway sediments as a result of the 2022 RTP/SCS would remain significant and unavoidable, as it was for the 2018 RTP/SCS, because implementation of the 2022 RTP/SCS includes and expands the transportation projects identified in the 2018 RTP/SCS. As such, this impact remains significant and unavoidable.

Impact AIR-4	Project implementation could result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.
<i>Impact Determination</i>	<i>Less than Significant</i>
Threshold	Result in the release of other emissions (such as those leading to odors) adversely affecting a substantial number of people).

Impact Discussion

Typically, odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

With respect to odors, the human nose is the sole sensing device. The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; in fact, an odor that is offensive to one person (e.g., from a fast-food restaurant) may be perfectly acceptable to another. It is also important to note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor

fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word “strong” to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air. When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

Construction Odors

During construction activities, the potential for generation of objectionable odors in the form of diesel exhaust in the immediate vicinity of the site. However, these emissions are short-term in nature and will rapidly dissipate and be diluted by the atmosphere downwind of the emission sources. Additionally, odors would be localized and generally confined to the construction area. Therefore, construction odors would result in a less than significant impact related to odor emissions.

Operational Odors

Implementation of the 2022 RTP/SCS would have similar impacts related to odors as described in the 2018 RTP/SCS. It does not include the construction of any land uses generally identified as sources of odors. Therefore, the operational impact is less than significant.

Mitigation Measures

No mitigation measures are required.

3.2.7 Cumulative Impacts

As explained in Section 3.3, *Cumulative Projects Setting*, the cumulative effects of the 2022 RTP/SCS are included in the analysis of the 2022 RTP/SCS impacts. As discussed above, transportation projects included in the 2022 RTP/SCS and future development envisioned in the 2022 RTP/SCS would result in short-term and long-term air pollutant emissions. While the 2022 RTP/SCS is expected to have a less than significant impact related to short-term construction emissions with mitigation incorporated, and decrease regional emissions of ozone precursors, the 2022 RTP/SCS would potentially increase PM₁₀ emissions from roadway activity relative to 2015 baseline. This would pose a cumulative significant impact to sensitive receptors.

3.3 Greenhouse Gas Emissions

This section analyzes the additional impacts of the 2022 RTP/SCS, relative to the 2018 RTP/SCS, potential impacts related to greenhouse gas emissions and climate change. Both temporary impacts relating to construction activity and long-term impacts associated with population growth and associated growth in vehicle traffic and energy consumption are discussed. This analysis was prepared using methodologies and assumptions recommended by the Shasta County Air Quality Management District (SCAQMD) and California Air Resources Board (CARB).

3.3.1 Environmental Setting

Greenhouse gases (GHGs) are released as byproducts of fossil fuel combustion, waste disposal, energy use, land use changes, and other human activities. This release of gases, such as carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and chlorofluorocarbons, creates a blanket around the earth that allows light to pass through but traps heat at the surface, preventing its escape into space. While this is a naturally occurring process known as the greenhouse effect, human activities have accelerated the generation of GHGs beyond natural levels. The overabundance of GHGs in the atmosphere has led to an unexpected warming of the earth and has the potential to severely impact the earth's climate system.

Each GHG differs in its ability to absorb heat in the atmosphere based on the lifetime, or persistence, of the gas molecule in the atmosphere. CH₄ traps over 25 times more heat per molecule than CO₂, and N₂O absorbs 298 times more heat per molecule than CO₂. Often, estimates of GHG emissions are presented in carbon dioxide equivalents (CO₂e). Expressing GHG emissions in carbon dioxide equivalents takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO₂ were being emitted.

3.3.2 Sources of Greenhouse Gas Emissions

In 2022, CARB released the 2022 edition of the California GHG inventory covering calendar year 2020 emissions. In 2020, California emitted 369.2 million gross metric tons of CO₂e including from imported electricity. Combustion of fossil fuel in the transportation sector was the single largest source of California's GHG emissions in 2020, accounting for approximately 38 percent of total GHG emissions in the state. Continuing the downward trend from previous years, transportation emissions decreased 27 million metric tons of CO₂e in 2020, though the intensity of this decrease was most likely from light duty vehicles after shelter-in-place orders were enacted in response to the COVID-19 pandemic. Emissions from the electricity sector account for 16 percent of the inventory and have remained at a similar level as in 2019 despite a 44 percent decrease in in-state hydropower generation (due to below average precipitation levels), which was more than compensated for by a 10 percent growth in in-state solar generation and cleaner imported electricity incentivized by California's clean energy policies. California's industrial sector accounts for the second largest source of the state's GHG emissions in 2020, accounting for 23 percent (CARB 2022).

3.3.3 Regulatory Setting

3.3.3.1 State

Executive Order S-3-05

Executive Order (EO) S-3-05, signed by Governor Arnold Schwarzenegger in 2005, proclaims that California is vulnerable to the impacts of climate change. It declares that increased temperatures could reduce the Sierra Nevada snowpack, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To combat those concerns, the EO established total GHG emission targets for the state. Specifically, emissions are to be reduced to the 2000 level by 2010, the 1990 level by 2020, and to 80 percent below the 1990 level by 2050.

Assembly Bill 32 Climate Change Scoping Plan and Updates

In 2006, the California legislature passed Assembly Bill (AB) 32 (Health and Safety Code § 38500 et seq., or AB 32), also known as the Global Warming Solutions Act. AB 32 required CARB to design and implement feasible and cost-effective emission limits, regulations, and other measures, such that statewide GHG emissions are reduced to 1990 levels by 2020 (representing a 25 percent reduction in emissions). Pursuant to AB 32, CARB adopted a Scoping Plan in December 2008, which outlined measures to meet the 2020 GHG reduction goals. California exceeded the target of reducing GHG emissions to 1990 levels by the year 2017.

The Scoping Plan is required by AB 32 to be updated at least every five years. The latest update, the 2022 Scoping Plan Update, outlines strategies and actions to reduce greenhouse gas emissions in California. The plan focuses on achieving the state's goal of reaching carbon neutrality by 2045 and reducing greenhouse gas emissions to 40% below 1990 levels by 2030. The plan includes a range of strategies across various sectors, including transportation, industry, energy, and agriculture. Some of the key strategies include transitioning to zero-emission vehicles, expanding renewable energy sources, promoting sustainable land use practices, implementing a low-carbon fuel standard, and reducing emissions from buildings. Additionally, the plan addresses equity and environmental justice by prioritizing investments in communities most impacted by pollution and climate change. The plan also aims to promote economic growth and job creation through the transition to a low-carbon economy.

Senate Bill 32 and Assembly Bill 197 of 2016

In August 2016, Governor Brown signed SB 32 and AB 197, which serve to extend California's GHG reduction programs beyond 2020. SB 32 amended the Health and Safety Code to include § 38566, which contains language to authorize CARB to achieve a statewide GHG emission reduction of at least 40 percent below 1990 levels by no later than December 31, 2030.

Senate Bill 375

In 2008, SB 375 was introduced to address climate change by reducing GHGs associated with land use and transportation. The bill establishes regional GHG reduction targets for transportation planning agencies,

required metropolitan planning organizations (MPOs) to develop Sustainable Communities Strategies (SCS), encouraged transit and sustainable transportation methods, and provided incentives for local governments to develop sustainable transportation planning.

Senate Bill X1-2 of 2011, Senate Bill 350 of 2015, and Senate Bill 100 of 2018

In 2018, SB 100 was signed codifying a goal of 60 percent renewable procurement by 2030 and 100 percent by 2045 Renewables Portfolio Standard.

3.3.3.2 Local

City of Shasta Lake General Plan

The City of Shasta Lake finalized the 2040 General Plan in January 2023. The General Plan is comprehensive and long-range in its scope. It will be used on an ongoing basis to direct the City's decision making, reflecting the community's commitment to the planning ideals and vision set forth herein. It is the City's goal that all actions related to the City's physical development should be consistent with the General Plan vision. The General Plan's Health and Safety Element addresses policies for maintaining the health and welfare of its citizens. Among those are policies that direct action to combat climate change. The following policies are applicable to the Proposed Project:

Policies

HS 5.1: Incorporate climate change considerations into city processes and planning efforts, utilizing best available data to understand climate predictions and the potential impacts on community resources and facilities.

HS-5.2: Actively participate in regional discussions on infrastructure improvements and adaptation strategies related to climate resiliency and addressing potential community impacts.

3.3.4 Environmental Impacts

3.3.4.1 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, climate change impacts are considered significant if implementation of the Proposed Project would:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The Appendix G thresholds for GHG's do not prescribe specific methodologies for performing an assessment, do not establish specific thresholds of significance, and do not mandate specific mitigation measures. Rather, the CEQA Guidelines emphasize the lead agency's discretion to determine the appropriate methodologies and thresholds of significance consistent with the manner in which other

impact areas are handled in CEQA. With respect to GHG emissions, the CEQA Guidelines Section 15064.4(a) states that lead agencies “shall make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate” GHG emissions resulting from a project. The CEQA Guidelines note that an agency has the discretion to either quantify a project’s greenhouse gas emissions or rely on a “qualitative analysis or other performance-based standards.” (14 CCR 15064.4(b)). A lead agency may use a “model or methodology” to estimate GHG emissions and has the discretion to select the model or methodology it considers “most appropriate to enable decision makers to intelligently take into account the project’s incremental contribution to climate change.” (14 CCR 15064.4(c)). Section 15064.4(b) provides that the lead agency should consider the following when determining the significance of impacts from GHG emissions on the environment:

1. The extent a project may increase or reduce GHG emissions as compared to the existing environmental setting.
2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4(b)).

In addition, Section 15064.7(c) of the CEQA Guidelines specifies that “[w]hen adopting or using thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence” (14 CCR 15064.7(c)). The CEQA Guidelines also clarify that the effects of GHG emissions are cumulative and should be analyzed in the context of CEQA’s requirements for cumulative impact analysis (see CEQA Guidelines Section 15130(f)). As a note, the CEQA Guidelines were amended in response to Senate Bill 97. In particular, the CEQA Guidelines were amended to specify that compliance with a GHG emissions reduction plan renders a cumulative impact insignificant.

Per CEQA Guidelines Section 15064(h)(3), a project’s incremental contribution to a cumulative impact can be found not cumulatively considerable if the project would comply with an approved plan or mitigation program that provides specific requirements that would avoid or substantially lessen the cumulative problem within the geographic area of the project. To qualify, such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency. Examples of such programs include a “water quality control plan, air quality attainment or maintenance plan, integrated waste management plan, habitat conservation plan, natural community conservation plans [and] plans or regulations for the reduction of greenhouse gas emissions.” Put another way, CEQA Guidelines Section 15064(h)(3) allows a lead agency to make a finding of less than significant for GHG emissions if a project complies with adopted programs, plans, policies and/or other regulatory strategies to reduce GHG emissions.

The significance of the Project's GHG emissions is evaluated consistent with CEQA Guidelines Section 15064.4(b)(2) by considering whether the Project complies with applicable plans, policies, regulations and requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. The Project will be assessed for consistency with SB 375 emissions reduction targets and the California AB 32 Scoping Plan and subsequent updates.

3.3.4.2 *Methods of Analysis*

Short-term Emissions

The California Air Pollution Control Officer Association (CAPCOA) does not discuss whether any of the suggested threshold approaches adequately address impacts from construction activity. However, construction-generated emissions are short-term and of temporary duration, lasting only as long as construction activities occur. In addition, neither SCAQMD nor Shasta County have identified any construction-related GHG emissions thresholds. Furthermore, construction-related emissions are speculative at the RTP/SCS level because such emissions are dependent on the characteristics of individual development projects. However, because construction associated with the transportation projects and land use scenario envisioned by the 2022 RTP/SCS would generate temporary GHG emissions (primarily due to the operation of construction equipment and truck trips), a qualitative analysis is provided below. Additionally, all appropriate mitigation measures are discussed below, to ensure that GHG emissions are reduced to the best extent possible.

Long-Term Emissions

GHG emissions from transportation sources in Shasta County were estimated using EMFAC 2014 based on regional vehicle miles traveled (VMT) data generated using SRTA Travel Demand Model (ShastaSIM). The EMFAC 2014 model generates an output of CO₂ emissions, which were used as the overall indicator of greenhouse gas emissions, per the recommendations of the CARB SB 375 Regional Targets Advisory Committee. Essentially, EMFAC 2014 takes activity data, in this case, VMT, and multiplies it by the appropriate emissions factor (e.g., tons of CO₂ per VMT), to determine total CO₂ emissions. This general calculation is then customized to take into consideration region-specific fleet mixes and vehicle speeds.

Transportation CO₂ emissions for all vehicle classes were calculated using the Emission FACtors (EMFAC) 2014 emissions model and VMT was estimated using ShastaSIM. The GHG emissions and VMT were modeled for three scenarios: 2015 baseline conditions, 2042 growth and development with the 2022 RTP/SCS road network and land use scenario (i.e., 2042 Project), and 2042 growth and development with the road network and land use scenario envisioned in the 2018 RTP/SCS for its planning horizon (i.e., 2042 No Project). The 2035 Project scenario was modeled in EMFAC 2014 to evaluate the project's conformity with SB 375 targets. For this scenario, EMFAC 2014 was run with SB 375 mode activated, which turns off emission benefits from the Advanced Clean Cars program and Low Carbon Fuel Standards and includes only emissions from passenger vehicle classes. VMT generated by pass-through trips was excluded for SB 375 conformity modeling scenario, but was included for the other scenarios. The SCAQMD, County of Shasta, and all three of the incorporated cities do not promulgate thresholds for GHG emissions;

therefore, the analysis will rely on a multi-tiered approach to analyzing GHG. As such, the Project will be assessed for its consistency with the SB 375 GHG emissions reduction targets, SB 32, and the most up to date California Scoping Plan.

3.3.4.3 Project Impacts and Mitigation Measures

Impact GHG-1	Project implementation could, either directly or indirectly, generate greenhouse gas emissions that may have a significant impact on the environment.
<i>Impact Determination</i>	<i>Less than Significant with Mitigation</i>
Threshold	Substantial greenhouse gas emissions generated.

Impact Discussion

Construction

Construction activities associated with transportation improvement projects and future land use patterns envisioned by the proposed plan would generate temporary short-term GHG emissions primarily due to the operation of construction equipment and truck trips. Construction-related GHG emissions are speculative at the plan level because such emissions are dependent on the characteristics of individual development projects.

Implementation of the RTP/SCS would result in short-term emissions from construction of transportation projects and future development envisioned under the RTP/SCS. The 2022 RTP/SCS includes 72 new minor projects relative to the 2018 RTP/SCS. None of the modified or new projects in the 2022 RTP/SCS list would be substantially different from those on the 2018 RTP/SCS list in terms of geographical location, type of project, or size of project. In addition, the land use scenario envisioned by the 2022 RTP/SCS is similar to that contained in the 2018 RTP/SCS and concentrates the forecasted growth in population and employment in the region in urban areas and corridors of the County while preserving the distinct identity of existing cities and towns. Appendix B provides a list of new projects included in the 2022 RTP/SCS. As shown, there are a variety of new construction projects listed in the 2022 RTP/SCS including bridge replacements, street improvements, trails and trailheads, bike lanes, airport roadway access improvements, as well as others.

Furthermore, GHG emissions generated by the construction sector have been declining in recent years. For instance, construction equipment engine efficiency has continued to improve year after year. The first federal standards (Tier 1) for new off-road diesel engines were adopted in 1994 for engines over 50 horsepower (hp) and were phased in from 1996 to 2000. In 1996, a Statement of Principles pertaining to off-road diesel engines was signed between the USEPA, CARB, and engine makers (including Caterpillar, Cummins, Deere, Detroit Diesel, Deutz, Isuzu, Komatsu, Kubota, Mitsubishi, Navistar, New Holland, Wis-

Con, and Yanmar). On August 27, 1998, the USEPA signed the final rule reflecting the provisions of the Statement of Principles. The 1998 regulation introduced Tier 1 standards for equipment under 50 hp and increasingly more stringent Tier 2 and Tier 3 standards for all equipment with phase-in schedules from 2000 to 2008. As a result, all off-road, diesel-fueled construction equipment manufactured in 2006 or later has been manufactured to Tier 3 standards. Tier 3 engine standards reduce precursor and subset GHG emissions such as nitrogen oxide by as much as 60 percent. On May 11, 2004, the USEPA signed the final rule introducing Tier 4 emission standards, which were phased in over the period of 2008-2015. The Tier 4 standards require that emissions of nitrogen oxide be further reduced by about 90 percent. All off-road, diesel-fueled construction equipment manufactured in 2015 or later will be manufactured to Tier 4 standards.

Nevertheless, because the 2022 RTP/SCS includes more projects, it would potentially result in a greater amount of short-term GHG emissions associated with their construction. With incorporation of mitigation measure GHG-1, however, this impact would remain less than significant.

Operations

Projected GHG emissions for the year 2042 under the proposed 2022 RTP/SCS were compared to the 2015 baseline and to the year 2042 under the future No Project scenario, a scenario in which only those improvement projects included in the existing adopted 2018 RTP/SCS would occur. GHG emissions for the 2022 RTP/SCS were calculated using CARB's EMFAC2014 air quality model based on the estimated VMT. Table 3.3-1 summarizes the plan's transportation-related GHG emissions from all vehicle classes. An analysis of all vehicle classes is provided to determine the significance of total GHG emissions in accordance with the CEQA Guidelines. As such, if the 2022 RTP/SCS does not result in a significant increase in GHG emissions, impacts would be less than significant. This is independent of the SB 375 analysis and regional targets for per-capita transportation emissions from passenger vehicles.

Table 3.3-1. GHG Emission Comparison		
Scenario	GHG Emissions (MT/year)	Percent Change Relative to Baseline
2015 Baseline ¹	1,085,399	-
2042 Project ²	659,482	-39.2%
2042 No Project ²	746,204	-31.3%

Sources: ¹2018 RTP/SCS SEIR; ²EMFAC 2014

As shown in Table 3.3-1, the 2042 Project GHG emissions would be below the 2015 baseline and the 2042 No Project Scenario. As such, operations associated with the 2022 RTP/SCS would not introduce any new regional or localized impacts and overall would lead to a greater reduction in annual GHG emissions than the No Project Scenario. Therefore, impacts would remain less than significant, as described in the 2018 RTP/SCS.

Existing Mitigation Measures

The following mitigation measure was implemented as a result of the 2015 RTP/SCS and the 2018 SEIR greenhouse gas determination. Implementation of this mitigation measure resulted in a less than significant impact in the 2018 RTP/SCS EIR. For the 2022 RTP/SCS, implementation of this mitigation measure would continue to provide GHG emission reduction measures for the Proposed Project.

GHG-1: Control Measures for Construction GHG Emissions.

