2015 Regional Transportation Plan for Shasta County













Adopted
June 30, 2015

SHASTA REGIONAL TRANSPORTATION AGENCY

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2015 Regional Transportation Plan for Shasta County

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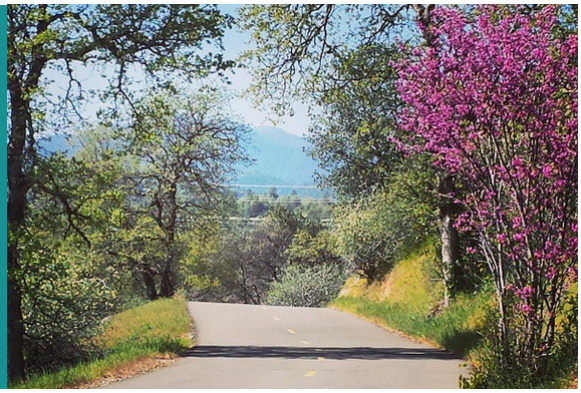
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Executive Summary



Shasta Regional Transportation Agency (SRTA) is the federally-designated metropolitan planning organization (MPO) and state-designated regional transportation planning agency (RTPA) for the Shasta County region. SRTA is required by federal law (Title CFR 450.300, Subpart C) and state law (CA Government Code Section 65080) to prepare and adopt a comprehensive regional transportation plan (RTP) covering a minimum 20 year planning horizon. The RTP for Shasta County is updated every four years.

The purpose of the RTP is to "encourage and promote the safe and efficient management, operations, and development of a regional intermodal transportation system that, when linked with appropriate land use planning, will serve the mobility needs of goods and people" (California Transportation Commission 2010 RTP Guidelines).

RTP planning is an iterative process, building upon previous efforts and taking into account recent accomplishments and an ever evolving demographic, political, economic, and environmental setting. RTP planning is also a collaborative process involving the general public and various federal, state, tribal, regional, and local agency partners. The RTP is implemented by way of shorter term transportation improvement and work programs.

Regional trends such as population growth, demographic shifts, housing characteristics, economic development activity, public health and well-being, and mobility and travel are discussed and considered as part of this RTP. This RTP addresses all modes of travel used by people and for goods and freight movement, including: streets and roads, public transit, bicycle and pedestrian, aviation, and rail. Existing and projected mobility needs in each category are described.

The 2015 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.

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. Such considerations are integral to regional transportation planning, policy-making, and project programming and SRTA will be actively engaged with its partners in developing and carrying out joint strategies and initiatives that yield multiple community benefits. Planning and decision-making processes shall engage the public and be transparent and responsive to documented community values and priorities.

Goal #1: Optimize the use of existing interregional and regionally significant roadways to prolong functionality and maximize return-on-investment.

Goal #2: Strategically increase capacity on interregional and regionally significant roadways to keep people and freight moving effectively and efficiently.

Goal #3: Provide an integrated, context-appropriate range of practical transportation choices.

Goal #4: Create vibrant, people-centered communities.

Goal #5: Strengthen regional economic competitiveness for long-term prosperity.

Goal #6: Promote public access, awareness, and action in planning and decision-making processes.

Goal #7: Practice and promote environmental and natural resource stewardship.

Each regional goal is accompanied by objectives and implementation strategies. Performance goals are used to gauge the effectiveness of the RTP and subsequent programs of projects, policies, and mobility strategies in meeting the region's vision and goals.

New to the RTP for 2015 is the Sustainable Communities Strategy (SCS) as required by California Senate Bill 375, the Sustainable Communities and Climate Protection Act of 2008 (SB 375). Pursuant to this law, the California Air Resources Board (ARB) has established emission reduction targets for California's eighteen MPO regions for the year 2020 and 2035. Shasta County was assigned a 0% per capita change when compared to the 2005 baseline year.

Table 1 - SCS Daily GHG Emissions per Capita

Year	SB 375 Emissions/ Capita[1]	Change in Emissions from 2005
2005 Baseline	21.3 lbs	-
2020	20.3 lbs	-4.9%
2035	21.2 lbs	-0.5%

[1]Results from ShastaSIM travel model. SB 375 emissions are calculated in 'lbs CO_2 per-capita.'

The 2015 RTP meets these targets as a result of integrated land use, housing, and transportation planning. More specifically, the SCS features seven Strategic Growth Areas (SGAs) where various strategies can be focused to effectively reduce per capita vehicle miles traveled and associated greenhouse gas emissions. Strategies are intended to increase population and employment density within SGAs and to provide a range of practical mobily alternatives.

Opportunities for further emission reductions have been identified should additional funding for planning and implementation be made available to SRTA, local jurisdictions, and community development partners. These include:

- Expanded plug-in electric vehicle charging infrastructure, including fast charging stations needed to accelerate the market penetration of zero-emission electric vehicles.
- Expansion of interregional public transportation options, with a focus on replacing long-distance interregional vehicle trips to airports and other large-urban destinations.
- Consolidated goods and freight hub, including capital infrastructure investments needed to support the aggregation, wholesale, and distribution of agricultural commodities, natural resources, and other key industries in Shasta County and the North State.
- Expanded bicycle and pedestrian infrastructure, including the completion of network gaps, enhanced integration with public transportation, and connections between regional trail corridors and the roadway network.
- Incentives for infill and redevelopment projects, needed to spur location-efficient development patterns.
- Technology-based strategies, including intelligent transportation systems (ITS) applications designed to enhance traffic operations and provide real-time travel information to system users.

The RTP is subject to the California Environmental Quality Act (CEQA), meaning that SRTA must prepare an Environmental Impact Report (EIR) for the RTP. Various transportation control measures (TCMs) and mitigation activities were identified.

Finally, this RTP includes a financial element that documents projected available transportation revenues and cost estimates for needed transportation projects, services, and maintenance activities. The fiscally-constrained project list includes $1,628,754,000 in transportation projects and services. An additional $2,444,446,000 in transportation needs were identified but are not within available resources to deliver in the 20-year horizon of this RTP.

Chart 1 - 2016-2035 Funding Availability by Mode (in $1,000s)

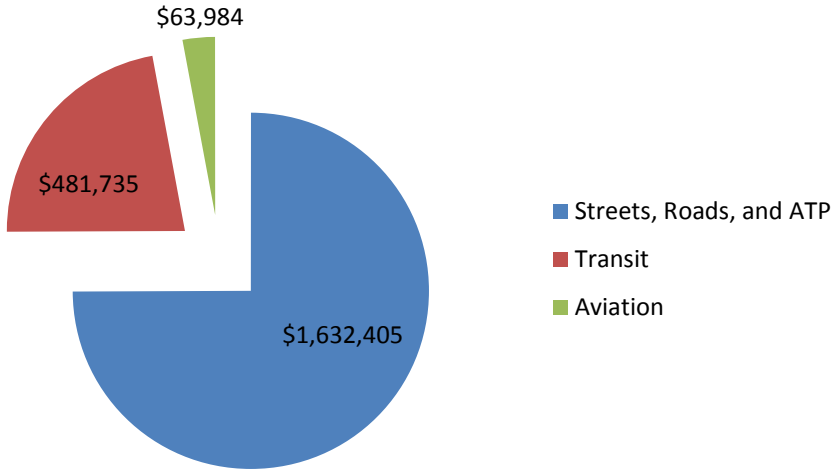
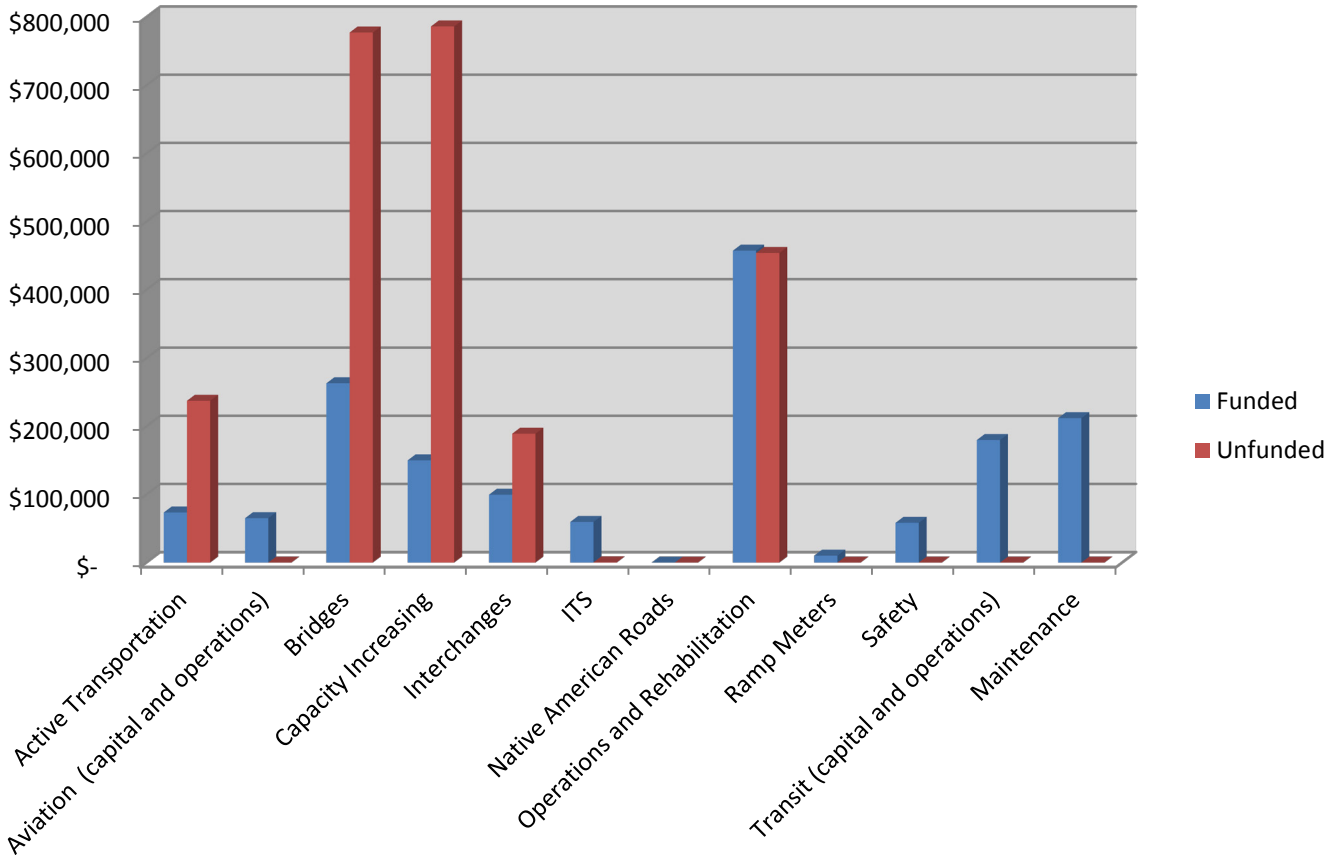


Chart 2 - Plan Funded and Unfunded by Activity (in $1,000s)



Introduction



ABOUT SRTA

Shasta Regional Transportation Agency (SRTA) is the federally-designated metropolitan planning organization (MPO) and state-designated regional transportation planning agency (RTPA) for the Shasta County region. SRTA studies the region's transportation needs, identifies and programs transportation infrastructure improvements, and administers over $24 million annually in state and federal funds for the planning, construction, operation, and maintenance of transportation infrastructure throughout Shasta County.

Precisely when, where, and in what manner these resources are allocated impacts personal mobility, environmental quality, economic opportunity, public health, public safety, and various other factors that collectively define quality of life. These choices affect both near- and long-term outcomes. Such benefits and foreclosed opportunities must be explored and weighed against community values as part of the planning process.

In the end, transportation planning, policy, and investment isn't so much a clear choice as it is a balancing act between diverse community needs, priorities, and expectations. Transportation planning has become increasingly attentive to its far-reaching impacts, shifting away from a narrow focus on relieving traffic congestion toward personal mobility, destination accessibility, and a more holistic and community-minded set of objectives.

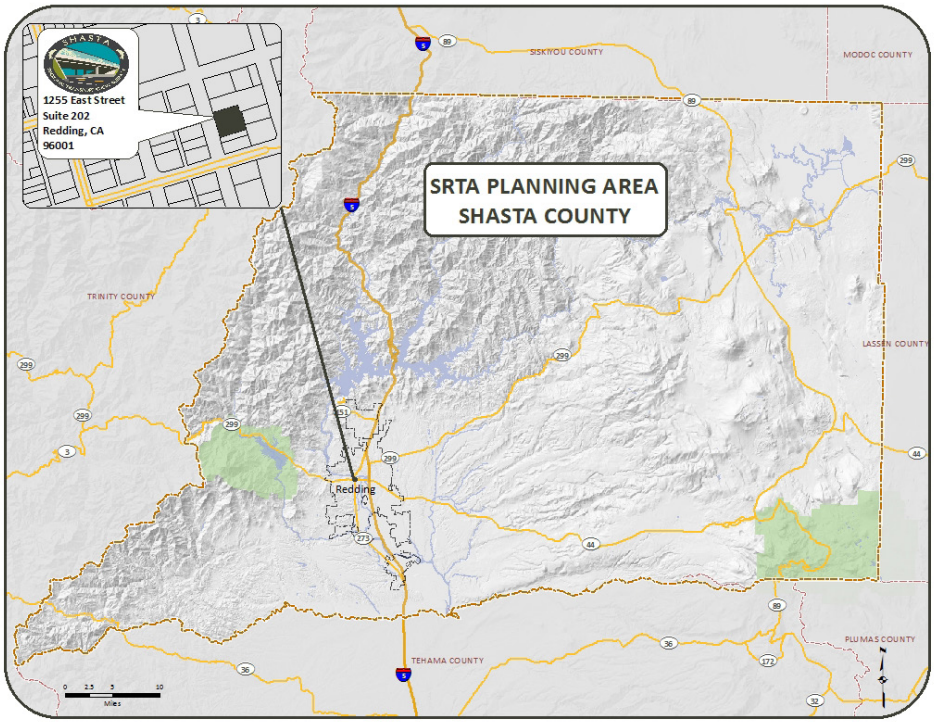


Figure 1 - SRTA Planning Area

SRTA's role in the region is unique because it shapes communities solely through investments and support. And because SRTA represents and regards all jurisdictions equally, SRTA provides a true regional forum for local government to work together with state and federal partners to meet regional needs – transportation or otherwise.

SRTA is governed by a seven-member board of directors, comprised of elected officials representing the City of Redding, City of Shasta Lake, City of Anderson, Shasta County, and Redding Area Bus Authority (RABA).

It is the SRTA Board of Directors' role to establish transportation policy and direct transportation investments on behalf of the region. Additional information regarding SRTA, the board of directors, staff, and regional plans and programs is available online at www.srta.ca.gov.

PURPOSE AND CONTENT OF THE REGIONAL TRANSPORTATION PLAN

As the designated MPO and RTPA for Shasta County, SRTA is required by federal law (Title 23 CFR 450.300, Subpart C) and state law (CA Government Code section 65080) to prepare and adopt a comprehensive, long range (minimum 20 years) Regional Transportation Plan (RTP). The RTP is updated every four years, adopted by the regional government, and submitted to the California Transportation Commission (CTC) and the California Department of Transportation (Caltrans) for review and comment.

The purpose of an RTP is "to encourage and promote the safe and efficient management, operation, and development of a regional intermodal transportation system that, when linked with appropriate land use planning, will serve the mobility needs of goods and people." With limited exceptions, regional transportation projects must be included in an adopted RTP in order to be eligible for federal and state funding.

Key elements of the Shasta County RTP include:

- A regional vision and goals, supported by a program of short and long-range objectives and course of action;
- An evaluation of regional mobility needs in light of population, housing, and job forecasts; and
- A list of specific transportation improvements, anticipated construction timeline, and a funding plan.

An environmental impact report (EIR) is prepared alongside the RTP in accordance with the California Environmental Quality Act (CEQA, Public Resource Code 21000) and National Environmental Policy Act (NEPA) of 1969 (42 U.S.C. 4321 et seq.).

NEW PLANNING REQUIREMENTS FOR 2015

Guidelines regarding the preparation of the RTP are routinely updated to reflect evolving state and federal needs and priorities. New state and federal laws, policies, and programs may also affect the content and focus of the RTP. Such changes are usually an evolution of existing practice and easily incorporated.

Occasionally, a more comprehensive retooling of the RTP is required. Recent legislation affecting the 2015 RTP cycle includes the following:

- Moving Ahead for Progress in the 21st Century (MAP-21) – The nation's surface transportation program is now a performance- and outcome-based program. This approach transforms the federal-aid highway program by refocusing federal resources on national transportation goals. MAP-21 encourages the metropolitan and statewide transportation planning processes to incorporate performance goals, measures, and targets into the process of identifying needed transportation improvements and in the project selection process.
- Sustainable Communities and Climate Protection Act of 2008 – More commonly known as Senate Bill 375, this California law adds a Sustainable Communities Strategy (SCS) planning requirement to the RTP. The purpose of the SCS is to coordinate transportation and land use planning

[1]*California Transportation Commission, 2010 California Regional Transportation Plan Guidelines*

in order to reduce vehicle miles traveled and associated greenhouse gas emissions from vehicles and light trucks. The SCS aims to meet region-specific targets set by the California Air Resources Board (CARB). Should the region's SCS not meet the assigned target, an Alternative Planning Strategy (APS) is prepared, outlining what additional tools, strategies, and resources, if available, would help the region to do so.

NEW FOUR-YEAR RTP PLANNING CYCLE

The RTP must be consistent with local housing forecasts. This has been a problem in federal air quality non-attainment regions where RTPs must be updated every four years while local housing elements needed to be updated every five years. Amendments to California state law as a result of Senate Bill 375 (Steinberg, Chapter 728, Statutes of 2009) allow local agencies to update their housing elements every eight years to correspond to every other four year RTP update.

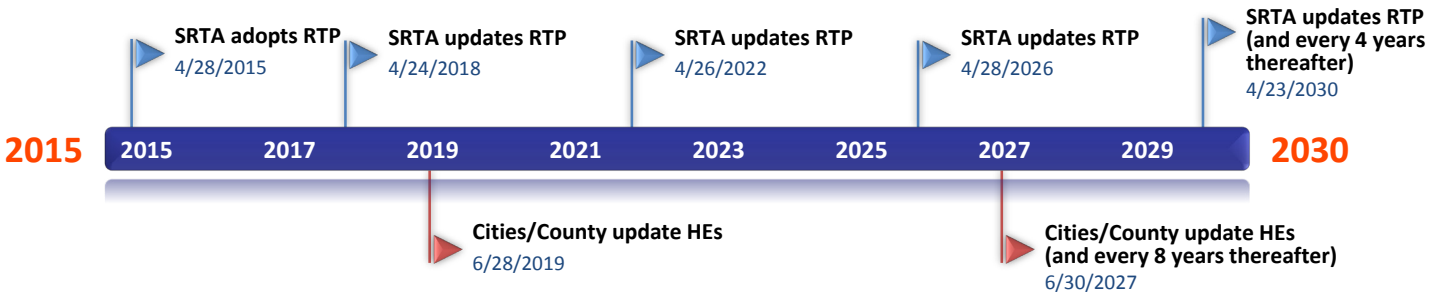
As a federal air quality attainment region, SRTA is only required to update the RTP every five years. The RTP and local housing elements have shared a five year cycle; however, the timing of these processes was not conducive to coordination and consistency. In consultation and coordination with local agencies, SRTA elected to move to a four year RTP cycle commencing in 2018. Local agencies in turn moved to an eight year housing element cycle. The new schedule is shown in Figure 2.

TRANSPORTATION DECISION MAKERS

The planning, financing, construction, operation, and maintenance of the regional transportation system is accomplished by decision makers at all levels of government. Each partner has distinct responsibilities that must be coordinated to ensure long-term system performance. In general, these responsibilities can be divided into the following levels:

- Federal – The President and Congress create national transportation policies and allocate funds to states through the federal transportation bill (MAP-21) and discretionary programs. Funding is administered by the United States Department of Transportation (U.S. DOT), which is comprised of multiple divisions. Caltrans and SRTA work primarily with regional offices of the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA).
- State – The California State Legislature institutes state policies resulting in transportation spending priorities and program initiatives. Each year the Governor and Legislature appropriate transportation funds through the annual budget. The California Transportation Commission (CTC) recommends policies and funding to the Legislature, provides project oversight for the state, adopts state transportation programs, and approves funding for transportation projects nominated by Caltrans and SRTA. Caltrans is responsible for planning, designing, constructing, and maintaining the state highway system. Caltrans nominates projects for funding to the CTC through the Interregional Transportation Improvement Program (ITIP).

Figure 2 - New Regional Transportation Plan and Housing Element Update Cycle



- Tribal Government – Tribal governments establish plans and policies for tribal lands and prepare transportation projects by way of tribal transportation improvement programs.
- Regional – SRTA is responsible for planning, coordinating, and administering state and federal transportation funds for the region. In addition to the 20-year RTP, SRTA develops an annual overall work program (OWP) and nominates projects for funding to the CTC through the Regional Transportation Improvement Program (RTIP).
- Local – Local governments have authority over roadways and land uses within their respective jurisdictional boundary. Local governments nominate all projects potentially having a state or federal funding component to SRTA for inclusion in the RTP.

RTP Planning Process



RTP planning is an iterative process. Each RTP update builds upon previous efforts while taking into account recent accomplishments and an ever-evolving demographic, political, economic, and environmental setting. Between RTP update cycles, a variety of special studies focused on specific corridors, modes, or policy areas serve to expand the regional base of knowledge and data that undergirds a meaningful and effective planning process.

RTP planning is also collaborative process requiring ongoing communication and concensus building between all levels of government, community stakeholders, and the general public. RTP planning includes a program of public hearings, interagency notifications, and review and comment periods; however, the collaborative nature of the process does not stop and start with each planning cycle.

This section outlines the contributing components of this RTP and the general process whereby the community and affected stakeholders may participate in the development of the plan. A brief overview of how the RTP is implemented through shorter-term transportation improvement and work programs is likewise provided.

BUILDING BLOCKS OF THE RTP

SRTA prepares regional growth and travel demand forecasts and undertakes various planning studies and data analysis that feed into the RTP. The following efforts were accomplished since the 2010 RTP update and were instrumental in development of the 2015 RTP:

- **ShastaSIM Activity-Based Travel Demand Model** – Adopted in June 2014, ShastaSIM is an entirely new, state-of-the-art modeling tool used to evaluate the impacts of future growth and development on the transportation network and the effectiveness of transportation policies and projects in addressing resultant travel demands. Transportation system performance measures are calculated by way of the model and, through additional post-processing of modeling outputs, vehicle emissions reports are produced.

- **SRTA Board of Directors Regional Priorities** – As elected officials in direct and frequent contact with the public on a wide range of topics, and having a general understanding of the regulatory and fiscal realities of transportation funding, SRTA board members are uniquely qualified to consider the challenges, opportunities, and alternatives facing the region. A comprehensive priorities survey was administered to the SRTA Board of Directors and board member alternates during the fall of 2013.

- **ShastaFORWARD>> Regional Blueprint** – Completed in March 2010, this long-range regional growth and development visioning process included a comprehensive, in-depth community values & priorities assessment Figure 2).

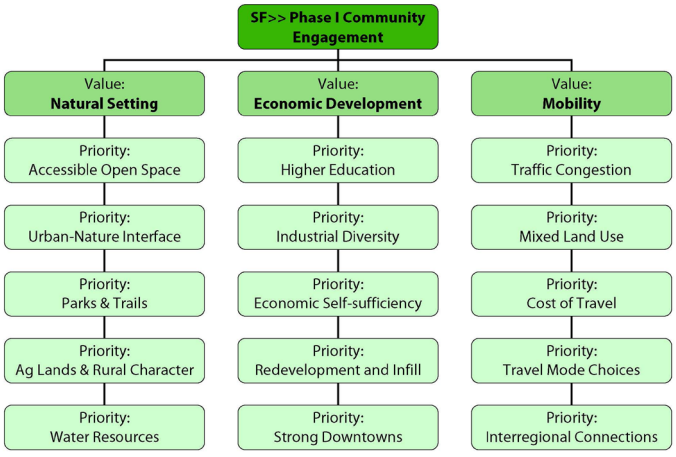


Figure 3 - Shasta*FORWARD>>* Values & Priorities

A range of future growth and development scenarios were generated and a preferred regional growth vision was selected. Altogether, over 2,500 residents (one out of every 60 adults in Shasta County) actively contributed to the process through participation on focus groups and by community workshops, and surveys.

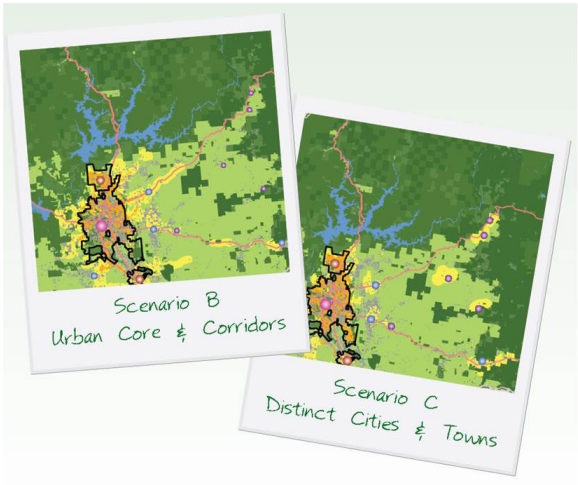


Figure 4 - Shasta*FORWARD>>* Scenarios B and C

- **North State Transportation for Economic Development Study** – Completed in October 2013, this sixteen-county study calculated the economic impact of planned transportation improvements; evaluated the degree of alignment between transportation and economic planning; and identified opportunities to coordinate transportation and economic development initiatives to enhance economic activity and regional prosperity.

- **Transit Needs Assessment & Unmet Transit Need findings** – Each year SRTA evaluates the adequacy of the region's public transportation services in meeting the community's mobility needs. In making this determination, SRTA looks at the size and location of identifiable groups likely to be transit dependent or transit disadvantaged (e.g. elderly, disabled, and persons of limited means), evaluates new or modified services that might address identified needs, and finds that these needs are either reasonable or not reasonable to meet based on performance criteria adopted by the SRTA Board of Directors.

- **Disadvantaged Communities Assessment** – As described in further detail in State of the Region, the 2015 RTP incorporates an expanded view of social equity. More specifically, whether all segments of the population – regardless of income, race, age, disability, or other distinguishing characteristic – enjoy equitable access to mobility options and other essential needs. This assessment includes a number of indicators that, when combined, point to areas that would benefit from the application of targeted policies, programs, and investments that support community mobility, health, and well-being.

- **Shasta Coordinated Transportation Plan** – This plan seeks to improve transportation coordination in the region; address the transportation needs of older adults, persons with disabilities, and low-income individuals; and establishes priorities to inform funding decisions for specialized transportation services. Targeted transit grant programs fund projects that are derived from coordinated public transit-human services transportation plans. The Shasta Coordinated Transit Plan will be updated in 2015 using a process that engages representatives of public, private, and non-profit transportation and human services providers as well as participation by members of the public.

- **Coordination of Consolidated Transportation Service Agency (CTSA) Services Study** – A CTSA coordinates transportation services between transit providers and may operate safety-net transit services for elderly and disabled individuals who are generally outside of the Redding Area Bus Authority (RABA) service area. This study, completed in December 2014, presented a range of activities designed to improve transit provider communication, cooperation, coordination, and consolidation. Performance measures were also identified in order to assess the effectiveness of CTSA services and improvements over time.

- **Transit Technology Plan** – Completed October 2014, this plan was commissioned to investigate the potential of transit technology to improve the volume, diversity and quality of transit data needed for the planning and operation of responsive public transit services. RABA's current use of technology was documented and prospective new technologies were discussed, including their costs and practical benefits.

- **Integrated Traffic Data Collection and Management Plan for the South Central Urban Region** – Completed October 2013, this effort reviewed existing traffic data collection systems and processes; documented the real-world applications and practical limitations of Intelligent Transportation Systems (ITS) technologies used by regional stakeholders; presented a range of available data collection tools; and recommended deployment strategies and approaches.

PUBLIC PARTICIPATION AND INTER-AGENCY COORDINATION AND PLANNING CONSISTENCY

In addition to public outreach associated with each of the RTP building blocks decribed above, the RTP planning process includes various opportunities for the general public and public agencies to participate in developing the RTP document itself. The details of this process can be found in SRTA's most recently adopted public participation plan found on SRTA's website (www.srta.ca.gov/166/Public-Participation).

PUBLIC TRANSPORTATION PLAN

Adopted in June 2013, SRTA's Public Participation Plan details the policies and strategies used to ensure that every citizen has the opportunity to evaluate and comment on the agency's plans, programs, and projects, including the RTP.

Consistent with the steps outlined in Table 2, SRTA provided opportunities for all affected public agencies, community organizations, and the general public to participate in the 2015 RTP planning process. Specific outreach activities included, but are not limited to the following:

- SRTA Board of Directors meetings - Regular progress reports and interim deliverables were widely distributed and public presentations were made during regularly scheduled SRTA Board of Directors meetings. As appropriate, these meetings included formal public hearings.
- City council and county board meetings -

Table 2 - SRTA 2013 Public Participation Plan Requirements for the RTP

1.	2.	3.	4.	5.	6.
Comprehensive project scope and timeline reviewed by advisory committee(s) and distributed. Includes early and continuing opportunities to comment.	Numerous targeted workshops w/advisory committees and stakeholder groups. SRTA contact database used to notify public of opportunities to participate.	Opportunities to participate via the Web Key. Draft documents posted online for public review and comment.	Inter-governmental consultation with affected agencies.	Draft plan released for 55-day public review. At least one formal public hearing before SRTA Board of Directors. Additional five day public review if final RTP differs significantly from draft RTP and/or raises new issues.	Adoption by the SRTA Board of Directors at a public meeting.

(Procedures above may not occur exclusively or in the order shown)

Presentations were provided during public meetings of local governing bodies, including city councils and county of Shasta Board of Supervisors.

- Web postings - In addition to posting all interim deliverables and draft documents on the the agency's website, interactive web-tools and social media were used to maximize public access, awareness, and opportunity to contribute.
- Public notices - Announcement regarding the RTP and accompanying Environmental Impact Report (EIR) were published in local newspapers.

In addition to these core outreach efforts, RTP planning updates and solicitations for input were incorporated into day-to-day community and inter-agency interactions.

INTERAGENCY AND INTERGOVERNMENTAL COORDINATION AND PLANNING CONSISTENCY

The 2010 Regional Transportation Plan Guidelines prepared by the California Transportation Commission (CTC) encourages consistency of action between all levels of government having an interest and purview in the region.

SRTA is the lead agency tasked with development of the RTP; however, the end product is the result of extensive discussion, data exchange, and consensus-building among federal, state, tribal, and local agency partners. The details of this process are described in the aforementioned Public Participation Plan. Wherever appropriate, SRTA considers and seeks to integrate the needs and priorities of all partners and entities that are materially invested or otherwise impacted by regional transportation policy and investment strategies.

More than a simple courtesy, interagency coordination and planning concurrency reduces redundancies, leverages resources, reinforces implementation activities, and ultimately improves performance outcomes. To ensure planning consistency, SRTA considers a broad range of plans and programs, including but not limited to:

- Local and regional plans and programs:
  - General plans (housing, land use and circulation elements in particular)
  - Capital improvement plans
  - Short range transit plan
  - City and county active/non-motorized transportation plans
  - Parks, trails, and open space plans
  - Regional air quality plan
  - Regional climate action plan
  - Interregional transportation corridor plans
  - Natural environment, habitat, and water resource plans
  - Comprehensive Economic Development Strategy

- State plans and initiatives:
  - California Transportation Plan 2040
  - Interregional Transportation Strategic Plan
  - California Freight Mobility Plan
  - California State Rail Plan
  - California Aviation System Plan
  - California Statewide Transit Strategic Plan
  - California Interregional Blueprint
  - Smart Mobility Framework
  - Complete Streets Implementation Action Plan
  - California Essential Habitat Connectivity Plan
  - Regional Advance Mitigation Planning and Statewide Advance Mitigation Initiative
  - Caltrans Climate Action Program
  - Strategic Highway Safety Program
  - California Transportation Infrastructure Priorities: Vision and Interim Recommendations

The 2015 RTP was compared to the above plans and, as is specifically called out in the CTC's 2010 RTP Guidelines, the 2005 California State Wildlife Action Plan (SWAP). Several transportation-related challenges were identified in the SWAP, including barriers to fish migration from road construction; the introduction and movement of invasive plants when adding to or improving the region's roadways; harm to sensitive wildlife habitat; public health impacts as a result of increase particulate matter; and the effects of rural roads on wildlife migratory patterns.

Notices were sent to local, state, and federal agencies having and interest and purview in the region, including those responsible for land use, natural resources, environmental protection, conservation, and historic preservation.

Federally recognized Native American Tribal Governments were contacted early in the process and directly invited to participate in the identification of transportation project needs, the development of regional policies, and review of draft documents.

RTP IMPLEMENTATION

As a long-range, planning-level document, the RTP communicates regional issues and outlines a general course direction. A transportation investment strategy is presented with accompanying project cost estimates. With limited exceptions, only those projects listed in the RTP are eligible to receive state and federal funding.

It is important to note, that projects called out in the RTP have not yet been fully prepared, vetted, and programmed funding for construction. Rather, near-term projects are readied for implementation by way of short-term transportation improvement and work programs described in Table 3.

The State Transportation Improvement Program (STIP) is a five-year capital improvement program of transportation projects on and off the California State Highway System. The California Transportation

Table 3 - Regional Planning & Programming Processes

Document	Planning Horizon	Contents	Responsible Agency	Update Requirements
RTP	**20+ year**	**Vision, goals and projects for region**	**MPO/RTPAs**	**Every 4 years**
FTIP	4 years	Federally-funded and regionally significant transportation projects	MPOs	Every 2 years
OWP	1 year	Planning studies and activities	MPO/RTPAs	Annually
TIP	5 years	Transportation Projects	RTPAs	Every 2 years
ITIP	5 years	Transportation Projects	Caltrans	Every 2 years
STIP	5 years	Transportation Projects	CTC	Every 2 years
SHOPP	4 years	Maintenance, Rehabilitation, Operation, and Safety Projects	Caltrans	Every 2 years

Commission (CTC) updates the STIP biennially, adding two new years to prior programming commitments.

The programming cycle begins with the release of a transportation fund estimate in July of odd-numbered years, followed by California Transportation Commission (CTC) adoption of the fund estimate in August. The fund estimate serves to identify the amount of new funds available for the programming of transportation projects.

Once the fund estimate is adopted, Caltrans and the regional transportation planning agencies prepare transportation improvement programs for submittal by December 15th of odd numbered years. Caltrans prepares the Interregional Transportation Improvement Program (ITIP) for their share (25%) of funding and regional agencies prepare Regional Transportation Improvement Programs (RTIPs) for their respective share (75%). State and regional agencies must work together to leverage each other's funds for greatest benefit.

In addition, Caltrans also biennially prepares a four-year State Highway Operation and Protection Program (SHOPP) that prioritizes maintenance, rehabilitation, operation and safety projects throughout the state. Caltrans must complete the SHOPP by March of even-numbered years. The SHOPP is based on the Ten Year SHOPP that Caltrans also must prepare. The SHOPP informs the funding distribution of funds in the State Transportation Improvement Program (STIP).

The California Transportation Commission (CTC) considers the RTIP, ITIP, and SHOPP when preparing the STIP. The STIP becomes the source document upon which California transportation monies are programmed and funded. This includes state transportation funds as well as federal transportation funds administered by the state on behalf of the federal government.

The STIP informs the Federal Transportation Improvement Program (FTIP). Any transportation project having a federal funding component or that is considered regionally significant (regardless of the funding source) must be included in the FTIP. The FTIP is a four-year program of projects that is updated every two years by each region. Agencies' requests for, and subsequent obligations of, federal transportation monies cannot exceed the amount provided for within the FTIP. All regional FTIPS are combined under the Federal Statewide Transportation Improvement Program (FSTIP).

For additional information and detail regarding the programming of transportation funds, see the latest version of 'Transportation Funding in California' prepared by Caltrans Division of Transportation Planning, available online at: http://www.dot.ca.gov/hq/tpp/offices/eab/fundchrt_files/Transportation_Funding_in_CA_New.pdf

State of the Region



REGIONAL OVERVIEW

Shasta County is located at the geographic center of California's sixteen-county North State (see Figure 4). Shasta County encompasses 3,847 square miles, of which 72 square miles (1.9%) are bodies of water. Elevations range from 420 feet at the valley floor to Lassen Peak, standing 10,457 feet tall in Lassen Volcanic National Park.

Shasta County contains four distinct geographic regions. Western Shasta County is mountainous, collecting high precipitation amounts from up sloping Pacific storms. Several creeks draining these mountains provide riparian habitat and fish spawning grounds. The northern part of Shasta County is in the Siskiyou mountain range, which is recognized for its biological diversity and global botanical significance. The eastern part of Shasta County contains the convergence of the Sierra Nevada range and the Cascades. This region is dominated by oak woodlands at the lower elevations to mixed conifer forests at higher elevations. Significant amounts of snowfall feed numerous creeks and the Sacramento River. The central part of Shasta County contains the upper end of the Sacramento Valley. Growth and development, along with associated linear structures like roads, canals, and power lines, dominate this area.

Prior to becoming a county in 1850, the area was home to five American Indian Tribes: the Achomawi, Atsugewi, Okwanuchu, Wintu and the Yana. In the mid- to late-1800s, the region's abundant natural resources, including gold and timber, drew legions of settlers in search of economic opportunity and a better life. The arrival of the railroad in 1872, construction of Shasta Dam between 1938 and 1945, and the completion of Interstate 5 in the early 1960s further fueled the growth and development of Shasta County.

Today, Shasta County is the second-most populous county in California's sixteen-county North State (just behind Butte County) while Redding is the largest urbanized population center north of Sacramento. The region serves as a hub for retail and service industries and is a popular destination for outdoor tourism and retirement. It is home to a number of iconic attractions, including the Sundial Bridge, Turtle Bay Exploration Park, Lassen Volcanic National Park, Whiskeytown National Recreation Area, Shasta Lake, and McArthur-Burney Falls Memorial State Park.



Figure 5 - Regional Context

TRENDS AND CHALLENGES

The following factors present challenges and opportunities affecting the timing, location, type, and scale of investments in transportation infrastructure and services. Such investments can be reactive (i.e. a response to demand as it occurs) or decision makers may seek to proactively shape the future of the region in accordance with community values and priorities, fiscal sustainability and other objectives.

POPULATION AND GROWTH

As of the 2010 Census, Shasta County is home to 177,823 residents. Much of Shasta County is unpopulated or rural, having an average of 47 persons per square mile compared to an average of 239 persons per square mile statewide.

The Redding Urban Area, as defined by the U.S. Census and generally falling along the south county Interstate 5 corridor, is more densely populated. It represents only about 2% of the county's total land area, yet is home to over 66% of the county's population.

Even the Redding Urban Area is largely rural and suburban in nature, having 1,625 persons per square mile (2.5 persons per acre). Among comparable Urban Areas, the Redding Urban Area has the most dispersed population (see Table 4).

Table 4 - Redding Urban Area Population Density Comparison to Similar-sized Urban Areas

Urban Area	Pop (2010)	Pop/ Square Mi	Pop/ Acre
Redding, CA	**117,731**	**1,625**	**2.5**
Grants Pass, OR	50,520	1,838	2.9
Medford, OR	154,081	2,372	3.7
Reno, NV/CA	392,141	2,377	3.7
Carson City, NV	58,079	2,509	3.9
Chico, CA	98,176	2,849	4.5
Yuba City, CA	116,719	2,990	4.7
Santa Rosa, CA	308,231	3,138	4.9
Woodland, CA	55,513	4,551	7.1
Davis, CA	72,794	5,145	8

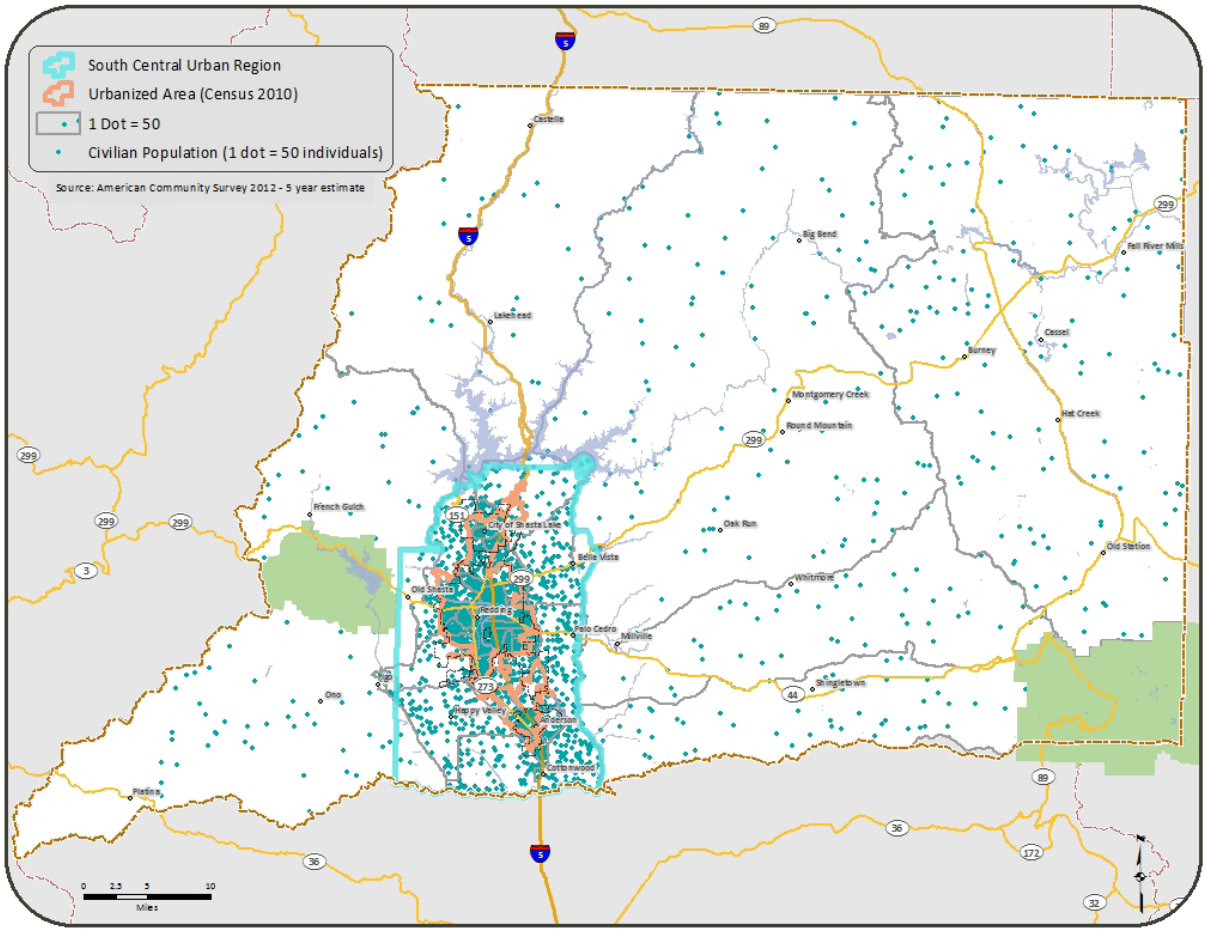
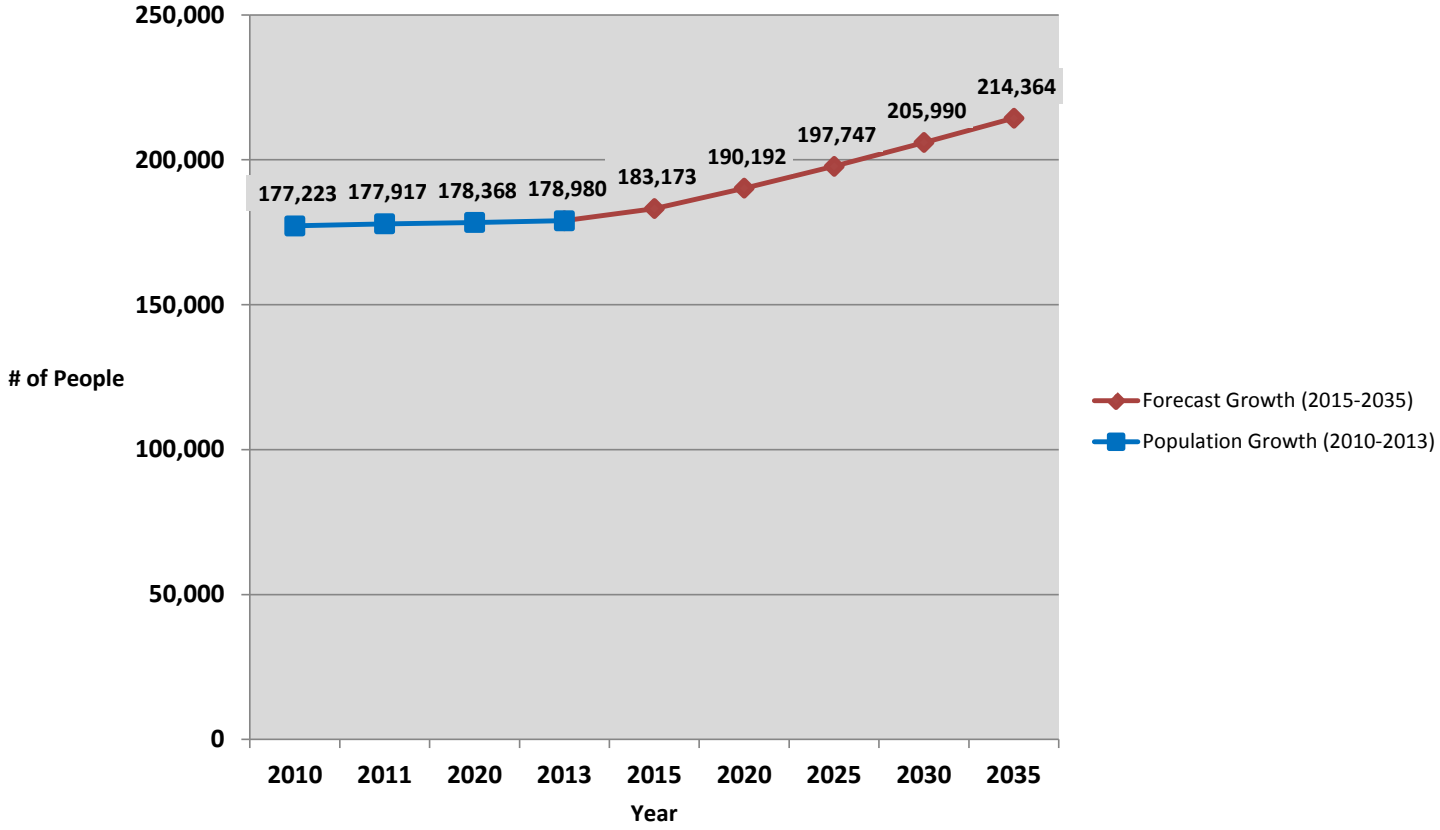


Figure 6 - Population Base

Chart 3 - Shasta County Population Growth (2010-2013)* and Forecast Growth (2015-2035)



[2]*Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2013. Source: U.S. Census Bureau, Population Division. Release Date: March 2014*

Average annual growth rate for Shasta County between 2000 and 2010 was approximately 0.9%, falling to <0.3% in more recent years (US Census Bureau). Population forecasts estimate future growth at a rate of 0.8% per year, with a population of 214,364 persons for the Shasta County region by year 2035 (*Appendix 1 - Shasta County Forecast Assumptions Memorandum, November 8, 2011*).

DEMOGRAPHICS

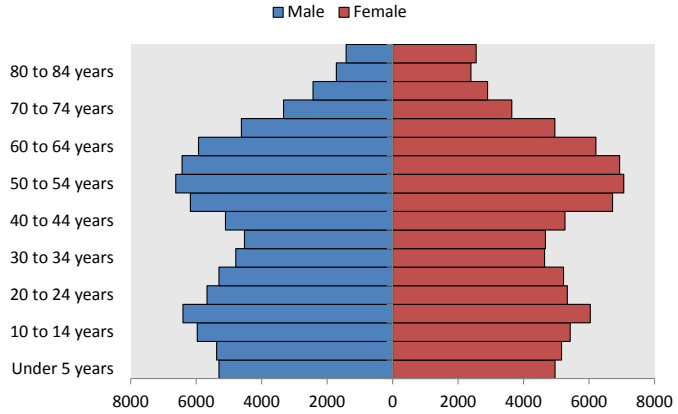
Shasta County is on the leading edge of the trend towards an aging population. At 42.9 years of age, the 2015 median will be 6.7 years above the statewide median age of 36.2 years. By 2040, Shasta County's median will reach 48.1, compared to the state's median of 40.4, or 7.7 years older.

Examining the differential growth rates projected for each age group reveals a graying population. Fifty-one percent of the County's increase in population between 2015 and 2040 will be in the age group of 65 and older. This is an 87 percent increase in this age group between 2015 and 2040 and 2.6 times the growth rate of the County population as a whole.

The number of people between the age of 25 and 64 are expected to increase by about 27 percent between 2015 and 2040. This age group is considered the prime market for larger single-family detached homes because they are most likely to be raising a family. The number of people aged 0 to 19 years will, however, only increase by about 10 percent during the same time frame, suggesting a trend of smaller families and households with no children.
Shasta County is less diverse than the state. In 2013, 81.4% of Shasta County residents identified themselves as white alone (not Hispanic or Latino), compared to 39% statewide. Minority populations include Black and African American (0.9%), American Indian (2.1%), Asian (2.6%), Pacific Islander (0.2%),

two or more races (3.4%), and Hispanic or Latino (8.4%).

Chart 4 - Age Distribution of Shasta County Population (2010)



Shasta County lags behind the state in higher education. Statewide in 2013, 30.5% of adults had a bachelor's degree or higher, compared to 19.3% in Shasta County (ACS 2008-2012). Although a number of degree programs are available through extension of Chico State University in Redding and the privately-owned Simpson College, the absence of a university hampers workforce training and business attraction in comparison to nearby urbanized areas, including Chico, CA (home to Chico State University), Davis, CA (home to University of California Davis), Arcata-Eureka, CA (home to Humboldt State University), and Medford-Ashland, OR (home to Southern Oregon University).

Shasta County does, however, have a higher number of high school graduates (88.4% versus 81.2% in all of California); those having some college but no degree (31.8% versus 22.2% in all of California); and Associates degree (11% versus 7.7% in all of California). Shasta College, a two-year junior college, plays a key role these statistics, providing a broad range of educational opportunities at its main campus as well as the Downtown Redding Health Sciences Division.

Shasta County is less prosperous than the state. The median household income is substantially below the state average. For the five-year time period (ACS 2008-2012), Shasta County median household income was $44,396 compared to the state's average of $61,400. About 12.2% of Shasta County residents are below the poverty level versus 15.9% statewide.

The overall cost-of-living in Shasta County, however, is substantially less than the state average. Based on the cost-of-living index , where a score of 100 represents the nationwide average, Shasta County is 11% above the national average whereas California as a whole is 51% above the national average. In effect, household income goes a lot farther in Shasta County than in many other California regions.

HOUSING

There were 77,555 housing units in Shasta County in 2013. Shasta County residents are more likely to own their home compared to California as a whole. Among occupied units, 62.5% are owner-occupied and 37.5% are renter-occupied compared to California at 54.2% and 45.8% respectively.

There are fewer persons per household in Shasta County – 2.53 compared to the statewide average of 2.93. Shasta County has far more detached single family dwellings units and substantially less higher density multi-family dwelling units (see Table 3).

The median value of owner-occupied units in Shasta County, at $204,800, is approximately one-half of the $405,800 median value for California. However, median monthly rent in Shasta County, at $1,446, is only 37% less than the $2,157 median rent for California. Nearly 42% of owner-occupied households spend more than 30% of their household income on mortgage payments, whereas an alarming 62% for renter-occupied households.

A household's rent or mortgage payment is the primary, but not sole determining factor in housing

Table 5 - Housing Stock Desciption

Housing Type	Shasta	CA
Detached single family	69.5%	58.5%
Attached single family	2.9%	6.9%
2 multi-family	2.7%	2.5%
3-4 multi-family	6%	5.5%
5-9 multi-family	2.9%	6.1%
10+ multi-family	5%	16.8%
Mobile home or other	11.1%	3.6%

[3] *Sperling's (www.bestplaces.net)*

[4] *U.S. Census Bureau, 2011-2013 American Community Survey 3-year estimate.*

affordability. Transportation costs are the second-largest budget item for most households, accounting for about 17 percent of annual income on average.

In recent years, housing affordability has expanded to include the idea of 'location affordability'. This method takes into account household factors (e.g. household income, persons per household, commuters per household and median rent/mortgage) as well as mobility factors (e.g. community walkability, median commute distance, access to public transportation, and access to employment). Simply put, those who live in location-efficient neighborhoods (e.g. more compact with convenient access to jobs, schools, shopping, and services) that are served by a range of viable mobility options (e.g. high quality public transportation, complete and connected bicycle and pedestrian facilities, and rideshare services) tend to have lower transportation costs.

Furthermore, in such areas where alternative travel modes are practical and appealing options for everyday trips, households are more adaptable and resilient when faced with a change in income or ambulatory mobility; the additional demands of children in the home; or other challenges that accompany different life stages.

When housing and transportation costs are considered together, consumers are able to make more informed decisions about where to live to fit their income and desired lifestyle. As planners and policy makers strive to manage infrastructure costs, alleviate traffic congestion, and achieve equitable economic opportunity and prosperity within their jurisdiction, a comprehensive approach that includes coordinated land use, housing, and transportation investment strategies is needed.

Two sources provide data for Shasta County: the 'Housing + Transportation Affordability Index' (a product of the Center for Neighborhood Technology); and the 'Location Affordability Portal' (a collaborative project by the U.S. Department of Housing and Urban Development, U.S. Department of Transportation, and the U.S. Environmental Protection Agency).

DISADVANTAGED COMMUNITIES

New to the RTP for 2015 is a closer look at social equity. More specifically, whether all segments of the population – regardless of income, race, age, disability, or other distinguishing characteristic – enjoy fair access to basic needs, including but not limited to mobility.

Historically, many California communities have inadvertently impeded or otherwise reinforced the geography of 'haves' and 'have-nots'. Although resource inequality is a systemic issue, opportunities do exist within the scope of the RTP and the purview of regional government to enable all citizens who actively choose to participate in society and work to raise their standard of living.

An expanded awareness and understanding of the burdens and benefits associated with prospective transportation policies, programs, and investments aids in the evaluation of alternatives and supports informed decision making. Actions range from 'do no harm' to targeted programs and investment strategies.

For the purposes of this RTP, 'disadvantaged communities' are defined as areas that, according to statistical data, have a markedly higher share of individuals challenged by the cumulative impact of:

- Poverty and unemployment
- Lack of mobility options, including access to automobile, active transportation, and public transportation
- Housing and transportation cost burden
- Single parent households
- Young and elderly
- Educational attainment
- Linguistic isolation
- Minority status

The predominant data for defining a low resource community was derived from the American Community Survey (ACS) five-year estimates for the years 2008 through 2012 and GIS data representing the non-motorized network and transit network for the region. Each indicator was divided into to classes of data based on natural breaks in the data and then manually editing the break point to the nearest multiplier of five. The indicators and break points are described below:

- Poverty - Census block groups where 45% or more of population lives at 200% or less of the federal poverty level based on 2012 5 year ACS data
- Unemployed - Census block groups where 20% or

more of the labor force is unemployed based on 2012 5 year ACS data

- Minority - Census block groups where 20% or more of population is either Hispanic or not White based on 2012 5 year ACS data
- Single Parents - Census block groups where 20% or more of families are single parent families based on 2012 5 year ACS data
- Age (Elderly) - Census block groups where 10% or more of population is aged 75 or older based on 2012 5 year ACS data
- Age (Young) - Census block groups where 20% or more of population is under age 18 based on 2012 5 year ACS data
- Education Attainment - Census block groups where 15% or more of population aged 25 and older have less than a high school diploma based on 2012 5 year ACS data
- Linguistic Isolation - Census block groups where 5% or more of households have no one over 14 who speaks English only or speaks English very well based on 2012 5 year ACS data
- Limited Mobility (Vehicle Access) - Census block groups where 40% or more of housing units with 0- 1 vehicles based on 2012 5 year ACS data
- Limited Mobility (Active Transportation) - Smaller block groups without bike and pedestrian facilities access
- Limited Mobility (Transit) - Smaller block groups without transit access
- Housing Cost Burden - Census block groups where 20% or more of occupied housing units pay more than 50% of household income in housing costs based on 2012 5 year ACS data
- Median Household Income (MHI for California = $61,400 from 2012 5 year ACS data) - 80% or less than the statewide median household income (80% of $61,400 = $49,120)

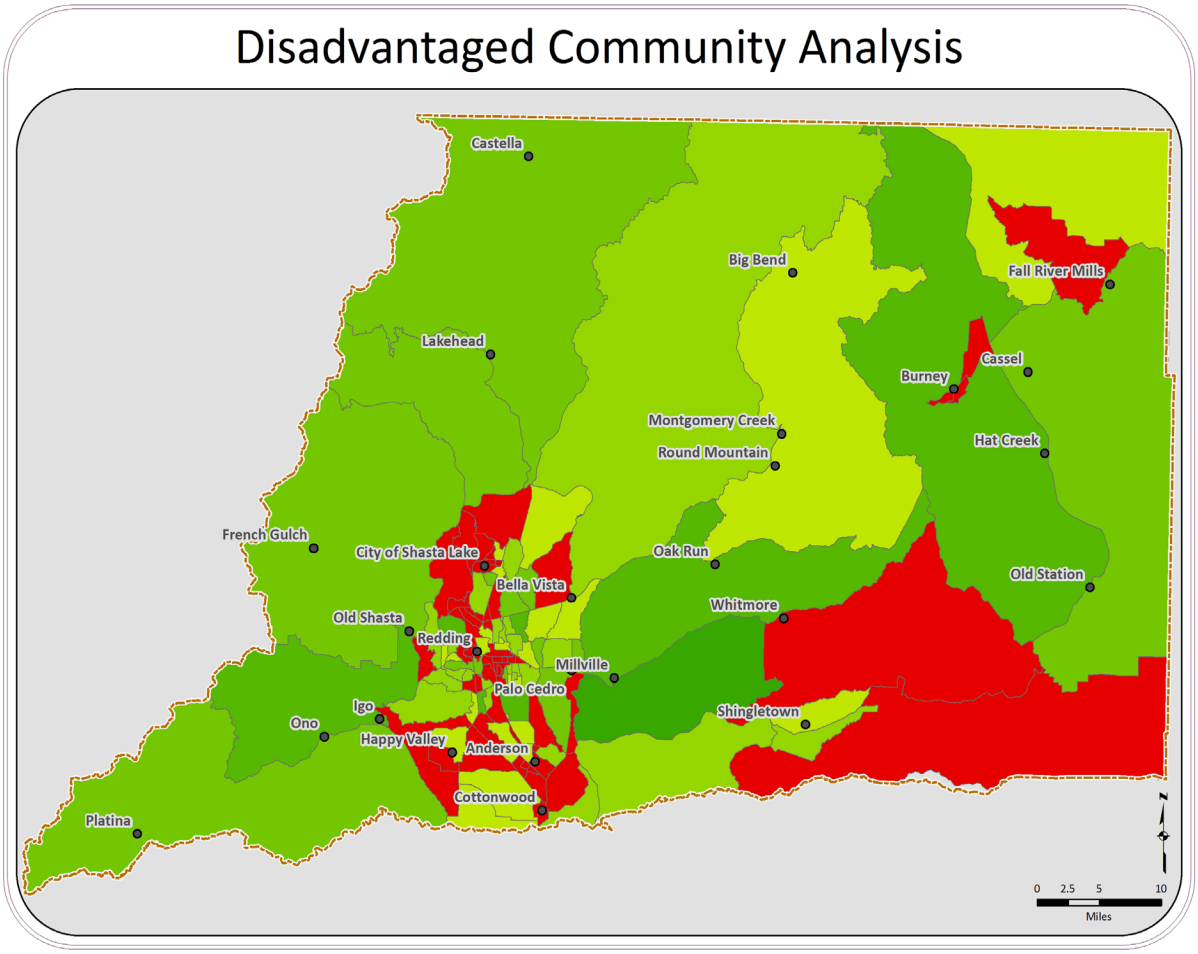


Figure 7 - Disadvantaged Community Analysis

The analysis created 13 total indicators and combined all indicators equally. Any block group that was flagged as low resource by five or more indicators was considered a low resource community (See Figure 6). Future planned enhancements to this analysis includes the mapping of essential services in relationship to disadvantaged communities.

In considering the above analysis, it must be recognized that transportation policies, programs, and investments play a limited and often indirect role in expanding opportunity in low-resource neighborhoods. Indeed, there are many contributing factors and complexities beyond the reach of transportation initiatives alone to affect. With this in mind, SRTA works proactively with its partner agencies and a broad range of community-based organizations to engender a more holistic and balanced approach.

Within the agency's scope as a transportation planning agency, SRTA has the greatest ability to directly impact or otherwise influence social equity through projects, programs, grant-seeking and other efforts that enhance the five 'D' factors correlated with mobility and known to affect travel behavior. More specifically:

- **Density** – the number of persons, jobs or dwellings in a given area;
- **Diversity of land use** – the number and variety of different land uses in a given area;
- **Design of streets and development** – the average block size, number of intersections, sidewalk coverage, building setbacks, street widths, pedestrian crossings, and other factors that result in a more human-scale environment;
- **Destination accessibility** – the number of common destinations (e.g. job sites, schools, shopping, etc) within a given travel time; and
- **Distance to transit** – the distance from home or work to the nearest transit stop by the shortest street route.

Due to limited resources and the number and degree of factors required to affect travel choice, these efforts are best focused in areas having disadvantaged populations and that fall within or adjacent to Strategic Growth Areas identified in the Sustainable Communities Strategy portion of this 2015 RTP.

ECONOMY

Transportation is more than a convenience; it enables economic activity by connecting people, goods, services, and resources together for gainful employment and commerce. In addition, responsive, flexible, and affordable transportation leads to increased productivity, income, property values, and tax revenues. Targeted transportation strategies and initiatives may also be used to lessen economic disparities within the region.

The following description of Shasta County's economy is not intended to be comprehensive or replace other, more detailed analysis, but rather to:

1. Provide a general economic context for the RTP; and
2. Highlight the most salient opportunities to support economic development through regional transportation policies, programs, and investment strategies.

Conventional economic analyses, wherein a variety of indicators are used to understand current conditions and future prospects, have been complicated by the volatile market conditions associated with the Great Recession and drawn-out, uneven economic recovery. This is further complicated by the lag-time in available data. In an unsteady economy, data and trends are less reliable. Traditional methods must be supplanted in part by boots-on-the-ground assessments from local business and finance leaders working in the everyday trenches of economic development.

The following overview is based on the best available data, recent analysis, and direct consultation with economic development professionals in and around the region.

Historic Economy

Shasta County's economy has historically been dominated by singular industries. In earlier years this included mining, forest products, and other natural resource extraction industries. Although still a relevant component of the North State economy, these industries are cyclical in nature and represent only a fraction of their peak productivity achieved decades ago. Such industries are not expected to return to former levels due to resource depletion, regulatory controls, and various other factors.

The arrival of the railroad in 1872 and Interstate

Highway System in 1966 helped fuel the economic development aspirations of their day by connecting people and goods to larger markets. Meanwhile, the construction of Shasta Dam from 1938 to 1945 and sporadic booms in the construction industry served the economy for a time but were not sustainable.

On the waning end of long-standing industries and economic boom periods, many jobs have been backfilled with those in retail, hospitality, and other lower wage industries. To create a more robust and resilient economy, core industries must be buoyed up in combination with the ongoing cultivation of new industries toward a more diversified economy.

Current Economy

What the region lacks in comparison to larger metropolitan regions (e.g. a large urban marketplace, intermodal transportation infrastructure, and a public four-year public university), are partly offset by secondary economic attractors.

Shasta County offers an appealing quality of life, including well-regarded public and charter schools, minimal traffic congestion and pollution, and a wealth of outdoor recreational activities. In addition lower land values, utility costs, and taxes improve businesses' bottom line and allow more rapid growth. Shasta County's location and built environment offer the following strategic advantages:

- Located at the geographic center and transportation crossroads of the sixteen-county North State – Shasta County serves as a hub for a range of professional services for consumers across a large, multi-county area.
- Access to major markets – Shasta County is bisected by Interstate 5, an international trade corridor spanning the entire west coast from the Mexican to Canadian border. In addition to linking all west coast ports, Interstate 5 allows for reliable one-day delivery to major markets (most notably Sacramento and San Francisco Bay Area). State Route 299/44 further connects Shasta County to California's North Coast to the west and Reno, Nevada to the east.
- Access to shovel-ready building sites – Shasta County has invested heavily in preparing a number of commercial and industrial sites with access to air, truck, and rail transportation. Notable examples include the Stillwater Business Park located in Redding and industrial lands located in Anderson at Deschutes Road and Interstate-5.

The following overview of regional industries and their respective life-cycle status offers insights into the economy and informs the development of economic initiatives. The industry matrix below is not intended to be comprehensive, but rather serves to highlight those industries believed to have the greatest impact on the current and future economy of the region. Industries are divided into four life-cycle stages, each requiring specialized strategies to sustain, develop, and bolster their contributions to the regional economy.

- Emerging industries have a positive growth outlook for which the region presently has a disproportionately higher share of jobs in these major and specific industries. An emerging industry typically consists of a few companies and is often centered on a new technology or a new application of existing technology.
- Growth industries are characterized by a rate of growth higher than that of the overall economy.
- Mature industries have passed the rapid growth stage and have an established pattern of market share, earnings, and profits.
- Declining industries have negative growth or are growing at a rate substantially less than the overall rate of economic growth.

Table 6 - Shasta County Industry Analysis

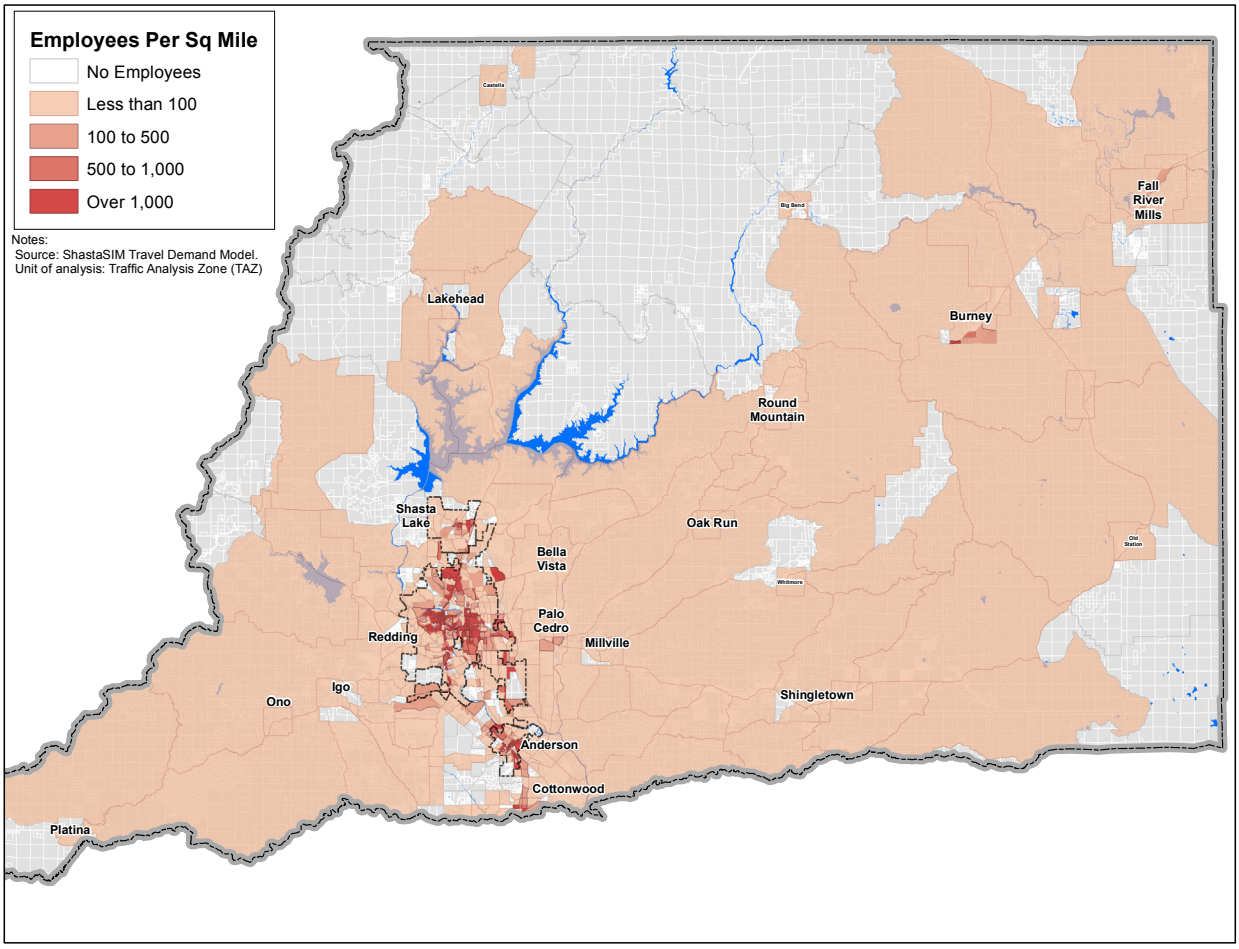
Mature Industries	Growth Industries
Government Leisure & Hospitality Trade, Transportation, and Utilities Other Services Construction	Education & Health Services
Declining Industries	**Emerging Industries**
Financial Activities Information Manufacturing Prof. & Business Services Natural Resources	Surveying & Mapping Services

(Northern Rural Training and Employment Consortium, Industry Study Summary 2005-2009)

The general location of major employment centers is relatively consistent and predictable, even if individual

employers vary from year to year. Figure 7 illustrates the regional distribution of jobs in the region.

Figure 8 - Density Map of Jobs (Employees) by Traffic Analysis Zone (Year 2010)



Industry Clusters

Clusters of industry are geographically concentrated and inter-connected by the flow of goods, services and information. They include major industries and support industries that have congregated for mutual benefit and support. Industries identified in consultation with economic development professionals for further study and coordinated effort include the following:

- Health Services – Due to the significantly older population, distance to other large metropolitan regions, and the confluence of transportation corridors from surrounding counties, Shasta County is a natural hub for general and specialized health services for a broad geography and population extending well beyond the region's borders. The opportunity exists to expand the depth and breadth of healthcare related industries.
- Educational Services – Shasta County is located in an area surrounded by well-regarded universities, including Humboldt State, Chico State, and Southern Oregon University. None, however, are practical for regular commuting. The nearest is Chico State, located 62 miles southeast of Redding. Access to higher education and the ability to develop an educated workforce and new technologies is critical to the long-term prosperity of the region. Opportunities include the expansion of Shasta College in partnership with extended campus and distance education options offered by Chico State. A successful example includes the recent Health Sciences campus located in Downtown Redding, where a growing number of programs are being made available.
- Surveying and Mapping Services – Redding is home to a number of private sector firms offering geospatial services and a growing number of professionals who routinely use geospatial technology in their work. A Geographic Information Systems (GIS) certificate program is offered at Shasta College. SRTA has partnered with Shasta College and local agencies in building the 'FarNorCalGIS' regional server and online

map viewer. In addition, several professional organizations are active and engaged in the community, including the Redding Area GIS Users (RAGU) and Far Northern Regional GIS Council (FNRGC). The ongoing development of high-value/low travel demand industries such as geospatial technology support the economy while minimizing the impact on local and regional transportation systems. The same technologies are frequently used in planning, transport logistics, and other fields to enhance the productivity of existing transportation systems.

- Professional services – As an 'island' metropolitan region surrounded by rural counties and being located a considerable distance from Sacramento, San Francisco Bay Area, and other major metropolitan regions, Shasta County is a natural hub for medical, legal, accounting, information technology, and other professional services. Some industry sectors, such as medical services, generate substantial and often long-distance trips with impacts on both local and interregional travel patterns. Other sectors, such as information services, are able to render services electronically and therefore have relatively little impact on the transportation network.
- Wholesale Trade and Transportation – Shasta County's location at the geographic center and transportation crossroads of the North State makes the region a natural hub for consolidating wholesale trade and transportation services. Some infrastructure exists already, including food product distribution. Recent transportation investments at the Interstate-5 and Deschutes Road interchange provide direct access to industrial lands being annexed by the City of Anderson and improvements on State Route 299 in western Shasta County have opened new trucking routes to California's North Coast counties.
- Agriculture – The total value of agricultural products sold in Shasta County during 2012 is $65.6 million, a nearly 47% increase over 2007. Notable products include wild rice (Shasta County ranks 1st in California and 4th in the United States in acres of wild rice) and much of the nation's strawberry 'starts' that produce new plants for transport to fields in central and southern California for growing.

  Because agriculture consists mainly of seasonal, high volume commodities, producers and distributors rely heavily on regional transportation systems to move products to market in a timely and efficient manner. Consolidating the transport of agricultural products is challenging because the origins of agricultural products are geographically dispersed and many products are perishable and therefore extremely time-sensitive. Moreover, agricultural products are typically low-value commodities on a cost-per-unit of volume or weight basis. Producers must compete against higher value commodities when accessing open market transport services. Or, as is the case with many specialty agriculture products, shipments are small and irregular. Accordingly, producers often supply their own transport or utilize a handful of specialized food transport services.