The individual project lead agency shall ensure that applicable GHG-reducing emissions measures for off-road construction vehicles are implemented during construction. The measures shall be noted on all construction plans and the lead agency shall perform periodic site inspections. Applicable GHG-reducing measures include the following:

- Use of diesel construction equipment meeting CARB's Tier 2 standards or cleaner (i.e., Tier 3 or 4) off-road heavy-duty diesel engines, and comply with the State Off-Road Regulation.
- Use of on-road heavy-duty trucks that meet the CARB's 2007 or cleaner certification standard for on-road heavy-duty diesel engines and comply with the State On-Road Regulation.
- All on and off-road diesel equipment shall not idle for more than 5 minutes. Signs shall be posted in the designated queuing areas and or job sites to remind drivers and operators of the 5-minute idling limit.
- Use of electric equipment in place of diesel-powered equipment, where feasible.
- Substitute gasoline-powered in place of diesel-powered equipment, where feasible.
- Use of alternatively fueled construction equipment on-site where feasible, such as compressed natural gas (CNG), liquefied natural gas (LNG), propane or biodiesel, in place of diesel-powered equipment for 15 percent of the fleet.
- Use of materials sources from local suppliers
- Recycling or reuse of at least 65 percent of construction waste materials.

Residual Impact After Mitigation

Impacts would remain less than significant after mitigation.

Impact GHG-2	Project implementation could conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.
<i>Impact Determination</i>	<i>Less than Significant</i>
Threshold	Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing greenhouse gas emissions.

Impact Discussion

As previously described, the significance of the Project's GHG emissions is evaluated consistent with CEQA Guidelines Section 15064.4(b)(2) by considering whether the Project complies with applicable plans, policies, regulations and requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. Specifically, the Project will be assessed for its consistency with the SB 375 GHG emissions reduction targets, SB 32 and the most up to date California Scoping Plan.

SB 375 comprises one of the key strategies in the 2022 Scoping Plan to reduce GHG emissions and VMT from transportation sources, which generate the majority of California's GHG emissions. SB 375 requires that local MPOs develop integrated land use and transportation plans to meet GHG reduction targets for cars and light trucks and also allows CARB to update and reinforce the reduction targets over time. According to the Scoping Plan, with implementation of SB 375, and other strategies outlined in the Scoping Plan, California will be able to meet statewide targets set forth in SB 32.

In order to assess the achievement of the 2020 target, the proposed method is to rely more on observed data rather than modeled results. Several sources have been identified by SRTA that can be utilized to assess the achievement of the 2020 target, including VMT+ and StreetLight Data, California Public Road Data, PeMS Data, and SB 150 Data. According to the SB 150 data, the total GHG per capita in 2020 is estimated to decrease 4.3% from the 2005 baseline.

As shown below in Table 3.3-2, the estimated regional emissions for 2035 with the implementation of the 2022 RTP/SCS are compared to the 2005 baseline and the 2020 emissions.

Table 3.3-2. SB 375 Emissions and Targets

Scenario	Per Capita CO₂ Emissions (lbs CO₂/person /day)	Per Capita CO₂ Emissions with Off-Model Adjustment (lbs CO₂/person/day)	Preliminary % Change Relative to Baseline, Prior to EMFAC Adjustment	EMFAC Adjustment to % Change	% Change Relative to Baseline with EMFAC Adjustment	Target Emissions Decrease from Baseline	Meets Target?
2005 Baseline ¹	21.31	-	-	-	-	-	-
2020	-	-	-	-	-4.3%	4%	Yes
2035 Project	19.08	19.03	-10.46%	-2.71%	-13.42%	4%	Yes

Notes: ¹ Per CARB guidance, the 2005 baseline is based on EMFAC2011 modeling conducted for the 2015 RTP/SCS. The 2020 target assessment used observed data over models. SRTA utilized multiple sources, including StreetLight, HPMS, and SB 150 data. An estimation derived from SB 150 data revealed a 4.3% reduction in total GHG emissions per capita in 2020 when compared to the levels in 2005.

The 2035 data produced using EMFAC2014 has been normalized to EMFAC 2011 results; therefore, the finding in the previous RTP/SCS remains correct (that SRTA meets its SB 375 targets).

Source: EMFAC 2014. Refer to Appendix C for Model Data Outputs.

As shown, the Proposed Project meets the targets established by SB 375. More specifically, the 2022 RTP/SCS would result in approximately a 13 percent reduction in CO₂ from the 2005 baseline, which would meet the 4 percent reduction criteria established by SB 375. As such, the Project would be consistent with SB 375 emissions reduction targets and this impact would remain less than significant.

The Scoping Plan (approved by CARB in 2008 and updated most recently in 2022) provides a framework for actions to reduce California's GHG emissions and requires CARB and other state agencies to adopt regulations and other initiatives to reduce GHGs. The Scoping Plan is not directly applicable to specific projects, nor is it intended to be used for project-level evaluations. It does not provide recommendations for lead agencies to develop evidence-based numeric thresholds consistent with the Scoping Plan, the state's long-term GHG goals, and climate change science. Under the Scoping Plan, however, there are several state regulatory measures aimed at the identification and reduction of GHG emissions. CARB and other state agencies have adopted many of the measures identified in the Scoping Plan. Most of these measures focus on area source emissions (e.g., energy usage, high-GWP GHGs in consumer products) and changes to the vehicle fleet (i.e., hybrid, electric, and more fuel-efficient vehicles) and associated fuels (e.g., Low Carbon Fuel Standard), among others.

Transportation Sustainability is one of the key factors that the 2022 Scoping Plan addresses. In particular, the transportation sector is one of the largest sources of GHG emissions and other air pollutants. As a part of the strategies laid out to improve transportation sustainability in the state, some of the primary ways to help achieve the Scoping Plan's goals is reducing VMT, prioritizing projects that improve transit, bicycling, and other sustainable transportation choices, expand and complete planned networks of high-quality active transportation infrastructure, and ensure alignment of RTP/SCS with other local housing and land

use planning. The plan also focuses on achieving the State's goal of reaching carbon neutrality by 2045 and reducing greenhouse gas emissions to 40 percent below 1990 levels by 2030.

The 2022 RTP/SCS would promote transportation projects that are in alignment with the goals stated by the Scoping Plan. The 2022 RTP/SCS includes 72 new minor projects relative to the 2018 RTP/SCS. Furthermore, the 2022 RTP/SCS concentrates the forecasted growth in population and employment in the region in urban areas and corridors. The Projects planned for the 2022 RTP/SCS include bridge replacements, street improvements, trails and trailheads, bike lanes, and airport roadway access improvements. Additionally, as seen above in Table 3.3-2, the CO₂ emission reductions for the 2042 Project scenario will be less than the 2015 baseline and less than the 2042 no Project scenario, resulting in an overall 39.2 percent reduction of CO₂ from baseline. This would support the Scoping Plan's goal of reducing anthropogenic GHG emissions. Therefore, the 2022 RTP/SCS would support the applicable goals included in the most recent Scoping Plan.

The 2022 RTP/SCS alone is not intended to meet the SB 32 emissions reduction targets. Given that the primary statutory responsibility of the 2022 RTP/SCS is to achieve SB 375 targets, which it does, and therefore supports the applicable goals included in the 2022 Scoping Plan, the 2022 RTP/SCS has successfully contributed its share to meeting SB 32 targets. The land use scenario envisioned by the 2022 RTP/SCS supports higher-density development and active transportation projects. Therefore, the project would not conflict with any applicable GHG reduction plans and policies. This impact would remain less than significant.

Mitigation Measures

No mitigation measures are required.

3.3.5 Cumulative Impacts

GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern. Whereas pollutants with localized air quality effects have relatively short atmospheric lifetimes (about 1 day), GHGs have much longer atmospheric lifetimes of 1 year to several thousand years that allow them to be dispersed around the globe.

It is generally the case that an individual project of this size and nature is of insufficient magnitude by itself to influence climate change or result in a substantial contribution to the global GHG inventory. GHG impacts are recognized as exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective. The CEQA Guidelines also clarify that the effects of GHG emissions are cumulative and should be analyzed in the context of CEQA's requirements for cumulative impact analysis (see CEQA Guidelines Section 15130(f)). Per CEQA Guidelines Section 15064(h)(3), a project's incremental contribution to a cumulative impact can be found not cumulatively considerable if the project would comply with an approved plan or mitigation program that provides specific requirements that would avoid or substantially lessen the cumulative problem within the geographic area of the project. As discussed in the sections above, the Project would be consistent with the statewide emission reduction targets and policies to reduce GHG emissions. Therefore, the 2022 RTP/SCS would not

result in cumulatively considerable contribution to climate change and would remain a less than a significant cumulative impact.

3.4 Transportation

This section describes the County's existing transportation facilities and circulation system, outlines thresholds and performance standards used to assess potential impacts and identifies impacts and measures to mitigate impacts of the 2022 RTP/SCS. The 2022 RTP/SCS focuses on transportation projects of regional significance; therefore, the setting discussion and impact analysis provided in this section focuses on components of the regional transportation network (i.e., state highways, major arterials, transit services, etc.). The 2022 RTP/SCS is intended to improve transportation conditions within Shasta County. Traffic volumes were forecasted utilizing the SRTA's Regional Activity-based Travel Demand Model (ShastaSIM).

3.4.1 Environmental Setting

Roadway Network

The Shasta County regional road network is a network of highways and roads connecting cities and unincorporated communities providing rapid and efficient goods movement throughout the County. The regional road network also provides access to adjacent counties, Lassen Volcanic National Park, the Shasta-Trinity National Forest, Lava Beds National Monument in Siskiyou County, numerous Native American reservations, and other destinations.

Shasta County has approximately 3,543 miles of roadways maintained by various federal, state and local agencies and Tribal governments. The majority of roads are maintained by local jurisdictions, including the City of Anderson (1.4 percent), the City of Redding (13.0 percent), the City of Shasta Lake (2.2 percent) and the Shasta County (63.8 percent). State highways represent 8.7 percent of the regional network. Native American tribal roads account for 0.1 percent of the regional network. The remaining 10.8 percent of the regional network consists of forestry or other service roads maintained by state and federal agencies (SRTA RTP/SCS 2022). The regional roads which connect cities, or provide access through cities in the County include:

- Interstate 5 from the Tehama County line to Siskiyou County line through Shasta County.
- State Route 299 from the Lassen County line through Redding to the Trinity County line.
- State Route 273 southern City of Anderson to Interstate 5 northern City of Redding.
- State Route 151 from Interstate 5 west through the Shasta Lake City.
- State Route 44 from Interstate 5 in Redding east to the Lassen County line.
- State Route 89 from the Siskiyou County line to the intersection with State Route 44 near Old Station. A segment of State Route 89 is the access route to Lassen National Park in southeast Shasta County.
- State Route 36 from the Tehama County line through the community of Platina in southwest Shasta County to the Trinity County line.

Operations

A variety of performance measures can be used to assess transportation systems. Depending on the type of performance evaluation required, performance measures may be very specific and focus on specific intersections or roadway segments, or performance measures may be aggregated to evaluate the overall operation of a regional transportation system. A regional travel model typically only contains information on the number of lanes and link capacity on roadway segments and lacks information detailed enough to calculate accurate intersection information. Because of the programmatic nature of the proposed 2022 RTP/SCS, the performance measures discussed herein focus on vehicles miles traveled (VMT) as the metric to assess and quantify the transportation system.

VMT is a measurement of miles traveled by vehicles in a specified region for a specified time period. For this analysis, VMT defines the number of miles traveled within Shasta County for various time periods. Evaluation for VMT within the County for baseline conditions, and for future year conditions with and without implementation of the 2022 RTP/SCS are shown. VMT for this DSEIR does not include trips that pass through (pass through trips) Shasta County or external trips. The 2022 RTP/SCS transportation improvement projects do not include new roadways, bypasses, or other improvements that would reduce pass through VMT. Further, pass-through trips are not made by Shasta County residents, as residents' trips either start or end, or both, within the County. Therefore, this VMT analysis focuses on trips that originate and/or terminate within Shasta County. Increased VMT is anticipated with regional growth that would occur with or without the 2022 RTP/SCS. An increase in VMT does not necessarily reflect deficient traffic operations. Rather, it shows how many miles would be traveled County-wide under varying scenarios.

Transit Services

Existing mass transportation services in Shasta County consist of both public transit and Amtrak rail passenger service. Transit services include inter-city, fixed-route, and demand-responsive operations. Common carriers within Shasta County include Amtrak, Greyhound, Sage Stage, and others. Redding Area Bus Authority (RABA) operates fixed route and demand-response service within the City of Redding and some unincorporated areas within Shasta County. Under a contract with Shasta County, RABA operates an express route service, Burney Express, between the community of Burney and City of Redding. The service operates Monday through Saturday (SRTA 2023).

Dignity Health Connected Living (DHCL) is a transportation provider for older adults living within Shasta County. The DHCL is the Consolidated Transportation Services Agency (CTSA) for Shasta County. The CTSA provides specialized services to those who cannot use conventional transit services, such as older-adults and persons with disabilities (SRTA 2023). The CTSA services are provided Monday through Friday. DHCL also provides on-demand Sunday transit service under ShastaConnect.

Burney Express: The County contracts with RABA to provide transit service to persons living in the community of Burney and who live outside of the RABA service area (SRTA 2023). The service operates Monday through Friday with three round trips daily.

Amtrak: Greyhound offers north and southbound bus service from the Redding Greyhound Station. There is no east or westbound commercial bus connection. Sage Stage, operated by the Modoc County Transportation Commission, provides daily bus service between Alturas and Redding (Sage Stage 2023).

Rail Transportation

Passenger rail service in the County is provided by Amtrak as noted above. Interregional freight rail operations in Shasta County are conducted by the Union Pacific Transportation Company. Freight loading/unloading opportunities on the Union Pacific Railroad mainline are available at the following rail siding locations: Cottonwood, Culp, Anderson, Girvan, Redding, Silverthorn, O'Brien, Mead, Lakehead, Delta, Lamoine, Gibson, Sims, Conant, Dirigo, and Castle Crags.

Amtrak: Amtrak's Coast Starlight Seattle/Portland/Los Angeles rail route services Redding with daily trips both north and southbound of the Redding Station (Amtrak 2018). Air Transportation

There are three publicly operated airports in Shasta County: Redding Regional Airport, Benton Airpark, and Fall River Mills Airport. The Redding Regional Airport and the Benton Airpark are operated by the City of Redding, and the Fall River Mills Airport is owned by Shasta County.

The Redding Regional Airport is the only commercial airport in the County. It was originally built by the U.S. Army as a military airfield in 1942 and dedicated to the City of Redding in 1947. Today, it is the largest civilian facility in California, north of Sacramento and serves the entire area. The airport has 84 tie-down spaces and the City of Redding owns hangars that will accommodate 102 aircraft. Scheduled air service are provided by Alaska Airlines, United Airlines, and Avelo Airlines offering flights to San Francisco, Los Angeles, Seattle, and Burbank.

Benton Airpark is uniquely situated within the city limits slightly more than one mile from the midtown business area and the center of Redding. Benton Airport is a small, single runway owned and operated by the City of Redding. Benton Airpark is part of the larger Benton Air Center, where aircraft maintenance, charters, flight training and aircraft rental is offered.

Fall River Mills Airport is located in the northeast corner of the County, 70 miles from Redding. The airport was originally built in the 1940's as a location for World War II pilot training. Hangars, runway lights, tie-downs and security fencing have since been added. Fall River Mills Airport is currently a general aviation facility with a 5,000-foot runway and several permanent and portable hangers.

Bicycle/ Pedestrian Facilities

There are several classes of bicycle facilities in Shasta County that allow citizens and visitors to be able to experience walking and bicycling safely between areas of the community. Class I offers a dedicated shared-use lane physically separated from traffic lanes that generally offers the most comfort for pedestrians and bicyclists. The subsequent classes of bike lanes include a separated bike lane, bicycle boulevard, buffered bike lane, bike lane, and shared roadway (GoShasta Active Transportation Plan 2018). There are several regional and local bicycle and pedestrian plans to encourage alternative modes of

transportation and enhance safety amongst local communities. Among some of the most recent plans are the GoShasta Active Transportation Plan, the City of Redding Active Transportation Plan, 2011 City of Anderson Pedestrian Accessibility and Safety Master Plan, 2011 City of Shasta Lake Bicycle Transportation Plan, and the 2012 Pit River Tribe/Burney Walkway Plan.

3.4 Regulatory Setting

3.4.1 State

State requirements for long-range transportation plans are similar to the federal regulations. However, key additional requirements described in Government Code Section 65080 include:

- Compliance with CEQA.
- Consistency with State Transportation Improvement Program.
- Use of program level performance measures that include goals and objectives.
- RTPs must include a policy element, an action element, and a financial element.

California Transportation Commission Regional Transportation Plan Guideline

The California Transportation Commission (CTC) publishes and periodically updates guidelines for the development of long-range transportation plans, such as SRTA's RTP/SCS. Pursuant to Government Code Section 65080(d), each regional transportation planning agency (RTPA) is required to adopt and submit an updated RTP to the CTC and the Department of Transportation (Caltrans) every four years. SRTA is the designated RTPA for Shasta County.

Under Government Code Section 14522, the CTC is authorized to prepare guidelines to assist in the preparation of RTPs. The CTC's RTP guidelines suggest that projections used in the development of an RTP should be based upon available data (such as from the U.S. Census Bureau), use acceptable forecasting methodologies, and be consistent with the Department of Finance baseline projections for the region. The guidelines further state that the RTP should identify and discuss any differences between the agency projections and those of the Department of Finance. The most recent update to the RTP guidelines was published in 2017, and includes new provisions for complying with SB 375 (see below), as well as new guidelines for regional travel demand modeling. The regional travel demand model guidelines are "scaled" to different size groupings of metropolitan planning organizations (MPO). The groupings range from A through E with A being the least complex and E being the most complex. SRTA is included in the "D" grouping of all MPOs.

Senate Bill 375

The Sustainable Communities Strategy and Climate Protection Act, SB 375 (codified at CAL.GOV'T CODE §§ 14522.1, 14522.2, 65080.01, 65080, 65400, 65583, 65584.01, 65584.02, 65584.04, 65587, 65588; CAL. PUB. RES. CODE §§2161.3, 21155, 21159.28), is a law passed in 2008 by the California legislature that requires each MPO to demonstrate, through the development of an SCS, how its region will integrate transportation, housing, and land use planning to meet the greenhouse gas emission (GHG) reduction

targets set by the State. In addition to creating requirements for MPOs, it also creates requirements for the California Transportation Commission and CARB.

Department of Transportation

Caltrans is responsible for the design, construction, maintenance, and operation of the California State Highway System, as well as that portion of the Interstate Highway System within the state's boundaries. Alone and in partnership with Amtrak, Caltrans is also involved in the support of intercity passenger rail service in California and is a leader in promoting the use of alternative modes of transportation.