  The 2013 North State Transportation for Economic Development Study identified an opportunity to create efficiencies and to organize the necessary critical mass of trade to justify a regional hub for the aggregation, wholesale, and distribution of agriculture and natural resource-based commodities.

Coordinated Economic Development and Transportation Initiatives

A goal of the 2015 RTP (Goal #5) is to strengthen high-value industries that generate below average travel demand and to improve the efficient movement of goods and services for industries that are reliant upon the transportation network. This is to be accomplished by reinforcing or otherwise facilitating sustainable economic development initiatives and by identifying and resolving transportation-related barriers to economic activity and productivity.

A more proactive and integrated approach to travel demand management will be used to get ahead of the curve, avoid the pitfalls of other regions, and fulfill the RTP vision. For example, employment centers can be located in urban, mixed-use environments or consolidated in large business campuses (even when located away from residential areas) in order to support the viability of alternative travel mode choice, including public transportation and ridesharing. Supporting the development of information-based industries would likewise have a positive impact on the economy while casting a relatively small burden

on transportation systems due the below-average number of trips generated. For those industries that rely on the efficient and affordable delivery of tangible goods and services, additional physical transportation infrastructure and/or the coordination and consolidation of goods movement would help to optimize the throughput and therefore capacity of the existing transportation network.

COMMUNITY HEALTH & WELL-BEING

There is no explicit, federally defined responsibility for MPOs to address public health in transportation plans, programs, or projects. Beginning with MAP-21, Federal law does require MPOs and DOTs to consider a series of "planning factors," including economic vitality, safety, energy conservation, and overall quality of life (23 USC §134(h)). Several of these factors present specific opportunities for supporting public health goals and outcomes. In addition, the U.S. Department of Health and Human Services, Centers for Disease Control and Prevention publishes various public health Indicators for Shasta County that are useful in the planning process (See Figure 8).

At the state level, California's Health in All Policies Task Force was established by Executive Order S-04-10 in February of 2010 . This task force brings together eighteen state agencies, departments, and offices to identify priority programs, policies, and strategies that improve the health of Californians.

There is no universal formula for addressing community health and wellness. Each region has unique challenges, resources, and flexibility when selecting tools, processes, and organizational structures used to affect health outcomes in the most direct and effective manner. The 2015 RTP seeks to integrate public health objectives throughout the goals, policies, strategies, and performance measures.

As a result of discussions with local public health

Figure 9 - Centers for Disease Control and Prevention Health Indicators for Shasta County

	Better (most favorable quartile)	Moderate (middle two quartiles)	Worse (least favorable quartile)
Mortality	Diabetes deaths	Alzheimer's disease deaths Chronic kidney disease deaths Motor vehicle deaths	Cancer deaths Coronary hearth disease deaths Female life expectancy Male life expectancy Stroke deaths Chronic lower respiratory disease deaths Unintentional injury (including motor vehicle)
Morbidity	HIV Preterm births	Adult diabetes Adult obesity Adult overall health status Alzheimer's diseases/dementia Cancer Older adult asthma Older adult depression Symphillis	Gonorrhea
Health Care Access & Quality		Primary care provider access Uninsured Older Adult preventable hospitalizations	Cost barrier to care
Health Behaviors		Adult binge drinking Adult physical activity Teen births	Adult female routine pap tests Adult smoking
Social Factors	Inadequate social support On time high school graduation	Children in single-parent households	High housing costs Poverty Unemployment Violent crime
Physical Environment	Drinking water violations	Limited access to healthy food Living near highways	Access to parks Housing stress Annual average particulate matter 2.5 microns (PM 2.5)

professionals and stakeholders, health-related issues with the greatest nexus to regional transportation programs, policies, and investment strategies were identified. These include:

- Transportation-related injuries and deaths as a result of vehicle collisions and vehicle-bicyclist/pedestrian collisions, including a focus on safety around schools;
- Respiratory disease as a result of airborne particulate matter (PM 2.5);
- Epidemic of obesity caused in part by a lack of physical activity, lack of access to healthy foods, and concentrations of disadvantaged populations affected by multiple risk-factors.
- Social isolation as a result of mobility limitations.

In addition to supporting positive public health outcomes, coordination and collaboration with the public health community is simply good business. SRTA may capitalize on the health community's efforts to promote and facilitate active transportation. By leveraging their strengths in the areas of education, outreach, promotion, and safety training, SRTA and local agencies are better able to focus limited time and resources on providing the highest quality active transportation facilities and services.

TRAVEL CHARACTERISTICS AND SYSTEM UTILIZATION

A detailed understanding of the nature and recurring patterns of regional travel is fundamental to the planning process.

TRAVEL DATA

Information on who, why, when, and how people travel in Shasta County is gathered from a variety of data sources, including but not limited to:

- U.S. Decennial Census and interim American Community Surveys;
- California Household Travel Survey;
- Traffic counts;
- On-board transit surveys;
- ShastaSIM activity-based travel demand model; and
- Special studies (e.g. economic studies, corridor studies, transportation impact fee studies, origin and destination studies, etc.).

Trip generation

Vehicle travel demand in Shasta County is the combined result of intra-regional trips (i.e. trips beginning and ending within Shasta County), interregional trips (i.e. trips having a local origin or destination but that enter or exit Shasta County), and through-trips (i.e. trips that enter and exit Shasta County without stopping).

The ShastaSIM regional travel model segregates trips into the eight trip types: work, school, escort (e.g. transporting a child to/from an activity or similar trip type), personal business, shopping, meal, social interaction, and home.

Forecast Daily VMT (region and per capita)

According to the ShastaSIM regional travel model, total daily vehicle miles traveled in Shasta County will increase by approximately 32% between 2005 and 2035. Daily per capita vehicle miles traveled in Shasta County will, however, remain relatively steady, increasing by only 6% over the same period.

Table 7 - Total Daily VMT and VMT/Capita

Year	Total Daily VMT[1]	VMT/Capita[1]
2005	5,606,121	26.81
2020	6,171,441	26.88
2035	7,390,629	28.51

[1]Results from ShastaSIM travel model reflect the current growth trend of the region without changes resulting from the 2015 RTP. Includes all trips types (inter-regional, intra-regional & through-trips).

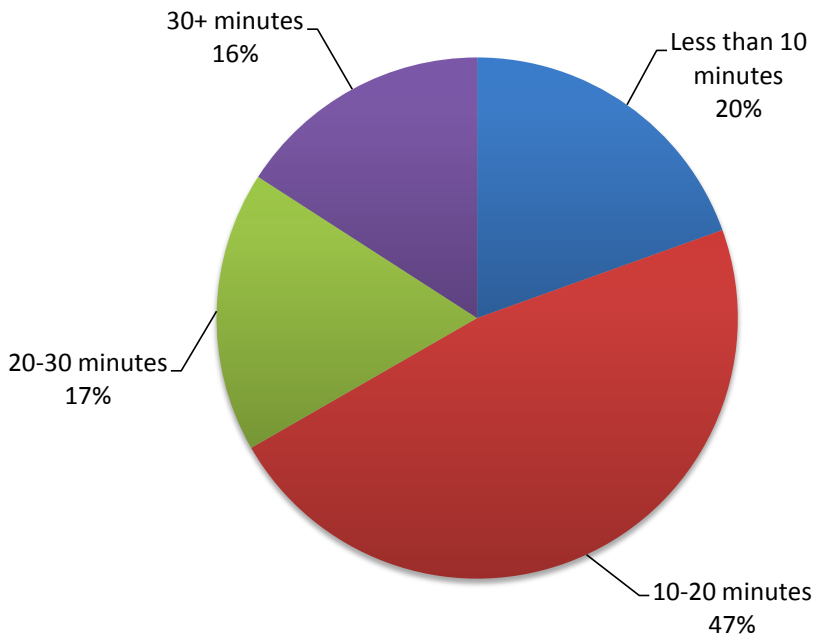
Residents living in the unincorporated regions of Shasta County have the highest VMT per capita (25.4), followed by Shasta Lake (18.1), Anderson (17.2), and then Redding (15.0). When comparing overall household VMT, Shasta Lake accounts for the smallest percentage (5%), followed by Anderson (6%), Redding (41%) and the unincorporated region of Shasta County (48).

Daily trips per household and trip lengths

Using only those trip categories that are subject to SB 375, average daily VMT per household in 2005 was 47.5. It is projected that this will decrease approximately 1% to 47.2 miles by 2035. In the year 2035 it is forecast that residents in Anderson will make the most trips per household (6.6), followed

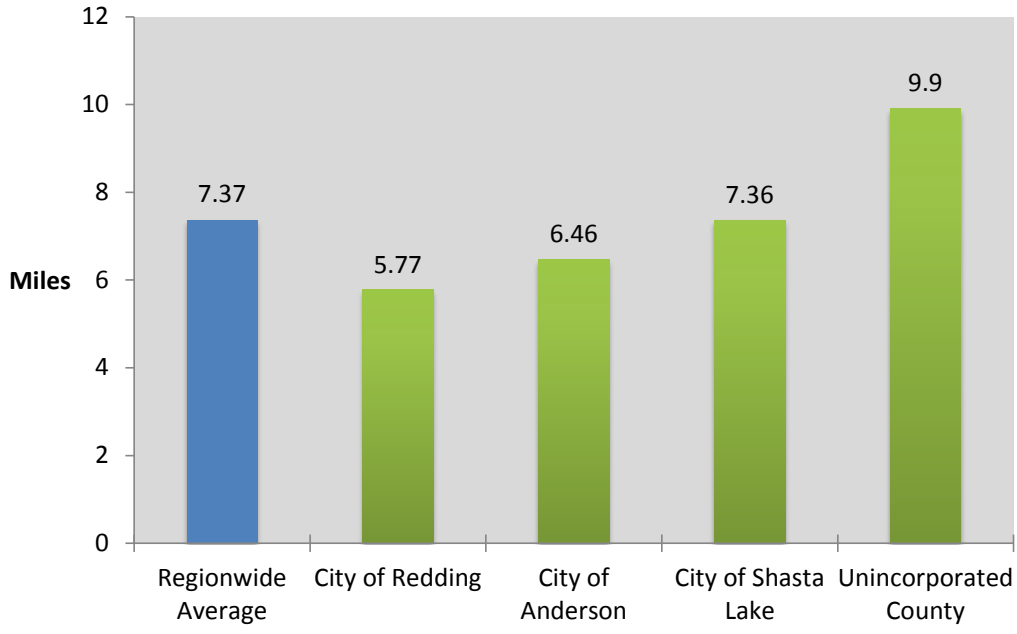
http://www.airsage.com/News/Nationwide-Commute-Report/

Chart 5 - Average Work Commute Travel Time (By Time and Percentage)



The average daily commute time for Shasta County residents is approximately 20 minutes.

Chart 6 - Estimated Average Trip Length (Year 2035)



by Redding and unincorporated Shasta County household (6.4). City of Shasta Lake household will make the fewest trip on average (6.0).

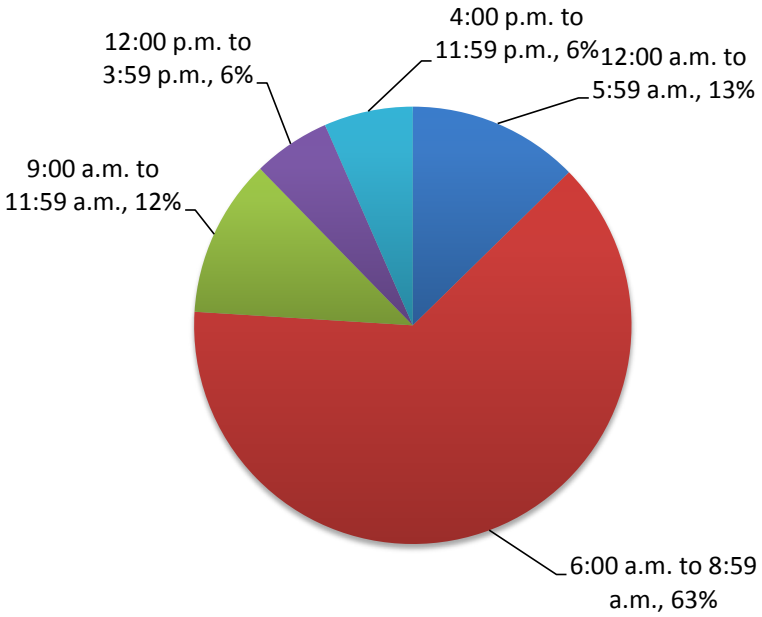
Although the number of trips per household is fairly consistent across the region, the average trip length is substantially different. Region wide in 2005 the average trip length is 7.4 miles. Due to the relative proximity to everyday destinations, City of Redding residents traveled the least per trip at 5.3 miles. On the other hand, residents in the rural unincorporated area of the County travel farthest, averaging 10.6 miles per trip.

According to the 2008-12 ACS, the average commute time to work was 19.7 minutes. Chart 5 shows the average commute travel time, today and Chart 6 shows the estimated average trip length by year 2035.

outside of Shasta County come from Tehama County, with almost 2,900 workers. As many as 400 workers travel in from Siskiyou County. Lassen and Butte counties each provide almost 200 workers traveling into Shasta County daily. However, the reliability of this type of census data is not always reflective of actual behavior because the data is based on a sampling of the actual population and is self-reported.

In recent years, the use of GPS data collected from mobile devices has increased. In a recent nationwide county-to-county commute report for the month of April 2014, it reported that as many as 9,765 people commute at least 14 days or more a month into Shasta County for work, school or other activities that require them to stay a majority of their day in Shasta County. Similarly, it was reported that just over 10,000 people who live in Shasta County commute outside of the county for 14 days or more a month.

Chart 7 - Percentage of Commute Trips by Time of Day (2008-12 ACS)



County-to-County Commute Patterns

Due to Shasta County's geographic isolation from other major population centers, travel patterns are less complex than those found in California's larger metropolitan regions. Nevertheless, there is notable inter-county commuting between Shasta County and bordering counties.

According to US Census county-to-county travel data compiled by the Census Transportation Planning Products (CTPP) the largest potential influx of workers

SRTA is looking further into what interregional travel data is available in order to grasp the magnitude of travel into and out of the region.

DAILY PEAK TRAVEL DEMAND

Approximately 63% of all workers leave between 6:00-9:00am, with the largest amount of commuters (31.7%) traveling to work between 7:00-8:00am. Only 13% of commuters leave for work between the hours of noon and midnight on a given work day. Chart 6 shows the percentage of daily commute trips from

home to work, by time of day.

Lack of major disincentives for vehicle trips combined with limited, incomplete, and disconnected alternative modes limits the potential success of efforts to diversify mode choice. Alternative modes must appeal to value and priorities beyond mobility.

MODE CHOICE

Even among the largest metropolitan regions, the single occupancy vehicle is the travel mode of choice for the majority of the population. At some point in the growth and development of a region, however, over-reliance on the automobile becomes financially, operationally, and environmentally unsustainable. Alternative modes, including public transportation, bicycling, walking, and ridesharing in combination with land use strategies must be introduced to help manage travel demand.

Mode split is affected by the natural environment (e.g. topography and climate), the built environment (e.g. transportation facilities and land use patterns), and individual and community choices. Individuals may make choices based on comfort and convenience, timeliness, cost, perceived safety, and/or personal values such as improved health and reduced environmental impact. In addition, a community's prioritization of transportation spending and the application of transportation and land use policies have the effect of encouraging or discouraging certain travel behaviors. For example, a lack of bicycle lanes, infrequent transit service, segregated land uses, deferred facility maintenance, road tolls and parking fees, and other factors greatly influence travel behavior.

General information regarding the use of different travel modes is collected by the US Census Bureau through an annual questionnaire, called the American Community Survey, or ACS. This survey asks general questions regarding people's commute to work, including mode choice, travel time, travel duration, and other characteristics. Work trips are the focus because it is the most common reason for travel and the primary cause for congestion during peak morning and afternoon hours of the day.

According to the 2008-2012 ACS, travel to work in the region is primarily by driving alone (80%), with carpooling (9%) the second most common form of travel. It is estimated that 6% of all workers in the region work from home. The remaining 5% of work trips are split by the following modes: public transportation (1%), walking (2%), and taxicab, motorcycle, bicycle, or others means (2%)

Since 2000, the greatest change has been an increase in the number of people working from home, up from 4% of all workers to 6%.

INTERMODAL TRAVEL

A major goal of the RTP (Goal #3) is the integration of various travel modes into a seamless network. Connectivity includes accessibility, physical connectivity, and schedule coordination.

Intermodal facilities include the Downtown Redding Transit Center that serves as the regional hub for local and regional public transportation, including Trinity Transit (Trinity County), Sage Stage (Modoc County), Susanville Rancheria Public Transit, Greyhound and Amtrak. Improvements are being made on streets in downtown Redding, such as California Street, to provide better commuting options for bicyclists and in connecting downtown Redding and the transit center to the Sacramento River Trail. However, the transit center does have its own challenges. The timing of transfers between transit services do not always match, causing lengthy waiting periods before transfers, and the frequency of some services are limited.

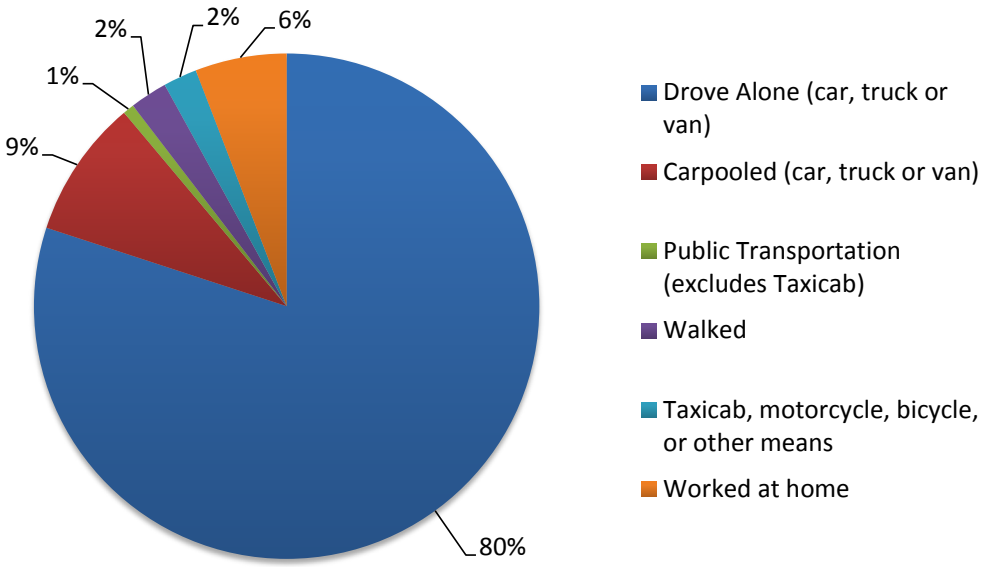
Amtrak passenger rail service is available via the Downtown Transit center. However, passenger service is infrequent and available only in the early AM hours of the day (southbound – 2:21am; northbound – 3:06am). Currently no day time passenger rail service is available.

Improvements have been made in connecting transit to the Redding Airport thanks, in large part, to travel demand generated by the IASCO Flight Training School. Hourly service is available from the Canby transit center Monday through Friday and six times a day on Saturdays. However Sunday service is currently not available.

Flights from Redding Airport occur two times daily from Redding to San Francisco via SkyWest (United Express). However, frequent flight cancellations make reliable air service difficult.

Facilities for bicycling and pedestrian activities are ever increasing throughout the region. Projects such as Dana to Downtown, which provided a way to connect bike facilities east and west of the Sacramento River, are well used. Improvements are being made as well to connect bike/pedestrian facilities to Shasta College, local schools, and job centers, such as downtown Redding.

Chart 8 - Means of Transportation to Work (2008-12 ACS)



Goods and Freight Movement

The movement of goods and freight in and out of the region represents a major component of overall regional travel demand. Commodities flow in and out of the region by different modes:

- Air - Redding Municipal Airport supports airfreight and package movement services.
- Rail - Two active rail lines (Union Pacific and Burlington Northern) serve Shasta County. Rail spurs located in Redding and Anderson provide limited freight loading and unloading. In Redding, train car switching interferes with vehicle travel on several key downtown arterials.
- Trucking - The majority of regional goods and freight movement is (and will continue to be) performed by truck.

Critical corridors for trucking in Shasta County include Interstate 5, which is one of the first six 'Corridors of the Future' identified by the U.S. Department of Transportation in need of multi-state congestion relief initiatives. State Route 299/44/36 is considered a 'High Emphasis Route' critical to interregional travel and included in a subset of 'Focus Routes' in the Interregional Transportation Strategic Plan that are essential for connecting urban areas and linking rural areas to urban areas.

Reliable data is needed for the effective planning and programming of finite transportation resources. Information on commodity flows is derived from a combination of Caltrans Intermodal Transportation



Management System (ITMS) data, Federal Freight Analysis Framework (FAF), and the IMPLAN regional economic analysis model. Unfortunately, much of this data is outdated and based on very limited data samples outside of California's major metropolitan areas. Little information is available regarding the off-highway movement of goods and freight, including air and rail modes. In order to draw reasonable conclusions, data must be augmented with a local understanding of regional economic activity. Recently completed and planned efforts are described below.

North State Transportation for Economic Development Study

Completed in October 2013 by SRTA on behalf of the sixteen-county North State Super Region, the North State Transportation for Economic Development Study combined the best available goods and freight movement data with information gleaned from various public and private sector economic and transportation stakeholders. The study analyzed the interactions between transportation (current and planned systems) and the economy (current industries and economic development initiatives).

As noted in the study, the value of Shasta County commodities produced in 2010 is approximately $1.245 Billion. A further break down of major industries is provided in Table 8. About 15% of the region's commodities are locally consumed; the balance is exported to national and international markets. The region offers a lower cost of doing business (including lower taxes, labor costs and housing costs) and same-day access to several major markets (including Sacramento and the San Francisco Bay Area). Key issues from a transportation perspective include the disconnected and inefficient movement of goods and freight to the marketplace and long distance to processing facilities for North State agricultural and natural resource commodities. The final report recommended the development of regional strategic action plans comprised of the following components:

- A project prioritization process based on mobility and economic performance metrics;
- A short list of 'total package' projects that solve mobility and economic development benefits as well as leverage funding from multiple partners and sectors;
- A short list of 'game changer' transportation projects that would effectively remove known obstacles to regional economic development objectives;
- A proactive strategy for the prevention of non-weather related closures and catastrophic failures on the interregional transportation system; and
- Facilitation of coordinated movement of goods and freight.

SRTA is working on several initiatives designed to address these needs, including coordination with Caltrans freight census and statewide travel modeling; the development of performance-based project selection criteria; and a Consolidated Goods and Freight Movement Study described in further detail below. The product of these efforts will be incorporated into SRTA's 2018 RTP update.

Consolidated Goods and Freight Intermodal Hub Initiative

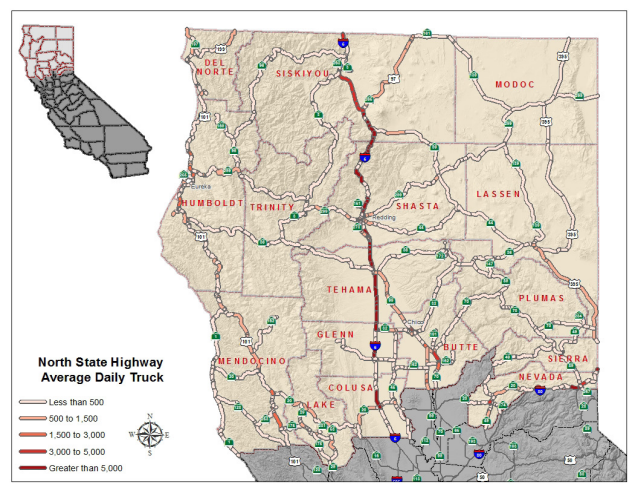
SRTA was awarded a Caltrans Strategic Partnerships planning grant in early 2015 to carryout a Far Northern California Consolidated Goods and Freight Hub Study and demonstration project. Core project stakeholders include SRTA, Superior California Economic Development District, and Growing Local (a coalition of agriculture related stakeholders representing California's eight northernmost counties).

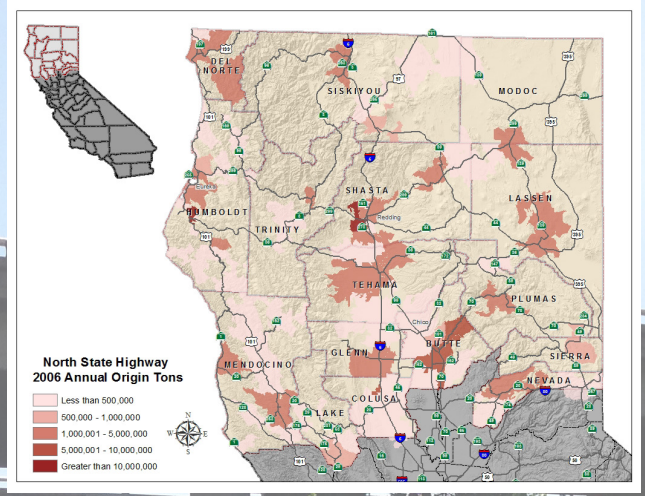
The study will measure the production, aggregation, and distribution patterns of agricultural inputs and

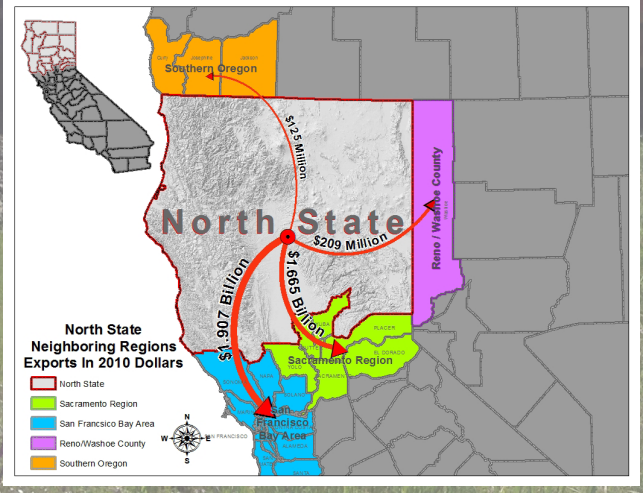


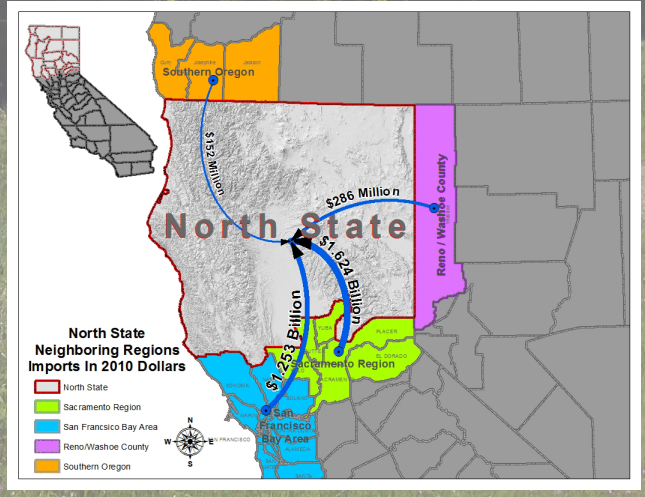
outputs. Results of the analysis, combined with travel demand modeling, will be used to identify location-efficient clusters of industries and to evaluate the feasibility for a centrally-located intermodal hub to reduce freight miles traveled and associated

Figure 10 - North State Freight Flows









emissions. Findings will be shared with Caltrans Transportation/Freight Modeling and Data Branch and will support ongoing development of the California Statewide Travel Demand Model.

A demonstration project performed in collaboration with business and community partners will enable stakeholders to work through the essential terms, logistics, and communication protocols needed to attract grant funds, private sector partners, and financing for the hub.

California Freight Mobility Plan

Completed in December 2014 by the Caltrans Office of Freight Planning, the California Freight Mobility Plan (see http://dot.ca.gov/hq/tpp/offices/ogm/cfmp.html) identifies freight routes and transportation facilities that are critical to the state's economy and environment. The plan includes a list of good and freight movement projects, twenty-one of which are located in Shasta County. Project types include capacity increasing, system preservation, and operations and management. Projects are needed to:

- Address forecast congestion and bottlenecks, particularly on mainline Interstate 5 in and around the cities of Redding, Anderson, and Shasta Lake where truck volumes represent up to 30% of total traffic;
- Remedy freight accessibility and safety issues, including inadequate vertical and horizontal clearances on the Union Pacific Railroad bridge over Interstate 5 and narrow, winding, and steep interregional corridors;
- Relay real-time roadway and traffic conditions to travelers; and
- Proactively maintain pavement, bridges, and other assets.

Table 8 - Approximate Value of Commodities Produced in the North State in 2010 ($ millions)

Commodity[5]	Value
Agriculture & Food Products	$236
Machinery & Metal Products	$129
Wood Products	$319
Misc Manufactured Products	$91
Mixed Freight/Cargo	$35
Chemicals & Pharmaceutic	$156
Petroleum & Coal Products	$151
Stone, Gravel, Sand, Minerals, Ore and Related	$123
Animal & Fish Products	$6
Total	$1,245

[5]*North State Transportation for Economic Development Study (available at: http://www.srta.ca.gov/140/Transportation-Economic-Development-Stud)*

Modal Assessment



The combined efforts of SRTA, Caltrans and local agency partners over the last five years toward meeting the goals of the 2010 RTP have yielded much success. Many longstanding capital projects have been delivered or are otherwise underway. Since the 2010 RTP update, a total of $255.4 million in projects have been delivered within the Shasta County region. The following sections provide a modal break down of the regional transportation system in further detail, focusing on the current state of the system.

STREETS AND ROADS



Streets and roads represent the primary means of local and interregional travel in the region. Streets and roads are essential for vehicle travel, truck travel, public transportation, as well as bicyclists and pedestrians. Furthermore, the access provided by streets and roads greatly influences development and land use patterns.

CURRENT SYSTEM

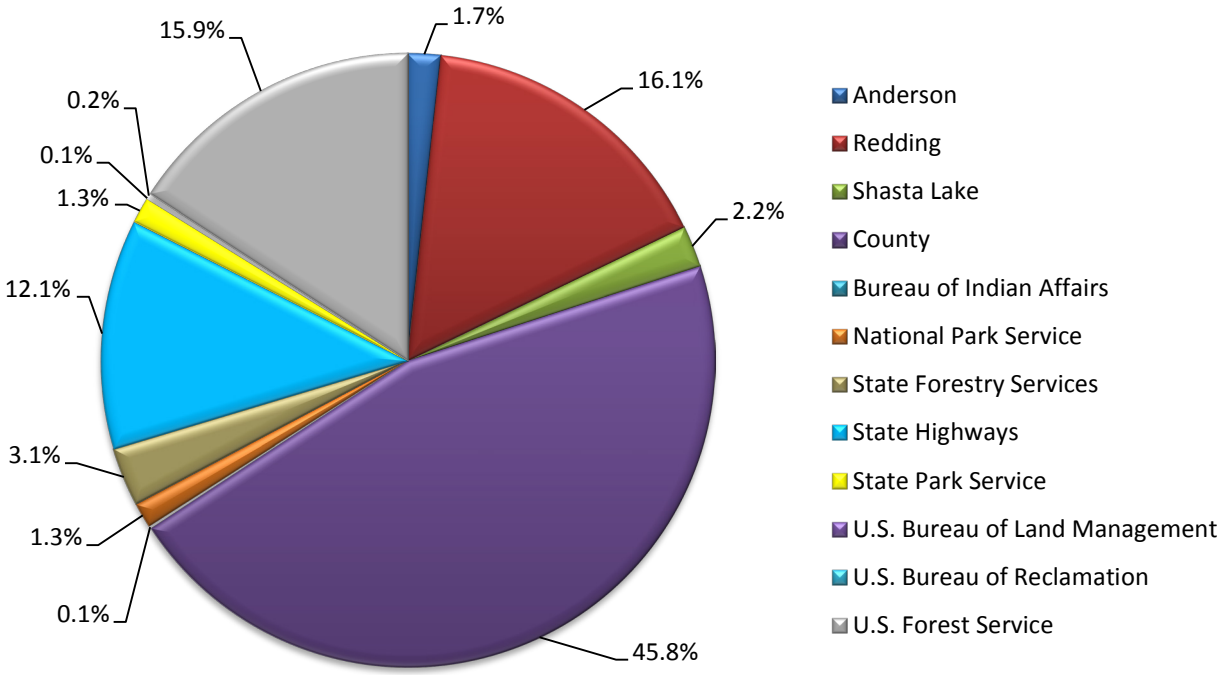
Shasta County has approximately 2,597 centerline road miles . The majority of roads are maintained by local jurisdictions, including: City of Anderson (1.7%), City of Redding (16.2%), City of Shasta Lake (2.2%) and Shasta County (45.8%). State highways represent 12.1% of the regional network. Native American tribal roads account for 0.1% of the regional network. The remaining 22% of the regional network consists of forestry or other service roads maintained by state and federal agencies.

With the added consideration of lane counts on regional roadways, the total number of lane miles managed is estimated to be over 5,400. Approximately 27% of the managed lane miles exist within the US Census defined Urbanized Area comprising the cities of Anderson, Redding, and Shasta Lake as well as portions of Shasta County between the cities.

Interregional and regionally significant corridors

Interstate 5 is the backbone of the region's transportation network carrying upwards of 61,000 trips per day. It is also part of a 1,382 mile north-south travel and freight corridor stretching from the Mexican to Canadian border. It is designed by the Federal Highway Administration as a Major Freight Corridor and a "Corridor of the Future".

Chart 9 - Maintained (Centerline) Road Miles by Jurisdiction (2012)



State Routes 299 and 44 provide primary travel to and from California's North Coast (Arcata, CA) to the west and to the California-Nevada border to the east. SR 299 is the primary travel and commercial corridor serving Susanville, CA (population 15,546). Both routes are identified as "High Emphasis" and "Focus Routes" by Caltrans.

State Route 36 traverses the south-western tip of the region, providing access to Fortuna (Humboldt County) to the west and to Susanville (Lassen County) to the east via Red Bluff (Tehama County). SR 36 connects to US 395 to Reno, NV. SR 36 is also identified as a "Focus Route" by Caltrans.

State Route 89 provides secondary north-south travel from SR 36 in Tehama County, through Lassen National Volcanic Park, and eventually intersecting with I-5 in Siskiyou County.

State Route 273 provides secondary north-south travel through the South-Central Urban Region from the city of Anderson to just past SR 299 in the city of Redding.

State Route 151 runs 4.7 miles from Interstate 5 through the City of Shasta Lake to Shasta Lake Dam. The western portion of SR 151 is designated a Scenic Route.

Table 9 - Pavement Condition Index Classification

Numerical Rating	Classification
100-85	Good
85-70	Satisfactory
70-55	Fair
55-40	Poor
40-25	Very Poor
25-10	Serious
10-0	Failure

PAVEMENT CONDITIONS

The Pavement Condition Index, or PCI, is a numerical rating system that is used to evaluate the general condition of pavement on a roadway. Roads are rated on a scale of 100 to 0, with 100 being "best" and 0 being "worst" (see Table 9).

The overall pavement condition for the region's cities is deteriorating. According to a February 2012 report by the city of Redding Department of Public Works, Redding's overall PCI has dropped from a score of 78 in 2005 to 55 in 2012. While a score of 55 is considered "good" on the PCI scale, it is forecast to fall to 36 (considered "very poor") by 2020. The county of Shasta Public Works department shows

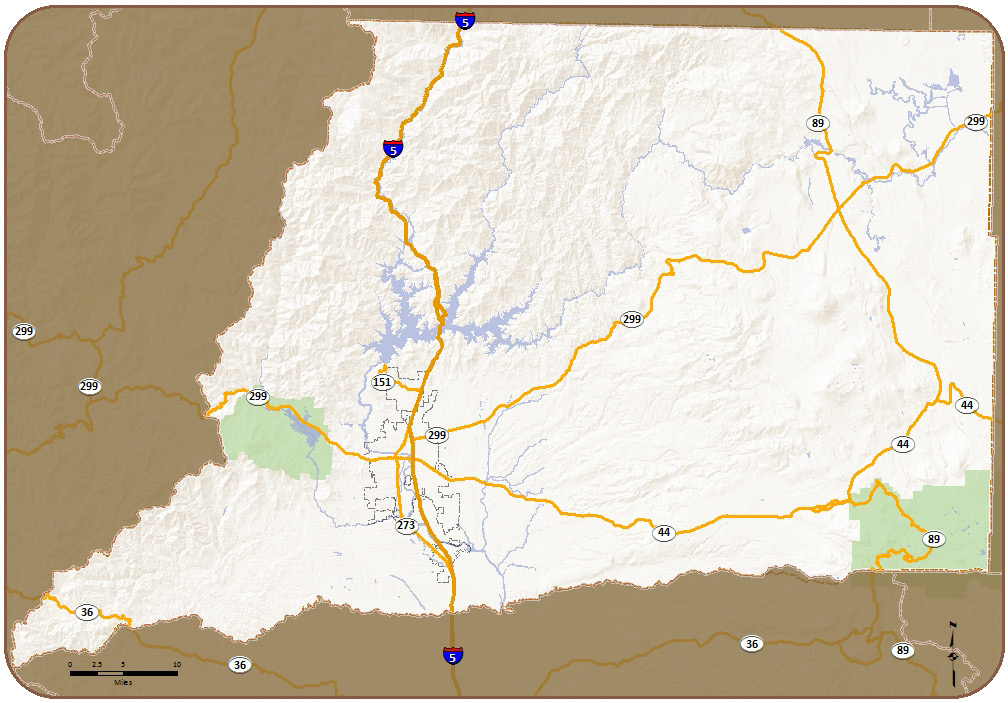


Figure 11 - Shasta County Regionally Significant Corridors

similar ratings. In 2012, major county maintained roads had an average score of 71, while residential and local roads average only a score of 56. The status of roads in the city of Anderson and Shasta Lake, and state highways maintained by Caltrans are currently unknown.

In the 2014 California Local Streets & Roads Needs Assessment, it is estimated that the region's average PCI is 60. This puts the region in a "high risk" category for California. With great local effort and an infusion of federal economic stimulus funds, the region's PCI has rebounded slightly from a low of 57 in 2012. The study estimated the minimum financial need of $799 million (in 2014 dollars) to keep the road system maintained for the next ten years. Without additional revenue, recent gains in the condition of regional roadways will soon be lost.

BRIDGES

According to the Caltrans Office of Structure Maintenance and Investigations there are approximately 475 bridges within Shasta County. The number of bridges maintained by each agency and the functional status of these bridges is shown in Table 10.

By FHWA criteria, approximately 32% of local agency bridges are considered "structurally deficient" (i.e. requires weight or speed limitations to ensure it is safe) or "functionally obsolete" (i.e. not designed for how it presently used). The biggest challenge is in the unincorporated area of Shasta County, where a total of 74 bridges are in need of replacement.

Table 10 - Bridge Status by Jurisdiction

Jurisdiction	Bridges	Structurally Deficient	Functionally Obsolete
Shasta County	216	24	50
City of Anderson	4	0	0
City of Redding	55	6	9
City of Shasta Lake	13	1	1
Dept. of Forestry	8	1	2
Tehama County	1	0	0
Caltrans	178	Unknown	Unknown

The 2014 California Local Streets & Roads Needs Assessment estimates that 97 bridges are in need of replacement and 22 bridges are in need of repair. This translates into a minimum financial need of $66 million (in 2014 dollars) over the next 10 years.

> 32% of all bridges in Shasta County are "structurally deficient" or "functionally obsolete" and are in need of replacement or major repair.

As of June 2014, three bridges on the State highway system are eligible for listing on the National Register of Historic Places (NRHP). One local agency bridge is potentially eligible for listing on the NRHP.

The Pit River Bridge, which allows traffic on Interstate 5 to cross Shasta Lake, is listed on the federal list of 'Projects of National and Regional Significance.' The replacement cost of this bridge is estimated at $500 million and is of great significance for moving people and goods through Shasta County, from the California-Mexico border to Canada.

Major accomplishments since 2010 RTP

Since the 2010 RTP, Shasta County has seen the following major improvements to the interregional transportation system:

- Interstate-5 from Bonnyview Road to Central Redding – add a new travel lane in each direction (expand from four to six lanes).
- Interstate-5 and Deschutes Road – addition of round-a-bout on Deschutes Road, east of I-5.
- Interstate-5 Cottonwood Truck Climbing Lanes – addition of a truck climbing lane in each direction (northbound and southbound) from Gas Point Road to Deschutes Road.
- State Route 299 – Buckhorn Grade: Extensive curve re-alignment and addition of passing lanes at Buckhorn Summit.

[7] *Caltrans Structure Maintenance & Investigations Report, Local Agency Bridge List. Reviewed September 2013.*

SYSTEM UTILIZATION

Volume to capacity (V/C) ratio is a numerical representation of road congestion. "Volume" represents the number of vehicles on the roadway at a given time. "Capacity" refers to the maximum number of vehicles able occupy a road segment. The V/C ratio helps identify which roads segments are being used the most and which segments are being underutilized, based on their design capacity. Roadways with a V/C ratio of 0.75 or higher are considered "congested."

Level of service (LOS) is an alphabetic scale used to describe roadway congestion; 'LOS A' being free of congestion and 'LOS F' representing gridlock.

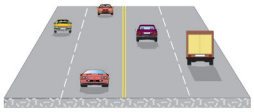
The ShastaSIM regional travel model simulates future travel demands and measures the impact on regional roadways in terms of V/C ratio, LOS, and other performance metrics. This information is used to identify which segments may need additional capacity or where traffic might be redirected to make better use of underutilized roadways. ShastaSIM also allows planners to evaluation the individual and combined benefit of enhanced traffic operations, travel demand management strategies, land-use strategies, and other potential solutions.

Future LOS on the roadway network is forecast to deteriorate over time. By 2020, over 132 miles of regional streets are expected to fall below the LOS planning threshold of C. By 2035, that number will increase to over 164 miles of streets with LOS D, E, or F. Table 11 summarizes those road segments reaching LOS D, E, or F by 2035.

IMPACT OF SYSTEM PERFORMANCE ON MOBILITY

A variety of performance metrics are calculated to better understand and communicate the directly felt impacts congestion levels. It's worth noting that

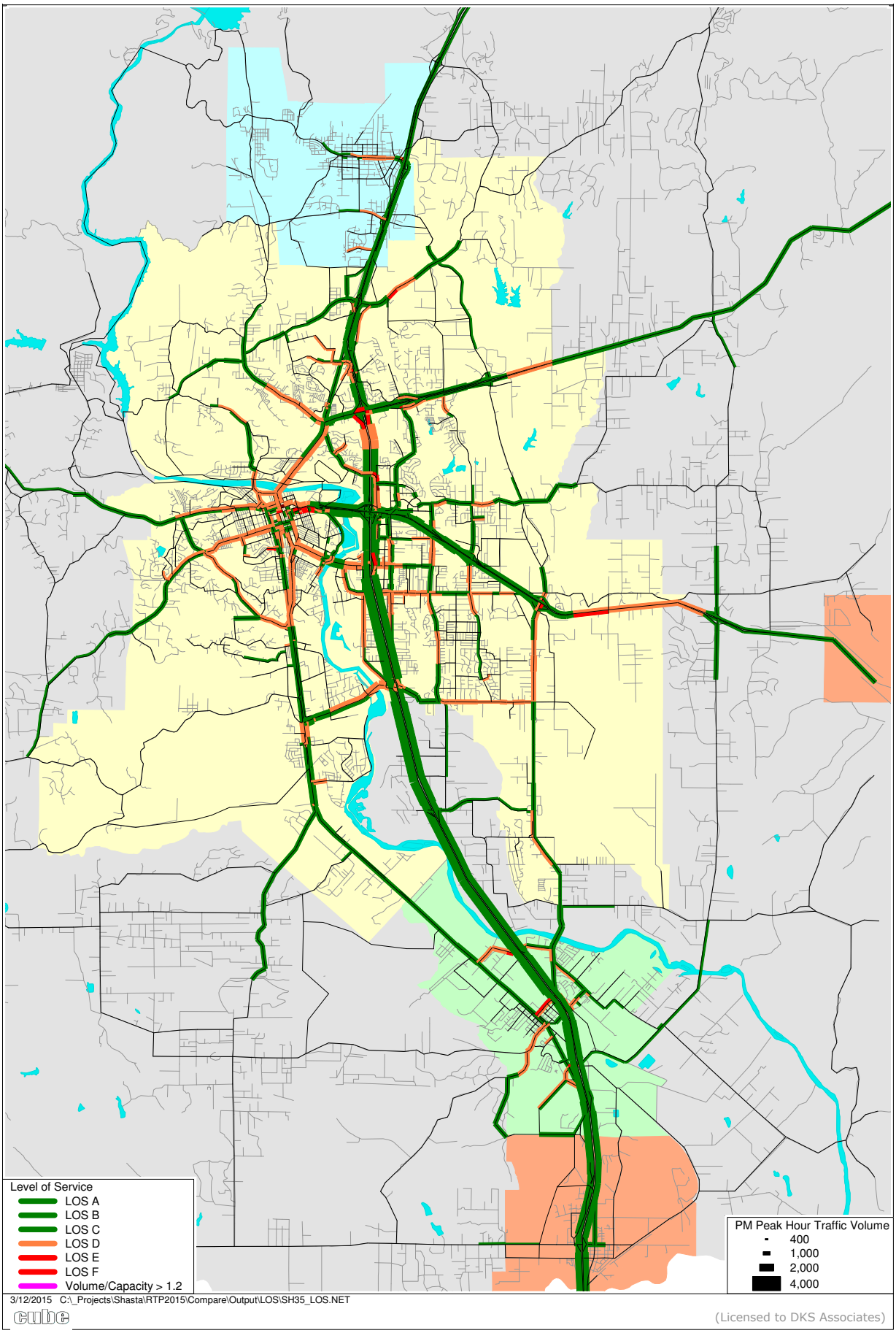
LEVELS OF SERVICE
for Multi-Lane Highways

Level of Service	Flow Conditions	Operating Speed (mph)	Technical Descriptions
A		60	Highest level of service. Traffic flows freely with little or no restrictions on maneuverability. **No delays**
B		60	Traffic flows freely, but drivers have slightly less freedom to maneuver. **No delays**
C		60	Density becomes noticeable with ability to maneuver limited by other vehicles. **Minimal delays**
D		57	Speed and ability to maneuver is severely restricted by increasing density of vehicles. **Minimal delays**
E		55	Unstable traffic flow. Speeds vary greatly and are unpredictable. **Minimal delays**
F		<55	Traffic flow is unstable, with brief periods of movement followed by forced stops. **Significant delays**

Source: 2000 HCM, Exhibit 21-3, Speed-Flow Curves with LOS Criteria for Multi-Lane Highways

Chart 10 - Example of Level of Service (LOS) for Multi-Lane Highways

Figure 12 - Shasta County Travel Model - 2035 Base - PM Peak Hour Traffic Volume



congestion – to some degree – is not a bad thing; it is an indicator of economic activity as it is reflective of more people with jobs, more delivery of services, and more freight and goods being transported to market.

Commonly used transportation performance metrics and calculations for Shasta County are as follows:

- Vehicle Hours of Delay – An indicator of how much extra time drivers spend on the road traveling to their destination due to congestion. A majority of the delay experienced by travelers is on local arterial or collector roadways. Currently, commuters experience almost 1,400 VHD daily. By 2035, that number is expected to almost double to over 2,600 VHD daily.
- AM/PM peak travel period – Commonly known as 'rush hour', the peak travel period is typically a one to three hour period during the morning and evening where the region's roadways carry the greatest number of vehicles, typically due to work commute. Implementing the RTP will improve the average vehicle miles per hour by 4.5% for the PM Peak period, 3% for the AM Peak Period and 3.6% for the Daily average, by 2035 (see Chart 13)
- Peak hour travel speed or "Congested Speed" is the reduction in the average speed on a roadway segment during the peak hour period (typically due to work commuting) than would otherwise be experienced during "free flow" traffic conditions.
- Travel time to work – Represents the average time it takes to get to work. Approximately 67% of all workers in the region average 20 minutes or less to reach their work destination, with the majority taking between 10-20 minutes. Only 4% of all workers take less than five minutes to get to work. Approximately, 7.4% of workers in the region take 45 minutes or more to reach work. Overall it takes less time on average for travelers to reach work today (19.7 minutes) than in 2000 (20.9 minutes).

Shasta County offers one of the shortest average commute times in California

(Source: U.S. Census Bureau, 2008-2012 American Community Survey)

Chart 11 - Regional Speed Trends - AM/PM Peak Hour (Congested) and Daily Average (Free Flow)

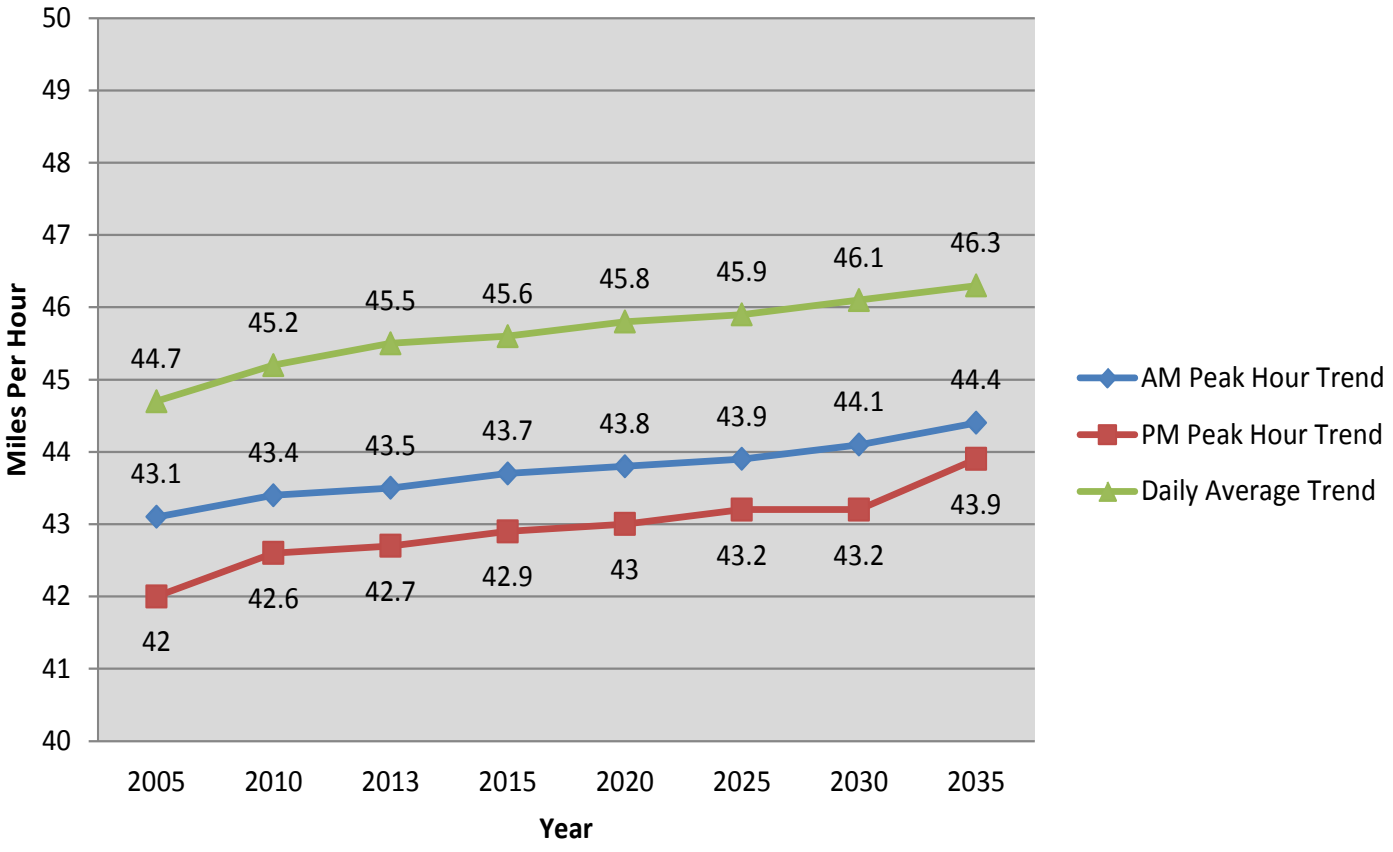


Table 11 - Miles of Roads at LOS 'D', 'E', or 'F' in 2035

MILES OF CONGESTED ROAD	LOS D	LOS E	LOS F	TOTAL
Freeway				
Freeway	6.5	1.3	0.0	7.7
Highway				
Multi-Lane Rural Highway	0.0	0.0	0.0	0.0
2-Lane Rural Highway	41.0	3.1	0.0	44.1
Total	**41.0**	**3.1**	**0.0**	**44.1**
Expressway				
Urban Expressway	5.2	0.2	0.1	5.5
Arterial				
Multi-Lane Rural Arterial	0.0	0.0	0.0	0.0
2-Lane Rural Arterial	0.6	0.0	0.0	0.6
Urban Arterial	81.6	4.0	0.4	85.9
Total	**82.1**	**4.0**	**0.4**	**86.5**
Collector				
Rural Collector	0.0	0.0	0.0	0.0
Urban Collector	9.4	0.3	0.1	9.8
Total	**9.4**	**0.3**	**0.1**	**9.8**
Local				
Rural Local	0.0	0.0	0.0	0.0
Urban Local	5.7	0.4	0.0	6.1
Total	**5.7**	**0.4**	**0.0**	**6.1**
Ramp				
Ramp	2.6	1.5	0.4	4.5
Connector				
Zone Connector	0.0	0.0	0.0	0.0
TOTAL:	**152.4**	**10.9**	**1.0**	**164.3**

STREETS AND ROADS SWOT ANALYSIS

The following observations are not intended to be comprehensive, but rather to highlight salient issues and opportunities related to regional mobility.

STRENGTHS:

- Current network is relatively free of traffic congestion.
- Most major bottlenecks – current and impending – have been addressed by way of recent capacity increasing projects and operational improvements on Interstate 5, State Route 299, and associated interchanges.
- Safety issues and limited truck access to the North Coast on State Route 299 in western Shasta County have largely been addressed as result of the Buckhorn Grade realignment.
- Intelligent Transportation Systems (ITS) infrastructure is in state of good repair.
- The sixteen-county North State Super Region is actively involved in elevating North State transportation needs to the state and federal level.

WEAKNESSES:

- Percentage of distressed lane miles.
- Number of functionally obsolete bridges.
- Safety issues on rural roads and highways.
- Lack of data on interregional travel patterns.
- Lack of ITS infrastructure for real-time information to assist transportation demand management efforts.
- Complete Streets that accommodate all travel modes are not consistent.

OPPORTUNITIES:

- Shasta County's location at the geographic and transportation crossroads of the sixteen-county North State as well as the center of the I-5 international trade corridor provides market accessibility, including one-day market access to several major urban markets (Sacramento, San Francisco Bay Area) and sea ports (Oakland, Stockton, Eureka).
- Strategies known to reduce travel demand, including complete streets, transit, rideshare, parking strategies, and other strategies are largely untapped.
- Recent and planned travel data collection efforts and statewide interregional travel demand modeling provide more granular data useful in transportation planning.

THREATS:

- State and federal policy, performance metrics, and project evaluation criteria are often detrimental to smaller urban and rural areas when competing for limited discretionary transportation funds.
- Regions representing the bulk of California's population are in what are known as 'self-help' counties that have local sales tax or other local revenue streams. Self-help regions are better able to leverage limited shares of state and federal discretionary transportation funds.
- Recent development trends and land use patterns are projected to increase vehicle miles traveled and limit the potential use of alternative transportation modes.
- Underdeveloped alternative transportation options and vehicle-dependent land use patterns limit individual and community adaptability and resilience to fluctuations in fuel and auto operating costs.

PUBLIC TRANSPORTATION



Public transportation includes a range of services for the general public as well as specialized services for the disabled, elderly, and those individuals unable to use traditional services. Public transit provides a widely accessible and affordable mobility option and is one of the primary strategies used to provide congestion relief and reduce vehicle miles traveled and associated greenhouse gas emissions.

Current Services

Interregional

- **Amtrak** – See Rail Section.
- **Greyhound** - Greyhound Lines is the largest provider of intercity bus transportation, serving more than 3,800 destinations across North America. Greyhound serves the Downtown Redding Transit Center.
- **Trinity Transit** – Trinity Transit offers Monday through Friday fixed route service within Trinity County and between Weaverville and the Downtown Redding Transit Center.
- **Sage Stage** - Sage Stage provides public transportation in Modoc County and intercity transit service between Alturas and the Downtown Redding Transit Center.

Tribal Transportation Services

- **Pit River Health Services** – Provides transportation to tribal members.
- **Redding Rancheria** – Provides transportation to and from Redding Rancheria Tribal Health Center tribal for tribal members.
- **Susanville Rancheria** – Provides offers Monday through Saturday fixed route service between Susanville and Redding via Red Bluff.

Intraregional – Fixed Route Service

- **Redding Area Bus Authority (RABA)** - Provides fixed route and demand response transit services. Fixed route service consists of ten local routes and three express routes. Local routes operate Monday through Friday, mostly on one-hour headways. Saturday begins three hours later than weekday service. No service is provided on Sundays. Routes depart from one of three RABA transit centers: the Downtown Redding Transit Center, the Masonic Transfer Center, and the Canby Transfer Center.
- **Burney Express** - Shasta County contracts with RABA to provide express service to the community of Burney. Burney Express operates Monday through Friday with two round-trips each day, starting in Burney.

Demand Response and Paratransit services

- **RABA Demand Response** - Provides curb-to-curb transportation for individuals who, because of disability, are not able to utilize fixed route service. The service area is limited to within ¾ mile of fixed route service. Service is provided during the same operating hours as fixed route service.
- **Shasta Senior Nutrition Programs (SSNP)** – Provides demand response services to individuals 60 and older, mobility-impaired person, and those with disabilities over 18 years of age, who live outside of the RABA service area. In 2013, SSNP started a "44 Express" route that provides service from Shingletown to Redding.



Figure 13 - Shasta Senior Nutrition Program Bus



Figure 14 - RABA Demand Response Bus

Medical Transportation Services

Various organizations provide non-emergency and assisted living transportation needs within Shasta County. A current list of organizations providing service is published in the "Need-a-Ride?" brochure and also available on the SRTA website.

Airport Shuttle Service

- **RABA** – RABA offers an Airport Express route between The Downtown Redding Transit Center and the Redding Municipal Airport.
- **First Class Shuttle** – First Class Shuttle offers shuttle service for airline passengers arriving and departing out of Redding Municipal Airport and Sacramento International Airport.

System Utilization and Performance

RABA riders are largely dependent upon public transit due to lack of vehicle, no driver's license, and/or disability. Over 85% of transit riders surveyed have an annual household income of less than $20,000.

Transit ridership – Overall ridership increased by 20.1% from FY 2009/10 to FY 2012/13. System-wide productivity increased from 10.8 passengers per hour to 14.6 passengers per hour.

Transit productivity – In FY 2012/13 RABA provided 40,798 vehicle service hours of fixed route service with an annual ridership of 807,894. RABA serves nearly 20 passengers per service hour, a commonly used metric of transit productivity.

Farebox recovery - Overall fare revenue increased by 16.4% while costs remained relatively flat over the past two fiscal years. The system-wide farebox recovery ratio increased from 15.1% to 17.3%. The cost per trip decreased by 15.8% since FY 2009/10.

Demand response – RABA provided 17,327 demand response service hours in FY 2012/13 with an annual ridership 55,699.

Accomplishments since last RTP

- RABA Short Range Transit Plan (June 2014)
- System wide RABA service enhancements in 2014.
- RABA Airport Express route was added in 2012.
- Revisions to Transit Needs Assessment process.
- Transit Technology and CTSA Assessment completed in 2014.
- CTSA-SSNP "44 Express" service from Shingletown to Redding in 2013

Figure 15 - RABA Bus with Bike Rack



PUBLIC TRANSPORTATION SWOT ANALYSIS

The following observations are not intended to be comprehensive, but rather to highlight salient issues and opportunities related to regional mobility.

STRENGTHS:

- Fleet condition
- Dispatch capabilities
- Multi-modal transfer facilities and other assets
- The Transportation Development Act provides a consistent, ongoing fund source for public transportation.

WEAKNESSES:

- On-time performance
- Infrequent headways – All fixed-routes are designed to be one-hour headways. Only Route 2 has the equivalent of 30-minute headway because it has a clockwise and counter-clockwise route utilizing many of the same stops.
- No late evening service – Currently all routes end service by 8:00pm. Riders have asked for certain routes to be extended until at least 8:30pm to coincide with shift work common retail, food service, and other such industries.
- No Sunday service
- Missed opportunities to coordinate between transit service providers.
- Regional land use patterns are not conducive to providing or utilizing transit service.

OPPORTUNITIES:

- RABA-administered transit ridership data collection effort to be available to support system planning.
- Technology is available for improved data collection and real time service information for both planning and customer service applications.
- Coordination with Sustainable Communities Strategy implementation activities has potential to increase ridership.

THREATS:

- Limited political and general public support expanded transit services.
- Transit funds not used on transit are available for local streets and roads maintenance, which has an extensive backlog of project needs.
- Shasta County does not have the typical incentives or disincentives to appeal to choice riders. For example, parking is free and abundant, traffic congestion is isolated and short in duration, and travel time by transit is not competitive.
- Fuel costs for transit may increase as much as 4% per year, increasing operating costs.

ACTIVE TRANSPORTATION



Active transportation is a means of getting around by human energy, including bicycling and walking. Often referred to as non-motorized transportation, the updated term is consistent with recent changes in federal funding programs and better distinguishes the role of individual choice and local and regional policies, programs, and investments in supporting active and healthy communities.

Active transportation plays an essential role in connectivity between modes. Virtually all public transportation trips begin and end with active transportation. In more urban environments, automobile trips often include some measure of active transportation to complete the trip.

As part of coordinated multi-modal strategy, active transportation helps alleviate traffic congestion, delay or obviate the need for costly infrastructure improvements, and reduce vehicle miles traveled with associated environmental and climate impacts.

Active transportation facilities are generally divided into four classes:

- **Class I** - A dedicated non-motorized facility, paved or unpaved, physically separated from motorized vehicular traffic by an open space or barrier.
- **Class II** - A bike lane on a roadway, delineated by pavement striping, markings, and signing for the preferential or exclusive use of bicyclists.
- **Class III** - A bike route designated by the jurisdiction having authority, with appropriate directional and informational markers, but without striping, signing and pavement markings for the preferential or exclusive use of bicyclists.
- **Class IV (new)** - A roadway not designated by directional and informational markers, striping, signing or pavement markings for the preferential or exclusive use of bicyclists, but that provides appropriate bicycle-friendly design standards such as wide-curb lanes and bicycle safe drain grates.

In addition to basic facility type, a growing number of communities include non-motorized level-of-service factors in their planning processes. Whereas roadway level of service traditionally measures the degree of vehicle congestion and delay experienced by travelers, non-motorized level of service focuses on a wider range of factors indicative of users' overall convenience, safety, and qualitative experience. Specific factors may include but are not limited to:

- Network continuity
- Network quality
- Road crossings
- Traffic protection
- Safety and user conflicts
- Topography
- Actual and perceived safety and security
- Wayfinding
- Weather protection
- Facility maintenance
- Amenities
- Bicycle parking
- Design and aesthetics of facilities and surroundings

Current facilities and services

Shasta County has a growing system of multi-use trails, bicycle lanes, and other facilities. A description of bicycle and pedestrian infrastructure is found in the Shasta County 2010 Bicycle Transportation Plan. The plan is available on the county of Shasta's website: www.co.shasta.ca.us/docs/Public_Works/docs/2010-sc-bike-plan.pdf?sfvrsn=2.

Since adoption of this plan, several significant projects have been added to the network. In addition, SRTA completed an extensive documentation of sidewalks, trails, and bikeways in urban areas using geographic information systems (GIS) technology. The latter expands SRTA's analysis capabilities and permits the non-motorized network to be integrated into the ShastaSIM travel demand model. Data on miles of active transportation facilities by facility type is provided in Table 12.

In general, bicycle and pedestrian facilities are more complete and more frequently utilized in urban areas such as the City of Redding. The city has a growing network of Class I facilities, a formal complete streets policy, and an active bicycling advocacy community.

Table 12 - Miles of Bikeways and Trails

Class	Miles (GIS)
1 - Dedicated multi-use pathway	2.1
2 - Striped bike lane	52.0
3 - Signed bike route	71.3
4 - Cycle Tracks or Separated Bikeways	0.0
Paved Trails	44.2

The League of American Bicyclists has recognized the city as a 'bronze' level bicycle friendly community. An award means that the community is addressing the Five E's consistently found in great bicycling communities: Engineering, Education, Encouragement, Enforcement, and Evaluation & Planning. By strengthening or expanding efforts in these areas, the City of Redding and other Shasta County communities may become friendlier to bicyclists and earn the status of a silver, gold, platinum, or diamond level community.

SRTA's greatest ability to influence bicycle and pedestrian safety is through planning and capital funding of infrastructure. In addition, SRTA provides administrative support and technical assistance when pursuing and managing grant funds utilized for capital improvements, education and promotional activities. For example, SRTA leads a Healthy Shasta work group to enhance active transportation options, assists in the annual promotion of bike week, and is developing an online bicycle parking application that can be used with mobile devices to find or update information on bike parking locations in the region.

Information on biking and walking throughout Shasta County can be found online by a variety of resources, including:

- SRTA's Bike and Pedestrian Planning web page
- Healthy Shasta's 'Be Active' web page
- City of Redding's Community Services website
- City of Anderson's Community Services website
- City of Shasta Lake's Parks & Recreation website

Accomplishments since last RTP

- 2010 Shasta County Bicycle Transportation Plan (adopted June 2010)
- SRTA Board of Directors adopted a 2% Transportation Development Act (TDA) set aside for bike and pedestrian infrastructure.
- Creation of GIS-based network of active transportation facilities suitable for use by within the ShastaSIM regional travel model.
- Creation of bicycle parking data and crowd-sourcing map viewer available through the FarNorCalGIS website.
- Pit River Tribe/Burney Bicycle and Walkway Plan and provides a plan for building more bicycle and walking infrastructure in and around the town of Burney.
- Shasta View improvements around the Redding School of the Arts.
- Old 99 Class I trail and signage program in the City of Anderson
- Beginning of the Great Shasta Rail Trail - An 80-mile scenic multi-use Class I trail located in eastern Shasta County between the communities of Burney and Mt Shasta.

System Utilization

Unlike streets and roads, there is limited information regarding the usage patterns of active transportation infrastructure. The Shasta County Health and Human Services Agency, in partnership with members of the Healthy Shasta collaborative, administers annual bicycle and pedestrian counts at key locations in the region.



Bike Rack Near SRTA's Office on East Street in Redding

Class I facilities are predominately used for recreational trips. Utilization for transportation trips are limited due in part to the lack of connectivity to the street and road network and ability of users to access key destinations such as Downtown Redding and major employment centers directly from the trail network.

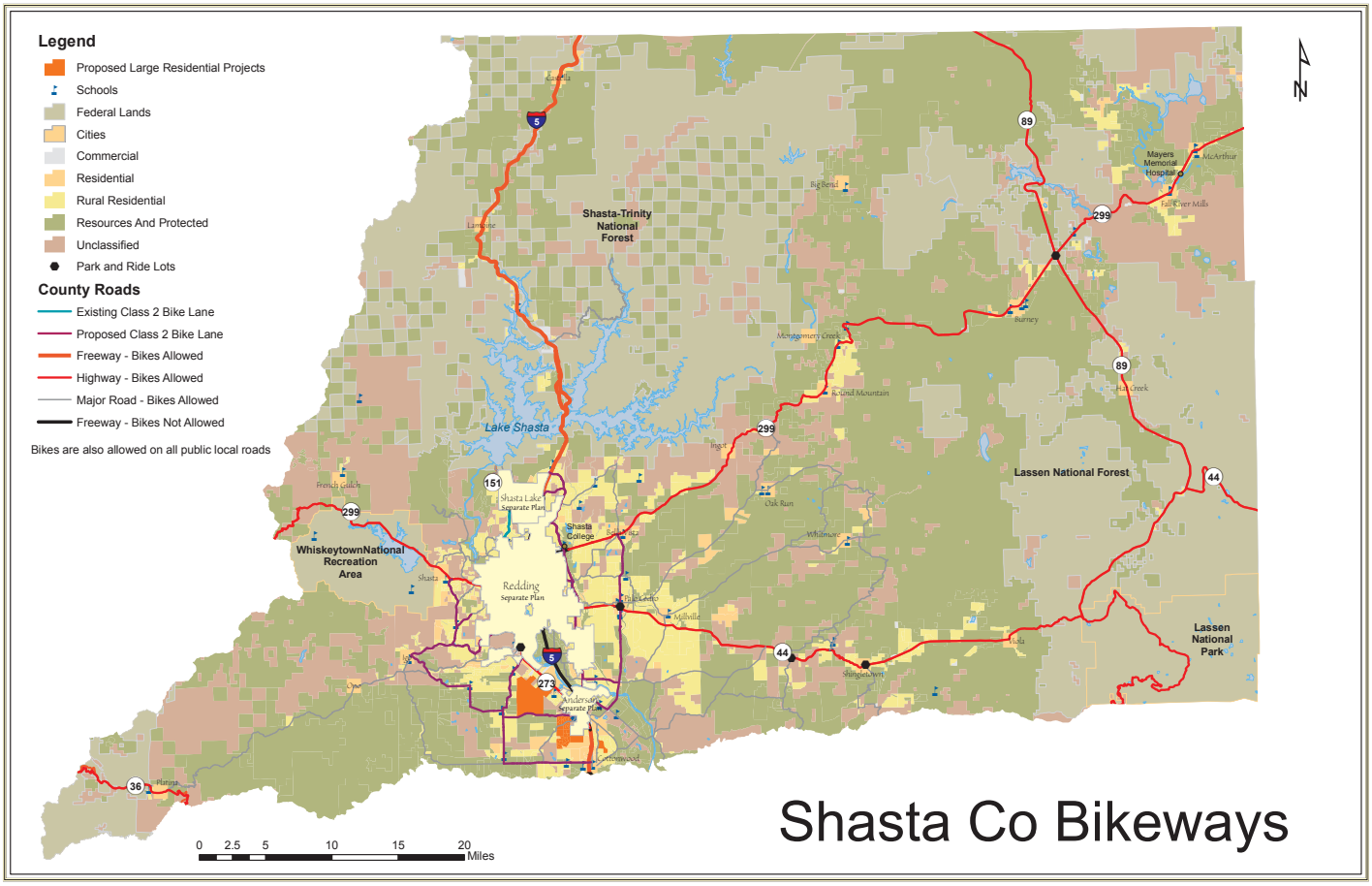


Class I bikeway and bike signage in Anderson



Class II bikeway on Buenaventura Boulevard in Redding

Figure 16 - Shasta County Bikeways (2010 Shasta County Bicycle Transportation Plan)



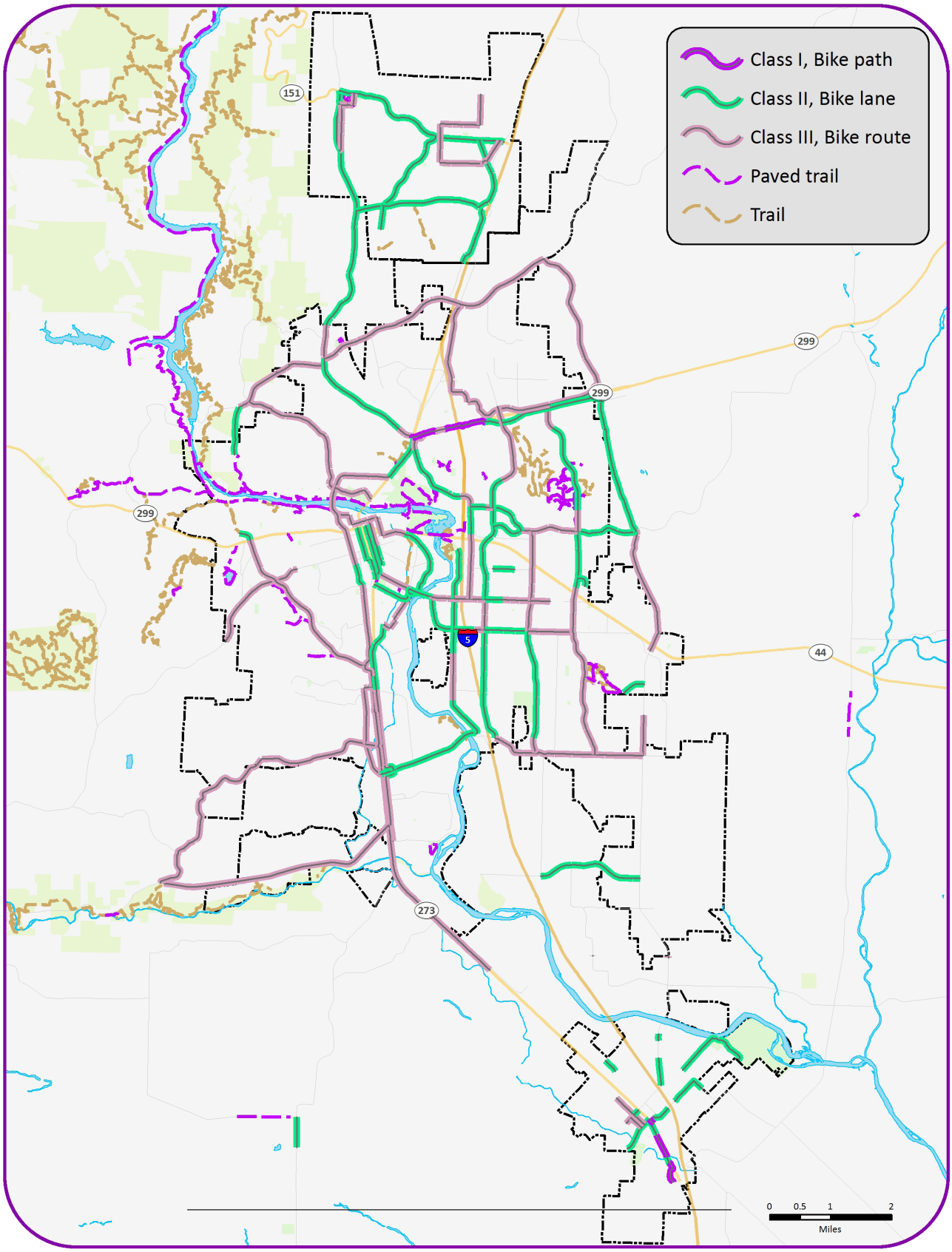


Figure 17 - Non-motorized Facilities

ACTIVE TRANSPORTATION SWOT ANALYSIS

The following observations are not intended to be comprehensive, but rather to highlight salient issues and opportunities related to regional mobility.