Transportation facilities under the jurisdiction of Caltrans within the vicinity of the Project Site include Interstate 5 (I-5) (including on- and off-ramps) and Montague Road (SR-3).

Caltrans' Guide for the Preparation of Traffic Impact Studies contains the following policy pertaining to the LOS standards within Caltrans jurisdiction:

Caltrans endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" on State highway facilities, however, Caltrans acknowledges that this may not be always feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS.

Consistent with Caltrans practice, the TIS considered LOS "D" as the standard threshold acceptable operations for any intersection under Caltrans jurisdiction.

3.4.1.1 Regional

2018 Regional Transportation Plan/Sustainable Communities Strategy

The SRTA RTP/SCS was updated in 2004, 2010, 2015, and most recently in 2018. Updates prior to 2015 did not contain a SCS, as this was a new requirement pursuant to SB 375. The 2018 SEIR was prepared for the 2018 RTP/SCS update to satisfy CEQA requirements. The 2018 RTP/SCS update lists roadway projects to improve the transportation system and infrastructure in the County. Although a number of projects from the 2018 RTP/SCS have been completed, many have not and have been incorporated into the 2022 RTP/SCS.

Long Range Transit Plan

The SRTA's Long Range Transit Plan was established in 2021 to provide a long-term vision for transportation in the County. The comprehensive plan analyzes several future scenarios for the region and promotes a range of strategies to support the efforts of the County to enhance transportation. The plan identifies various strategies, including enhancing multi-modal accessibility for pedestrians and bicyclists, improving transit infrastructure and amenities, implementation of policies that support low-income fares and funding for new programs, and alternative mobility and technology strategies. The strategies are sorted based on the availability of funds, future land use and development trends, and community perspectives on alternative transportation.

Bicycle and Pedestrian Facilities Standards

The following bicycle and pedestrian plans that address active transportation within Shasta County:

- Go Shasta Regional Active Transportation Plan
- 2017 Shasta Coordinated Transportation Plan
- SRTA Non-Motorized Program
- Shasta County 2010 Bicycle Transportation Plan
- The City of Redding Active Transportation Plan
- 2010-2015 City of Redding Bikeway Action Plan
- 2007 City of Anderson Bicycle Transportation Plan
- 2011 City of Anderson Pedestrian Accessibility & Safety Master Plan
- 2010 City of Shasta Lake Bicycle Transportation Plan
- 2012 Pit River Tribe/Burney Walkway Plan

The primary goals of the bicycle and pedestrian plans are to update the bikeway and pedestrian network, create uniformity in policies and design, identify funding opportunities, and evaluate programs. The recommended active transportation networks encourage interconnectedness between activity centers and throughout the cities and towns.

3.4.1.2 Local

County of Shasta General Plan

Shasta County General Plan's Circulation Element lays out a series of objectives and policies aimed at facilitating the function movement of people and goods throughout the County. The following policies are applicable to the Proposed Project:

Policies

C-1a: The County should actively promote and implement a variety of travel demand reduction measures aimed at more efficient use of existing roads, bridges, and parking facilities.

C-5c: The County shall work with RTPA to implement the recommendations for development and improvement of bikeways and bicycle facilities as described in the County's adopted Bikeway Plan. New development projects should be evaluated for their consistency with the County Bikeway Plan. Where appropriate, new development should dedicate land and/or construct/install bicycle facilities.

C-6a: Future road and street development including future right-of-way shall comply with the adopted County Development Standards.

C-7a: Shasta County shall work with the Cities of Anderson, Shasta Lake, and Redding, with the participation of the Department of Transportation, to jointly coordinate planning within the urban and suburban areas in order to develop a consistent land use pattern and a circulation system adequate to meet the short- and long-term needs. East-west and north-south linkages should be developed as part of this coordinated planning process to accommodate growth-related traffic. The Shasta County Regional Transportation Planning Agency shall be used as the principal agency for interjurisdictional circulation planning. The resulting circulation system should be reflected in the general plans of each jurisdiction and in the Regional Transportation Plan for Shasta County.

C-9b: Project proponents shall be required to implement effective measures included in the County's lists of Standard Mitigation Measures (SMM) and Best Available Mitigation Measures (BAMM) to reduce vehicle use and associated emissions related to existing and future land use development as part of the environmental review process.

C-10b: Shasta County shall ensure that all development projects comply with the intent of development policies and standards contained in adopted airport specific plans, facilities plans, or comprehensive land use plans for any airport in the County by restricting those land uses from the vicinity of airports which are deemed incompatible with customary airport operations.

C-11a: Efforts should be made to coordinate the street and road improvements identified in the Circulation Element of the General Plan with those identified in the Regional Transportation Improvement Plan to develop an integrated long-range schedule and funding program.

City of Anderson General Plan

The City of Anderson General Plan serves as a long-term policy guide for Anderson's physical, economic, and environmental growth. It is a statement of the community's vision for ultimate growth. The Plan will allow needed growth while protecting the "small town" characteristics of Anderson. The Plan emphasizes planning for the health and safety of all residents—now and in the future. Extending the various general plan diagrams to cover the entire planning area is a new feature of the General Plan.

The City of Anderson Circulation Element contains policies aimed at promoting safe transportation methods when considering development, including the following:

Policies

SP-2: Continue to work with the Shasta County Regional Transportation Planning Agency (RTPA) to implement those programs appropriate for the City of Anderson

SP-4: Provide an overall street pattern that has a functional relationship to land uses, accommodates future traffic volumes, and includes a wide variety of street types and designs to foster connectivity and walkability.

SP-7: Coordinate design standards with area-wide construction standards to promote regional planning and efficiency.

SP-13: Address future roadway needs through both new road construction and management of existing and planned roadway capacity.

SI-1: Incorporate provisions for bicycle, pedestrian, and public transit modes during the planning and development review processes for new development and new roadways.

BP-6: Design new roadway facilities to accommodate bicycle and pedestrian traffic. Include Class I, II or III bicycle facilities as appropriate. Through the Design Review process, provide sidewalks to all roads, except in cases where very low pedestrian volumes and/or safety considerations preclude sidewalks.

BI-2: Coordinate City bicycle routes with Shasta County and State bicycle routes.

TP-1: Ensure that new roadways and facilities can accommodate public transit.

TI-1: When reviewing development proposals, coordinate with public transit on appropriate standards for bus bays, bus turnouts, bus shelters, and other public transit amenities.

City of Redding General Plan

The City of Redding 2000-2020 General Plan serves as a long-term policy guide for physical, economic, and environmental growth. It is a statement of the community's vision for ultimate growth. The Redding General Plan Transportation Element includes policies that ensuring that the City has adequate circulation and a functioning transportation system. These include:

Policies

T4B: In collaboration with Shasta County, City of Anderson, City of Shasta Lake, and the Regional Transportation Planning Agency, integrate bicycle, pedestrian, and public transportation facility planning into regional and local transportation planning programs to encourage connectivity between jurisdictions. Encourage coordination among these agencies to develop joint prioritization, capital planning and programming, and implementation of street improvement projects and programs.

T7B: Require streets to be dedicated and improved in accordance with adopted street standards; allow modifications to standard street sections when approved by the Planning Commission and City Engineer.

T7G: Utilize intelligent transportation control systems, where appropriate, to improve traffic flow and safety on the street and highway system.

T8A: Participate in multijurisdictional efforts to plan, upgrade, and expand the regional road network.

T8B: Work closely with Caltrans and the RTPA to ensure that state facilities which go through the City—including SR 299, SR 44, SR 273, Interstate 5, and intersections/interchanges that involve those facilities—are maintained at an acceptable LOS as defined in this element.

T8C: Encourage Caltrans and the RTPA to incorporate desired City design features (Intelligent Transportation System programs, landscaped medians, Class II bike lanes, and detached sidewalks) within state facilities that function as arterials and gateways through the City.

T8D: Work closely with Shasta County to ensure that adequate street rights-of-way and improvements are provided in areas likely to annex to the City.

T14A: Continue to plan and develop the Redding Municipal Airport to maximize its contributions to business efficiency, economic development, and recreational opportunities within the region.

City of Shasta Lake General Plan

The City of Shasta Lake finalized the 2040 General Plan in January 2023. The General Plan is comprehensive and long-range in its scope. It will be used on an ongoing basis to direct the City's decision making, reflecting the community's commitment to the planning ideals and vision set forth herein. It is the City's goal that all actions related to the City's physical development should be consistent with the General Plan vision. The 2040 General Plan the Circulation Element provides policies aimed at facilitating the transportation and movement of its citizens. The following policies are applicable to the Proposed Project

Policies

CIR-1.4: Monitor, maintain, and improve, as necessary, the operation, safety, and performance of the street system, including roadway surfaces, capacity, and traffic calming.

CIR-1.5: Strive to attain a Level of Service (LOS) "C" and VMT reduction, so that potential congestion is minimized, VMT targets are met, and active transportation needs are addressed.

CIR-1.6: Improve unpaved roads, driveways, pedestrian and bicycle paths, and parking areas as appropriate and with consideration of reducing impervious surfaces.

CIR-2.1: Monitor, maintain, and improve, as necessary, the operation, safety, and performance of the street system, including roadway surfaces, capacity, and traffic calming. Strive to attain a Level of Service (LOS) "C" and VMT reduction to the maximum degree feasible to minimize potential congestion and increase safety on streets and at intersections.

CIR 3.1: Coordinate transportation planning and implementation with regional and local plans.

CIR 3.2: Plan for transportation modes and strategies that ensure good air quality, reduce greenhouse gas emissions, and reduce the need to devote additional lands to transportation uses.

CIR 3.3: Encourage the development and expansion of local and regional public transit systems. Request improvements in transit service.

CIR 3.9: Expand and maintain a safe and comprehensive bicycle system that connects the City's neighborhoods to public facilities, services, and recreational opportunities within the City.

CIR 4.3: Emphasize transportation projects and programs that will contribute to a reduction in vehicles miles traveled per capita while maintaining economic vitality and sustainability.

CIR 4.4: Coordinate transportation planning and implementation with state, regional, and local plans.

3.4.2 Environmental Impacts

3.4.2.1 Thresholds of Significance

The impact analysis provided below is based on the following CEQA Guidelines Appendix G thresholds of significance. Transportation impacts are considered significant when the project would:

- Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle and pedestrian facilities.
- Conflict or be inconsistent with CEQA Guidelines Section 1564.3, subdivision (b).
- Substantially increase hazards due to a geometric design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Result in inadequate emergency access.

3.4.2.2 Methods of Analysis

Traffic projections for the 2022 RTP/SCS were generated by ShastaSIM, SRTA's Regional Activity based Travel Demand Model. Regional travel demand models typically do not have sufficient network and zone detail to allow prediction of intersection turning volumes and delays when estimating travel time and transportation system performance. A regional travel model typically only contains information on the number of lanes and link capacity on roadway segments. However, it lacks information detailed enough to calculate accurate intersection information. As such, the analysis is primarily based on VMT for the region, as described above.

The travel demand model allows SRTA to obtain an understanding of the transportation network's performance characteristics (e.g., vehicle speeds, volume to capacity relationships, travel time, vehicle miles of travel, fuel consumption, and vehicle emissions) and estimate how socio-economic changes (e.g., population increases, land use development) will impact travel demand in the County. Furthermore, consequences of future changes, or absence of change, to the transportation system itself (e.g., building new facilities, improving existing facilities, or doing nothing at all) can be analyzed.

3.4.2.3 Project Impacts and Mitigation Measures

The following section presents a programmatic-level discussion of impacts to transportation and circulation from implementation of 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. 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.

Impact TR-1	Project implementation could conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle and pedestrian facilities.
<i>Impact Determination</i>	<i>Less than Significant.</i>
Threshold	Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle and pedestrian facilities.

Impact Discussion

There are several plans and programs that enhance the County's regional and local goals for the region's transportation system. The 2022 RTP/SCS includes 72 new minor projects relative to the 2018 RTP/SCS. None of the modified or new projects in the 2022 RTP/SCS list would be substantially different from those on the 2018 RTP/SCS list in terms of geographical location, type of project, or size of project. Appendix B provides a list of new projects included in the 2022 RTP/SCS. As shown, there are a variety of new construction projects listed in the 2022 RTP/SCS including bridge replacements, street improvements, construction of trails and trailheads, bike lanes and multi-use paths, airport roadway access improvements, expansions of transit centers and systems, and enhancements of safety elements to existing bike routes. As such, the 2022 RTP/SCS directly supports the goals and visions of the regional and local transportation plans and policies. Furthermore, the 2022 RTP/SCS promotes the expansion and enhancement of transit centers, which supports the strategies to improve transportation services and facilities outlined in the 2017 Shasta Coordinated Transportation Plan. The County and local City's General Plan policies generally promote coordination of planning efforts within the region, maintenance of local roads to ensure safety, expansion and usage of transit and public transportation systems, and promotion of pedestrian and bicycle pathways. Therefore, the 2022 RTP/SCS projects are consistent with the transportation goals of the locally and regionally adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities.

Mitigation Measures

No mitigation measures are required.

Impact TR-2	Project implementation could conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b).
<i>Impact Determination</i>	<i>Significant and Unavoidable</i>
Threshold	Conflict or inconsistency with CEQA Guidelines Section 15064.3, subdivision (b).

Impact Discussion

SB 743 was signed into law in 2013, with the intent to better align CEQA practices with statewide sustainability goals related to efficient land use, greater multimodal choices, and GHG reductions. The provisions of SB 743 become effective Statewide on July 1, 2020. Under SB 743, impacts will be determined by changes to VMT. VMT measures the number and length of vehicle trips made on a daily basis. VMT is a useful indicator of overall land use and transportation efficiency, where the most efficient system is one that minimizes VMT by encouraging shorter vehicle trip lengths, more walking and biking, or increased carpooling and transit. CEQA Guidelines Section 15064.3 describes specific considerations for evaluating a project's transportation impacts and states that "[g]enerally, VMT is the most appropriate measure of transportation impacts."

VMT Analysis

Countywide VMT is shown below in Table 3.4-1, comparing 2015 baseline conditions, the 2042 No Project scenario, and the 2042 Project scenario. The 2042 No Project scenario represents the annual VMT that would result from the continued implementation of the current 2018 RTP/SCS.

Table 3.4-1. Project Annual Vehicle Miles Traveled		
2015 Annual VMT	2042 No Project VMT	2042 with Project VMT
1,631,787,301	2,239,387,732	1,681,697,420

Source: SRTA 2015, 2018, 2022

As shown in Table 3.4-1 above, the VMT for the region will decrease compared to the 2042 No Project scenario. Additionally, it is noted that compared to 2015 baseline conditions, the annual 2042 VMT in the County will increase regardless of the potential implementation of the 2022 RTP/SCS. This increase is due to regional population growth that would occur in the County independent of policy and land use decisions by SRTA and its member agencies.

Because VMT would decrease compared to the 2042 No Project Scenario, but will overall increase compared to the 2015 baseline, the 2022 RTP/SCS could potentially conflict with CEQA Guidelines Section 15064.3, subdivision (b). Transportation improvement projects included in the 2022 RTP/SCS are not

specifically designed to increase the number of vehicles on the roads, but rather improve existing transportation infrastructure and improve safety of transportation systems. Appendix B provides a list of new projects included in the 2022 RTP/SCS. As shown, there are a variety of new construction projects listed in the 2022 RTP/SCS including bridge replacements, street improvements, trails and trailheads, bike lanes, airport roadway access improvements, as well as others. The 2018 RTP/SCS had previously determined the impacts to be significant unavoidable because VMT from the 2018 RTP/SCS increased compared to the 2015 baseline. Although the VMT associated with the 2022 RTP/SCS would be reduced compared to the 2042 No Project Scenario, the VMT would still remain greater than the 2015 baseline VMT. No feasible additional mitigation measures have been identified that would further reduce total VMT. As such, the impacts would remain significant and unavoidable.

Mitigation Measures

The 2022 RTP/SCS includes policies, alternative transportation projects, and transportation demand management projects that would encourage the use of transportation modes other than passenger vehicles. Nonetheless, implementation of the 2022 RTP/SCS would result in greater total VMT when compared to the 2015 baseline. No feasible additional mitigation measures have been identified that would further reduce total VMT. Refer to Section 5.0, Alternatives, for a discussion of 2022 RTP/SCS alternatives that examine land use and transportation scenarios that incorporate different assumptions regarding the combinations of future land uses and transportation system improvements.

Residual Impact After Mitigation

After mitigation, impacts would remain significant and unavoidable.

Impact TR-3	Project implementation could substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersection) or incompatible uses (e.g., farm equipment).
<i>Impact Determination</i>	<i>Less than Significant.</i>
Threshold	Substantial increase in hazards due to geometric design feature or incompatible uses.

Impact Discussion

The 2022 RTP/SCS includes roadway projects designed to upgrade roadways and improve safety features for the transportation system. For example, the 2022 RTP/SCS includes projects to improve curves, pavement, and signs to improve safety, in addition to bridge replacements, transit expansion and upgrades, and additional pedestrian and bicycling lanes. The installation and completion of such improvements can substantially improve roadway safety. While the 2022 RTP/SCS includes numerous projects that would involve a design/engineering process, only some of the Project specific designs and plans for these improvements are available for analysis at this time. Furthermore, all improvements would

be designed to the standards and specifications of Caltrans or the appropriate implementing agency. As such, the 2022 RTP/SCS is not anticipated to cause a substantial increase in hazards due to design features or incompatible uses. Therefore, the 2022 RTP/SCS would not introduce a new impact relative to the 2018 RTP/SCS and impacts would remain less than significant.

Mitigation Measures

No mitigation measures are required.

Impact TR-4	Project implementation could result in inadequate emergency access.
<i>Impact Determination</i>	<i>Less than Significant.</i>
Threshold	Inadequate emergency access.

Impact Discussion

In the short-term, implementation of the 2022 RTP/SCS would have the potential to affect emergency access during construction of individual projects included in the 2022 RTP/SCS. The implementing agency for each improvement project would be responsible for coordinating with the emergency service providers to ensure that emergency routes remain available. In the long-term, the 2022 RTP/SCS does not include any specific projects that would result in inadequate emergency access. Therefore, the 2022 RTP/SCS would not introduce a new impact relative to the 2018 RTP/SCS and impacts would remain less than significant.

Mitigation Measures

No mitigation measures are required.

3.4.3 Cumulative Impacts

The cumulative impacts analysis for transportation consists of potential impacts to the areas surrounding Shasta County. Movement within, through, and beyond the Shasta County region is necessary for commuters, personal travel, and goods movement. Thus, it is important to consider both the larger SRTA region as well as the connection with the adjoining counties. Within the cumulative analysis impact area, implementation of the 2022 RTP/SCS combined with cumulative development outside the region has the potential to result in increased VMT outside the SRTA region, which would be considered a significant cumulative impact. The 2022 RTP/SCS is designed to implement transportation projects that promote safety and foster development in existing urban areas and corridors. Furthermore, the projects associated with the 2022 RTP/SCS provides a strategy to allocate growth in such a way as to achieve a more balanced jobs/housing ratio and to optimize transportation investments that support those land uses. As discussed above, the 2022 RTP/SCS would have significant and unavoidable impacts related to an increase in daily

VMT in the region in 2042. However, the 2022 RTP/SCS is designed to promote active transportation methods and expand transit facilities in Shasta County, which offer alternatives to commuters. Furthermore, with greater investment into the County's infrastructure and development in existing urbanized areas, this could result in fewer residents commuting to adjoining counties for employment. Thus, the increased daily VMT in 2042 resulting from the 2022 RTP/SCS may not necessarily increase daily VMT on roadways in adjoining counties.

Nevertheless, as shown in Table 4.4-1, the 2022 RTP/SCS would increase VMT compared to the 2015 baseline but would result in VMT less than the 2042 No Project Scenario. While the majority of the VMT would be expected to remain within Shasta County, some portion of the VMT would inevitably extend to areas within adjoining counties to the region. The potential increase in VMT in adjoining areas would be inconsequential to normal roadway conditions, given that any increases in VMT would be distributed across hundreds to thousands of miles of roadways in the adjoining counties in the cumulative area. Thus, the 2022 RTP/SCS contribution significant changes to roadway conditions in adjoining areas would not be cumulatively considerable.

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3.5 Tribal Cultural Resources

This section evaluates effects on tribal cultural resources in the Shasta County region that would result from implementation of the 2022 RTP/SCS.

3.5.1 Environmental Setting

3.5.1.1 Tribal Resources

Shasta County is located in the northern Sacramento Valley with the mountains of the North Coast Range to the west, the Klamath Mountains to the north, and the volcanic deposits of the Cascade Range grading into the Sierra Nevada in the east. Canyons of the Sacramento River and its tributaries are also prevalent, as are intermountain valleys, especially in the northeast portion of the county. At the time of Euroamerican contact approximately 200 years ago, five tribal groups resided in the county, each in its own territory, with territories shifting periodically. They were the Achomawi (a group of the Pit River Indians), the Atsugewi (a group of the Hat Creek Indians and also Pit River Tribe), the Okwanuchu (a group of the Shasta Nation), the Wintu, and the Yana. The Yana and Okwanuchu spoke Hoka, while the Achomawi, Atsugewi and Wintu spoke Penutian (SRTA 2018).

All of these tribes were hunter-gatherers, subsisting on acorns, salmon and other fish, game animals, bulbs, tubers, berries, nuts, waterfowl, bird eggs, and other locally available foods. Salmon was so crucial a food resource to the Wintu and other groups of Northern California natives that the availability of this food source has been used as an important variable in assessing prehistoric population levels and is considered a major determinant of site distribution among various other California Indian groups. Deer also constituted a major dietary staple as a source of protein that was both abundant and available year-round. Acorns constituted the third major staple as it was seasonally abundant and storable year-round (SRTA 2015).

Today, two federally recognized tribes have territories within Shasta County: Pit River Tribe and Redding Rancheria. The Pit River Tribe is comprised of eleven autonomous bands: Achomawi (also transliterated as Ahumawi or Ajumawi), Atsugewi, Atwamsini, Ilmawi, Astarawi, Hammawi, Hewisedawi, Itsatawi, Aporige, Kosalektawi, and Madesi (SRTA 2018).

3.5.2 Regulatory Setting

3.5.2.1 State

Assembly Bill 52

California Assembly Bill 52 of 2014 (AB 52) was enacted on July 1st 2015 defining a new resource category, "tribal cultural resources." AB 52 establishes that "A project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment." (PRC Section 21084.2) It further requires that the lead agency avoid impacts that would alter the significant characteristics of a tribal cultural resource, when feasible (PRC Section 21084.3). PRC Section 21074 (a)(1)(A) and (B) defines tribal cultural resources:

1. "Sites, features, places, cultural landscapes, sacred places and objects with cultural value to a California Native American tribe" and meets either of the following criteria: Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k); or
2. A cultural resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.

AB 52 also establishes a formal consultation process with California tribes regarding those resources. The consultation process must be completed before a CEQA document can be certified. AB 52 requires that lead agencies "begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project." Native American tribes to be included in the formal consultation process are those that have requested notice of projects proposed within the jurisdiction of the lead agency.

Public Resources Code Section 21080.3

AB 52 signed by the California governor in September of 2014, established a new class of resources under CEQA: "tribal cultural resources," defined in PRC Section 21074. Pursuant to PRC Sections 21080.3.1, 21080.3.2, and 21082.3, lead agencies undertaking CEQA review must, upon written request of a California Native American tribe, begin consultation before the release of an EIR, negative declaration, or mitigative negative declaration. PRC Section 21080.3.2 states:

Within 14 days of determining that a project application is complete, or to undertake a project, the lead agency must provide formal notification, in writing, to the tribes that have requested notification of proposed projects in the lead agency's jurisdiction. If it wishes to engage in consultation on the project, the tribe must respond to the lead agency within 30 days of receipt of the formal notification. The lead agency must begin the consultation process with the tribes that have requested consultation within 30 days of receiving the request for consultation. Consultation concludes when either: 1) the parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource, or 2) a party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached.

If the lead agency determines that a project may cause a substantial adverse change to a tribal cultural resource, and measures are not otherwise identified in the consultation process, provisions under PRC Section 21084.3 (b) describe mitigation measures that may avoid or minimize the significant adverse impacts. Examples include:

- (1) Avoiding and preserving the resources in place, including, but not limited to, planning and constructing to avoid the resources and protect the cultural and natural context, or planning greenspace, parks, or other open space, to incorporate

- (2) Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
 - a. protecting the cultural character and integrity of the resource
 - b. protecting the traditional use of the resource
 - c. protecting the confidentiality of the resource
- (3) Establishing permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places
- (4) Protecting the resource

Senate Bill 18

SB 18 of 2004 (California Government Code §65352.3) requires local governments to contact and consult with tribal organizations prior to making a decision to adopt or amend a general or specific plan. The tribal organizations eligible to consult have traditional lands in a local government's jurisdiction and are identified, upon request, by the Native American Heritage Commission (NAHC). As noted in the California Office of Planning and Research's Tribal Consultation Guidelines (2005), "The intent of SB 18 is to provide California Native American tribes an opportunity to participate in local land use decisions at an early planning stage, for the purpose of protecting, or mitigating impacts to, cultural places."

SB 18 does not apply to the proposed 2022 RTP/SRS as it is neither a general plan amendment or the adoption of a specific plan.

3.5.2.2 Local

Shasta County General Plan

The Shasta County General Plan Heritage Element. The Heritage Resources Element is an optional General Plan element authorized by Section 65303 of the Government Code. This Element is intended to identify and protect sites and structures of architectural, historical, archaeological, or cultural significance. Due to an abundance of heritage resources located in Shasta County and the interest of County residents in the preservation of these resources, the General Plan includes this optional element. The Heritage Element includes the following objectives and policies for the protection of cultural resources.

Objective

HER-1. Protection of significant prehistoric and historic cultural resources. 6.10.4

Policies

HER-a. Development projects in areas of known heritage value shall be designed to minimize degradation of these resources. Where conflicts are unavoidable, mitigation measures which reduce such impacts shall be implemented. Possible mitigation measures may include clustering, buffer or nondisturbance zones, and building siting requirements.

City of Anderson General Plan

The City of Anderson General Plan serves as a long-term policy guide for Anderson's physical, economic, and environmental growth. It is a statement of the community's vision for ultimate growth. The Plan will allow needed growth while protecting the "small town" characteristics of Anderson. The Plan emphasizes planning for the health and safety of all residents—now and in the future. Extending the various general plan diagrams to cover the entire planning area is a new feature of the General Plan.

The City of Anderson Open Space and Conservation Element contains policies aimed at incorporating historic protection when considering development including the following:

Policies

HP-1. Protect and preserve historic resources within the City of Anderson.

HP-2. Promote the compatibility of new development located adjacent to existing structures of historic significance with the architecture and site development of the historic structure.

HP-5. Recognize the value of Anderson's historic resources as an economic development tool.

HP-6. Ensure that the integrity of historic structures and the parcels on which they are located are preserved through the implementation of applicable design, building and fire codes.

City of Redding General Plan

The City of Redding 2000-2020 General Plan serves as a long-term policy guide for physical, economic, and environmental growth. It is a statement of the community's vision for ultimate growth. The Redding General Plan Natural Resources Element includes policies pertaining to the protection and preservation of cultural resources. These include:

Policies

NR12A. Ensure protection of prehistoric, cultural, and archaeological resources during the development process.

NR12B. Refer development proposals that may adversely affect archaeological sites to the California Archaeological Inventory, Northeast Information Center, at Chico State University.

NR12C. Encourage public and private efforts to identify, preserve, protect, and/or restore historic buildings, structures, landmarks, and important cultural resources.

NR12D. The City shall not knowingly approve any public or private project that may adversely affect an archaeological site without first consulting the Archaeological Inventory, Northeast Information Center, conducting a site evaluation as may be indicated, and attempting to mitigate any adverse impacts according to the recommendations of a qualified archaeologist. City implementation of this policy shall be guided by Appendix "K" of the CEQA Guidelines.

City of Shasta Lake

The City of Shasta Lake adopted the 2040 General Plan in November 2022. The General Plan is comprehensive and long-range in its scope. It will be used on an ongoing basis to direct the City's decision making, reflecting the community's commitment to the planning ideals and vision set forth herein. It is the City's goal that all actions related to the City's physical development should be consistent with the General Plan vision. The 2040 General Plan Conservation Element includes policies and implementation actions pertaining to cultural resources protection. These include:

Policies

OS-4.1. Preserve historical or archaeological resources from development impacts and include appropriate mitigation to protect such resources.

OS-4.2. Require consultation with affected communities, such as the Wintu, to determine the culturally appropriate treatment of historical or archaeological resources. This includes proper storage and handling, and potentially placing collections in a curated facility. These procedures should be based on existing federal curation standards.

OS-4.3. Coordinate with public agencies and the Wintu to maintain existing inventory of cultural resources in the City, including information about whether collections or sites are open to

3.5.3 Environmental Impacts

3.5.3.1 Thresholds of Significance

Following Appendix G of the CEQA Guidelines, impacts to tribal cultural resources are considered to be significant if the project would result in any of the following:

- Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:
 - Listed or eligible for listing in the CRHR, or in a local register of historical resources as defined in PRC Section 5020.1(k); or,
 - A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC § 5024.1. In applying the criteria set forth in subdivision (c) of PRC § 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.

Impact TCR-1	Project implementation could cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074.
<i>Impact Determination</i>	<i>Less than Significant with Mitigation</i>
Threshold	Substantial adverse change in the significance of a tribal cultural resource as defined in PRC Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is listed or eligible for listing in the CRHR, or in a local register of historical resources as defined in PRC Section 5020.1(k); or, a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.

Impact Discussion

SRTA initiated AB 52 consultation on May 27, 2021 by emailing the Pit River Tribe, the Winnemem Wintu Tribe, and the Redding Rancheria Tribal Council requesting assistance reviewing and updating the 2023 RTP/SCS transportation project list. No response was received by SRTA from the tribes about this request. SRTA followed up with each tribe via email on June 29, 2023. SRTA has not received a response to this follow up email at this time. The SRTA's Public Participation and Title VI Plan has procedures in place for tribal consultation and notification.

Tribal cultural resources are very likely present throughout Shasta County. These may include, but are not limited to, Native American burial sites, village or occupation sites, traditional resource gathering locations and natural landforms. Therefore, tribal cultural resources could be encountered during implementation of the transportation improvement projects included in the 2018 RTP/SCS and the land use scenario envisioned by the 2022 RTP/SCS. Effects on tribal cultural resources are highly dependent on the individual project site conditions and the characteristics of the individual transportation project. Impacts to tribal cultural resources may include damage or destruction of the resources. Adherence to the requirements of AB 52 encourages tribal consultation with local Native Americans and requires the identification of project-specific substantial adverse effects on tribal cultural resources and appropriate project-specific mitigation measures. If the implementing agency determines that a specific transportation or land use project could cause a substantial adverse change in the significance of a tribal cultural resource, the impact would be significant.

Additional analyses and AB 52 consultation with local tribes would be needed as the individual projects are implemented to determine the project-specific impact. The mitigation measures discussed below would apply to these specific projects.

Existing Mitigation Measures

The following mitigation measures were implemented as a result of the 2018 SEIR tribal cultural resources analysis. Implementation of these mitigation measures would continue to provide tribal cultural resources protection measures for the Proposed Project.

The following mitigation measures shall apply to the Proposed Project.

TCR-1a: Identified Tribal Cultural Resources Impact Minimization.

Implementing agencies shall comply with AB 52, which may require formal tribal consultation. If the implementing agency determines that a project may cause a substantial adverse change to a tribal cultural resource, they shall implement mitigation measures identified in the consultation process required under PRC Section 21080.3.2, or shall implement the following measures where feasible to avoid or minimize the project-specific significant adverse impacts:

1. Avoidance and preservation of the resources in place, including, but not limited to: designing and building the project to avoid the resources and protect the cultural and natural context, or planning greenspace, parks, or other open space to incorporate the resources with culturally appropriate protection and management criteria.
2. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
 - a. Protecting the cultural character and integrity of the resource
 - b. Protecting the traditional use of the resource
 - c. Protecting the confidentiality of the resource
 - d. Establishment of permanent conservation easements or other culturally appropriate property management criteria for the purposes of preserving or utilizing the resources or places.
3. Native American monitoring by the appropriate tribe during soil disturbance for all projects in areas identified as sensitive for potential tribal cultural resources and/or in the vicinity (within 100 feet) of known tribal cultural resources.

TCR-1b: Unanticipated Tribal Cultural Resources Impact Minimization.

If potential tribal cultural resources are encountered during ground-disturbing activities, work in the immediate area must halt and the appropriate tribal representative(s), the implementing agency, and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (National Park Service [NPS] 1983) shall be contacted immediately to evaluate the find. If, in consultation with the implementing agency, the archaeologist and/or tribal representative determines the discovery to be a tribal cultural resource and thus, significant under CEQA, a mitigation plan shall be prepared and

implemented in accordance with state guidelines and in consultation with tribal representatives. If the resource cannot be avoided, a mitigation plan shall be developed to address tribal concerns.

Residual Impact After Mitigation

Mitigation measure TCR-1a would require implementation of mitigation identified through tribal consultation or other feasible mitigation to avoid impacts to identified tribal cultural resources. These measures would protect the resource's character, traditional use, and confidentiality. Mitigation measure TCR-1b would ensure that impacts to unanticipated tribal cultural resources activities would be mitigated in consultation with tribal representatives. Implementation of the above measures would reduce impacts to tribal cultural resources to a less than significant level.

3.5.4 Cumulative Setting, Impacts, and Mitigation Measures

3.5.4.1 Cumulative Setting

As discussed under Section 2.4, Project Description, the 2022 RTP/SCS transportation improvement project list updates the 2018 RTP/SCS project list by removing projects that have been completed since 2018, modifying some projects that continue to be on the list based on new information, and adding approximately 72 net new minor projects to the list. None of the modified or new projects on the 2022 RTP/SCS list would be substantially different in terms of geographical location on a regional basis, type of project, or size of project to those on the 2018 RTP/SCS list.

3.5.4.2 Cumulative Impacts and Mitigation Measures

The new or modified transportation improvement projects would be occurring throughout Shasta County; because of this, there is a potential to encounter culturally significant resources, defined in PRC Section 21074, such as a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe. Mitigation measures TCR-1a and TCR-1b discuss measures to prevent and respond to the potential impact of cultural resources. With the implementation of mitigation measures TCR-1a and TCR-1b, the impacts to tribal cultural resources would be reduced to a less than cumulatively considerable impact.

3.6 Wildland Fire

This section describes the environmental setting for wildfire, including the existing site conditions and regulatory setting, impacts that would result from the Proposed Project, and, if significant impacts are identified, the mitigation measures that would reduce these impacts.

3.6.1 Environmental Setting

The risk of wildfire is related to a variety of parameters, including fuel loading (vegetation), fire weather (i.e., winds, temperatures, humidity levels and fuel moisture contents), and topography (degree of slope). Steep slopes contribute to fire hazard by intensifying the effects of wind and making fire suppression difficult. Fuels such as grass are highly flammable because they have a high surface area to mass ratio and require less heat to reach the ignition point, while fuels such as trees have a lower surface area to mass ratio and require more heat to reach the ignition point.

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 Severity Zones must comply with specific building and vegetation management requirements intended to reduce property damage and loss of life within these areas.

Throughout the SRTA region, there is a full range of conditions and fire hazards as indicated in the applicable Fire Hazard Severity Zone Maps for the region. As shown in Figure 3.6-1 much of Shasta County is located within a Fire Hazard Severity Zone (CAL FIRE 2008). Large amounts of the county are designated Very High Fire Hazard Severity Zone, with the majority of it being within CAL FIRE responsibility areas. Additionally, CAL FIRE has mapped areas within a Very High Fire Hazard Severity Zones for the cities of Anderson, Redding and Shasta Lake, as shown in Figures 3.6-2 through 3.6-4. (CAL FIRE 2007).

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. Shasta County has had its share of devastating wildfires over the years including the 2018 Carr Fire and the 2021 Dixie Fire. The Carr Fire, located in Shasta and Trinity counties, resulted in 229,561 burned acres and destroyed 1,614 structures. The Dixie Fire, located in Shasta, Tehama, Butte, Plumas, and Lassen counties, resulted in 963,309 burned acres and destroyed 1,329 structures. (CAL FIRE 2022a).

3.6.2 Regulatory Setting

3.6.2.1 Federal

Federal Disaster Mitigation Act

The Disaster Mitigation Act of 2000 amended the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), creating the framework for state, local, tribal and territorial governments to engage in hazard mitigation planning to receive certain types of non-emergency disaster assistance. The Act 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.

3.6.2.2 State

The California Fire Plan

The Strategic Fire Plan for California is the State's road map for reducing the risk of wildfire. The most recent version of the Plan was finalized in August 2018 and directs each CAL FIRE Unit to revise and update its locally specific Fire Management Plan (CAL FIRE 2018b). These plans assess the fire situation within each of the 21 CAL FIRE units and six contract counties. The plans address wildfire protection areas, initial attack success, assets and infrastructure at risk, pre-fire management strategies, and accountability within their geographical boundaries.