STRENGTHS:

- Strong community advocacy groups have emerged or become more actively engaged.
- Regional trails investments (Sacramento River Trail, Diestelhorst Bridge, Sundial Bridge, etc), including major contributions from the McConnell Foundation.
- Public support and usage of trails
- Adopted complete street policies in the City of Redding.

WEAKNESSES:

- Class I trails are incomplete and segmented.
- Regional trails not well connected to transportation network.
- Limited dedicated and consistent funding for active transportation infrastructure.
- Lack of a regional active transportation plan limits access to grant funding assumed in the 20-year revenue forecast.

OPPORTUNITIES:

- Waterways and railroad lines offer linear corridors well-suited to right-of-way for the continued expansion of the paved trails to function as an 'active transportation freeway'.
- Availability of Active Transportation Program and other funding.
- Potential to convert the large number of trail users from recreational users to transportation users.
- Potential use of GPS-enabled smart phones to track non-motorized travel characteristics for enhanced planning and project prioritization.

THREATS:

- Active transportation investments viewed by some as subtracting funds for projects serving motor vehicle operators who pay gas taxes.
- Actual and perceived threats to safety affect mode choice.
- Retrofitting bike and pedestrian infrastructure into urbanized areas designed to maximize vehicle circulation can be problematic.
- Physical barriers, including the Sacramento River, railroad, and Interstate 5 sometimes require less than direct routes.

AVIATION



Public use airports make it possible for the region's business community to participate in state, national, and international markets. The presence of an airport and passenger air services is often considered a requirement for attracting new business and industries to the region. Other key functions and benefits include emergency preparedness and response, aviation-related business development, and tourism.

Aviation planning occurs primarily a the state level and by individual airports. The California Aviation System Plan (CASP) is prepared by the Caltrans, Division of Aeronautics and updated every five years. Per California Public Utilities Code Section 21701, the CASP is to be developed in consultation with regional transportation planning agencies.

The primary purpose of the plan is to identify and prioritize needed airport capacity and safety related infrastructure enhancements that impact the safety and effectiveness of the California Aviation Transportation System. The plan is available online at Caltrans website: (http://www.dot.ca.gov/hq/planning/aeronaut/documents2/2007cip082107.pdf).

Current Facilities and Services

Redding Municipal Airport, the only airport in the county served by scheduled airline service, encompasses 1,659 acres, 500 of which are zoned for commercial use. It is a regional airport serving Shasta County and the seven surrounding counties. It was originally built by the U.S. Army as a military airfield in 1942. It was dedicated to the City of Redding in 1947. Today, it is the largest civilian facility in California, north of Sacramento.

Airline deregulation has resulted in some turnover among airlines serving Redding Municipal Airport with fluctuation in levels of service available to air travelers. The City of Redding continues to make efforts to expand air service frequencies and destinations through existing air carriers or the addition of new entrants. In May 2009, the City updated their air service study that reviewed the travel habits of the area's traveling public. The City received Federal assistance through the Small Community Air Service Grant program in 2004 to subsidize new twice-daily service to Los Angeles by Horizon Air in 2004. A second 2008 grant was awarded to assist in the recruitment of a third airline to a destination east of Redding.

Table 13 - Redding Passenger Air Service

Scheduled Airlines	Direct Flights to
SkyWest (doing business as United Express)	San Francisco
Charter Air Service Companies	
Redding Aero Enterprises	
Redding Air Service Helicopters	
Redding Jet Center	
Western Air Charter	
Air Shasta Rotor & Wing	
Jim & I Aviators	

Despite the City of Redding's efforts to improve air service, only two incumbent airlines have served this region in recent years. Horizon Air pulled out of Redding in 2011, leaving SkyWest as the sole provider of regularly scheduled passenger air service. As providers switch from turboprop to higher cost jet-engined planes, smaller markets such as Chico and Modesto have lost air services. The City of Redding received a $450,000 federal Small Community Air Service Development Program grant to help SkyWest Airlines bring regional jets to the North State. Daily jet service to and from San Francisco International Airport began in March of 2015. Fares were also dropped by over one-half, making air travel competitive with other travel modes.

Charter air service is provided by several companies. These fixed-base operators also provide aircraft sales, maintenance service, aircraft fuels, and accessories. Federal Express, United Parcel Service, and United States Postal Service provide package service.

Ground access to the Redding Municipal Airport was enhanced in 2003 through the extension of Knighton Road, from Interstate 5 east to the airport. This project enhanced the economic viability of the airport and its surrounding industrially zoned lands. A project is planned to expand Airport Road near the Redding Municipal Airport from two to four lanes with dedicated turn lanes, bike paths, and signals. In addition, RABA began operating the Airport Express Route in July, 2011. The Redding Municipal Airport paid parking lot contains 329 vehicle spaces and is located directly across from the main entrance to the terminal building

Fall River Mills – Fall River Mills Airport is located at an elevation of 3,323 feet in the extreme northeast corner of the county, 70 miles from Redding. It was originally built in the 1940's as a graveled runway. Hangars, runway lights, tie-downs and security fencing have been added since 1965. This is a designated Remote Access airport.



Figure 19 - Fall River Mills Airport

Fall River Mills Airport is currently a General Aviation facility with a 5,000-foot runway, 14 based aircraft, and serving both piston-powered and turbine-powered general aviation transient aircraft. Services are limited to card-lock Aviation Fuel sales. There are currently no other services and no Fixed Base Operators on-site.

Recent improvements including runway and taxiway were extended to 5,000 feet, apron expansion, and construction of a nine unit T-hangar with pilots lounge and ADA bathrooms. The entire airfield is now protected by chain link security fencing.

Aviation growth in eastern Shasta County will be moderate, yet significant for the area. Arguably the most critical function the Fall River Mills airport plays is that of an operations base in the event of wildfires that often plaque the North State.

Benton Airport is situated within the city limits approximately one mile from Downtown Redding. Benton is a small, single runway, Visual Flight Rules (VFR) airport for single and small twin-engine general aviation aircraft. It is classified as a General Aviation Facility within the US DOT/FAA National Plan of Integrated Airport Systems. It contains 416 acres for aviation and commercial development, but its growth potential is constrained both by topography and residential encroachment. There are approximately 130 private aircraft based at Benton, in addition to the California Highway Patrol air operations. Hillside Aviation provides charter air service, sales, fuel, and maintenance.



Figure 18 - Benton Airpark

Seaplane Facility – Located on Lake Shasta near Bridge Bay Resort, the primary role of these facilities is to provide access to aircraft used in wildfire suppression.

Accomplishments since last RTP

- Redding Municipal Airport Terminal expansion project was completed in 2014.
- RABA added express transit service between Downtown Redding and Redding Municipal Airport began in 2012.

AVIATION SWOT ANALYSIS

The following observations are not intended to be comprehensive, but rather to highlight salient issues and opportunities related to regional mobility.

STRENGTHS:

- Redding Municipal Airport was recently upgraded, including expansion of terminal.
- Community financial support to attract service providers.
- Redding Municipal Airport utilizes all three types of aviation communication technology - a competitive advantage over surrounding regions.
- Addition of passenger jet service to Redding Municipal Airport
- Recently reduced airfares make direct travel to/from Redding more competitive with other travel options.
- Privately owned airport shuttle services provides connection to Sacramento International Airport.

WEAKNESSES:

- Ability to attract and retain service providers.
- Limited population within market radius.
- Limited number of departures/arrivals
- Service is limited to flights to and from San Francisco International Airport.

OPPORTUNITIES:

- Loss of passenger air service in nearby Chico, CA provides potential to capture additional passengers.

THREATS:

- Competition from Sacramento International Airport (SMF) and Rogue Valley International-Medford Airport (MED).
- Weather and fog can impact reliability.

RAIL



Rail's arrival in Shasta County in 1872 expanded economic development by connecting people and freight to Sacramento and the San Francisco Bay Area and beyond.

Rail service is largely privately funded; SRTA does not fund rail operations. Current facilities include two rail corridors owed respectively by the Union Pacific Railroad (UPRR) and Burlington Northern (BSNF).

At the state level, the California State Rail Plan was adopted in May 2013 (see http://californiastaterailplan.dot.ca.gov/docs/Final_Copy_2013_CSRP.pdf). Although a growing North State market and need for enhanced passenger service to Redding is noted in the plan, further studies have been deferred as a result of lack of interest from Union Pacific Railroad.

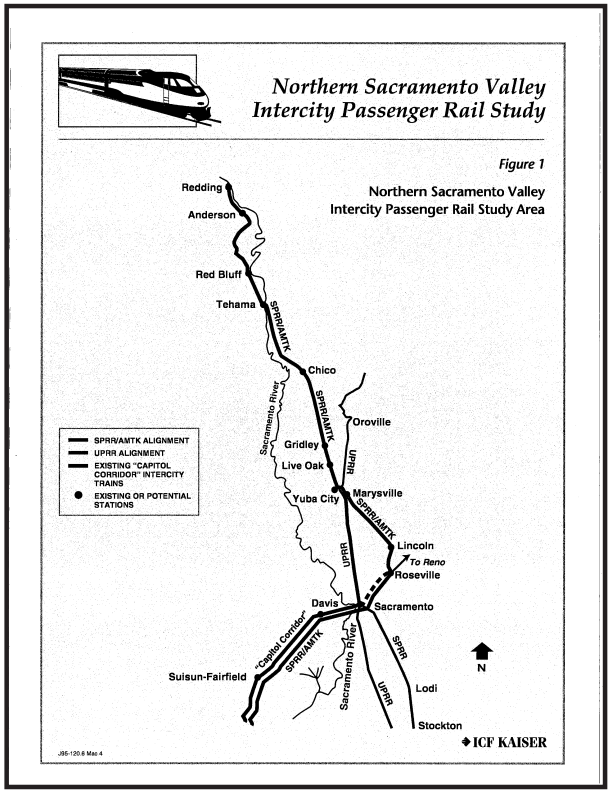
The most recent regional plan, completed in 1995, is the Northern Sacramento Valley Intercity Passenger Rail Study. This feasibility study investigated the viability of intercity rail service between Sacramento, Chico, and Redding. Two options were studied.

- Option A includes intercity rail between Sacramento and Chico, with more frequent service between Marysville/Yuba City.
- Option B is the same as Option A with the addition of an intercity rail extension to serve Red Bluff and Redding. Option B of the study estimated that by the year 2020, 147 passengers in Redding would be using the service each day. The farebox recovery for the proposed service would range between 19 and 22 percent.

Current system

Amtrak Coast Starlight passenger service runs on UPRR-controlled tracks in Shasta County with stops in Redding at 3:14 a.m. northbound and 2:21 a.m. southbound with service to Los Angeles, Oakland, Sacramento, Portland, and Seattle. Additional connections can be made at these locations. Starlight's daily round trip is the second most popular long-distance train in the Amtrak system.
For many years, demand has often outstripped capacity during summer and holiday travel periods.

Figure 20 - Northern Sacramento Valley Intercity Passenger Rail Study Area Map



In addition to passenger rail service, Amtrak operates state-supported feeder bus connections to the state-supported Capitol Corridor Route in Sacramento and San Joaquin Route in Sacramento/Stockton.

At the state level, high speed rail continues to inch toward reality. Although there are no expectations for high speed rail north of Sacramento, it will be important for the region to plan for interregional connections in the future.

RAIL SWOT ANALYSIS

The following observations are not intended to be comprehensive, but rather to highlight salient issues and opportunities related to regional mobility.

STRENGTHS:

- Redding train station facility is located at the Downtown Redding Transit Center with connections to intercity bus, local public transit, and other modal opportunities.

WEAKNESSES:

- Early morning service schedule makes it difficult to attract ridership.
- Passenger service schedule is not reliable due to priority given to freight trains.
- Station facilities, including ticket window, lounge, and restrooms are not open for service.
- Lack of grade separation between rail tracks and local roadways is the cause of vehicle delay, most notably in Downtown Redding due to rail car switching.

OPPORTUNITIES:

- Renewed state interest in passenger rail planning and funding as a result of California High Speed Rail.
- Potential to work with Union Pacific Railroad to relocate rail switching operations from Downtown Redding to industrial property recently annexed by the city of Anderson. Located adjacent to the new Deschutes Road-Interstate 5 interchange project, the site is also well-suited for an intermodal freight hub.

THREATS:

- Union Pacific Railroad has been reticent to consider the operation of additional passenger service.
- North State passenger rail service continues to be a low funding priority for the state.
- Safety concerns, especially where rail intersects with regional roadways, waterways, bridges and populated areas.
- The Interstate 5 corridor is at risk due to non-standard vertical and horizontal clearances at the Interstate 5 bridge just north of Deschutes Road in the city of Anderson.
- History of freight car derailments in recent decades threaten to shut down rail corridors and adjacent roadways, including a number of critical interregional routes.

Regional Transportation Policy and Action Plan



INTRODUCTION

The RTP is a technical analysis of mobility issues and potential solutions viewed through the lens of community values and priorities. The path forward is expressed as a regional vision with accompanying goals, objectives, and strategies.

- A vision defines an organization's purpose. It represents an aspirational, if not idealized, view of the future.
- Goals are broad statements that describe a desired product or end result toward which efforts are focused. They are coordinated so as to support and reinforce one another.
- Objectives are quantifiable, measurable outcomes in support of goals.
- Strategies represent a course of action. They include specific activities designed to accomplish stated objectives.

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.

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. Such considerations are integral to regional transportation planning, policy-making, and project programming and SRTA will be actively engaged with its partners in developing and carrying out joint strategies and initiatives that yield multiple community benefits. Planning and decision-making processes shall engage the public and be transparent and responsive to documented community values and priorities.

REGIONAL GOALS, OBJECTIVES, AND STRATEGIES

In order to accomplish the regional vision, the following seven goals have been identified, each having objectives and a range of implementation strategies. Strategies are identified as either **long-range (LR) strategies** (i.e. to be accomplished over time as a result of persistent, ongoing effort) or **short-range (SR) strategies** (i.e. to be accomplished or anticipated to achieve substantial performance benefits in less than five years).

GOAL #1: Optimize the use of existing interregional and regionally significant roadways to prolong functionality and maximize return-on-investment.

Objective 1.1 - **Proactively maintain** interregional and regionally significant roadways in a manner that balances cost and facility life-cycle.

Strategies

A. Collect and maintain data on transportation system condition and performance (long range).

B. Collaborate with state and federal partners to fund timely maintenance on the interregional network (long range).

C. Consider the full life-cycle cost of new and replacement infrastructure early in the planning process and evaluate project alternatives that could lessen future maintenance burdens (long range).

D. Integrate climate adaptation strategies early in the project planning and design phases in order to minimize future maintenance and repair costs (long range).

Objective 1.2 - Increase the **throughput of people and freight** on interregional and regionally significant roadways.

Strategies

A. Implement intelligent transportation systems (ITS) technologies to smooth traffic flow and inform travel decision making (long range).

B. Support cost-effective travel demand management strategies that reduce the number and distance of single-occupancy vehicle trips (short range).

C. Utilize roadway design and traffic operations management to facilitate traffic flow (long range).

Performance Measures

- Volume to capacity ratio on regionally significant corridors
- Travel mode share (percentage of trips by single occupancy vehicle, carpool, public transportation, bicycle, and walking)

GOAL #2:

Strategically increase capacity on interregional and regionally significant roadways to keep people and freight moving effectively and efficiently.

Objective 2.1 - Maximize funding available for transportation and mobility improvements in the region.

Strategies

A. Utilize the region's limited transportation funds to leverage additional state and federal investment (long range).

B. Work with regional partners (including the California Association of Councils of Governments and sixteen-county North State Super Region) to bring about consistent and sustainable transportation funding sources (long range).

C. Work with state and federal partners to secure funding for transportation projects, planning, and programs that address the impacts of non-local traffic (i.e. interregional and through-trips) (short range).

D. Position the region to compete for discretionary state and federal transportation funds by developing 'shovel-ready' projects (short range).

E. Utilize 'fair share' methodology for ascribing transportation infrastructure funding responsibility to appropriate transportation system users and beneficiaries (short range).

F. Explore potential local transportation revenue options (short range).

Objective 2.2 - Maintain adequate traffic capacity on the core interregional network

Strategies

A. Employ targeted capacity increasing projects to relieve traffic bottlenecks and improve travel time reliability (long range).

B. Facilitate freight consolidation and intermodal options to reduce travel demand on core interregional routes (short range).

C. Preserve roadway right-of-way needed for future roadway expansion (long range).

D. Consider transportation enhancements on arterial roadways that would relieve local travel demand on the core interregional network (long range).

Performance Measures

- Miles of roadway at Level of Service D, E, and F
- Average peak-period travel time and speed
- Average non-peak period travel time and speed

GOAL #3: Provide an integrated, context-appropriate range of **practical transportation choices.**

Objective 3.1 - Develop an integrated, context-appropriate range of **local transportation choices.**

Strategies

A. Incorporate accommodations for all applicable travel modes into the design of SRTA-funded projects (long range).

B. Improve connectivity between public transportation and bicycling and walking to reflect the complete door-to-door trip from origin to destination (short range).

C. Prioritize public transportation, bicycle, and pedestrian infrastructure and amenities within designated Strategic Growth Areas (SGAs), or those that provide connections to/from SGAs (short range).

D. Fill gaps between recreational trail corridors and integrate into the greater network of transportation facilities (short range).

E. Establish multi-modal level of service criteria for evaluating and prioritizing projects and services for funding (short range).

F. Prepare a regional plan of active transportation projects for funding.

Objective 3.2 - Develop an integrated, context-appropriate range of **interregional transportation choices.**

Strategies

A. Facilitate multi-modal connectivity and service schedule alignment between local and interregional modes, including passenger rail, air, and intercity bus transportation (short range).

B. Utilize limited funding for intercity public transportation services to reinforce private sector services where applicable (short range).

C. Coordinate with local and state partners toward the development of an integrated network of designated inter-community and inter-regional corridors for non-motorized travel (short range).

D. Support efforts to expand passenger air and rail services (short range).

Performance Measures

- Travel mode share (percentage of trips by single occupancy vehicle, carpool, public transportation, bicycle, and walking)
- Number of miles in non-motorized network
- Number of households and jobs within 1/2 mile of transit

GOAL #4: Create **vibrant, people-centered communities.**

Objective 4.1 - Support local governments in implementing the **Sustainable Communities Strategy.**

Strategies

A. Initiate and participate in joint efforts with local agency partners to implement the five 'D' factors known to reduce vehicle miles traveled and associated emissions (i.e. Density, Diversity of land use, Design of streets and development, Destination accessibility, and Distance to transit), with an emphasis on Strategic Growth Areas (short range).

B. Utilize financial incentives, technical assistance, policies, and/or other available tools to promote private sector involvement in transportation-efficient development practices, including infill and redevelopment projects, with an emphasis on Strategic Growth Areas (short range).

C. Avoid inducing growth and development where community services, public utilities, and transportation infrastructure capacity are inadequate to support it (long range).

D. Pursue grant funding for Sustainable Communities Strategy implementation activities (short range).

Objective 4.2 - Enhance **community health, safety, and well-being.**

Strategies

A. Support the development and use of active transportation choices (i.e. bicycling and walking, including connections to public transportation) (short range).

B. Identify and map the region's disadvantaged populations and utilize regional programs and investments to enhance mobility, destination accessibility, transportation affordability, and economic opportunity (short range).

C. Develop transportation safety data and analysis for all modes, incorporate findings into regional planning processes, and seek funding to resolve identified safety issues (long range).

Performance Measures

- CO2 emissions per capita from vehicles and light trucks
- Bicycle and pedestrian collisions

GOAL #5: Strengthen **regional economic competitiveness** for long-term prosperity.

Objective 5.1 - Facilitate **sustainable economic development** programs and projects.

Strategies

A. Incorporate local and regional economic development strategies into the regional transportation planning and project prioritization processes (long range).

B. Seek-out public-private partnerships that leverage resources to accomplish shared objectives (short range).

C. Support the infill and redevelopment of vacant and underutilized parcels in locations where transportation systems, community infrastructure, and community services are in place and adequate to accommodate additional demand (short range).

Objective 5.2 - **Resolve transportation-related barriers** to increased economic activity and productivity.

Strategies

A. Support the development of detailed, comprehensive, and up-to-date North State freight and goods movement data (long range).

B. Facilitate intermodal freight movement between truck, rail, and air modes (long range).

C. Identify the region's key industry inputs and outputs and support the transport thereof to minimize costs and expand market access (short range).

Performance Measures

- In development for 2018 RTP update

GOAL #6: Promote **public access, awareness, and action** in planning and decision-making processes.

Objective 6.1 - Utilize a broad range of public participation involvement strategies.

Strategies

A. Host public meetings at locations and times that are accessible and convenient to the general public (short range).

B. Develop and maintain a comprehensive agency website with interactive capabilities (short range).

C. Make use of maps, design renderings, and other visual communication methods as appropriate to make regional transportation issues more approachable and understandable (short range).

D. Maintain a searchable, online resource center for various regional plans, agendas, reports, data, and documents (short range).

Objective 6.2 - Provide meaningful opportunities for the public to participate in regional planning and decision-making.

Strategies

A. Publish and follow the agency's adopted Public Participation Plan to ensure transparency and clarity in regional transportation planning and influence decision making (short range).

B. Develop and maintain relationships with a broad range of community stakeholders and associations in order to facilitate public consultation and information exchange (short range).

C. Identify transportation disadvantaged populations and employ targeted efforts to encourage equitable representation of needs and alternatives (short range).

D. Maintain technical and community advisory committees (short range).

Performance Measures

- Refer to SRTA's most recently adopted Public Participation Plan (available at: http://www.srta.ca.gov/DocumentCenter/Home/View/1014)

GOAL #7: Practice and promote **environmental and natural resource stewardship.**

Objective 7.1 - Identify and minimize the direct and indirect adverse impacts of transportation on the environment, including but not limited to: climate change, air quality, healthy watersheds, and essential wildlife habitat.

Strategies

A. Partner with natural resource and land management entities to incorporate ecological data and environmental outcomes into regional transportation planning processes (short range).

B. Seek funding for environmental impact mitigation and enhancement activities (long range).

Objective 7.2 - Lead the development of resilient transportation systems and services in the face of increasing environmental change and societal shifts in mobility.

Strategies

A. Track data on environmental changes potentially affecting the region and conduct risk analyses on current and planned transportation system improvements (long range).

B. Evaluate the inherent flexibility of regional transportation systems and services in responding to shifts in travel behavior and travel mode choice (long range).

C. Develop and deliver flexible transportation systems and services able to adapt to changes in the environment, travel behavior, and travel mode choice (long range).

Potential Performance Measures

- Prime agricultural lands saved from conversion
- Environmentally sensitive lands saved from conversion
- Pounds C02 per year per capita (automobiles and light light trucks only)
- Environmentally sensitive lands saved from conversion

2015-2035 REGIONAL PERFORMANCE MEASURES

Performance measures are used to gauge the effectiveness of the regional program of projects, policies, and mobility strategies in meeting locally-defined goals and priorities. Inadequate performance measures lead to some priorities being neglected while excess performance measures burden the agency with unnecessary costs and effort. When considering performance measures, the following criteria are used:

- Is it required by federal or state law?
- Is it instrumental when competing for transportation planning and capital funds?
- Is it tied to RTP goals and objectives?
- Is data readily available (e.g. no additional cost to generate or acquire data) and routinely updated so that performance can be tracked over time?
- Is it analogous to that which is used by other regions and state departments (i.e. is it consistent with accepted methodology and data standards to allow for comparison)?

It should be noted that for many policy areas it is not practical to measure direct impacts. In such instances, indicator data are often effective at signaling larger patterns and environmental changes that affect or are affected by regional transportation planning, program, and investments.

In previous RTP cycles, performance measures included in the latest State Transportation Improvement Program (STIP) Guidelines were attached as defacto metrics for the region. These measures were most recently updated in 2013 and are shown in Table 14. Since the 2010 RTP, performance measures have been the focus of much attention, effort, and policy-making at the federal and state level.

In 2013 the Strategic Growth Council awarded funds to the San Diego Association of Governments (SANDAG) for the purpose of coordinating with California's 18 metropolitan planning organizations and various state agencies to develop a common set of standardized performance measures. Ten performance monitoring indicators were proposed for statewide use. Documentation of this effort and the indicators is available online at: http://www.dot.ca.gov/hq/tpp/offices/ocp/ATLC/documents/august_15_2013/document_links/indicator.pdf.

The prominence of performance measures has also been elevated in the most recent federal transportation bill (MAP 21). MAP-21 is now a performance- and outcome-based program that looks to invest resources in projects that best address a set of national goals. Performance measures selected for the 2015 RTP are tentative pending the final outcome of federal performance measure rulemakings. Results will be incorporated into the scheduled 2018 RTP update.

Table 14 - 2015 RTP and SCS Performance Measures

Performance Measures	2005	2013	2020 "Base"	2020 "Project"	2035 "Base"	2035 "Project"
Transportation System Utilization & Mode Share						
Average Daily VMT (Total)	5,606,121	5,701,977	6,171,441	6,166,473	7,390,629	7,374,997
Average Daily SB 375 VMT (all vehicles, minus through trips)	4,638,709	4,744,583	5,111,489	5,106,514	6,111,264	6,095,620
Average Daily VMT per capita (minus through trips)	26.81	26.85	26.88	26.85	28.51	28.44
Miles of roadway at LOS 'D', 'E', and 'F'	12.0	8.4	6.6	7.2	12.0	9.9
Daily Transit Boardings (modeled)	2,638	2,849	3,069	3,936	3,354	6,452
# of miles of bikeways (by class)						
Class I	n/a	60.5	60.5	62.3	60.5	64.1
Class II	n/a	83.5	83.5	96.8	83.5	209.3
Percentage of trips by mode (Daily)						
Drive alone (% of trips)	47.8%	47.6%	46.4%	46.1%	46.1%	46.1%
Shared ride (2 persons) (% of trips)	26.1%	26.2%	26.4%	26.6%	26.7%	26.4%
Shared ride (3+ persons) (% trips)	17.0%	17.8%	17.9%	17.8%	18.2%	18.2%
School Bus (% trips)	1.7%	1.8%	1.9%	1.8%	1.8%	1.8%
Transit (% of trips)	0.3%	0.4%	0.3%	0.4%	0.3%	0.6%
Bike (% of trips)	1.3%	1.3%	1.3%	1.3%	1.3%	1.2%
Walk (% of trips)	5.8%	5.9%	5.8%	5.9%	5.6%	5.6%
Mobility/Accessibility						
Number of Households within 1/2 mile of transit	40,254	41,129	44,564	44,644	47,833	48,340
Number of Jobs within 1/2 mile of transit	49,097	54,238	61,711	61,780	68,072	68,753
Average commute time (minutes) by workers	18.3	18.2	17.3	17.5	17.6	17.4
Average trip duration (minutes) by mode						
Drive Alone	10.5	10.4	9.8	9.9	9.9	9.8
Shared Ride 2	7.9	7.9	7.8	7.8	7.8	7.8
Shared Ride 3+	7.9	7.9	8.2	8.1	8.1	8.1
School Bus	35.2	35.7	43.4	41.9	40.7	41.2
Transit	41.9	41.9	42.6	40.2	44.7	35.5
Bike	12.0	12.3	12.5	12.5	12.8	12.5
Walk	13.5	13.7	13.6	13.7	14.3	14.6
All Modes	**10.1**	**10.1**	**10.0**	**10.0**	**10.0**	**10.0**

Performance Measures	2005	2013	2020 "Base"	2020 "Project"	2035 "Base"	2035 "Project"
Safety						
Number of fatalities	38	n/a	n/a	n/a	n/a	n/a
Number of injuries	1,880	n/a	n/a	n/a	n/a	n/a
Number of bicycle and pedestrian collisions	97	n/a	n/a	n/a	n/a	n/a
Environment						
Pounds CO2/year/capita - Passenger Vehicles Only (SB 375)[1]	7,394	7,107	7,044	7,032	7,379	7,361
GHG Reductions (SB 375) per capita[1]	**0%**	n/a	-4.7%	**-4.9%**	-0.2%	**-0.5%**
Prime agricultural lands saved from conversion (acres)	n/a	n/a	-	n/a	n/a	87
Environmentally sensitive lands saved from conversion (acres)	n/a	n/a	1,779	n/a	n/a	6,541

Table 15 - 2013 State Transportation Improvement Program (STIP) Performance Measures

California Transportation Commission
STIP Guidelines **August 6, 2013**

Performance Indicators and Measures						
Indicator	**Relation to STIP Sec 19 Performance Criteria**	**Performance Measures**			**Current System Performance (Baseline)**	**Projected Impact of Projects**
		Mode	**Level***	**Measures**		
Safety	2	Roadway	Region	Fatalities per Vehicle Miles Traveled (VMT) and per capita		
	2			Fatal Collisions per VMT and per capita		
	2			Injury Collisions per VMT and per capita		
	2	Transit	Mode	Fatalities / Passenger Miles		
Mobility	1	Roadway	Region	Passenger Hours of Delay / Year		
	1			Average Peak Period Travel Time		
	1			Average Non-Peak Period Travel Time		
Accessibility	4 (also 1,3,6,7)	Transit	Region	Percentage of population within 1/2 mile of a rail station or bus route.		
		All	Region	Average travel time to jobs or school.		
Reliability	1	Roadway	Corridor	Travel Time Variability (buffer index)		
	1	Roadway	Corridor	Daily vehicle hours of delay per capita		
	1	Roadway	Corridor	Daily congested highway VMT per capita		
	5	Transit	Mode	Percentage of vehicles that arrive at their scheduled destination no more than 5 minutes late.		
Productivity (Throughput)	7	Roadway - Vehicles	Corridor	Average Peak Period Vehicle Trips		
	7			Average Daily Vehicle Trips (ADT)		
	6,7,8			Daily VMT per capita		
	7	Roadway - People	Corridor	Average Peak Period Vehicle Trips Multiplied by the Occupancy Rate		
	7			Average Daily Vehicle Trips Multiplied by the Occupancy Rate		
	7	Trucks	Corridor	Percentage of ADT that are (5+ axle) Trucks		
	7			Average Daily Vehicle Trips that are (5+ axle) Trucks		
	7	Transit	Mode	Passengers per Vehicle Revenue Hour		
	7			Passengers per Vehicle Revenue Mile		
	7			Passenger Mile per Train Mile (Intercity Rail)		
	7			Boardings per capita		
System Preservation	3	Roadway	Region	Total number of Distressed Lane Miles		
	3			Percentage of Distressed Lane Miles		
	3			Percentage of Roadway at Given IRI Levels		
	3			Percentage of highway bridges in need of repair (by number of bridges and by deck area)		
Environmental Impact	6	All	Region	Carbon dioxide emissions per capita		
				Criteria pollutant emissions per capita		
Return on Investment/ Lifecycle Cost	1-7	All	Corridor	Percentage rate of return		
*Level:						
Corridor - Routes or route segments that are identified by regions and Caltrans as being significant to the transportation system.						
Region - Region or county commission that is responsible for RTIP submittal.						
Mode - One of the following transit types (light rail, heavy rail, commuter rail, trolley bus, and all forms of bus transit).						

Note: New STIP performance measures have been proposed and circulated for comments. New measures would not take effect until October 2015.

Table 16 - Draft MAP-21 Performance Measures

Measures	Proposed Methodology	Targets
1. Serious injuries per Vehicle Miles Traveled (VMT)	# of injuries per 100 Million VMT	Targets to be developed by State Department of Transportation (Caltrans) in 2016 (tentative).
2. Number of serious injuries	Rolling average of last 5 years	
3. Fatalities per VMT	# of fatalities per 100 Million VMT	
4. Number of fatalities	Rolling average of last 5 years	
5. Pavement condition on the Interstate System	Based on a proposed rating of "% of pavement rated as "good" or "poor" per FHWA threholds for IRI, cracking, and rutting."	
6. Pavement condition on the non-Interstate NHS		
7. Bridge condition on the NHS	Based on a proposed rating of "% of bridge rated as "good" or "poor" per FHWA threholds of NBI rating for deck, superstructure and substructure."	
8. Traffic congestion	Draft methodologies by FHWA have not been released yet for comment.	
9. On-road mobile sources emissions		
10. Freight movement on the Interstate system		
11. Performance of the Interstate system		
12. Performance of the non-Interstate NHS		

Note: The proposed methodology for each Map-21 performance measure has not been finalized. The final measures and methodology will not be official until the Federal Highway Administration and Federal Transit Administration post Notices of Final Rulemakings (tentatively late 2015/early 2016).

Sustainable Communities Strategy



LEGISLATIVE BACKGROUND

Senate Bill 375 aims to reduce vehicle miles traveled and associated GHG emissions through the alignment of transportation and land use planning. Transportation-efficient land use patterns is one of several essential policy focus areas needed to achieve the state's climate action goals established by the California Global Warming Solutions Act of 2006 (AB 32).

Under SB 375, the California Air Resources Board (ARB) is responsible for setting regional targets for the reduction of per capita carbon dioxide (CO2) emissions associated with passenger vehicles and light-duty trucks. All regions share the same starting point or baseline year (2005) and all regional targets are based the same planning years (2020 and 2035).

The state's 18 metropolitan planning organization (MPO) regions are charged with developing a Sustainable Communities Strategy (SCS) illustrating how the region intends to achieve their respective target. It sets forth a future development pattern in coordination with transportation policies, programs, and investment strategies. Should the region's SCS fail to meet its reduction target, an Alternative Planning Strategy (APS) is prepared in its place, illustrating what measures the region would take if additional funding and other tools or measures were available.

REGIONAL TARGET SETTING

For target setting purposes, MPOs were split into three categories based on size of the region, technical capabilities, and population growth rate. These categories are the big-four metropolitan regions (Southern California, San Francisco Bay Area, San Diego, and Sacramento); the eight San Joaquin Valley regions; and the six smaller MPO regions including Shasta County.

In considering what is ambitious and achievable for individual regions, larger regions were generally found to have higher population growth rates and greater technical capacity and resources to implement vehicle miles traveled reduction strategies. Conversely, smaller MPO region have markedly slower growth rates, less resources, and far fewer practical strategies for affecting near-term travel behavior and mode choice.

In February 2011, MPO regions received targets for the reduction of per capita CO2 emissions from passenger vehicles and light trucks. Whereas regions had yet to complete their first SCS, initial targets were largely based on recommendations from each region's governing board. For the year 2020, targets ranged from an 8% reduction to 1% increase. For the year 2035, targets ranged from a 16% reduction to a 1% increase. Shasta County's initial target is a 0% change for both the year 2020 and 2035. Under SB 375, ARB is charged with periodically reviewing and updating regional targets in consultation with regions and based on the best available information. As such, one or both of Shasta County's targets may at some point be revised.

REGIONAL BLUEPRINT PLANNING

Development of the SCS for the Shasta County region began with the Shasta*FORWARD*>> Regional Blueprint, a three-year regional visioning effort completed in 2010. Shasta*FORWARD*>> included a comprehensive assessment of community values and priorities (Figure 14).

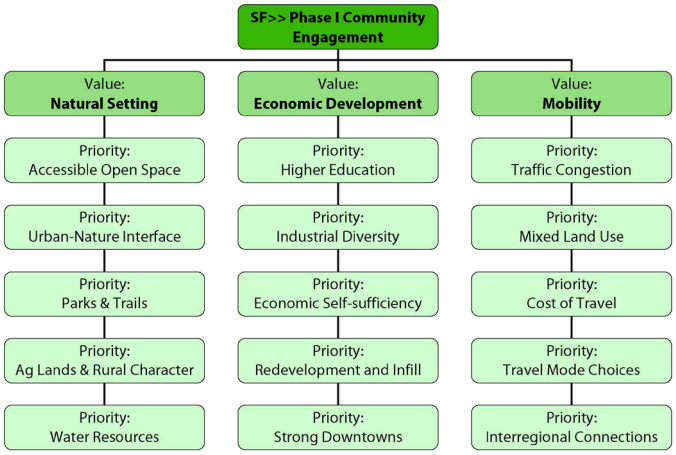


Figure 21 - Shasta*FORWARD*>> Values & Priorities

From documented community values and priorities and community workshops grew three regional growth and development scenarios, namely:

- **Scenario A:** Rural & Peripheral Growth;
- **Scenario B:** Urban Core & Corridors; and
- **Scenario C:** Distinct Cities & Towns.

The three scenarios were tested using the 'UPlan' urban growth model. UPlan geographically allocates forecast growth and associated development throughout the region based on numerically weighted growth 'attractors' (such as transportation accessibility, infrastructure capacity, and enterprise zones); growth 'discouragers' (such as flood zones, severe topography, and environmentally sensitive lands); and growth 'masks' (such as bodies of water). Land is developed within the model in order of highest attraction value, until all growth has been accommodated within the region.

GIS-based performance measures, travel demand modeling, and vehicle emissions modeling were used to evaluate the impact of each scenario in the following areas:

- Land Developed Ratio – i.e. among those lands in combined general plans designated for development, the percentage of which is needed to accommodate new growth.
- Environmentally Sensitive Lands Impacted – i.e. areas of environmentally sensitive land over which development may occur.
- Air Quality – i.e. Smog forming gases and particulate emissions from cars and trucks.
- Fuel Consumption – i.e. gas and diesel fuel used in Shasta County (intra-regional trips only)
- Greenhouse Gas Emissions – i.e. CO2 emissions from on-road vehicles (passenger cars and light-duty trucks).
- Infrastructure Costs for New Development – i.e. cost of streets, water, sewer, and utilities infrastructure. Walkability/Transportation Choices – i.e. percent of households within ¼ mile of shopping and transit service.
- Average Commute Time – i.e. average per capita drive time from home to employment.
- Vehicle Miles Traveled – i.e. daily VMT per household (based on 2.43 persons per household).
- Prime Agricultural Land Impacted – i.e. lands having prime soil for agriculture over which development may occur.
- Water Consumption – i.e. based on primary land-use related consumption categories.

Following an extensive public engagement effort, during which approximately one in seventy adult residents in Shasta County participated, near-equal

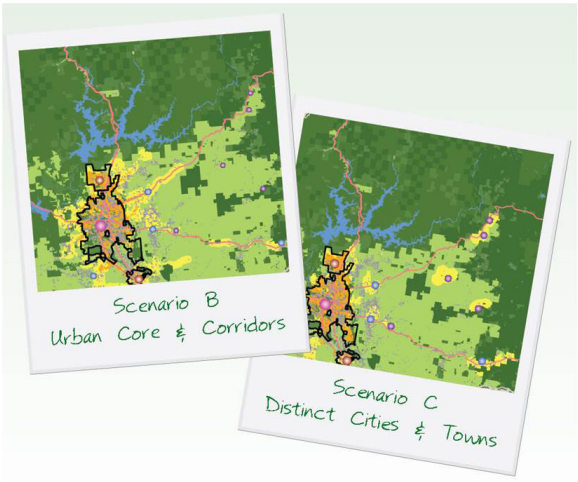


Figure 22 - Shasta*FORWARD*>> Scenarios B and C

preference was expressed for Scenario B (Urban Core & Corridor) and Scenario C (Distinct Cities & Towns) as shown in Figure 15. Viewed together, these two scenarios captured nearly 90% of the community's votes. The final report recommended that a melding of Scenario B and Scenario C be used to inform implementation efforts.

The completion of the ShastaFORWARD>> Regional Blueprint in March of 2010 aligned with the arrival of Sustainable Communities Strategy (SCS) planning requirements under SB 375. It was determined that the preferred regional growth vision and associated public input from the ShastaFORWARD>> Regional Blueprint would serve well as the building blocks for development of the SCS.

SCS DEVELOPMENT

At the core of every SCS produced by California's eighteen metropolitan planning regions is the principle of location efficiency. Households located in communities with highly dispersed and segregated land uses are more dependent on the automobile to meet day-to-day needs. Households in communities that are more compact and connected are able to meet the same needs with fewer trips and fewer miles traveled. Individuals are also more likely to choose alternative travel modes, including public transportation, bicycling, and walking.

In addition to mobility benefits, location-efficient communities enable households to better manage their transportation costs, which typically represent the second-highest expense after housing. Since the urban footprint is smaller, the impacts of growth and development on lands essential for agriculture, grazing, natural resource production, wildlife habitat, healthy ecosystems, and outdoor recreation are likewise minimized. Location-efficient neighborhoods also support a more active lifestyle, which strongly correlates to health and well-being.

The key variables known to effectively reduce vehicle miles traveled have been extensive researched and verified through observed data. These variables, summarized in Figure 16, are commonly known as the five 'D' factors.

In Shasta County, achieving the necessary combination and critical mass of 'D' factors is a challenge given the region's dispersed development patterns, segregation of land uses, limited access to practical travel alternatives, and slow growth rate. Furthermore, no single 'D' factor by itself will yield reduction in automobile dependency; rather, it is the combination of factors and the degree to which they are present in a given area.

The Five 'D' Factors
Affecting Automobile Dependency & Travel Mode Choice

Density – *Number of persons, jobs, and dwellings*

Diversity – *Balance of residential, retail, office, and other land uses*

Design – *Street network and non-motorized travel accommodations*

Destination Accessibility – *Number of jobs and other attractions accessible via any travel mode*

Distance to Transit – *Proximity of high quality public service to home and work*

Figure 23 - Description of the Five 'D' Factors

Applying the 'D' factors a little here and a little there over a predominately rural region such as Shasta County would provide marginal return-on-investment. Layering many strategies within geographically small areas should, in theory, yield measurable transportation efficiencies while at the same time reinforcing local planning and economic development objectives. In the context of Shasta County, it is recognized that some the 'D' factors will be more appropriate and effective than others. Consultation and coordination with local agencies is essential in selecting the right mix and intensity of activities.

The most likely candidate locations for application of the five 'D' factors are existing urban centers and corridors – locations where some measure of the 'D' factors is already present; where the necessary infrastructure is largely in place; and where existing local plans permit an appropriate range and intensity of land uses. Such locations are also where the community is more receptive to change.

To this end, SRTA worked alongside local agencies to identify small geographic areas known as 'Strategic Growth Areas' (SGAs). Within SGAs, it is intended that regional and local policies, programs, and investments be jointly focused and private sector investments be leveraged to achieve measurable short-term progress – if not cumulatively across the region, at least within designated focus areas.

Strategic Growth Areas for the three incorporated cities were developed in the following manner:

STEP 1: IDENTIFY PROSPECTIVE STRATEGIC GROWTH AREAS (SGAs)

SRTA utilized the following geographic information systems (GIS) spatial analysis tools to highlight prospective Strategic Growth Areas:

- Mobility Assessment Tool – A spatial measure of multi-modal connectivity between trip origins and destinations.
- Neighborhood Dynamic Scale – A spatial measure of economic activity (based on new business permits) and diversity of land uses.

These analyses, in combination with locally-identified factors and considerations, served to highlight a range of candidate SGA locations within each jurisdiction for further testing and consideration.

STEP 2: MEASURE THE ELASTICITY OF VMT AS A VARIABLE OF DENSITY WITHIN THE THREE CITIES STRATEGIC GROWTH AREAS

Once prospective SGAs had been identified, SRTA tested the elasticity of vehicle miles traveled as a variable of increased density therein. Based on total growth and development forecast figures for each respective jurisdiction, increments of residential, commercial, and office land uses were theoretically loaded within each SGA and the affects tested via ShastaSIM, the agency's activity-based travel demand model. Three specific travel model runs were performed for the years 2020 and 2035:

- 25% of all future growth assumed within the jurisdiction occurs within SGAs;
- 50% of all future growth assumed within the jurisdiction occurs within SGAs; and
- 100% of all future growth assumed within the jurisdiction occurs within SGAs.

These model runs should not be viewed as scenarios, but rather a simple means of testing the relationship between population density and vehicle miles traveled, and highlighting those SGAs with a greater inherent propensity for reducing transportation sector greenhouse gas emissions. As a result of this analysis, the field of SGAs within incorporated city limits was reduced from eight SGAs to four SGAs.

STEP 3: IDENTIFY POPULATION AND DEVELOPMENT LIMITATIONS IN SGAS WITHIN THE THREE CITIES

Anticipated population and development capture rates (i.e. the portion of future growth that is expected to occur within identified SGAs) must take into consideration practical limiting factors. The following analyses provide a method and justifiable basis for estimating reasonable growth assumptions for each SGA:

- Land availability – i.e. the number and land use zoning constraints of vacant and underutilized parcels suitable for infill or redevelopment. Analysis is based on the ratio of assessed structure value over land value, and ground-truthed by local agency planning staff;
- Infrastructure capacity – i.e. available water and wastewater capacity (analysis initially limited to City of Redding SGAs);
- Transportation capacity – i.e. available transportation network capacity while maintaining acceptable peak hour vehicle level of service; and
- Market demand – i.e. number of new housing units by type (e.g. mixed use, multi-family, semi-detached, etc.) and square footage of non-residential building space (e.g., retail, office, etc.) that the market will demand over the planning horizon.

STEP 4: ADD UNINCORPORATED SHASTA COUNTY SGAs

A simplified version of the above steps was applied in unincorporated Shasta County, wherein wildfire risk and emergency response time were used as a proxy to screen for transportation efficiency and suitability for future growth and development. Based on this analysis and consultation with the Shasta County Planning Department, an additional four community centers were selected as SGAs and reasonable growth and development assumptions were assigned to each.

STEP 5: PERFORM TRAVEL DEMAND AND EMISSIONS MODELING FOR SCS

Inputs and assumptions for individual SGAs were modeled. One of the city SGAs was eliminated because per capita vehicle miles traveled fell above the regional average. A combined region-wide travel forecast was then modeled that included the final seven SGAs (one in each of the three cities plus four in unincorporated areas). Air-quality model post-processing (EMFAC2011) was used to calculate regional vehicle emissions for 2020 and 2035. Where the impact of individual strategies could not be calculated with the ShastaSIM travel demand model, well-documented and widely-accepted research was relied upon and referenced in the technical methodology portion of this RTP.

STEP 6 : ADJUST SGA BOUNDARIES AND INCREASE ASSUMPTIONS TO MEET REGIONAL TARGETS.

Where the SCS failed to reduce per capita greenhouse gas emissions sufficient to meet the region's targets, more aggressive scenarios were modeled. The Downtown Redding SGA was substantially enlarged to include additional vacant and underutilized parcels needed to reasonably accommodate higher growth assumptions. The new growth assumptions were reevaluated and determined to be ambitious but reasonably achievable if accompanied by coordinated local and regional policies, programs, incentives, and investment strategies.

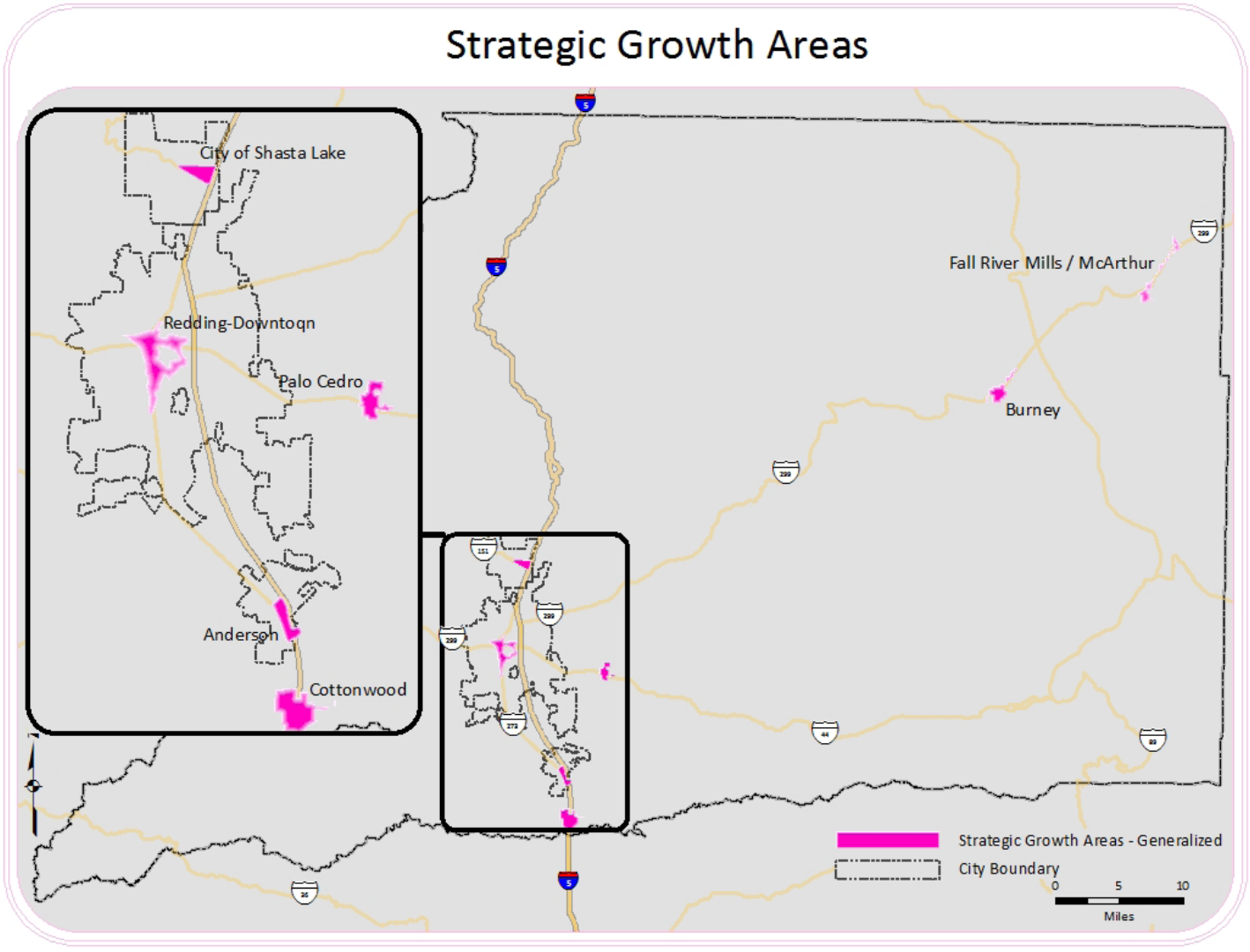


Figure 24 - Strategic Growth Areas (SGAs)

SCS INPUTS AND ASSUMPTIONS

As a result of the SCS development process, seven Strategic Growth Areas (SGAs) were ultimately included in the final SCS. As illustrated in Figure 17, these include urban core areas located in the cities of Shasta Lake, Redding, and Anderson plus four town centers located in unincorporated Shasta County (Cottonwood, Palo Cedro, Burney, and Fall River Mills/McArthur).

FACTORS AFFECTING VEHICLE MILES TRAVELED

Factors included in the SCS and utilized in travel demand and emissions modeling are described in the following pages and expounded upon via Appendix 2: SCS Technical Methodology. They are:

FACTOR #1: Population and employment shift to Strategic Growth Areas

FACTOR #2: Increased residential densities in Strategic Growth Areas

FACTOR #3: Increased automobile operation costs

FACTOR #4: Increased public transportation service frequency

FACTOR #5: Accelerated delivery of active transportation investments in Strategic Growth Areas

Viewed collectively, this package-set of factors and accompanying assumptions and inputs represent one potential future for the region. Actual observed data and performance outcomes will vary from this scenario; however, all assumptions and inputs used in the SCS are considered realistic and achievable if supported by coordinated local and regional polices, programs, and targeted public investments.

Many such activities are already occurring. The city of Redding, for example, has no limitations on residential density, commercial density, and building height in the downtown core. Transportation impact fees in downtown core have also been reduced in recognition of the mobility benefits associated with density, proximity to employment, and access to alternative modes. At the regional level, SRTA is making pre-development technical assistance grants available to developers and local agencies toward infill and redevelopment projects located in SGAs. Funding for a bicycle and pedestrian trail linking the Downtown Redding SGA to the nearby Sacramento River Trail corridor has also been committed. Caltrans, in partnership with the city of Redding, recently re-striped several streets in Downtown Redding from three vehicle lanes to two in order to add a new buffered bicycle lane.

As a result of these type of geographically focused and coordinated efforts applied over time, the region's Strategic Growth Areas will increase in population and the previously described 'D' factors will be more fully realized. The average number and distance of daily vehicle trips will decrease within SGAs and region-wide per capita greenhouse gas emissions will be able to meet the region's given targets.



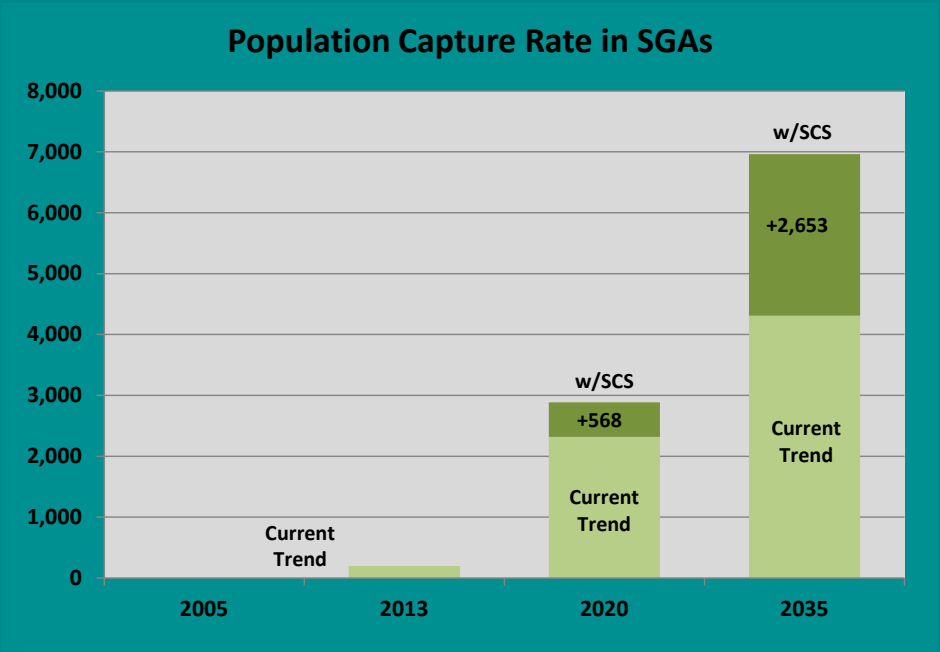


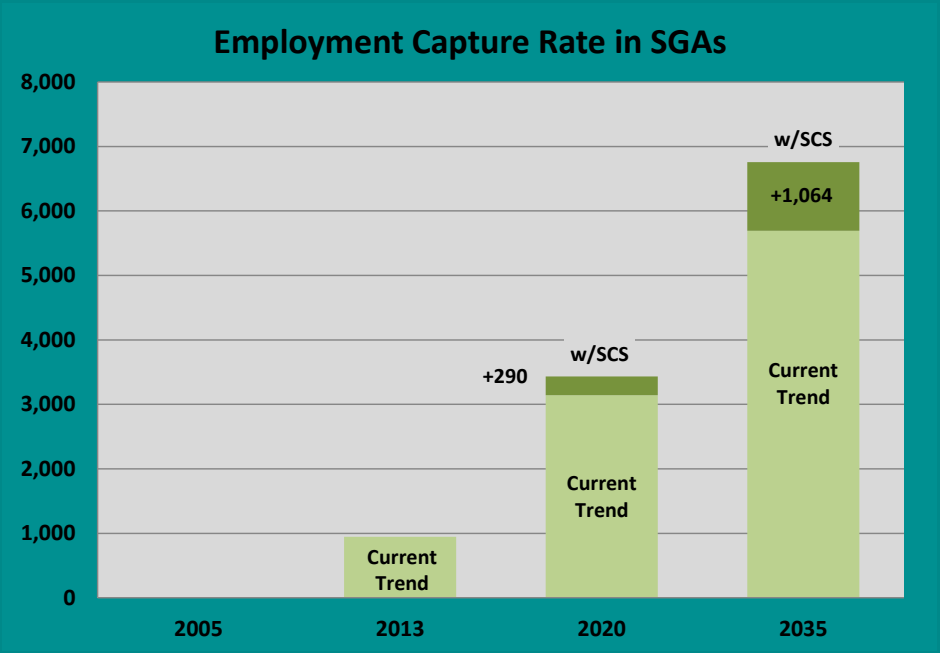


Factor #1 - Population and Employment Shift to SGAs

To determine what portion of future population growth might reasonably occur within designated SGAs, SRTA's activity-based travel demand model (ShastaSIM) was utilized to forecast regional growth and development patterns. Land available, infrastructure capacity, transportation system capacity, and real estate market trends were also evaluated and considered.

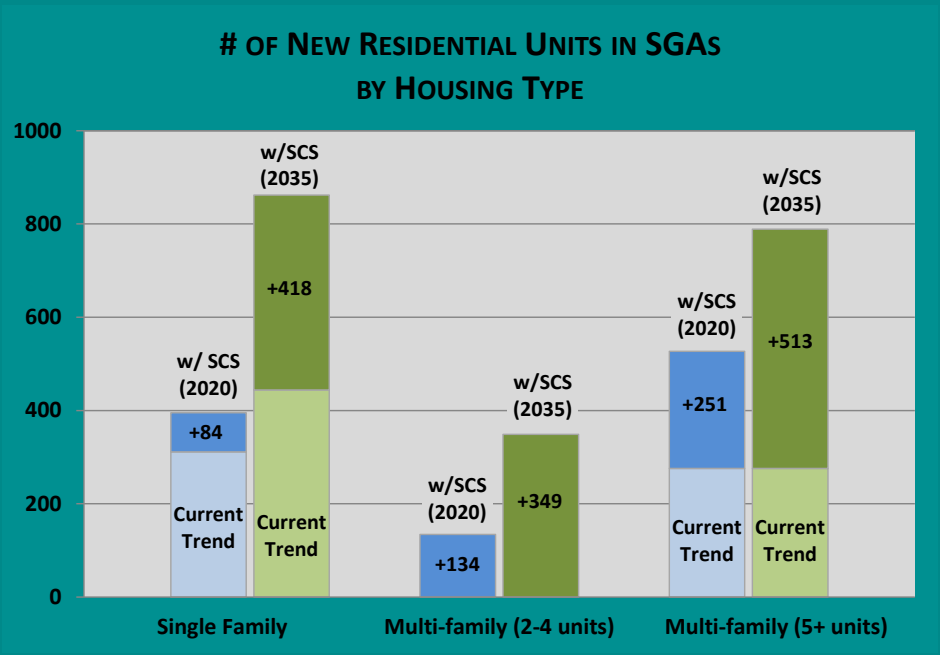
As a result of coordinated local and regional policies, programs, incentives, and target transportation infrastructure investments, forecast growth and development within SGAs was assumed to occur at a somewhat higher rate (+6-10%) than the current trend. Employment was assumed to be attracted to SGAs at a rate similar to residential development, with a context-appropriate assignment of employment type (e.g. office, industrial, retail, food, service, medical, government, and so forth).





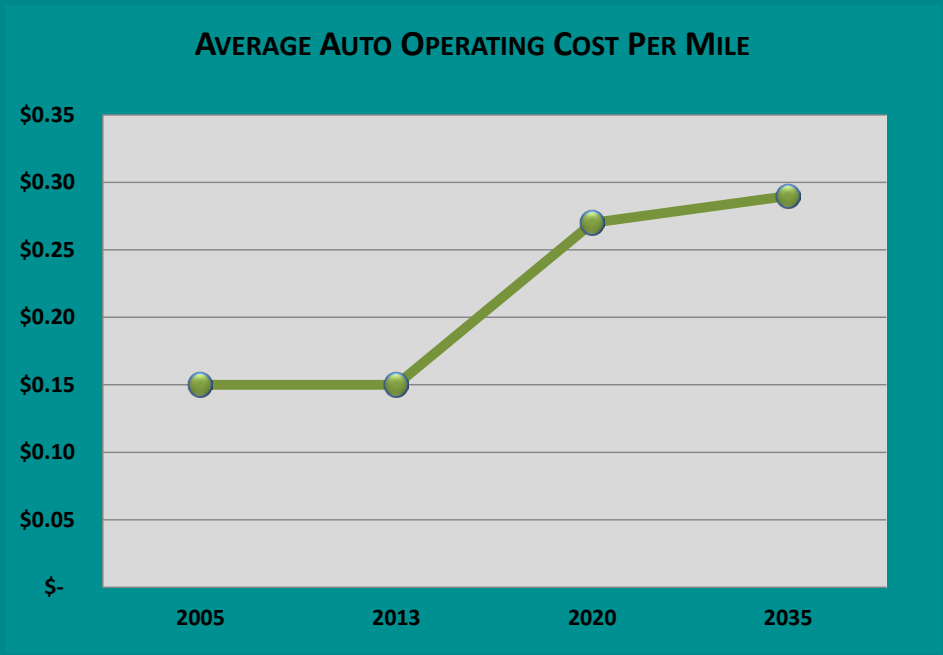
Factor #2 - Increased Residential Densities in SGAs

Based on technical analysis of regional demographics, real estate market trends†, and consultation with local agency planning departments, assumptions were drawn regarding the number of residential single family, multi-family 2-4 unit, and multi-family 5+ unit dwellings.



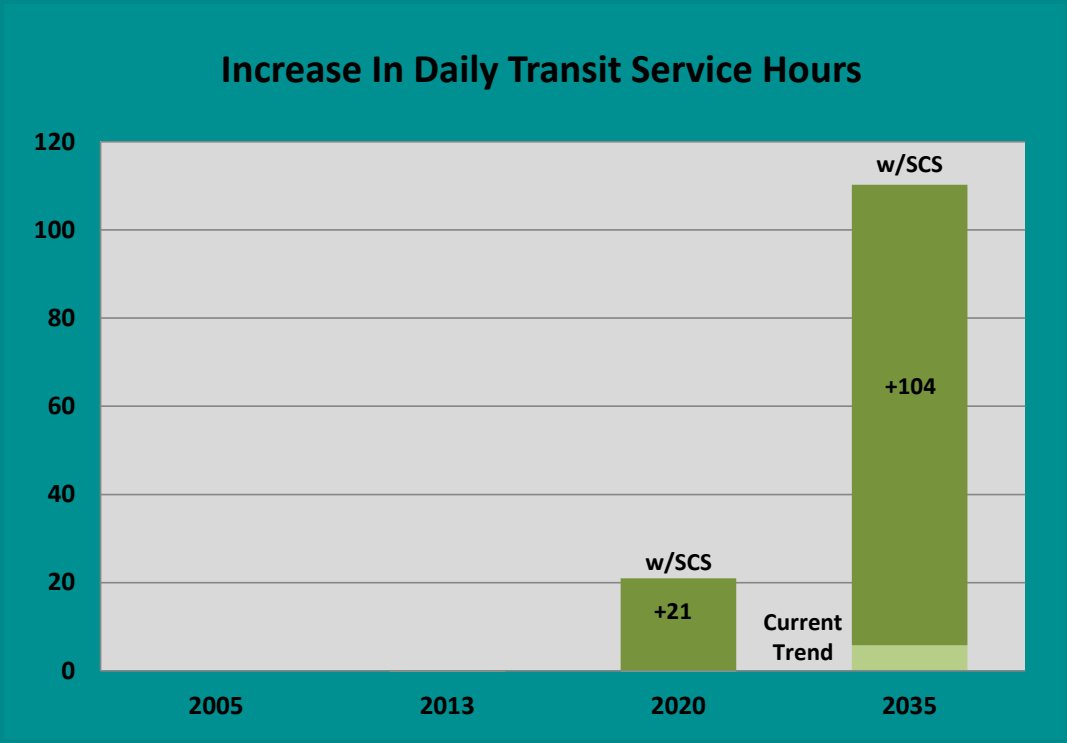
Factor #3 - Increased Automobile Operating Costs

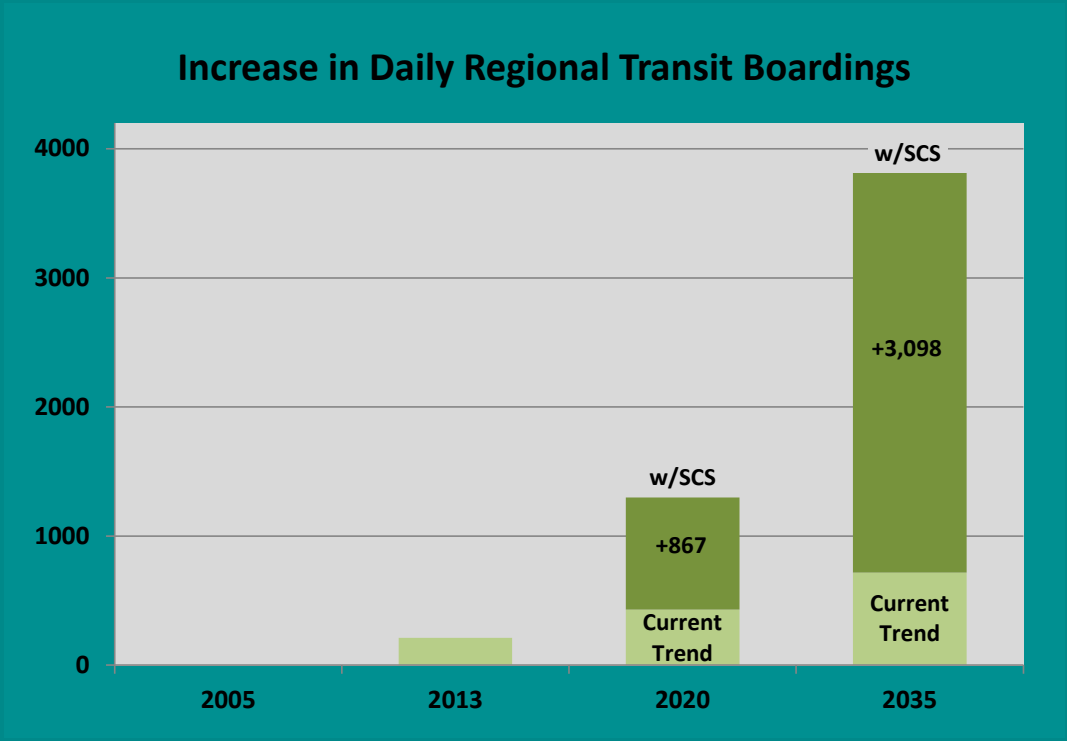
Auto operating costs ramp up from $0.15/mile to $0.29 by 2035.



Factor #4 - Increased public transportation service

Public transportation frequency was increased on select routes by 2020 and more extensively by 2035. Service frequency was assumed to be greater during peak travel times, from 60-minute headways to 30-minute or less headways on most routes. New service to Cottonwood is also assumed.





Factor #5 - Accelerated delivery of active transportation investment in SGAs

As a result of the aggressive pursuit of active transportation funding, it is assumed that the region's non-motorized infrastructure projects will be delivered earlier, and those projects located in transportaton-efficient Strategic Growth Areas will be prioritized.

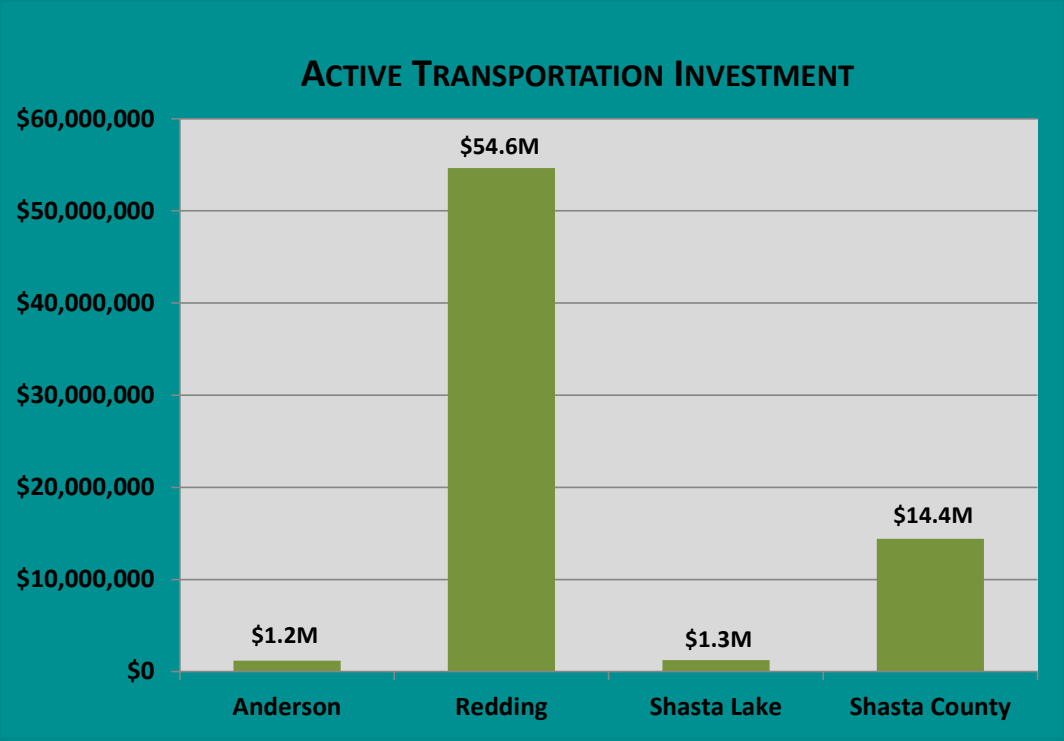




Figure 25 - Bicyclists on Pine Street in Downtown Redding

RESULTS OF THE 2015 SCS

The 2015 RTP SCS achieves per capita greenhouse gas emissions from passenger vehicles and light trucks in accordance with regional targets assigned by the California Air Resources Board (ARB) for the year 2020 and 2035.

The general location of land uses, residential densities, and building intensities under the region's SCS includes areas sufficient to house all forecast population through the year 2035, taking into account all economic segments of the population, net migration into the region, population growth, household formation, and employment growth.

Table 17 - SCS Daily GHG Emissions per Capita

Year	SB 375 Emissions/ Capita[1]	Change in Emissions from 2005
2005 Baseline	21.3 lbs	-
2020	20.3 lbs	-4.9%
2035	21.2 lbs	-0.5%

[1]Results from ShastaSIM travel model. SB 375 emissions are calculated in 'lbs/CO2/capita.'

POTENTIAL STRATEGIES FOR FURTHER REDUCING GREENHOUSE GAS EMISSIONS

Looking toward the future, beyond the first SCS planning cycle, several additional strategies have been identified to further reduce emissions if additional planning and implementation funds are made available to SRTA, local agencies, and private sector partners.

The following strategies, if implemented, are believed to offer the highest greenhouse gas emission reduction benefit per dollar investment. And, as a result of accompanying economic, public health, and environmental benefits, the following strategies have garnered the general support of the community and local agencies. In addition the above strategies, the Draft Shasta County Climate Action Plan provides a range of greenhouse gas emission reduction strategies and anticipated reductions that may be implemented by local government.

- **Expanded plug-in electric vehicle charging infrastructure**, including fast charging stations needed to accelerate the market penetration of zero-emission electric vehicles.
- **Expansion of interregional public transportation options,** with a focus on replacing long-distance interregional vehicle trips to airports and other large-urban destination.
- **Consolidated goods and freight hub,** including capital infrastructure investments needed to support the aggregation, wholesale, and distribution of agricultural commodities, natural resources, and other key industries in Shasta County and the North State.
- **Expanded bicycle and pedestrian infrastructure,** including the completion of network gaps, enhanced integration with public transportation, and connections between regional trail corridors and the roadway network.
- **Incentives for infill and redevelopment projects,** needed to spur location-efficient development patterns.
- **Technology-based strategies,** including intelligent transportation systems (ITS) applications designed to enhance traffic operations and provide real-time travel information to system users.

Figure 26 - Regional Transportation Projects Completed by Year 2035

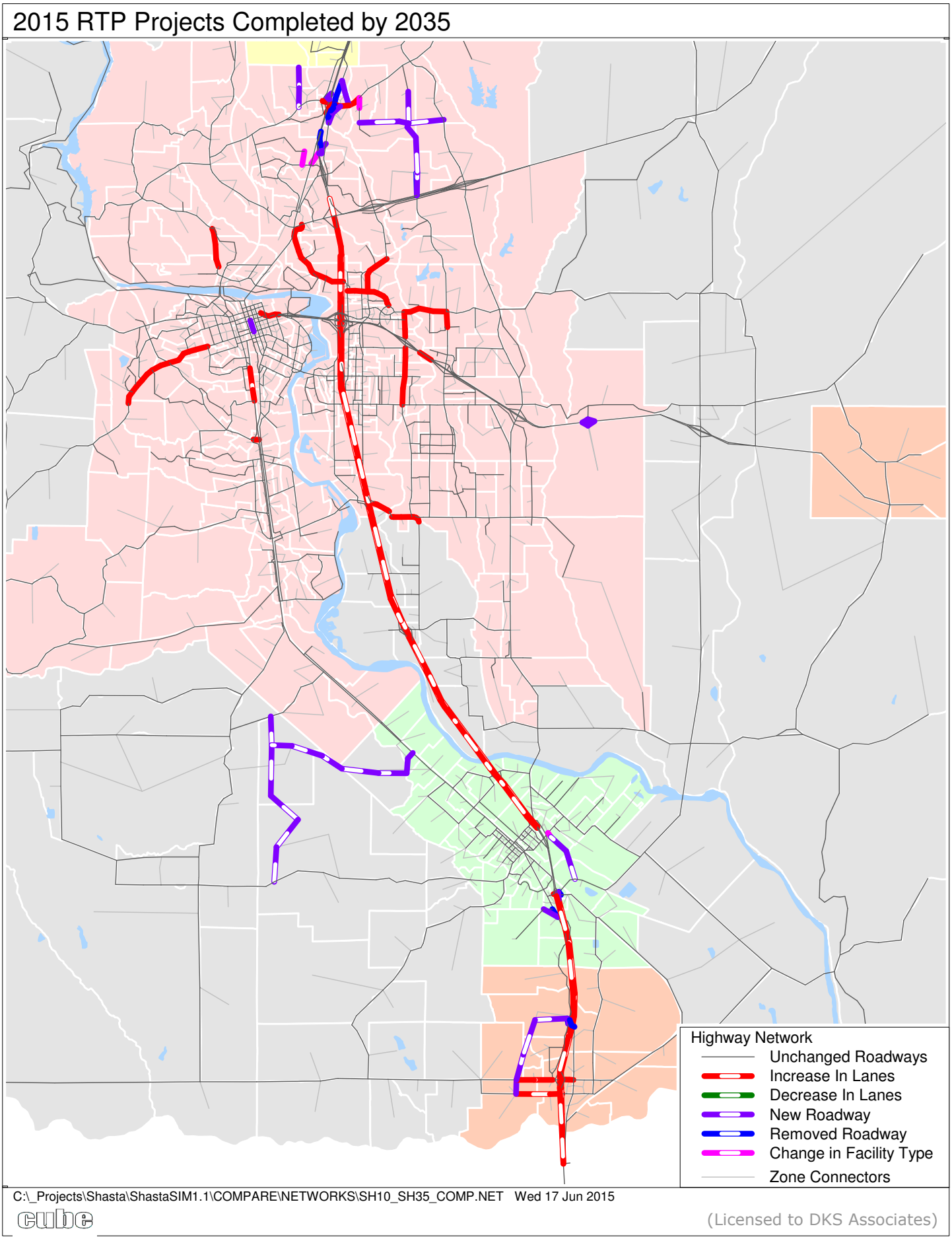


Figure 27 - Forecast Residential Land Use Growth by Year 2035

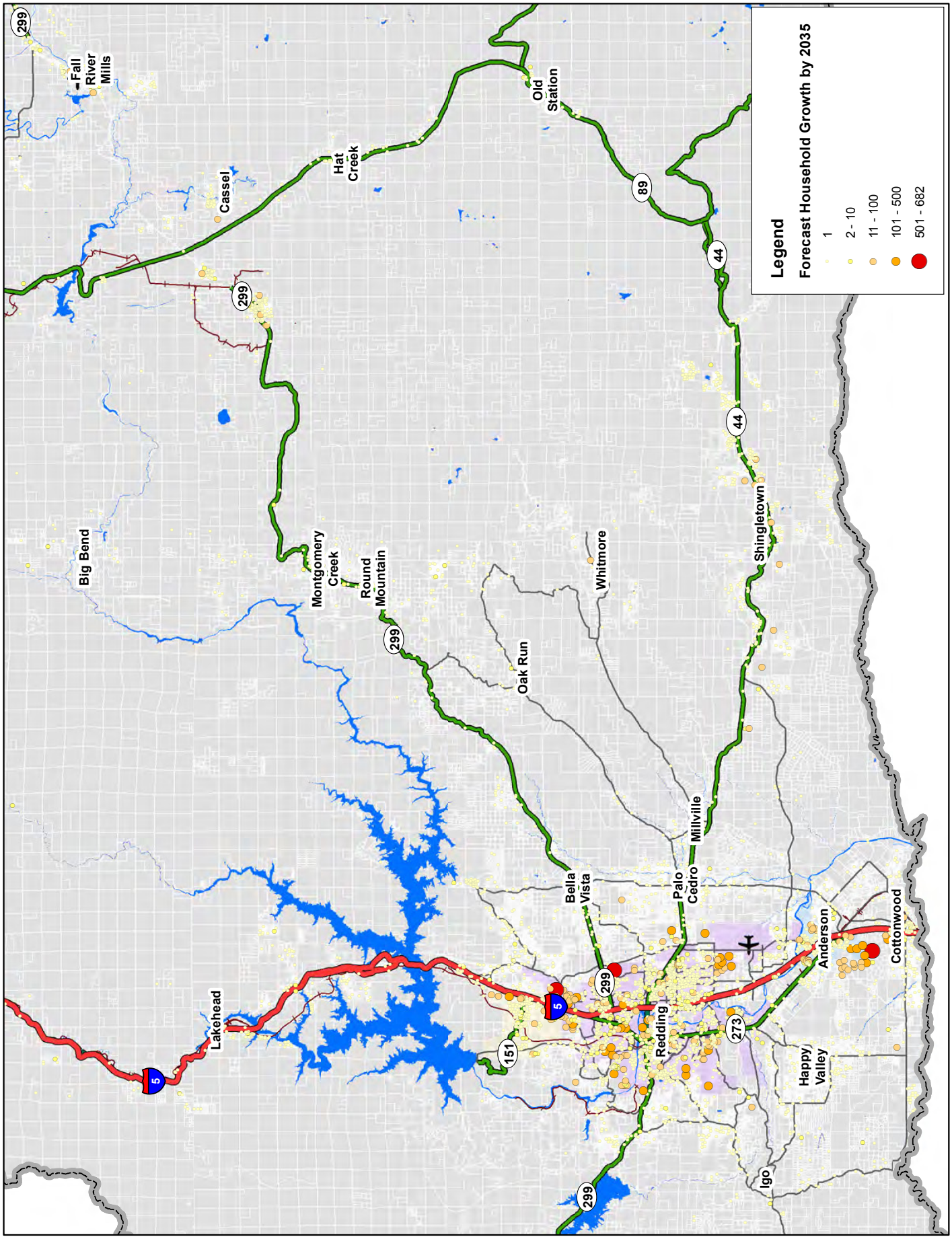
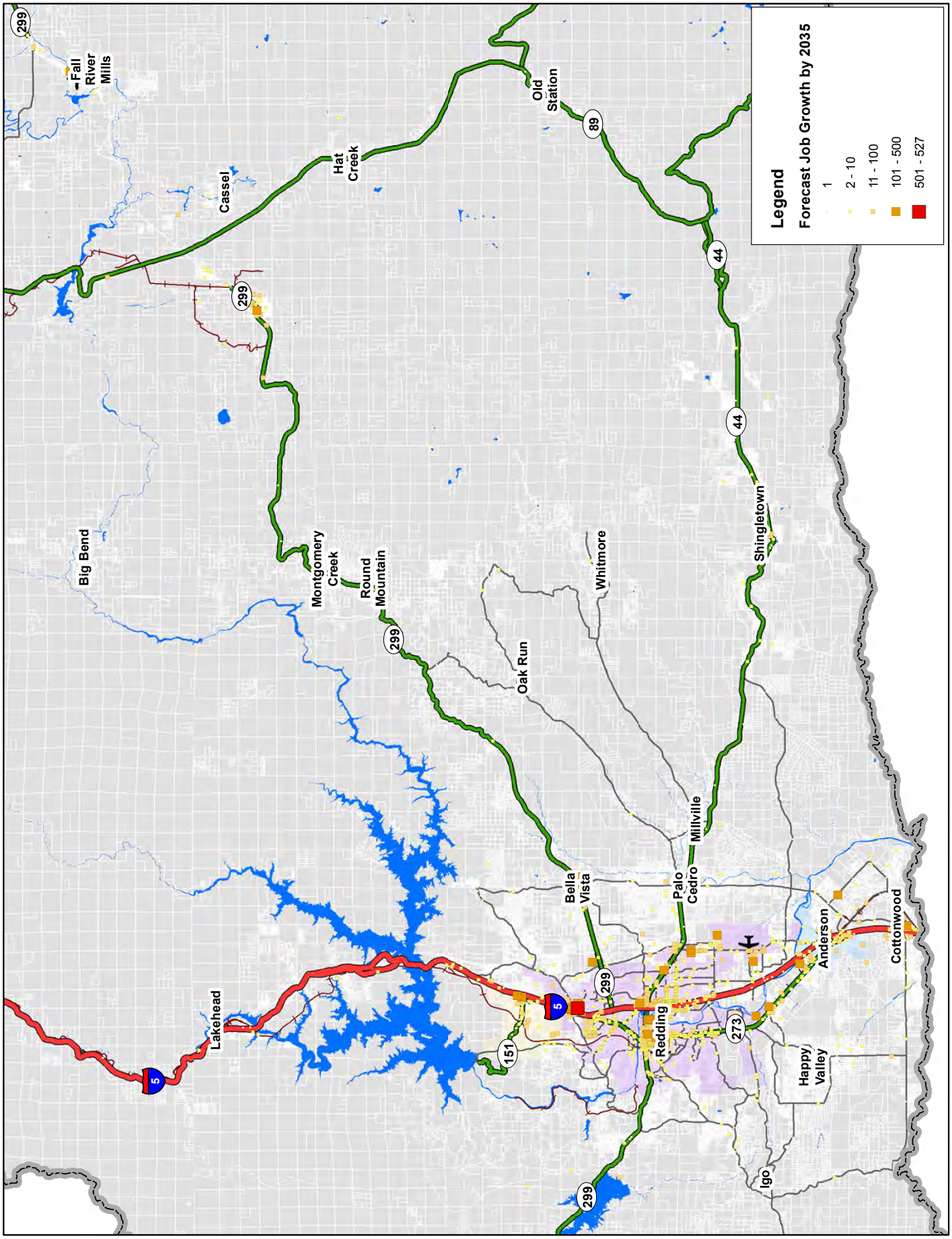


Figure 28 - Forecast Employment (Jobs) Growth by Year 2035



SB 375 COMPLIANCE AND CONSISTENCY FINDINGS

Consistency with locally adopted general plans

All land use assumptions used in the 2015 SCS are wholly consistent with local agency general plans.

Consistency with Regional Housing Needs Allocation (RHNA)

SB 375 requires that the SCS component of the RTP be consistent with the Regional Housing Needs Allocation (RHNA). The Shasta County region received its 2014-2019 RHNA on June 30, 2012. The SCS includes areas sufficient to house all forecast population, including all economic segments. SRTA reviewed the 2014-2019 RHNA allocations and has made adjustments to the November 2011 housing forecasts to ensure the RTP is consistent with RHNA.

As shown in the table below, SRTA estimates that the housing projections exceed the totals for the 2014-2019 RHNA. Approximately, 4,129 households are expected to be added to the region by 2020, far more than the 2,200 housing households required by local jurisdictions to plan for in approximately the same timeframe. These totals show that the RTP is consistent with the 2014-19 RHNA as provided by the California Department of Housing and Community Development (HCD). Because SRTA is not responsible for land use planning, it will be up to each local agency to ensure adequate planning of housing units by income category. Additional information regarding the 2014-19 RHNA can be found on SRTA's website at: http://www.srta.ca.gov/240/Regional-Housing-Need-Allocation-RHNA.

SB 375-Specific Public Outreach Requirements

Local agencies were, by virtue of the steps described in the SCS portion of this RTP, integral to the planning process. All key decisions regarding the location of growth, development intensities, and the selection of secondary strategies were generated directly by local agencies or by SRTA in close consultation with local agencies. In addition, individual presentations were provided to respective city councils and county board of supervisors.

Public input for the SCS began with the three-year Shasta*FORWARD*>> Regional Blueprint process, which engaged upwards of 2,500 residents. The 2015 RTP Public outreach regarding specific land use and transportation strategies, policies, and project priorities featured two public hearings and 55-day public comment period pursuant to SB 375.

Table 18 - Housing Forecasts for Shasta County

Year	City of Anderson	City of Redding	City of Shasta Lake	Shasta County (unincorporated)	Total
2015	4,495	38,669	4,339	26,452	73,956
2020	4,682	40,704	4,545	28,123	78,085
Total Change in Growth:	187	2,035	206	1,671	4,129

Table 19 - 2014-19 Shasta County RHNA (by income category) Per California HCD

Jurisdiction	Very-Low	Low	Moderate	Above-Moderate	Total
Anderson	32	21	24	59	136
Redding	287	181	205	502	1,175
Shasta Lake	32	21	23	58	134
Unincorporated	189	117	128	321	755
TOTAL:	540	340	380	940	2,200

Areas of Significant Resources and Farmland not Developed as a Result of the SCS

Scientific information regarding resource areas and farmland in Shasta County was gathered and considered in the development of the SCS. The region has approximately 1.3 million acres of resource land and 12,600 acres of farmland. Land development assumptions in the travel demand model show that approximately 2,600 acres of resource areas and approximately 8 acres of farmland would not be developed as a result of the SCS land use forecast. The location of resources areas and the increase/ decrease of households and employment as a result of the SCS is illustrated in Figure 18.

California Air Resources Board (ARB) acceptance of SCS technical methodology

Calculating SCS Vehicle miles traveled

In accordance with SB 375, the year 2005 was used as the baseline for calculating changes in per capita greenhouse gas emissions. SRTA's activity-based model, known as ShastaSIM, was utilized for all travel modeling in the 2015 RTP. The base year for ShastaSIM is 2010. 2013 base year for EIR analysis. For SB 375 purposes, ShastaSIM was used to back-cast to the year 2005, using the latest population, housing,and employment information.

Data originally submitted to ARB during consideration of initial regional targets was based on SRTA's previous four-step travel demand model. Using the new activity-based model for all model years – including the 2005 base year –provides consistency and efficiency moving forward during future planning cycles and when ARB reevaluates regional targets. ARB's EMFAC 2011 air quality model was used to calculate GHG emissions for the SCS component.

Modeling of Interregional Trips

SRTA follows the 2009 "Recommendations of the Regional Targets Advisory Committee (RTAC) Pursuant to Senate Bill 375" report on modeling interregional trips and calculating VMT . Interregional trips are described as follows:

1. Internal-External (I-X) trips are trips that originate within Shasta County and have a destination outside of the region.
2. External-Internal (X-I) trips are trips that originate outside Shasta County and have a destination within the region.
3. External-External (X-X) or "through" trips are trips that travel through the region, but never stop.

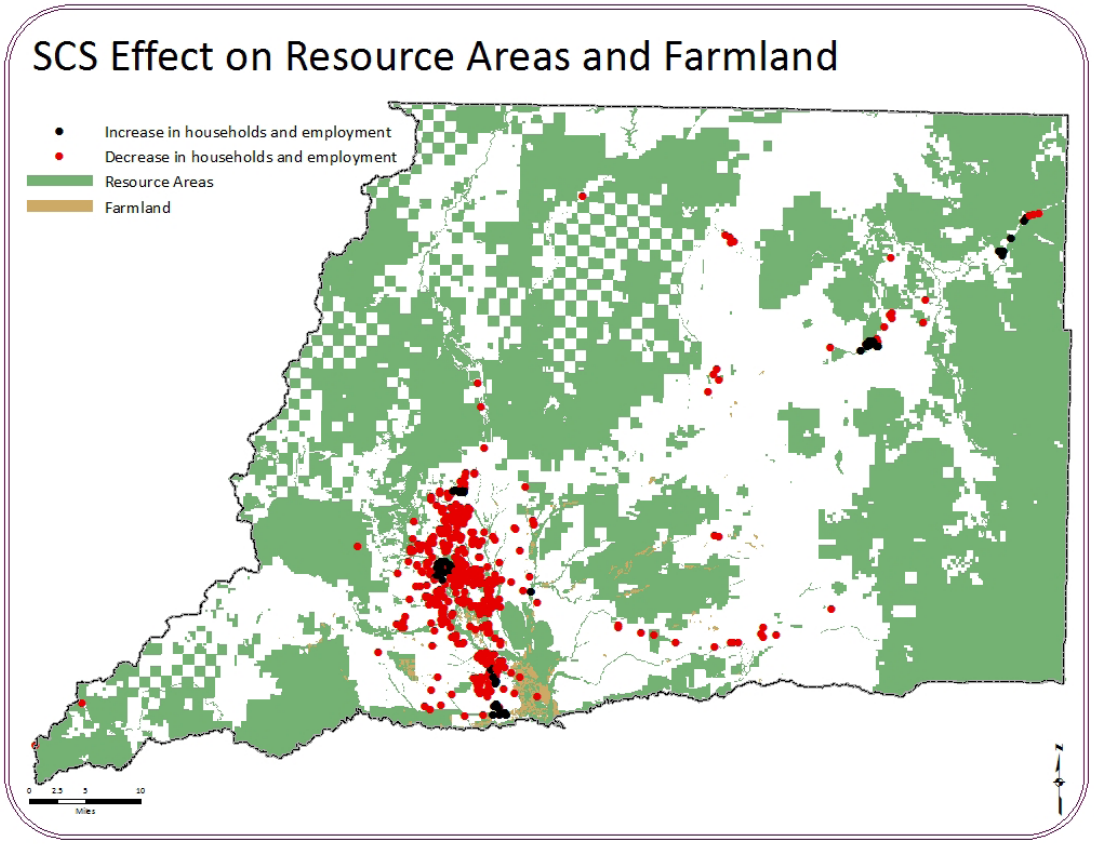


Figure 29 - Resource Areas and Farmland to be impacted by 2015 RTP

The following methodology is applied regarding interregional trips for purposes of GHG emissions estimation for the 2015 RTP:

- I-X trips – are modeled from their origin up to the Shasta County boundary.
- X-I trips – are modeled from the Shasta County boundary to their destination.
- X-X trips – are excluded from the SCS for GHG calculation.

VMT associated with interregional trips will be calculated for years 2005, 2010, 2013 (EIR baseline), 2020, and 2035. While the exclusion of interregional trips as described above will be used for calculating the region's effort to meet the SB 375 GHG reduction target, all VMT will be calculated to estimate the overall impact VMT has on the region's transportation system.

Greenhouse Gas Emissions Quantification and Reduction Estimation

For purposes of estimating GHG emissions for the 2015 RTP, SRTA will utilize the CARB's EMFAC2011 air quality model. EMFAC2011 is the most current model available in California for estimating on-road vehicle emissions.

VMT outputs from the agency's activity-based model serve as inputs into EMFAC2011. Emissions were estimated for years 2005, 2010, 2013, 2020 and 2035 to determine if the 2015 RTP would effectively meet the regional target of 0% increase in per capita CO2 (carbon dioxide) emissions from passenger vehicles and light-duty trucks for the year 2020 and 2035 when compared to 2005 levels.

Consultation with ARB

SB 375 required that SRTA consult with ARB throughout the development of the 2015 RTP. This included providing a technical methodology on how the RTP, if implemented, would meet SRTA's SB 375 GHG reduction targets.

After final approval of the RTP ARB will review and confirm acceptance of SRTA's technical methodology.

Air Quality Conformity

Consistent with Section 176 of the federal Clean Air Act (U.S.C. Section 7506), the 2015 RTP will not cause or contribute to any violation in federal air quality standards. Complete details, including mitigation measures, are provided in Section 4.2 of the 2015 RTP Environmental Impact Report.

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) FINDINGS

The 2015 RTP EIR is a Program EIR. A Program EIR is prepared for a series of actions that can be characterized as one project, thereby allowing the lead agency to consider broad policy alternatives and "program wide mitigation measures" (CEQA Guidelines §15168(b)(4)). The Program EIR serves as a first-tier document for later CEQA review of individual projects included in the program. Project-specific CEQA reviews focus on project-specific impacts and mitigation measures need not repeat the broad analyses contained in the Program EIR. As discussed by the California Supreme Court, "it is proper for a lead agency to use its discretion to focus a first-tier EIR on only the…program, leaving project-specific details to subsequent EIRs when specific projects are considered." (In re Bay Delta (2008) 43 Cal. 4th 1143, 1174).

Summary of CEQA Findings of Fact, Statement of Overriding Considerations, and Mitigation Monitoring and Reporting Program

SRTA finds mitigation measures have been identified in the Final Program EIR that will avoid or substantially lessen the 2015 RTP's incremental contribution to significant project and cumulative impacts to a less than significant level.

SRTA further finds that mitigation measures have been identified that will reduce the 2015 RTP's incremental contribution to significant cumulative impacts, but not to a less than significant level. For these impacts, SRTA adopts and makes statements of overriding considerations concerning unavoidable significant impacts, explaining why the benefits of the 2015 RTP override and outweigh its unavoidable impacts. Each benefit set forth below constitutes an overriding consideration warranting approval of the project, independent of the other benefits, despite each and every unavoidable impact.

A. The implementation of 2015 RTP transportation projects will provide for a comprehensive

transportation system of facilities and services that meets the public's need for the movement of people and goods, and that is consistent with the social, economic, and environmental goals and policies of the region.

B. The project will improve transportation mobility and accessibility in the county.

C. The project will improve air quality by reducing emissions of ozone precursors compared to future No Project conditions.

D. The SCS will contribute to a reduction in greenhouse gas (GHG) emissions from passenger vehicles and light trucks, helping the Shasta County area to achieve the regional GHG reduction targets set by the California Air Resources Board (ARB).

E. The project will promote consistency between the California Transportation Plan 2025, the regional transportation plan and other plans developed by cities, counties, districts, Native American Tribal Governments, and State and Federal agencies in responding to Statewide and interregional transportation issues and needs.

F. The construction of transportation projects will result in both short-term and long-term economic benefits to the Shasta County area and its residents. Transportation projects will indirectly provide for a number of jobs relating to construction and maintenance. The RTP program includes $2.18 billion of transportation investments in the SRTA region. Other California MPO studies have shown that investments in regional transportation projects and programs provide numerous jobs locally (see, for example, SANDAG 2050 RTP-SCS, Technical Appendix 3, Table TA 3.1, average annual increase of 18,500 jobs).

Mitigation and Monitoring and Reporting Program

SRTA finds that a Mitigation Monitoring and Reporting Program (MMRP) for the 2015 RTP has been prepared for the project and has been adopted concurrently with these Findings (Public Resources Code, § 21081.6(a)(1)). The MMRP is described in the following sections.

A. Purpose and Intended Use of the MMRP

The California Environmental Quality Act (CEQA) requires that an agency adopt a Mitigation Monitoring or Reporting Program (MMRP) prior to approving a project that includes mitigation measures. This MMRP has been prepared in compliance with the requirements of Section 21081.6 of the California Public Resources Code and Sections 15091(d) and 15097 of the CEQA Guidelines.

The purpose of this MMRP is to ensure the adopted mitigation measures adopted in the findings of fact for the 2015 RTP are implemented, in accordance with CEQA requirements. The findings adopt feasible mitigation measures to reduce the significant environmental impacts of the 2015 RTP. This MMRP clarifies the process for SRTA and individual project lead agencies to ensure these mitigation measures are implemented, and designates responsibility for implementing, monitoring, and reporting mitigation.

B. Mitigation Measures Adopted with the 2015 RTP

The mitigation measures adopted in the 2015 RTP EIR findings are listed in Sections IV and V of these findings. Each mitigation measure identifies the parties responsible for implementation.

C. Enforcement

CEQA requires mitigation measures to be "fully enforceable" through the use of permit conditions, agreements, or other measures within each Lead Agency's authority (Public Resources Code 21081.6(b)). The adopted mitigation measures are programmatic first-tier mitigation that can and should be implemented by other sponsor agencies during future project-specific design and environmental review. The Lead Agency for each future project is responsible for assuring the project-specific mitigation measures it adopts are enforceable.



Figure 30 - Benton Drive over Sacramento River

D. Implementation and Reporting

SRTA shall designate a staff person (Executive Director of SRTA or Designee) to serve as Coordinator with the member agencies (those agencies that would act as Lead Agencies for further environmental review of individual transportation projects) for overall implementation and administration of this MMRP, and its application to future projects. Agencies considering approval of future projects under the 2015 RTP would utilize the Program EIR as a basis in determining potential mitigation measures for subsequent activities. The agencies responsible for implementing the mitigation measures, described as "the individual project lead agency" in the Program EIR, will be the lead agency for the individual future projects under the 2015 RTP. The project lead agency for individual projects will involve one of the following agencies: the cities of Anderson, Redding, and Shasta Lake City, Shasta County, Caltrans, and public transit agencies. The individual project lead agency, which will be the lead agency for individual future projects under the 2015 RTP, will be responsible to monitor mitigation measures that are required to be implemented for the project.

Mitigation measures will typically occur at, or prior to, the following milestones:

- ***During individual environmental review.*** These are measures that need undertaking during individual project-level environmental review of RTP transportation projects. These measures include items such as assessment of identification of specific project level noise reduction measures, and measures to reduce impacts on biological resources.
- ***Prior to issuance of a grading permit.*** These are measures that need to be undertaken before earth moving activities begin. These measures include items such as staking the limits of environmentally sensitive areas or vegetation to remain, confirming biological mitigation plans with resource agencies, and including pertinent design details in the project plans.
- ***During project construction.*** These measures are those that need to occur as the project is being constructed. They include monitoring the construction site for the proper implementation of dust and emission controls, erosion controls, biological protection, and examining grading areas for the presence of cultural materials.
- ***Following construction.*** These measures apply to project components that would go into effect at completion of the project construction phase, including items such as management or monitoring plans (e.g., revegetation, etc.).



Figure 31 - Oak Woodlands in Shasta County

Financial Element



SUMMARY

The federal transportation bill Moving Ahead for Progress in the 21st Century (MAP-21), or the latest update thereof, requires that the RTP be "fiscally constrained". Under California state law, the region's Sustainable Communities Strategy for reducing per capita greenhouse gas emissions must also be fiscally constrained. This means that estimated costs for projects proposed in the 20 year planning horizon of the RTP must be consistent with "reasonably foreseeable" revenues during the same period. Funding sources included in the Federal State 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 come to the region by way of formula allocations and through competitively awarded grants.

Varying assumptions regarding the escalation of revenues was subsumed for each of the fund sources. 2.5% 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 measure or other innovative financing methods, were incorporated into the financial plan.

The Financial Element addresses the following required elements:

1. Projected Available Funds – Includes all anticipated public and private financial resources that will reasonably be available to support RTP implementation for all modes of transportation over the 20 year planning horizon.
2. Projected Costs – Estimate of costs to implement the projects identified in RTP. Near term projects in the four-year Federal Transportation Improvement Program (FTIP) require a higher level of detail while longer term projects can be estimated.
3. Projected Operation and Maintenance Costs – Includes a summary of costs to operate and maintain the current and future transportation system to ensure its preservation. Costs are identified by mode and with the cumulative cost of deferred maintenance on the existing infrastructure.
4. Constrained RTP - Financially constrained list of candidate projects consistent with available funding (short and long-term). Projects are consistent with the FTIP, RTIP and the Interregional Transportation Improvement Program (ITIP).
5. Un-Constrained List of Projects – An illustrative list of candidate projects if additional funding becomes available (short and long-term).
6. Potential Funding Shortfall – Identifies where funding is not adequate to fund projects in the long-range transportation plan. If new funding sources are assumed, when these funds are reasonably expected to be available.

Many of these required elements are provided in the tables that follow. Projected available funds by mode is shown in Chart 12. Chart 13 shows the amount of projects funded or not funded, by project type, during the 20-year horizon of this RTP. Tables 20-23 include estimated revenue sources, summaries of projects by type and jurisdiction. Tables 24-52 are the financially constrained lists of projects; include illustrative projects; and show potential funding shortfall in the long term. All long term cost estimates were escalated 2.5% to reflect the year of expenditure dollars.

Chart 12 - 2016-2035 Funding Availability by Mode (in $1,000s)

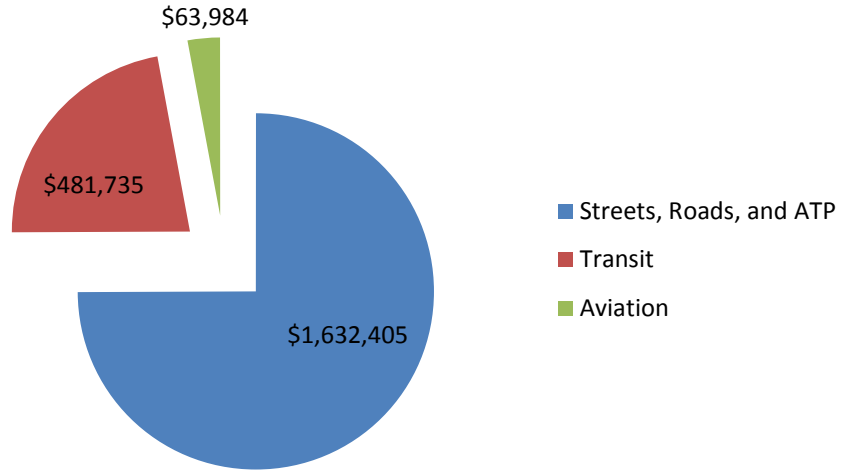


Chart 13 - Plan Funded and Unfunded by Activity (in $1,000s)

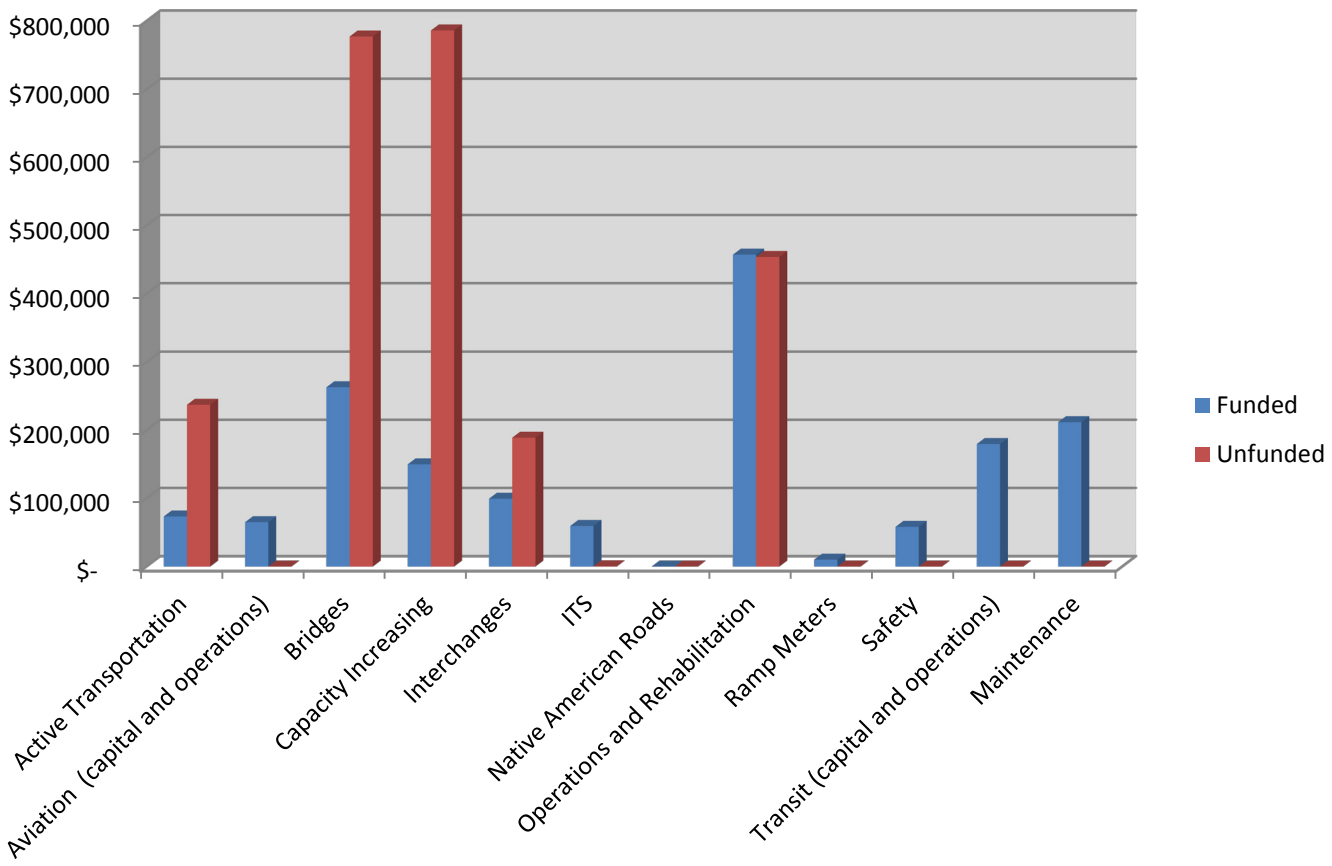


Table 20 - Financial Projection: Streets, Roads, and Active Transportation

FINANCIAL PROJECTION: STEETS, ROADS AND ACTIVE TRANSPORTATION												
	SHORT TERM FUNDING ($1,000s)						LONG TERM FUNDING ($1,000s)					
PROJECTED AVAILABLE FUNDS	ANDERSON	REDDING	SHASTA LAKE	SHASTA COUNTY	STATE	CONSOLIDATED	ANDERSON	REDDING	SHASTA LAKE	SHASTA COUNTY	STATE	CONSOLIDATED
Gas Tax	$3,465	$28,768	$3,308	$73,335	$-	$108,876	$3,465	$28,768	$3,308	$73,335	$-	$108,876
Traffic Impact Fee	$3,339	$47,000	$134	$493	$-	$50,966	$4,274	$25,655	$172	$631	$-	$30,732
RSTP Exchange	$1,455	$12,872	$1,408	$9,611	$-	$25,346	$1,455	$12,872	$1,408	$9,611	$-	$25,346
Transportation Development Act (TDA)	$4,039	$13,032	$3,484	$26,725	$-	$47,280	$5,170	$16,682	$4,460	$34,210	$-	$60,522
Highway Bridge Program (HBP)	$-	$18,650	$-	$40,000	$-	$58,650	$-	$42,825	$-	$40,000	$-	$82,825
Highway Safety Improvement Program (HSIP)	$2,179	$19,178	$2,130	$14,239	$-	$37,725	$7,407	$65,206	$7,241	$48,411	$-	$128,265
High Priority Projects (HPP)	$-	$-	$-	$3,200	$-	$3,200	$-	$-	$-	$-	$-	$-
2% LTF Pedestrian and Bicycle Allocations	$86	$759	$84	$563	$-	$1,493	$110	$971	$108	$721	$-	$1,911
Active Transportation Program (ATP)	$274	$2,415	$268	$1,793	$250	$5,000	$274	$2,415	$268	$1,793	$250	$5,000
State Highway Operation and Protection Program (SHOPP)	$-	$-	$-	$-	$399,738	$399,738	$-	$-	$-	$-	$399,738	$399,738
State Transportation Improvement Program (STIP)	$-	$-	$-	$-	$30,918	$30,918	$-	$-	$-	$-	$20,000	$20,000
TOTAL PROJECTED AVAILABLE FUNDS	$14,836	$142,673	$10,817	$169,959	$430,906	$769,191	$22,156	$195,393	$16,965	$208,712	$419,988	$863,214
PROJECTED COSTS												
Capital Improvements - Streets and Roads	$8,000	$65,844	$-	$73,712	$280,237	$427,793	$19,329	$79,901	$6,400	$93,844	$472,033	$671,505
Capital Improvements - Active Transportation	$550	$8,704	$-	$3,357	$200	$12,811	$640	$45,940	$1,262	$11,814	$-	$59,656
Operations and Maintenance	$2,066	$15,100	$8,495	$80,315		$105,975	$2,066	$15,100	$8,495	$80,315		$105,975
TOTAL PROJECTED COSTS	$10,616	$89,648	$8,495	$157,384	$280,437	$546,579	$22,034	$140,941	$16,157	$185,973	$472,033	$837,136

Table 21 - Financial Projection: Transit

	SHORT TERM FUNDING ($1,000s)					LONG TERM FUNDING ($1,000s)				
PROJECTED AVAILABLE FUNDS	RABA	SHASTA COUNTY	CTSA	PRIVATE	CONSOLIDATED	RABA	SHASTA COUNTY	CTSA	PRIVATE	CONSOLIDATED
State Transit Assistance (STA)	$20,000	$-	$-	$-	$20,000	$20,000	$-	$-	$-	$20,000
Transit Fares	$10,423	$-	$-	$-	$10,423	$12,706	$-	$-	$-	$12,706
Local Transportation Fund (LTF) for Transit	$33,739	$-	$-	$-	$33,739	$43,188	$-	$-	$-	$43,188
FTA Section 5307 - Urbanized Area Formula Program	$160,000	$-	$-	$-	$160,000	$160,000	$-	$-	$-	$160,000
FTA Section 5339 - Bus and Bus Facilities	$1,660	$-	$-	$-	$1,660	$1,660	$-	$-	$-	$1,660
FTA Section 5310 - Mobility of Seniors and Individuals with Disabilities	$-	$-	$2,500	$2,500	$5,000	$-	$-	$2,500	$2,500	$5,000
FTA Section 5311 - Nonurbanized Area Formula Program	$-	$3,900	$-	$-	$3,900	$-	$3,900	$-	$-	$3,900
FTA Section 5311c - Public Transportation on Tribal Reservations	$-	$-	$-	$-	$-	$-	$-	$-	$-	$-
FTA Section 5311f - Intercity Bus	$-	$-	$-	$280	$280	$-	$-	$-	$280	$280
TOTAL PROJECTED AVAILABLE FUNDS	$225,822	$3,900	$2,500	$2,780	$235,002	$237,554	$3,900	$2,500	$2,780	$246,734
PROJECTED COSTS										
Capital Improvements	$9,470	$-	$180	$280	$9,930	$-	$-	$-	$179	$179
Operations and Maintenance	$62,739	$5,163	$6,554	$-	$74,456	$80,311	$6,609	$8,390	$-	$95,310
TOTAL PROJECTED COSTS	$72,209	$5,163	$6,734	$280	$84,387	$80,311	$6,609	$8,390	$179	$95,489

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Table 22 - Financial Projection: Aviation

PROJECTED AVAILABLE FUNDS	SHORT TERM FUNDING ($1,000s)				LONG TERM FUNDING ($1,000s)			
	REDDING MUNICIPAL AIRPORT	BENTON AIRPARK	FALL RIVER MILLS AIRPORT	CONSOLIDATED	REDDING MUNICIPAL AIRPORT	BENTON AIRPARK	FALL RIVER MILLS AIRPORT	CONSOLIDATED
Federal Aviation Administration (FAA) - Airport Improvement Program (AIP)	$14,239	$4,922	$788	$19,949	$-	$-	$100	$100
CA State Division of Aeronautics - State AIP Match	$-	$246	$39	$285	$-	$-	$5	$5
Operating Revenue	$20,144	$301	$798	$21,243	$20,144	$1,102	$756	$22,002
California Aid to Airports (CAAP)	$-	$100	$100	$200		$100	$100	$200
Redding Airport Fund	$58.19	$25			$49.81	$21		
TOTAL PROJECTED AVAILABLE FUNDS	$34,441	$5,594	$1,725	$41,677	$20,194	$1,223	$961	$22,307
PROJECTED COSTS								
Capital Improvements	$15,706	$5,469	$875	$22,050	$-	$-	$111	$111
Operations and Maintenance	$19,549	$1,102	$850	$21,501	$19,549	$1,102	$850	$21,501
TOTAL PROJECTED COSTS	$35,255	$6,571	$1,725	$43,551	$19,549	$1,102	$961	$21,612

Table 23 - Unfunded or Deferred Maintenance

Jurisdiction	Estimated Current Total Maintenance	Estimated Annual Available Funding for Maintenance	Estimated Deferred Maintenance
Anderson	$4,629,070	$498,000	$4,131,070
Redding	$35,000,000	$4,800,000	$30,200,000
Shasta Lake	$17,459,036	$470,000	$16,989,036
Shasta County	$168,458,532	$7,828,000	$160,630,532
	$225,546,638	$13,596,000	$211,950,638

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Table 24 - Summary of Projects: Operations and Rehabilitation

Project Number	REGIONAL TRANSPORTATION PROJECTS	SHORT TERM TOTAL EST COST OF PROJECT	LONG TERM TOTAL EST COST OF PROJECT	PROJECT BAND	PROJECT TYPE (PROJECT INTENT)	EXPECTED FUNDING SOURCES
1	I-5, Start PM/End PM 15.43, 06-0126G N5-W44 Connector	$2,000,000		(2016-2025)	Increase VC	SHOPP
2	I-5, Start PM/End PM 15.43, 06-0126L East Redding Separation	$2,000,000		(2016-2025)	Increase VC	SHOPP
3	I-5, Start PM/End PM 15.43, 06-0126R East Redding Separation	$2,000,000		(2016-2025)	Increase VC	SHOPP
4	SR 44, At various locations	$2,000,000		(2016-2025)	Rumble strips	SHOPP
5	I-5, Start/End PM 31.1, North of Shasta Lake City - O'Brien SRRA	$3,100,000		(2016-2025)	Upgrade sewage system	SHOPP
6	Route 5, Begin PM Var, End PM Var, In Shasta County at various locations on Interstate 5	$2,300,000		(2016-2025)	Upgrade MBGR and possibly flatten some slopes	SHOPP
7	Route 299, Begin PM 7.6, End PM 18.3, 1.5 miles west of Crystal Creek Road to Buell Alley	$20,410,000		(2016-2025)	Rehabilitate Roadway	SHOPP
8	Route 299, Begin PM 77.8, End PM 79.6, Near Burney	$6,204,000		(2016-2025)	Rehabilitate Roadway	SHOPP
9	SR 299, Start PM 60/End PM 67.9, In Shasta County	$6,263,000		(2016-2025)	Hatchet Mtn CAP M	SHOPP
10	Route 273 GAPS - SR 273, Start PM 3.8/End PM7.1; Start PM 11.0/End PM12.7	$14,652,000		(2016-2025)	CAPM	SHOPP
11	Route 5, In Shasta County at various locations on Interstate 5, Relocate roadside facilities and install hardscaping in high exposure areas.	$2,600,000		(2016-2025)	Relocate roadside facilities and install hardscaping in high exposure areas.	SHOPP
12	Route 299, Begin PM 41.5, End PM 55.2, Safety Device Paving and Pullouts	$600,000		(2016-2025)	Safety Device Paving and Pullouts	SHOPP
13	SR 44, Start/End PM 34.7, Near the town of Shingletown - Shingletown SRRA	$1,800,000		(2016-2025)	Upgrade sewage system	SHOPP
14	SR 299, Start/End PM 60.6, Hillcrest	$4,200,000		(2016-2025)	Upgrade sewage system	SHOPP
15	I-5, Start/End PM 43.2, Lakehead	$4,200,000		(2016-2025)	Upgrade sewage system	SHOPP
16	SR 273, Start/End PM 14.77, RR U/P	$2,000,000		(2016-2025)	Vertical Clearance / Horizontal Clearance	SHOPP
17	I-5, Start/End PM 29.32, 06-0130R Turntable Bay Road OC	$766,000		(2016-2025)	Rail Upgrade	SHOPP
18	SR 44, Start PM 65.4/End PM 71.4, Plum Valley Rehab	$7,273,000		(2016-2025)	Plum Valley Rehab	SHOPP
19	Route 5, Begin PM R 5.1, End PM R 5.9, Anderson, Upgrade Landscaping - Highway Planting Restoration	$1,800,000		(2016-2025)	Upgrade Landscaping - Highway Planting Restoration	SHOPP
20	Route 5, Begin PM R 18, End PM R 22.5, North Redding/Shasta Lake City, Freeway Maintenance Access Roads and Pullouts	$600,000		(2016-2025)	Freeway Maintenance Access Roads and Pullouts	SHOPP
21	Route 5, Begin PM R 12.3, End PM R 12.6, I-5 in Redding, Extend NB South Bonneyview on ramp and SB off ramp	$3,600,000		(2016-2025)	Ramps	SHOPP
22	Routte 5, Begin PM R 16.1, End PM R 17.1, I-5 in Redding, Construct auxiliary lane on NB I-5 from Hilltop Drive OC to Lake Blvd.	$3,900,000		(2016-2025)	Auxiliary lane	SHOPP
23	Route 44, Begin PM 1.4, End PM 1.9, Redding, Construct ramp auxiliary lane from EB Victor on-ramp to EB Shasta View off-ramp	$2,000,000		(2016-2025)	Auxiliary lane	SHOPP
	Total Short Term Needs =	**$96,268,000**				
24	Route 5, Begin PM R 13.8, End PM R 16.1, Central Redding Interchange, Highway Planting Restoration		$1,280,000	(2026-2035)	Highway Planting Restoration	SHOPP
25	Route 44, Begin PM 15.43, End PM 15.43, Central Redding Interchange, Correct Vertical Clearance		$10,241,000	(2026-2035)	Correct Vertical Clearance	SHOPP
26	Route 5, Begin PM R 21.2, End PM R 22, Pine Grove to Shasta Lake City, Highway Planting Restoration		$1,280,000	(2026-2035)	Highway Planting Restoration	SHOPP
27	Route 5, Begin PM R 5.9, End PM R 11.9, North Anderson to South Redding, New Highway Planting		$2,048,000	(2026-2035)	New Highway Planting	SHOPP
28	Route 44, Begin PM 1.5, End PM 3.9, Victor to Old Oregon Trail, New Highway Planting		$1,920,000	(2026-2035)	New Highway Planting	SHOPP
29	Route 44, Begin PM 7, End PM 62, Drainage Restoration, Drainage Restoration		$2,048,000	(2026-2035)	Drainage Restoration	SHOPP
30	Route 299, Begin PM 24.8, End PM 27.2, 299/5 interchange to Stillwater Bridge, New Highway Planting		$2,048,000	(2026-2035)	New Highway Planting	SHOPP
31	Route 5, Begin PM VAR, End PM VAR, Various Locations, Rehabilitate Roadway		$128,008,000	(2026-2035)	Rehabilitate Roadway	SHOPP
32	Route 44, Begin PM VAR, End PM VAR, Various Locations, Rehabilitate Roadway		$89,606,000	(2026-2035)	Rehabilitate Roadway	SHOPP
33	Route 299, Begin PM VAR, End PM VAR, Various Locations, Rehabilitate Roadway		$89,606,000	(2026-2035)	Rehabilitate Roadway	SHOPP
34	Route I-5, Postmile R 7.45 - R 7.67, Direction Southbound, .75 mile north of Ox Yoke Road		$785,000	(2026-2035)	Sound wall for sound attenuation	SHOPP
35	Route I-5, Postmile R 8.06- R 8.99, Direction Southbound, 1.25 miles north of Ox Yoke Road		$6,080,000	(2026-2035)	Sound wall for sound attenuation	SHOPP
36	Route I-5, Postmile R 8.48 - R 8.9, Direction Northbound, 1.75 miles north of Ox Yoke Road		$941,000	(2026-2035)	Sound wall for sound attenuation	SHOPP
37	Route I-5, Postmile R 14.81- R 14.96, Direction Northbound, .5 mile south of Cypress Avenue interchange		$561,000	(2026-2035)	Sound wall for sound attenuation	SHOPP
38	Route I-5, Postmile R 15.8 - R 16.0, Direction Northbound, .25 mile south of Hilltop overcrossing		$768,000	(2026-2035)	Sound wall for sound attenuation	SHOPP
39	Route 5, Begin PM R 16.1, End PM R 18, Hilltop OC, New Highway Planting		$1,280,000	(2026-2035)	New Highway Planting	SHOPP
40	Route 89, Begin PM 29.337, End PM 29.337, Lake Britton R/R UP, Improve clearances		$3,840,000	(2026-2035)	Improve clearances	SHOPP
41	Route 89, Begin PM 42.8, End PM 42.8, Pondosa, Proposed Safety Roadside Rest Area from 2000 Master Plan		$10,241,000	(2026-2035)	Proposed Safety Roadside Rest Area from 2000 Master Plan	SHOPP
42	Route 89, Begin PM VAR, End PM VAR, Various Locations, Rehabilitate Roadway		$83,205,000	(2026-2035)	Rehabilitate Roadway	SHOPP
43	Route 273, Begin PM VAR, End PM VAR, Various Locations, Rehabilitate Roadway		$38,403,000	(2026-2035)	Rehabilitate Roadway	SHOPP
44	Route 151, Begin PM VAR, End PM VAR, Various Locations, Rehabilitate Roadway		$23,042,000	(2026-2035)	Rehabilitate Roadway	SHOPP
45	Route I-5, Postmile 1.43-1.69, Direction Northbound, .5 mile north of Gas Point interchange		$768,000	(2026-2035)	Sound wall for sound attenuation	SHOPP
46	Route I-5, Postmile R 12.1-R 14.5, Direction Northbound, Just north of Churn Creek interchange		$7,681,000	(2026-2035)	Sound wall for sound attenuation	SHOPP
47	Route I-5, Postmile R 13.95 - R 14.5, Direction Southbound, Near Hartnell Avenue overcrossing		$1,664,000	(2026-2035)	Sound wall for sound attenuation	SHOPP

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48	Route 5, Begin PM 42, End PM 66.9, Sacramento River Canyon, Chain on Area Freeway Maintenance Access		$4,096,000	(2026-2035)		SHOPP
49	Route 5, various locations in Canyon, Curve improvements at Sidehill Viaduct		$25,602,000	(2026-2035)		SHOPP
50	Route 44, Begin PM L 0.8, End PM L 1.3, Redding, Extend #3 auxiliary lane through Sundial Bridge Drive		$6,784,000	(2026-2035)		SHOPP
51	Route 44, Begin PM R 10.0, End PM R 13, Millville Horizontal and Vertical Alignment Improvements		$11,265,000	(2026-2035)		SHOPP
52	Route 44, Begin PM R 21.4, End PM 32.1, Shingletown, Passing lanes		$5,120,000	(2026-2035)		SHOPP
53	Route 273, Begin PM 12.68, End PM 12.68, South Bonneyview Road at 273, Grade separation		$3,840,000	(2026-2035)		SHOPP
54	Route 5, Begin PM R 26.27, End PM R 27.46, Extend NB truck climbing lane		$3,840,000	(2026-2035)		SHOPP
55	Route 5, Begin PM R 28.9, End PM R 26, Add Southbound Truck Climbing Lane		$2,816,000	(2026-2035)		SHOPP
56	Route 5, Begin PM R 31.224, End PM R 32.48, Extend northbound truck climbing lane		$4,480,000	(2026-2035)		SHOPP
57	Route 5, Begin PM R 31.968, End PM R 30.606, Extend southbound truck climbing lane		$5,120,000	(2026-2035)		SHOPP
58	Route 5, Begin PM R 36.787, End PM R 34.202, Extend southbound truck climbing lane		$8,321,000	(2026-2035)		SHOPP
59	Route 5, Begin PM R 37.3, End PM R 38.7, Extend northbound truck climbing lane		$4,480,000	(2026-2035)		SHOPP
60	Route 5, Begin PM R 49.213, End PM R 49.754, Extend northbound truck climbing lane		$1,920,000	(2026-2035)		SHOPP
61	Route 36, Begin PM 0.0, End PM 3.5, at various locations, Shoulder widenings and curve improvements		$8,961,000	(2026-2035)	shoulder widening; curve improvements	SHOPP
62	Route 44, Begin PM 0.0, End PM 71.39, at various locations, Achieve concepts shoulders		$25,602,000	(2026-2035)		SHOPP
63	Route 44, Begin PM R 14.8, End PM R 15.9, Passing lanes		$4,480,000	(2026-2035)		SHOPP
64	Route 44, Begin PM 52.7, End PM 53.3, Passing lane		$1,920,000	(2026-2035)		SHOPP
65	Route 44, Begin PM 65.2, End PM 66.2, Passing lane		$3,840,000	(2026-2035)		SHOPP
66	Route 89 various locations along route, establish eight-foot (or greater) treated shoulders		$35,842,000	(2026-2035)		SHOPP
67	Route 89, Begin PM 21.719, End PM 21.719, SR 89/SR 299 Intersection, signalize intersection (conventional signal)		$1,920,000	(2026-2035)		SHOPP
68	Route 89, Begin PM 25.3, End PM 31.7, Near Britton Bridge - Locations TBD, Add northbound and southbound passing lanes		$4,480,000	(2026-2035)		SHOPP
69	Route 273, Begin PM 15.92, End PM 16.83, Cypress Avenue to Market Street/Eureka Way, open road linkages through the Promenade (TBD)		$9,601,000	(2026-2035)		SHOPP
70	Route 273, Begin PM 15.92, End PM 16.83, Cypress Avenue to Market Street/Eureka Way, Implement adaptive signal control technology		$3,200,000	(2026-2035)		SHOPP
71	Route 299, Route PM 0.0, End PM 24.09, various locations, Achieve concept shoulders		$6,400,000	(2026-2035)		SHOPP
72	Route 299, Begin PM 20.5, End PM 21.7, in Old Shasta, Construct two-way left turn lane		$1,536,000	(2026-2035)		SHOPP
73	Route 299, Begin PM 27.9, End PM 32, Bella Vista, Two-Way Left Turn Lane		$5,120,000	(2026-2035)		SHOPP
74	Route 299, Begin PM 37.5, End PM 38.5, West of Javelina Road, Eastbound and westbound passing lanes		$4,480,000	(2026-2035)		SHOPP
75	Route 299, Begin PM 41, End PM 57, Near Diddy Wells, Round Mountain and Montgomery Creek, Turnouts or Truck Climbing Lanes along steep grades		$3,840,000	(2026-2035)		SHOPP
76	Route 299, Begin PM R 51.51, End PM 57.219, Near Dubois Road and Woodhill Drive, Extend Passing Lanes		$1,920,000	(2026-2035)		SHOPP
77	Route 299, Begin PM 53, End PM 59, Round Mountain and Montgomery Creek, Traffic Calming		$3,200,000	(2026-2035)		SHOPP
78	Route 299, Begin PM 80.09, End PM 99.36, Pit 1 Grade and Rocky Ledge, Shoulder and Lane Widening		$21,761,000	(2026-2035)		SHOPP
79	Route 299, Begin PM 88.4, End PM 90.4, Pit 1 Grade, Turnouts or Truck Climbing Lanes		$6,400,000	(2026-2035)		SHOPP
80	Route 5, Begin PM R 14.5, End PM R 16.2, I-5/44 Interchange, Reconfigure Interchange: Direct Connector Flyover Ramp		$65,284,000	(2026-2035)	reconfigure interchange	SHOPP
	Total Long Term Fundable Needs =		**$328,085,000**			

DESCRIPTION	Short (2016-2025)	Long (2026-2035)	Total
Funding Needed By Short and Long Range Bands	**$96,268,000**	**$814,815,000**	**$911,083,000**
Recap of Expected/Estimated/Unknown Resources			
State Highway Operations and Protection Program (SHOPP) =	**$96,268,000**	**$360,985,000**	**$457,253,000**
Total Funding Reasonably Available =	**$96,268,000**	**$360,985,000**	**$457,253,000**
Total Unfunded Needs (or Short Term Carryover) =	**$-**	**$(453,830,000)**	**$(453,830,000)**
Note 1 : Green highlighted projects above can be funded in the constrained funding analysis			

Note 2 : Un-highlighted projects above cannot be funded. New funding sources will need to be identified or improvement will be developer funded.
Note 3 : Long term projects are escalated by 2.5%

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Figure 32 - Location of Constrained Operations Projects

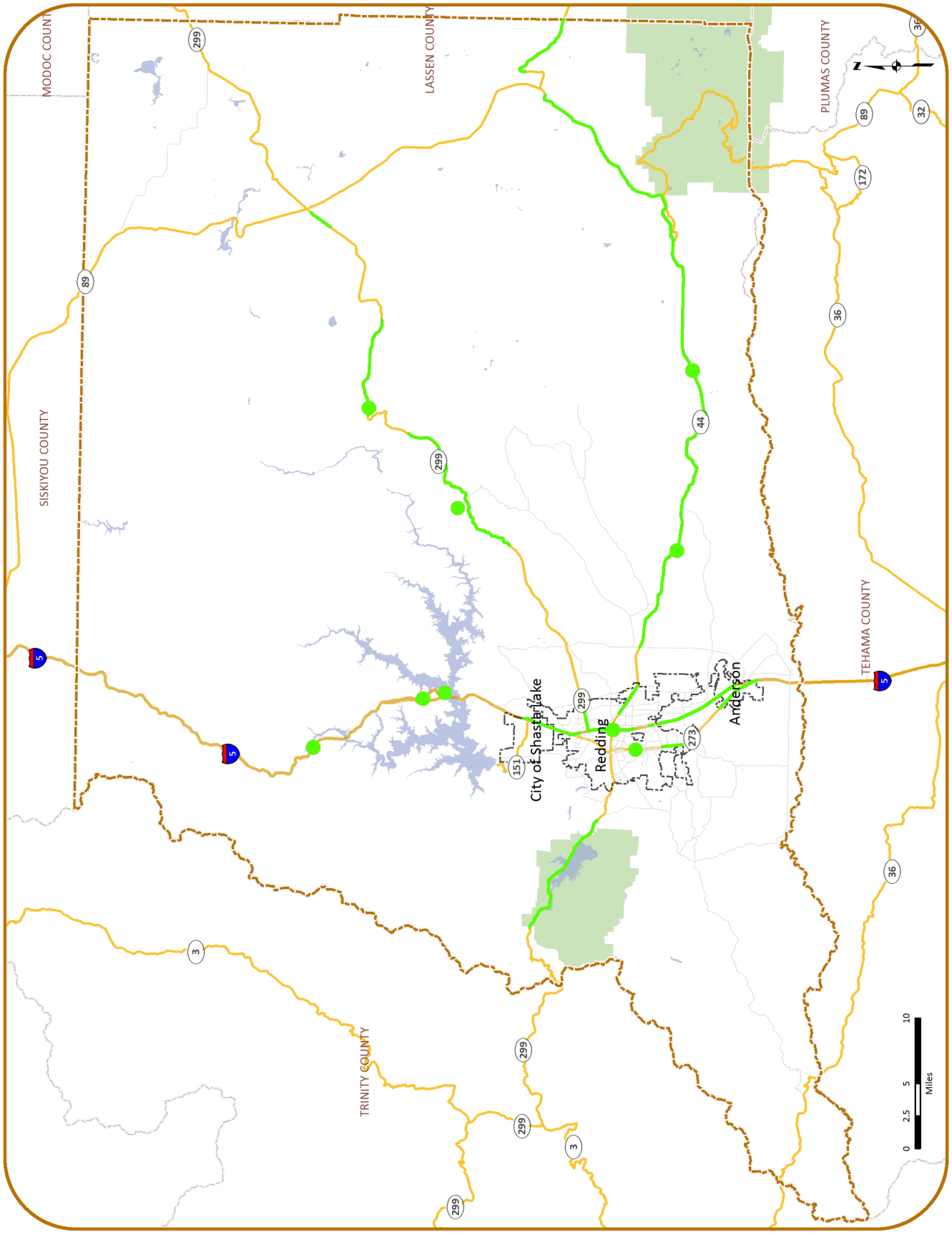


Table 25 - Summary of Projects: Regional Capacity

Project Number	REGIONAL TRANSPORTATION PROJECTS	SHORT TERM TOTAL EST COST OF PROJECT	LONG TERM TOTAL EST COST OF PROJECT	PROJECT BAND	PROJECT TYPE (PROJECT INTENT)	EXPECTED FUNDING SOURCES
1	Route 5, Begin PM R 9.2, End PM, R 11.7, .6 mile south of Knighton Road Overcrossing to 0.4 mile south of Churn Creek Road Overcrossing, Redding to Anderson 6-Lane Phase 1	$13,108,000		2017 (construction)	add capacity, fills a gap	STIP
	Total Short Term Needs =	$13,108,000				
2	Route 5, Begin PM R 3.8, End PM R 9.7 0.2 mile south of North Street to Knighton Road Overcrossing, Redding to Anderson 6-Lane Phase 2		$34,367,000	2016 (project development) (2026-2035)	add capacity, fills a gap	STIP/ Other
3	Route 5, Deschutes Road to south of North Street, Redding to Anderson 6-Lane Phase 3		$54,590,000	(2026-2035)	add capacity, fills a gap	Local/RIP/STIP
4	Route 5, Begin SB PM R 15.4, End SB PM R 18.5, Begin NB PM 17.5, End NB PM 18.5, 0.2 mile north of Route 5/299 separation to N Redding Interchange, Expand freeway to six lanes		$43,894,000	(2026-2035)	add capacity	STIP
5	Route 5, Begin PM R 22.1, End PM R 27.46, SR 151 to Mtn Gate Overcrossing, Expand freeway to six lanes		$29,263,000	(2026-2035)	add capacity	STIP
6	Route 44, Begin PM 2.6/, End PM 7, Highway 44 - Stillwater Project: Airport Road to Deschutes Road. Expand facility from 2E to 4F.		$81,925,000	(2026-2035)	add capacity	unknown
	Total Long Term Fundable Needs =		$34,367,000			

DESCRIPTION	Short (2016-2025)	Long (2026-2035)	Total
Funding Needed By Short and Long Range Bands	**$13,108,000**	**$244,039,000**	**$257,147,000**
Recap of Expected/Estimated/Unknown Resources			
State Transportation Improvement Program (STIP) =	**$13,108,000**	**$34,367,000**	**$47,475,000**
Total Funding Reasonably Available =	**$13,108,000**	**$34,367,000**	**$47,475,000**
Total Unfunded Needs (or Short Term Carryover) =	**$-**	**$(209,672,000)**	**$(209,672,000)**
Note 1 : Green highlighted projects above can be funded in the constrained funding analysis			

Note 2 : Un-highlighted projects above cannot be funded. New funding sources will need to be identified or improvement will be developer funded.
Note 3 : Long term projects are escalated by 2.5%

Table 26 - Summary of Projects: Shasta County Capacity

Project Number	REGIONAL TRANSPORTATION PROJECTS	SHORT TERM TOTAL EST COST OF PROJECT	LONG TERM TOTAL EST COST OF PROJECT	PROJECT BAND	PROJECT TYPE (PROJECT INTENT)	EXPECTED FUNDING SOURCES
1	Gas Point Road from New N-S to Rhonda - Widen to 4 lanes	$4,789,000		(2021-2025)	Capacity Increase	Local/Other
	Total Short Term Needs =	$4,789,000				
2	Rhonda Road Gas Point - I-5 Main New realigned 3 lane road		$8,799,000	(2026-2035)	Capacity Increase	Local/Other
3	New N-S Road - First St to New E-W Construct to 3 lanes		$6,001,000	(2026-2035)	Capacity Increase	Local/Other
4	New E-W Road -New N-S to Rhonda Construct 3 lane road		$3,017,000	(2026-2035)	Capacity Increase	Local/Other
5	Churn Ck Rd, Hartmeyer to Huntington, Widen, Realign		$4,096,000	(2026-2035)	Capacity Increase	Local/Other
6	Deschutes Road Widen to 3-Lanes, Old 44 Drive to Boyle Road		$3,603,000	(2026-2035)	Capacity Increase	Local/Other
7	First Street Widen from 2 to 5 lanes, N/S Arterial to Overcrossing		$720,000	(2026-2035)	Capacity Increase	Local/Other
8	New N-S Road - New E-W to Rhonda		$16,330,000	(2026-2035)	Capacity Increase	Unfunded or Developer
9	Deschutes Road Widen to 3-Lanes, Palo Cedro to Dersch Road		$6,400,000	(2026-2035)	Capacity/Safety	Unfunded or Developer
10	Dry Creek Road Shoulder Widening, Deschutes Rd to Bear Mtn Rd		$5,440,000	(2026-2035)	Capacity Increase	Unfunded or Developer
11	Oasis Road Widen to 4-Lanes, Randolph to Old Oasis		$1,216,000	(2026-2035)	Capacity Increase	Unfunded or Developer
12	Black Ranch Road Extension		$3,008,000	(2026-2035)	New Facility	Unfunded or Developer
13	Cottonwood - Front, Magnolia, Pine and Chestnut St Roundabouts		$1,123,000	(2026-2035)	Capacity Increase	Unfunded or Developer
14	Knighton Road West		$37,122,000	(2026-2035)	New Facility	Unfunded or Developer
15	Intermountain Road, SR 299 to Bear Mtn Road		$9,076,000	(2026-2035)	New Facility	Unfunded or Developer
16	East Stillwater Way, Shoulder Widen and Extend to Bear Mtn Road		$6,477,000	(2026-2035)	New Facility	Unfunded or Developer
	Total Long Term Fundable Needs =		**$26,236,000**			

DESCRIPTION	Short (2016-2025)	Long (2026-2035)	Total
Funding Needed By Short and Long Range Bands	**$4,789,000**	**$112,428,000**	**$117,217,000**
Recap of Expected/Estimated/Unknown Resources			
Local/Other =	**$4,789,000**	**$26,236,000**	**$31,025,000**
Total Funding Reasonably Available =	**$4,789,000**	**$26,236,000**	**$31,025,000**
Total Unfunded Needs (or Short Term Carryover) =	**$-**	**$(86,192,000)**	**$(86,192,000)**
Note 1 : Green highlighted projects above can be funded in the constrained funding analysis			

Note 2 : Un-highlighted projects above cannot be funded. New funding sources will need to be identified or improvement will be developer funded.
Note 3 : Long term projects are escalated by 2.5%

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Table 27 - Summary of Projects: Redding Capacity

Project Number	REGIONAL TRANSPORTATION PROJECTS	SHORT TERM TOTAL EST COST OF PROJECT	LONG TERM TOTAL EST COST OF PROJECT	PROJECT BAND	PROJECT TYPE (PROJECT INTENT)	EXPECTED FUNDING SOURCES
1	Placer Street Widening - Airpark Drive to Buenaventura Blvd	$1,800,000		(2016-2025)	Capacity Increase	Local/Other
2	Placer Street Widening - Buenaventura Blvd to Boston Ave	$2,000,000		(2016-2025)	Capacity Increase	Local/Other
3	Quartz Hill Road Widening - Snow Lane to Top of the Hill	$1,600,000		(2016-2025)	Capacity Increase	Local/Other
4	Hilltop Drive Widening - Lake Boulevard to I-5	$1,400,000		(2016-2025)	Capacity Increase	Local/Other
5	Churn Creek Road Widening - Browning St. to Boulder Creek	$3,468,000		(2016-2025)	Capacity Increase	Local/Other
6	Old Alturas Road Widening - Victor Avenue to Shasta View Drive	$6,430,000		(2026-2035)	Capacity Increase	Local/Other
7	Victor Avenue Widening - Hartnell Avenue to E. Cypress Avenue	$1,993,000		(2026-2035)	Capacity Increase	Local/Other
8	Oasis Road Widening - Northbound I-5 Ramps to Gold Hills Drive	$11,608,800		(2026-2035)	Interchange	Local/Other
9	Twin View Road Realignment - North and South of Oasis Road	$6,483,064		(2026-2035)	Capacity Increase	Local/Other
	Total Short Term Needs =	**$36,782,864**				
10	Railroad Avenue Widening (including class II bike lanes) - Sheridan Street to Grandview Avenue		$2,308,000	(2026-2035)	Capacity Increase	Local/Other
11	Victor Avenue Widening - E.Cypress Avenue to Mistletoe Lane		$5,472,000	(2026-2035)	Capacity Increase	Local/Other
12	Victor Avenue Widening - SR44 to Old Alturas Road		$3,584,000	(2026-2035)	Capacity Increase	Local/Other
13	Browning Street Reconfigure to 4 Lane - Hilltop Drive to Old Alturas		$5,120,000	(2026-2035)	Capacity Increase	Local/Other
14	Shasta View Drive Widening - Atrium Way to Old Alturas		$512,000	(2026-2035)	Capacity Increase	Local/Other
15	Victor Avenue Widening - Vega Street to Hartnell		$6,080,000	(2026-2035)	Capacity Increase	Unfunded or Developer
16	Bechelli Lane Widening- 3rd Street to Loma Vista		$2,061,000	(2026-2035)	Capacity Increase	Unfunded or Developer
17	Churn Creek Rd, Rancho Rd, and Victor Avenue Roundabout		$3,817,000	(2026-2035)	Capacity Increase	Unfunded or Developer
18	Hartnell Avenue Widening - Victor Avenue to Alta Mesa Drive		$6,966,000	(2026-2035)	Capacity Increase	Unfunded or Developer
19	Churn Creek Road Widening - Boulder Creek to SR 299E		$3,994,000	(2026-2035)	Capacity Increase	Unfunded or Developer
20	Hartnell Avenue Widening - Alta Mesa to Shasta View		$2,432,000	(2026-2035)	Widening	Unfunded or Developer
21	Oasis Road Widening - Randolph Road to Old Oasis Road		$4,480,000	(2026-2035)	Capacity Increase	Unfunded or Developer
22	Cascade Blvd Realignment- North and South of Oasis Road		$11,154,000	(2026-2035)	Capacity Increase	Unfunded or Developer
23	Caterpillar Road - George Drive to SR273 Widen Roadway and Signal		$2,176,000	(2026-2035)	Capacity Increase	Unfunded or Developer
24	Shasta View Drive Extension - 2 Lane Widening - Collyer Drive to Manzanoaks Drive		$7,681,000	(2026-2035)	New Facility	Unfunded or Developer
25	Quartz Hill Road Widening - Top of Hill to City Limits		$5,376,000	(2026-2035)	Capacity Increase	Unfunded or Developer
26	Shasta View Drive Widening - College View to Inspiration Place		$3,200,000	(2026-2035)	Capacity Increase	Unfunded or Developer
27	Airport Road Widening - SR 44 to Rancho Rd.		$7,835,000	(2026-2035)	Capacity Increase	Unfunded or Developer
28	Cypress Ave Connection - Victor Avenue to Shasta View Drive		$21,761,000	(2026-2035)	New Facility	Unfunded or Developer
29	Hilltop Drive Extension - Lake Boulevard to Twin View		$1,280,000	(2026-2035)	New Facility	Unfunded or Developer
30	Palacio Drive Connection - Churn Creek to Cornell Place		$10,881,000	(2026-2035)	New Facility	Unfunded or Developer
31	Shasta View Drive Widening - Hartnell Avenue to Goodwater Drive		$7,449,000	(2026-2035)	Capacity Increase	Unfunded or Developer
32	Airport Road Widening - Sacramento River to Rancho Road		$44,803,000	(2026-2035)	Capacity Increase	Unfunded or Developer
33	Buenaventura Blvd Reconfigure to 4 lane - Summit Drive to Railroad Avenue		$1,920,000	(2026-2035)	Capacity Increase	Unfunded or Developer
34	Buenaventura Blvd Widening - Starlight Boulevard to Placer Road		$1,920,000	(2026-2035)	Capacity Increase	Unfunded or Developer
35	Court Street Widening - 11th Street to Riverside Drive		$640,000	(2026-2035)	Capacity Increase	Unfunded or Developer
36	Hartnell Avenue at Airport Road Widening and Realignment		$10,145,000	(2026-2035)	Capacity Increase	Unfunded or Developer
37	Oak Mesa Lane Extension - Tarmac Road to Candlewood Drive		$1,441,000	(2026-2035)	New Facility	Unfunded or Developer
38	Oasis Road Widening - Gold Hills Drive to Shasta View Drive		$2,560,000	(2026-2035)	Capacity Increase	Unfunded or Developer
39	Old Alturas Road Widening - Shasta View Drive to City Limits		$5,869,000	(2026-2035)	Capacity Increase	Unfunded or Developer
40	Old Oregon Trail Widening - Old Highway 44 to Viking Way		$5,120,000	(2026-2035)	Capacity Increase	Unfunded or Developer
41	Parkview Ave Widening - ACID Canal to Park Marina		$1,184,000	(2026-2035)	Capacity Increase	Unfunded or Developer
42	Rancho Road Widening - Goodwater to Airport Road		$8,641,000	(2026-2035)	Capacity Increase	Unfunded or Developer
43	Shasta View Drive Extension - Manzanoaks Drive to Oasis Road		$5,120,000	(2026-2035)	New Facility	Unfunded or Developer
44	Shasta View Drive Extension - Rancho Road to Airport Road		$6,400,000	(2026-2035)	New Facility	Unfunded or Developer
45	Stillwater Business Park Improvements - Phase 3		$6,400,000	(2026-2035)	New Facility	Unfunded or Developer
46	Tarmac Road Extension to Old Oregon Trail		$7,647,000	(2026-2035)	New Facility	Unfunded or Developer
47	Westside Road Frontage Extension - Glengary Drive to Clear Creek Road		$1,669,000	(2026-2035)	New Facility	Unfunded or Developer
48	Beltline Road Extension - Oasis Rd to Ashby Rd		$6,048,000	(2026-2035)	New Facility	Unfunded or Developer
49	Buenaventura Blvd Extension - Eureka Way to Keswick Dam Road		$12,801,000	(2026-2035)	New Facility	Unfunded or Developer
50	Cedars Road Extension - El Reno Lane to Buenaventura Boulevard		$1,152,000	(2026-2035)	New Facility	Unfunded or Developer
51	Creekside Drive Extension - Sacramento Drive to South Bonnyview Road		$1,280,000	(2026-2035)	New Facility	Unfunded or Developer
52	Cypress Avenue Reliever Project - Industrial Street Extension Over crossing of I-5		$7,345,000	(2026-2035)	Capacity Increase	Unfunded or Developer
53	Eastside Road Extension - Girvan Road to Southern City Limits		$7,232,000	(2026-2035)	New Facility	Unfunded or Developer
54	George Drive Extension - North Terminus to Oasis Road		$1,280,000	(2026-2035)	New Facility	Unfunded or Developer
55	Kenyon Drive Extension - West Terminus to Placer Road		$12,801,000	(2026-2035)	New Facility	Unfunded or Developer
56	Loma Vista Drive Extension - Churn Creek Road to Victor Avenue		$7,681,000	(2026-2035)	New Facility	Unfunded or Developer
57	Palacio Drive Extension - Shasta View Drive to Old Oregon Trail		$4,480,000	(2026-2035)	New Facility	Unfunded or Developer
58	S. Bonnyview Road @ SR273 - Grade Separation		$38,403,000	(2026-2035)	Intersection	Unfunded or Developer