California Office of Emergency Services

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

Figure 3.6-1. Shasta County Fire Hazard Severity Zones

Figure 3.6-2. City of Anderson Fire Hazard Severity Zones

Figure 3.6-3. City of Redding Fire Hazard Severity Zones

Figure 3.6-4. City of Shasta Lake Fire Hazard Severity Zones

California Building Code (2022)

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 California Fire Code is Chapter 9 of CCR Title 24. It 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 California Fire Code regulates the use, handling and storage requirements for hazardous materials at fixed facilities. The California Fire Code and the California Building Code use a hazard classification system to determine what protective measures are required to protect 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 California Fire Code employs a permit system based on hazard classification.

On September 20, 2005, the California Building Standards Commission approved the Office of the State Fire Marshal's emergency regulations amending the California Code of Regulations (CCR), Title 24, Part 2 including Section 701A.3.3. Section 701A.3.2 requires that any new buildings located in any Fire Hazard Severity Zone within State Responsibility Areas, any Local Agency Very-High Fire Hazard Severity Zone, or any Wildland-Urban Interface Fire Area, shall comply with all sections of this chapter. Among other things, the Wildland-Urban Interface portion of the code requires a 100 foot defensible space around a home within the Wildland-Urban Interface Fire Area.

Defensible Space Zones 1 and 2 currently make up the 100 feet of defensible space required by law. Assembly Bill 3074, passed into law in 2020, requires a third zone for defensible space. This law requires the Board of Forestry and Fire Protection to develop the regulation for a new ember-resistant zone (Zone 0) within 0 to 5 feet of the home by January 1, 2023. The intensity of wildfire fuel management varies within the 100-foot perimeter of the home, with more intense fuels' reduction occurring closer to your home. Start at the home and work your way out to 100 feet or to your property line, whichever is closer (CAL FIRE 2022b).

3.6.2.3 Regional

Multi-Jurisdictional Hazard Mitigation Plan

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 Shasta County and City of Anderson Multi-Jurisdictional Hazard Mitigation Plan (2011) serves to reduce or eliminate long-term risk to people and property from natural hazards and their effects in the SRTA region.

ResilientShasta

ResilientShasta is an effort conducted by the Shasta Regional Transportation Agency with the purpose of helping regional communities and leaders understand and adapt to climate and extreme weather threats to the mobility of the Shasta Region. ResilientShasta seeks to advance three goals:

- Development of a mobility vulnerability assessment explaining extreme weather likely to affect the Shasta Region's mobility infrastructure through the year 2099, the regional impacts of climate change on Shasta Region communities, and the detailed vulnerabilities of the Shasta Region's transportation systems.
- Development of a mobility adaptation plan identifying, evaluating, and recommending adaptation strategies for SRTA, the County of Shasta, the cities of Anderson, Redding, and Shasta Lake, Redding Area Bus Authority (RABA), Dignity Health Connected Living, and applicable state agencies to consider in creating a resilient transportation network, including planning, operational, and capital investment strategies.
- Engage with the broad set of Shasta Region stakeholders about the vulnerability assessment and adaptation plan effort, and provide clear communication on how it affects residents, businesses, and public stakeholders alike.

3.6.2.4 Local

Shasta County General Plan

The Shasta County General Plan Fire Safety and Sheriff Protection Element addresses wildland fires and contains objectives and policies with the specific intention of enforcing compliance with applicable fire safety regulations including the following:

Objectives

FS-1: Protect development from wildland and non-wildland fires by requiring new development projects to incorporate effective site and building design measures commensurate with level of potential risk presented by such a hazard and by discouraging and/or preventing development from locating in high risk fire hazard areas.

FS-2: Protection of life and property from crime by encouraging new development projects to incorporate effective defensible space design techniques .

Policies

FS-a: All new land use projects shall conform to the County Fire Safety Standards.

FS-b: Known fire hazard information should be reported as part of every General Plan amendment, zone change, use permit, variance, building site approval, and all other land development applications subject to the requirements of the California Environmental Quality Act (CEQA)

FS-c: Fire Hazard Maps shall be kept on file by the County and used in conjunction with the adopted County Fire Safety Standards and other County development standards.

FS-f: The Sheriff's Office and Shasta County Fire Department should annually review the County's standard development conditions as they relate to the provision of police and fire services created as a result of new land use projects and recommend to the Planning Commission appropriate changes including the need to implement equitable property tax assessments to help defray the costs of providing new and/or expanded services (Shasta County 2018).

City of Anderson General Plan

The City of Anderson General Plan serves as a long-term policy guide for Anderson's physical, economic, and environmental growth. It is a statement of the community's vision for ultimate growth. The Plan will allow needed growth while protecting the "small town" characteristics of Anderson. The Plan emphasizes planning for the health and safety of all residents—now and in the future. Extending the various general plan diagrams to cover the entire planning area is a new feature of the General Plan.

The City of Anderson Health and Safety Element contains policies aimed at incorporating fire safety measures when considering development including the following:

Policies

FP-1: Minimize the potential for loss of life, injury, and property damage resulting from urban and wildland fires.

FP-2: Maintain the present level of fire protection in developed areas and extend the same or greater level of service to new developments. (Land Use Element)

FP-3: Ensure that fire safety is considered when capital improvements (such as water line extensions) and development proposals are planned.

FP-4: Coordinate annexations into the City of Anderson to annex these lands to the Anderson Fire Protection District at the same time. No areas of the City should be served by any other fire protection district (City of Anderson 2007).

City of Redding General Plan

The City of Redding 2000-2020 General Plan serves as a long-term policy guide for physical, economic, and environmental growth. It is a statement of the community's vision for ultimate growth. The Redding General Plan Health and Safety Element includes policies pertaining to wildfire protection. These include:

Policies

HS4B: Require that all new development and redevelopment meet state and local standards for fire protection; encourage the upgrade of existing structures to current standards.

HS4C: Work with local water districts to ensure that district systems are developed, maintained, and monitored to provide minimum fire-flow, rates, and peak-load capacity for fire suppression.

HS4D: Require remote hillside developments to maintain sufficient water supplies on-site, when appropriate, to provide wildland fire protection. Water supplies may be stored in the form of ponds, storage tanks, or other features acceptable to the Fire Marshal.

HS4E: Utilize appropriate techniques, such as those illustrated in Figure 4-8, to reduce fire damage in those areas with a high wildland fire potential. The actual combination of these and/or other techniques required for a particular project will be determined by the Fire Marshal based on the level of hazard involved.

HS4F: Construct emergency-vehicle access routes to open-space areas at optimal locations within developments.

HS4G: Develop a comprehensive vegetation management and weed-abatement program for open-space areas, including those that are located in existing subdivisions and in new development areas.

HS4H: Consider establishing a program to construct and maintain fire-access roads in ravine areas considered to have a very high fire danger to enhance the ability to suppress wildland fires. These roads need not be surfaced and may also function as part of the City's trail system. Erosion and impacts to native vegetation and natural features shall be minimized.

HS4I: Amend subdivision regulations to ensure that cul-de-sac lengths are generally no greater than 600 feet and that sufficient emergency-vehicle turnaround areas are provided. Longer cul-de-sacs may be considered if fire-protection measures, such as residential fire sprinkler systems, are incorporated to ensure the safety of residents and emergency-response personnel.

HS4J: Generally require each residential development having 50 or more dwelling units and each commercial development employing 150 or more people to have at least two connected points of public access as may be determined necessary by the Fire Marshal.

HS4K: Maintain and augment mutual and automatic aid agreements with the California Department of Forestry & Fire Protection (CAL FIRE) and Shasta County.

HS4L: Continue to promote fire prevention through education and public-awareness programs. (City of Redding 2000)

City of Shasta Lake

The City of Shasta Lake adopted the 2040 General Plan in November 2022. The General Plan is comprehensive and long-range in its scope. It will be used on an ongoing basis to direct the City's decision making, reflecting the community's commitment to the planning ideals and vision set forth herein. It is the City's goal that all actions related to the City's physical development should be consistent with the General Plan vision. The 2040 General Plan Public Safety and Community Health Element includes policies and implementation actions pertaining to wildfire protection. These include:

Policies

HS-3.1: Identify the areas of highest fire risk in the community and prioritize areas for treatment, modification, or abatement when appropriate.

HS-3.2: Ensure emergency responders have adequate water supplies around the city, particularly in developed areas with limited access in high fire hazard zones.

HS-3.3: Limit new development in high fire hazard zones to those projects which can meet established standards for adequate emergency and evacuation access and water supplies.

HS-3.4: Collaborate with local, state, tribal, and federal entities to address wildfire risk on lands surrounding the city.

HS-3.5: Enforce weed abatement regulations, especially on vacant land, and assist residents in weed abatement and debris clearing. Prioritize assistance to senior, disabled, and low-income persons living in high wildfire hazard areas.

HS-3.6: Protect development from wildland and non-wildland fires by requiring development to incorporate design measures responsive to the risk from this hazard.

HS-3.7: Encourage wildfire-resilient options for redevelopment should a wildfire occur, such as alternate location, construction material, topography, or vegetation.

Implementation Actions

HS-3.1: Strengthen site access, emergency water supply, vegetative fuel modification, and defensible space standards for new development, including for the long-term maintenance of such infrastructure. Develop fire protection and hazardous fuel reduction plans for new subdivisions in high fire hazard areas. Ongoing implementation of the plans should be required and funded by new development.

HS-3.2: Identify residential areas within high fire hazard zones that do not have at least two routes for emergency egress, lack adequate emergency water supply, or need vegetative fuel modification to reduce risk. Work with affected residents and the SLFPD to identify potential area-specific solutions to ensure risk reduction.

HS-3.3: To the degree possible, align the goals, policies, and implementation actions for wildfire hazard mitigation across all plans that address fire protection, and update plans as necessary.

HS-3.4: In collaboration with local, state, tribal, and federal entities, identify strategic areas near the city boundaries to employ greenbelts as defensible space buffers for developed areas. Evaluate the feasibility of creating and maintaining greenbelts for fire protection purposes.

HS-3.5: Conduct regular wildfire response training with fire personnel and volunteers, and ensure they are properly trained to conduct controlled burns in and around the city.

HS-3.6: Conduct a public awareness and education campaign about wildfire preparedness with a focus on at-risk populations and renters.

HS-3.7: Enforce standards to protect structures and roadways in wildland fire areas and include standards in a Best Practices Manual or similar implementing program that meets the SRA Fire Safe Regulations and Fire Hazard Reduction Around Buildings and Structures Regulations. These standards will include, for example, use of fire-resistant building and roofing materials, installation of fire-resistant landscaping, maximum road gradients, and clearance of vegetation proximate to structures and roadways (both public and private).

3.6.3 Environmental Impacts

3.6.3.1 *Thresholds of Significance*

According to Appendix G of the CEQA Guidelines, wildfire impacts are considered significant if implementation of the proposed project would:

- Substantially impair an adopted emergency response plan or emergency evacuation plan for a project located in or near state responsibility areas or lands classified as Very High Fire Hazard Severity Zones.
- 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 for a project located in or near state responsibility areas or lands classified as Very High Fire Hazard Severity Zones.
- 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 for a project located in or near state responsibility areas or lands classified as Very High Fire Hazard Severity Zones.
- 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 for a project located in or near state responsibility areas or lands classified as Very High Fire Hazard Severity Zones.

3.6.3.2 *Methods of Analysis*

The methodology used for the following evaluation is based on a review of documents and publicly available information about hazardous and potentially hazardous conditions in the SRTA region to determine the potential for implementation of the 2022 RTP/SCS to result in an increased health or safety hazard to people or the environment. This includes city, county, and state planning documents. This program-level analysis is based on hazards typically associated with certain land uses and an overall understanding of the key safety concerns that could result from implementation of the 2022 RTP/SCS.

The evaluation of wildland fire impacts reasonably assumes that the construction and development under the 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.

3.6.3.3 Project Impacts and Mitigation Measures

Impact WILD-1	Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.
<i>Impact Determination</i>	<i>Significant and Unavoidable</i>
Threshold	Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

As shown in Figure 3.6-1, the vast majority of the SRTA region is within the Very High Fire Hazard Severity Zone as established by CAL FIRE. Additionally, CAL FIRE has mapped areas within a Very High Fire Hazard Severity Zone for the cities of Anderson, Redding and Shasta Lake, as shown in Figures 3.6-2 through 3.6-4. (CAL FIRE 2007). The land use scenario envisioned by the 2022 RTP/SCS focuses on infill development that would concentrate people and structures in existing urbanized areas where the risk of wildland fire is less than in more rural areas where fuels are more abundant. This land use scenario is nearly identical to that contained in the 2018 RTP/SCS, which concentrates the forecasted growth in population and employment in the region in urban areas and corridors of the County while preserving the distinct identity of existing cities and towns. However, not all projects and development included in the 2022 RTP/SCS would be infill projects in urbanized areas, and some projects would inevitably be located in areas at risk of wildland fires.

Appendix B provides a list of new projects included in the 2022 RTP/SCS. As shown, there is a variety of new construction projects listed in the 2022 RTP/SCS including bridge replacements, street improvements, trails and trailheads, bike lanes, airport roadway access improvements, as well as others.

Any new building construction would be subject to the California Fire Code, which includes safety measures to minimize the threat of fire, including ignition-resistant construction with exterior walls of noncombustible or ignition resistant material from the surface of the ground to the roof system and sealing any gaps around doors, windows, eaves and vents to prevent intrusion by flame or embers. Additionally, 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 wildland fire, but not entirely. Thus, because some land use development projects would be located in areas of high or very high fire hazards, and existing codes and regulations cannot fully prevent wildland fires from damaging structures or populations, impacts related to land use included in the 2022 RTP/SCS would be potentially significant.

Existing Mitigation Measures

The following mitigation measure was implemented as a result of the 2018 SEIR wildfire analysis. Implementation of this mitigation measure would continue to provide wildfire risk reduction measures for the Proposed Project.

HAZ-1: Wildland Fire Risk Reduction.

SRTA shall implement the following mitigation measure developed for the 2018 RTP/SCS where applicable for transportation projects that result in impacts related to wildland fire. Cities and counties in the SRTA 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.

If an individual transportation or land use project included in the 2018 RTP/SCS is located within the wildland-urban interface or areas favorable for wildland fires such that project-specific CEQA analysis finds a significant risk of loss, injury or death from fire, the implementing agency shall require appropriate mitigation to reduce the risk.

Examples of mitigation to reduce risk of loss, injury or death from wildlife include, but are not limited to:

- Require adherence to the local hazards mitigation plan, as well as the local general plan policies and programs aimed at reducing the risk of wildland fires through land use compatibility, training, sustainable development, brush management, public outreach and service standards for fire departments.
- Encourage the use of fire-resistant vegetation native to the SRTA region and/or the local microclimate of the project site, and discourage the use of fire-prone species especially nonnative, invasive species such as pampas grass or giant reed.
- 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 wildland fires during redflag 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.

Residual Impact After Mitigation

With implementation of this mitigation, the potential to expose people or structures to wildland fires would be reduced. These mitigation would also reduce the potential for construction of the 2022 RTP/SCS projects to inadvertently ignite a wildland fire. However, it is not possible to prevent a significant risk of wildland fires or fully protect people and structures from the risks of wildland fires, despite implementation of mitigation. Thus, this impact would remain significant and unavoidable. No additional mitigation measures to reduce this impact to less than significant levels are feasible.

Impact WILD-2	If the Proposed Project is located in or near state responsibility areas or lands classified as very high fire hazard severity zones, Project implementation could substantially impair an adopted emergency response plan or emergency evacuation plan.
<i>Impact Determination</i>	<i>Less than Significant with Mitigation</i>
Threshold	The Proposed Project is located in or near state responsibility areas or lands classified as very high fire hazard severity zones and would have substantial adverse effect on an adopted emergency response plan or emergency evacuation plan.

Impact Discussion

As shown in Figure 3.6-1, the vast majority of the SRTA region is within the Very High Fire Hazard Severity Zone as established by CAL FIRE. Additionally, CAL FIRE has mapped areas within a Very High Fire Hazard Severity Zone for the cities of Anderson, Redding and Shasta Lake, as shown in Figures 3.6-2 through 3.6-4. (CAL FIRE 2007). The land use scenario envisioned by the 2022 RTP/SCS focuses on infill development that would concentrate people and structures in existing urbanized areas where the risk of wildland fire is less than in more rural areas where fuels are more abundant. This land use scenario is nearly identical to that contained in the 2018 RTP/SCS, which concentrates the forecasted growth in population and employment in the region in urban areas and corridors of the County while preserving the distinct identity of existing cities and towns. However, not all projects and development included in the 2022 RTP/SCS would be infill projects in urbanized areas, and some projects would inevitably be located in areas at risk of wildland fires.

Appendix B provides a list of new projects included in the 2022 RTP/SCS. As shown, there is a variety of new construction projects listed in the 2022 RTP/SCS including bridge replacements, street improvements, trails and trailheads, bike lanes, airport access roadway improvements, as well as others.

Some of this construction may occur within roadways used as emergency evacuation routes and therefore could affect an adopted emergency response plan or emergency evacuation plan. Advanced notice of any roadway improvement projects is routinely required prior to any construction. This would assist in the

protection of people during an emergency evacuation by providing advanced notice to possible restricted or closed routes to emergency personnel and the public.

Any new building construction would be subject to the California Fire Code, which includes safety measures to minimize the threat of fire, including ignition-resistant construction with exterior walls of noncombustible or ignition resistant material from the surface of the ground to the roof system and sealing any gaps around doors, windows, eaves and vents to prevent intrusion by flame or embers. Additionally, 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, regulations, and mitigation measure HAZ-1 would reduce the potential for affecting emergency response and evacuation routes during construction and operation of 2022 RTP/SCS projects.

Residual Impact After Mitigation

With implementation of this mitigation as well as the typical traffic control procedures used in areas of roadway improvements, the potential to impair an emergency response or evacuation plan would be reduced. This mitigation would also reduce the potential for construction of the 2022 RTP/SCS projects to inadvertently ignite a wildland fire. Thus, this impact would be less than significant with implementation of mitigation measure HAZ-1.

Impact WILD-3	If the Proposed Project is located in or near state responsibility areas or lands classified as very high fire hazard severity zones, Project implementation could, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, exposing Project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.
<i>Impact Determination</i>	<i>Less than Significant with Mitigation</i>
Threshold	Substantial adverse effect on exacerbation of wildfire risks due to slope, prevailing winds, and other factors, thereby exposing Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire for a Project located in or near state responsibility areas or lands classified as very high fire hazard severity zones.