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59	Santa Rosa Avenue Extension - Quartz Hill Road to Lake Boulevard		$2,560,000	(2026-2035)	New Facility	Unfunded or Developer
60	Shasta View Drive Extension - 4 Lane Widening - Collyer Drive to Manzanoaks Drive		$8,961,000	(2026-2035)	Capacity Increase	Unfunded or Developer
61	Shasta View Drive Extension - College View Drive to Collyer Drive - SR299 OC		$12,801,000	(2026-2035)	New Facility	Unfunded or Developer
62	Shasta View Drive Extension - Oasis Road to North City Limits		$5,120,000	(2026-2035)	New Facility	Unfunded or Developer
63	South Street Railroad Crossing- Grade Separation		$12,097,000	(2026-2035)	Intersection	Unfunded or Developer
	Total Long Term Fundable Needs =		**$16,996,000**			

DESCRIPTION	Short (2016-2025)	Long (2026-2035)	Total
Funding Needed By Short and Long Range Bands	**$36,782,864**	**$379,140,000**	**$415,922,864**
Recap of Expected/Estimated/Unknown Resources			
Local/Other =	**$36,782,864**	**$16,996,000**	**$53,778,864**
Total Funding Reasonably Available =	**$36,782,864**	**$16,996,000**	**$53,778,864**
Total Unfunded Needs (or Short Term Carryover) =	**$-**	**$(362,144,000)**	**$(362,144,000)**
Note 1 : Green highlighted projects above can be funded in the constrained funding analysis			

Note 2 : Un-highlighted projects above cannot be funded. New funding sources will need to be identified or improvement will be developer funded.
Note 3 : Long term projects are escalated by 2.5%

Table 28 - Summary of Projects: Anderson Capacity

Project Number	REGIONAL TRANSPORTATION PROJECTS	SHORT TERM TOTAL EST COST OF PROJECT	LONG TERM TOTAL EST COST OF PROJECT	PROJECT BAND	PROJECT TYPE (PROJECT INTENT)	EXPECTED FUNDING SOURCES
1	Gateway Drive - Balls Ferry to Deschutes - construct 2 lane road	$6,500,000		(2016-2025)	New Facility	Local/Other
	Total Short Term Fundable =	**$6,500,000**				
2	Auto Mall - Extend to North Street - Extension		$4,864,000	(2026-2035)	Capacity Increase	Local/Other
3	McMurray Drive - North of Ganyon Drive - Widening		$640,000	(2026-2035)	Capacity Increase	Unfunded or Developer
4	Gateway Drive - From Balls Ferry South - Widening		$1,528,000	(2026-2035)	New Facility	Unfunded or Developer
5	East Street - North of Willow Glen Dr. - Extension		$2,128,000	(2026-2035)	New Facility	Unfunded or Developer
6	Pleasant Hills SR 273 Vineyards - construct 2 lane road extension		$4,255,000	(2026-2035)	New Facility	Unfunded or Developer
7	Rhonda Road - Factory Outlets Drive to Pleasant Hills - Intersection Reconstruction		$2,927,000	(2026-2035)	New Facility	Unfunded or Developer
8	Anderson Hills Parkway -W of Pleasant Hills - Construct 4 lane road		$6,375,000	(2026-2035)	New Facility	Unfunded or Developer
9	Anderson Hills Parkway Pleasant to Rhonda - Construct 4 lane road		$3,840,000	(2026-2035)	New Facility	Unfunded or Developer
10	Anderson Hills Parkway - Rhonda to Locust - Construct 4 lane road		$3,404,000	(2026-2035)	New Facility	Unfunded or Developer
11	Emily Drive - Widening		$945,000	(2026-2035)	Capacity Increase	Unfunded or Developer
12	Ox Yoke Rd. - SR 273 to Riverside Av - Widening to 5 lanes		$2,560,000	(2026-2035)	Capacity Increase	Unfunded or Developer
13	Riverside Avenue - Ox Yoke to North St. - Widening to 5 lanes		$8,961,000	(2026-2035)	Capacity Increase	Unfunded or Developer
14	Balls Ferry Rd. - From Stingy Lane to the City Limits - Widening		$1,528,000	(2026-2035)	Capacity Increase	Unfunded or Developer
15	South Street - SR 273 west to City Limits - Widening		$4,800,000	(2026-2035)	Capacity Increase	Unfunded or Developer
16	Stingy Lane - North St. to Balls Ferry - Widening		$17,281,000	(2026-2035)	Capacity Increase	Unfunded or Developer
17	Gateway Drive - From Existing Improvements to Deschutes - Widen		$7,196,000	(2026-2035)	New Facility	Unfunded or Developer
18	Fairgrounds Drive - 1st St. to 3rd St. -Widening		$1,408,000	(2026-2035)	Capacity Increase	Unfunded or Developer
19	Third Street - SR 273 to Fairgrounds Dr. - Widening		$2,304,000	(2026-2035)	Capacity Increase	Unfunded or Developer
20	South County Extension - Ronda Rd to Anderson Hills - Extension		$7,040,000	(2026-2035)	New Facility	Unfunded or Developer
	Total Long Term Fundable Needs =		**$4,864,000**			

DESCRIPTION	Short (2016-2025)	Long (2026-2035)	Total
Funding Needed By Short and Long Range Bands	**$6,500,000**	**$83,984,000**	**$90,484,000**
Recap of Expected/Estimated/Unknown Resources			
Local/Other =	**$6,500,000**	**$4,864,000**	**$11,364,000**
Total Funding Reasonably Available =	**$6,500,000**	**$4,864,000**	**$11,364,000**
Total Unfunded Needs (or Short Term Carryover) =	**$-**	**$(79,120,000)**	**$(79,120,000)**
Note 1 : Green highlighted projects above can be funded in the constrained funding analysis			

Note 2 : Un-highlighted projects above cannot be funded. New funding sources will need to be identified or improvement will be developer funded.
Note 3 : Long term projects are escalated by 2.5%

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Table 29 - Summary of Projects: City of Shasta Lake Capacity and Safety

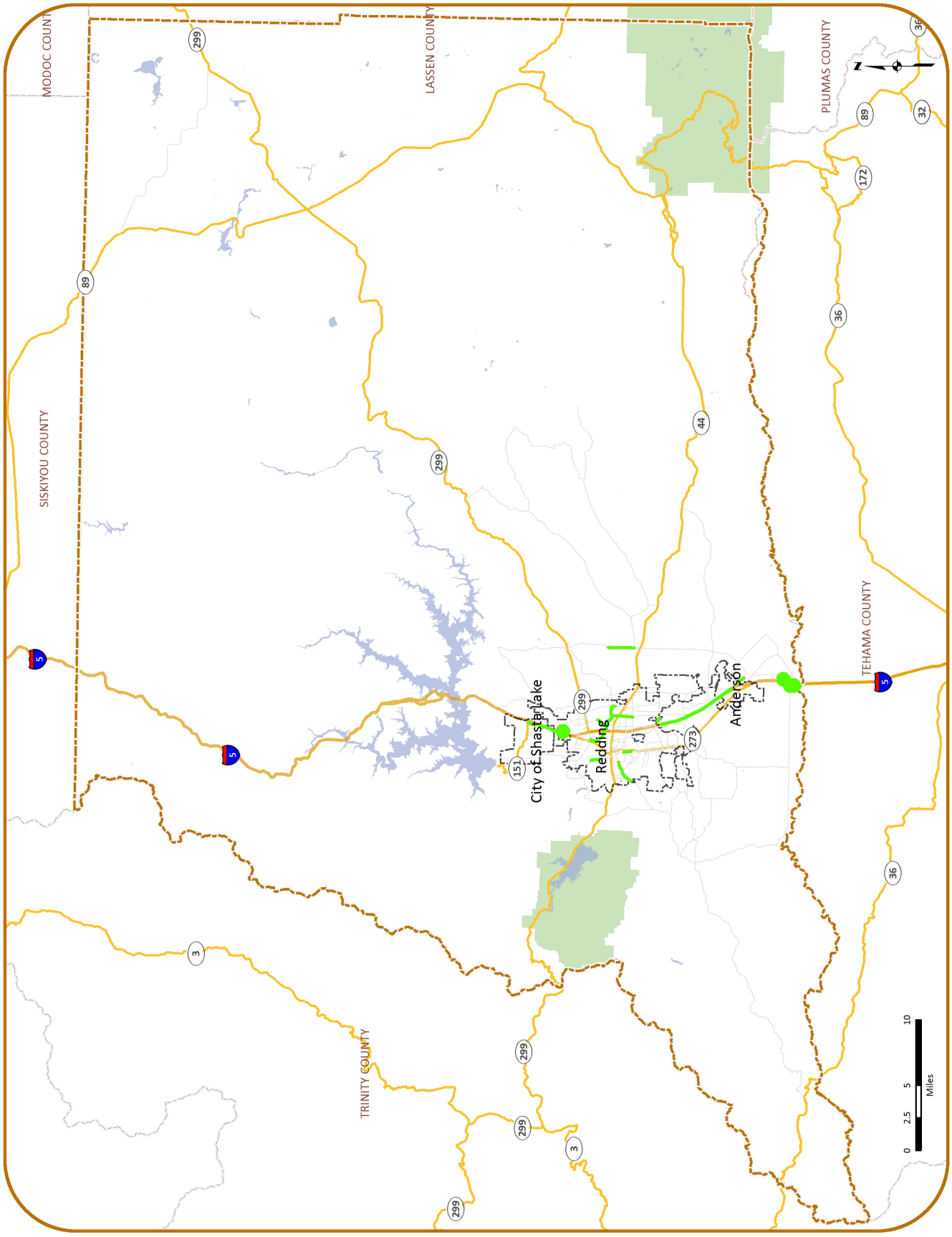
Project Number	REGIONAL TRANSPORTATION PROJECTS	SHORT TERM TOTAL EST COST OF PROJECT	LONG TERM TOTAL EST COST OF PROJECT	PROJECT BAND	PROJECT TYPE (PROJECT INTENT)	EXPECTED FUNDING SOURCES
	NO SHORT RANGE PROJECTS					
	Total Short Term Needs =	**$-**				
1	Cascade Boulevard Reconstruction including bike/ped		$6,400,000	(2016-2025)	Capacity and Safety	Unfunded
2	North/South Road between Wonderland Boulevard and Cascade Boulevard		$5,120,000	(2026-2035)	New Facility	Unfunded or Developer
3	Ashby Rd. widening, sidewalks, separated bike(Class 1) - SR 151 to Pine Grove Ave.		$8,961,000	(2026-2035)	Capacity Increase and Safety	Unfunded or Developer
4	Pine Grove Reconstruction		$5,120,000	(2026-2035)	Capacity and Safety	Unfunded
5	Shasta Gateway Dr. Extension to Cascade Blvd.		$14,337,000	(2026-2035)	New Facility	Unfunded or Developer
6	Cabello Extension - Vallecito to Pine Grove Ave.		$2,592,000	(2026-2035)	New Facility	Unfunded or Developer
7	Pine Grove Avenue Extension to Akrich		$5,760,000	(2026-2035)	New Facility	Unfunded or Developer
8	Reconstruct Lake Blvd. N/O SR 151		$3,840,000	(2026-2035)	Capacity and Safety	Unfunded or Developer (see BOR,BLM,NFS)
9	Cascade Blvd Realignment, SR 151 N of Trinity to Arrowhead(South City Limit) D/N include Pine Grove to creek)		$3,392,000	(2026-2035)	Capacity Increase	Unfunded or Developer
	Total Long Term Fundable Needs =		**$6,400,000**			

DESCRIPTION	Short (2016-2025)	Long (2026-2035)	Total
Funding Needed By Short and Long Range Bands	**$-**	**$55,522,000**	**$55,522,000**
Recap of Expected/Estimated/Unknown Resources			
Local/Other =	**$-**	**$3,200,000**	**$3,200,000**
Highway Safety Improvement Program (HSIP) =	**$-**	**$ 3,200,000**	**$3,200,000**
Total Funding Reasonably Available =	**$-**	**$6,400,000**	**$6,400,000**
Total Unfunded Needs (or Short Term Carryover) =	**$-**	**$(49,122,000)**	**$(49,122,000)**
Note 1 : Green highlighted projects above can be funded in the constrained funding analysis			

Note 2 : Un-highlighted projects above cannot be funded. New funding sources will need to be identified or improvement will be developer funded.
Note 3 : Long term projects are escalated by 2.5%

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Figure 33 - Location of Constrained Capacity Projects



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Table 30 - Summary of Projects: Shasta County Interchanges

Project Number	REGIONAL TRANSPORTATION PROJECTS	SHORT TERM TOTAL EST COST OF PROJECT	LONG TERM TOTAL EST COST OF PROJECT	FUNDABLE PROJECT BAND	PROJECT TYPE (PROJECT INTENT)	EXPECTED FUNDING SOURCES
1	Route 44, Postmile 5.8, Stillwater Road - New interchange	$22,000,000		(2016-2025)	Interchange	SHOPP/Local/Other
	Total Short Term Needs =	**$22,000,000**				
2	I-5 Main St Interchange Exit 665 - Connect to Rhonda, add roundabouts		$21,955,000	(2026-2035)	Interchange	SHOPP/Local/Other
3	Reconfigure Knighton Road Over-Crossing at Interchange Exit 673		$51,627,000	(2026-2035)	Interchange	Unfunded or Developer
4	I-5 Gas Point Interchange Improvements exit 664		$27,463,000	(2026-2035)	Interchange	Unfunded or Developer
5	Improve SR 299 Old Oregon Trail Interchange - Exit 143		$3,200,000	(2026-2035)	Interchange	Unfunded or Developer
	Total Long Term Fundable Needs =		**$21,955,000**			

DESCRIPTION	Short (2016-2025)	Long (2026-2035)	Total
Funding Needed By Short and Long Range Bands	**$22,000,000**	**$104,245,000**	**$126,245,000**
Recap of Expected/Estimated/Unknown Resources			
Local/Other =	**$9,400,000**	**10,977,500**	**$20,377,500**
State Highway Operations and Protection Program (SHOPP) =	**$9,400,000**	**10,977,500**	**$20,377,500**
High Priority Projects (HPP) =	**$3,200,000**		**$3,200,000**
Total Funding Reasonably Available =	**$22,000,000**	**$21,955,000**	**$43,955,000**
Total Unfunded Needs (or Short Term Carryover) =	**$-**	**$(82,290,000)**	**$(82,290,000)**
Note 1 : Green highlighted projects above can be funded in the constrained funding analysis			

Note 2 : Un-highlighted projects above cannot be funded. New funding sources will need to be identified or improvement will be developer funded.
Note 3 : Long term projects are escalated by 2.5%

Table 31 - Summary of Projects: Redding Interchanges

Project Number	REGIONAL TRANSPORTATION PROJECTS	SHORT TERM TOTAL EST COST OF PROJECT	LONG TERM TOTAL EST COST OF PROJECT	PROJECT BAND	PROJECT TYPE (PROJECT INTENT)	EXPECTED FUNDING SOURCES
1	Signal: SR44 and Shasta View Dr (WB Ramp)	$400,000		(2016-2025)	Intersection	Developer
	Total Short Term Needs =	$400,000				
2	Hilltop Drive Overcrossing - over I-5, Build second structure to the north		$6,759,000	(2026-2035)	Capacity Increase	TIF
3	Oasis Road & I-5 Interchange Exit 682 - Reconstruction and Widening		$26,498,000	(2026-2035)	Interchange	NRTBD/Developer
4	Route 299, Postmile 25.35, Exit #141, Churn Creek Interchange		$3,840,000	(2026-2035)	Interchange	Future Need
5	Route I-5, Postmile 17.32, Exit #680, SR 299E Interchange		$3,840,000	(2026-2035)	Interchange	Future Need
6	Route I-5, Postmile 18.48, State Route 273/I-5 Interchange		$15,361,000	(2026-2035)	Interchange	Unfunded or Developer
7	South Bonnyview & I-5 Interchange Exit 675 - Improvements		$12,801,000	(2026-2035)	Interchange	Unfunded or Developer
8	Twin View Blvd & I-5 Interchange Exit 681 - Improvements		$5,120,000	(2026-2035)	Interchange	Unfunded or Developer
9	Airport Road & SR44 Interchange Exit 5 - Improvements		$19,201,000	(2026-2035)	Interchange	Unfunded or Developer
10	Cypress Ave and Bechelli Lane to Industrial Street & I-5 Interchange Exit 677 - Reconstruction		$16,677,000	(2026-2035)	Interchange	Unfunded or Developer
	Total Long Term Fundable Needs =		**$33,257,000**			

DESCRIPTION	Short (2016-2025)	Long (2026-2035)	Total
Funding Needed By Short and Long Range Bands	**$400,000**	**$110,097,000**	**$110,497,000**
Recap of Expected/Estimated/Unknown Resources			
Local/Other =	**$200,000**	**$16,628,500**	**$16,828,500**
State Highway Operations and Protection Program (SHOPP) =	**$200,000**	**$16,628,500**	**$16,828,500**
Total Funding Reasonably Available =	**$400,000**	**$33,257,000**	**$33,657,000**
Total Unfunded Needs (or Short Term Carryover) =	**$-**	**$(76,840,000)**	**$(76,840,000)**
Note 1 : Green highlighted projects above can be funded in the constrained funding analysis			

Note 2 : Un-highlighted projects above cannot be funded. New funding sources will need to be identified or improvement will be developer funded.
Note 3 : Long term projects are escalated by 2.5%

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Table 32 - Summary of Projects: Anderson Interchanges

Project Number	REGIONAL TRANSPORTATION PROJECTS	SHORT TERM TOTAL EST COST OF PROJECT	LONG TERM TOTAL EST COST OF PROJECT	PROJECT BAND	PROJECT TYPE (PROJECT INTENT)	EXPECTED FUNDING SOURCES
	NO SHORT RANGE PROJECTS					
	Total Short Term Fundable =	$-				
1	Reconfigure I-5 Riverside Interchange, Postmile 6.74, Exit #670		$22,017,000	(2026-2035)	Interchange	Safety, TIF, SHOPP
2	Reconfigure I-5 Central Anderson Interchange (Balls Ferry/North Street) Postmile 5.64, Exit #668		$3,968,000	(2026-2035)	Interchange	Unfunded or Developer
3	Deschutes/I-5 Interchange phase 2		$13,441,000	(2026-2035)	Interchange	Unfunded or Developer
	Total Long Term Fundable Needs =		**$22,017,000**			

DESCRIPTION	Short (2016-2025)	Long (2026-2035)	Total
Funding Needed By Short and Long Range Bands	**$-**	**$39,426,000**	**$39,426,000**
Recap of Expected/Estimated/Unknown Resources			
Local/Other =	**$-**	**$11,008,500**	**$11,008,500**
State Highway Operations and Protection Program (SHOPP) =	**$-**	**$11,008,500**	**$11,008,500**
Total Funding Reasonably Available =	**$-**	**$22,017,000**	**$22,017,000**
Total Unfunded Needs (or Short Term Carryover) =	**$-**	**$(17,409,000)**	**$(17,409,000)**
Note 1 : Green highlighted projects above can be funded in the constrained funding analysis			

Note 2 : Un-highlighted projects above cannot be funded. New funding sources will need to be identified or improvement will be developer funded.
Note 3 : Long term projects are escalated by 2.5%

Table 33 - Summary of Projects: City of Shasta Lake Interchanges

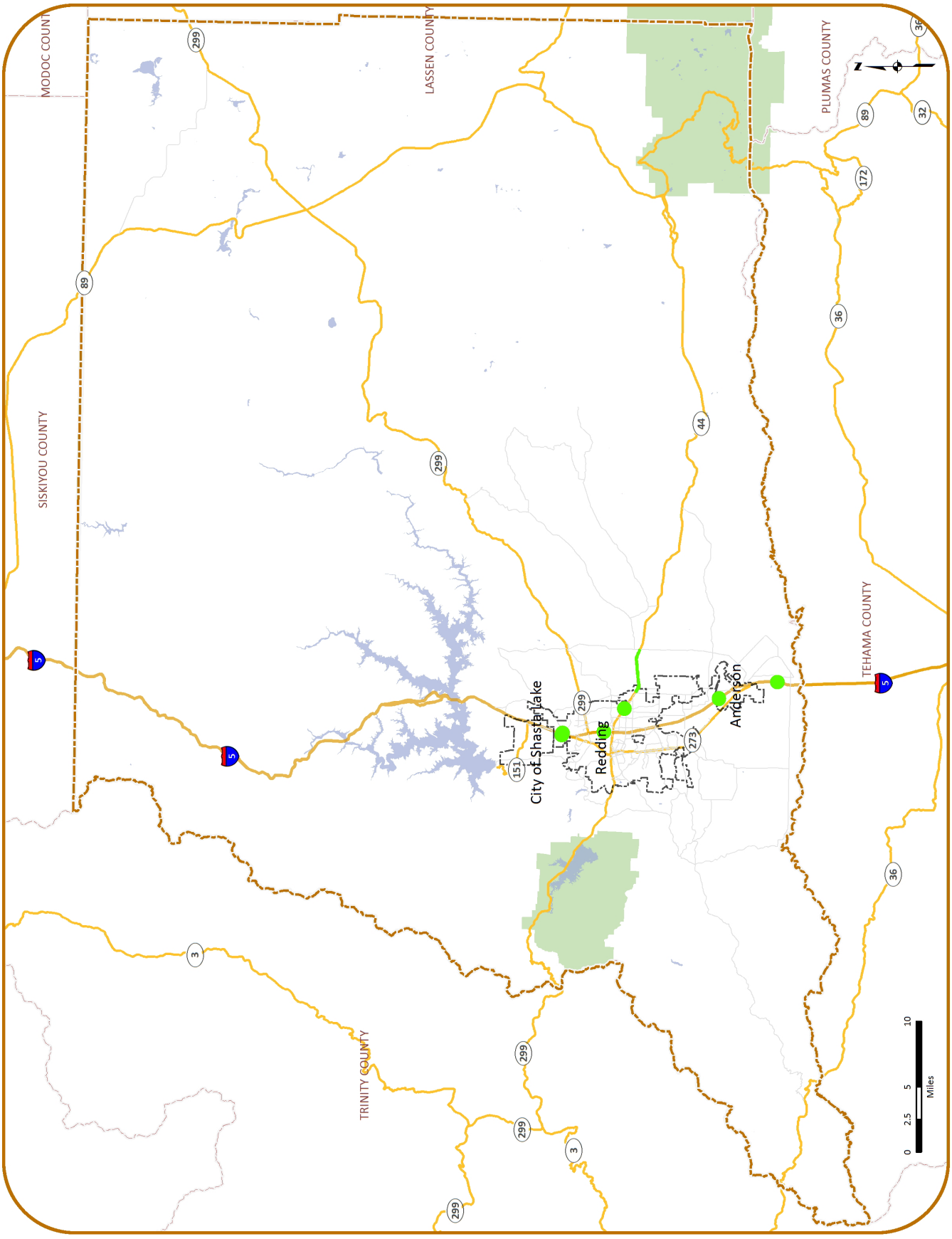
Project Number	REGIONAL TRANSPORTATION PROJECTS	SHORT TERM TOTAL EST COST OF PROJECT	LONG TERM TOTAL EST COST OF PROJECT	PROJECT BAND	PROJECT TYPE (PROJECT INTENT)	EXPECTED FUNDING SOURCES
	NO SHORT RANGE PROJECTS					
	Total Short Term Needs =	$-				
1	Improve Mountain Gate Interchange Exit 687		$2,560,000	(2026-2035)	Interchange	Unfunded or Developer
2	Reconfigure Pine Grove Interchange East Exit 684		$4,960,000	(2026-2035)	Interchange	Unfunded or Developer
3	Improve Shasta Dam Blvd Interchange Exit 685		$5,120,000	(2026-2035)	Interchange	Unfunded or Developer
	Total Long Term Fundable Needs =		**$-**			

DESCRIPTION	Short (2016-2025)	Long (2026-2035)	Total
Funding Needed By Short and Long Range Bands	**$-**	**$12,640,000**	**$12,640,000**
Recap of Expected/Estimated/Unknown Resources			
Local/Other =	**-**	**$-**	**$-**
State Highway Operations and Protection Program (SHOPP) =	**-**	**-**	**$-**
Total Funding Reasonably Available =	**$-**	**$-**	**$-**
Total Unfunded Needs (or Short Term Carryover) =	**$-**	**$(12,640,000)**	**$(12,640,000)**
Note 1 : Green highlighted projects above can be funded in the constrained funding analysis			

Note 2 : Un-highlighted projects above cannot be funded. New funding sources will need to be identified or improvement will be developer funded.
Note 3 : Long term projects are escalated by 2.5%

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Figure 34 - Location of Constrained Interchange Projects



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Table 34 - Summary of Projects: Shasta County Safety

Project Number	REGIONAL TRANSPORTATION PROJECTS	SHORT TERM TOTAL EST COST OF PROJECT	LONG TERM TOTAL EST COST OF PROJECT	FUNDABLE PROJECT BAND	PROJECT TYPE (PROJECT INTENT)	EXPECTED FUNDING SOURCES
1	Olinda Road Shoulder Widening, Sammy Lane to Red Leaf Lane	$1,100,000		(2016-2025)	Safety	HSIP/Local/Other
2	Hawthorne Ave Shoulder Widening, Happy Valley Rd to Dixieland Lane	$750,000		(2016-2025)	Safety	HSIP/Local/Other
3	Deschutes Road Shoulder Widening, Brundage Rd. to Balls Ferry Rd.	$2,000,000		(2016-2025)	Safety	HSIP/Local/Other
4	Canyon Road Bike Lanes, Valley View Rd to China Gulch	$600,000		(2016-2025)	Safety	HSIP/Local/Other/ATP
5	Canyon Road Bike Lanes, SR 273 to Valley View Rd	$650,000		(2016-2025)	Safety	HSIP/Local/Other/ATP
6	Lake Boulevard Roundabout/Signal at Pine Grove Avenue	$500,000		(2016-2025)	Intersection	HSIP/Local/Other
7	Happy Valley Road Shoulder Widening and Realign, Palm Avenue to Warwick St	$1,875,000		(2016-2025)	Safety	HSIP/Local/Other
8	Placer Road, Shoulder Widening and Realign, Muletown Rd to Leaning Pine Rd	$650,000		(2016-2025)	Safety	HSIP/Local/Other
9	Churn Creek Road, Shoulder Widening from Rancho to Knighton	$1,500,000		(2016-2025)	Safety	HSIP/Local/Other
10	4th Street Median Lane, Main Street to Balls Ferry Road	$1,500,000		(2016-2025)	Capacity/Safety	HSIP/Local/Other
11	Bear Mountain Road -	$1,500,000		(2016-2025)	Safety	HSIP/Local/Other
12	Old Alturas Road, Shoulder Widening and Realign, Old Oregon Tr to Stillwater Ck	$490,000		(2016-2025)	Safety	HSIP/Local/Other
13	Old Alturas/Boyle Roads, Shoulder Widening, Stillwater Ck to Deschutes Rd	$1,500,000		(2016-2025)	Safety	HSIP/Local/Other
14	Placer Road at Swasey Drive, Roundabout	$500,000		(2016-2025)	Safety	Unfunded or Developer
	Total Short Term Needs =	**$15,115,000**				
15	Canyon Road at China Gulch Drive Roundabout/Signal		$640,000	(2026-2035)	Intersection	HSIP/Local/Other
16	Old Oregon Trail at Old Alturas Roundabout/Signal		$640,000	(2026-2035)	Intersection	HSIP/Local/Other
17	Churn Creek Road, Shoulder Widening from Knighton to Airport		$1,920,000	(2026-2035)	Safety	HSIP/Local/Other
18	Clear Creek Road Shoulder Widening, 273 to Honey Bee		$1,920,000	(2026-2035)	Safety	HSIP/Local/Other
19	Old 44 Drive Shoulder Widening, COR to Deschutes Road		$1,920,000	(2026-2035)	Safety	HSIP/Local/Other
20	Old 44 Drive Shoulder Widening and Realignment, Silver Bridge Rd to Oak Run Rd		$1,920,000	(2026-2035)	Safety	HSIP/Local/Other
21	Swasey Drive Shoulder Widening, SH 299 to Placer		$3,955,000	(2026-2035)	Safety	HSIP/Local/Other
22	Lower Springs Road Shoulder Widening, SH 299 to Swasey Drive		$1,920,000	(2026-2035)	Safety	HSIP/Local/Other
23	Deschutes Road at Boyle and Old Deschutes Rd Roundabout/Signal		$640,000	(2026-2035)	Intersection	HSIP/Local/Other
24	Cottonwood - Fourth Street and Locust Street Roundabout/Signal		$640,000	(2026-2035)	Intersection	HSIP/Local/Other
25	Quartz Hill and Keswick Dam Roads, Roundabout/Signal		$640,000	(2026-2035)	Intersection	HSIP/Local/Other
26	Cottonwood - Happy Valley at Gas Point Road Roundabout/Signal		$640,000	(2026-2035)	Intersection	HSIP/Local/Other
27	Deschutes Rd @ SR 44 Ramps and Old 44 Dr, Roundabouts/Signals		$2,560,000	(2026-2035)	Intersection	HSIP/Local/Other
	Total Long Term Fundable Needs =		**$19,955,000**			

DESCRIPTION	Short (2016-2025)	Long (2026-2035)	Total
Funding Needed By Short and Long Range Bands	$15,115,000	$19,955,000	$35,070,000
Recap of Expected/Estimated/Unknown Resources			
Highway Safety Improvement Program (HSIP) =	$12,847,750	$16,961,750	$29,809,500
Local/Other =	$1,511,500	2,993,250	$4,504,750
Active Transportation Program (ATP) =	$755,750	$-	$755,750
Total Funding Reasonably Available =	$15,115,000	$19,955,000	$35,070,000
Total Unfunded Needs (or Short Term Carryover) =	$-	$-	$-
Note 1 : Green highlighted projects above can be funded in the constrained funding analysis			

Note 2 : Un-highlighted projects above cannot be funded. New funding sources will need to be identified or improvement will be developer funded.
Note 3 : Long term projects are escalated by 2.5%

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Table 35 - Summary of Projects: Redding Safety

Project Number	REGIONAL TRANSPORTATION PROJECTS	SHORT TERM TOTAL EST COST OF PROJECT	LONG TERM TOTAL EST COST OF PROJECT	PROJECT BAND	PROJECT TYPE (PROJECT INTENT)	EXPECTED FUNDING SOURCES
1	Roundabout: Victor Avenue - Old Alturas	$1,500,000		(2016-2025)	Intersection	HSIP/Local/Other
2	Restripe and improvements: Court Street - Schley Avenue	$400,000		(2016-2025)	Intersection	HSIP/Local/Other
3	2 lane Realignment and Widening: Old Oregon Trail - Midland Drive to Frontier Road	$1,800,000		(2016-2025)	Safety	HSIP/Local/Other
4	Shoulder widening: Churn Creek Road - Bodenhammer to Boulder Creek	$1,200,000		(2016-2025)	Safety	HSIP/Local/Other
5	Shoulder widening: Buenaventura - Placer to Lakeside	$1,200,000		(2016-2025)	Safety	HSIP/Local/Other
6	Victor Avenue Safety Improvements - Enterprise Park to Churn Creek Bridge	$1,416,200		(2016-2025)	Safety	HSIP/Local/Other
7	Signal: West Street - Placer Street	$400,000		(2016-2025)	Intersection	HSIP/Local/Other
8	Signal: Lake Blvd - Keswick Dam Road	$350,000		(2016-2025)	Intersection	HSIP/Local/Other
9	Signal: Churn Creek - Maraglia Street	$400,000		(2016-2025)	Intersection	HSIP/Local/Other
10	Signal: Victor Avenue - Vega Street	$400,000		(2026-2035)	Intersection	HSIP/Local/Other
11	Signal: Victor Avenue - Galaxy Way	$400,000		(2016-2025)	Intersection	HSIP/Local/Other
12	Signal: East Street - South Street	$400,000		(2016-2025)	Intersection	HSIP/Local/Other
13	Signal: Alta Mesa Drive - Hartnell Avenue	$400,000		(2016-2025)	Intersection	HSIP/Local/Other
14	Signal: Shasta View Drive - Simpson Blvd	$400,000		(2016-2025)	Intersection	HSIP/Local/Other
15	Signal: Placer Road - Cumberland	$400,000		(2016-2025)	Intersection	HSIP/Local/Other
16	Signal: Placer Road - Wisconsin Avenue	$400,000		(2016-2025)	Intersection	HSIP/Local/Other
17	Signal: Court Street - Riverside Drive	$400,000		(2016-2025)	Intersection	HSIP/Local/Other
18	Signal: Park Marina Drive - Locust Street	$400,000		(2016-2025)	Intersection	HSIP/Local/Other
19	Signal: Airport Road - Meadowview Drive	$400,000		(2016-2025)	Intersection	HSIP/Local/Other
	Total Short Term Needs =	**$12,666,200**				
20	Signal: Victor Avenue - Marlene Avenue		$512,000	(2026-2035)	Intersection	HSIP/Local/Other
21	Signal: Lake Boulevard - Panorama Drive		$512,000	(2026-2035)	Intersection	HSIP/Local/Other
22	Signal: Placer - O'conner Avenue		$512,000	(2026-2035)	Intersection	HSIP/Local/Other
23	Signal: Twin View - Caterpillar		$512,000	(2026-2035)	Intersection	HSIP/Local/Other
24	Signal: Hilltop Drive - Sand Point Drive		$512,000	(2026-2035)	Intersection	HSIP/Local/Other
25	Signal: Churn Creek/Hawley Road - Collyer Drive		$512,000	(2026-2035)	Intersection	HSIP/Local/Other
26	Signal: Churn Creek Road - Palacio Drive		$512,000	(2026-2035)	Intersection	HSIP/Local/Other
27	Signal: Shasta View Drive - College View		$512,000	(2026-2035)	Intersection	HSIP/Local/Other
28	Signal: Victor Ave - El Vista Street		$512,000	(2026-2035)	Intersection	HSIP/Local/Other
29	Signal: Lake Boulevard - Santa Rosa Way		$512,000	(2026-2035)	Intersection	HSIP/Local/Other
30	Signal: Hartnell Avenue - Lawrence Road		$512,000	(2026-2035)	Intersection	HSIP/Local/Other
	Total Long Term Fundable Needs =		**$5,632,000**			

DESCRIPTION	Short (2016-2025)	Long (2026-2035)	Total
Funding Needed By Short and Long Range Bands	**$12,666,200**	**$5,632,000**	**$18,298,200**
Recap of Expected/Estimated/Unknown Resources			
Highway Safety Improvement Program (HSIP) =	**$6,333,100**	**$2,816,000**	**$9,149,100**
Local/Other =	**$6,333,100**	**$2,816,000**	**$9,149,100**
Total Funding Reasonably Available =	**$12,666,200**	**$5,632,000**	**$18,298,200**
Total Unfunded Needs (or Short Term Carryover) =	**$-**	**$-**	**$-**
Note 1 : Green highlighted projects above can be funded in the constrained funding analysis			

Note 2 : Un-highlighted projects above cannot be funded. New funding sources will need to be identified or improvement will be developer funded.
Note 3 : Long term projects are escalated by 2.5%

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Table 36 - Summary of Projects: Anderson Safety

Project Number	REGIONAL TRANSPORTATION PROJECTS	SHORT TERM TOTAL EST COST OF PROJECT	LONG TERM TOTAL EST COST OF PROJECT	PROJECT BAND	PROJECT TYPE (PROJECT INTENT)	EXPECTED FUNDING SOURCES
1	SR 273 @ North Street - Intersection Improvements	$1,500,000		(2016-2025)	Safety	HSIP/Local/Other
	Total Short Term Needs =	**$1,500,000**				
2	SR 273 @ South Street - Intersection Improvements		$1,920,000	(2026-2035)	Safety	HSIP/Local/Other
3	Little Street - Realignment		$896,000	(2026-2035)	Safety	HSIP/Local/Other
4	Alexander St - Widening		$640,000	(2026-2035)	Safety	HSIP/Local/Other
	Total Long Term Fundable Needs =		**$3,456,000**			

DESCRIPTION	Short (2016-2025)	Long (2026-2035)	Total
Funding Needed By Short and Long Range Bands	**$1,500,000**	**$3,456,000**	**$4,956,000**
Recap of Expected/Estimated/Unknown Resources			
Highway Safety Improvement Program (HSIP) =	**$1,350,000**	**$3,110,400**	**$4,460,400**
Local/Other =	**$150,000**	**$345,600**	**$495,600**
Total Funding Reasonably Available =	**$1,500,000**	**$3,456,000**	**$4,956,000**
Total Unfunded Needs (or Short Term Carryover) =	**$-**	**$-**	**$-**
Note 1 : Green highlighted projects above can be funded in the constrained funding analysis			

Note 2 : Un-highlighted projects above cannot be funded. New funding sources will need to be identified or improvement will be developer funded.
Note 3 : Long term projects are escalated by 2.5%

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Figure 35 - Location of Constrained Safety Projects

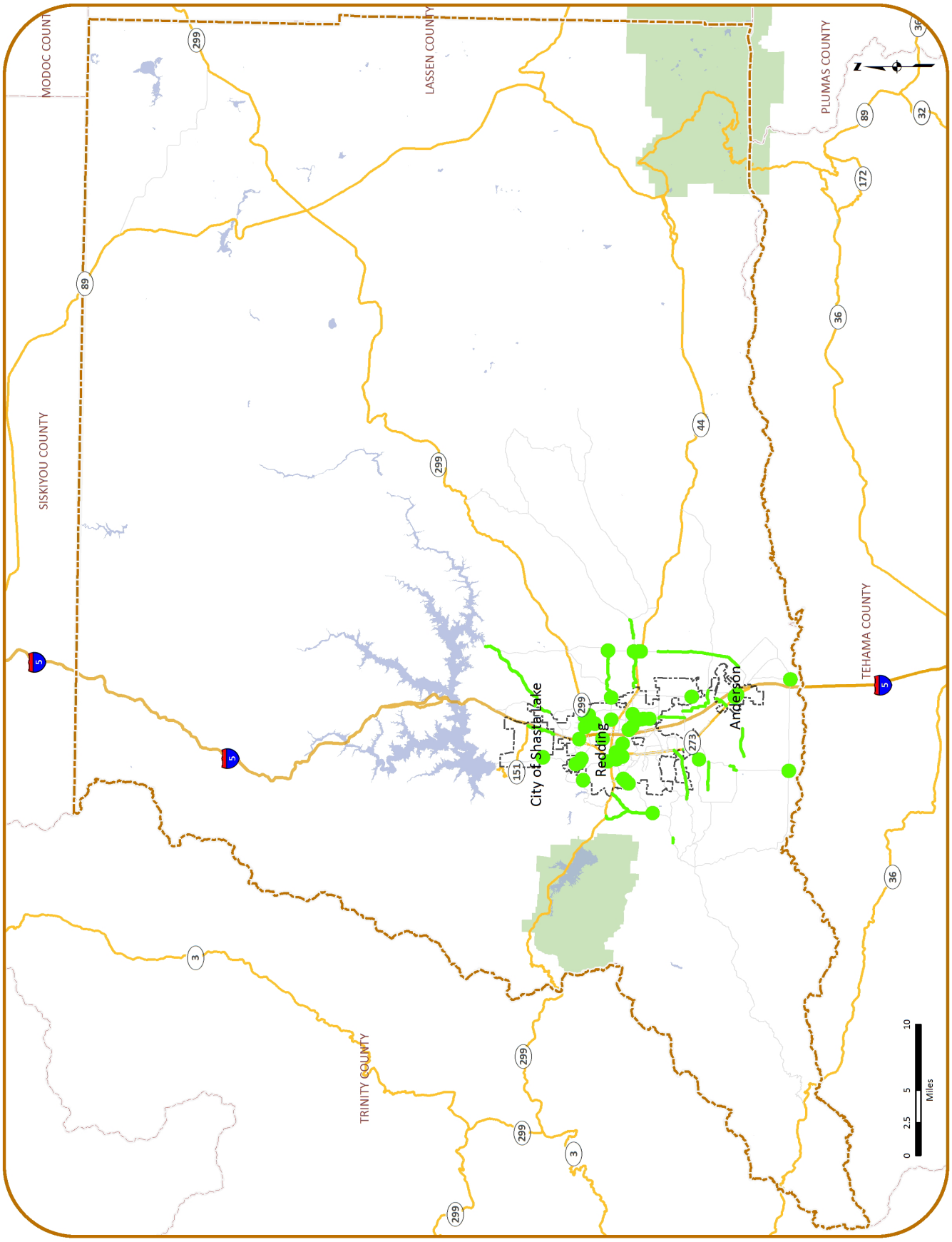


Table 37 - Summary of Projects: Native American Roads

Project Number	REGIONAL TRANSPORTATION PROJECTS	SHORT TERM TOTAL EST COST OF PROJECT	LONG TERM TOTAL EST COST OF PROJECT	PROJECT BAND	PROJECT TYPE / PROJECT INTENT	EXPECTED FUNDING SOURCES
1	Wamari Way, New road with two bridges (Burney Creek and Burney Creek Overflow)	unknown		(2016-2025)	New Facility	IRR
	Total Short Term Needs =	$-				
	Total Long Term Fundable Needs =		$-			

DESCRIPTION	Short (2016-2025)	Long (2026-2035)	Total
Funding Needed By Short and Long Range Bands	$-	$-	$-
Recap of Expected/Estimated/Unknown Resources			
			$-
Total Funding Reasonably Available =	$-	$-	$-
Total Unfunded Needs =	$-	$-	$-
Note 1 : Green highlighted projects above can be funded in the constrained funding analysis			

Note 2 : Un-highlighted projects above cannot be funded. New funding sources will need to be identified or improvement will be developer funded.

Table 38 - Summary of Projects: Caltrans ITS

Project Number	REGIONAL TRANSPORTATION PROJECTS	SHORT TERM TOTAL EST COST OF PROJECT	LONG TERM TOTAL EST COST OF PROJECT	PROJECT BAND	PROJECT TYPE (PROJECT INTENT)	EXPECTED FUNDING SOURCES
1	I-5, Start/End PM 9.77, Knighton Road, 1 CCTV at Knighton Road on I-5	$554,000		(2016-2025)	ITS	SHOPP
2	I-5, Start/End PM 24.7, Mountain Gate, 1 CMS FNBT at Mountain Gate on I-5 W/ Sign Bridge structure	$1,040,000		(2016-2025)	ITS	SHOPP
3	SR 299, various locations, Hatchet Mountain, Microwave. TMS Wireless Backbone East Extension (Hatchet Mtn.)	$233,000		(2016-2025)	ITS	SHOPP
4	Various Locations in Shasta County, Microwave. TMS Wireless Backbone South/West Ext (Tuscan Butte; Hoadley)	$8,000,000		(2016-2025)	ITS	SHOPP
5	SR 273/299, Redding, Signal Upgrades and Synchronization on 299 between Lake Blvd and I-5	$210,000		(2016-2025)	ITS	SHOPP
6	SR 44/299, Shasta County, Connect I-5 Fiber Backbone to District Office	$4,482,000		(2016-2025)	ITS	SHOPP
7	SR 44/299, Redding, Redding Local TMS Fiber Spurs	$1,377,000		(2016-2025)	ITS	SHOPP
8	SR 44/I-5, Shasta County, Connect I-5 Fiber Backbone to District Office via Microwave and Hub House at CRI	$824,000		(2016-2025)	ITS	SHOPP
9	SR 44/89, Old Station, 1 CCTV,1 HAR, and 3 CMS signs at Old Station at Jct SR44-SR89	$27,000		(2016-2025)	ITS	SHOPP
10	I-5/SR 273, Redding, Northern Redding TMS Fiber	$345,000		(2016-2025)	ITS	SHOPP
11	I-5, Start/End PM 61.7, Sweetbrier Rd, 1 CCTV at Sweetbrier Road on I-5	$702,000		(2016-2025)	ITS	SHOPP
12	I-5, Various Locations, Bailey/Anderson/Walters HAR Simulcast and Upgrade Walters HAR	$709,000		(2016-2025)	ITS	SHOPP
13	I-5, Various Locations, Fawndale HAR Extender & Simulcast upgrade to Redding HAR	$210,000		(2016-2025)	ITS	SHOPP
14	I-5, various locations,Redding, Detection. Redding Area TMS System - A series of TMS sites along I-5	$635,000		(2016-2025)	ITS	SHOPP
15	SR 44, Start/End PM 1.24, Victor Avenue, 1 CCTV at Victor Avenue on SR44	$474,000		(2016-2025)	ITS	SHOPP
16	SR 273, Start/End PM 5.83, Briggs St, 1 CCTV at Briggs Street on SR273	$210,000		(2016-2025)	ITS	SHOPP
17	SR 273, Start/End PM 12.68, Bonnyview Road, 1 CCTV at S. Bonnyview Road on SR273	$237,000		(2016-2025)	ITS	SHOPP
18	SR 273, Redding, South Redding TMS Fiber Loop	$54,000		(2016-2025)	ITS	SHOPP
19	SR 273, Redding, Redding Rural TMC	$1,357,000		(2016-2025)	ITS	SHOPP
20	SR 273, Anderson/Redding, Complete Signalization and Synchronization plan of SR 273	$210,000		(2016-2025)	ITS	SHOPP
	Total Short Term Needs =	**$21,890,000**				
21	I-5, Start/End PM 24.7, 1 CMS FNBT at Mountain Gate on I-5 W/ Sign Bridge structure, CMS		$1,763,000	(2026-2035)	ITS	SHOPP
22	I-5, Various Locations, Upgrade and expand traffic data collection system		$4,992,000	(2026-2035)	ITS	SHOPP
23	SR 89, Start/End PM 0.4, Old Station, CMS FSBT - Model 510		$320,000	(2026-2035)	ITS	SHOPP
24	SR 299, Start/End PM 0.18, Buckhorn Summit, CCTV		$192,000	(2026-2035)	ITS	SHOPP
25	SR 299, Start/End PM 13.7, Whiskey Creek Bridge, CCTV EB Shldr at West end of Bridge		$192,000	(2026-2035)	ITS	SHOPP
26	SR 299, Start/End PM 26.5, Hawley Offramp, CMS FEBT - Model 500		$320,000	(2026-2035)	ITS	SHOPP
27	SR 299, Start/End PM 26.5, Old Oregon Trail, CCTV		$192,000	(2026-2035)	ITS	SHOPP
28	I-5, Start/End PM 1.1, Gas Point Road, CCTV SB Shldr		$192,000	(2026-2035)	ITS	SHOPP
29	I-5, Start/End PM 4.29, Deschutes Road UC (Anderson), CCTV To be relocated to ~ PM 4.30 BBS installed		$192,000	(2026-2035)	ITS	SHOPP
30	I-5, Start/End PM 9.33, Redding Area, TMS MVDS in median - Solar		$224,000	(2026-2035)	ITS	SHOPP
31	I-5, Start/End PM 14.44, Cypress Avenue, CCTV		$192,000	(2026-2035)	ITS	SHOPP
32	I-5, Start/End PM 21, Pine Grove OC (Shasta Lake City), HAR Flasher EMS FSBT - Upgrade to Flasher w/ BBS or replace w/ CMS		$640,000	(2026-2035)	ITS	SHOPP
33	I-5, Start/End PM 24, Mountain Gate (Shasta Lake City), CCTV Fawndale Ops Truck Turnaround Site		$224,000	(2026-2035)	ITS	SHOPP

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34	I-5, Start/End PM 30.5, Packers Bay S/B On Ramp, RWIS Packers Bay S/B Onramp at crest		$960,000	(2026-2035)	ITS	SHOPP
35	I-5, Start/End PM 32.3, O'Brien, RWIS O'Brien N/B Onramp at crest		$960,000	(2026-2035)	ITS	SHOPP
36	I-5, Start/End PM 36.1, Black Oak (South of Gilman Road OC), CMS #26 FNBT - Model 500 - Upgrade phone service		$64,000	(2026-2035)	ITS	SHOPP
37	I-5, Start/End PM 37.44, Salt Creek (Near Gillman Road), Curve Warning - Upgrade CCTV to Pan/Tilt/ Zoom BBS installed		$64,000	(2026-2035)	ITS	SHOPP
38	I-5, Start/End PM 37.94, Antlers Summit OC, RWIS Upgrade w/BBS & connect comm to ITS Node LAN NB (1) Puck @ PM 37.93 SB (1) Puck @ PM 37.93 and (1) Subsurface Probe @ PM 37.93		$256,000	(2026-2035)	ITS	SHOPP
39	I-5, Start/End PM 45.8, Vollmers UC, RWIS Upgrade w/BBS & connect comm to ITS Node LAN NB (1) PUCK @ PM 45.85 and (1) Subsurface Probe @ PM 45.85 SB (1)PUCK @ PM 45.85		$256,000	(2026-2035)	ITS	SHOPP
40	I-5, Start/End PM 65.5, Castle Crags, CMS FNBT, for chain area		$960,000	(2026-2035)	ITS	SHOPP
41	SR 44, Start/End PM 1.3, Victor Avenue OC (Redding), CMS FWBT - Model 500		$960,000	(2026-2035)	ITS	SHOPP
42	SR 44, Start/End PM 1.56, Victor Avenue, HAR Flasher FEBT - Upgrade w/BBS		$128,000	(2026-2035)	ITS	SHOPP
43	SR 44, Start/End PM 2.77, Airport Road OC (Redding), CCTV Exist power/phone at nearby CMS		$256,000	(2026-2035)	ITS	SHOPP
44	SR 44, Start/End PM 7, Deschutes Road, CCTV NW Corner		$192,000	(2026-2035)	ITS	SHOPP
45	SR 44, Start/End PM 8, Silver Bridge Road, HAR Flasher FWBT - Upgrade w/BBS		$256,000	(2026-2035)	ITS	SHOPP
46	SR 44, Start/End PM 26, Shasta Forest Village, CCTV Southside of Hwy-44		$192,000	(2026-2035)	ITS	SHOPP
47	SR 44, Start/End PM 26.3, Shasta Forest Drive, RWIS WB lanes at top of luge for icy rds		$960,000	(2026-2035)	ITS	SHOPP
48	SR 44, Start/End PM 50.54, Eskimo Hill Summit, CCTV		$384,000	(2026-2035)	ITS	SHOPP
49	SR 44, Start/End PM 50.54, Eskimo Hill Summit, RWIS		$896,000	(2026-2035)	ITS	SHOPP
50	SR 44, Start/End PM 64, The Rim, RWIS		$384,000	(2026-2035)	ITS	SHOPP
51	SR 273, Start/End PM 4.44, Pinon Ave / Barney St., CCTV NE corner		$192,000	(2026-2035)	ITS	SHOPP
52	SR 273, Start PM 5/End PM 20.033, From Anderson to JCT I-5, Fiber Installation		$7,681,000	(2026-2035)	ITS	SHOPP
53	SR 273, Start/End PM 11.57, Girvan Rd., CCTV East side		$192,000	(2026-2035)	ITS	SHOPP
54	SR 273, Start/End PM 12, South Bonnyview Rd., CMS FNBT		$1,024,000	(2026-2035)	ITS	SHOPP
55	SR 273, Start/End PM 13.5, South Bonnyview Rd., CMS FSBT		$1,024,000	(2026-2035)	ITS	SHOPP
56	SR 273, Start/End PM 14.47, Buenaventura Blvd., CCTV NW corner - Power lines check for clearance		$192,000	(2026-2035)	ITS	SHOPP
57	SR 273, Start/End PM 14.96, Wyndham Ln., CCTV NE corner		$192,000	(2026-2035)	ITS	SHOPP
58	SR 273, Start/End PM 17.03, Riverside Dr., CCTV Possible Microwave Installation. Install Northwest corner near existing Cabinet.		$384,000	(2026-2035)	ITS	SHOPP
59	SR 299, Start/End PM 0.18, Buckhorn Summit, RWIS		$1,024,000	(2026-2035)	ITS	SHOPP
60	SR 299, Start/End PM 8.65, French Gulch Road Area, CCTV EB Shldr		$384,000	(2026-2035)	ITS	SHOPP
61	SR 299, Start/End PM 25.3, Hawley Road, CMS FWBT - Model 500		$960,000	(2026-2035)	ITS	SHOPP
62	SR 299, Start/End PM 28.38, Stillwater Way, HAR Flasher FWBT - Upgrade w/ BBS		$128,000	(2026-2035)	ITS	SHOPP
63	SR 299, Start/End PM 75.47, Mountain View Road, CCTV Downtown Intersection		$192,000	(2026-2035)	ITS	SHOPP
64	SR 299, Start/End PM 78.85, West of SR299-SR89 Jct, CMS FEBT - Model 510		$960,000	(2026-2035)	ITS	SHOPP
65	SR 299, Start/End PM 81.2, East of SR299-SR89 Jct, CMS FWBT - Model 510		$960,000	(2026-2035)	ITS	SHOPP
66	SR 299, Start/End PM 89.4, Pit One Grade-Fall River Area, CCTV Limited roadside for cabinets		$448,000	(2026-2035)	ITS	SHOPP
	Total Long Term Fundable Needs =		**$33,700,000**			

DESCRIPTION	Short (2016-2025)	Long (2026-2035)	Total
Funding Needed By Short and Long Range Bands	**$21,890,000**	**$33,700,000**	**$55,590,000**
Recap of Expected/Estimated/Unknown Resources			
State Highway Operations and Protection Program (SHOPP) =	**$21,890,000**	**$33,700,000**	**$55,590,000**
Total Funding Reasonably Available =	**$21,890,000**	**$33,700,000**	**$55,590,000**
Total Unfunded Needs (or Short Term Carryover) =	**$-**	**$-**	**$-**

Note 1 : Green highlighted projects above can be funded in the constrained funding analysis
Note 2 : Un-highlighted projects above cannot be funded. New funding sources will need to be identified or improvement will be developer funded.
Note 3 : Long term projects are escalated by 2.5%

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Table 39 - Summary of Projects: Regional ITS

Project Number	REGIONAL TRANSPORTATION PROJECTS	SHORT TERM TOTAL EST COST OF PROJECT	LONG TERM TOTAL EST COST OF PROJECT	PROJECT BAND	PROJECT TYPE (PROJECT INTENT)	EXPECTED FUNDING SOURCES
1	I-5, south of Fawndale Road and north of Bowman Road; Bluetooth Pilot Test at urban area Gateways	$20,000		(2016-2025)	ITS	SHOPP
2	I-5, south of Fawndale Road and north of Bowman Road; Install O-D stations at I-5 Urban Gateways	$196,000		(2016-2025)	ITS	SHOPP
3	CA-299, west of French Gulch Rd and east of Dry Creek Rd.; CA-44, east of Deschutes Rd.; Install O-D stations at CA-299 and CA-44 Urban Gateways	$294,000		(2016-2025)	ITS	SHOPP
4	I-5 from CA-44 to Knighton Road, Install new permanent mainline station and new permanent on and off-ramp station along I-5. **(Detector Project 1)**	$567,000		(2016-2025)	ITS	SHOPP
5	CA-44/I-5 interchange, Install new permanent mainline station and new permanent on and off-ramp station along CA-44. **(Detector Project 1)**	$284,000		(2016-2025)	ITS	SHOPP
6	I-5, Ox Yoke Road to Gas Point Road (South Gateway), Install new permanent mainline station and new permanent on and off-ramp station along I-5 **(Detector Project 2)**	$496,000		(2016-2025)	ITS	SHOPP
	Total Short Term Needs =	**$1,857,000**				
7	I-5, Oasis Road to CA-299, Install new permanent mainline station and new permanent on and off-ramp station along I-5 **(Detector Project 3)**		$544,000	(2026-2035)	ITS	SHOPP
8	CA-299/Interstate 5 Interchange, Upgrade existing mainline station to a permanent station and install new permanent on and off-ramp station along CA-299 **(Detector Project 3)**		$84,000	(2026-2035)	ITS	SHOPP
9	CA-299/Interstate 5 Interchange, Install new permanent mainline station and new permanent on and off-ramp station along CA-299 **(Detector Project 3)**		$91,000	(2026-2035)	ITS	SHOPP
10	I-5, Fawndale Road (North Gateway) to Pine Grove Avenue, Install new permanent mainline station and new permanent on and off-ramp station along I-5 **(Detector Project 4)**		$635,000	(2026-2035)	ITS	SHOPP
11	I-5, Fawndale Road (North Gateway) to Pine Grove Avenue, Upgrade existing mainline station to a permanent station and install new permanent on and off-ramp station along I-5 **(Detector Project 4)**		$84,000	(2026-2035)	ITS	SHOPP
12	CA-44, Shasta View Drive to Airport Drive, Install new permanent mainline station and new permanent on and off-ramp station along CA-44 **(Detector Project 5)**		$364,000	(2026-2035)	ITS	SHOPP
13	CA-299, Churn Creek Road to Old Oregon Trail, Install new permanent mainline station and new permanent on and off-ramp station along CA-299 **(Detector Project 6)**		$182,000	(2026-2035)	ITS	SHOPP
14	CA-299 at Deschutes Road, Upgrade existing profile station to a permanent profile station **(Detector Project 7)**		$84,000	(2026-2035)	ITS	SHOPP
15	CA-44 at Deschutes Road, Upgrade existing mainline station to a permanent station and install new permanent on and off-ramp station along CA-44 **(Detector Project 7)**		$170,000	(2026-2035)	ITS	SHOPP
16	I-5: CA-44 to Knighton Road; CA-44: CA-44/I-5 Interchange, Convert stations to TMS		$101,000	(2026-2035)	ITS	SHOPP
17	I-5: Ox Yoke Road to Gas Point Road, Convert stations to TMS		$59,000	(2026-2035)	ITS	SHOPP
18	I-5: Oasis Road to CA-299, CA-299: CA-299/I-5 Interchange, Convert stations to TMS		$68,000	(2026-2035)	ITS	SHOPP
19	I-5: Fawndale Road to Pine Grove Avenue, Convert stations to TMS		$68,000	(2026-2035)	ITS	SHOPP
20	CA-44: Shasta View Drive to Airport Drive, Convert stations to TMS		$33,000	(2026-2035)	ITS	SHOPP
21	CA-299: Churn Creek Road to Old Oregon Trail, Convert stations to TMS		$17,000	(2026-2035)	ITS	SHOPP
22	CA-299 at Deschutes Road, CA-44 at Deschutes Road, Convert stations to TMS		$26,000	(2026-2035)	ITS	SHOPP
	Total Long Term Fundable Needs =		**$2,238,000**			

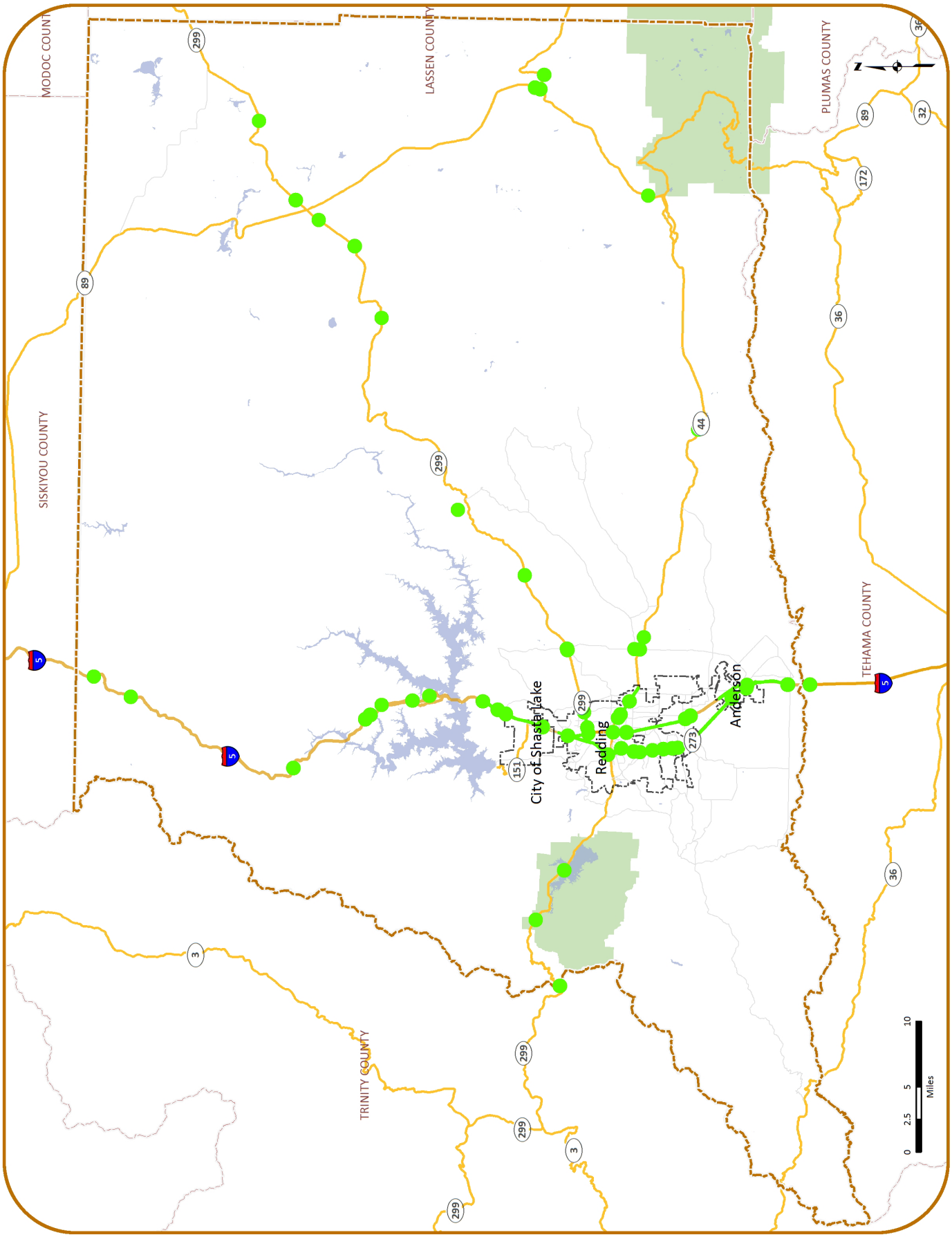
DESCRIPTION	Short (2016-2025)	Long (2026-2035)	Total
Funding Needed By Short and Long Range Bands	**$1,857,000**	**$2,610,000**	**$4,467,000**
Recap of Expected/Estimated/Unknown Resources			
State Highway Operations and Protection Program (SHOPP) =	**1,857,000**	**$2,238,000**	**$4,095,000**
Total Funding Reasonably Available =	**$1,857,000**	**$2,238,000**	**$4,095,000**
Total Unfunded Needs (or Short Term Carryover) =	**$-**	**$(372,000)**	**$(372,000)**

Note 1 : Green highlighted projects above can be funded in the constrained funding analysis
Note 2 : Un-highlighted projects above cannot be funded. New funding sources will need to be identified or improvement will be developer funded.
Note 3 : Long term projects are escalated by 2.5%

Projects in Table 39 are consistent with the Integrated Traffic Data Collection and Management Plan for the Shasta County South Central Urban Region (SCUR).

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Figure 36 - Location of Constrained ITS Projects



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Table 40 - Summary of Projects: Caltrans Ramp Meters

Project Number	REGIONAL TRANSPORTATION PROJECTS	SHORT TERM TOTAL EST COST OF PROJECT	LONG TERM TOTAL EST COST OF PROJECT	PROJECT BAND	PROJECT TYPE (PROJECT INTENT)	EXPECTED FUNDING SOURCES
1	I-5, Start/End PM 14.76, Cypress, Ramp Meter - Northbound	$750,000		(2016-2025)	Ramp meter	SHOPP/Local
2	I-5, Start/End PM 14.28, Cypress, Ramp Meter - Southbound	$750,000		(2016-2025)	Ramp meter	SHOPP/Local
3	I-5, Start/End PM 11.96, S. Bonnyview, Ramp Meter - Southbound	$800,000		(2016-2025)	Ramp meter	SHOPP/Local
4	SR 44, Start/End PM 1.57, Dana, Ramp Meter - Westbound	$150,000		(2016-2025)	Ramp meter	SHOPP/Local
	Total Short Term Needs =	**$1,700,000**				
5	I-5, Start/End PM 0.78, Gas Point Road, Ramp Meter - Southbound		$960,000	(2026-2035)	Ramp meter	SHOPP/Local
6	I-5, Start/End PM 1.1, Gas Point Road, Ramp Meter - Northbound		$960,000	(2026-2035)	Ramp meter	SHOPP/Local
7	I-5, Start/End PM 9.65, Knighton Road, Ramp Meter - Southbound		$960,000	(2026-2035)	Ramp meter	SHOPP/Local
8	I-5, Start/End PM 9.9, Knighton Road, Ramp Meter - Northbound		$960,000	(2026-2035)	Ramp meter	SHOPP/Local
9	I-5, Start/End PM 12.26, S. Bonnyview, Ramp Meter - Northbound		$1,024,000	(2026-2035)	Ramp meter	SHOPP/Local
10	I-5, Start/End PM 17.05, Lake Blvd., Ramp Meter - Southbound		$768,000	(2026-2035)	Ramp meter	SHOPP/Local
11	I-5, Start/End PM 17.57, Lake Blvd., Ramp Meter - Northbound		$960,000	(2026-2035)	Ramp meter	SHOPP/Local
12	I-5, Start/End PM 17.92, Twin View Boulevard, Ramp Meter - Southbound		$960,000	(2026-2035)	Ramp meter	SHOPP/Local
13	I-5, Start/End PM 18.22, Twin View Boulevard, Ramp Meter - Northbound		$960,000	(2026-2035)	Ramp meter	SHOPP/Local
	Total Long Term Fundable Needs =		**$8,512,000**			

DESCRIPTION	Short (2016-2025)	Long (2026-2035)	Total
Funding Needed By Short and Long Range Bands	**$1,700,000**	**$8,512,000**	**$10,212,000**
Recap of Expected/Estimated/Unknown Resources			
State Highway Operations and Protection Program (SHOPP) =	**$425,000**	**$2,128,000**	**$2,553,000**
Local/Other =	**$1,275,000**	**$6,384,000**	**$7,659,000**
Total Funding Reasonably Available =	**$1,700,000**	**$8,512,000**	**$10,212,000**
Total Unfunded Needs =	**$-**	**$-**	**$-**

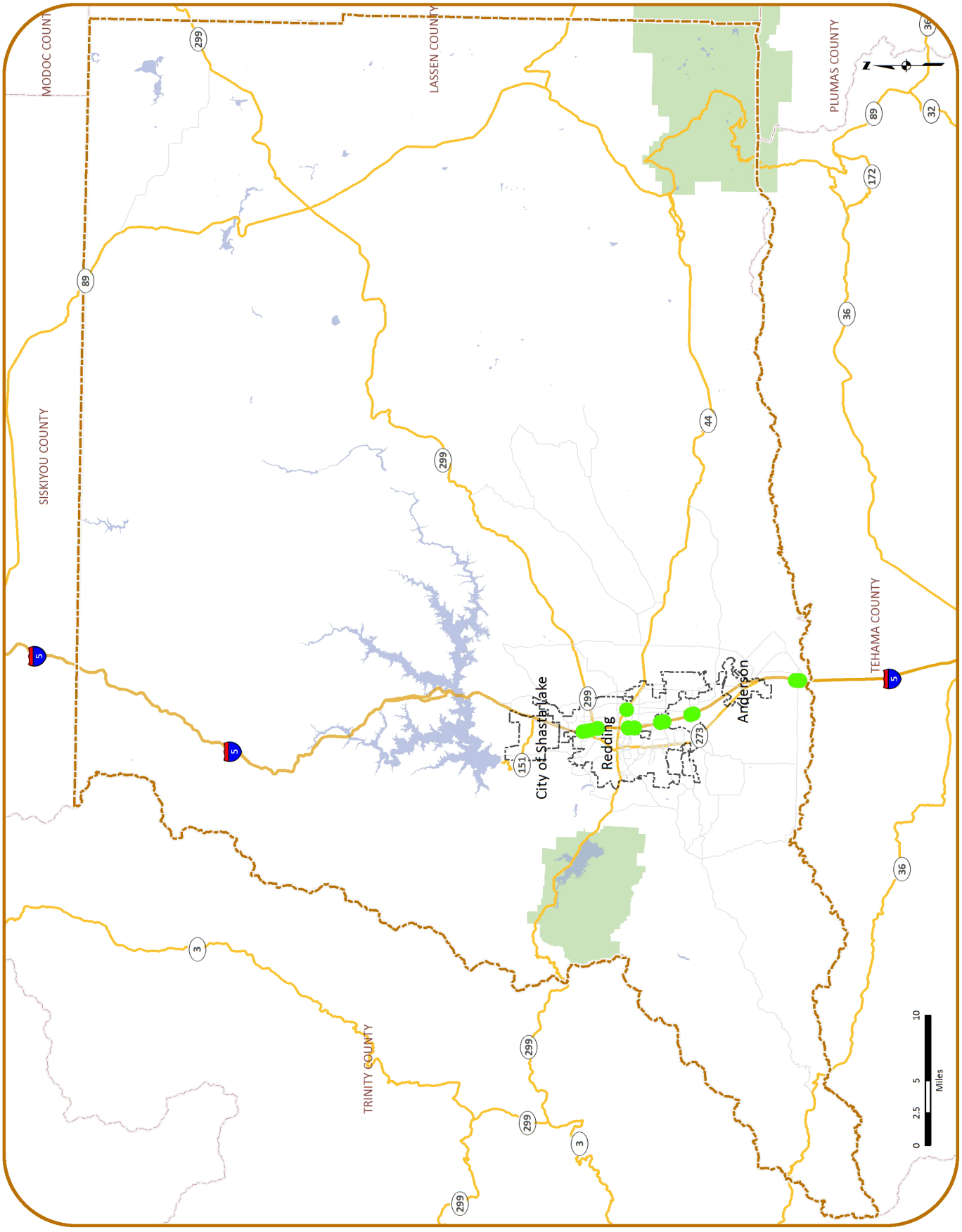
Note 1 : Green highlighted projects above can be funded in the constrained funding analysis

Note 2 : Un-highlighted projects above cannot be funded. New funding sources will need to be identified or improvement will be developer funded.

Note 3 : Long term projects are escalated by 2.5%

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Figure 37 - Location of Constrained Ramp Meter Projects



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Table 41 - Summary of Projects: Caltrans Bridges

Project Number	REGIONAL TRANSPORTATION PROJECTS	SHORT TERM TOTAL EST COST OF PROJECT	LONG TERM TOTAL EST COST OF PROJECT	PROJECT BAND	PROJECT TYPE (PROJECT INTENT)	EXPECTED FUNDING SOURCES
1	Route 44, Begin PM 59.62, 06-0084 Hat Creek	$4,125,000		(2016-2025)	Replace Bridge	SHOPP
2	Route 5, Begin PM 66.8, 06-0095 Craig View Drive	$11,800,000		(2016-2025)	Replace Bridge	SHOPP
3	Route 5, Begin PM 57.41, 06-0111 Sims Road UC	$5,313,000		(2016-2025)	Replace Superstructure (or replace bridge)	SHOPP
4	SR 44, Start/End PM 7.4, 06-0152 Cow Creek	$3,841,000		(2016-2025)	Seismic Retrofit	SHOPP
5	SR 44, Start/End PM 4.55, 06-0151 Clough Creek	$2,650,000		(2016-2025)	Rehab	SHOPP
6	Route 5, Begin PM 28.14, Pit River Bridge	$20,000,000		(2016-2025)	Seismic and Paint	SHOPP
7	Route 89, Begin PM 25.3, End PM 31.7, Lake Britton, Replace Bridge and realign roadway	$80,000,000		(2016-2025)	Replace Bridge and realign roadway	SHOPP
8	SR 44, Start PM 0/ End PM 60, Bridges at various locations	$3,760,000		(2016-2025)	Deck rehab, paint, joints, etc	SHOPP
9	SR 299, various locations in Shasta County	$3,800,000		(2016-2025)	Deck rehab, paint and joint repair/replacement	SHOPP
	Total Short Term Needs =	**$135,289,000**				
10	Route 5, Begin PM 28.14, End PM 28.14, Pit River Bridge		$640,042,000	(2026-2035)	Replace Bridge	SHOPP
11	06-0015 UNION SCHOOL RD OC (FO, SR=58.2), Bridge Rehabilitation		$2,560,000	(2026-2035)	Bridge Rehabilitation	SHOPP
12	06-0035 REDDING OH (FO, SR=69), Bridge Rehabilitation		$2,560,000	(2026-2035)	Bridge Rehabilitation	SHOPP
13	06-0036 CLEAR CREEK (SD, SR=76), Bridge Rehabilitation		$2,560,000	(2026-2035)	Bridge Rehabilitation	SHOPP
14	06-0058 MONTGOMERY CK (SD, SR=76.1), Bridge Rehabilitation		$2,560,000	(2026-2035)	Bridge Rehabilitation	SHOPP
15	06-0113 CREEKSIDE UC (SD, SR=75), Bridge Rehabilitation		$2,560,000	(2026-2035)	Bridge Rehabilitation	SHOPP
16	06-0118 STATE PARK UC (FO, SR=73.5), Bridge Rehabilitation		$2,560,000	(2026-2035)	Bridge Rehabilitation	SHOPP
17	06-0126L E REDDING SEP (FO, SR=67.3), Bridge Rehabilitation		$2,560,000	(2026-2035)	Bridge Rehabilitation	SHOPP
18	06-0137G N273-N5 CONN OC (FO, SR=73.6), Bridge Rehabilitation		$2,560,000	(2026-2035)	Bridge Rehabilitation	SHOPP
19	06-0152 COW CREEK (SD, SR=72.2), Bridge Rehabilitation		$2,560,000	(2026-2035)	Bridge Rehabilitation	SHOPP
20	06-0154 MOUNTAIN GATE OC (FO, SR=56.3), Bridge Rehabilitation		$2,560,000	(2026-2035)	Bridge Rehabilitation	SHOPP
21	06-0155 OASIS ROAD OC (FO, SR=55), Bridge Rehabilitation		$2,560,000	(2026-2035)	Bridge Rehabilitation	SHOPP
22	06-0156 ROUTE 151/5 SEP (FO, SR=60.1), Bridge Rehabilitation		$2,560,000	(2026-2035)	Bridge Rehabilitation	SHOPP
23	Route 273, Begin PM 17.08, End PM 17.08, Sacramento River Bridge, Replace Bridge		$64,004,000	(2026-2035)	Replace Bridge	SHOPP
	Total Long Term Fundable Needs =		**$-**			

DESCRIPTION	Short (2016-2025)	Long (2026-2035)	Total
Funding Needed By Short and Long Range Bands	$135,289,000	$734,766,000	$870,055,000
Recap of Expected/Estimated/Unknown Resources			
State Highway Operations and Protection Program (SHOPP) =	135,289,000	$-	$135,289,000
Total Funding Reasonably Available =	$135,289,000	$-	$135,289,000
Total Unfunded Needs (or Short Term Carryover) =	$-	$(734,766,000)	$(734,766,000)

Note 1 : Green highlighted projects above can be funded in the constrained funding analysis
Note 2 : Un-highlighted projects above cannot be funded. New funding sources will need to be identified or improvement will be developer funded.
Note 3 : Long term projects are escalated by 2.5%

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Table 42 - Summary of Projects: Shasta County Bridges

Project Number	REGIONAL TRANSPORTATION PROJECTS	SHORT TERM TOTAL EST COST OF PROJECT	LONG TERM TOTAL EST COST OF PROJECT	PROJECT BAND	PROJECT TYPE (PROJECT INTENT)	EXPECTED FUNDING SOURCES
1	Spring Creek Road @ Fall River - Replace Bridge	$2,122,000		(2016-2025)	Bridge Replacement	HBP/Local/Other
2	Cassel Fall River Road @ Pit River - Replace Bridge	$6,238,000		(2016-2025)	Bridge Replacement	HBP/Local/Other
3	Soda Creek Road @ Soda Creek - Replace Bridge	$1,255,000		(2016-2025)	Bridge Replacement	HBP/Local/Other
4	Gas Point Road at No Name Ditch - Replace Bridge	$1,500,000		(2016-2025)	Bridge Replacement	HBP/Local/Other
5	Lower Gas Pt Road @ NFk Cottonwood Creek - Replace Bridge	$2,344,000		(2016-2025)	Bridge Replacement	HBP/Local/Other
6	Ash Creek Road @ Sacramento River overflow - Replace Bridge	$1,399,000		(2016-2025)	Bridge Replacement	HBP/Local/Other
7	Parkville Road @ Ash Creek - Replace Bridge	$1,280,000		(2016-2025)	Bridge Replacement	HBP/Local/Other
8	Inwood Road @ South Fork Bear Creek - Replace Bridge	$1,066,000		(2016-2025)	Bridge Replacement	HBP/Local/Other
9	Island Road @ Little Tule River - Replace Bridge	$520,000		(2016-2025)	Bridge Replacement	HBP/Local/Other
10	Ponderosa Way @ NFk Bear Creek - Replace Bridge	$860,000		(2016-2025)	Bridge Replacement	HBP/Local/Other
11	White House Road @ ACID Canal - Replace Bridge	$440,000		(2016-2025)	Bridge Replacement	HBP/Local/Other
12	Soda Creek Road @ SFk Soda Creek - Replace Bridge	$640,000		(2016-2025)	Bridge Replacement	HBP/Local/Other
13	Ponderosa Way @ Snow Creek - Replace Bridge	$730,000		(2016-2025)	Bridge Replacement	HBP/Local/Other
14	Bear Mtn. Road @ Deep Hole Creek - Replace Bridge	$950,000		(2016-2025)	Bridge Replacement	HBP/Local/Other
15	Holiday Rd @ Spr. Branch Stillwater Crk - Replace Bridge	$640,000		(2016-2025)	Bridge Replacement	HBP/Local/Other
16	Adobe Road @ Anderson Creek - Replace Bridge	$2,460,000		(2016-2025)	Bridge Replacement	HBP/Local/Other
17	Oak Run Road @ Oak Run Crk - 6C-188 - Replace Bridge	$2,380,000		(2016-2025)	Bridge Replacement	HBP/Local/Other
18	Lakeshore Road @ Doney Crk - Replace Bridge	$7,830,000		(2016-2025)	Bridge Replacement	HBP/Local/Other
19	Lakeshore Road @ Charley Crk - Replace Bridge	$6,480,000		(2016-2025)	Bridge Replacement	HBP/Local/Other
20	Ponderosa Way @ Snow Creek - Replace Bridge	$830,000		(2016-2025)	Bridge Replacement	HBP/Local/Other
	Total Short Term Needs =	**$41,964,000**				
21	Main Street @ Castle Creek - Replace Bridge		$2,637,000	(2016-2025)	Bridge Replacement	HBP/Local/Other
22	Pittville Road @ Pit River - Replace Bridge		$4,660,000	(2016-2025)	Bridge Replacement	HBP/Local/Other
23	Riverside Road @ Sacramento River - Replace Bridge		$2,714,000	(2016-2025)	Bridge Replacement	HBP/Local/Other
24	Park Avenue at Burney Creek - Replace Bridge		$896,000	(2016-2025)	Bridge Replacement	HBP/Local/Other
25	La Moine Road @ Slate Creek - Replace Bridge		$3,008,000	(2026-2035)	Bridge Replacement	HBP/Local/Other
26	Platina Road @ Arbuckle Gulch - Replace Bridge		$1,216,000	(2026-2035)	Bridge Replacement	HBP/Local/Other
27	Gibson Road @ Boulder Creek - Replace Bridge		$3,328,000	(2026-2035)	Bridge Replacement	HBP/Local/Other
28	Jackrabbit Flat Rd @ Burney Creek - Replace Bridge		$1,446,000	(2026-2035)	Bridge Replacement	HBP/Local/Other
29	Churn Creek Rd @ Churn Creek 6C-86 - Replace Bridge		$4,839,000	(2026-2035)	Bridge Replacement	HBP/Local/Other
30	Bland Road @ NF Wilson Creek - Replace Bridge		$870,000	(2026-2035)	Bridge Replacement	HBP/Local/Other
31	Westside Road @ Squaw Creek - Replace Bridge		$1,946,000	(2026-2035)	Bridge Replacement	HBP/Local/Other
32	Platina Road @ Huling Creek - Replace Bridge		$691,000	(2026-2035)	Bridge Replacement	HBP/Local/Other
33	Bland Road @ SF Wilson Creek - Replace Bridge		$1,216,000	(2026-2035)	Bridge Replacement	HBP/Local/Other
34	Mineral Road @ Bailey Creek - Replace Bridge		$627,000	(2026-2035)	Bridge Replacement	HBP/Local/Other
35	Phillips Road @ Little Cow Crk - Replace Bridge		$1,549,000	(2026-2035)	Bridge Replacement	HBP/Local/Other
36	Rock Creek Road @ Bailey Creek - Replace Bridge		$1,165,000	(2026-2035)	Bridge Replacement	HBP/Local/Other
37	Sunny Hill Road @ Ducket Creek - Replace Bridge		$922,000	(2026-2035)	Bridge Replacement	HBP/Local/Other
38	Trinity Mountain Road @ French Gulch - Replace Bridge		$858,000	(2026-2035)	Bridge Replacement	HBP/Local/Other
39	Ponderosa Way @ SFk Cow Creek - Replace Bridge		$2,087,000	(2026-2035)	Bridge Replacement	HBP/Local/Other
40	Dersch Road @ Lack Creek - 6C-131 - Replace Bridge		$2,266,000	(2026-2035)	Bridge Replacement	HBP
41	Mountain Meadow Road @ Battle Creek - Replace Bridge		$947,000	(2026-2035)	Bridge Replacement	HBP
42	Clark Creek Road @ Burney Creek - Replace Bridge		$973,000	(2026-2035)	Bridge Replacement	HBP
43	Statton Road @ Salt Creek - Replace Bridge		$1,370,000	(2026-2035)	Bridge Replacement	HBP
44	Churn Creek Rd @ Churn Creek 6C-128 - Replace Bridge		$8,564,000	(2026-2035)	Bridge Replacement	HBP
45	Gas Point Road @ Antelope Creek - Replace Bridge		$2,419,000	(2026-2035)	Bridge Replacement	HBP
46	Tamarack Road @ Burney Creek - Replace Bridge		$2,010,000	(2026-2035)	Bridge Replacement	HBP
47	Mears Ridge Road @ Mears Creek - Replace Bridge		$3,187,000	(2026-2035)	Bridge Replacement	HBP
48	Nelson Creek Road @ Nelson Creek - Replace Bridge		$2,355,000	(2026-2035)	Bridge Replacement	HBP
49	Meyers Road @ Dry Creek - Replace Bridge		$1,895,000	(2026-2035)	Bridge Replacement	HBP
50	Soda Creek Road @ Soda Creek, 6C-139 - Replace Bridge		$1,510,000	(2026-2035)	Bridge Replacement	HBP
51	Platina Road @ NFk Cottonwood Creek - Replace Bridge		$2,035,000	(2026-2035)	Bridge Replacement	HBP
52	Gas Point Road @ Dry Creek - Replace Bridge		$2,202,000	(2026-2035)	Bridge Replacement	HBP
53	Soda Creek Road @ Sacramento River - Replace Bridge		$4,493,000	(2026-2035)	Bridge Replacement	HBP
54	Cline Gulch @ Clear Creek - Replace Bridge		$4,442,000	(2026-2035)	Bridge Replacement	HBP
55	Deer Flat Road @ NF Battle Creek - Replace Bridge		$973,000	(2026-2035)	Bridge Replacement	HBP
56	Big Bend Road @ Roaring Creek - Replace Bridge		$934,000	(2026-2035)	Bridge Replacement	HBP
57	Middle Creek Road at Middle Creek - Replace Bridge		unknown	beyond 2035	Bridge Replacement	HBP
58	Ash Creek Road at Ash Creek Tributary - Replace Bridge		unknown	beyond 2035	Bridge Replacement	HBP

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59	Fenders Ferry Road at Snow Creek - Replace Bridge		unknown	beyond 2035	Bridge Replacement	HBP
60	Rock Creek Road at Rock Creek - Replace Bridge		unknown	beyond 2035	Bridge Replacement	HBP
61	Highland Lakes Road at Boulder Creek - Replace Bridge		unknown	beyond 2035	Bridge Replacement	HBP
62	Placer Road at Dry Creek - Replace Bridge		unknown	beyond 2035	Bridge Replacement	HBP
63	Cline Gulch Road at Cline Gulch - Replace Bridge		unknown	beyond 2035	Bridge Replacement	HBP
64	Tamarack Road at Old Cow Creek - Replace Bridge		unknown	beyond 2035	Bridge Replacement	HBP
	Total Long Term Fundable Needs =		**$36,675,000**			

DESCRIPTION	Short (2016-2025)	Long (2026-2035)	Total
Funding Needed By Short and Long Range Bands	**$41,964,000**	**$79,250,000**	**$121,214,000**
Recap of Expected/Estimated/Unknown Resources			
Highway Bridge Program (HBP) =	**$39,865,800**	**$34,841,250**	**$74,707,050**
Local/Other =	**$2,098,200**	**$1,833,750**	**$3,931,950**
Total Funding Reasonably Available =	**$41,964,000**	**$36,675,000**	**$78,639,000**
Total Unfunded Needs (or Short Term Carryover) =	**$-**	**$(42,575,000)**	**$(42,575,000)**
Note 1 : Green highlighted projects above can be funded in the constrained funding analysis			

Note 2 : Un-highlighted projects above cannot be funded. New funding sources will need to be identified or improvement will be developer funded.
Note 3 : Long term projects are escalated by 2.5%

Table 43 - Summary of Projects: Redding Bridges

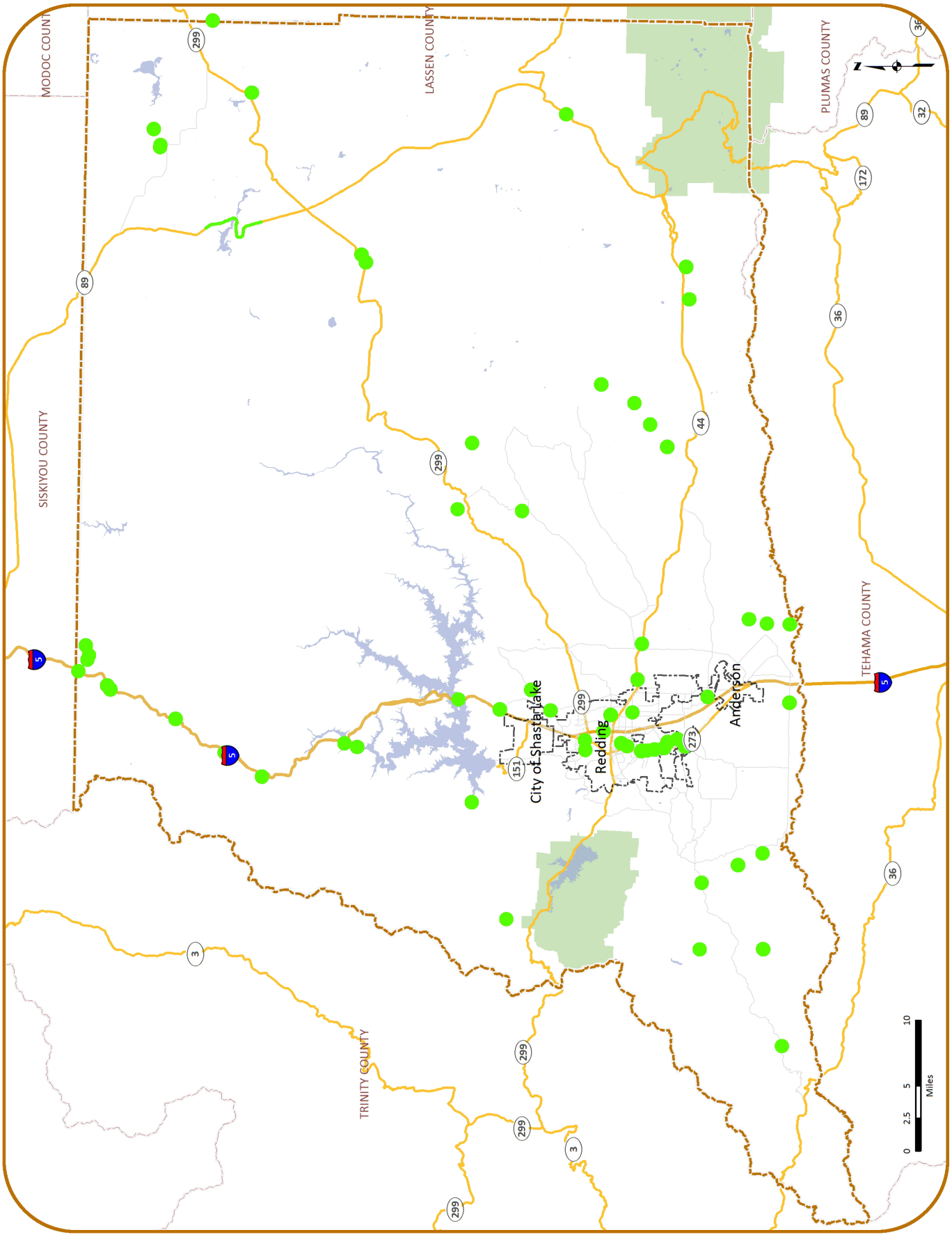
Project Number	REGIONAL TRANSPORTATION PROJECTS	SHORT TERM TOTAL EST COST OF PROJECT	LONG TERM TOTAL EST COST OF PROJECT	PROJECT BAND	PROJECT TYPE (PROJECT INTENT)	EXPECTED FUNDING SOURCES
1	State Bridge #06C0340, Sacramento Drive @ Olney Creek - Bridge Replacement	$2,499,000		(2016-2025)	Bridge Replacement	HBP/Local
2	State Bridge #06C0344, Sharon Ave over ACID Canal - Bridge Replacement	$916,000		(2016-2025)	Bridge Replacement	HBP/Local
3	State Bridge #06C0104, Old Alturas Road @ Churn Creek - Bridge Replacement	$3,000,000		(2016-2025)	Bridge Replacement	HBP/Local
4	State Bridge #06C0335, Eastside Road @ Olney Creek - Bridge Replacement	$1,900,000		(2016-2025)	Bridge Replacement	HBP/Local
5	State Bridge #06C0341, Girvan Road @ Olney Creek - Bridge Replacement	$2,239,000		(2016-2025)	Bridge Replacement	HBP/Local
6	State Bridge # 06C0071, Railroad Ave over Canyon Hollow - Bridge Rehabilitation	$1,635,000		(2016-2025)	Bridge Rehabilitation	HBP/Local
7	State Bridge # 06C0078, Westside Rd @ ACID Canal - Bridge Replacement	$1,000,000		(2016-2025)	Bridge Replacement	HBP/Local
8	State Bridge # 06C0085, Eastside Rd @ Canyon Hollow - Bridge Replacement	$1,731,000		(2016-2025)	Bridge Replacement	HBP/Local
	Total Short Term Needs =	$14,920,000				
9	State Bridge # 06C0088, Old Oregon Trail @ W. Fork Stillwater Creek - Bridge Replacement		$6,400,000	(2026-2035)	Bridge Replacement	HBP/Local
10	State Bridge #06C0307, Canyon Road @ ACID Canal - Bridge Replacement		$2,683,000	(2026-2035)	Bridge Replacement	HBP/Local
11	State Bridge # 06C0033, Lake Blvd @ SPRR - Bridge Rehabilitation		$6,400,000	(2026-2035)	Bridge Rehabilitation	HBP/Local
12	State Bridge # 06C0047, Locust St @ ACID Canal - Bridge Rehabilitation		$1,280,000	(2026-2035)	Bridge Rehabilitation	HBP/Local
13	State Bridge # 06C0057, Twin View Blvd @ Boulder Creek - Bridge Rehabilitation		$6,400,000	(2026-2035)	Bridge Rehabilitation	HBP/Local
14	State Bridge # 06C0106, Hartnell Ave @ Churn Court - Bridge Rehabilitation		$6,400,000	(2026-2035)	Bridge Rehabilitation	HBP/Local
15	State Bridge # 06C0070, Westside Rd @ Oregon Gulch - Bridge Rehabilitation		$1,280,000	(2026-2035)	Bridge Rehabilitation	HBP/Local
16	State Bridge # 06C0106, Hilltop Dr @ I-5 - Bridge Rehabilitation (South Replacement)		$3,417,000	(2026-2035)	Bridge Rehabilitation	HBP/Local
	Total Long Term Fundable Needs =		$34,260,000			

DESCRIPTION	Short (2016-2025)	Long (2026-2035)	Total
Funding Needed By Short and Long Range Bands	**$14,920,000**	**$34,260,000**	**$49,180,000**
Recap of Expected/Estimated/Unknown Resources			
Highway Bridge Program (HBP) =	**$14,174,000**	**$32,547,000**	**$46,721,000**
Local/Other =	**$746,000**	**$1,713,000**	**$2,459,000**
Total Funding Reasonably Available =	**$14,920,000**	**$34,260,000**	**$49,180,000**
Total Unfunded Needs (or Short Term Carryover) =	**$-**	**$-**	**$-**
Note 1 : Green highlighted projects above can be funded in the constrained funding analysis			

Note 2 : Un-highlighted projects above cannot be funded. New funding sources will need to be identified or improvement will be developer funded.
Note 3 : Long term projects are escalated by 2.5%

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Figure 38 - Location of Constrained Bridge Projects



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Table 44 - Summary of Projects: Caltrans Active Transportation

Project Number	REGIONAL TRANSPORTATION PROJECTS	SHORT TERM TOTAL EST COST OF PROJECT	LONG TERM TOTAL EST COST OF PROJECT	PROJECT BAND	PROJECT TYPE (PROJECT INTENT)	EXPECTED FUNDING SOURCES
1	151, Begin PM 5.4, End PM 5.9, Shasta Lake City from 0.5 mile west to 0.4 mile east of Poplar Lane	$2,000,000		(2016-2025)	Construct curb ramps, reconstruct sidewalks and possibly add sidewalks and adjust traffic signal pedestrian buttons.	SHOPP
	Total Short Term Needs =	**$2,000,000**				
2	Lake Blvd (SR 299), between SR 273 and Interstate 5, Begin PM 24.238, End PM 24.822, Complete Streets gap closure for multimodal use facilities and aesthetic treatments		$2,560,000	(2026-2035)	Bicycle and pedestrian, complete streets	SHOPP/ATP
3	Route 299, Begin PM 16.5, End PM 18.3, From Old Shasta to Whiskeytown NRA, Provide westbound truck climbing lane and bike lane.		$1,536,000	(2026-2035)	Bicycle and pedestrian, truck climbing lane	SHOPP/ATP
4	Entire length of SR 273, Class II Bike Lane (including railroad crossing)		$15,361,000	(2026-2035)	construct bike lanes	SHOPP/ATP
5	Route 273, Begin PM 3.812, End PM 11.1, various locations in high pedestrian areas, Pedestrian Facilities - Consistent with ADA and Caltrans Design Standards		$8,961,000	(2026-2035)		SHOPP/ATP
	Total Long Term Fundable Needs =		**$-**			

DESCRIPTION	Short (2016-2025)	Long (2026-2035)	Total
Funding Needed By Short and Long Range Bands	**$2,000,000**	**$28,418,000**	**$30,418,000**
Recap of Expected/Estimated/Unknown Resources			
Active Transportation Program (ATP) =	**$200,000**	**$-**	**$200,000**
State Highway Operations and Protection Program (SHOPP) =	**$1,800,000**	**$-**	**$1,800,000**
Total Funding Reasonably Available =	**$2,000,000**	**$-**	**$2,000,000**
Total Unfunded Needs (or Short Term Carryover) =	**$-**	**$(28,418,000)**	**$(28,418,000)**
Note 1 : Green highlighted projects above can be funded in the constrained funding analysis			

Note 2 : Un-highlighted projects above cannot be funded. New funding sources will need to be identified or improvement will be developer funded.
Note 3 : Long term projects are escalated by 2.5%

Table 45 - Summary of Projects: Shasta County Active Transportation

Project Number	REGIONAL TRANSPORTATION PROJECTS	SHORT TERM TOTAL EST COST OF PROJECT	LONG TERM TOTAL EST COST OF PROJECT	PROJECT BAND	PROJECT TYPE (PROJECT INTENT)	EXPECTED FUNDING SOURCES
1	Burney - Tamarack Ave. and Park Ave., class ii bike lane	$420,000		(2016-2025)	Safety/SRTS	2% LTF
2	Burney - Mountain View Drive, Quebec St., Sugar Pine, Safe Routes to School	$500,000		(2016-2025)	Safety	Local/Other
3	Burney - Park Avenue, between Tamarack Avenue and Burney Creek, Construct shoulders	$101,500		(2016-2025)	Safety	ATP/Local/Other
4	Burney - Erie Street, Construct sidewalks	$359,848		(2016-2025)	Safety	ATP/Local/Other
5	Burney - Quebec Street, Construct sidewalks	$359,848		(2016-2025)	Safety	ATP/Local/Other
6	Burney - Toronto Avenue, between Erie and Quebec Streets, Construct sidewalks	$359,848		(2016-2025)	Safety	ATP/Local/Other
7	Old Oregon Trail from College View to Collyer Drive, class ii bike lane and interchange improvements	$500,000		(2016-2025)	Safety	ATP/Local/Other
	Total Short Term Needs =	**$2,601,045**				
8	Road segment Gas Point Road, From I-5/Cottonwood, To Happy Valley Road, class ii bike lane		$4,990,000	(2026-2035)	Safety	ATP/Local/Other
9	Road segment Happy Valley Road, From Gas Point Road, To Hawthorne Avenue, class ii bike lane		$5,206,000	(2026-2035)	Safety	ATP/Local/Other
10	Road segment Canyon Road, From Hawthorne Avenue, To Highway 273, class ii bike lane		$1,618,000	(2026-2035)	Safety	ATP/Local/Other
11	Road segment Balls Ferry Road, From Anderson city limit, To Deschutes Road, class ii bike lane		$834,000	(2026-2035)	Safety	Unfunded or Developer
12	Road segment Deschutes Road, From Balls Ferry Road, To Highway 299 East, class ii bike lane		$10,860,000	(2026-2035)	Safety	Unfunded or Developer
13	Road segment Placer Road, From Redding city limit, To Cloverdale Road, class ii bike lane		$5,588,000	(2026-2035)	Safety	Unfunded or Developer
14	Road segment Texas Springs Road, From Placer Road, To Branstetter Road, class ii bike lane		$5,008,000	(2026-2035)	Safety	Unfunded or Developer
15	Road segment Oasis Road, From I-5/Redding, To Old Oregon Trail, class ii bike lane		$1,233,000	(2026-2035)	Safety	Unfunded or Developer
16	Road segment Old Oregon Trail, From I-5/Mountain Gate, To Highway 299 East, class ii bike lane		$5,381,000	(2026-2035)	Safety	Unfunded or Developer
17	Road segment Old Oregon Trail, From Highway 299 East, To Highway 44, class ii bike lane		$3,452,000	(2026-2035)	Safety	Unfunded or Developer
18	Road segment Cloverdale Road, From Placer Road, To Oak Street, class ii bike lane		$3,162,000	(2026-2035)	Safety	Unfunded or Developer
19	Road segment Dersch Road, From Airport Road, To Deschutes Road, class ii bike lane		$2,234,000	(2026-2035)	Safety	Unfunded or Developer
20	Road segment Swasey Drive , From Highway 299 West, To Placer Road, class ii bike lane		$3,077,000	(2026-2035)	Safety	Unfunded or Developer
21	Burney - Tamarack Avenue, between convenience store and Main Street, Construct sidewalks		$369,000	(2026-2035)	Safety	Unfunded or Developer
22	Burney - Main Street gap closures, at various locations, Construct sidewalks		$2,303,000	(2026-2035)	Safety/Gap closure	Unfunded or Developer
23	Road segment Airport Road, From Highway 44, To Anderson city limit, class ii bike lane		$5,069,000	(2026-2035)	Safety	Unfunded or Developer
24	Road segment Oak Street, From Cloverdale Road, To Palm Avenue, class ii bike lane		$1,270,000	(2026-2035)	Safety	Unfunded or Developer
25	Road segment Palm Avenue, From Oak Street , To Happy Valley Road, class ii bike lane		$2,023,000	(2026-2035)	Safety	Unfunded or Developer
26	Burney - Mountain View Road, between Main and Carberry Streets, Construct sidewalks		$2,948,000	(2026-2035)	Safety	Unfunded or Developer
27	Burney - Ash Avenue, between Hudson and Marquette Streets, Widen shoulders		$162,000	(2026-2035)	Safety	Unfunded or Developer
28	Burney - Park Avenue, between Burney Creek and Hudson Street, Widen shoulders		$425,000	(2026-2035)	Safety	Unfunded or Developer
29	Burney - Hudson Street, between Park Avenue and Main Street, Widen shoulders		$317,000	(2026-2035)	Safety	Unfunded or Developer

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30	Burney - Huron Avenue, between Hudson and Erie Streets, Widen shoulders		$261,000	(2026-2035)	Safety	Unfunded or Developer
31	Burney - Marquette Street, between Cypress Avenue and Main Street, Widen shoulders		$398,000	(2026-2035)	Safety	Unfunded or Developer
32	Burney - Extension of Tall Timber Lane between schools, Construct 'Class I' bike path		$45,000	(2026-2035)	Safety/SRTS	Unfunded or Developer
33	Burney - From Elementary to Junior/Senior High Schools, Construct 'Class I' bike path		$56,000	(2026-2035)	Safety/SRTS	Unfunded or Developer
34	Burney - Formalize bike path from Junior/Senior High Schools to Main Street, Construct 'Class I' bike path		$41,000	(2026-2035)	Safety/SRTS	Unfunded or Developer
35	Burney - From Washburn Bue Park to Burney Creek Trail, Construct trail		$355,000	(2026-2035)	Safety	Unfunded or Developer
36	Burney - Burney Creek Trail, Construct trail		$192,000	(2026-2035)	Safety	Unfunded or Developer
37	Burney - Bailey Avenue, between Marquette Street and Tall Timber Lane, Construct 'Class II' bike lanes		$247,000	(2026-2035)	Safety	Unfunded or Developer
38	Burney - Hudson Street, Marquette Street, Ash Avenue, Park Avenue, Traffic calming measures		$67,000	(2026-2035)	Safety/Traffic calming	Unfunded or Developer
39	Burney - Main Street/City Limits, Gateway treatments		$50,000	(2026-2035)	Safety	Unfunded or Developer
	Total Long Term Fundable Needs =		**$11,814,000**			

DESCRIPTION	Short (2016-2025)	Long (2026-2035)	Total
Funding Needed By Short and Long Range Bands	**$2,601,045**	**$69,241,000**	**$71,842,045**
Recap of Expected/Estimated/Unknown Resources			
Active Transportation Program (ATP) =	**$962,387**	**$4,371,180**	**$5,333,567**
Local/Other =	**$130,052**	**$590,700**	**$720,752**
2% LTF =	**$130,052**	**$590,700**	**$720,752**
Highway Safety Improvement Program (HSIP) =	**$1,378,554**	**$6,261,420**	**$7,639,974**
Total Funding Reasonably Available =	**$2,601,045**	**$11,814,000**	**$14,415,045**
Total Unfunded Needs (or Short Term Carryover) =	**$-**	**$(57,427,000)**	**$(57,427,000)**
Note 1 : Green highlighted projects above can be funded in the constrained funding analysis			

Note 2 : Un-highlighted projects above cannot be funded. New funding sources will need to be identified or improvement will be developer funded.
Note 3 : Long term projects are escalated by 2.5%

Table 46 - Summary of Projects: Redding Active Transportation

Project Number	REGIONAL TRANSPORTATION PROJECTS	SHORT TERM TOTAL EST COST OF PROJECT	LONG TERM TOTAL EST COST OF PROJECT	PROJECT BAND	PROJECT TYPE (PROJECT INTENT)	EXPECTED FUNDING SOURCES
1	Shoulder Widening: Browning Street - Hilltop Drive to Churn Creek	$1,000,000		2017 (construction)	Safety/Shoulder Recovery	STIP/Other
2	Multi-use trail, pedestrian/bike improvements: Riverside Trail, From Sacramento River Trail, To Center St	$1,500,000		2017 (construction)	Safety	STIP/Other
3	Placer Street Pedestrian/Bike Improvements: Pleasant Street to Boston	$5,004,000		(2016-2025)	Safety	ATP/TIF/Streets/Water
4	Shoulder Widening: Old Alturas Road - Shasta View to Edgewood	$1,200,000		(2016-2025)	Safety	BTA/TIF/Prop 1B/Streets
	Total Short Term Needs =	**$8,704,000**				
5	Multi-use trail: Candlewood Trail, From Highway 44, To Candlewood Dr		$256,000	(2026-2035)	Recreation/Safety	unknown
6	Multi-use trail: Kapusta		$160,000	(2026-2035)	Recreation/Safety	unknown
7	Multi-use trail: Clear Creek Trail, Lower Clear Creek Greenway, To Cascade Park		$832,000	(2026-2035)	Recreation/Safety	unknown
8	Multi-use trail: Jenny Creek Trail, From Eureka Way, To Mary Lake		$160,000	(2026-2035)	Recreation/Safety	unknown
9	Multi-use trail: Linden Creek Trail, From Placer St, To MLK, Jr. Park		$512,000	(2026-2035)	Recreation/Safety	unknown
10	Multi-use trail: Manzanita Trail, From Manzanita Hills Av, To Almond Av		$192,000	(2026-2035)	Recreation/Safety	unknown
11	Dirt trail: Salt Creek Trail, From Highway 299 West, To Sacramento River Trail		$448,000	(2026-2035)	Recreation/Safety	unknown
12	Crushed granite: Widen Buenaventura Trail, from Sunflower to Sacramento River Trail		$288,000	(2026-2035)	Recreation/Safety	unknown
13	class ii bike lane: Route N Market St, From Lake Blvd, To Quartz Hill Rd		$64,000	(2026-2035)	Safety	unknown
14	class ii bike lane: Route Tarmac Rd, From Shasta View Dr, To Abernathy Ln		$192,000	(2026-2035)	Safety	unknown
15	class ii bike lane: Route Buenaventura Blvd, From Buenaventura Trailhead, To Railroad Av		$96,000	(2026-2035)	Safety	unknown
16	class ii bike lane: Route Hilltop Dr, From State Route 299, To E Cypress Av		$1,536,000	(2026-2035)	Safety	unknown
17	class ii bike lane: Route Lake Blvd, From Pine Grove Av, To N Market St		$64,000	(2026-2035)	Safety	unknown
18	class ii bike lane: Route Old Alturas Rd, From Churn Creek Rd, To Old Oregon Trail		$448,000	(2026-2035)	Safety	unknown
19	class ii bike lane: Route Shasta View Dr, From College View Dr, To Rancho Rd		$6,400,000	(2026-2035)	Safety	unknown
20	class ii bike lane: Route Victor Av, From Old Alturas Rd, To Rancho Rd		$7,681,000	(2026-2035)	Safety	unknown
21	class ii bike lane: Route Bechelli Ln, From Bechelli River Access, To South Bonnyview Rd		$640,000	(2026-2035)	Safety	unknown
22	class ii bike lane: Route Browning St, From Hilltop Dr, To Old Alturas Rd		$576,000	(2026-2035)	Safety	unknown
23	class ii bike lane: Route Churn Creek Rd, From State Route 299, To Knighton Rd		$7,040,000	(2026-2035)	Safety	unknown
24	class ii bike lane: Route Hartnell Av, From Cypress Av, To Airport Rd		$2,560,000	(2026-2035)	Safety	unknown
25	class ii bike lane: Route Benton Dr, From Quartz Hill Rd, To Sacramento River		$64,000	(2026-2035)	Safety	unknown
26	class ii bike lane: Route Butte St, From Continental St, To Park Marina Dr		$51,000	(2026-2035)	Safety	unknown
27	class ii bike lane: Route Center St, From Riverside Dr, To Trinity St		$960,000	(2026-2035)	Safety	unknown
28	class ii bike lane: Route College View Dr, From Bodenhamer Blvd (Future), To Old Alturas Rd		$3,200,000	(2026-2035)	Safety	unknown
29	class ii bike lane: Route Continental St, From Trinity St, To Butte		$64,000	(2026-2035)	Safety	unknown

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30	class ii bike lane: Route Court St, From Sacramento River, To Schley Av / Railroad Av		$1,280,000	(2026-2035)	Safety	unknown
31	class ii bike lane: Route Cypress Av, From Civic Center Dr, To Ishi Dr		$3,840,000	(2026-2035)	Safety	unknown
32	class ii bike lane: Route East St, From Trinity St, To South St		$192,000	(2026-2035)	Safety	unknown
33	class ii bike lane: Route Keswick Dam Rd, From Buenaventura Blvd, To Lake Blvd		$512,000	(2026-2035)	Safety	unknown
34	class ii bike lane: Route Oasis Rd, From Lake Blvd, To Old Oregon Trail		$3,200,000	(2026-2035)	Safety	unknown
35	class ii bike lane: Route Old Oregon Trail, From Oasis Rd, To State Route 44		$640,000	(2026-2035)	Safety	unknown
36	Multi-use Trail: SR 273: Girvan to Redding Rancheria		$832,000	(2026-2035)	Safety	unknown
37	class ii bike lane: Route Trinity St, From Center St, To Continental St		$960,000	(2026-2035)	Safety	unknown
38	class ii bike lane: Route Quartz Hill Rd, From Keswick Dam Rd, To N Market St		$4,480,000	(2026-2035)	Safety	unknown
39	class ii bike lane: Route Westside Rd, From Buenaventura Blvd, To Cedars Rd		$3,840,000	(2026-2035)	Safety	unknown
40	class ii bike lane: Route Boulder Dr, From State Route 299 Bikeway, To State Route 299 Bikeway		$2,560,000	(2026-2035)	Safety	unknown
41	class ii bike lane: Route Hawley St, From State Route 299, To Proposed Future Trailhead		$4,480,000	(2026-2035)	Safety	unknown
42	class ii bike lane: Route Rancho Rd, From Churn Creek Rd, To Venture		$6,400,000	(2026-2035)	Safety	unknown
43	class ii bike lane: Route Airport Rd, From Hartnell Av, To Sacramento River		$10,241,000	(2026-2035)	Safety	unknown
44	class ii bike lane: Route Future Rd, From Future Trailhead, To Tanglewood		$2,560,000	(2026-2035)	Safety	unknown
45	class ii bike lane: Route Loma Vista, From Bechelli Ln, To Churn Creek Rd		$192,000	(2026-2035)	Safety	unknown
46	class ii bike lane: Route Palisades Av, From Hilltop Dr, To Dana-to-Downtown Bikeway		$448,000	(2026-2035)	Safety	unknown
47	class ii bike lane: Route Radio Ln / East Bonnyview Rd, From Eastside Rd, To South Bonnyview Rd		$3,840,000	(2026-2035)	Safety	unknown
48	class ii bike lane: Route South St, From Court St, To Park Marina Dr		$320,000	(2026-2035)	Safety	unknown
49	class ii bike lane: Route Venture St, From Rancho Rd, To Unforgettable Ln		$2,560,000	(2026-2035)	Safety	unknown
50	Multi-use trail: Boulder Creek Trail, From SR 299E Bikeway, To Churn Creek		$1,920,000	(2026-2035)	Recreation/Safety	unknown
51	Multi-use trail: Canyon Creek Trail Extension, From Placer St, To Blazingwood Dr		$1,920,000	(2026-2035)	Recreation/Safety	unknown
52	Multi-use trail: Churn Creek Trail, From Minder Park, To Churn Creek Rd		$1,920,000	(2026-2035)	Recreation/Safety	unknown
53	Multi-use trail: Clover Creek Trail, From Sports Park, To Sacramento River		$3,840,000	(2026-2035)	Recreation/Safety	unknown
54	Multi-use trail: Little Churn Creek Trail, From Hartnell Av, To Churn Creek		$3,200,000	(2026-2035)	Recreation/Safety	unknown
55	Existing gravel; to be paved in future: Old 99 Spur Trail*, From Lake Blvd, To North Market St		$1,920,000	(2026-2035)	Recreation/Safety	unknown
56	Multi-use trail: Sac. River Trail - Hatchcover Spur, From Hemstead Dr, To Cypress Av		$1,536,000	(2026-2035)	Recreation/Safety	unknown
57	Multi-use trail: Sulphur Creek Trail -South, From North Market St, To Arboretum Perimeter Trail		$1,536,000	(2026-2035)	Recreation/Safety	unknown
58	Dirt trail: Olney Creek Trail, From Texas Springs Rd, To Cascade Park		$2,560,000	(2026-2035)	Recreation/Safety	unknown
59	Dirt trail: Ridgeview Trail, From Ridgeview Park, To Blue Gravel Mine Trail		$1,920,000	(2026-2035)	Recreation/Safety	unknown
60	Dirt trail: Sulphur Creek Trail - North, From Quartz Hill Rd, To North Market St		$2,304,000	(2026-2035)	Recreation/Safety	unknown
61	Dirt trail: Greenwood Trail, From Almond/Airpark, To Sonoma St		$2,560,000	(2026-2035)	Recreation/Safety	unknown
62	Dirt trail: Avalon Trail, From future Shasta View Dr, To Old Oregon Trail		$3,840,000	(2026-2035)	Recreation/Safety	unknown
63	Multi-use trail: Lema - Nash Trail, From Shasta View Dr, To Old Oregon Trail		$1,920,000	(2026-2035)	Recreation/Safety	unknown
64	Multi-use trail: Sac. River Trail - Future Expansion, From Cypress Av, To Anderson River Park		$19,201,000	(2026-2035)	Recreation/Safety	unknown
65	Multi-use trail: Upper Churn Creek Trail, From Pine Grove Av, To Oasis Rd		$1,920,000	(2026-2035)	Recreation/Safety	unknown
66	Multi-use trail: Wentz Creek Trail, From Mistletoe School, To Cypress Av		$1,536,000	(2026-2035)	Recreation/Safety	unknown
67	Dirt trail: China Dam Trail, From Placer Rd, To Texas Springs Rd		$1,280,000	(2026-2035)	Recreation/Safety	unknown
68	Multi-use trail: Sac. River Trail - Park Marina Trail, From State Route 44, To Cypress Av		$3,840,000	(2026-2035)	Improve bike access, Recreation	unknown
69	Multi-use trail: Stillwater Creek Trail, From Old Oregon Trail, To Sacramento River		$2,560,000	(2026-2035)	Improve bike access, Recreation	unknown
70	Multi-use trail: Stillwater Plant Trail, From State Route 44, To Dersch Rd		$5,120,000	(2026-2035)	Improve bike access, Recreation	unknown
	Total Long Term Fundable Needs =		**$45,940,000**			

DESCRIPTION	Short (2016-2025)	Long (2026-2035)	Total
Funding Needed By Short and Long Range Bands	**$8,704,000**	**$156,214,000**	**$164,918,000**
Recap of Expected/Estimated/Unknown Resources			
State Transportation Improvement Program (STIP) =	**$675,000**	**$-**	**$675,000**
Active Transportation Program (ATP) =	**$1,605,800**	**$9,188,000**	**$10,793,800**
Local/Other =	**$2,408,700**	**$13,782,000**	**$16,190,700**
2% LTF =	**$401,450**	**$2,297,000**	**$2,698,450**
Highway Safety Improvement Program (HSIP) =	**$3,613,050**	**$20,673,000**	**$21,074,450**
	$8,704,000	**$45,940,000**	**$54,644,000**
Total Unfunded Needs (or Short Term Carryover) =	**$-**	**$(110,274,000)**	**$(110,274,000)**
Note 1 : Green highlighted projects above can be funded in the constrained funding analysis			

Note 2 : Un-highlighted projects above cannot be funded. New funding sources will need to be identified or improvement will be developer funded.
Note 3 : Long term projects are escalated by 2.5%

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Table 47 - Summary of Projects: Anderson Active Transportation

Project	REGIONAL TRANSPORTATION PROJECTS	SHORT TERM TOTAL EST COST OF PROJECT	LONG TERM TOTAL EST COST OF PROJECT	PROJECT BAND	PROJECT TYPE (PROJECT INTENT)	EXPECTED FUNDING SOURCES
1	Route North Street, class ii bike lane	$250,000		(2016-2025)	Safety	unknown
2	Route Balls Ferry Road, From South Street, To SE city limit, class ii bike lane	$300,000		(2016-2025)	Safety	unknown
	Total Short Term Needs =	**$550,000.00**				
3	Route SR 273, From South Street, To South city limit, class i bike path		$640,000	(2026-2035)	Safety	unknown
4	Route South Street, From SW city limit, To SR 273, class ii bike lane		$576,000	(2026-2035)	Safety	unknown
5	Route East Street, From Alexander Ave., To Balls Ferry Road, class ii bike lane		$256,000	(2026-2035)	Safety	unknown
6	Route Dodson Lane, From Balls Ferry Road, To Rupert Road, class ii bike lane		$64,000	(2026-2035)	Safety	unknown
7	Route Stingy Lane, From North Street, To Balls Ferry Road, class ii bike lane		$1,536,000	(2026-2035)	Safety	unknown
8	Route Riverside Avenue, From North Street, To Ox Yoke Road, class ii bike lane		$576,000	(2026-2035)	Safety	unknown
9	Route McMurray Drive, From North Street, To Balls Ferry Road, class ii bike lane		$192,000	(2026-2035)	Safety	unknown
10	Route Ventura Street, From North Street, To Balls Ferry Road, class ii bike lane		$128,000	(2026-2035)	Safety	unknown
11	Route Freeman Street, From North Street, To South Street, class ii bike lane		$26,000	(2026-2035)	Safety	unknown
12	Route Fairgrounds Drive, From 1st Street, To 3rd Street, class ii bike lane		$64,000	(2026-2035)	Safety	unknown
13	Route 3rd Street, From Fairgrounds Drive, To SR 273, class ii bike lane		$256,000	(2026-2035)	Safety	unknown
14	Route Marx Way, From SR 273, To Barney Road, class ii bike lane		$26,000	(2026-2035)	Safety	unknown
15	Route Pinon Avenue, From SR 273, To the west, class ii bike lane		$1,600,000	(2026-2035)	Safety	unknown
16	Route Ferry Street, From ACID canal, To Ventura Atreet, class iii bike route		$13,000	(2026-2035)	Safety	unknown
17	Route Barney Road, From South Street, To SR 273, class iii bike route		$13,000	(2026-2035)	Safety	unknown
18	Route Alexander Avenue & Little Street, From SR 273, To Riverside Avenue, class iii bike route		$13,000	(2026-2035)	Safety	unknown
19	Route 1st Street & Briggs Street, From Fairgrounds Drive, To SR 273, class iii bike route		$13,000	(2026-2035)	Safety	unknown
	Total Long Term Fundable Needs =		**$640,000**			

DESCRIPTION	Short (2016-2025)	Long (2026-2035)	Total
Funding Needed By Short and Long Range Bands	**$550,000**	**$5,992,000**	**$6,542,000**
Recap of Expected/Estimated/Unknown Resources			
Active Transportation Program (ATP) =	**165,000**	**$192,000**	**$357,000**
Local/Other =	**165,000**	**192,000**	**$357,000**
2% LTF =	**27,500**	**$32,000**	**$59,500**
Highway Safety Improvement Program (HSIP) =	**$192,500**	**$224,000**	**$416,500**
			$-
Total Funding Reasonably Available =	**$550,000**	**$640,000**	**$1,190,000**
Total Unfunded Needs (or Short Term Carryover) =	**$-**	**$(5,352,000)**	**$(5,352,000)**

Note 1 : Green highlighted projects above can be funded in the constrained funding analysis

Note 2 : Un-highlighted projects above cannot be funded. New funding sources will need to be identified or improvement will be developer funded.

Note 3 : Long term projects are escalated by 2.5%

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Table 48 - Summary of Projects: City of Shasta Lake Active Transportation

Project Number	REGIONAL TRANSPORTATION PROJECTS	SHORT TERM TOTAL EST COST OF PROJECT	LONG TERM TOTAL EST COST OF PROJECT	PROJECT BAND	PROJECT TYPE (PROJECT INTENT)	EXPECTED FUNDING SOURCES
	NO SHORT RANGE PROJECTS					
	Total Short Term Needs =	$-				
1	Class I Bikeway + Regional Trail - Churn Creek		$1,262,000	2026- 2035	Safety	ATP
2	Deer Creek Ave - SR151 to Vallecito - Safe Routes To School		$1,930,000	2026- 2035	Safety / Shoulder	ATP
3	Shasta Way - SR 151 to Grand Avenue - Safe Routes To School		$1,485,000	2026- 2035	Safety / Shoulder	ATP
4	Class II Bikeway - Cascade Blvd Bike Lanes (Union School to S. City Limit)		$1,485,000	2026- 2035	Safety / Shoulder	ATP
5	Class I Bikeway - Ashby Road Bike Path		$1,485,000	2026- 2035	Safety / Shoulder	ATP
6	Loop Trail North of Margaret Polf Park		$74,000	2026- 2035	Recreation	ATP
7	Class I Bikeway - Pine Grove Avenue Bike Path		$2,227,000	2026- 2035	Safety	ATP
8	Class II Bikeway - La Mesa Ave		$371,000	2026- 2035	Safety /School Access	ATP
9	Beltline Trail		$148,000	2026- 2035	Recreation	ATP
10	Class III Bikeway - Toyon Ave Bike Route (Lake Blvd to Margaret Polf Park)		$15,000	2026- 2035	Safety	ATP
11	Class II Bikeway - Shasta Gateway Drive Bike Lanes (Internal to Industrial Park)		$15,000	2026- 2035	Safety	ATP
12	Class II Bikeway - Shasta Street Bike Lanes (SR 151 to Grand Coulee)		$186,000	2026- 2035	Safety	ATP
13	Class II Bikeway - Grand Coulee Blvd Bike Lanes (SR151 to Cascade Blvd.)		$148,000	2026- 2035	Safety	ATP
14	Class III Bikeway - Twin View Blvd Bike Route (Pine Grove to S City Limit)		$119,000	2026- 2035	Safety	ATP
15	Class II Bikeway - Black Canyon Road Bike Lanes (Red Bluff to end on N)		$742,000	2026- 2035	Safety	ATP
16	Class I Bikeway - Cascade Blvd Extention to Mt. Gate Bike Path		$2,969,000	2026- 2035	Safety	ATP
17	Class I Bikeway - Black Canyon extension to Mt. Gate at Shasta Bike Path		$742,000	2026- 2035	Safety	ATP
18	Class III Bikeway - Lake Blvd Bike Route (N/O Hwy 151)		$134,000	2026- 2035	Recreation	ATP
19	Class III Bikeway - Hwy 151 Bike Route (W/O Lake Blvd)		$89,000	2026- 2035	Recreation	ATP
20	Northeast (Mountain Gate) Trail		$1,485,000	2026- 2035	Recreation	ATP
21	Churn Creek Regional Trail (Phase II)(Pine Grove N to SR 151)		$1,262,000	2026- 2035	Recreation	ATP
	Total Long Term Fundable Needs =		$1,262,000			

DESCRIPTION	Short (2016-2025)	Long (2026-2035)	Total
Funding Needed By Short and Long Range Bands	$-	$18,373,000	$18,373,000
Recap of Expected/Estimated/Unknown Resources			
Active Transportation Program (ATP) =	$-	$441,700	$441,700
Local/Other =	$-	$189,300	$189,300
2% LTF =	-	$126,200	$126,200
Highway Safety Improvement Program (HSIP) =	$-	$504,800	$504,800
Total Funding Reasonably Available =	$-	$1,262,000	$1,262,000
Total Unfunded Needs (or Short Term Carryover) =	$-	$(17,111,000)	$(17,111,000)
Note 1 : Green highlighted projects above can be funded in the constrained funding analysis			

Note 2 : Un-highlighted projects above cannot be funded. New funding sources will need to be identified or improvement will be developer funded.
Note 3 : Long term projects are escalated by 2.5%

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Table 49 - Summary of Projects: Regional Active Transportation/Recreation

Project Number	REGIONAL TRANSPORTATION PROJECTS	SHORT TERM TOTAL EST COST OF PROJECT	LONG TERM TOTAL EST COST OF PROJECT	PROJECT BAND	PROJECT TYPE (PROJECT INTENT)	EXPECTED FUNDING SOURCES
1	Great Shasta Rail Trail Association - Black Ranch Road in Burney, Stage two buildout of primary trailhead in Burney	$25,000		(2016-2025)	Recreation, safety	ATP
2	Great Shasta Rail Trail Association - Clark Creek Road (north of Lake Britton), Stage two buildout of primary trailhead on Clark Creek Road	$25,000		(2016-2025)	Recreation, safety	EEMP
3	Great Shasta Rail Trail Association - Rail banked right-of-way between Burney and McCloud, Tread improvement on Great Shasta Rail Trail	$100,000		(2016-2025)	Recreation	ATP
4	Great Shasta Rail Trail Association - Highway 89 just north of intersection with Hwy 299, Improve Highway 89 crossing on Great Shasta Rail Trail	$20,000		(2016-2025)	Safety	ATP
5	Great Shasta Rail Trail Association - North of Clark Creek Road on rail banked right-of-way, Culvert replacement along Great Shasta Rail Trail	$72,000		(2016-2025)	Drainage, property safety	Sierra Nevada Conservancy
6	Great Shasta Rail Trail Association - Lake Britton, Lake Britton Trestle Rehabilitation	$300,000		(2016-2025)	Safety	RTP
7	Great Shasta Rail Trail Association - Just south of Lake Britton, Establish pedestrian access between Great Shasta Rail Trail and McArthur Burney Falls State Park	$100,000		(2016-2025)	Safety, recreation	RTP
8	Great Shasta Rail Trail Association - Black Ranch Road, just north of Burney, Stage two buildout of primary trailhead at Berry Wye	$25,000		(2016-2025)	Recreation, safety	EEMP
9	Great Shasta Rail Trail Association - re-decking of Lake Britton Bridge to accommodate trail users	$800,000		(2016-2025)	Recreation, safety	unknown
10	Great Shasta Rail Trail Association - abatement of red lead paint on Lake Britton Bridge	$200,000		(2016-2025)	Recreation, safety	unknown
11	National Park Service - Whiskeytown Recreation Area, New entrance stations on Kennedy Memorial Drive near Whiskeytown Headquarters and on Oak Bottom Road near the campground store.	$10,000,000		(2016-2025)	Gateway	NPS
12	National Park Service - Whiskeytown Recreation Area, Up to four designated parking areas adjacent to the lake to allow for entrance and exit lanes to resolve safety concerns.	$200,000		(2016-2025)	Parking	unknown
13	California State Parks - Shasta State Historic Park, Construct parking lot for day use visitors and school busses. (This project will alleviate some of the parking that occurs on Highway 299.)	$200,000		(2016-2025)	Parking	unknown
14	Bureau of Land Management - Redding Field Office, Improve vehicle access to Chappie-Shasta Off-Highway Vehicle Area, Copley Mt. Staging Area to Chappie-Shasta OHVS Area.	$1,000,000		(2016-2025)	Recreation	unknown
15	Great Shasta Rail Trail Association - Just nouth of Lake Britton, Replace railroad overpass to allow safe passage by pedestrians on the Great Shasta Rail Trail	$125,000		(2016-2025)	Safety	EEMP
16	National Park Service - Whiskeytown Recreation Area, West Boundary entrance pull-out at Whiskeytown boundary on Hwy 299. Develop entrance pull-out similar to the one completed at the east boundary.	$250,000		(2016-2025)	Gateway	unknown
17	Shasta County - Road segment Abandoned McCloud Railway Company railbed, From Burney, To TBD, class ii bike lane	$250,000		(2016-2025)	Recreation	HSIP/ATP
	Total Short Term Needs =	**$13,692,000**				
18	National Park Service - Whiskeytown Recreation Area, Multiuse trail. Tower House Historic District to Lewiston Turnpike.		$5,000,000	(2026-2035)	Recreation	unknown
19	California State Parks - McArthur-Burney Falls Memorial State Park, New park entrance road, entrance kiosk and parking lot for day use vehicles and buses. Redesign of abandoned section of Highway 89 into park perimeter road.		$200,000	(2026-2035)		unknown
	Total Long Term Fundable Needs =		**$5,200,000**			

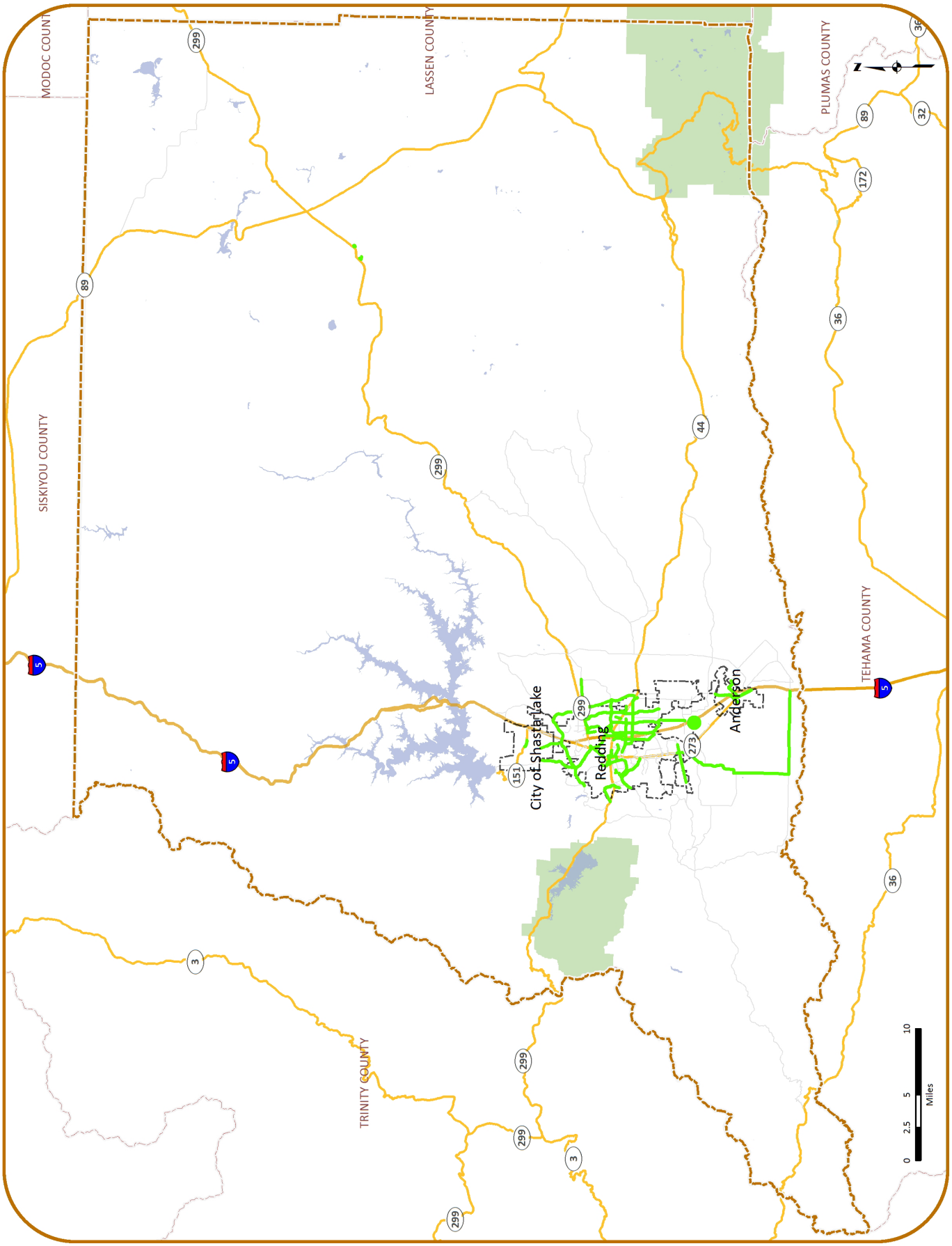
DESCRIPTION	Short (2016-2025)	Long (2026-2035)	Total
Funding Needed By Short and Long Range Bands	**$13,692,000**	**$5,200,000**	**$18,892,000**
Recap of Expected/Estimated/Unknown Resources			
Environmental Enhancement and Mitigation Program (EEMP) =			**$-**
Active Transportation Program (ATP) =			**$-**
Recreational Trails Program (RTP) =			**$-**
National Park Service (NPS) =			**$-**
SNC =			**$-**
Total Funding Reasonably Available =	**$-**	**$-**	**$-**
Total Unfunded Needs =	**$(13,692,000)**	**$(5,200,000)**	**$(18,892,000)**

Note 1 : Green highlighted projects above can be funded in the constrained funding analysis

Note 2 : Un-highlighted projects above cannot be funded. New funding sources will need to be identified or improvement will be developer funded.

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Figure 39 - Location of Constrained Active Transportation Projects



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Table 50 - Summary of Projects: Regional Transit Operations

Entity	Annual Operating Cost	Short Term	Long Term
RABA	$5,600,000	$62,738,938	$80,311,145
County transit	$460,857	$5,163,157	$6,609,277
CTSA (SSNP)	$300,000	$3,361,015	$4,302,383
Shingletown Transit Service	$275,000	$3,080,930	$3,943,851
SSNP Service Expansion	$10,000	$112,034	$143,413

Table 51 - Summary of Projects: Regional Transit

Project Number	REGIONAL TRANSPORTATION PROJECTS	SHORT TERM TOTAL EST COST OF PROJECT	LONG TERM TOTAL EST COST OF PROJECT	PROJECT BAND	PROJECT TYPE (PROJECT INTENT)	EXPECTED FUNDING SOURCES
1	RABA - Replacemet Buses, purchase 7 replacemet buses	$3,503,000		(2016-2025)	Transit	FTA
2	RABA - Passenger Loading Improvements	$1,578,423		(2016-2025)	Transit	FTA
3	RABA - Replacement Vans, purchase 22 replacements vans	$1,982,648		(2016-2025)	Transit	FTA
4	RABA - Replacement Vans, purchase 2 replacements vans (Burney)	$180,000		(2016-2025)	Transit	FTA
5	RABA - Maintenance Facility/Equipment	$250,000		(2016-2025)	Transit	Prop 1B Funds
6	RABA - Radio/ITS Communication Equipment	$512,400		(2016-2025)	Transit	Prop 1B Funds
7	RABA - Fare Equipment, fare equipment	$265,000		(2016-2025)	Transit	FTA
8	RABA - Computer Equipment	$96,000		(2016-2025)	Transit	FTA
9	RABA - Security Upgrades	$612,000		(2016-2025)	Tranist/Safety	Prop 1B Safety Security
10	RABA - Transfer Facilities	$200,000		(2016-2025)	Transit	Prop 1B Funds
11	RABA - Support Vehicles	$76,000		(2016-2025)	Transit	FTA
12	RABA - Miscellaneous Capital Projects	$75,000		(2016-2025)	Transit	FTA
13	RABA - Grant Administration	$140,000		(2016-2025)	Transit	FTA
14	CTSA - Vehicle Replacement, Update Fleet/Passenger Safety	$140,000		(2016-2025)	Transit	FTA
15	CTSA - Dispatch System, Efficiency of routing/dispatching	$40,000		(2016-2025)	Transit	FTA
16	Private or Non-Profit - Grant Vans, Acquisition of 4 vans through grant	$280,000		(2016-2025)	Tranist/Fills a gap	FTA
	Total Short Term Needs =	**$9,930,471**				
17	Private or Non-Profit - Grant Vans, Acquisition of 2 vans through grant		$179,000	(2026-2035)	Tranist/Fills a gap	FTA
	Total Long Term Fundable Needs =		**$179,000**			

DESCRIPTION	Short (2016-2025)	Long (2026-2035)	Total
Funding Needed By Short and Long Range Bands	**$9,930,471**	**$179,000**	**$10,109,471**
Recap of Expected/Estimated/Unknown Resources			
Federal Transit Administratio (FTA) Grants =	**8,356,071**	**$179,000**	**$8,535,071**
Proposition 1B Funds =	**962,400**	**-**	**$962,400**
Proposition 1B Funds - Safety Security =	**612,000**		**$612,000**
			$-
			$-
Total Funding Reasonably Available =	**$9,930,471**	**$179,000**	**$10,109,471**
Total Unfunded Needs (or Short Term Carryover) =	**$-**	**$-**	**$-**
Note 1 : Green highlighted projects above can be funded in the constrained funding analysis			

Note 2 : Un-highlighted projects above cannot be funded. New funding sources will need to be identified or improvement will be developer funded.

Note 3 : Long term projects are escalated by 2.5%

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Table 52 - Summary of Projects: Regional Aviation

Project Number	REGIONAL TRANSPORTATION PROJECTS	SHORT TERM TOTAL EST COST OF PROJECT	LONG TERM TOTAL EST COST OF PROJECT	PROJECT BAND	PROJECT TYPE (PROJECT INTENT)	EXPECTED FUNDING SOURCES
1	Fall River Mills Airport - Runway 2-20 Rehabilitation, Runway pavement maintenance	$500,000		(2016-2025)	pavement maintenance	FAA - AIP
2	Fall River Mills Airport - Taxiway Rehabilitation, Taxiway pavement maintenance	$225,000		(2016-2025)	pavement maintenance	FAA - AIP
3	Fall River Mills Airport - Apron Rehabilitation, Apron pavement maintenance	$150,000		(2016-2025)	pavement maintenance	FAA - AIP
4	Redding Municipal Airport - 16-1, Parallel runway (Environmental assessment)	$350,000		(2016-2025)		
5	Redding Municipal Airport - 16-2, Air Shasta west apron reconstruction (400'x200') (construction)	$1,600,000		(2016-2025)		
6	Redding Municipal Airport - 16-3, T-hangar taxilane reconstruction (construction)	$850,000		(2016-2025)		
7	Redding Municipal Airport - 17-1, Parallel runway/taxiway (design only)	$500,000		(2016-2025)		
8	Redding Municipal Airport - 18-1, Parallel runway, Environmental - Phase 2 (CEQA reimbursement)	$300,000		(2016-2025)		
9	Redding Municipal Airport - 18-2, Parallel runway/taxiway (construction)	$4,000,000		(2016-2025)		
10	Redding Municipal Airport - 19-1, Eastside cargo apron expansion (design only)	$120,000		(2016-2025)		
11	Redding Municipal Airport - 19-2, New aircraft parking apron (design only)	$120,000		(2016-2025)		
12	Redding Municipal Airport - 19-3, All-weather perimeter road - RSAP recommendation (design only)	$90,000		(2016-2025)		
13	Redding Municipal Airport - 19-4, Upgrade airfield electrical system (design only)	$150,000		(2016-2025)		
14	Redding Municipal Airport - 19-5, Security fencing (design only)	$55,000		(2016-2025)		
15	Redding Municipal Airport - 20-1, Eastside cargo apron expansion	$1,200,000		(2016-2025)		
16	Redding Municipal Airport - 20-2, New aircraft parking apron	$1,200,000		(2016-2025)		
17	Redding Municipal Airport - 20-3, All-weather perimeter road - RSAP recommendation	$600,000		(2016-2025)		
18	Redding Municipal Airport - 20-4, Upgrade airfield electrical system	$1,250,000		(2016-2025)		
19	Redding Municipal Airport - 20-5, Security fencing	$480,000		(2016-2025)		
20	Benton Airpark - 16-1, AWOS	$250,000		(2016-2025)		
21	Benton Airpark - 16-2, Rehabilitate parallel taxiway "B" (design only)	$55,000		(2016-2025)		
22	Benton Airpark - 17-1, Rehabilitate parallel taxiway "B"	$360,000		(2016-2025)		
23	Benton Airpark - 17-2, Eastside T-hangar taxilane reconstruction (design only)	$72,000		(2016-2025)		
24	Benton Airpark - 18-1, Eastside T-hangar taxilane reconstruction	$820,000		(2016-2025)		
25	Benton Airpark - 18-2, Security fencing - North RPZ (design only)	$14,000		(2016-2025)		
26	Benton Airpark - 19-1, Security fencing - North RPZ	$90,000		(2016-2025)		
27	Benton Airpark - 19-2, Rehabilitate parallel taxiway "A" (design only)	$55,000		(2016-2025)		
28	Benton Airpark - 20-1, Rehabilitate parallel taxiway "A"	$420,000		(2016-2025)		
29	Benton Airpark - 20-2, Westside T-hangar taxilane reconstruction (design only)	$80,000		(2016-2025)		
30	Redding Municipal Airport - 21-1, Pavement preservation (East apron) - Seal coat (design only)	$18,000		(2016-2025)		
31	Redding Municipal Airport - 21-2, Pavement preservation (Runway 12/30, apron, and taxiways) (design only)	$120,000		(2016-2025)		
32	Redding Municipal Airport - 21-3, Install MITL (Taxiway "M", "C", and "H") (design only)	$68,000		(2016-2025)		
33	Redding Municipal Airport - 21-4, Eastside apron expansion (300'x450') (design only)	$165,000		(2016-2025)		
34	Redding Municipal Airport - 22-1, Pavement preservation (East apron) - Seal coat	$120,000		(2016-2025)		
35	Redding Municipal Airport - 22-2, Pavement preservation (Runway 12/30, apron, and taxiways)	$800,000		(2016-2025)		
36	Redding Municipal Airport - 22-3, Install MITL (Taxiway "M", "C", and "H")	$450,000		(2016-2025)		
37	Redding Municipal Airport - 22-4, Eastside apron expansion (300'x450')	$1,100,000		(2016-2025)		
38	Benton Airpark - 21-1, Westside T-hangar taxilane reconstruction	$900,000		(2016-2025)		
39	Benton Airpark - 21-2, East apron pavement rehabilitation (design only)	$95,000		(2016-2025)		
40	Benton Airpark - 22-1, East apron pavement rehabilitation	$950,000		(2016-2025)		
41	Benton Airpark - 22-2, Construct T-hangar taxilane (design only)	$36,000		(2016-2025)		
42	Benton Airpark - 23-1, Construct T-hangar taxilane	$237,000		(2016-2025)		
43	Benton Airpark - 23-2, Construct 10 unit T-hangar (design only)	$135,000		(2016-2025)		
44	Benton Airpark - 24-1, Construct 10 unit T-hangar	$900,000		(2016-2025)		
	Total Short Term Needs =	**$22,050,000**				
45	Fall River Mills Airport - PAPI, Install Precision Approach Path Indicator (PAPI) system		$89,000	(2026-2035)	safety improvement	FAA - AIP
46	Fall River Mills Airport - IFR, Install Instrument Flight Approach (IFR) system		$22,000	(2026-2035)	safety improvement	FAA - AIP
	Total Long Term Fundable Needs =		**$111,000**			

DESCRIPTION	Short (2016-2025)	Long (2026-2035)	Total
Funding Needed By Short and Long Range Bands	**$22,050,000**	**$111,000**	**$22,161,000**
Recap of Expected/Estimated/Unknown Resources			
Federal Aviation Administration (FAA) - Airport Improvement Program (AIP) =	**$19,948,660**	**$99,900**	**$20,048,560**
CA State Division of Aeronautics =	**$285,480**	**$4,995**	**$290,475**
Local Share =	**$1,815,860**	**$6,105**	**$1,821,965**
Total Funding Reasonably Available =	**$22,050,000**	**$111,000**	**$22,161,000**
Total Unfunded Needs =	**$-**	**$-**	**$-**
Note 1 : Green highlighted projects above can be funded in the constrained funding analysis			

Note 2 : Un-highlighted projects above cannot be funded. New funding sources will need to be identified or improvement will be developer funded.
Note 3 : Long term projects are escalated by 2.5%

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Appendices

In order to conserve resources the appendices are available electronically on SRTA's website. They can be found on the Regional Transportation Plan web page at: http://www.srta.ca.gov/142/Regional-Transportation-Plan. Direct weblinks for the appendices mentioned in this RTP are available below:

- Appendix 1 - Shasta County Forecast Assumptions Memorandum (November 8, 2011): http://www.srta.ca.gov/DocumentCenter/Home/View/1049
- Appendix 2 - SCS Technical Methodology: http://www.srta.ca.gov/DocumentCenter/View/43
- Appendix 3 - Regional Transportation Plan Checklist
- Appendix 4 - SRTA Board of Directors' Resolutions of Approval

Appendix 1

Shasta County Forecast Assumptions Memorandum

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Date: November 8, 2011

Memorandum

To: Sean Tiedgen, Shasta RTPA

cc:

From: Mike Aronson, Dowling Associates

Reference: Shasta RTPA Modeling On-Call Services P070116

Subject: Shasta County Forecast Assumptions

The Shasta County travel demand model is being updated to reflect the most current information on overall countywide growth rates, specific development assumptions and road improvement projects.

Countywide Land Use Forecasts

The land use forecasts for the current Shasta County travel demand model were developed in 2005 using the best information available at that time. Since 2005, economic conditions have changed significantly. The changes are affecting both the overall growth rates in Shasta County and the rate of construction for specific approved and proposed development projects.

Sources

The California Department of Finance (DOF) publishes forecasts of population for California counties. However, the most current DOF projections were completed in 2007, well before the effects of the current economic changes were known. Dowling Associates contacted DOF and verified that no newer projections have been released, and may not be released for some time. Because the DOF projections do not reflect current economic conditions, they are not recommended for use.

A more recent economic forecast for California has been prepared by The California Economic Forecast for the California Department of Transportation (Caltrans). The results were published as *California County-Level Economic Forecast 2010 – 2035*, The California Economic Forecast, Mark Schniepp, Director, prepared for Office of Transportation Economics, Division of Transportation Planning, California Department of Transportation, March, 2010. The Caltrans Economic Forecast reflects more current economic trends and is recommended as a basis for Shasta County forecasts.

Population

Population statistics and forecasts for Shasta County are listed in Table 1.