Impact Discussion

As discussed previously, the 2022 RTP/SCS includes a variety of transportation and circulation improvement projects. While some of the 2022 RTP/SCS listed projects are within a state responsibility

area or land classified as a Very High Fire Hazard Severity Zone, none of these projects are for the construction of residential, commercial, office, or industrial buildings. The 2022 RTP/SCS does however, include roadway improvement projects that would enhance the ability of emergency personnel to access an area that may be subject to a wildfire, as well assist the public evacuating the area. Furthermore, implementation of mitigation measure HAZ-1 would assist in reducing the potential for wildfire because of road improvements. Therefore, the 2022 RTP/SCS would not expose persons to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.

Residual Impact After Mitigation

With implementation of this mitigation, the potential for construction of the 2022 RTP/SCS projects to expose persons to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire would be reduced. Thus, this impact would be less than significant with implementation of mitigation measure HAZ-1.

Impact WILD-4	If the Proposed Project is located in or near state responsibility areas or lands classified as very high fire hazard severity zones, Project implementation could 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.
<i>Impact Determination</i>	<i>Less than Significant with Mitigation</i>
Threshold	Substantial exacerbation of wildfire risks or temporary or ongoing impacts to the environment due to required installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) for a project located in or near state responsibility areas or lands classified as very high fire hazard severity zones.

Impact Discussion

As discussed previously, the 2022 RTP/SCS includes a variety of transportation and circulation improvement projects and some are within a state responsibility area or land classified as a Very High Fire Hazard Severity Zone. However, the vast majority of new projects are within existing roadways. Those projects that include new pedestrian and bike trails on undisturbed land could result in an exacerbation of wildfire risk within that area. However, during construction of these trails, implementation of mitigation measure HAZ-1 would assist in reducing the potential for wildfire. Additionally, maintenance of these trails would be completed in accordance with established fire safety requirements typically used when repairing

a trail. The maintenance of a trail has not been shown to exacerbate wildfire risks. Therefore, the 2022 RTP/SCS would not result in a substantial exacerbation of wildfire risks or temporary or ongoing impacts to the environment due to required installation or maintenance of associated infrastructure.

Residual Impact After Mitigation

With implementation of this mitigation, the potential for construction of the 2022 RTP/SCS projects to exacerbate wildfire risks or temporary or ongoing impacts to the environment due to required installation or maintenance of associated infrastructure would be less than significant with implementation of mitigation measure HAZ-1.

Impact WILD-5	If the Proposed Project is located in or near state responsibility areas or lands classified as very high fire hazard severity zones, Project implementation could 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.
<i>Impact Determination</i>	<i>Less than Significant with Mitigation</i>
Threshold	Substantial adverse effect to exposure of 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 for a project located in or near state responsibility areas or lands classified as very high fire hazard severity zones.

Impact Discussion

As discussed previously, the 2022 RTP/SCS includes a variety of transportation and circulation improvement projects. While some of the 2022 RTP/SCS listed projects are within a state responsibility area or land classified as a Very High Fire Hazard Severity Zone, none of these projects are for the construction of residential, commercial, office, or industrial buildings. However, the vast majority of new projects are within existing roadways. Those projects that include new pedestrian and bike trails on undisturbed land could result in exposure of people to risks from post-fire slope instability and flooding. However, implementation of mitigation measure HAZ-1 would assist in reducing the potential for wildfire from construction of these new trails. While the trails are not considered to result in an increase potential for wildfires during construction, wildfires can occur from a variety of factors not related to the Project. If a wildfire does occur in the location of a new 2022 RTP/SCS trail, trail users may be exposed to risks as a result of runoff, post-fire slope instability, or drainage changes. However, this risk is not considered substantial as post-wildfire trail evaluations would be implemented as a part of the National Park Service and State Parks post-wildfire evaluations. If the trail is considered unsafe, the trail would be closed and/or

repaired as necessary. Therefore, the 2022 RTP/SCS would not expose persons to significant risks as a result of runoff, post-fire slope instability, or drainage changes.

Residual Impact After Mitigation

With implementation of this mitigation, the potential for construction of the 2022 RTP/SCS projects to expose persons to significant risks as a result of runoff, post-fire slope instability, or drainage changes would be reduced. Thus, this impact would be less than significant with implementation of mitigation measure HAZ-1.

3.6.4 Cumulative Setting, Impacts, and Mitigation Measures

3.6.4.1 Cumulative Setting

The cumulative setting for the 2022 RTP/SCS includes the development of all projects identified in the 2022 RTP/SCS and projected population and housing growth within Shasta County as identified in Section 2.2, Cumulative Setting.

3.6.4.2 Cumulative Impacts and Mitigation Measures

Impact WILD-6	Implementation of the proposed project, along with any foreseeable development in the project vicinity, could result in cumulative impacts to wildfire.
<i>Impact Determination</i>	<i>Cumulatively Considerable and Significant and Unavoidable</i>
Threshold	Substantial adverse effect to exposure of people or structures to significant risks from wildfire.

Transportation improvement projects and the land use pattern included in the 2022 RTP/SCS would locate structures and people within areas mapped as moderate, high, or Very High Fire Hazard Severity Zones. There are numerous structures located, and people currently residing, within areas of the SRTA region and surrounding counties that have also been mapped as fire hazard zones. The risk of loss from existing development and the anticipated growth within the SRTA, combined with similar risk from growth in surrounding counties, would result in cumulative impacts related to wildland fire hazards. Although mitigation measure HAZ-1 would make structures and construction activities implemented under the 2022 RTP/SCS more fire resistant and reduce the potential for wildland fire ignition, the risk of wildland fires would not be eliminated entirely. Thus, the impacts of the 2022 RTP/SCS with regard to wildfire fire hazards would be cumulatively considerable and significant and unavoidable.

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4.0 OTHER ENVIRONMENTAL CONSIDERATIONS

This section provides brief discussions of other topics specifically mandated by CEQA, as follows: significant unavoidable adverse impacts, effects found not to be significant, significant irreversible environmental changes, and growth-inducing impacts.

4.1 Significant Unavoidable Adverse Impacts

This section is prepared in accordance with Section 15126.2(b) of the CEQA Guidelines, which requires the discussion of any significant environmental effects that cannot be avoided if a project is implemented. These include impacts that can be mitigated, but cannot be reduced to a less than significant level. Five issue areas and their associated environmental impacts were analyzed in detail in Chapter 3.0. According to the environmental impact analysis presented in Chapter 3.0, the Project would result in significant and unavoidable adverse impacts to air quality, transportation, wildfire and cumulative-level wildfire impacts.

The proposed 2022 RTP/SCS would result in the significant and unavoidable impacts listed below. These impacts are in addition to those identified as significant and unavoidable in the 2015 EIR for the 2015 RTP/SCS. However, these are the same significant and unavoidable impacts identified in the 2018 SEIR for the 2018 RTP/SCS. The 2022 RTP/SCS would not result in new additional significant unavoidable impacts. Nor would implementation of the 2022 RTP/SCS reduce these impacts to a less than significant level.

Impact AIR-3. Construction and/or operation of the Proposed Project could expose sensitive receptors to substantial pollutant concentrations.

An increase in VMT generated from the build out and operations of the 2022 RTP/SCS may result in a commutatively considerable increase of PM₁₀. No feasible mitigation is possible to reduce increases in PM₁₀ to a less than significant level.

Impact TR-2. Project implementation could conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b).

Although the VMT associated with the 2022 RTP/SCS would be reduced compared to the 2042 No Project Scenario, the VMT would still remain greater than the 2015 baseline VMT. No feasible additional mitigation measures have been identified that would further reduce total VMT.

Impact WILD-1. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

Mitigation measure HAZ-1 would reduce the potential for construction of the 2022 RTP/SCS projects to inadvertently ignite a wildland fire. However, it is not possible to prevent a significant risk of wildland fires or fully protect people and structures from the risks of wildland fires, despite implementation of mitigation. Thus, this impact would remain significant and unavoidable. No additional mitigation measures to reduce this impact to less than significant levels are feasible.

Impact WILD-6. Implementation of the proposed project, along with any foreseeable development in the project vicinity, could result in cumulative impacts to wildfire.

Transportation improvement projects and the land use pattern included in the 2022 RTP/SCS would locate structures and people within areas mapped as moderate, high, or very high fire hazard severity zones. The risk of loss from existing development and the anticipated growth within the SRTA, combined with similar risk from growth in surrounding counties, would result in cumulative impacts related to wildland fire hazards. Although mitigation measure HAZ-1 would make structures and construction activities implemented under the 2022 RTP/SCS more fire resistant and reduce the potential for wildland fire ignition, the risk of wildland fires would not be eliminated entirely. Thus, the impacts of the 2022 RTP/SCS with regard to wildfire hazards would be cumulatively considerable and significant and unavoidable.

4.2 Effects Found Not To Be Significant

Section 15128 of the CEQA Guidelines requires a statement that briefly indicates the reasons that various possible significant effects of a project were determined not to be significant and were, therefore, not discussed in detail in the EIR.

The impacts of the current 2018 RTP/SCS were analyzed in the previously certified 2018 SEIR, which was a Program EIR. The 2018 SEIR included mitigation measures identified in the 2015 EIR that were required to be continued as a part of the 2018 RTP/SCS analysis as well as any new mitigations measures required to reduce any potential impacts to a less than significant level. The proposed 2022 RTP/SCS is an update of the current 2018 RTP/SCS. The analysis in this SEIR is also programmatic and is focused on the potential changes in environmental effects that could result from the updates to the 2018 RTP/SCS that are included in the proposed 2022 RTP/SCS, including updates or changes to policies, projects, and growth scenarios. Therefore, this 2022 SEIR is being prepared to analyze only the changes to the 2018 RTP/SCS or changes in circumstances under which the RTP/SCS projects would be implemented since certification of the 2018 SEIR.

An Initial Study was prepared for the 2018 RTP/SCS and served as the preliminary review of the environmental impacts analyzed in the 2015 EIR to determine what issue areas require further review in this DSEIR. The 2022 SEIR incorporates this Initial Study by reference. For any issue areas where impacts would be similar to or less than the impact level identified in the previous 2015 EIR or 2018 SEIR, no further analysis beyond the Initial Study was warranted. The following issue areas were determined to have no impact, a less than significant impact, or a less than significant with implementation of existing mitigation measures and therefore not further analyzed in this SEIR:

- | | |
|--------------------------------------|----------------------------------|
| ■ Aesthetics | ■ Hydrology and Water Quality |
| ■ Agriculture and Forestry Resources | ■ Land Use and Planning |
| ■ Biological Resources | ■ Mineral Resources |
| ■ Cultural Resources | ■ Noise |
| ■ Energy | ■ Population and Housing |
| ■ Geology and Soils | ■ Public Services |
| ■ Hazardous and Hazardous Materials | ■ Recreation |
| (except of wildland fires) | ■ Utilities and Services Systems |

4.3 Significant Irreversible Environmental Changes

Pursuant to Section 15126.2(d) of the CEQA Guidelines, an EIR must address any significant irreversible environmental change(s) which would be caused by the Proposed Project should it be implemented. This discussion would typically include uses of nonrenewable resources during the initial and continued phases of a project that may be irreversible where a large commitment of such resources makes removal or nonuse thereafter unlikely. Examples cited include 1) primary impacts and secondary impacts (such as highway improvements that provide access to a previously inaccessible area), that generally commit future generations to similar uses, and 2) irreversible damage that could result from environmental accidents associated with a project.

As described in Section 2, *Project Description*, the 2022 RTP/SCS modifies the 2018 RTP/SCS by removing completed projects, modifying some projects that continue to be on the list based on new information, and adding approximately 72 net new minor projects to the list. In addition, the land use scenario envisioned by the 2022 RTP/SCS is similar to that contained in the 2018 RTP/SCS. Construction of these new and modified projects would have an incremental increase in the use of non-renewable energy sources, potable water and building materials above what was analyzed in the 2018 SEIR for the 2018 RTP/SCS. The use and consumption of non-renewable resources would be irreversible.

Long-term irreversible environmental changes are associated with increased asphalt or concrete paving from new and modified transportation projects and related direct and cumulative impacts to aesthetics, biological resources, geology and soils, and hydrology and water quality. These types of environmental changes were evaluated in the 2018 SEIR, and the effects of the 2022 RTP/SCS would not be substantially different or more severe than previously identified in the 2018 SEIR. Additionally, the mitigation measures prescribed to minimize these effects in the 2018 SEIR would be applicable to the 2022 RTP/SCS.

4.4 Growth-Inducing Impacts

According to Section 15126.2(e) of the CEQA Guidelines, growth-inducing impacts of the Proposed Project shall be discussed in the EIR. Growth-inducing impacts are those effects of the Project that might foster economic or population growth or the construction of new housing, either directly or indirectly, in the surrounding environment. Induced growth is any growth that exceeds planned growth and results from new development that would not have taken place without implementation of the project. For example, development of a project may require additional housing, goods, and services associated with the population increase caused by, or attracted to, the new project. Growth induced from a project may result in significant adverse impacts if the growth is not consistent with the land use plans and growth management plans and policies for the area affected. Thus, it is important to assess the degree to which the growth accommodated by a project would conflict with any applicable land use plan, policy, or regulation.

The environmental effects of induced growth are indirect impacts of the 2022 RTP/SCS. Indirect effects of growth could result in significant, adverse environmental impacts, which could include increased demand on community or public services, increased traffic and noise, degradation of air and water quality, and conversion of agricultural land and open space to developed uses.

4.4.1 Economic Growth

The 72 net new transportation improvement projects included in the 2022 RTP/SCS would generate additional employment opportunities for transportation construction, maintenance, and operation. However, the additional employment opportunities would be minimal and not subsequently increase the demand for support services and utilities, which could otherwise generate secondary employment opportunities. In addition, the 2022 RTP/SCS contains projects designed to further improve the efficient movement of goods and services for industries that are reliant upon the transportation network.

Although such growth may incrementally increase economic activity in the Shasta Region, significant physical effects beyond those impacts discussed in this DSEIR are not expected to result from economic growth generated by the 2022 RTP/SCS. Impacts associated with such growth are discussed in Sections 3.1 through 3.6 of this DSEIR.

4.4.2 Employment, Household, and Population Growth

Population in the Shasta Region is projected to grow from 177,223 in 2010 to 188,049 by 2042, an increase of approximately 6.1 percent. Employment within the region is projected to grow by approximately 24,364 jobs over the same period, from 63,054 in 2010 to 87,418 in 2042, an increase of approximately 38.6 percent. As mentioned above, proposed projects under the 2022 RTP/SCS are designed and intended to accommodate projected growth up to the year 2042. The projects under the 2022 RTP/SCS would be phased to respond to growth as it occurs under adopted local general plans. As a result, the 2022 RTP/SCS would not directly induce growth beyond that projected by 2042; rather, it is intended to accommodate employment, population and household growth that would occur within the Shasta Region regardless of whether the 2022 RTP/SCS is implemented. The land use scenario envisioned by the 2022 RTP/SCS is effectively the same as the land use scenario envisioned by the 2018 RTP/SCS. This scenario would emphasize the development of infill within existing urbanized areas, and therefore, may redistribute growth patterns. The location of infill development would generally be on properties that have been identified as vacant or underutilized within applicable local jurisdictions. Infill development would not necessarily result in significant new population growth within these jurisdictions; rather the 2022 RTP/SCS would accommodate anticipated growth and concentrate it within existing urban cores instead of on the periphery of urban areas or within rural or semi-rural areas. Therefore, direct growth-inducing population growth impacts would be less than significant.

4.4.3 Removal of an Impediment to Growth

Similar to the 2018 RTP/SCS, the majority of 2022 RTP/SCS transportation improvements would take place in existing urbanized areas, such as the cities of Anderson, Redding, and the City of Shasta Lake. The remaining bulk of transportation improvements would take place throughout the unincorporated area and communities of Shasta County. Such transportation improvements can be perceived as removing an obstacle to growth by either creating additional traffic capacity (in the case of roadway widening) or improving access to undeveloped areas (in the case of road extensions). New infrastructure may also serve to accelerate or shift planned growth or encourage and intensify unplanned growth. These transportation network improvements would remove obstacles to growth in some areas of the region, which would support additional housing, population and economic growth, and therefore could be considered growth

inducing. However, these improvements are primarily intended to support the transportation needs of the growing population while implementing the infill development SGAs approach outlined in the SCS. The SCS is designed to accommodate growth by encouraging development in already urbanized areas and located near key transportation corridors rather than suburban and rural development on greenfields/undeveloped areas of the region. The 2022 RTP/SCS transportation improvement projects are intended and designed to support the land use patterns established in the SCS. Therefore, the 2022 RTP/SCS is consistent with projected and planned growth. Furthermore, all transportation improvement projects and land uses envisioned by the 2022 RTP/SCS are anticipated by the general plans of the applicable local jurisdictions, as all improvements have been coordinated with the applicable local jurisdictions.

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5.0 ALTERNATIVES TO THE PROPOSED PROJECT

The alternatives analysis consists of the following components: An overview of CEQA requirements for alternatives analysis, descriptions of the alternatives evaluated, a comparison between the anticipated environmental effects of the alternatives and those of the Proposed Project, and identification of an environmentally superior alternative.

5.1 Introduction

The California Code of Regulations (CCR) Section 15126.6(a) (State CEQA Guidelines) requires EIRs to describe “a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather, it must consider a range of potentially feasible alternatives that will avoid or substantially lessen the significant adverse impacts of a project, and foster informed decision making and public participation. An EIR is not required to consider alternatives that are infeasible. The lead agency is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason.”

This section of the State CEQA Guidelines also provides guidance regarding what the alternatives analysis should consider. Subsection (b) further states “[b]ecause an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment (Public Resources Code [PRC] Section 21002.1), the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly.”

The State CEQA Guidelines require that the EIR include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the Proposed Project. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative must be discussed, but in less detail than the significant effects of the project as proposed (CCR Section 15126.6[d]).

The State CEQA Guidelines further require that the No Project Alternative be considered (CCR Section 15126.6[e]). The purpose of describing and analyzing the No Project Alternative is to allow decision makers to compare the impacts of approving a proposed project with the impacts of not approving the proposed project. If the No Project Alternative is the environmentally superior alternative, CEQA requires that the EIR “...shall also identify an environmentally superior alternative among the other alternatives.” (CCR Section 15126[e][2]).

In defining “feasibility” (e.g., “... feasibly attain most of the basic objectives of the project ...”), CCR Section 15126.6(f) (1) states, in part that “[a]mong the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan

consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent). No one of these factors establishes a fixed limit on the scope of reasonable alternatives.”

In determining what alternatives should be considered in the EIR, it is important to consider the objectives of the project, the project’s significant effects, and unique project considerations. These factors are crucial to the development of alternatives that meet the criteria specified in Section 15126.6(a). Although, as noted above, EIRs must contain a discussion of potentially feasible alternatives, the ultimate determination as to whether an alternative is feasible or infeasible is made by the lead agency’s decision-making body, in this case the Shasta Regional Transportation Agency. (See PRC Sections 21081.5, 21081[a] [3].)

5.2 Considerations for Selection of Alternatives

In accordance with Section 15126.6 of the State CEQA Guidelines, this DSEIR contains a comparative impact assessment of alternatives that would lessen significant impacts of the proposed 2022 RTP/SCS. Section 15126.6 of the State CEQA Guidelines states:

“an EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. An EIR is not required to consider alternatives which are infeasible.”

The primary purpose of this section of the DSEIR is to provide decision makers and the general public a reasonable number of feasible alternatives that could attain most of the basic objectives of the 2022 RTP/SCS, while avoiding or reducing any of the significant adverse environmental effects of the 2022 RTP/SCS. As required by CEQA, this section also includes a discussion of the “environmentally superior alternative” among those studied.

5.2.1 Project Objectives

Project objectives are required to be provided in an EIR. CEQA Guidelines Section 15124(b) states that “[a] clearly written statement of objectives will help the lead agency develop a reasonable range of alternatives to evaluate in the EIR and will aid the decision makers in preparing findings or a statement of overriding considerations, if necessary. The statement of objectives should include the underlying purpose of the Project and may discuss the Project benefits.”

The underlying purpose of the 2022 RTP/SCS is to coordinate and facilitate the programming and budgeting of all transportation facilities and services within Shasta County through 2042 and demonstrate how the region will integrate transportation and land use planning to meet the greenhouse gas (GHG) emissions reduction targets established by the California Air Resources Board (CARB) and in accordance with other State and federal regulations. The 2022 RTP/SCS is intended to also show how SRTA will meet

the transportation needs of the region through 2042, considering existing and projected future land use patterns as well as forecasted population and job growth. The primary objective of the 2022 RTP/SCS is to comply with applicable regulatory requirements, including changes in legislative requirements that have occurred since the current 2018 RTP/SCS was adopted in October 2018.

The 2022 RTP is guided by the following overarching regional vision and goal statements:

Regional Vision

SRTA will meet the region's evolving mobility needs and generally avoid traffic congestion and other growth-related pitfalls commonly observed in larger metropolitan regions. This will be accomplished through strategic and timely transportation system improvements; the integration of travel options into a seamless network; and collaborative effort toward transportation-efficient land use patterns where it is most beneficial. As appropriate, SRTA will utilize its unique regional role and resources to lead transformative projects aligned with the regional vision.

SRTA acknowledges that its efforts are intertwined with regional prosperity, environmental quality, community health and well-being, and various other elements that collectively define quality of life, and will use regional transportation planning, policy-making, and project programming to lead the development of projects that yield multiple community benefits. Planning and decision-making processes shall engage partner agencies, community stakeholders, and the public, and be transparent and responsive to documented community values and priorities.

Goal #1: Keep people and freight moving safely, efficiently, and effectively

Goal #2: Optimize the use of existing interregional and regionally significant roadways to prolong functionality and maximize return-on-investment

Goal #3: Strengthen Performance-Based Planning and Programming

Goal #4: Strengthen regional economic sustainability and competitiveness to help support long-term prosperity

Goal #5: Integrate multimodal options via a 'one system' network of infrastructure, services, programs, and technologies

Goal #6: Help encourage transportation-efficient growth and development where it is supported by current or planned mobility options

Goal #7: Ensure historically marginalized and otherwise disadvantaged communities have an equitable role in the planning and decision-making processes

Goal #8: Improve the reliability, safety, efficiency, and resiliency of regionally significant roadways based on transportation system data and alignment with regional performance targets

Goal #9: Work with regional partners to create people-centered communities that support public safety, health, and well-being

5.2.2 Methodology

As described in Chapter 3, Environmental Impact Analysis, this 2022 SEIR analyzes the same potentially significant impact areas as the certified 2015 EIR prepared for the 2015 RTP/SCS and the 2018 SEIR prepared for the 2018 RTP/SCS. The 2022 EIR also evaluates the 2022 RTP/SCS for potentially new significant impacts not previously identified in the 2015 EIR and 2018 SEIR. The analysis in this SEIR determined that the 2022 RTP/SCS would not result in any new impact not already discussed in the 2015 EIR and 2018 SEIR.

Each alternative is described and analyzed below to determine whether environmental impacts would be similar to, less than, or greater than those of the 2022 RTP/SCS for each of the impact issue areas analyzed in the DSEIR. It should be noted that because the alternatives analysis is focused on the potentially significant impacts specific to the 2022 RTP/SCS, the alternatives to the 2022 RTP/SCS evaluated in the 2015 EIR and 2018 SEIR were not used in this DSEIR. However, the analysis below considers whether significant and unavoidable impacts of the 2022 RTP/SCS, as identified in the 2015 EIR and 2018 SEIR, would be reduced or more severe under each of the alternatives evaluated in this DSEIR because these impacts would also occur under the 2022 RTP/SCS. Significant and unavoidable impacts identified in the 2015 EIR are associated with impacts to historical resources and impacts to wildlife movement. The 2018 SEIR identified significant and unavoidable impacts for air quality (re-entrained dust from transportation sources), and hazards (wildland fires), and transportation circulation (increased vehicle miles traveled [VMT]).

5.2.3 Significant Effects of the Proposed Project

Impacts associated with implementation of the Proposed Project are evaluated in Chapters 3 and 4 of this DSEIR. The Proposed Project would have the potential to cause the following significant but mitigable environmental impacts:

- **Impact AIR-2:** Project implementation could result in a cumulatively considerable net increase of any criteria air pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.
- **Impact GHG-1:** Project implementation could, either directly or indirectly, generate greenhouse gas emissions that may have a significant impact on the environment.
- **Impact TCR-1:** Project implementation could cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074.

- **Impact WILD-2:** If the Proposed Project is located in or near state responsibility areas or lands classified as very high fire hazard severity zones, Project implementation could substantially impair an adopted emergency response plan or emergency evacuation plan.
- **Impact WILD-3:** If the Proposed Project is located in or near state responsibility areas or lands classified as very high fire hazard severity zones, Project implementation could, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, exposing Project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.
- **Impact WILD-4:** If the Proposed Project is located in or near state responsibility areas or lands classified as very high fire hazard severity zones, Project implementation could 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.
- **Impact WILD-5:** If the Proposed Project is located in or near state responsibility areas or lands classified as very high fire hazard severity zones, Project implementation could 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.

As discussed in Chapter 3 of this DSEIR, all but four potentially significant impacts would be reduced to a less than significant level with mitigation under the Proposed Project. Four of those impact areas would remain significant and unavoidable and one would remain cumulatively considerable and significant and unavoidable as listed below:

- **Impact AIR-3.** An increase in VMT generated from the build out and operations of the 2022 RTP/SCS may result in a commutatively considerable increase of PM₁₀. No feasible mitigation is possible to reduce increases in PM₁₀ to a less than significant level.
- **Impact TR-2.** Implementation of the 2022 RTP/SCS would result in greater total VMT when compared to 2042 conditions without the 2022 RTP/SCS. No feasible additional mitigation measures have been identified that would further reduce total VMT.
- **Impact WILD-1.** Mitigation measure Haz-1 would reduce the potential for construction of the 2022 RTP/SCS projects to inadvertently ignite a wildland fire. However, it is not possible to prevent a significant risk of wildland fires or fully protect people and structures from the risks of wildland fires, despite implementation of mitigation. Thus, this impact would remain significant and unavoidable. No additional mitigation measures to reduce this impact to less-than-significant levels are feasible.
- **Impact WILD-6.** Transportation improvement projects and the land use pattern included in the 2022 RTP/SCS would locate structures and people within areas mapped as moderate, high, or very high fire hazard severity zones. The risk of loss from existing development and the anticipated growth within the SRTA, combined with similar risk from growth in surrounding counties, would result in cumulative impacts related to wildland fire hazards. Although Mitigation Measure HAZ-1

would make structures and construction activities implemented under the 2022 RTP/SCS more fire resistant and reduce the potential for wildland fire ignition, the risk of wildland fires would not be eliminated entirely. Thus, the impacts of the 2022 RTP/SCS with regard to wildlife fire hazards would be cumulatively considerable and significant and unavoidable.

5.3 Alternatives Considered and Eliminated from Further Evaluation

Section 15126.6(c) of the State CEQA Guidelines states that an EIR should identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process. The EIR should briefly explain the reasons underlying the lead agency's determination. Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts (State CEQA Guidelines Section 15126.6(a)(c)).

For this DSEIR, an alternative location to Shasta County for implementing the 2022 RTP/SCS was rejected as an infeasible alternative. The 2022 RTP/SCS is developed specifically for Shasta County and cannot be implemented in another location and would not be applicable to another location.

5.4 Alternatives Considered for Detailed Evaluation

Because the previous EIR and SEIR determined that many impact analysis areas were determined to result in no impact, a less than significant impact, or a less than significant impact with mitigation implemented, only certain impact areas were to be analyzed in this 2022 RTP/SCS SEIR. As such, each alternative described previously is compared to the Proposed Project using the analysis presented in this DSEIR. The Project alternatives are evaluated in less detail than those of the Proposed Project, and the impacts are described in terms of difference in outcome compared with implementing the Proposed Project. Table 5-1 at the end of this section provides an at-a-glance comparison of the environmental impacts of each alternative. Table 5-2 compares how the alternatives meet the Project Objectives as compared to the Proposed Project.

5.4.1 Description of Alternatives

5.4.1.1 *Alternative 1: 2022 RTP/SCS With No New Transportation Projects Alternative*

Alternative 1, No New Transportation Projects 2022 RTP/SCS Alternative, represents the continued implementation of the current 2018 RTP/SCS, updated to reflect current conditions and forecasts. Because Alternative 1 updates the 2018 RTP/SCS with current conditions and forecasts, the land use scenario under this alternative would be similar to the land use scenario envisioned by the 2022 RTP/SCS. Briefly, this land use scenario concentrates the forecasted growth in population and employment in the region in urban areas and corridors of the County while preserving the distinct identity of existing cities and towns. The existing 2018 RTP/SCS transportation improvements included under Alternative 1 also would be similar to the 2022 RTP/SCS. However, the 72 new transportation improvement projects (listed in Appendix B) that would be added to the project list under the 2022 RTP/SCS would not be added to the list or constructed under this alternative.

5.4.1.2 *Alternative 2: Increased Infill Alternative*

Alternative 2, Increased Infill Alternative, provides for more compact development, more infill development, and less city expansion than the proposed 2022 RTP/SCS. Alternative 2 would result in higher average residential density, a greater percentage of multi-family housing, and a greater percentage of housing within and near downtown areas and job centers relative to the proposed 2022 RTP/SCS. The transportation network in this alternative includes additional transit investments in alternative modes intended to serve shorter, local trips given the more concentrated growth pattern. Specifically, active transportation investments such as bicycle facilities, sidewalks, traffic calming measures and intersection safety improvements would be prioritized. Under Alternative 2, investment would be focused on closing transit gaps by enhancing local transit bus service rather than interregional or long-distance services. In addition, active transportation projects such as bicycle facilities, trails and pedestrian improvements would be programmed throughout the region under this alternative.

5.4.1.3 *Alternative 3: No Project Alternative*

Section 15126.6 of the State CEQA Guidelines requires analysis of the No Project Alternative. Consistent with Section 15126.6(e)(a), Alternative 1, No Project Alternative, includes a land use pattern comprised of existing land use trends dictated by the current land use plans of the applicable jurisdictions within the region, such as the Shasta County General Plan (2004), City of Anderson General Plan (2007), City of Lake Shasta General Plan (1999), and City of Redding General Plan (2000). In other words, it assumes that current regional growth trends would continue, but it updates the total growth to be consistent with the updated Regional Growth Forecast, as population growth in the region would occur regardless of the 2022 RTP/SCS. Rather than focusing on coordinating transportation projects that serve infill and transit-oriented development, the transportation network would be comprised of committed transportation projects included in the Regional Transportation Improvement Program (RTIP) (SRTA 2020) and Federal Transportation Improvement Program (FTIP) (SRTA 2023).

5.4.2 Analysis of Alternatives

The following analyses focus on potential environmental impacts associated with each Project Alternative:

5.4.2.1 *Alternative 1: 2022 RTP/SCS With No New Transportation Projects Alternative*

Air Quality

Implementation of Alternative 1 would result in less construction related air quality impacts because 72 fewer transportation improvement projects would be constructed compared to the 2022 RTP/SCS. Table 3.2-5 in Section 3.2, *Air Quality*, shows the estimated operational emissions of criteria pollutants for baseline 2015 conditions, conditions in 2042 without implementation of the 2022 RTP/SCS (2042 No Project), and conditions in 2042 with implementation of the 2022 RTP/SCS. The emissions shown in Table 3.2-5 for 2042 No Project are the emissions that would result from continued implementation of 2018 RTP/SCS, or Alternative 1. As shown in the table, operational emissions of criteria pollutants would be greater under this alternative compared to the 2022 RTP/SCS.

As shown in Table 3.2-7, the daily VMT in the region in 2042 would be 7,806,135 if the implementation of Alternative 1 (which is the 2042 No Project scenario in this table). This would be approximately 1,607,261 more VMT than would occur in 2042 with implementation of the 2022 RTP/SCS. A significant and unavoidable impact from Implementation of the 2022 RTP/SCS, as it was for the 2018 RTP/SCS, was re-entrained dust and its effect on sensitive receptors. Because Alternative 1 results in a greater VMT than the 2022 RTP/SCS, re-entrained dust levels, which are correlated to roadway activity and VMT, would be greater under this alternative compared with the 2022 RTP/SCS.

Alternative 1 includes the same land development scenario as envisioned in the 2022 RTP/SCS. Therefore, the same number of sensitive receptors would be exposed to health risks from toxic air contaminants (TACs) during construction and operation under this alternative as would be under the 2022 RTP/SCS.

Overall air quality impacts under this alternative would be both better and worse when compared to the 2022 RTP/SCS because criteria pollutant emissions would be higher, but localized PM₁₀ concentration levels would be less. Similar to the 2022 RTP/SCS, all mitigation measures identified in 2015 EIR for air quality impacts would be required. However, impacts related to localized PM₁₀ concentrations would remain significant and unavoidable.

Biological Resources

Impacts to biological resources were discussed in the 2015 EIR resulting in multiple mitigation measures designed to protect these resources. As described in the 2015 EIR, implementation of the 2015 RTP/SCS would have significant and unavoidable impacts related to wildlife movement in the region. This impact was also determined to be significant and unavoidable in the 2018 SEIR. These impacts are primarily related to the fragmentation and isolation of habitat from roadway projects and from increased human activity near habitat during the construction of transportation improvement projects. Because Alternative 1 includes the same land use scenario as the 2022 RTP/SCS, but 72 fewer transportation projects, less habitat would be fragmented and impacts on wildlife movement would be slightly reduced under this alternative when compared to the 2022 RTP/SCS. However, because Alternative 1 consists of the continued implementation of the projects listed in the 2018 RTP/SCS, this alternative would continue to have significant and unavoidable impacts on wildlife movement. Similar to the 2022 RTP/SCS, mitigation measures included in the 2015 EIR for the protection of biological resources would be required for this alternative.

Cultural Resources

As described in the 2015 EIR, implementation of the 2015 RTP/SCS included transportation projects and a land use scenario that could have significant and unavoidable impacts on historical resources. This impact was also determined to be significant and unavoidable in the 2018 SEIR. Because Alternative 1 includes the same land use scenario as the 2022 RTP/SCS, land development envisioned by this alternative would result in the same potential impacts on historical resources. The 2022 RTP/SCS includes 72 net new projects, which cannot be fully evaluated for historical resources impacts at this time because the precise characteristics of future improvements are not known. Therefore, impacts on historical resources would be approximately the same under this alternative and the 2022 RTP/SCS. Similar to the 2022 RTP/SCS,

Alternative 1 impacts would be significant and unavoidable, and those mitigation measures included in the 2015 EIR would be required.

Greenhouse Gases

Implementation of Alternative 1 would result in fewer impacts associated with GHG emissions during construction activities as 72 fewer transportation projects would be constructed under this alternative compared to the 2022 RTP/SCS. Table 3.3-1 in Section 3.3, Greenhouse Gas Emissions, shows the estimated GHG emissions from all transportation -related emission sources for baseline 2005 conditions, conditions in 2042 with implementation of the 2022 RTP/SCS, and conditions in 2042 without implementation of the 2022 RTP/SCS (2042 No Project). The GHG emissions shown in Table 3.3-1 for 2042 No Project are the GHG emissions that would result from continued implementation of 2018 RTP/SCS, or Alternative 1. As shown in the table, the GHG emissions would be greater under this alternative compared to the 2022 RTP/SCS. Specially, Alternative 1 would result in an additional 86,722 metric tons of GHG/year when compared to the 2022 RTP/SCS. This is primarily a result of the transportation efficiency benefits associated with the improvement projects in the 2022 RTP/SCS that would not occur under Alternative 1. As long-term GHG emissions would be higher under this alternative, the overall impact of this alternative would be slightly greater than what would occur under the 2022 RTP/SCS. However, the GHG emissions under this alternative would be below the 2015 baseline GHG emissions. Therefore, impacts would be less than significant without mitigation.

Transportation and Circulation

As described in Table 3.4-1, annual VMT in the region in 2042 would be 2,239,387,732 if implementation of the 2018 RTP/SCS (identified as “2042 No Project VMT” in the table) continued and the 2022 RTP/SCS was not implemented. This would be approximately 557,690,312 greater VMT than would occur in 2042 under implementation of the 2022 RTP/SCS. Additionally, VMT under this alternative would increase compared to baseline 2015 conditions, and impacts would be significant and unavoidable.

This alternative would not include the 72 net new transportation improvement projects included in the 2022 RTP/SCS. These projects have been added to the project list to improve traffic circulation and reduce congestion. Without these projects, this alternative would result in slightly greater traffic congestion projects compared to the 2022 RTP/SCS.

As described in the 2018 SEIR, the 2018 RTP/SCS is generally consistent with applicable alternative transportation plans. Because Alternative 1 is a continuation of the 2018 RTP/SCS, impacts related to consistency with such plans would be less than significant, similar to the 2022 RTP/SCS. Overall, transportation and circulation impacts would be similar to the 2022 RTP/SCS because this alternative would result in greater VMT and increased traffic congestion.

Tribal Cultural Resources

The land development envisioned under this alternative would be the same as the 2022 RTP/SCS. However, implementation of Alternative 1 would involve less ground disturbance associated with transportation improvements than would occur under the proposed 2022 RTP/SCS because Alternative 1

does not include the 72 transportation projects included in the 2022 RTP/SCS. As such, the potential to disturb tribal cultural resources, including ancestral remains and sacred sites, would slightly decrease under Alternative 1 when compared to the 2022 RTP/SCS. While Alternative 1 would continue those construction projects listed in the 2018 RTP/SCS, any future projects would be required to comply with AB 52, which may require formal tribal consultation. Compliance with this requirement would reduce impacts to a less than significant level, similar to the 2022 RTP/SCS. However, because of the slightly decreased potential to disturb tribal cultural resources from fewer transportation projects, the overall impact of Alternative 1 would be slightly less than under the 2022 RTP/SCS.