Table 1 : Shasta County Population Forecasts

Year	US Census (2000 & 2010)	CA DOF Estimates (2010)	CA Department of Finance Current (2011)	CA Department of Finance Forecast (2007)	Caltrans Economic Forecasts (2010)	Recommended Forecast	Shasta County Model (2005)
2000	163,256	163,256		164,794		163,256	
2005		177,944			178,724	173,029	165,430
2010	177,223	184,247	177,248	191,722	184,891	177,223	182,071
2015					191,098	183,173	198,875
2020				224,386	198,421	190,192	214,734
2025					206,303	197,747	230,231
2030				260,179	214,903	205,990	245,904
2035					223,639	214,364	
2040				295,281		222,738	

Persons per Year

Year	US Census (2000 & 2010)	CA DOF Estimates (2010)	CA Department of Finance Current (2011)	CA Department of Finance Forecast (2007)	Caltrans Economic Forecasts (2010)	Recommended Forecast	Shasta County Model (2005)
2000							
2005		2,938	-			1,955	
2010	1,397	1,261		2,693	1,233	839	3,328
2015					1,241	1,190	3,361
2020				3,266	1,465	1,404	3,172
2025					1,576	1,511	3,099
2030				3,579	1,720	1,649	3,135
2035					1,747	1,675	
2040				3,510		1,675	

Annual Rate Compared to 2010 Base

Year	US Census (2000 & 2010)	CA DOF Estimates (2010)	CA Department of Finance Current (2011)	CA Department of Finance Forecast (2007)	Caltrans Economic Forecasts (2010)	Recommended Forecast	Shasta County Model (2005)
2000							
2005		1.59%				1.10%	
2010	0.79%	0.68%		1.40%	0.67%	0.47%	1.83%
2015					0.67%	0.67%	1.85%
2020				1.70%	0.79%	0.79%	1.74%
2025					0.85%	0.85%	1.70%
2030				1.87%	0.93%	0.93%	1.72%
2035					0.94%	0.94%	
2040				1.83%		0.94%	

The population numbers in the current (2005 version) Shasta County model were based on the 2000 United States Census, supplemented by the annual population estimates provided by the California DOF and growth estimates based on a detailed review of actual building permits in each Shasta County jurisdiction between 2000 and 2004. The model estimates were 7 percent lower than actual population reported by DOF for 2005, but were only 2.7 percent higher than the recently released Census statistics for 2010 (182,071 model estimate versus 177,223 Census count).

The recommended population forecasts start with the 2010 value reported by the 2010 Census. The recommended population estimate for each forecast year up to 2035 is based on applying the growth rate from the Caltrans Economic Forecast to the prior forecast year. For example, the population estimate for 2030 is based on the 2025 population estimate increased by the Caltrans growth percentage from 2025 to 2030. The population growth from 2035 to 2040 is assumed to be similar to the growth rate from 2030 to 2035.

The resulting 2030 population forecast of 206,000 is 16 percent lower than the current model forecast of 245,900.

Housing

Statistics and forecasts for households or occupied housing units in Shasta County are listed in Table 2.

The household numbers in the current Shasta County model were based on the 2000 United States Census, supplemented by growth estimates based on a detailed review of actual building permits in each Shasta County jurisdiction between 2000 and 2004. The model estimates for 2010 were 6.8 percent higher than the recently released Census statistics for 2010.

The recommended housing forecasts start with the 2010 value reported by the 2010 Census. The recommended housing estimate for each forecast year up to 2035 is based on applying the growth rate from the Caltrans Economic Forecast to the prior forecast year. For example, the housing estimate for 2030 is based on the 2025 housing estimate increased by the Caltrans growth percentage from 2025 to 2030. The household growth from 2035 to 2040 is assumed to be similar to the growth rate from 2030 to 2035.

The resulting 2030 housing forecast of 85,900 is 15 percent lower than the current (2005 version) model forecast of 101,150.

Table 2 : Shasta County Housing Forecasts

Year	US Census (2000 & 2010)	CA DOF Estimates (2010)	CA Department of Finance Current (2011)	CA Department of Finance Forecast (2007)	Caltrans Economic Forecasts (2010)	Recommended Forecast	Shasta County Model (2005)
2000	63,426	63,426				63,426	
2005		68,220			68,200	67,392	68,220
2010	70,346	71,791	70,301		72,100	70,346	75,158
2015					75,800	73,956	81,658
2020					80,000	78,054	88,154
2025					84,100	82,054	94,670
2030					88,000	85,859	101,150
2035					91,500	89,274	
2040						92,689	

Households per Year

Year	US Census (2000 & 2010)	CA DOF Estimates (2010)	CA Department of Finance Current (2011)	CA Department of Finance Forecast (2007)	Caltrans Economic Forecasts (2010)	Recommended Forecast	Shasta County Model (2005)
2000							
2005						793	
2010	692	837			780	591	1,388
2015					740	722	1,300
2020					840	820	1,299
2025					820	800	1,303
2030					780	761	1,296
2035					700	683	
2040						683	

Annual Rate Compared to 2010 Base

Year	US Census (2000 & 2010)	CA DOF Estimates (2010)	CA Department of Finance Current (2011)	CA Department of Finance Forecast (2007)	Caltrans Economic Forecasts (2010)	Recommended Forecast	Shasta County Model (2005)
2000							
2005						1.03%	
2010	0.98%	1.17%			1.08%	1.03%	1.85%
2015					1.03%	1.03%	1.73%
2020					1.17%	1.17%	1.73%
2025					1.14%	1.14%	1.73%
2030					1.08%	1.08%	1.72%
2035					0.97%	0.97%	
2040						0.97%	

Employment

Statistics and forecasts for jobs in Shasta County are listed in Table 3.

The employment numbers in the current Shasta County model were based on a detailed inventory of 2004 employers, starting with a commercial database from InfoUSA and supplemented by manual review and checks of government employment locations and major missing employers.

The model estimates for 2005 were about 8 percent higher than the standard jobs report issued by the California Economic Development Department (EDD). However, this was deliberate, as the model intends to capture all employees who may make trips on a typical day, while the EDD reports are more oriented towards full-time equivalent employees and exclude some categories such as self-employed at home. The higher model base number is recommended as a basis for employment statistics rather than the EDD total jobs reports.

For 2010, the model forecast of 76,011 jobs was 30 percent higher than the EDD report of 58,500 jobs. As of 2005, the model forecasts assumed continued job growth consistent with trends at that time and planned development in each community. In reality, jobs in Shasta County decreased by over 9 percent between 2005 and 2010.

The recommended employment forecasts start with the 2010 value reported by the EDD, adjusted up by the 8 percent established to account for the additional job types in the model database (part-time retail workers, self-employed, etc…). The recommended employment estimate for each forecast year up to 2035 is based on applying the growth rate from the Caltrans Economic Forecast to the prior forecast year. For example, the employment estimate for 2030 is based on the 2025 employment estimate increased by the Caltrans growth percentage from 2025 to 2030.

The resulting 2030 employment forecast of 80,400 is 23 percent lower than the current (2005 version) model forecast of 103,843.

Recession Adjustment

Land use inputs for travel models generally assume that there is a base year inventory, and then new development is added to that base year inventory. However, actual employment decreased between the 2004 base year inventory and 2010. An additional set of assumptions were required to represent this recession condition.

The first assumption is that existing buildings were operating at lower occupancies in 2010 than in 2004. The change may not directly correlate to leasing rates, as employment spaces could still be actively leased but occupied by lower numbers of employees. A factor was developed for each type of employment space to account for lower occupancy in 2010 than in the 2004 base year. The factors were based on the relative number of employees in various categories in Shasta County for each year as reported by EDD (Table 4).

Table 3 : Shasta County Employment Forecasts

Year	US Census (2000 & 2010)	CA Economic Development Department Current (2011)	CA Economic Development Department Forecast (2009)	Caltrans Economic Forecasts (2010)	Recommended Forecast	Shasta County Model (2005)
2000		60,200				
2005		64,600		64,600	69,629	69,629
2010		58,500	64,060	60,300	63,054	76,017
2015				65,400	68,387	82,185
2020			69,860	69,200	72,361	88,869
2025				73,400	76,752	96,077
2030				77,000	80,517	103,834
2035				80,300	83,968	
2040					87,418	

Employees per Year

Year	US Census (2000 & 2010)	CA Economic Development Department Current (2011)	CA Economic Development Department Forecast (2009)	Caltrans Economic Forecasts (2010)	Recommended Forecast	Shasta County Model (2005)
2000						
2005		880				
2010				(860)	(1,315)	1,278
2015				1,020	1,067	1,234
2020				760	795	1,337
2025				840	878	1,442
2030				720	753	1,551
2035				660	690	
2040					690	

Annual Rate Compared to 2010 Base

Year	US Census (2000 & 2010)	CA Economic Development Department Current (2011)	CA Economic Development Department Forecast (2009)	Caltrans Economic Forecasts (2010)	Recommended Forecast	Shasta County Model (2005)
2000						
2005						
2010				-1.43%	-2.09%	1.68%
2015				1.69%	1.69%	1.62%
2020				1.26%	1.26%	1.76%
2025				1.39%	1.39%	1.90%
2030				1.19%	1.19%	2.04%
2035				1.09%	1.09%	
2040					1.09%	

A second assumption is that employment space will return to its normal occupancy levels (which are less than 100 percent) at some point. For this model update, the recovery was assumed to require 20 years to the year 2030. The 20 year recovery timeframe was selected as a reasonable assumption that maintains consistency with prior 2030 occupancy assumptions, and was not based on any specific economic forecast.

Table 4 lists the occupancy factors applied to each type of employment space and the corresponding EDD labor category used to estimate the occupancy factor.

Table 4 : Employment Occupancy Adjustment Factors

Model Land Use	Occupancy Factor 2010	2020	2030	Representative EDD Categories
08 Industrial	0.63	0.82	1.00	Goods Producing
09 Wholesale	1.00	1.00	1.00	Wholesale
10 Service Commercial	0.51	0.76	1.00	Construction
11 Retail	0.91	0.96	1.00	Retail Trade
12 Retail High	0.91	0.96	1.00	Retail Trade
13 Retail Warehouse	0.91	0.96	1.00	Retail Trade
14 Office	0.77	0.88	1.00	Information + Financial + Professional
15 School	1.00	1.00	1.00	Local Government Education
16 College	1.00	1.00	1.00	Local Government Education
17 Medical Office	1.00	1.00	1.00	Educational & Health
18 Hospital	1.00	1.00	1.00	Educational & Health
19 Residential Care	1.00	1.00	1.00	Educational & Health
20 Child Care	1.00	1.00	1.00	Educational & Health
21 Developed Recreation	1.00	1.00	1.00	Arts, Entertainment, Recreation
23 Casino	1.00	1.00	1.00	Arts, Entertainment, Recreation
24 Hotel	1.00	1.00	1.00	Accommodation
25 Restaurant	0.90	0.95	1.00	Food Services
26 Restaurant High	0.90	0.95	1.00	Food Services
27 Institutional	0.92	0.96	1.00	Other Services
28 Government	1.00	1.00	1.00	Government
29 Government High	1.00	1.00	1.00	Government

Forecasts by Jurisdiction

Recommended forecasts of population, housing and employment were also prepared for individual jurisdictions within Shasta County (Tables 5, 6 and 7).

The City of Redding provided specific population forecasts prepared by Economic Sciences Corporation for their jurisdiction for the years 2010 to 2025. These forecasts were incorporated in the population and housing forecasts for the travel model update. The allocations to the remaining jurisdictions are based on the allocations prepared in 2005 for the prior version of the travel model, which were in turn based on detailed assessments by Strategic Economics. The 2005 allocations were adjusted to the updated countywide totals.

Table 5 : Shasta County Population Forecasts by Jurisdiction

Year	Recommended Countywide Forecast	Anderson	Redding	Shasta Lake	Shasta County (uninc.)
2000	163,256	9,027	80,865	9,093	
2005	173,029	9,731	87,146	10,069	66,082
2010	177,223	9,932	89,861	10,164	67,266
2015	183,173	10,280	94,237	10,650	68,005
2020	190,192	10,353	99,071	11,210	69,558
2025	197,747	10,426	103,539	11,845	71,938
2030	205,990	10,498	106,666	12,478	76,348
2035	214,364	10,925	111,002	12,985	79,451
2040	222,738	11,352	115,339	13,493	82,555

Persons per Year

Year	Recommended Countywide Forecast	Anderson	Redding	Shasta Lake	Shasta County (uninc.)
2000					
2005	1,955	141	1,256	195	
2010	839	40	543	19	237
2015	1,190	70	875	97	148
2020	1,404	15	967	112	311
2025	1,511	15	894	127	476
2030	1,649	15	625	127	882
2035	1,675	85	867	101	621
2040	1,675	85	867	101	621

Annual Rate Compared to 2010 Base

Year	Recommended Countywide Forecast	Anderson	Redding	Shasta Lake	Shasta County (uninc.)
2000					
2005	1.10%	1.42%	1.40%	1.92%	
2010	0.47%	0.40%	0.60%	0.19%	0.35%
2015	0.67%	0.70%	0.97%	0.96%	0.22%
2020	0.79%	0.15%	1.08%	1.10%	0.46%
2025	0.85%	0.15%	0.99%	1.25%	0.71%
2030	0.93%	0.15%	0.70%	1.25%	1.31%
2035	0.94%	0.86%	0.97%	1.00%	0.92%
2040	0.94%	0.86%	0.97%	1.00%	0.92%

Table 6 : Shasta County Household Forecasts by Jurisdiction

Year	Recommended Countywide Forecast	Anderson	Redding	Shasta Lake	Shasta County (uninc.)
2000	63,426	3,374	32,103	3,426	
2005	67,392	3,772	34,424	3,828	25,368
2010	70,346	3,944	36,130	3,943	26,329
2015	73,956	4,474	38,669	4,339	26,473
2020	78,054	4,513	40,704	4,545	28,292
2025	82,054	4,544	42,903	4,779	29,827
2030	85,859	4,576	44,197	5,046	32,041
2035	89,274	4,762	45,993	5,251	33,268
2040	92,689	4,948	47,790	5,456	34,495

Households per Year

Year	Recommended Countywide Forecast	Anderson	Redding	Shasta Lake	Shasta County (uninc.)
2000					
2005	793	80	464	80	
2010	591	34	341	23	192
2015	722	106	508	79	29
2020	820	8	407	41	364
2025	800	6	440	47	307
2030	761	6	259	53	443
2035	683	37	359	41	245
2040	683	37	359	41	245

Annual Rate Compared to 2010 Base

Year	Recommended Countywide Forecast	Anderson	Redding	Shasta Lake	Shasta County (uninc.)
2000					
2005	1.13%	2.02%	1.28%	2.04%	
2010	0.84%	0.87%	0.94%	0.58%	
2015	1.03%	2.69%	1.41%	2.01%	0.11%
2020	1.17%	0.19%	1.13%	1.05%	1.38%
2025	1.14%	0.16%	1.22%	1.19%	1.17%
2030	1.08%	0.16%	0.72%	1.35%	1.68%
2035	0.97%	0.94%	0.99%	1.04%	0.93%
2040	0.97%	0.94%	0.99%	1.04%	0.93%

Table 7 : Shasta County Employment Forecasts by Jurisdiction

Year	Recommended Countywide Forecast	Anderson	Redding	Shasta Lake	Shasta County (uninc.)
2000					
2005	69,629	3,373	48,449	2,324	15,483
2010	63,054	2,699	43,635	2,067	14,653
2015	68,387	2,982	46,950	2,234	16,220
2020	72,361	3,263	48,250	2,427	18,420
2025	76,752	3,407	51,366	2,558	19,421
2030	80,517	3,780	53,288	2,623	20,826
2035	83,968	3,942	55,572	2,735	21,718
2040	87,418	4,104	57,856	2,847	22,611

Employees per Year

Year	Recommended Countywide Forecast	Anderson	Redding	Shasta Lake	Shasta County (uninc.)
2000					
2005					
2010	(1,315)	(135)	(963)	(51)	(166)
2015	1,067	57	663	34	313
2020	795	56	260	39	440
2025	878	29	623	26	200
2030	753	75	384	13	281
2035	690	32	457	22	179
2040	690	32	457	22	179

Annual Rate Compared to 2010 Base

Year	Recommended Countywide Forecast	Anderson	Redding	Shasta Lake	Shasta County (uninc.)
2000					
2005					
2010	-2.09%	-5.00%	-2.21%	-2.49%	-1.13%
2015	1.69%	2.10%	1.52%	1.62%	2.14%
2020	1.26%	2.08%	0.60%	1.86%	3.00%
2025	1.39%	1.07%	1.43%	1.27%	1.37%
2030	1.19%	2.77%	0.88%	0.62%	1.92%
2035	1.09%	1.20%	1.05%	1.09%	1.22%
2040	1.09%	1.20%	1.05%	1.09%	1.22%

Development Phasing Assumptions

Table 8 lists the phasing assumptions for specific development areas in Shasta County with development occurring after 2010. Input was received from Shasta County and the cities of Anderson, Redding and Shasta Lake. In some cases, phasing was shifted to later years than those provided by the jurisdictions in order for the county totals to match the control totals shown in Tables 2 and 3.

The development listing also includes assumptions for some properties which were not based on input received from the jurisdictions in 2011. These assumptions are based on the original input received from jurisdictions in 2005, adjusted to match county totals when combined with the specific development information provided in 2011.

In addition to the specific development shown in Table 8, there are also incremental assumptions for ongoing growth in certain land uses. These include small amounts of infill housing in unincorporated communities, and general employment growth at existing institutional sites including large schools and school administration centers, medical centers and government offices.

Table 8: Shasta County Travel Model Phased Development Assumptions

Development	Address	Land Use	Units	2010	2015	2020	2025	2030	2035	2040	After 2040	TOTAL	Percent by 2040
ANDERSON													
Anderson Commercial	Anderson	Retail	SF	0	0	0	0	0	0	58,500	58,500	117,000	50%
Anderson Condos	Anderson	MF Attached	DU	0	70	0	0	0	0	0	0	70	100%
Anderson Conference Facility	Anderson	Restaurant	SF	0	2,500	0	0	0	0	0	0	2,500	100%
Anderson Potential Target Site	Anderson	Retail	SF	0	0	0	0	0	130,000	66,000	130,000	326,000	60%
		Fast Food	SF	0	0	0	0	2,500	2,500	0	0	5,000	100%
Campbell Estates	Anderson	SF Detached	DU	0	0	28	0	0	0	0	0	28	100%
Church Property	Anderson	SF Detached	DU	0	0	0	0	0	69	0	0	69	100%
Continental Peak	Anderson	MF Attached	DU	16	16	0	0	0	0	0	0	32	100%
River Pointe	Anderson	SF Detached	DU	0	0	0	111	74	0	0	0	185	100%
Tormey Estates	Anderson	SF Detached	DU	43	43	0	0	0	0	0	0	86	100%
Vineyards	Anderson	SF Detached	DU	15	85	157	722	848	981	839	648	4,295	85%
		MF Attached	DU	0	640	0	287	287	0	0	0	1,214	100%
		Retail	SF	0	0	0	0	0	70,000	20,000	50,000	140,000	64%
		Office	SF	0	0	0	0	0	50,000	0	50,000	100,000	50%
		School	Emps	0	0	0	0	0	50	50	0	100	100%
Willow Glen	Anderson	SF Detached	DU	28	28	0	0	0	0	0	0	56	100%
REDDING													
Airpark Manor	Redding (Placer St.)	SF Detached	DU	10	10	0	0	0	0	0	0	20	100%
Airport Rd. Auto Dealer Site	Redding (3900 Airport Rd.)	Service Commercial	SF	0	0	0	0	0	44,000	135,000	0	179,000	100%
Alize Subdivision	Redding (160 Quartz Hill Rd.)	SF Detached	DU	0	93	87	0	0	0	0	0	180	100%
Avalon Park	Redding (11701 Twin Tower Dr.)	SF Detached	DU	0	55	0	0	0	0	0	0	55	100%
Bel Air	Redding (Quartz Hill Rd.)	SF Detached	DU	13	12	0	0	0	0	0	0	25	100%
Bel Air Estates	Redding (2430 Snow Ln.)	SF Detached	DU	149	0	0	0	0	0	0	0	149	100%
Buenaventura Senior Housing	Redding (1350 Buenaventura)	Senior Housing	DU	0	0	120	0	0	0	0	0	120	100%
Chapel of the Ferns	Redding (1400 Industrial St.)	SF Detached	DU	0	0	80	0	0	0	0	0	80	100%
City of Redding	Redding (7251 Eastside Rd.)	Industrial	SF	0	0	0	0	0	198,000	298,000	496,000	992,000	50%
Clover Creek	Redding (3901 Airport Rd.)	Office	SF	0	0	0	36,400	0	36,400	0	0	72,800	100%
Cottages at Bel Air	Redding (Quartz Hill Rd.)	SF Detached	DU	14	41	0	0	0	0	0	0	55	100%
Del Monte PSL	Redding (Del Monte St.)	Retail	SF	0	0	0	0	0	0	61,500	67,000	128,500	48%
East Oaks Estates	Redding (1283 Douglas Ln.)	SF Detached	DU	37	37	0	0	0	0	0	0	74	100%
Emily Estates	Redding (Oasis Rd.)	SF Detached	DU	58	0	0	0	0	0	0	0	58	100%
Fleur de Lac	Redding (1870 Shasta View Dr.)	SF Detached	DU	39	39	0	0	0	0	0	0	78	100%
Forootan	Redding (187 Sulphur Creek Rd.)	SF Detached	DU	0	0	23	41	41	41	41	0	187	100%
Gironda	Redding (Shasta View Dr.)	SF Detached	DU	0	0	102	102	103	0	0	0	307	100%
Gold Hills Park	Redding (2141 Gold Hills Dr.)	SF Detached	DU	0	175	0	0	0	0	0	0	175	100%
Green	Redding (Hillmonte Dr.)	Retail	SF	0	0	0	0	0	4,000	0	0	4,000	100%
Highland Park	Redding (Davis Ridge Rd.)	SF Detached	DU	0	100	200	120	0	0	0	0	420	100%
Hilltop Center	Redding (1085 Hilltop Dr.)	Retail	SF	0	46,500	46,500	0	0	0	0	0	93,000	100%
Hilltop Estates	Redding (240 Hilltop Dr.)	SF Detached	DU	27	0	0	0	0	0	0	0	27	100%
Hinds Feet LLC	Redding (Laurel Ave.)	SF Detached	DU	0	0	11	37	0	0	0	0	48	100%
Hope Lane	Redding (1175 Hope Ln.)	SF Detached	DU	44	0	0	0	0	0	0	0	44	100%
Kohn	Redding (4730 Aloe Vera Dr.)	SF Detached	DU	0	202	0	0	0	0	0	0	202	100%
Lakeside Avenues	Redding (1397 Buenaventura)	SF Detached	DU	40	0	0	0	0	0	0	0	40	100%
Lanzing	Redding (1335 Hope Ln.)	SF Detached	DU	0	0	30	0	0	0	0	0	30	100%
Lemm	Redding (2300 Lakeside Dr.)	SF Detached	DU	0	0	0	0	0	0	38	0	38	100%
McConnell Land	Redding (Old Oregon Trail)	SF Detached	DU	0	0	0	0	0	605	447	337	1,389	76%
MD Development	Redding (Oasis Rd.)	SF Detached	DU	0	50	50	0	0	0	0	0	100	100%
Mercy Hospital	Redding (2655 Airpark Dr.)	Retail	SF	0	0	0	0	0	0	11,000	0	11,000	100%
		Office	SF	0	0	0	0	0	0	11,000	0	11,000	100%
Metz Road Development	Redding (2230 Metz Rd.)	Industrial	SF	0	0	0	0	200,000	200,000	200,000	392,000	992,000	60%
Michiels	Redding (5900 Riverside Dr.)	SF Detached	DU	0	0	0	0	0	0	260	0	260	100%
Mid State Apartments	Redding (Cedars Rd.)	MF Attached	DU	12	36	0	0	0	0	0	0	48	100%

Table 8: Shasta County Travel Model Phased Development Assumptions

Development	Address	Land Use	Units	2010	2015	2020	2025	2030	2035	2040	After 2040	TOTAL	Percent by 2040
Money Vest	Redding (Tarmac Rd.)	SF Detached	DU	7	22	0	0	0	0	0	0	29	100%
		Retail	SF	0	41,000	0	0	0	0	0	0	41,000	100%
Morgan	Redding (2425 Rancho Rd.)	SF Detached	DU	0	20	0	0	0	0	0	0	20	100%
Niemann	Redding (Westside Rd.)	MF Attached	DU	12	34	0	0	0	0	0	0	46	100%
Oasis Point Village	Redding (6021 Oasis Road)	SF Detached	DU	40	121	0	0	0	0	0	0	161	100%
Oasis Road Specific Plan	Redding	SF 1-5 DU/Acre	DU	0	0	5	4	3	0	0	0	12	100%
		SF 2-3.5 DU/Acre	DU	0	0	30	30	30	0	0	0	90	100%
		SF 6-10 DU/Acre	DU	0	0	30	30	0	0	0	0	60	100%
		MF 15 DU/Acre	DU	0	0	100	100	100	100	100	435	935	53%
		Regional Commercial	SF	0	160,000	180,000	45,000	50,000	185,000	50,000	1,614,722	2,284,722	29%
		General Commercial	SF	0	0	40,000	0	0	40,000	40,000	454,000	574,000	21%
		Shopping Center	SF	0	0	0	37,500	0	37,500	75,000	77,000	227,000	66%
		General Office	SF	0	0	0	0	10,000	9,800	0	0	19,800	100%
		Limited Office	SF	0	0	0	0	7,000	6,100	0	0	13,100	100%
Park Marina Drive Specific Plan	Redding	Retail	SF	0	8,000	0	12,500	0	27,500	50,000	89,200	187,200	52%
(Turtle Bay listed separately)		Office	SF	0	0	22,000	20,500	0	0	0	0	42,500	100%
		Hotel	SF	0	0	0	0	0	50,500	0	0	50,500	100%
Parkview/Orange	Redding (Mark St.)	SF Detached	DU	54	0	0	0	0	0	0	0	54	100%
Quartz Hill PSL	Redding (850 Quartz Hill Rd.)	SF Detached	DU	0	0	120	0	0	0	0	0	120	100%
Redding PD-03-02	Redding (Collyer Dr.)	MF Attached	DU	0	232	0	0	0	0	0	0	232	100%
Redding S.51.90	Redding (Santa Rosa Way)	SF Detached	DU	0	0	160	0	149	0	0	0	309	100%
Redding SDP.18.04	Redding (Linden/West)	MF Attached	DU	0	15	15	0	0	0	0	0	30	100%
Redding SDP.24.04	Redding (2649 Twin View Blvd.)	MF Attached	DU	0	140	140	0	0	0	0	0	280	100%
Roesner	Redding (4655 Goodwater Ave.)	SF Detached	DU	0	0	0	0	0	23	0	0	23	100%
Roman Catholic Bishop	Redding (1300 Ridge Dr.)	SF Detached	DU	0	0	0	0	0	0	79	0	79	100%
Salt Creek	Redding (4402 Eureka Way)	SF Detached	DU	0	0	120	250	70	0	0	0	440	100%
Scarborough	Redding (3600 Argyle Rd.)	MF Attached	DU	0	67	0	0	0	0	0	0	67	100%
Shascade	Redding (950 Lake Blvd.)	SF Detached	DU	0	0	0	0	0	38	0	0	38	100%
Shasta Bible College	Redding (3005 Hartnell Ave.)	MF Attached	DU	0	100	0	0	0	0	0	0	100	100%
Shastina Ranch	Redding	SF Detached	DU	0	0	150	200	125	0	0	0	475	100%
		School	Emps	0	0	0	0	50	0	0	0	50	100%
Sierra Pacific	Redding (Branstetter Ln.)	SF Detached	DU	5	64	113	0	0	0	0	0	182	100%
Signature Northwest	Redding (4200 Sunglow Dr.)	SF Detached	DU	0	78	0	0	0	0	0	0	78	100%
Stillwater Business Park	Redding	Industrial	SF	0	224,000	0	0	0	0	224,000	3,753,000	4,201,000	11%
		Office	SF	0	105,500	0	0	0	132,700	132,700	1,726,600	2,097,500	18%
Stone Creek Subdivision	Redding (Rancho Rd.)	SF Detached	DU	0	0	155	0	0	0	0	0	155	100%
Stonesfair Subdivision	Redding (Rancho Rd.)	SF Detached	DU	0	0	215	0	0	0	0	0	215	100%
Summer Field Meadows	Redding (3555 Sacramento Dr.)	SF Detached	DU	18	18	0	0	0	0	0	0	36	100%
Tarmac Ridge Villas	Redding (2260 Tarmac Rd.)	SF Detached	DU	43	43	0	0	0	0	0	0	86	100%
Thomason	Redding (3901 Airport Rd.)	Retail	SF	0	0	0	0	0	72,500	0	0	72,500	100%
Tip Top Partners	Redding (2425 Sonoma St.)	Retail	SF	0	0	0	0	0	0	0	6,500	6,500	0%
		Office	SF	0	6,500	0	0	0	0	0	0	6,500	100%
Turtle Bay Hotel	Redding	Hotel	SF	0	70,000	0	0	0	0	0	0	70,000	100%
		Restaurant	SF	0	8,000	0	0	0	0	0	0	8,000	100%
Tuscany Villas	Redding (6111 Oasis Rd.)	SF Detached	DU	0	79	0	0	0	0	0	0	79	100%
Van Eperen	Redding (5304 Bo Peep Ln.)	SF Detached	DU	43	43	0	0	0	0	0	0	86	100%
Veterans Home	Redding (3400 Knighton Rd.)	Residential Care	SF	0	145,000	0	0	0	0	0	0	145,000	100%
Villages at Shasta View Gardens	Redding (2275 Tarmac Rd.)	SF Detached	DU	31	93	0	0	0	0	0	0	124	100%
Viale	Redding (1817 Kenton Dr.)	SF Detached	DU	0	0	0	0	112	0	0	0	112	100%
Vistas	Redding (355 Quartz Hill Rd.)	SF Detached	DU	0	210	0	0	0	0	0	0	210	100%
Western Acres	Redding (890 Hilltop Dr.)	SF Detached	DU	0	0	0	0	0	80	0	0	80	100%
Westridge Subdivision	Redding (950 Canyon Creek Rd.)	SF Detached	DU	0	0	132	0	0	0	0	0	132	100%
Westward Estates	Redding (16989 Campo Calle St.)	SF Detached	DU	0	0	150	0	0	0	0	0	150	100%
Williams	Redding (670 Churn Creek Rd.)	SF Detached	DU	0	0	18	0	0	0	0	0	18	100%

Table 8: Shasta County Travel Model Phased Development Assumptions

Development	Address	Land Use	Units	2010	2015	2020	2025	2030	2035	2040	After 2040	TOTAL	Percent by 2040
SHASTA LAKE													
Deer Creek Manor	Shasta Lake	SF Detached	DU	0	10	30	30	15	0	0	0	85	100%
Heritage Grove	Shasta Lake	SF Detached	DU	0	30	75	100	86	0	0	0	291	100%
		Service Commercial	SF	0	0	0	158,123	0	0	0	0	158,123	100%
Mountain Gate at Shasta	Shasta Lake	SF Detached	DU	0	0	100	300	300	300	150	0	1,150	100%
		MF Attached	DU	0	0	100	150	100	50	0	0	400	100%
		Service Commercial	SF	0	0	0	50,000	50,000	50,000	50,000	0	200,000	100%
Mountain Properties	Shasta Lake	SF Detached	DU	0	30	50	50	34	0	0	0	164	100%
Oak Ridge	Shasta Lake	SF Detached	DU	0	10	18	0	0	0	0	0	28	100%
Shasta Gateway Industrial Park	Shasta Lake (Phase 1)	Light Industrial	SF	0	0	10,000	50,000	38,000	0	0	0	98,000	100%
	Shasta Lake (Phase 2)	Industrial	SF	0	0	50,000	150,000	150,000	200,000	250,000	1,170,000	1,970,000	41%
Shasta Lake Commercial Center	Shasta Lake	Service Commercial	SF	0	25,000	30,000	30,000	25,000	25,000	0	0	135,000	100%
SHASTA COUNTY													
Anderson	Shasta Co.	SF Detached	DU	0	0	3	3	3	2	0	0	11	100%
Aventino	Shasta Co.	SF Detached	DU	0	0	11	13	13	8	0	0	45	100%
Cabb LLC	Shasta Co.	SF Detached	DU	5	9	4	0	0	0	0	0	18	100%
Cassel Ridge	Shasta Co.	SF Detached	DU	0	0	11	13	13	8	0	0	45	100%
Chuck	Shasta Co.	SF Detached	DU	0	0	5	5	5	5	0	0	20	100%
Churn Creek Commons	Shasta Co.	Retail	SF	0	200,000	100,000	150,000	0	50,000	100,000	140,000	740,000	81%
D&M Partnerships	Shasta Co.	Industrial	SF	0	40,000	40,000	40,000	13,000	0	0	0	133,000	100%
Diamond Ridge Unit 2 (Jewell)	Shasta Co.	SF Detached	DU	0	0	2	2	2	4	0	0	10	100%
Hill Country Clinic	Shasta Co.	Medical Office	SF	0	12,500	0	0	0	0	0	0	12,500	100%
K2 Development	Shasta Co.	SF Detached	DU	0	0	3	3	3	2	0	0	11	100%
Knighten	Shasta Co.	SF Detached	DU	0	0	6	6	6	5	0	0	23	100%
Manley	Shasta Co.	SF Detached	DU	0	0	3	3	3	6	0	0	15	100%
Montgomery Development	Shasta Co.	SF Detached	DU	0	0	8	8	8	9	0	0	33	100%
Nelson	Shasta Co.	SF Detached	DU	0	0	5	5	5	7	0	0	22	100%
Nichols	Shasta Co.	SF Detached	DU	0	5	5	5	5	5	5	0	30	100%
North Fork		SF Detached	DU	0	0	0	0	0	0	0	1,400	1,400	0%
		Retail	SF	0	0	0	0	0	0	0	942,000	942,000	0%
		Office	SF	0	0	0	0	0	0	0	145,000	145,000	0%
		Equestrian Center	Emps	0	0	0	0	0	0	0	10	10	0%
Nunes	Shasta Co.	SF Detached	DU	0	0	2	2	2	4	0	0	10	100%
Oak Ranch Estates	Shasta Co.	SF Detached	DU	0	0	36	39	39	26	0	0	140	100%
Panorama PD	Shasta Co.	SF Detached	DU	0	20	111	114	114	71	0	0	430	100%
Poulos	Shasta Co.	SF Detached	DU	0	0	8	8	8	10	0	0	34	100%
Ritchie	Shasta Co.	SF Detached	DU	0	0	3	3	3	2	0	0	11	100%
Rossi	Shasta Co.	SF Detached	DU	0	0	3	3	3	6	0	0	15	100%
Scott	Shasta Co.	SF Detached	DU	0	0	3	3	3	2	0	0	11	100%
Shingle Glen	Shasta Co.	SF Detached	DU	0	0	5	5	5	8	0	0	23	100%
Shingletown Sierra Pacific	Shasta Co.	SF Detached	DU	0	42	23	25	25	17	0	0	132	100%
Spoon	Shasta Co.	SF Detached	DU	0	0	13	13	13	11	0	0	50	100%
Stahl	Shasta Co.	SF Detached	DU	0	0	3	0	0	0	0	0	3	100%
Stilwater Ranch	Shasta Co.	SF Detached	DU	3	6	2	0	0	0	0	0	11	100%
Stilwater Ranches Unit 2	Shasta Co.	SF Detached	DU	0	0	7	7	7	8	0	0	29	100%
Stone Creek	Shasta Co.	SF Detached	DU	0	0	3	3	3	5	0	0	14	100%
Summer	Shasta Co.	SF Detached	DU	2	8	6	0	0	0	0	0	16	100%
Wiebelhaus	Shasta Co.	SF Detached	DU	0	0	3	3	3	2	0	0	11	100%

Appendix 2

Sustainable Communities Strategy (SCS) Technical Methodology

1255 East Street, Suite 202 • Redding, CA 96001 • (530)262-6190 • FAX (530)262-6189
E-Mail srta@srta.ca.gov • HOME PAGE www.srta.ca.gov

Daniel S. Little, Executive Director

February 6, 2014

Ms. Mary Nichols
Chair
California Air Resources Board (ARB)
1001 I Street
Sacramento, CA 95812

Subject: Shasta Regional Transportation Agency (SRTA) Sustainable Communities Strategy Technical Methodology

Dear Ms. Nichols:

Please find enclosed a summary of SRTA's technical methodology for estimating Sustainable Communities Strategy greenhouse gas emissions as required under California Government Code 5080(b)(2)(I)(i), for your review and approval as part of our coordination required under Senate Bill 375.

If you have questions on SRTA's Technical Methodology, please contact Dan Wayne, Senior Planner, at (530) 262-6186 or Sean Tiedgen, Associate Planner, at (530) 262-6185.

Sincerely,

Daniel S. Little, AICP, Executive Director
Shasta Regional Transportation Agency (MPO)

DSL/SMT/DTW/jac

Enclosure

c: Cari Anderson, Air Resources Engineer, ARB

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E-Mail srta@srta.ca.gov • HOME PAGE www.srta.ca.gov

Daniel S. Little, Executive Director

DATE: February 6, 2014

TO: Cari Anderson, Air Resources Engineer, California Air Resources Board

FROM: Sean Tiedgen, Associate Transportation Planner, Shasta Regional Transportation Agency

SUBJECT: Methodology for estimating greenhouse gas emission reductions from the 2015 Regional Transportation Plan for Shasta County

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This memorandum outlines the Shasta Regional Transportation Agency's (SRTA) draft technical methodology for forecasting change in per capita greenhouse gas (GHG) emissions as a result of the 2015 Regional Transportation Plan (RTP), including 'Sustainable Communities Strategy' (SCS). This information has been compiled in compliance with California's Senate Bill 375 (SB 375), the Sustainable Communities and Climate Protection Act of 2008.

The following elements describe the purpose, intentions, and general parameters of the planning process in commonly understood terms.

BACKGROUND – i.e. why this memo is being prepared
REGIONAL SETTING AND CONTEXT – i.e. baseline conditions and conceptual approach
MODELING APPROACH – i.e. how vehicle miles traveled (VMT) and resulting GHG emissions are calculated
SCS PLANNING PROCESS – i.e. tasks/steps, regional/local roles, and public engagement activities

Technical appendices, including documentation of travel demand and air quality modeling, will be provided with the RTP at a later date.

I. BACKGROUND

SB 375 aims to reduce VMT and associated GHG emissions through the alignment of transportation and land use planning. Transportation-efficient land use patterns is one of several essential policy focus areas needed to achieve the state's climate action goals established by the California Global Warming Solutions Act of 2006 (AB 32). The California Air Resources Board (ARB) was charged with setting regional targets for per capita carbon dioxide (CO_2) emissions attributable to passenger

vehicles and light-duty trucks for the year 2020 and 2035. In February 2011, each of California's 18 metropolitan planning organization (MPO) regions received a per capita target. Shasta County received a target of 0% change in CO_2 emissions for the year 2020 and 2035. All targets are based on a percentage change from a 2005 emissions baseline.

Each MPO region must prepare a 'Sustainable Communities Strategy' (SCS) as a component of its regional transportation plan (RTP). An SCS contains coordinated land use, housing, and transportation strategies that, if implemented, would allow the region to meet its GHG emission reduction targets. Once adopted by the MPO, the RTP (including SCS) will guide transportation policies and investments for the region. ARB is charged with reviewing each regionally-adopted SCS and verifying that the underlying assumptions, methods, and travel demand/emissions modeling outputs are technically sound.

II. REGIONAL SETTING AND CONTEXT

Shasta County is home to approximately 177,000 residents, approximately 80% of which live in the south-central urbanized area along Interstate 5 (see Figure 1). The region is largely rural in character and geographically separated from other California metropolitan regions. It is one of the most dispersed counties in the state, having 49 persons per square mile compared to the statewide average of 239. Of California's 57 Urbanized Areas identified in the 2010 Census, Redding has the fewest persons per square mile. Average annual growth rate for Shasta County between 2000 and 2010 was <0.9%, falling to <0.3% in more recent years.

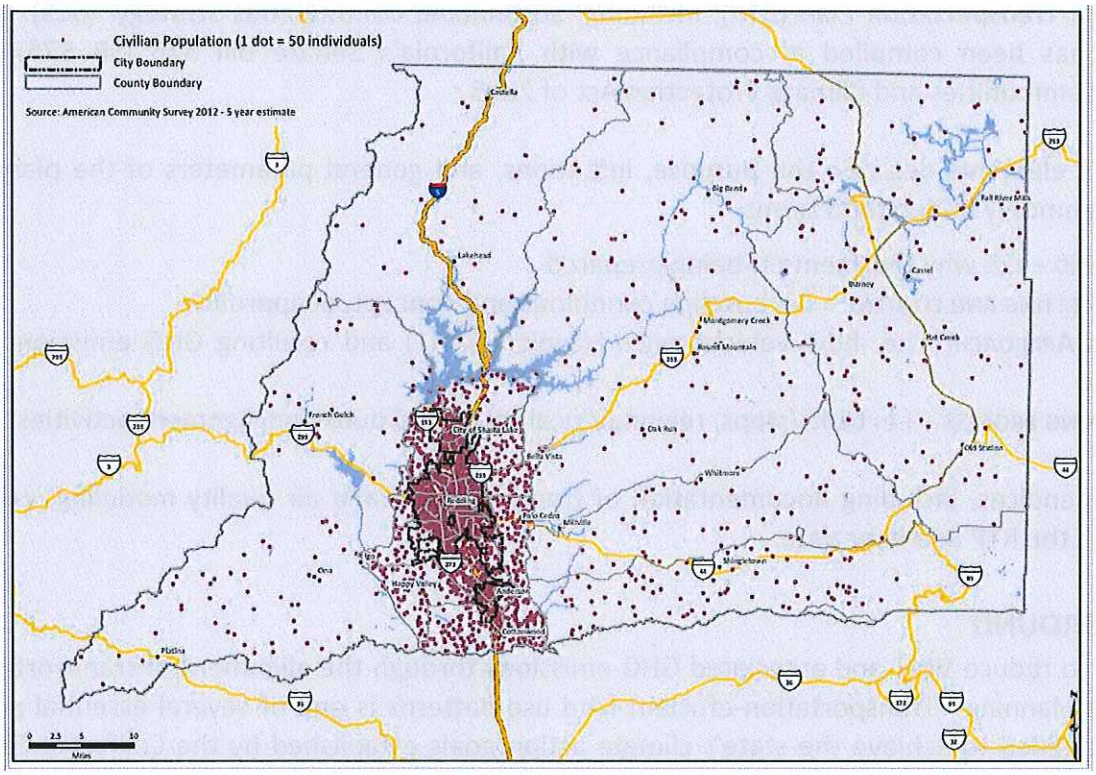


Figure 1 – Population density of Shasta County

Even under the most conservative assumptions, however, business-as-usual growth and development will affect the form, function, and livability of Shasta County over time. To help plan for the orderly growth of the region, SRTA led development of the Shasta*FORWARD*>> Regional Blueprint. A comprehensive assessment of community values and priorities was performed and three growth and development scenarios identified:

A) Scenario A: Rural & Peripheral Growth;
B) Scenario B: Urban Core & Corridors; and
C) Scenario C: Distinct Cities & Towns.

Scenarios were further developed and tested using the UPlan urban growth model. UPlan geographically allocates forecasted growth and development throughout the region based on numerically weighted growth 'attractors' (such as transportation accessibility, infrastructure capacity, and enterprise zones); growth 'discouragers' (such as flood zones, severe topography, and environmentally sensitive lands); and growth 'masks' (e.g. such as bodies of water). Land area is developed and populated within the model in order of highest attraction value, until all forecast growth has been accommodated within the region.

GIS-based performance measures, travel demand modeling, and vehicle emissions modeling were then used to evaluate each scenario in the following areas:

- Land Developed Ratio – i.e. among those lands in combined general plans designated for development, the percentage of which is needed to accommodate new growth.
- Environmentally Sensitive Lands Impacted – i.e. areas of environmentally sensitive land over which development may occur.
- Air Quality – i.e. Smog forming gases and particulate emissions from cars and trucks.
- Fuel Consumption – i.e. gas and diesel fuel used in Shasta County (intra-regional trips only)
- Greenhouse Gas Emissions – i.e. CO_2 emissions from on-road vehicles (passenger cars and light-duty trucks).
- Infrastructure Costs for New Development – i.e. cost of streets, water, sewer, and utilities infrastructure.
- Walkability/Transportation Choices – i.e. percent of households within ¼ mile of shopping and transit service.
- Average Commute Time – i.e. average per capita drive time from home to employment.
- Vehicle Miles Traveled – i.e. daily VMT per household (based on 2.43 persons per household).
- Prime Agricultural Land Impacted – i.e. lands having prime soil for agriculture over which development may occur.
- Water Consumption – i.e. based on primary land-use related consumption categories.

Following an extensive public engagement effort, during which approximately one in seventy adult residents in Shasta County participated, near-equal preference was expressed for Scenario B (Urban Core & Corridor) and Scenario C (Distinct Cities & Towns) as shown in Figure 2. Viewed together, these two scenarios captured nearly 90% of the community's votes. The final report recommends that a melding of Scenario B and Scenario C be used to inform implementation efforts.

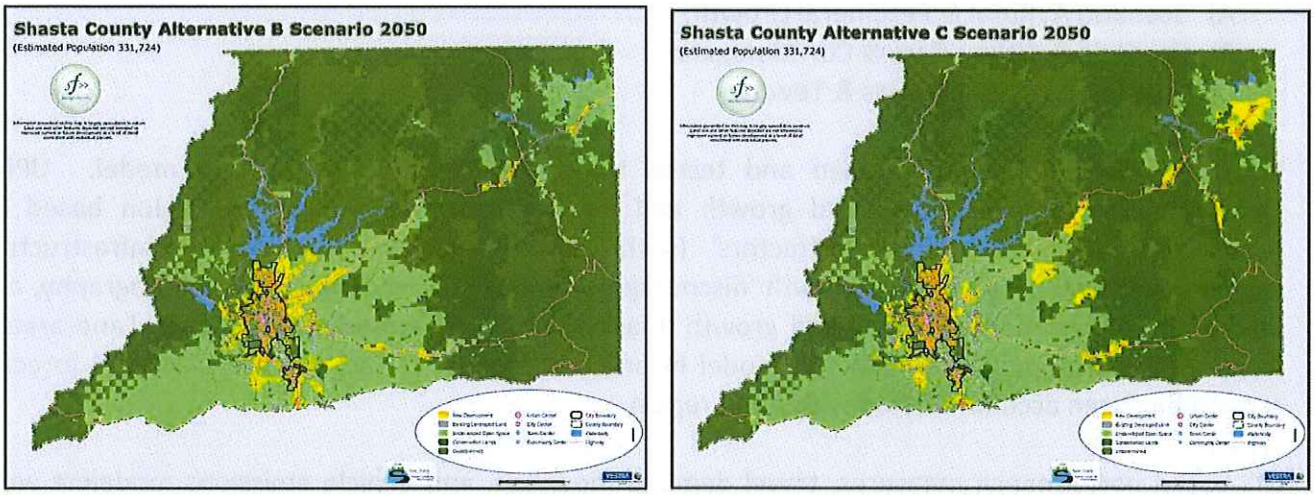


Figure 2 – ShastaFORWARD>> Regional Blueprint preferred regional growth scenario

The completion of the Shasta*FORWARD*>> Regional Blueprint in March of 2010 aligned with the arrival of Sustainable Communities Strategy (SCS) planning requirements under SB 375. It was determined that the preferred regional growth vision and associated public input from the Shasta*FORWARD*>> Regional Blueprint would serve well as the building blocks for development of the SCS. Further public consultation regarding specific land use and transportation strategies, policies, and project priorities will be conducted in stages as highlighted in Section IV of this document.

III. Modeling Approach

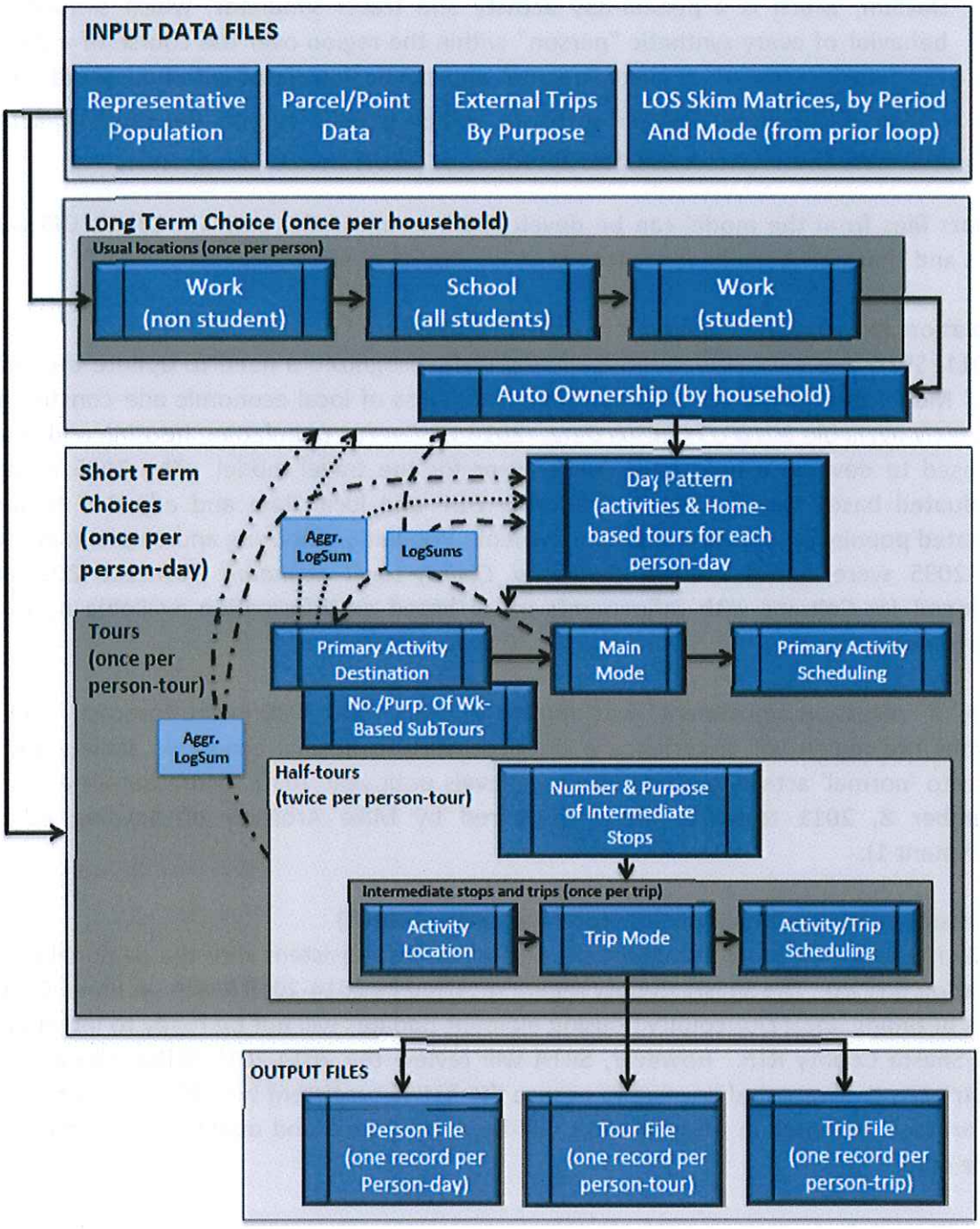
Model Background

For the last two decades, a traditional 4-step travel demand model has been utilized to forecast impacts of transportation projects in the region. With passage of recent federal and state laws requiring increased analysis and an emphasis on performance-based planning, SRTA recognized a need to enhance the agency's technical capabilities. SRTA received Prop 84 Modeling Incentive grant funds from the Strategic Growth Council in order to improve SRTA's travel demand modeling abilities. After considerable research and discussions with the Shasta Model Users Group, SRTA decided to embark on developing an activity-based model for the region. SRTA and consultant staff has spent over two years developing the new model and anticipate adoption in April 2014.

SRTA will utilize the agency's new activity-based model for land use modeling of strategies aimed at reducing regional VMT and associated GHG emissions. The new activity-based travel demand model will be the primary tool to calculate VMT and GHG impacts related to the existing and proposed

transportation network, land use patterns, and basic transit networks. Similar to the Sacramento Area Council of Government's (SACOG) SACSIM model, this new model is an advanced forecasting tool that simulates individual's' travel patters as a series of "trip-legs," connecting activities during the course of a 24-hour day. Travel behavior analysis is no longer limited at a Traffic Analysis Zone (TAZ) level, but can now be simulated at the parcel level. A graphical representation of the activity-based modeling process is illustrated below (Figure 3).

Figure 3 – DaySim Hierarchy and Flow Chart



Components of the model include:

- A Microsoft Excel parcel database table utilizes a macro to allocate specific types of households to parcels (based on the allowable household types in the model), for each model year. Allocations are based on general plan land use data, local city/county anticipated projects, and US Census Block Group occupancy rates.
- A built-in population synthesizer within DaySim, which creates a synthetic population with similar characteristics of the region and allocates persons to households.
- DaySim, which is a person-day activity and travel simulator, which simulates the travel behavior of every synthetic "person" within the region over the course of a 24-hour period. Outputs are created for every "person" and can be associated with households in the region.
- Citilabs CUBE Base/Voyager software, which is used to run the model via the Scenario Manager interface and generate outputs.

Outputs files from the model can be developed into an ArcGIS map via Cube's GIS window or as tables and charts that can be formatted in CUBE, ArcGIS or Microsoft Excel.

Population, Housing and Employment Growth Forecast

In 2011, SRTA and local city/county planning staff recognized a need to update the Shasta County Travel Model due to the 2008 "Great Recession," loss of local economic and construction activity, and newly available 2010 US Census data. 2010 US Census population, housing and economic data was used to develop a new 2010 "base" year for the travel model. The 2005 model year was reevaluated based on US Census, California DOF and local data and adjusted to better match estimated population, housing and employment. Population, housing and employment forecasts for 2011-2035 were based on the *California County-Level Economic Forecast 2010-2035* report developed for Caltrans with refinements made based on information available by local planning departments.

Finally, a "recession adjustment" was applied to years 2010-2030 in the forecast. The adjustment assumes the region will experience a slow recovery to normal economic activity and would not return to 'normal' activity and vacancy rate levels until year 2030. More details are provided in a November 8, 2011 technical memo prepared by Mike Aronson of Dowling Associates (see Attachment 1).

Consistency with Regional Housing Need Allocation (RHNA)

SB 375 requires that the SCS component of the RTP be consistent with the Regional Housing Needs Allocation (RHNA). The Shasta County region received its 2014-2019 RHNA on June 30, 2012. Due to issues of timing, local city/county housing element updates will not be ready to incorporate into the 2015 Shasta County RTP. However, SRTA will review the 2014-2019 RHNA allocations and make adjustments to forecasted housing to ensure the RTP is consistent with RHNA. Any changes made to the forecasts assumed in Attachment 1 will be documented and made available with the RTP at a future date.

Validation and Sensitivity Testing

SRTA is conducting validation and sensitivity testing of the activity-based model. Validation testing will be conducted on the following components:

- Mode choice
- Traffic assignment
- Transit assignment
- Time of day
- Synthetic population
- Trip distribution
- External/nonresidential travel (X-I and X-X trips)

Sensitivity testing will include looking at the following metrics:

- Density – increased or decreased density testing.
- Mode share – evaluate the impact of certain policies to increase mode share in non-automobile modes of transportation.
- Fuel cost – adjust fuel cost up and down to evaluate travel behavior.
- Transit – evaluate the impact of increasing headways on various transit routes and impact on travel behavior.

Calculating VMT

In accordance with SB 375, year 2005 will be used to compare the change in per capita GHG emissions against forecasted years. Data originally submitted to ARB was based on SRTA's existing four-step travel demand model. The new activity-based model, planned for adoption in April 2014, will be used to conduct travel modeling for the 2015 RTP, and SCS component.

Using the new activity-based model for all model years – including the 2005 base year – will allow for consistency and efficiency moving forward during future planning cycles and/or when ARB reevaluates regional targets. SRTA's activity-based model "base year" is 2010, with a 2013 base year for EIR analysis. For SB 375 purposes, the activity-based model will be used to back cast to 2005, using the updated population, housing and employment information shown in Attachment 1.

Modeling of Interregional Trips

SRTA follows the 2009 "*Recommendations of the Regional Targets Advisory Committee (RTAC) Pursuant to Senate Bill 375*" report on modeling interregional trips and calculating VMT[1]. Interregional trips are described as follows:

1. Internal-External (I-X) trips are trips that originate within Shasta County and have a destination outside of the region.
2. External-Internal (X-I) trips are trips that originate outside Shasta County and have a destination within the region.

[1] See page 26 of the report *Recommendations of the Regional Targets Advisory Committee (RTAC) Pursuant to Senate Bill 375* - http://www.arb.ca.gov/cc/sb375/rtac/report/092909/finalreport.pdf

3. External-External (X-X) or "through" trips are trips that travel through the region, but never stop.

Per the RTAC report, the following methodology is applied regarding interregional trips for purposes of GHG emissions estimation for the 2015 RTP:

- I-X trips – are modeled from their origin up to the Shasta County boundary.
- X-I trips – are modeled from the Shasta County boundary to their destination.
- X-X trips – are excluded from the SCS for GHG calculation.

VMT associated with interregional trips will be calculated for years 2005, 2010, 2013 (EIR baseline), 2020, and 2035. While the exclusion of interregional trips as described above will be used for calculating the region's effort to meet the SB 375 GHG reduction target, all VMT will be calculated to estimate the overall impact VMT has on the region's transportation system.

Greenhouse Gas Emissions Quantification and Reduction Estimation

For purposes of estimating GHG emissions for the 2015 RTP, SRTA will utilize the California Air Resources Board's EMFAC2011 air quality model. EMFAC2011 is the most current model available in California for estimating on-road vehicle emissions.

VMT outputs from the agency's activity-based model will serve as inputs into EMFAC2011. Emissions will be estimated for years 2005, 2010, 2013, 2020 and 2035 for purposes of evaluating whether SRTA's 2015 RTP will meet its specified target of 0% increase in per capita CO_2 (carbon dioxide) emissions from passenger vehicles and light-duty trucks (compared to 2005 levels).

IV. SCS Planning & Public Outreach Process

Achieving the necessary combination and critical mass of factors known to reduce VMT and associated GHG emissions (i.e. the Five 'D' Factors, as shown in Figure 4) will be a challenge in Shasta County given the region's dispersed development patterns, segregation of land uses, limited access to practical travel alternatives, and slow growth/rate of change.

Furthermore, no single 'D' factor by itself will substantially reduce automobile dependency; rather, it is the *combination* of factors and the *degree* to which they are present in a given area. Applying the 'D' factors a little here and a little there over the entire region would provide marginal return-on-investment. Layering many strategies within geographically small areas should, however, yield measurable transportation efficiencies while at the same time helping to meet local planning and economic development objectives. In the context of Shasta County, it is recognized that some the 'D' factors will be more appropriate and effective than others. Consultation and coordination with local agencies will be essential in selecting the right mix and intensity of strategies.

The most likely candidate locations for application of the five 'D' factors are existing urban centers and corridors – locations where some measure of the 'D' factors is present; where the necessary infrastructure is largely in place; where existing local plans permit a broad range and intensity of land uses; and where the community is more receptive to change.

The Five 'D' Factors

Affecting Automobile Dependency & Travel Mode Choice

Density *– Number of persons, jobs, and dwellings*

Diversity *– Balance of residential, retail, office, and other land uses*

Design *– Street network and non-motorized travel accommodations*

Destination Accessibility *– Number of jobs and other attractions accessible via any travel mode*

Distance to Transit *– Proximity of high quality public service to home and work*

Figure 4 – The Five 'D' Factors

To this end, SRTA is working with local agencies to identify small geographic areas known as 'Strategic Growth Areas' (SGAs). Within SGAs, it is intended that regional and local policies, programs, and investments be jointly focused, and private sector investments leveraged, to achieve measurable short-term progress – if not cumulatively across the region, at least within designated focus areas. Initially, only a select few SGAs are being tested. If SRTA and local agencies are able to demonstrate measurable benefits in the area of increased transit ridership; increased bicycle and pedestrian trips; reduced vehicle emissions; increased business and development activity; and/or other key areas, local agencies may wish to consider increasing the number and/or size of SGAs over time.

An initial public open house is scheduled for February 2014 in order to encourage early public and stakeholder input regarding the planning process and range of policy choices.

Whereas the regional blueprint is a conceptual visioning process, the SCS and accompanying travel demand modeling requires specific land use inputs and growth assumptions. At the onset of SB 375, local agencies in Shasta County were understandably concerned that the new law and regional planning requirement might infringe upon local land use authority. Sensitive to this perception, SRTA is facilitating a bottom-up process, wherein local jurisdictions will develop their own inputs and assumptions in consultation with SRTA for regional aggregation. Key steps in this process, including consultation with ARB and the public, are illustrated in Figure 5, and described in further detail below.

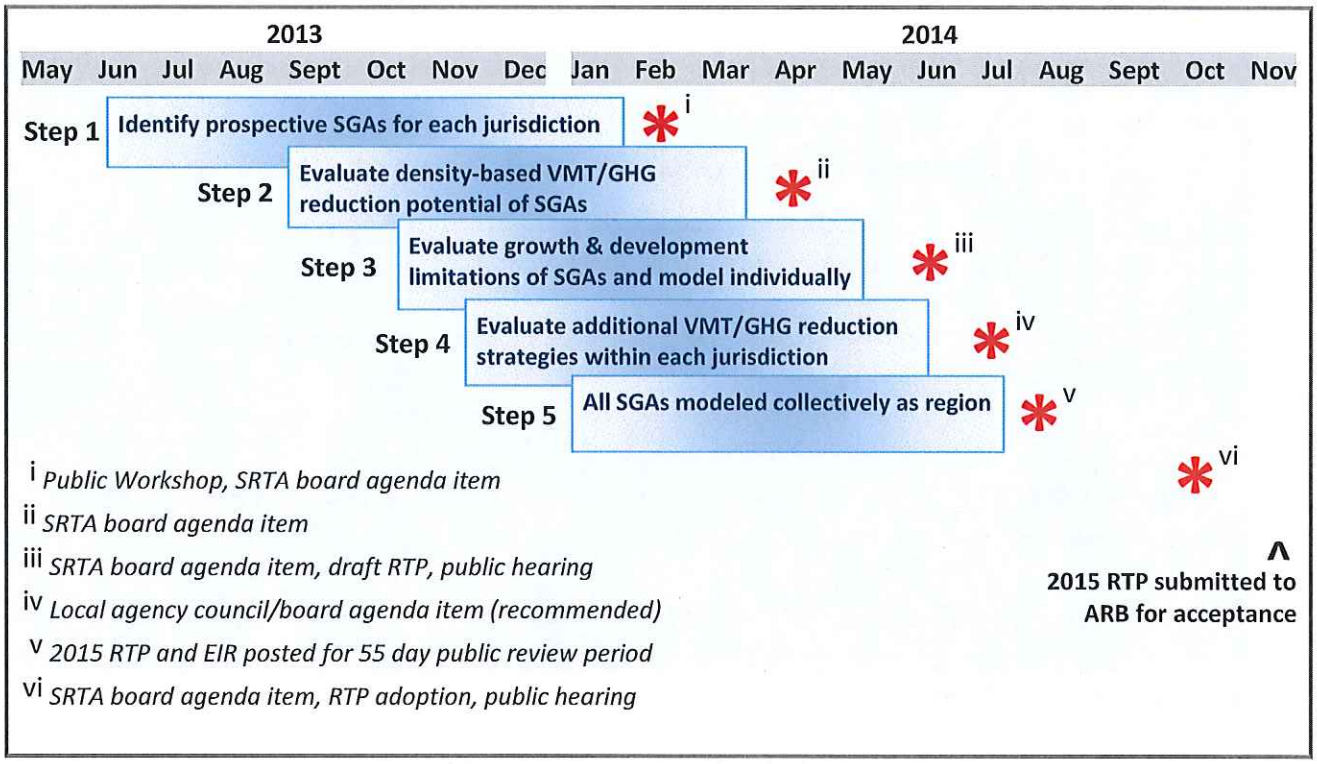


Figure 5 – Overview of Key Steps in the SCS Planning Process

STEP 1: IDENTIFY PROSPECTIVE STRATEGIC GROWTH AREAS (THROUGH FEB 2014)

SRTA will develop a series of objective, GIS-based spatial analysis tools to highlight prospective Strategic Growth Areas. Analysis tools include:

- Mobility Assessment Tool – A spatial measure of multi-modal connectivity between trip origins and destinations.
- Neighborhood Dynamic Scale – A spatial measure of economic activity (based on number of new business permits) and land use diversity.
- Exurban Growth Tool – A spatial measure of emergency response time and wildfire risk applied exclusively in rural unincorporated areas, to serve as a proxy indicator of transportation efficiency and ease of development.

Results of these analyses, in combination with locally-identified factors and considerations, will be used to identify a range of prospective SGAs within each jurisdiction for further testing.

Progress made shall be reported to the public as part of the February 2014 meeting of the SRTA Board of Directors.

STEP 2: MEASURE THE ELASTICITY OF VMT AS A VARIABLE OF DENSITY WITHIN EACH SGA (THROUGH APR 2014)

Once local jurisdictions have selected prospective SGAs, SRTA will test the elasticity of VMT as a variable of increased density therein. Utilizing total growth and development forecast figures for each jurisdiction, increments of residential, commercial, and office land use density will be theoretically loaded within each SGA and the affects tested via the agency's activity-based travel demand model. Three specific travel model runs will be performed for the years 2020 and 2035:

- 25% of all future growth assumed within the jurisdiction occurs within the SGA
- 50% of all future growth assumed within the jurisdiction occurs within the SGA
- 100% of all future growth assumed within the jurisdiction occurs within the SGA

The above model runs should not be interpreted as scenarios, but rather a simple exercise to evaluate the relationship between density and VMT and to compare the performance potential of SGAs against one another. Based on travel demand modeling results, local jurisdictions will determine which SGAs have the greatest potential for per capita VMT reduction, and which SGAs, if any, will be omitted from further modeling and analyses.

STEP 3: IDENTIFY POPULATION AND DEVELOPMENT LIMITATIONS WITHIN EACH SGA (THROUGH APR 2014)

Final assumptions for population and development capture rates (i.e. the portion of future growth that is expected to occur within each SGA, inclusive of all available incentives) must take into consideration practical limiting factors. The following analyses provide a method and justifiable basis for setting appropriate growth assumptions for each SGA:

1. Land availability – i.e. the number and land use zoning constraints of vacant and underutilized parcels suitable for infill or redevelopment. Analysis is based on the ratio of assessed structure value over land value, and ground-truthed by local agency planning staff;
2. Infrastructure capacity – i.e. available water and wastewater capacity (analysis initially limited to City of Redding SGAs);
3. Transportation capacity – i.e. available transportation network capacity while maintaining acceptable peak hour vehicle level of service; and
4. Market demand – i.e. number of new housing units by type (e.g. mixed use, multi-family, semi-detached, etc.) and square footage of non-residential building space (e.g., retail, office, etc.) that the market will demand over the planning horizon.

STEP 4: ADD SECONDARY STRATEGIES FOR VMT REDUCTION WITHIN EACH SGA (MAR 2014 – MAY 2014)

In addition to land use and housing-based VMT reduction strategies (i.e. densification within SGAs), local agencies may, at their discretion and within fiscal constraints of the RTP, employ additional strategies. If possible, the travel demand model will be used to measure VMT reduction resulting from such strategies. Off-model calculations, if necessary, will be documented and referenced. Categories and examples of such strategies include, but are not limited to:

- Balance of land uses – e.g. a more complete mix of housing, retail, office, etc.
- Public transit strategies – e.g. additional frequency and multi-modal connections, etc.

- Bicycle/pedestrian strategies – e.g. fix gaps in the network; expand network coverage, enhance connectivity with public transit, etc.
- Technology-based strategies – e.g. includes a variety of applications designed to increase the efficiency of traffic operations, enhance traveler information, etc.
- Policy strategies – e.g. sustainable development incentives, graduated traffic/development impact fee schedules, etc.

A progress report on development of the 2015 RTP will be made at the April 29, 2014 meeting of the SRTA Board of Directors.

STEP 5: MODEL ALL SGAS AND COLLECTIVE STRATEGIES AS A REGION (MAY 2014)

Initial testing of SGAs will be performed individually and independent of other SGAs. After inputs and assumptions for each individual SGA has been finalized, a combined region-wide travel forecast will be modeled. Air-quality model post-processing (EMFAC2011) will be used to calculate regional vehicle emissions for 2020 and 2035.

SRTA recommends that local agency staff present local inputs and assumptions contributed to regional SCS for respective council/board approval. Up to four additional jurisdictional presentations, with corresponding opportunities for public input, may occur at the discretion of local agencies.

The proposed final draft of the 2015 RTP, with SCS, will be made available for public review and comment. A public hearing will also be held at the June 24, 2014 meeting of the SRTA Board of Directors meeting.

The draft RTP, SCS, and EIR will be prepared and posted/distributed for the 55-day public comment period beginning July 2014.

V. 2015 ADOPTION AND APPROVAL PROCESS

Adoption of the 2015 RTP is scheduled to occur at the October 14, 2014 meeting of the SRTA Board of Directors, and will include a public hearing.

SRTA Board-adopted 2015 RTP will be submitted to ARB in November 2014 for determination of acceptance.

ATTACHMENT 1

SHASTA COUNTY FORECAST ASSUMPTIONS TECHNICAL MEMORANDUM
NOVEMBER 8, 2011

180 Grand Avenue, Suite 250
Oakland, CA 94612
www.dowlinginc.com

510.839.1742 x119
510.839.0871 fax
maronson@dowlinginc.com

Date: November 8, 2011

Memorandum

To: Sean Tiedgen, Shasta RTPA

cc:

From: Mike Aronson, Dowling Associates

Reference: Shasta RTPA Modeling On-Call Services P070116

Subject: Shasta County Forecast Assumptions

The Shasta County travel demand model is being updated to reflect the most current information on overall countywide growth rates, specific development assumptions and road improvement projects.

Countywide Land Use Forecasts

The land use forecasts for the current Shasta County travel demand model were developed in 2005 using the best information available at that time. Since 2005, economic conditions have changed significantly. The changes are affecting both the overall growth rates in Shasta County and the rate of construction for specific approved and proposed development projects.

Sources

The California Department of Finance (DOF) publishes forecasts of population for California counties. However, the most current DOF projections were completed in 2007, well before the effects of the current economic changes were known. Dowling Associates contacted DOF and verified that no newer projections have been released, and may not be released for some time. Because the DOF projections do not reflect current economic conditions, they are not recommended for use.

A more recent economic forecast for California has been prepared by The California Economic Forecast for the California Department of Transportation (Caltrans). The results were published as *California County-Level Economic Forecast 2010 – 2035*, The California Economic Forecast, Mark Schniepp, Director, prepared for Office of Transportation Economics, Division of Transportation Planning, California Department of Transportation, March, 2010. The Caltrans Economic Forecast reflects more current economic trends and is recommended as a basis for Shasta County forecasts.

Population

Population statistics and forecasts for Shasta County are listed in Table 1.

Table 1 : Shasta County Population Forecasts

Year	US Census (2000 & 2010)	CA DOF Estimates (2010)	CA Department of Finance Current (2011)	CA Department of Finance Forecast (2007)	Caltrans Economic Forecasts (2010)	Recommended Forecast	Shasta County Model (2005)
2000	163,256	163,256		164,794		163,256	
2005		177,944			178,724	173,029	165,430
2010	177,223	184,247	177,248	191,722	184,891	177,223	182,071
2015					191,098	183,173	198,875
2020				224,386	198,421	190,192	214,734
2025					206,303	197,747	230,231
2030				260,179	214,903	205,990	245,904
2035					223,639	214,364	
2040				295,281		222,738	

Persons per Year

Year	US Census (2000 & 2010)	CA DOF Estimates (2010)	CA Department of Finance Current (2011)	CA Department of Finance Forecast (2007)	Caltrans Economic Forecasts (2010)	Recommended Forecast	Shasta County Model (2005)
2000							
2005		2,938	-			1,955	
2010	1,397	1,261		2,693	1,233	839	3,328
2015					1,241	1,190	3,361
2020				3,266	1,465	1,404	3,172
2025					1,576	1,511	3,099
2030				3,579	1,720	1,649	3,135
2035					1,747	1,675	
2040				3,510		1,675	

Annual Rate Compared to 2010 Base

Year	US Census (2000 & 2010)	CA DOF Estimates (2010)	CA Department of Finance Current (2011)	CA Department of Finance Forecast (2007)	Caltrans Economic Forecasts (2010)	Recommended Forecast	Shasta County Model (2005)
2000							
2005		1.59%				1.10%	
2010	0.79%	0.68%		1.40%	0.67%	0.47%	1.83%
2015					0.67%	0.67%	1.85%
2020				1.70%	0.79%	0.79%	1.74%
2025					0.85%	0.85%	1.70%
2030				1.87%	0.93%	0.93%	1.72%
2035					0.94%	0.94%	
2040				1.83%		0.94%	

The population numbers in the current (2005 version) Shasta County model were based on the 2000 United States Census, supplemented by the annual population estimates provided by the California DOF and growth estimates based on a detailed review of actual building permits in each Shasta County jurisdiction between 2000 and 2004. The model estimates were 7 percent lower than actual population reported by DOF for 2005, but were only 2.7 percent higher than the recently released Census statistics for 2010 (182,071 model estimate versus 177,223 Census count).

The recommended population forecasts start with the 2010 value reported by the 2010 Census. The recommended population estimate for each forecast year up to 2035 is based on applying the growth rate from the Caltrans Economic Forecast to the prior forecast year. For example, the population estimate for 2030 is based on the 2025 population estimate increased by the Caltrans growth percentage from 2025 to 2030. The population growth from 2035 to 2040 is assumed to be similar to the growth rate from 2030 to 2035.