Wildfire

The 2015 EIR analysis determined that wildland fire hazard impacts would be less than significant because development would be focused on urban areas, as opposed to intermixed with wildlands. However, several catastrophic fires in California since the 2015 EIR was certified, such as the 2017 Tubbs Fire in Santa Rosa, have demonstrated that wildland fires are capable of burning not only wildland areas and areas intermixed with wildlands, but also urban areas. The 2018 SEIR determined that even with mitigation measures provided in the 2018 SEIR, implementation of the 2018 RTP/SCS would result in a significant and unavoidable impact for wildland fires. As described above, while the 72 transportation projects would not be constructed as a part of this alternative, the land use scenario envisioned under Alternative 1 is the same as the land use envisioned by the 2018 RTP/SCS. The 2022 SEIR provides additional analysis for wildfire impacts because of changes to CEQA. This analysis determined that implementation of mitigation measure HAZ-1, which was implemented as a part of the 2018 SEIR, would reduce impacts in the wildfire impact area to less than significant with the exception of the exposure of people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands. The 2022 SEIR determined that this impact area, similar to the 2018 SEIR, would also result in a significant and unavoidable impact. Because Alternative 1 is essentially the same as the 2018 RTP/SCS as far as construction projects, the potential risks of exposure of people or structures to wildland fire would be the same as the 2018 RTP/SCS and would be significant and unavoidable.

Overall, because Alternative 1 would not result in any differences in the risk of wildland fire hazards compared to the 2022 RTP/SCS, impacts would be the same as described for the 2022 RTP/SCS.

5.4.2.2 *Alternative 2: Increased Infill Alternative*

Air Quality

Implementation of Alternative 2 would result in higher short-term air quality impacts compared to the proposed 2022 RTP/SCS because urban construction activities would expose higher numbers of people to construction-related air emissions. The overall VMT would be slightly less in Alternative 2 than the 2022 RTP/SCS because there would be shorter distance trips between residential and commercial areas and those trips would likely be made using enhanced local transit services or by walking and bicycling rather than the single occupant vehicle. Reduced VMT would also result in a less re-entrained dust when compared to the 2022 RTP/SCS.

Although VMT and overall regional emissions would remain the same or slightly decrease depending on the pollutant, sensitive receptors would be exposed to greater concentrations of TACs based on the land use pattern. Therefore, compared to the 2022 RTP/SCS, some air quality-related impacts would be greater while other impacts would be less. All mitigation measures identified in 2018 SEIR for air quality impacts would be required. Overall, air quality and health risk impacts of Alternative 2 would be similar to impacts under the 2022 RTP/SCS.

Biological Resources

Alternative 2 would further concentrate land use development within existing urbanized areas and would construct fewer transportation infrastructure projects such as roadway widening. As such, less overall ground disturbance outside of already-developed areas would occur. Because of the reduced ground disturbance, less habitat would be fragmented and less human activity would occur within proximity to habitat. Therefore, implementation of Alternative 2 would have reduced impacts on wildlife movement compared to the 2022 RTP/SCS. However, while the impacts to wildlife movement would be reduced, these impacts would still occur. Mitigation measures identified in the 2018 SEIR to reduce the impacts to wildlife movement would be continued. However, these mitigation measures do not result in a less than significant impact nor is there any available feasible mitigation to reduce impacts on wildlife movement to a less than significant level. As such, Alternative 2 impacts on wildlife movement would remain significant and unavoidable.

Cultural Resources

As described in the 2015 EIR, implementation of the 2015 RTP/SCS would include transportation projects and a land use scenario that could have significant and unavoidable impacts on historical resources. This impact was also determined to be significant and unavoidable in the 2018 SEIR. Because the 2022 RTP/SCS includes the same land use scenario as the 2018 RTP/SCS, plus 72 net new transportation projects, it would also have the same potentially significant and unavoidable impacts on historical resources.

Compared to the 2022 RTP/SCS, impacts to historical resources may increase under Alternative 2. This is because more development would occur within existing urban areas, where historical buildings and structures are more likely to be located. Redevelopment or demolition that may be required to implement transportation improvements and/or infill development under this alternative may result in the permanent loss of more historic structures than the 2022 RTP/SCS.

While implementation of the cultural resources mitigation measures identified in Chapter 1 of this DSEIR would reduce impacts to the extent feasible, some project-specific impacts may be unavoidable. Overall, impacts to historical resources would remain significant and unavoidable for Alternative 2.

Greenhouse Gases

As described previously, overall VMT under Alternative 2 would be slightly less as compared to the 2022 RTP/SCS because this alternative would include more compact and infill development, resulting in shorter distance trips and increased use of transit and active transportation. Because GHG emissions are largely

associated with VMT and mobile sources, and Alternative 2 would result in slightly less VMT, this alternative would result in slightly lower long term operational GHG emissions than the 2022 RTP/SCS. Because long-term emissions of GHGs would be lower under this alternative, the overall impact would be less than under the 2022 RTP/SCS. This alternative is expected to meet the GHG emission reduction requirements associated with SB 375 due to lower VMT, increased transit, and other measures. Impacts would be less than significant.

Transportation and Circulation

Alternative 2 would include a similar range of transportation improvement projects as identified for the proposed 2022 RTP/SCS, with greater priority given to bicycle, pedestrian and local transit connections. Many of these projects are intended to address traffic congestion identified by local agencies, and in many cases would mitigate potential impacts associated with planned long-term development projects. However, others are intended to support improvements along commercial corridors to facilitate access to alternative transportation modes. Overall, this alternative would decrease annual VMT in the region compared to the 2022 RTP/SCS because more emphasis would be placed on transit and active transportation projects. Additionally, future growth would be further concentrated in urbanized areas of the region, facilitating the ability to use alternative transportation modes instead of single-occupancy vehicles. Because Alternative 2 prioritizes alternative transportation projects, it would be generally consistent with applicable alternative transportation plans. Overall, transportation and circulation impacts would be less compared to the 2022 RTP/SCS because this alternative would result in less VMT and less traffic congestion.

Tribal Cultural Resources

As discussed previously, Alternative 2 would result in less overall ground disturbance outside of existing urbanized (disturbed) areas in the region. As such, there would be less potential to disturb tribal cultural resources, including ancestral remains and sacred sites outside the urbanized areas. It should be noted, however, that such resources could be located within urbanized areas, and may be disturbed with relatively minor amounts of ground disturbance. As such, mitigation identified in Section 3.5, Tribal Cultural Resources, would continue to apply and the impact would be significant but mitigable. Overall impacts to tribal cultural resources under Alternative 2 would be less than impacts under the 2022 RTP/SCS.

Wildfire

This alternative would concentrate land use development in infill areas and would focus transportation investments on transit and active transportation modes, rather than new or expanded roadway capacity. Alternative 2 would intensify infill development within the urbanized areas of the region and reduce city expansion compared to the 2022 RTP/SCS. Therefore, this alternative would reduce the amount of housing and other development near wildlands. Accordingly, the risk of exposure of people and structures to wildland fire would be decreased under this alternative compared to the 2022 RTP/SCS. However, this impact would remain significant and unavoidable and cumulatively considerable given the fire hazard across much of Shasta County. Additionally, as shown in Section 3.6, Wildfire, CAL FIRE has mapped areas

of high and Very High Fire Hazard Severity Zones within the region's incorporated cities. Compared to the 2022 RTP/SCS, the overall impact of Alternative 2 would be less than the 2022 RTP/SCS; however, mitigation measure HAZ-1 would still be required to reduce potential impacts for wildfire.

5.4.2.3 *Alternative 3: No Project Alternative*

Air Quality

Implementation of Alternative 3 would result in less construction related air quality impacts because fewer transportation improvement projects would be constructed compared to the 2022 RTP/SCS. However, operational emissions in 2042 for PM₁₀, ROG, and NO_x would likely be greater than those shown for the 2022 RTP/SCS in Table 3.2-5 in Section 3.2, Air Quality. Operational emissions would be greater because this alternative would include fewer transit projects and active transportation projects, both of which reduce overall VMT. Further, fewer transportation improvement projects designed to reduce traffic congestion would be constructed. Traffic congestion leads to a longer period of engine idling, and consequently, more mobile-source emissions. Additionally, Alternative 3 would allow for more development outside of the urbanized areas of the region, which would require more vehicle trips to reach employment and commercial shopping centers in urbanized areas. As described in Section 3.2, localized PM₁₀ concentrations are generated from roadway activity and VMT increases. Because implementation of Alternative 3 would result in increased VMT relative to the 2022 RTP/SCS, this alternative would result in higher levels of localized PM₁₀ concentrations throughout the region.

Those infill development projects and many improvements in the transportation infrastructure anticipated under the 2022 RTP/SCS would not occur under this alternative. Since these developments would not occur, sensitive receptors exposure to health risks from TACs during construction or operation would be less than the 2022 RTP/SCS. However, overall, air quality impacts would be greater under this alternative when compared to the 2022 RTP/SCS due to an increase of air pollutant emissions, including PM₁₀, from traffic congestion and less alternative transportation opportunities. Those impacts related to entrained dust (PM₁₀) would be significant and unavoidable under Alternative 3. Additionally, other existing RTP/SCS air quality mitigation measures may no longer be required. As such, Alternative 3 would have a greater impact to air quality than the 2022 RTP/SCS.

Biological Resources

As discussed in the 2015 EIR and 2018 SEIR, both the 2015 RTP/SCS and the 2018 RTP/SCS would have significant and unavoidable impacts related to wildlife movement in the region. As the 2022 RTP/SCS includes the same transportation improvements projects and adds 72 additional projects, the 2022 RTP/SCS would have a similar result to wildlife movement.

Because Alternative 3 would include fewer transportation projects, less wildlife habitat would be fragmented or isolated by roadways. However, impacts would be potentially significant because some roadway projects would occur and would fragment habitat and affect wildlife movement. The mitigation measures included in 2018 SEIR to reduce this impact would not be implemented because this mitigation would not apply to this alternative. Therefore, impacts would remain significant and unavoidable. Because

of less habitat fragmentation compared to the 2022 RTP/SCS, Alternative 3 would have less impact on wildlife movement when compared to the 2022 RTP/SCS.

Cultural Resources

As discussed in the 2015 EIR and 2018 SEIR, both the 2015 RTP/SCS and the 2018 RTP/SCS would include transportation projects and a land use scenario that could have significant and unavoidable impacts on historical resources. Because the 2022 RTP/SCS includes the same land use scenario as the 2018 RTP/SCS, it would also have the same potentially significant and unavoidable impacts on historical resources.

Alternative 3 would include fewer transportation projects than the 2022 RTP/SCS and would also include less urban infill development. Less infill development would result in fewer development projects within proximity to existing structures in urbanized areas of the region, where historical structures could be more prominent. Fewer transportation projects also would reduce the potential for impacts to historical resources. However, because this alternative would include some infill development and transportation projects, and because these projects could disturb historical resources, impacts would be potentially significant and unavoidable. The mitigation measures included in the 2015 EIR and 2018 SEIR to reduce this impact would not be implemented because mitigation would not apply to this alternative. Despite fewer projects and less development likely to be within proximity to historical resources, without applicable mitigation to reduce impacts, this alternative would have slightly greater impacts on historical resources when compared to the 2022 RTP/SCS.

Greenhouse Gases

Implementation of Alternative 3 would result in fewer impacts associated with GHG emissions during construction activities as fewer projects would be constructed under this alternative compared to the 2022 RTP/SCS. However, this alternative would not include the SCS component of the 2022 RTP/SCS, and land development would occur consistent with current land use plans applicable to region. Therefore, this alternative would not reduce GHG emissions as required by SB 375. The GHG emissions under Alternative 3 would be higher when compared to GHG emissions with the 2022 RTP/SCS. This is primarily a result of the transportation efficiency benefits associated with the improvement projects that would not occur under Alternative 3, and a continuation of current land use trends. As long-term GHG emissions would be higher under this alternative, the overall impact of this alternative would be greater than what would occur under the 2022 RTP/SCS.

Transportation and Circulation

Alternative 3 would not include many of the projects envisioned under the proposed 2022 RTP/SCS, including new highway and intersection projects, new bikeway and pedestrian projects (active transportation), and new transit projects. Many of these projects are intended to address traffic congestion, and in many cases would serve as mitigation measures to reduce potential impacts associated with planned long-term development and population growth that would occur regardless of the 2022 RTP/SCS.

Overall, VMT within the region would increase as a result of regional population growth, as discussed in Section 3.4, Transportation. However, overall VMT would be less under Alternative 3 compared to the proposed 2022 RTP/SCS in 2042, regardless of population growth. This would result from transit and active transportation projects included in the 2022 RTP/SCS, as well as infill, mixed use, and other land development projects that would reduce demand for vehicle trips. Infill development results in shorter travel distances and better access to transit services and other alternative modes of transportation. The increased traffic congestion and VMT under Alternative 3 would be a potentially significant and avoidable impact, and the impacts would be greater than the impacts of the proposed 2022 RTP/SCS.

Tribal Cultural Resources

Implementation of Alternative 3 would involve less ground disturbance associated with transportation improvements than would occur under the proposed 2022 RTP/SCS. However, because more land use development could occur outside of existing urbanized areas, more ground disturbance would be expected to occur in previously undeveloped or open space areas. As such, the potential to disturb tribal cultural resources, including ancestral remains and sacred sites, would increase under Alternative 3. Although mitigation would not apply to this alternative, future projects would be required to comply with AB 52, which may require formal tribal consultation. Compliance with this requirement would reduce impacts to a less than significant level, similar to the 2022 RTP/SCS. However, because of the increased potential to disturb tribal cultural resources from more development outside of urbanized areas and no mitigation applicable to this alternative, the overall impact of Alternative 3 would be greater than under the 2022 RTP/SCS.

Wildfire

Land development would continue in accordance with current land use plans of the applicable jurisdictions in the region under Alternative 3. Therefore, compared to the 2022 RTP/SCS, this alternative could allow for more land use development outside of existing urbanized areas. Because CAL FIRE has mapped much of the SRTA region as having high or very high fire hazard, especially outside of urbanized areas, this alternative would therefore place more structures next to or intermixed with wildlands. This would expose more people and structures to a significant risk of loss, injury or death involving wildland fires compared to the 2022 RTP/SCS. This impact, which is significant and unavoidable and cumulatively considerable for the 2022 RTP/SCS, would be greater under Alternative 3 and would remain significant and unavoidable and cumulatively considerable. Due to the increased severity of wildland fire impacts, overall hazards and hazardous materials impacts would be greater under this alternative than under the 2022 RTP/SCS.

5.5 Environmentally Superior Alternative

An EIR must describe a reasonable range of alternatives to a project that would feasibly attain the basic project objectives while avoiding or reducing one or more of the project's significant effects (CEQA Guidelines Section 15126.6(a)).

Table 5-1 summarizes the potential impacts of the alternatives evaluated in this section, as compared with the potential impacts of the Proposed Project. Table 5-2 identifies how well an alternative meets the

Project objectives. As shown in Table 5-1, Alternative 2, Increased Infill, would be the environmentally superior alternative.

An EIR must describe a reasonable range of alternatives to a project that would feasibly attain the basic project objectives while avoiding or reducing one or more of the project's significant effects (CEQA Guidelines Section 15126.6(a)). The Proposed Project has nine goals. Table 5-2 illustrates a comparison of the alternatives to the basic Project objectives. As shown in this table, both Alternatives 1 and 2 meet all of the Project goals while Alternative 3 does not meet any of the Project goals.

Alternative 2 would result in a lesser degree of impact regarding the seven Project impacts. However, only one of the significant and unavoidable impacts of the Proposed Project would be reduced to a less than significant impact under alternative 2. All other impact outcome levels would be the same as the Project. Based on the evaluation contained in Section 5.4 and Tables 5-1 and 5-2, Alternative 2 would be the environmentally superior alternative, as it would result in fewer impacts to one resource category when compared to the Proposed Project and still meet all the of Project objectives.

Table 5-1. Comparison of the Environmental Impacts of the Alternatives in Relation to the Proposed Project

Environmental Topic	Proposed Project	Alternative 1 No New Transportation Projects 2022 RTP/SCS Alternative	Alternative 2 Increased Infill	Alternative 3 No Project
Air Quality	SU	SU (Similar)	SU (Similar)	SU (Greater)
Biological Resources	SU	SU (Less)	SU (Less)	SU (Less)
Cultural Resources	SU	SU (Similar)	SU (Greater)	SU (Greater)
Greenhouse Gas	SU	SU (Greater)	LTS (Less)	SU (Greater)
Transportation and Circulation	SU	SU (Similar)	SU (Less)	SU (Greater)
Tribal Cultural Resources	LTSM	LTSM (Less)	LTSM (Less)	LTSM (Greater)
Wildfire	SU, CC	SU, CC (Similar)	SU, CC (Less)	SU, CC (Greater)

Notes: NI = No Impact, LTS = Less than Significant, LTSM = Less than Significant with Mitigation, SU = Significant and Unavoidable, CC = Cumulatively Considerable
 Less = Alternative is environmentally superior, impacts are less than those of the Proposed Project,
 Greater = Alternative is environmentally inferior, impacts are greater than those of the Proposed Project,
 Similar = Alternative is environmentally the same, impacts similar to those of the Proposed Project, or no better or worse

Table 5-2. Comparison of Alternatives by Project Objectives			
Project Objective	Alternatives		
	1	2	3
Goal #1: Keep people and freight moving safely, efficiently, and effectively.	+	+	-
Goal #2: Optimize the use of existing interregional and regionally significant roadways to prolong functionality and maximize return-on-investment.	+	+	-
Goal #3: Strengthen Performance-Based Planning and Programming.	+	+	-
Goal #4: Strengthen regional economic sustainability and competitiveness to help support long-term prosperity.	+	+	-
Goal #5: Integrate multimodal options via a 'one system' network of infrastructure, services, programs, and technologies.	+	+	-
Goal #6: Help encourage transportation-efficient growth and development where it is supported by current or planned mobility options.	+	+	-
Goal #7: Ensure historically marginalized and otherwise disadvantaged communities have an equitable role in the planning and decision-making processes.	+	+	-
Goal #8: Improve the reliability, safety, efficiency, and resiliency of regionally significant roadways based on transportation system data and alignment with regional performance targets.	+	+	-
Goal #9: Work with regional partners to create people-centered communities that support public safety, health, and well-being.	+	+	-
Total Project Objectives Met:	9	9	0

Notes: - = Does not meet objective, + = Meets objective

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