The resulting 2030 population forecast of 206,000 is 16 percent lower than the current model forecast of 245,900.

Housing

Statistics and forecasts for households or occupied housing units in Shasta County are listed in Table 2.

The household numbers in the current Shasta County model were based on the 2000 United States Census, supplemented by growth estimates based on a detailed review of actual building permits in each Shasta County jurisdiction between 2000 and 2004. The model estimates for 2010 were 6.8 percent higher than the recently released Census statistics for 2010.

The recommended housing forecasts start with the 2010 value reported by the 2010 Census. The recommended housing estimate for each forecast year up to 2035 is based on applying the growth rate from the Caltrans Economic Forecast to the prior forecast year. For example, the housing estimate for 2030 is based on the 2025 housing estimate increased by the Caltrans growth percentage from 2025 to 2030. The household growth from 2035 to 2040 is assumed to be similar to the growth rate from 2030 to 2035.

The resulting 2030 housing forecast of 85,900 is 15 percent lower than the current (2005 version) model forecast of 101,150.

Table 2 : Shasta County Housing Forecasts

Year	US Census (2000 & 2010)	CA DOF Estimates (2010)	CA Department of Finance Current (2011)	CA Department of Finance Forecast (2007)	Caltrans Economic Forecasts (2010)	Recommended Forecast	Shasta County Model (2005)
2000	63,426	63,426				63,426	
2005		68,220			68,200	67,392	68,220
2010	70,346	71,791	70,301		72,100	70,346	75,158
2015					75,800	73,956	81,658
2020					80,000	78,054	88,154
2025					84,100	82,054	94,670
2030					88,000	85,859	101,150
2035					91,500	89,274	
2040						92,689	

Households per Year

Year	US Census (2000 & 2010)	CA DOF Estimates (2010)	CA Department of Finance Current (2011)	CA Department of Finance Forecast (2007)	Caltrans Economic Forecasts (2010)	Recommended Forecast	Shasta County Model (2005)
2000							
2005						793	
2010	692	837			780	591	1,388
2015					740	722	1,300
2020					840	820	1,299
2025					820	800	1,303
2030					780	761	1,296
2035					700	683	
2040						683	

Annual Rate Compared to 2010 Base

Year	US Census (2000 & 2010)	CA DOF Estimates (2010)	CA Department of Finance Current (2011)	CA Department of Finance Forecast (2007)	Caltrans Economic Forecasts (2010)	Recommended Forecast	Shasta County Model (2005)
2000							
2005						1.03%	
2010	0.98%	1.17%			1.08%	1.03%	1.85%
2015					1.03%	1.03%	1.73%
2020					1.17%	1.17%	1.73%
2025					1.14%	1.14%	1.73%
2030					1.08%	1.08%	1.72%
2035					0.97%	0.97%	
2040						0.97%	

Employment

Statistics and forecasts for jobs in Shasta County are listed in Table 3.

The employment numbers in the current Shasta County model were based on a detailed inventory of 2004 employers, starting with a commercial database from InfoUSA and supplemented by manual review and checks of government employment locations and major missing employers.

The model estimates for 2005 were about 8 percent higher than the standard jobs report issued by the California Economic Development Department (EDD). However, this was deliberate, as the model intends to capture all employees who may make trips on a typical day, while the EDD reports are more oriented towards full-time equivalent employees and exclude some categories such as self-employed at home. The higher model base number is recommended as a basis for employment statistics rather than the EDD total jobs reports.

For 2010, the model forecast of 76,011 jobs was 30 percent higher than the EDD report of 58,500 jobs. As of 2005, the model forecasts assumed continued job growth consistent with trends at that time and planned development in each community. In reality, jobs in Shasta County decreased by over 9 percent between 2005 and 2010.

The recommended employment forecasts start with the 2010 value reported by the EDD, adjusted up by the 8 percent established to account for the additional job types in the model database (part-time retail workers, self-employed, etc...). The recommended employment estimate for each forecast year up to 2035 is based on applying the growth rate from the Caltrans Economic Forecast to the prior forecast year. For example, the employment estimate for 2030 is based on the 2025 employment estimate increased by the Caltrans growth percentage from 2025 to 2030.

The resulting 2030 employment forecast of 80,400 is 23 percent lower than the current (2005 version) model forecast of 103,843.

Recession Adjustment

Land use inputs for travel models generally assume that there is a base year inventory, and then new development is added to that base year inventory. However, actual employment decreased between the 2004 base year inventory and 2010. An additional set of assumptions were required to represent this recession condition.

The first assumption is that existing buildings were operating at lower occupancies in 2010 than in 2004. The change may not directly correlate to leasing rates, as employment spaces could still be actively leased but occupied by lower numbers of employees. A factor was developed for each type of employment space to account for lower occupancy in 2010 than in the 2004 base year. The factors were based on the relative number of employees in various categories in Shasta County for each year as reported by EDD (Table 4).

Table 3 : Shasta County Employment Forecasts

Year	US Census (2000 & 2010)	CA Economic Development Department Current (2011)	CA Economic Development Department Forecast (2009)	Caltrans Economic Forecasts (2010)	Recommended Forecast	Shasta County Model (2005)
2000		60,200				
2005		64,600		64,600	69,629	69,629
2010		58,500	64,060	60,300	63,054	76,017
2015				65,400	68,387	82,185
2020			69,860	69,200	72,361	88,869
2025				73,400	76,752	96,077
2030				77,000	80,517	103,834
2035				80,300	83,968	
2040					87,418	

Employees per Year

Year	US Census (2000 & 2010)	CA Economic Development Department Current (2011)	CA Economic Development Department Forecast (2009)	Caltrans Economic Forecasts (2010)	Recommended Forecast	Shasta County Model (2005)
2000						
2005		880				
2010				(860)	(1,315)	1,278
2015				1,020	1,067	1,234
2020				760	795	1,337
2025				840	878	1,442
2030				720	753	1,551
2035				660	690	
2040					690	

Annual Rate Compared to 2010 Base

Year	US Census (2000 & 2010)	CA Economic Development Department Current (2011)	CA Economic Development Department Forecast (2009)	Caltrans Economic Forecasts (2010)	Recommended Forecast	Shasta County Model (2005)
2000						
2005						
2010				-1.43%	-2.09%	1.68%
2015				1.69%	1.69%	1.62%
2020				1.26%	1.26%	1.76%
2025				1.39%	1.39%	1.90%
2030				1.19%	1.19%	2.04%
2035				1.09%	1.09%	
2040					1.09%	

A second assumption is that employment space will return to its normal occupancy levels (which are less than 100 percent) at some point. For this model update, the recovery was assumed to require 20 years to the year 2030. The 20 year recovery timeframe was selected as a reasonable assumption that maintains consistency with prior 2030 occupancy assumptions, and was not based on any specific economic forecast.

Table 4 lists the occupancy factors applied to each type of employment space and the corresponding EDD labor category used to estimate the occupancy factor.

Table 4 : Employment Occupancy Adjustment Factors

Model Land Use	Occupancy Factor 2010	2020	2030	Representative EDD Categories
08 Industrial	0.63	0.82	1.00	Goods Producing
09 Wholesale	1.00	1.00	1.00	Wholesale
10 Service Commercial	0.51	0.76	1.00	Construction
11 Retail	0.91	0.96	1.00	Retail Trade
12 Retail High	0.91	0.96	1.00	Retail Trade
13 Retail Warehouse	0.91	0.96	1.00	Retail Trade
14 Office	0.77	0.88	1.00	Information + Financial + Professional
15 School	1.00	1.00	1.00	Local Government Education
16 College	1.00	1.00	1.00	Local Government Education
17 Medical Office	1.00	1.00	1.00	Educational & Health
18 Hospital	1.00	1.00	1.00	Educational & Health
19 Residential Care	1.00	1.00	1.00	Educational & Health
20 Child Care	1.00	1.00	1.00	Educational & Health
21 Developed Recreation	1.00	1.00	1.00	Arts, Entertainment, Recreation
23 Casino	1.00	1.00	1.00	Arts, Entertainment, Recreation
24 Hotel	1.00	1.00	1.00	Accommodation
25 Restaurant	0.90	0.95	1.00	Food Services
26 Restaurant High	0.90	0.95	1.00	Food Services
27 Institutional	0.92	0.96	1.00	Other Services
28 Government	1.00	1.00	1.00	Government
29 Government High	1.00	1.00	1.00	Government

Forecasts by Jurisdiction

Recommended forecasts of population, housing and employment were also prepared for individual jurisdictions within Shasta County (Tables 5, 6 and 7).

The City of Redding provided specific population forecasts prepared by Economic Sciences Corporation for their jurisdiction for the years 2010 to 2025. These forecasts were incorporated in the population and housing forecasts for the travel model update. The allocations to the remaining jurisdictions are based on the allocations prepared in 2005 for the prior version of the travel model, which were in turn based on detailed assessments by Strategic Economics. The 2005 allocations were adjusted to the updated countywide totals.

Table 5 : Shasta County Population Forecasts by Jurisdiction

Year	Recommended Countywide Forecast	Anderson	Redding	Shasta Lake	Shasta County (uninc.)
2000	163,256	9,027	80,865	9,093	
2005	173,029	9,731	87,146	10,069	66,082
2010	177,223	9,932	89,861	10,164	67,266
2015	183,173	10,280	94,237	10,650	68,005
2020	190,192	10,353	99,071	11,210	69,558
2025	197,747	10,426	103,539	11,845	71,938
2030	205,990	10,498	106,666	12,478	76,348
2035	214,364	10,925	111,002	12,985	79,451
2040	222,738	11,352	115,339	13,493	82,555

Persons per Year

Year	Recommended Countywide Forecast	Anderson	Redding	Shasta Lake	Shasta County (uninc.)
2000					
2005	1,955	141	1,256	195	
2010	839	40	543	19	237
2015	1,190	70	875	97	148
2020	1,404	15	967	112	311
2025	1,511	15	894	127	476
2030	1,649	15	625	127	882
2035	1,675	85	867	101	621
2040	1,675	85	867	101	621

Annual Rate Compared to 2010 Base

Year	Recommended Countywide Forecast	Anderson	Redding	Shasta Lake	Shasta County (uninc.)
2000					
2005	1.10%	1.42%	1.40%	1.92%	
2010	0.47%	0.40%	0.60%	0.19%	0.35%
2015	0.67%	0.70%	0.97%	0.96%	0.22%
2020	0.79%	0.15%	1.08%	1.10%	0.46%
2025	0.85%	0.15%	0.99%	1.25%	0.71%
2030	0.93%	0.15%	0.70%	1.25%	1.31%
2035	0.94%	0.86%	0.97%	1.00%	0.92%
2040	0.94%	0.86%	0.97%	1.00%	0.92%

Table 6 : Shasta County Household Forecasts by Jurisdiction

Year	Recommended Countywide Forecast	Anderson	Redding	Shasta Lake	Shasta County (uninc.)
2000	63,426	3,374	32,103	3,426	
2005	67,392	3,772	34,424	3,828	25,368
2010	70,346	3,944	36,130	3,943	26,329
2015	73,956	4,474	38,669	4,339	26,473
2020	78,054	4,513	40,704	4,545	28,292
2025	82,054	4,544	42,903	4,779	29,827
2030	85,859	4,576	44,197	5,046	32,041
2035	89,274	4,762	45,993	5,251	33,268
2040	92,689	4,948	47,790	5,456	34,495

Households per Year

Year	Recommended Countywide Forecast	Anderson	Redding	Shasta Lake	Shasta County (uninc.)
2000					
2005	793	80	464	80	
2010	591	34	341	23	192
2015	722	106	508	79	29
2020	820	8	407	41	364
2025	800	6	440	47	307
2030	761	6	259	53	443
2035	683	37	359	41	245
2040	683	37	359	41	245

Annual Rate Compared to 2010 Base

Year	Recommended Countywide Forecast	Anderson	Redding	Shasta Lake	Shasta County (uninc.)
2000					
2005	1.13%	2.02%	1.28%	2.04%	
2010	0.84%	0.87%	0.94%	0.58%	
2015	1.03%	2.69%	1.41%	2.01%	0.11%
2020	1.17%	0.19%	1.13%	1.05%	1.38%
2025	1.14%	0.16%	1.22%	1.19%	1.17%
2030	1.08%	0.16%	0.72%	1.35%	1.68%
2035	0.97%	0.94%	0.99%	1.04%	0.93%
2040	0.97%	0.94%	0.99%	1.04%	0.93%

Table 7 : Shasta County Employment Forecasts by Jurisdiction

Year	Recommended Countywide Forecast	Anderson	Redding	Shasta Lake	Shasta County (uninc.)
2000					
2005	69,629	3,373	48,449	2,324	15,483
2010	63,054	2,699	43,635	2,067	14,653
2015	68,387	2,982	46,950	2,234	16,220
2020	72,361	3,263	48,250	2,427	18,420
2025	76,752	3,407	51,366	2,558	19,421
2030	80,517	3,780	53,288	2,623	20,826
2035	83,968	3,942	55,572	2,735	21,718
2040	87,418	4,104	57,856	2,847	22,611

Employees per Year

Year	Recommended Countywide Forecast	Anderson	Redding	Shasta Lake	Shasta County (uninc.)
2000					
2005					
2010	(1,315)	(135)	(963)	(51)	(166)
2015	1,067	57	663	34	313
2020	795	56	260	39	440
2025	878	29	623	26	200
2030	753	75	384	13	281
2035	690	32	457	22	179
2040	690	32	457	22	179

Annual Rate Compared to 2010 Base

Year	Recommended Countywide Forecast	Anderson	Redding	Shasta Lake	Shasta County (uninc.)
2000					
2005					
2010	-2.09%	-5.00%	-2.21%	-2.49%	-1.13%
2015	1.69%	2.10%	1.52%	1.62%	2.14%
2020	1.26%	2.08%	0.60%	1.86%	3.00%
2025	1.39%	1.07%	1.43%	1.27%	1.37%
2030	1.19%	2.77%	0.88%	0.62%	1.92%
2035	1.09%	1.20%	1.05%	1.09%	1.22%
2040	1.09%	1.20%	1.05%	1.09%	1.22%

Development Phasing Assumptions

Table 8 lists the phasing assumptions for specific development areas in Shasta County with development occurring after 2010. Input was received from Shasta County and the cities of Anderson, Redding and Shasta Lake. In some cases, phasing was shifted to later years than those provided by the jurisdictions in order for the county totals to match the control totals shown in Tables 2 and 3.

The development listing also includes assumptions for some properties which were not based on input received from the jurisdictions in 2011. These assumptions are based on the original input received from jurisdictions in 2005, adjusted to match county totals when combined with the specific development information provided in 2011.

In addition to the specific development shown in Table 8, there are also incremental assumptions for ongoing growth in certain land uses. These include small amounts of infill housing in unincorporated communities, and general employment growth at existing institutional sites including large schools and school administration centers, medical centers and government offices.

Table 8: Shasta County Travel Model Phased Development Assumptions

Development	Address	Land Use	Units	2010	2015	2020	2025	2030	2035	2040	After 2040	TOTAL	Percent by 2040
ANDERSON													
Anderson Commercial	Anderson	Retail	SF	0	0	0	0	0	0	58,500	58,500	117,000	50%
Anderson Condos	Anderson	MF Attached	DU	0	70	0	0	0	0	0	0	70	100%
Anderson Conference Facility	Anderson	Restaurant	SF	0	2,500	0	0	0	0	0	0	2,500	100%
Anderson Potential Target Site	Anderson	Retail	SF	0	0	0	0	0	130,000	66,000	130,000	326,000	60%
		Fast Food	SF	0	0	0	0	2,500	2,500	0	0	5,000	100%
Campbell Estates	Anderson	SF Detached	DU	0	0	28	0	0	0	0	0	28	100%
Church Property	Anderson	SF Detached	DU	0	0	0	0	0	69	0	0	69	100%
Continental Peak	Anderson	MF Attached	DU	16	16	0	0	0	0	0	0	32	100%
River Pointe	Anderson	SF Detached	DU	0	0	0	111	74	0	0	0	185	100%
Tormey Estates	Anderson	SF Detached	DU	43	43	0	0	0	0	0	0	86	100%
Vineyards	Anderson	SF Detached	DU	15	85	157	722	848	981	839	648	4,295	85%
		MF Attached	DU	0	640	0	287	287	0	0	0	1,214	100%
		Retail	SF	0	0	0	0	0	70,000	20,000	50,000	140,000	64%
		Office	SF	0	0	0	0	0	50,000	0	50,000	100,000	50%
		School	Emps	0	0	0	0	0	50	50	0	100	100%
Willow Glen	Anderson	SF Detached	DU	28	28	0	0	0	0	0	0	56	100%
REDDING													
Airpark Manor	Redding (Placer St.)	SF Detached	DU	10	10	0	0	0	0	0	0	20	100%
Airport Rd. Auto Dealer Site	Redding (3900 Airport Rd.)	Service Commercial	SF	0	0	0	0	0	44,000	135,000	0	179,000	100%
Alize Subdivision	Redding (160 Quartz Hill Rd.)	SF Detached	DU	0	93	87	0	0	0	0	0	180	100%
Avalon Park	Redding (11701 Twin Tower Dr.)	SF Detached	DU	0	55	0	0	0	0	0	0	55	100%
Bel Air	Redding (Quartz Hill Rd.)	SF Detached	DU	13	12	0	0	0	0	0	0	25	100%
Bel Air Estates	Redding (2430 Snow Ln.)	SF Detached	DU	149	0	0	0	0	0	0	0	149	100%
Buenaventura Senior Housing	Redding (1350 Buenaventura)	Senior Housing	DU	0	0	120	0	0	0	0	0	120	100%
Chapel of the Ferns	Redding (1400 Industrial St.)	SF Detached	DU	0	0	80	0	0	0	0	0	80	100%
City of Redding	Redding (7251 Eastside Rd.)	Industrial	SF	0	0	0	0	0	198,000	298,000	496,000	992,000	50%
Clover Creek	Redding (3901 Airport Rd.)	Office	SF	0	0	0	36,400	0	36,400	0	0	72,800	100%
Cottages at Bel Air	Redding (Quartz Hill Rd.)	SF Detached	DU	14	41	0	0	0	0	0	0	55	100%
Del Monte PSL	Redding (Del Monte St.)	Retail	SF	0	0	0	0	0	0	61,500	67,000	128,500	48%
East Oaks Estates	Redding (1283 Douglas Ln.)	SF Detached	DU	37	37	0	0	0	0	0	0	74	100%
Emily Estates	Redding (Oasis Rd.)	SF Detached	DU	58	0	0	0	0	0	0	0	58	100%
Fleur de Lac	Redding (1870 Shasta View Dr.)	SF Detached	DU	39	39	0	0	0	0	0	0	78	100%
Forootan	Redding (187 Sulphur Creek Rd.)	SF Detached	DU	0	0	23	41	41	41	41	0	187	100%
Gironda	Redding (Shasta View Dr.)	SF Detached	DU	0	0	102	102	103	0	0	0	307	100%
Gold Hills Park	Redding (2141 Gold Hills Dr.)	SF Detached	DU	0	175	0	0	0	0	0	0	175	100%
Green	Redding (Hillmonte Dr.)	Retail	SF	0	0	0	0	0	4,000	0	0	4,000	100%
Highland Park	Redding (Davis Ridge Rd.)	SF Detached	DU	0	100	200	120	0	0	0	0	420	100%
Hilltop Center	Redding (1085 Hilltop Dr.)	Retail	SF	0	46,500	46,500	0	0	0	0	0	93,000	100%
Hilltop Estates	Redding (240 Hilltop Dr.)	SF Detached	DU	27	0	0	0	0	0	0	0	27	100%
Hinds Feet LLC	Redding (Laurel Ave.)	SF Detached	DU	0	0	11	37	0	0	0	0	48	100%
Hope Lane	Redding (1175 Hope Ln.)	SF Detached	DU	44	0	0	0	0	0	0	0	44	100%
Kohn	Redding (4730 Aloe Vera Dr.)	SF Detached	DU	0	202	0	0	0	0	0	0	202	100%
Lakeside Avenues	Redding (1397 Buenaventura)	SF Detached	DU	40	0	0	0	0	0	0	0	40	100%
Lanzing	Redding (1335 Hope Ln.)	SF Detached	DU	0	0	30	0	0	0	0	0	30	100%
Lemm	Redding (2300 Lakeside Dr.)	SF Detached	DU	0	0	0	0	0	0	38	0	38	100%
McConnell Land	Redding (Old Oregon Trail)	SF Detached	DU	0	0	0	0	0	605	447	337	1,389	76%
MD Development	Redding (Oasis Rd.)	SF Detached	DU	0	50	50	0	0	0	0	0	100	100%
Mercy Hospital	Redding (2655 Airpark Dr.)	Retail	SF	0	0	0	0	0	0	11,000	0	11,000	100%
		Office	SF	0	0	0	0	0	0	11,000	0	11,000	100%
Metz Road Development	Redding (2230 Metz Rd.)	Industrial	SF	0	0	0	0	200,000	200,000	200,000	392,000	992,000	60%
Michiels	Redding (5900 Riverside Dr.)	SF Detached	DU	0	0	0	0	0	0	260	0	260	100%
Mid State Apartments	Redding (Cedars Rd.)	MF Attached	DU	12	36	0	0	0	0	0	0	48	100%

Table 8: Shasta County Travel Model Phased Development Assumptions

Development	Address	Land Use	Units	2010	2015	2020	2025	2030	2035	2040	After 2040	TOTAL	Percent by 2040
Money Vest	Redding (Tarmac Rd.)	SF Detached	DU	7	22	0	0	0	0	0	0	29	100%
		Retail	SF	0	41,000	0	0	0	0	0	0	41,000	100%
Morgan	Redding (2425 Rancho Rd.)	SF Detached	DU	0	20	0	0	0	0	0	0	20	100%
Niemann	Redding (Westside Rd.)	MF Attached	DU	12	34	0	0	0	0	0	0	46	100%
Oasis Point Village	Redding (6021 Oasis Road)	SF Detached	DU	40	121	0	0	0	0	0	0	161	100%
Oasis Road Specific Plan	Redding	SF 1-5 DU/Acre	DU	0	0	5	4	3	0	0	0	12	100%
		SF 2-3.5 DU/Acre	DU	0	0	30	30	30	0	0	0	90	100%
		SF 6-10 DU/Acre	DU	0	0	30	30	0	0	0	0	60	100%
		MF 15 DU/Acre	DU	0	0	100	100	100	100	100	435	935	53%
		Regional Commercial	SF	0	160,000	180,000	45,000	50,000	185,000	50,000	1,614,722	2,284,722	29%
		General Commercial	SF	0	0	40,000	0	0	40,000	40,000	454,000	574,000	21%
		Shopping Center	SF	0	0	0	37,500	0	37,500	75,000	77,000	227,000	66%
		General Office	SF	0	0	0	0	10,000	9,800	0	0	19,800	100%
		Limited Office	SF	0	0	0	0	7,000	6,100	0	0	13,100	100%
Park Marina Drive Specific Plan	Redding	Retail	SF	0	8,000	0	12,500	0	27,500	50,000	89,200	187,200	52%
(Turtle Bay listed separately)		Office	SF	0	0	22,000	20,500	0	0	0	0	42,500	100%
		Hotel	SF	0	0	0	0	0	50,500	0	0	50,500	100%
Parkview/Orange	Redding (Mark St.)	SF Detached	DU	54	0	0	0	0	0	0	0	54	100%
Quartz Hill PSL	Redding (850 Quartz Hill Rd.)	SF Detached	DU	0	0	120	0	0	0	0	0	120	100%
Redding PD-03-02	Redding (Collyer Dr.)	MF Attached	DU	0	232	0	0	0	0	0	0	232	100%
Redding S.51.90	Redding (Santa Rosa Way)	SF Detached	DU	0	0	160	0	149	0	0	0	309	100%
Redding SDP.18.04	Redding (Linden/West)	MF Attached	DU	0	15	15	0	0	0	0	0	30	100%
Redding SDP.24.04	Redding (2649 Twin View Blvd.)	MF Attached	DU	0	140	140	0	0	0	0	0	280	100%
Roesner	Redding (4655 Goodwater Ave.)	SF Detached	DU	0	0	0	0	0	23	0	0	23	100%
Roman Catholic Bishop	Redding (1300 Ridge Dr.)	SF Detached	DU	0	0	0	0	0	0	79	0	79	100%
Salt Creek	Redding (4402 Eureka Way)	SF Detached	DU	0	0	120	250	70	0	0	0	440	100%
Scarborough	Redding (3600 Argyle Rd.)	MF Attached	DU	0	67	0	0	0	0	0	0	67	100%
Shascade	Redding (950 Lake Blvd.)	SF Detached	DU	0	0	0	0	0	38	0	0	38	100%
Shasta Bible College	Redding (3005 Hartnell Ave.)	MF Attached	DU	0	100	0	0	0	0	0	0	100	100%
Shastina Ranch	Redding	SF Detached	DU	0	0	150	200	125	0	0	0	475	100%
		School	Emps	0	0	0	0	50	0	0	0	50	100%
Sierra Pacific	Redding (Branstetter Ln.)	SF Detached	DU	5	64	113	0	0	0	0	0	182	100%
Signature Northwest	Redding (4200 Sunglow Dr.)	SF Detached	DU	0	78	0	0	0	0	0	0	78	100%
Stillwater Business Park	Redding	Industrial	SF	0	224,000	0	0	0	0	224,000	3,753,000	4,201,000	11%
		Office	SF	0	105,500	0	0	0	132,700	132,700	1,726,600	2,097,500	18%
Stone Creek Subdivision	Redding (Rancho Rd.)	SF Detached	DU	0	0	155	0	0	0	0	0	155	100%
Stonesfair Subdivision	Redding (Rancho Rd.)	SF Detached	DU	0	0	215	0	0	0	0	0	215	100%
Summer Field Meadows	Redding (3555 Sacramento Dr.)	SF Detached	DU	18	18	0	0	0	0	0	0	36	100%
Tarmac Ridge Villas	Redding (2260 Tarmac Rd.)	SF Detached	DU	43	43	0	0	0	0	0	0	86	100%
Thomason	Redding (3901 Airport Rd.)	Retail	SF	0	0	0	0	0	72,500	0	0	72,500	100%
Tip Top Partners	Redding (2425 Sonoma St.)	Retail	SF	0	0	0	0	0	0	0	6,500	6,500	0%
		Office	SF	0	6,500	0	0	0	0	0	0	6,500	100%
Turtle Bay Hotel	Redding	Hotel	SF	0	70,000	0	0	0	0	0	0	70,000	100%
		Restaurant	SF	0	8,000	0	0	0	0	0	0	8,000	100%
Tuscany Villas	Redding (6111 Oasis Rd.)	SF Detached	DU	0	79	0	0	0	0	0	0	79	100%
Van Eperen	Redding (5304 Bo Peep Ln.)	SF Detached	DU	43	43	0	0	0	0	0	0	86	100%
Veterans Home	Redding (3400 Knighton Rd.)	Residential Care	SF	0	145,000	0	0	0	0	0	0	145,000	100%
Villages at Shasta View Gardens	Redding (2275 Tarmac Rd.)	SF Detached	DU	31	93	0	0	0	0	0	0	124	100%
Viale	Redding (1817 Kenton Dr.)	SF Detached	DU	0	0	0	0	112	0	0	0	112	100%
Vistas	Redding (355 Quartz Hill Rd.)	SF Detached	DU	0	210	0	0	0	0	0	0	210	100%
Western Acres	Redding (890 Hilltop Dr.)	SF Detached	DU	0	0	0	0	0	80	0	0	80	100%
Westridge Subdivision	Redding (950 Canyon Creek Rd.)	SF Detached	DU	0	0	132	0	0	0	0	0	132	100%
Westward Estates	Redding (16989 Campo Calle St.)	SF Detached	DU	0	0	150	0	0	0	0	0	150	100%
Williams	Redding (670 Churn Creek Rd.)	SF Detached	DU	0	0	18	0	0	0	0	0	18	100%

Table 8: Shasta County Travel Model Phased Development Assumptions

Development	Address	Land Use	Units	2010	2015	2020	2025	2030	2035	2040	After 2040	TOTAL	Percent by 2040
SHASTA LAKE													
Deer Creek Manor	Shasta Lake	SF Detached	DU	0	10	30	30	15	0	0	0	85	100%
Heritage Grove	Shasta Lake	SF Detached	DU	0	30	75	100	86	0	0	0	291	100%
		Service Commercial	SF	0	0	0	158,123	0	0	0	0	158,123	100%
Mountain Gate at Shasta	Shasta Lake	SF Detached	DU	0	0	100	300	300	300	150	0	1,150	100%
		MF Attached	DU	0	0	100	150	100	50	0	0	400	100%
		Service Commercial	SF	0	0	0	50,000	50,000	50,000	50,000	0	200,000	100%
Mountain Properties	Shasta Lake	SF Detached	DU	0	30	50	50	34	0	0	0	164	100%
Oak Ridge	Shasta Lake	SF Detached	DU	0	10	18	0	0	0	0	0	28	100%
Shasta Gateway Industrial Park	Shasta Lake (Phase 1)	Light Industrial	SF	0	0	10,000	50,000	38,000	0	0	0	98,000	100%
	Shasta Lake (Phase 2)	Industrial	SF	0	0	50,000	150,000	150,000	200,000	250,000	1,170,000	1,970,000	41%
Shasta Lake Commercial Center	Shasta Lake	Service Commercial	SF	0	25,000	30,000	30,000	25,000	25,000	0	0	135,000	100%
SHASTA COUNTY													
Anderson	Shasta Co.	SF Detached	DU	0	0	3	3	3	2	0	0	11	100%
Aventino	Shasta Co.	SF Detached	DU	0	0	11	13	13	8	0	0	45	100%
Cabb LLC	Shasta Co.	SF Detached	DU	5	9	4	0	0	0	0	0	18	100%
Cassel Ridge	Shasta Co.	SF Detached	DU	0	0	11	13	13	8	0	0	45	100%
Chuck	Shasta Co.	SF Detached	DU	0	0	5	5	5	5	0	0	20	100%
Churn Creek Commons	Shasta Co.	Retail	SF	0	200,000	100,000	150,000	0	50,000	100,000	140,000	740,000	81%
D&M Partnerships	Shasta Co.	Industrial	SF	0	40,000	40,000	40,000	13,000	0	0	0	133,000	100%
Diamond Ridge Unit 2 (Jewell)	Shasta Co.	SF Detached	DU	0	0	2	2	2	4	0	0	10	100%
Hill Country Clinic	Shasta Co.	Medical Office	SF	0	12,500	0	0	0	0	0	0	12,500	100%
K2 Development	Shasta Co.	SF Detached	DU	0	0	3	3	3	2	0	0	11	100%
Knighten	Shasta Co.	SF Detached	DU	0	0	6	6	6	5	0	0	23	100%
Manley	Shasta Co.	SF Detached	DU	0	0	3	3	3	6	0	0	15	100%
Montgomery Development	Shasta Co.	SF Detached	DU	0	0	8	8	8	9	0	0	33	100%
Nelson	Shasta Co.	SF Detached	DU	0	0	5	5	5	7	0	0	22	100%
Nichols	Shasta Co.	SF Detached	DU	0	5	5	5	5	5	5	0	30	100%
North Fork		SF Detached	DU	0	0	0	0	0	0	0	1,400	1,400	0%
		Retail	SF	0	0	0	0	0	0	0	942,000	942,000	0%
		Office	SF	0	0	0	0	0	0	0	145,000	145,000	0%
		Equestrian Center	Emps	0	0	0	0	0	0	0	10	10	0%
Nunes	Shasta Co.	SF Detached	DU	0	0	2	2	2	4	0	0	10	100%
Oak Ranch Estates	Shasta Co.	SF Detached	DU	0	0	36	39	39	26	0	0	140	100%
Panorama PD	Shasta Co.	SF Detached	DU	0	20	111	114	114	71	0	0	430	100%
Poulos	Shasta Co.	SF Detached	DU	0	0	8	8	8	10	0	0	34	100%
Ritchie	Shasta Co.	SF Detached	DU	0	0	3	3	3	2	0	0	11	100%
Rossi	Shasta Co.	SF Detached	DU	0	0	3	3	3	6	0	0	15	100%
Scott	Shasta Co.	SF Detached	DU	0	0	3	3	3	2	0	0	11	100%
Shingle Glen	Shasta Co.	SF Detached	DU	0	0	5	5	5	8	0	0	23	100%
Shingletown Sierra Pacific	Shasta Co.	SF Detached	DU	0	42	23	25	25	17	0	0	132	100%
Spoon	Shasta Co.	SF Detached	DU	0	0	13	13	13	11	0	0	50	100%
Stahl	Shasta Co.	SF Detached	DU	0	0	3	0	0	0	0	0	3	100%
Stilwater Ranch	Shasta Co.	SF Detached	DU	3	6	2	0	0	0	0	0	11	100%
Stilwater Ranches Unit 2	Shasta Co.	SF Detached	DU	0	0	7	7	7	8	0	0	29	100%
Stone Creek	Shasta Co.	SF Detached	DU	0	0	3	3	3	5	0	0	14	100%
Summer	Shasta Co.	SF Detached	DU	2	8	6	0	0	0	0	0	16	100%
Wiebelhaus	Shasta Co.	SF Detached	DU	0	0	3	3	3	2	0	0	11	100%

Appendix 3

Regional Transportation Plan (RTP) Checklist

Regional Transportation Plan Checklist

(Revised February 2010)

(To be completed electronically in Microsoft Word format by the MPO/RTPA and submitted along with the draft RTP to Caltrans)

Name of MPO/RTPA: Shasta Regional Transportation Agency (SRTA)

Date Draft RTP Completed: March 17, 2015

RTP Adoption Date: June 30, 2015

What is the Certification Date of the Environmental Document (ED)? June 30, 2015

Is the ED located in the RTP or is it a separate document? Separate cover with summary of findings and mitigation in RTP

By completing this checklist, the MPO/RTPA verifies the RTP addresses all of the following required information within the RTP.

Regional Transportation Plan Contents

General

		Yes/No	Page #
1.	Does the RTP address no less than a 20-year planning horizon? (23 CFR 450.322(a))	Yes	16, 23
2.	Does the RTP include both long-range and short-range strategies/actions? (23 CFR part 450.322(b))	Yes	67-74 (strategies are labeled as short or long range)
3.	Does the RTP address issues specified in the policy, action and financial elements identified in California Government Code Section 65080?	Yes	Policy: 25-43, 53, 56, 61, 64, 66 (issues and needs) Action: 67- 79 Financial: 99-171
4.	Does the RTP address the 10 issues specified in the Sustainable Communities Strategy (SCS) component as identified in Government Code Sections 65080(b)(2)(B) and 65584.04(i)(1)? **(MPOs only)**		
	a. Identify the general location of uses, residential densities, and building intensities within the region? **(MPOs only)**	Yes	91-93
	b. Identify areas within the region sufficient to house all the population of the region, including all economic segments of the population over the course of the planning period of the regional transportation plan taking into account net migration into the region, population growth, household formation and employment growth? **(MPOs only)**	Yes	93

	Yes/No	Page #
c. Identify areas within the region sufficient to house an eight-year projection of the regional housing need for the region pursuant to Government Code Section 65584? **(MPOs only)**	Yes	82-84, 92-94, Appendix 1
d. Identify a transportation network to service the transportation needs of the region? **(MPOs only)**	Yes	36-43, 109, 119, 125, 133, 141, 145, 153, 167
e. Gather and consider the best practically available scientific information regarding resource areas and farmland in the region as defined in subdivisions (a) and (b) of Government Code Section 65080.01? **(MPOs only)**	Yes	95
f. Consider the state housing goals specified in Sections 65580 and 65581? **(MPOs only)**	Yes	94
g. Utilize the most recent planning assumptions, considering local general plans and other factors? **(MPOs only)**	Yes	94
h. Set forth a forecasted development pattern for the region, which, when integrated with the transportation network, and other transportation measures and policies, will reduce the greenhouse gas emissions from automobiles and light trucks to achieve, if there is a feasible way to do so, the greenhouse gas emission reduction targets approved by the ARB? **(MPOs only)**	Yes	82-84, 92-94, Appendix 1
i. Provide consistency between the development pattern and allocation of housing units within the region (Government Code 65584.04(i)(1)? **(MPOs only)**	Yes	94
j. Allow the regional transportation plan to comply with Section 176 of the federal Clean Air Act (42 U.S.C. Section 7506)? **(MPOs only)**	Yes	96-98 (summary), also under separate cover (EIR)
4. Does the RTP include Project Intent i.e. Plan Level Purpose and Need Statements?	Yes	16
5. Does the RTP specify how travel demand modeling methodology, results and key assumptions were developed as part of the RTP process? (Government Code 14522.2) **(MPOs only)**	Yes	Technical methodology appendix 1 and 2
<u>Consultation/Cooperation</u>		
1. Does the RTP contain a public involvement program that meets the requirements of Title 23, CFR part 450.316(a)?	Yes	21-23

		Yes/No	Page #
2.	Did the MPO/RTPA consult with the appropriate State and local representatives including representatives from environmental and economic communities; airport; transit; freight during the preparation of the RTP? (23CFR450.316(3)(b))	Yes	22-23
3.	Did the MPO/RTPA who has federal lands within its jurisdictional boundary involve the federal land management agencies during the preparation of the RTP?	Yes	22-23
4.	Where does the RTP specify that the appropriate State and local agencies responsible for land use, natural resources, environmental protection, conservation and historic preservation consulted? (23 CFR part 450.322(g))	Yes	22-23
5.	Did the RTP include a comparison with the California State Wildlife Action Plan and (if available) inventories of natural and historic resources? (23 CFR part 450.322(g))	Yes	23
6.	Did the MPO/RTPA who has a federally recognized Native American Tribal Government(s) and/or historical and sacred sites or subsistence resources of these Tribal Governments within its jurisdictional boundary address tribal concerns in the RTP and develop the RTP in consultation with the Tribal Government(s)? (Title 23 CFR part 450.316(c))	Yes	23
7.	Does the RTP address how the public and various specified groups were given a reasonable opportunity to comment on the plan using the participation plan developed under 23 CFR part 450.316(a)? (23 CFR 450.316(i))	Yes	19-23
8.	Does the RTP contain a discussion describing the private sector involvement efforts that were used during the development of the plan? (23 CFR part 450.316 (a))	Yes	19-23
9.	Does the RTP contain a discussion describing the coordination efforts with regional air quality planning authorities? (23 CFR 450.316(a)(2)) **(MPO nonattainment and maintenance areas only)**	Not applicable	
10.	Is the RTP coordinated and consistent with the Public Transit-Human Services Transportation Plan?	Yes	21
11.	Were the draft and adopted RTP posted on the Internet? (23 CFR part 450.322(j))	Draft	3/17/15
		Adopted	6/30/15
12.	Did the RTP explain how consultation occurred with locally elected officials? (Government Code 65080(D)) **(MPOs only)**	Yes	19-23
13.	Did the RTP outline the public participation process for the sustainable communities strategy? (Government Code 65080(E) **(MPOs only)**	Yes	20-23, 80-84, 94

Modal Discussion

		Yes/No	Page #
1.	Does the RTP discuss intermodal and connectivity issues?	Yes	45-66
2.	Does the RTP include a discussion of highways?	Yes	46-53
3.	Does the RTP include a discussion of mass transportation?	Yes	54-56
4.	Does the RTP include a discussion of the regional airport system?	Yes	62-64
5.	Does the RTP include a discussion of regional pedestrian needs?	Yes	57-61
6.	Does the RTP include a discussion of regional bicycle needs?	Yes	57-61
7.	Does the RTP address the California Coastal Trail? (Government Code 65080.1) **(For MPOs and RTPAs located along the coast only)**	Not applicable	
8.	Does the RTP include a discussion of rail transportation?	Yes	65-66
9.	Does the RTP include a discussion of maritime transportation (if appropriate)?	Not applicable	
10.	Does the RTP include a discussion of goods movement?	Yes	40-43

Programming/Operations

1.	Is a congestion management process discussed in the RTP? (23 CFR part 450.450.320(b)) **(MPOs designated as TMAs only)**	Not applicable	
2.	Is the RTP consistent (to the maximum extent practicable) with the development of the regional ITS architecture?	Yes	21, 137
3.	Does the RTP identify the objective criteria used for measuring the performance of the transportation system?	Yes	75-79
4.	Does the RTP contain a list of un-constrained projects?	Yes	99-171

Financial

1.	Does the RTP include a financial plan that meets the requirements identified in 23 CFR part 450.322(f)(10)?	Yes	99-171
2.	Does the RTP contain a consistency statement between the first 4 years of the fund estimate and the 4-year STIP fund estimate? (2006 STIP Guidelines, Section 19)	Yes	99
3.	Do the projected revenues in the RTP reflect Fiscal Constraint? (23 CFR part 450.322(f)(10)(ii))	Yes	95-171

4.	Does the RTP contain a list of financially constrained projects? Any regionally significant projects should be identified. (Government Code 65080(4)(A))	Yes	99-171
5.	Do the cost estimates for implementing the projects identified in the RTP reflect "year of expenditure dollars" to reflect inflation rates? (23 CFR part 450.322(f)(10)(iv))	Yes	99
6.	After 12/11/07, does the RTP contain estimates of costs and revenue sources that are reasonably expected to be available to operate and maintain the freeways, highway and transit within the region? (23 CFR 450.322(f)(10)(i))	Yes	100-103
7.	Does the RTP contain a statement regarding consistency between the projects in the RTP and the ITIP? (2006 STIP Guidelines section 33)	Yes	99
8.	Does the RTP contain a statement regarding consistency between the projects in the RTP and the FTIP? (2006 STIP Guidelines section 19)	Yes	99
9.	Does the RTP address the specific financial strategies required to ensure the identified TCMs from the SIP can be implemented? (23 CFR part 450.322(f)(10)(vi) **(nonattainment and maintenance MPOs only)**	Not applicable	

Environmental

1.	Did the MPO/RTPA prepare an EIR or a program EIR for the RTP in accordance with CEQA guidelines?	Yes	Separate cover (EIR)
2.	Does the RTP contain a list of projects specifically identified as TCMs, if applicable?	Not applicable	
3.	Does the RTP contain a discussion of SIP conformity, if applicable? **(MPOs only)**	Yes	Separate cover (EIR)
4.	Does the RTP specify mitigation activities? (23 CFR part 450.322(f)(7))	Yes	Separate cover (EIR)
5.	Where does the EIR address mitigation activities?	94	Separate cover (EIR)
6.	Did the MPO/RTPA prepare a Negative Declaration or a Mitigated Negative Declaration for the RTP in accordance with CEQA guidelines?	No	
7.	Does the RTP specify the TCMs to be implemented in the region? **(federal nonattainment and maintenance areas only)**	Not applicable	

I have reviewed the above information and certify that it is correct and complete.



(Must be signed by MPO/RTPA
Executive Director
or designated representative)

6-18-15

Date

Daniel S. Little, AICP

Print Name

Executive Director

Title

Appendix 4

SRTA Board of Directors' Resolutions of Approval

RESOLUTION

RESOLUTION NUMBER:	**15-09**
SUBJECT:	**Certify the Final Program Environmental Impact Report for the 2015 Regional Transportation Plan, Adopt a Mitigating Monitoring and Reporting Program, and Approve the 2015 Regional Transportation Plan and Sustainable Communities Strategy**

WHEREAS, the Shasta Regional Transportation Agency (SRTA) is the designated Metropolitan Planning Organization (MPO) comprised of five member agencies: Shasta County, the cities of Anderson, Redding, and Shasta Lake, and the Redding Area Bus Authority; and

WHEREAS, SRTA is the agency responsible for maintaining a continuing, cooperative, and comprehensive transportation planning process which will result in a Regional Transportation Plan and Sustainable Communities Strategy pursuant to 23 U.S.C. 134(a) and (g), 49 U.S.C. §5303(f); 23 C.F.R. §450, and 49 C.F.R. §613; and

WHEREAS, SRTA is the Lead Agency in preparing the Regional Transportation Plan and Sustainable Communities Strategy and is required to comply with the California Environmental Quality Act (CEQA) [Cal. Pub. Res. Code § 21000 et seq.]; and

WHEREAS, pursuant to CEQA Guidelines Section 15002(f), an Environmental Impact Report (EIR) is the public document used by a governmental agency to analyze the significant environmental effects of a proposed project, to identify alternatives, and to disclose possible ways to reduce or avoid the potential environmental damage; and

WHEREAS, CEQA Guidelines Section 15168(a) specifies that a Program EIR 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; and

WHEREAS, SRTA has determined that a Program EIR is appropriate to assess the environmental impact of the 2015 Regional Transportation Plan (RTP) and Sustainable Communities Strategy (SCS); and

WHEREAS, the Program EIR is a regional planning level analysis which analyzes environmental impacts of the 2015 RTP on a broad planning level, while presenting as much detailed information about the individual RTP projects that is available at this time; and

WHEREAS, project-specific impacts of the individual RTP project should be analyzed in detail by the implementing agencies as the individual projects are designed, engineered, and considered for approval at a later date; and

WHEREAS, pursuant to CEQA Guidelines Section 15086, SRTA consulted with and requested comments on the Draft Program EIR from responsible agencies, trustee agencies with resources affected by the project; and other state, federal, and local agencies which exercise authority over resources which may be affected by the RTP; and

WHEREAS, SRTA circulated a Notice of Preparation (NOP) of an EIR for the proposed project on February 6, 2014, to trustee and responsible agencies, the State Clearinghouse, and the public; and

WHEREAS, a scoping meeting was held on February 19, 2014, at 3:30 PM in the City of Redding to solicit concerns and issues relative to the RTP; and

WHEREAS, concerns raised in response to the NOP were considered during preparation of the Draft Program EIR; and

WHEREAS, SRTA published a public notice of availability (NOA) for the Draft Program EIR on March 17, 2015, inviting comments from the general public, agencies, organizations, and other interested parties; and

WHEREAS, the Draft Program EIR was available for public review from March 17 through May 16, 2015; and

WHEREAS, pursuant to CEQA Guidelines Section 15088(a), SRTA, as the Lead Agency, must evaluate comments on significant environmental issues received from persons who review the Draft Program EIR and must prepare a written response thereto; and

WHEREAS, SRTA received three comment letters, all from public agencies, regarding the Draft Program EIR; and

WHEREAS, in accordance with CEQA Guidelines Section 15088, the Final Program EIR responds to the written comments received, and

WHEREAS, the Final Program EIR document and the Draft Program EIR, as amended by the Final Program EIR, constitute the Final Program EIR; and

WHEREAS, when making the findings pursuant to CEQA Guidelines Section 15091(a)(1), the agency must also adopt a program for reporting on or monitoring the changes which have been either required in the project or made a condition of approval to avoid or substantially lessen significant effects, and which are fully enforceable through permit conditions, agreements, or other measures, as required by CEQA Guidelines Section 15091(d); and

WHEREAS, consistent with the requirements of the CEQA Guidelines, a Mitigation Monitoring and Reporting Program (MMRP) has been prepared to outline the procedures for implementing all mitigation measures identified in the EIR; and

WHEREAS, according to CEQA Guidelines Section 15093(b), where the decision of the public agency allows the occurrence of significant effects which are identified in the Final Program EIR but are not avoided or substantially lessened, the agency must issue a Statement of Overriding Considerations setting forth the specific reasons to support its actions based on the Final Program EIR or other information in the record; and

WHEREAS, CEQA Guidelines Section 15093(c) provides that if an agency makes a statement of overriding considerations, the statement should be included in the record of the project approval and should be mentioned in the Notice of Determination.

NOW, THEREFORE, BE IT RESOLVED that:

1. The Shasta Regional Transportation Agency finds as follows:

   (a) The Final Program Environmental Impact Report (EIR) prepared for the 2015 Regional Transportation Plan (RTP) and Sustainable Communities Strategy (SCS) was completed in compliance with the California Environmental Quality Act; and

   (b) The Final Program EIR was presented to SRTA's decision making body, the SRTA Board of Directors; and

   (c) The SRTA Board of Directors has reviewed and considered information contained in the Final Program EIR; and

   (d) The Final Program EIR reflects SRTA's independent judgment and analysis; and

   (e) The Final Program EIR consists of the Draft Program EIR and the Final Program EIR, which includes a Mitigation Monitoring and Reporting Program; and

2. Based on and incorporating all of the foregoing recitals and findings supported by substantial evidence in the record and set forth in the "Findings and Statement of Overriding Considerations," attached hereto and incorporated by reference, SRTA hereby certifies the Final Program EIR for the 2015 RTP and adopts the Mitigation Monitoring and Reporting Program; and

3. The SRTA hereby approves the Shasta County 2015 Regional Transportation Plan and Sustainable Communities Strategy.

PASSED AND ADOPTED this 30th day of June, 2015, by the Shasta Regional Transportation Agency.

Missy McArthur, Chair
Shasta Regional Transportation Agency

CEQA Findings of Fact, Statement of Overriding Considerations, and Mitigation Monitoring and Reporting Program for the 2015 Regional Transportation Plan and Sustainable Communities Strategy Final Program EIR; State Clearinghouse No. 2014022018

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I. INTRODUCTION TO CEQA FINDINGS

These findings are made pursuant to the California Environmental Quality Act (Pub. Res. Code §21000 et seq., "CEQA") and the CEQA Guidelines (Cal. Code Regs. title 14, §15000 et seq.) by the the Shasta Regional Transportation Agency (SRTA), as the lead agency for the 2015 Regional Transportation Plan and Sustainable Communities Strategy ("2015 RTP"or the "Project").These findings pertain to the Final Program Environmental Impact Report ("EIR") SCH # 2014022018.

A. PROJECT DESCRIPTION SUMMARY

The Shasta Regional Transportation Agency (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 both federal and state law to prepare a long-range (at least 20-years) transportation planning document, known as a Regional Transportation Plan (RTP). The RTP is an action-oriented document used to achieve a coordinated and balanced regional transportation system. California Government Code §65080 et seq. and Title 23 United States Code (USC) §134 require Regional Transportation Planning Agencies (RTPA) and Metropolitan Planning Organizations (MPO) to prepare long-range transportation plans to: 1) establish regional goals, 2) identify present and future needs, deficiencies and constraints, 3) analyze potential solutions, 4) estimate available funding, and 5) propose investments. State statues require that the RTP serve as the foundation for the short-range transportation planning documents: the Regional and Federal Transportation Improvement Programs (RTIP and FTIP).

For the first time, SRTA now has the responsibility to prepare a Sustainable Communities Strategy (SCS) as part of the RTP, pursuant to the requirements of California Senate Bill 375 (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).

Under both federal and state law, SRTA must update its RTP every five years, however, beginning in 2018, the RTP will be updated every four years. The 2015 RTP is the long-range planning, policy, action, and financial document for the Shasta County region. The RTP covers a period from 2015 to 2035 and is a revised version of the 2010 RTP. The RTP identifies the region's transportation needs and issues and sets forth actions, programs, and projects to address those needs and issues. The RTP adopts policies, sets goals, and identifies financial resources to encourage and promote the safe and efficient management, operation, and development of a regional intermodal transportation system that would serve the mobility needs of goods and people. In addition, as the MPO for Shasta County, SRTA is required to prepare a SCS that demonstrates how GHG reduction targets will be met through integrated land use, housing, and transportation planning. Thus the RTP addresses both the transportation component of the RTP, as well as the land use component of the SCS. The 2015 RTP simultaneously addresses the region's transportation needs and promotes increased development densities and improving commercial and residential access to transit services. It should be noted that SRTA does not propose any land use changes, but rather the land use patterns envisioned by the RTP are based on the General Plan land use and zoning designations of the local agencies (the three incorporated cities and the county). The RTP is consistent with the land use and zoning designations in the incorporated and unincorporated areas.

CARB set GHG reduction targets for the SRTA region from on-road light-duty trucks and passenger vehicles as a 0% reduction from 2005 emissions levels by 2020 and a 0% reduction from 2005 emissions levels by 2035. These targets apply to the SRTA region as a whole for all on-road light-duty trucks and passenger vehicles emissions, and not to individual cities or sub-regions.

SB 375 specifically states that local governments retain their autonomy to plan local General Plan policies and land uses. The RTP rather is intended to provide a regional policy foundation that local governments may build upon, if they so choose. As described above, the RTP does not propose to change any land use and zoning designations; rather, the land use scenario envisioned by the RTP is based on and would be consistent with the existing local General Plan policies and land use designations as specified by the local agencies. As such, the RTP includes and accommodates the quantitative growth projections for the region based on the land use capacity of the local General Plans. SB 375 also requires that the RTP's forecasted development pattern for the region be consistent with the five-year regional housing needs as allocated to member jurisdictions through the Regional Housing Needs Allocation (RHNA) process under State housing law.

B. TYPE OF EIR

The 2015 RTP EIR is a Program EIR. A Program EIR is prepared for a series of actions that can be characterized as one project. An advantage of a Program EIR is that it allows the lead agency to consider broad policy alternatives and "program wide mitigation measures" at an early time when the agency has greater flexibility to deal with basic problems or cumulative impacts. (CEQA Guidelines §15168(b)(4).) The Program EIR can serve as a first-tier document for later CEQA review of individual projects included in the program. These project-specific CEQA reviews will focus on project-specific impacts and mitigation measures, and need not repeat the broad analyses contained in the Program EIR. As discussed by the California Supreme Court, "it is proper for a lead agency to use its discretion to focus a first-tier EIR on only the...program, leaving project-specific details to subsequent EIRs when specific projects are considered." (*In re Bay Delta* (2008) 43 Cal. 4th 1143, 1174).

C. INCORPORATION OF FINAL PROGRAM EIR BY REFERENCE

The Final Program EIR, consisting of: (1) the Final Program EIR volume; (2) the Draft Program EIR and all appendices to the Draft Program EIR; and (3) comments and recommendations received on the Draft Program EIR, a list of persons, organizations, and public agencies commenting of the Draft Program EIR, SRTA's responses to significant environmental points raised in the review and consultation process, and other information is hereby incorporated by reference into these Findings.

D. REQUIREMENTS FOR CEQA FINDINGS

Pursuant to Public Resources Code §21081 and CEQA Guidelines §15091, no public agency shall approve or carry out a project for which an EIR has been certified which identifies one or more significant effects on the environment that would occur if the project is approved or carried out unless the public agency makes one or more of the following findings with respect to each significant impact:

1. Changes or alterations have been required in, or incorporated into, the project which mitigate or avoid the significant effects on the environment.

2. Those changes or alterations are within the responsibility and jurisdiction of another public agency and have been, or can and should be, adopted by that other agency.

3. Specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or alternatives identified in the environmental impact report. (The concept of infeasibility also encompasses whether a particular alternative or mitigation measure promotes the Project's underlying goals and objectives, and whether an alternative or mitigation measure is impractical or undesirable from a policy standpoint. (See *City of Del Mar v. City of San Diego (*1982) 133 Cal.App.3d 410; *California Native Plant Society v. City of Santa Cruz* (2009) 177 Cal.App.4th 957.))

SRTA has made one or more of these specific written findings regarding each significant impact associated with the 2015 RTP. Those findings are presented below, along with a presentation of facts in support of the findings. SRTA certifies these findings are based on full appraisal of all viewpoints, including all comments received up to the date of adoption of these findings, concerning the environmental issues identified and discussed. These findings are based on evidence contained in the totality of the administrative record before SRTA, including but not limited to the Final Program EIR "supporting evidence" cited herein.

II. LOCATION OF AND CUSTODIAN FOR THE RECORD

The documents and other materials that constitute the record of proceedings on which SRTA's Findings of Fact are based are located at 1255 East Street, Suite 202, Redding, CA 96001. The custodian of these documents is Jennifer Pollom. This information is provided in compliance with Public Resources Code § 21081.6(a)(2) and 14 Cal. Code Regs. § 15091(e).

For purposes of CEQA at these Findings, the Record of Proceedings for the Project consists of the following documents, at a minimum:

- The Notice of Preparation and all other public notices issued by SRTA and in conjunction with the Project.
- The Draft and Final Program EIRs, including appendices and technical studies included or referenced in the Draft and Final Program EIRs.
- All comments submitted by agencies or members of the public during the public comment period on the Draft Program EIR.
- All comments and correspondence submitted to SRTA with respect to the Project.
- The MMRP for the Project.
- All Findings and resolutions adopted by SRTA decision makers in connection with the Project, and all documents cited or referred to therein.
- All reports, studies, memoranda, maps, staff reports, or other planning documents relating to the Project prepared by Rincon Consultants, Inc., consultants to SRTA.
- All reports, memoranda, documentation, data output files relating to the land use and transportation modeling for the Project.
- All documents and information submitted to SRTA by responsible, trustee, or other public agencies, or by individuals or organizations, in connection with the Project, up through the date SRTA approved the Project.
- Minutes and/or verbatim transcripts of all information sessions, public meetings, and public hearings held by SRTA, in connection with the Project.
- Any documentary or other evidence submitted to SRTA at such information sessions, public meetings, and public hearings.
- Matters of common knowledge to SRTA, including, but not limited to federal, state, and local laws and regulations.
- Any documents expressly cited in these Findings, in addition to those cited above.
- Any other materials required to be in the Record of Proceedings by Public Resources Code § 21167.6(e).

Resolution 15-09 Attachment:

CEQA Findings of Fact, Statement of Overriding Considerations, and Mitigation Monitoring and Reporting Program for the 2015 Regional Transportation Plan and Sustainable Communities Strategy Final Program EIR; State Clearinghouse No. 2014022018

FINDINGS FOR IMPACTS IDENTIFIED AS INSIGNIFICANT (Class III)

Public Resources Code § 21081 and CEQA Guidelines § 15091 do not require findings of fact for impacts that are less than significant. Under CEQA, no mitigation measures are required for impacts that are less than significant (CEQA Guidelines § 15126.4(a)(3)).

Section 4.0 of the Draft Program EIR including Section 4.13 (Less than Significant Environmental Factors) explain why certain impacts were not found to be significant and therefore were not discussed in detail in the Program EIR, pursuant to CEQA Guidelines Section 15128.

FINDINGS FOR IMPACTS IDENTIFIED AS SIGNIFICANT BUT MITIGABLE (Class II)

SRTA hereby finds that mitigation measures have been identified in the Program EIR that will avoid or substantially lessen the following environmental impacts to a less than significant level. These findings are based on the discussion of impacts in the detailed issue area analyses in Section 4.0 of the Draft Program EIR, as well as relevant responses to comments in the Final Program EIR. The significant impacts and the mitigation measures that will reduce them to a less than significant level are as follows.

Class II impacts are those which are significant but can be mitigated to less than significant by implementation of mitigation measures.

A. AESTHETICS (CLASS II)

1. **Impact AES-1.** Proposed transportation improvement projects under the 2015 RTP, as well as the land use patterns envisioned by the 2015 RTP, may affect public views along eligible scenic corridors, adjacent landscaping, and other scenic routes considered to have high scenic qualities. This would be a Class II, significant but mitigable impact.

    a. **Mitigation** - SRTA recommends that individual project lead agencies implement the following mitigation measures for applicable transportation projects, including but not limited to those projects identified in Table 4.1-2. These measures can and should be implemented for all projects developed pursuant to the 2015 RTP that would adversely affect scenic corridors.

        AES-1(a) Where a particular 2015 RTP 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.

b. **Findings** – With the implementation of the above mitigation, impacts would be less than significant.

c. **Supportive Evidence** – Please refer to pages 4.1-5 through 4.1-8 of the Draft Program EIR.

2. **Impact AES-2**. Development of proposed transportation improvement projects under the 2015 RTP, as well as the land use patterns envisioned by the 2015 RTP, would contribute to the alteration of Shasta County's character from primarily rural (or semi-rural) to a somewhat more small urban condition. This would be a Class II, significant but mitigable impact.

a. **Mitigation** - SRTA recommends that individual project lead agencies implement the following mitigation measures for applicable transportation projects, including but not limited to those projects identified in Table 4.1-2. These measures can and should be implemented for all projects developed pursuant to the 2015 RTP that would alter the County's rural character.

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

2015 RTP project shall ensure the continued vitality of replaced trees through periodic maintenance (see Mitigation Measure B-1(j) prescribed in Section 4.10 Biological Resources.)

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 2015 RTP shall be designed in accordance with the architectural review requirements of the local jurisdiction in which the project is proposed.

b. **Findings** – With the implementation of the above mitigation, impacts related to change in visual character would be less than significant.

c. **Supportive Evidence** – Please refer to pages 4.1-8 through 4.1-9 of the Draft Program EIR.

B. AIR QUALITY (CLASS II)

1. **Impact AQ-1**. Construction activities associated with transportation projects under the 2015 RTP, as well as the land use patterns envisioned by the SCS would have the potential to result in temporary adverse impacts on air quality in Shasta County. Impacts would be Class II, significant but mitigable.

   a. **Mitigation** – SRTA recommends that individual project lead agencies implement the following mitigation measure for applicable transportation projects that result in construction air quality impacts. Project-specific environmental impacts may require these mitigation measures be revised or expanded in response to site-specific conditions.

      AQ-1 The individual project lead agency shall ensure that all feasible and appropriate SCAQMD 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. SCAQMD 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 mid-morning 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 (according to manufacturer's specifications) to all inactive construction areas (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; and
- Mitigate fugitive dust emissions from wind erosion of areas disturbed from 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 preventive 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; and
- Use low-emitting gas and diesel engines meeting state and federal emissions standards (Tier I, II, III) for construction equipment.

Other emissions:

- Use low VOC coatings for the architectural coating phase of construction. All coatings must meet the VOC limits per SCAQMD 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 SCAQMD. Among suitable alternatives are 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; and
- Schedule construction activities that direct traffic flow to off-peak hours as much as practicable.

b. Findings – With the implementation of the above mitigation, impacts related to short-term construction emissions would be less than significant..

c. Supportive Evidence – Please refer to pages 4.2-12 through 4.2-14 of the Draft Program EIR.

2. Impact AQ-3. The transportation improvement projects included under the 2015 RTP and the land use scenario envisioned by the SCS may facilitate increased exposure of sensitive receptors to hazardous air pollutants that may cause health risks and odors that may be a nuisance. Implementation of the 2015 RTP would not result in a regional increase in toxic air emissions when compared to the future 'No Project' scenario. However, localized increases may occur as a result of development facilitated by the SCS land use scenario. Impacts would be Class II, significant but mitigable.

a. Mitigation – SRTA recommends that individual project lead agencies implement the following mitigation measures for applicable transportation projects near sensitive land uses. 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 diesel particulate matter and other known carcinogens. The appropriate measures shall include one or more of the following methods as applicable:

AQ-3 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 polluters 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 of in unfiltered infiltration if the building is not positively pressurized.

b. Findings – With the implementation of the above mitigation, impacts related to potential health risks would be less than significant.

c. Supportive Evidence – Please refer to pages 4.2-16 through 4.2-19 of the Draft Program EIR.

C. BIOLOGICAL RESOURCES (CLASS II)

1. **Impact B-1**. Implementation of transportation improvements proposed and the land use scenario envisioned by the 2015 RTP may result in impacts to special status plant and animal species. Impacts would be Class II, significant but mitigable.

a. Mitigation – SRTA recommends that individual project lead agencies implement the following mitigation measures for applicable transportation projects, including but not limited to those projects identified in Table 4.3-5. These measures can and should be implemented for future land development pursuant to the 2015 RTP that would result in impacts to special status animal and plant species.

B-1(a) **Biological Resources Screening and Assessment.** Because of the programmatic nature of the 2015 RTP 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 and Monitoring.** If special status plants species cannot be avoided and will be impacted by a project implemented under the 2015 RTP, 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) of habitat to be established, restored, 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 2015 RTP 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 begin 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 2015 RTP. 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 CFDW 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 pre-construction 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 on-site 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. **Findings** – Compliance with the above mitigation measures and all existing state, local and/or federal regulations would reduce impacts to a less than significant level.

c. **Supportive Evidence** – Please refer to pages 4.3-47 through 4.3-56 of the Draft Program EIR.

2. **Impact B-2.** Implementation of transportation improvements proposed and the land use scenario envisioned by the 2015 RTP may result in impacts to sensitive habitats, including federally protected wetlands. This impact would be Class II, significant but mitigable.

a. **Mitigation** – SRTA recommends that individual project lead agencies implement the following mitigation measures for applicable transportation projects, including but not limited to those projects identified in Table 4.3-5. These measures can and

should be implemented for future development pursuant to the 2015 RTP that would result in impacts to sensitive habitats. Mitigation measures B-2(c) and B-2(d) also address the potential for impacts due to invasive plant species.

B-2(a) **Jurisdictional Delineation**. If projects implemented under the 2015 RTP 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. Alternately, 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. Findings – Compliance with the above mitigation measures and existing State, local and/or federal regulations would reduce impacts to a less than significant level.

c. Supportive Evidence – Please refer to pages 4.3-56 through 4.3-58 of the Draft Program EIR.

D. CULTURAL RESOURCES (CLASS II)

1. **Impact CR-1** – Implementation of proposed transportation improvements and the land use scenario envisioned by the 2015 RTP could disturb known and unknown cultural resources. Impacts to archaeological and paleontological resources would be Class II, significant but mitigable.

a. Mitigation – In general, prior to commencement of any action, development or land use changes on lands subject to federal jurisdiction or for projects involving federal funding, a cultural resource survey and an environmental analysis must be prepared. Historic resources are also protected under the regulations of the National Historic Preservation Act and the Department of Transportation Act of 1966. County and city sponsored projects would be subject to local ordinance requirements, including General Plan provisions that protect cultural resources.

In order to provide protection of cultural resources, SRTA recommends that individual project lead agencies implement the following mitigation measures for applicable transportation projects, including but not limited to those projects identified in Table 4.4-3:

CR-1(a) The individual project lead agency of a 2015 RTP 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:

1. Prior to construction, a map defining the Area of Potential Effects (APE) shall be prepared on a project by project basis for 2015 RTP 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 II 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.

b. Findings – Implementation of the above measures would reduce potential impacts to archaeological and paleontological resources to a less than significant level.

c. Supportive Evidence – Please refer to page 4.4-8 to 4.4-11 of the Draft Program EIR.

E. GEOLOGY AND SOILS (CLASS II)

1. **Impact G-1.** Some proposed 2015 RTP projects could be at risk from seismic activity. Although fault rupture and seismically induced liquefaction do not pose a substantial threat in Shasta County, ground-shaking may affect 2015 RTP projects. This is considered a Class II, significant but mitigable impact.

   a. Mitigation – SRTA recommends that individual project lead agencies implement the following mitigation measure for applicable transportation projects, including but not limited to those projects identified in Table 4.7-2. This measure can and should also be implemented for all projects developed pursuant to the 2015 RTP that would result in seismic impacts.

   G-1 The lead agency in which a particular 2015 RTP 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.

   b. Findings – Implementation of the above measure would reduce potential impacts to a less than significant level.

   c. Supportive Evidence – Please refer to page 4.7-11 of the Draft Program EIR.

2. **Impact G-2.** Some projects proposed in the 2015 RTP may be located on unstable soils. This is considered a Class II, significant but mitigable impact.

a. **Mitigation** – SRTA recommends that individual project lead agencies implement the following mitigation measure for applicable transportation projects, including but not limited to those projects identified in Table 4.7-2. This measure can and should also be implemented for all projects developed pursuant to the 2015 RTP that would result in impacts associated with expansive soils and landslides.

G-2 If an RTP 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.

b. **Findings** – Implementation of Mitigation Measure G-2 would reduce potential impacts to a less than significant level.

c. **Supportive Evidence** – Please refer to page 4.7-12 of the Draft Program EIR.

E. GREENHOUSE GAS EMISSIONS (CLASS II)

1. **Impact GHG-1.** Construction of the transportation improvement projects and future land use patterns envisioned by the 2015 RTP would generate temporary short-term GHG emissions. Impacts would be Class II, significant but mitigable.

a. **Mitigation** – SRTA recommends that individual project lead agencies implement the following mitigation measure for applicable transportation projects. Project-specific environmental impacts may require this mitigation measure be revised or expanded in response to site-specific conditions.

GHG-1 The individual project lead agency shall ensure that applicable GHG-reducing diesel particulate and NO_X 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 certified engines or cleaner 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 of at least 50 percent of construction waste materials.

b. Findings – With the implementation of the above mitigation, impacts related to short-term GHG emissions would be less than significant.

c. Supportive Evidence – Please refer to pages 4.8-13 through 4.8-14 of the Draft Program EIR

F. HYDROLOGY AND WATER RESOURCES (CLASS II)

1. **Impact W-1.** Implementation of proposed transportation improvements and future projects envisioned in the 2015 RTP would incrementally increase countywide water demand. Such impacts would be Class II, significant but mitigable.

a. Mitigation – SRTA recommends that individual project lead agencies implement the following mitigation measures for applicable transportation projects that result in hydrology and water quality impacts. Project-specific environmental documents prepared by the lead agency may adjust these mitigation measures as necessary to respond to site-specific conditions:

W-1(a) The individual lead agency of a 2015 RTP 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 2015 RTP 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 2015 RTP 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 2015 RTP 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 2015 RTP 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 project sponsor. In addition, wherever feasible, reclaimed water should be used for landscaping purposes instead of potable water.

b. **Findings** – Implementation of the above measures would reduce potential impacts to a less than significant level.

c. **Supportive Evidence** – Please refer to pages 4.9-12 through 4.9-14 of the Draft Program EIR.

2. **Impact W-2.** Implementation of proposed transportation improvements and future projects facilitated by the land use scenario envisioned in the 2015 RTP could result in soil erosion and contaminants in runoff, which could degrade surface and ground water quality. This impact is considered Class II, significant but mitigable.

   a. **Mitigation** – SRTA recommends that individual project lead agencies implement the following mitigation measures for applicable transportation projects that result in hydrology and water quality impacts. Project-specific environmental documents prepared by the lead agency may adjust these mitigation measures as necessary to respond to site-specific conditions:

      W-2(a) The individual lead agency of a 2015 RTP 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 2015 RTP 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 2015 RTP 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.

   b. **Findings** – Implementation of the above measures would reduce potential impacts to a less than significant level.

c. **Supportive Evidence** – Please refer to pages 4.9-14 through 4.9-15 of the Draft Program EIR.

3. **Impact W-3.** Implementation of proposed transportation improvements and future projects facilitated by the 2015 RTP could be subject to flood hazards due to storm events and/or dam failure. Impacts are considered Class II, significant but mitigable.

    a. **Mitigation** – SRTA recommends that individual project lead agencies implement the following mitigation measures for applicable transportation projects subject to flood hazards. This measure can and should also be implemented for all projects developed pursuant to the 2015 RTP that would result in impacts from flooding.

        W-3(a) If a 2015 RTP 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 2015 RTP 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.

    b. **Findings** – Implementation of the above measures would reduce potential impacts to a less than significant level.

    c. **Supportive Evidence** – Please refer to pages 4.9-15 through 4.9-16 of the Draft Program EIR.

G. LAND USE (CLASS II)

1. **Impact LU-1.** Implementation of proposed transportation improvements and the land use scenario envisioned by the 2015 RTP could result in land use conflicts with existing sensitive land uses. This is considered a Class II, significant but mitigable impact.

    a. **Mitigation** – Mitigation measures listed under Impact AQ-1 and AQ-3 in Section 4.2, Air Quality, would reduce localized air quality impacts. Mitigation measures listed under Impacts N-1, N-2, and N-3, in Section 4.11, Noise, would reduce potential noise impacts. No mitigation is required for impacts related to dividing established communities.

    b. **Findings** – Land use compatibility impacts and related air quality and noise impacts would be less than significant with implementation of mitigation measures referenced above.

c. **Supportive Evidence** – Please refer to pages 4.10-9 through 4.10-10 of the Draft Program EIR.

2. **Impact LU-2.** Implementation of proposed transportation improvements and the land use scenario envisioned by the 2015 RTP could temporarily and/or permanently displace or disrupt existing residences and businesses. This is considered a Class II, significant but mitigable impact.

   a. **Mitigation** – SRTA recommends that individual project lead agencies implement the following mitigation measures for applicable transportation projects that may result in potential impacts relating to temporary disturbance to and/or permanent displacement of residences and businesses.

      LU-2(a) The individual project lead agency of RTP 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 RTP 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.

   b. **Findings** -Implementation of recommended measures would mitigate impacts relating to temporary disturbance and long-term displacement to a less than significant level.

   c. **Supportive Evidence** - – Please refer to pages 4.10-10 through 4.10-11 of the Draft Program EIR.

H. NOISE (CLASS II)

1. **Impact N-1.** Construction activity associated with transportation improvement projects and development envisioned by the 2015 RTP would create temporary noise level increases in discrete locations throughout the County. Impacts would be Class II, significant but mitigable.

a. **Mitigation** – Local noise and vibration general plan policies and ordinance requirements would apply to construction activity associated with 2015 RTP implementation. In addition, the following mitigation measures N-1(a) through N-1(e) are recommended. SRTA recommends that individual project lead agencies implement the following mitigation measures for applicable transportation projects. These measures can and should be implemented for all projects developed pursuant to the 2015 RTP that would result in temporary construction noise and/or vibration impacts. Project-specific environmental impacts may require these mitigation measures be revised or expanded in response to site-specific conditions:

N-1(a) Individual project lead agencies of 2015 RTP 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) If a particular project within 800 feet of sensitive receptors requires pile driving, the individual project lead agency in which this project is located shall require the use of pile drilling techniques instead, where feasible. This shall be accomplished through the placement of conditions on the project during its individual environmental review.

N-1 (c) Individual project 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) Individual project lead agencies shall ensure that impact equipment (e.g., jack hammers, pavement breakers, and rock drills) used for project construction be hydraulically or electrical powered wherever feasible to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatically powered tools is unavoidable, use of an exhaust muffler on the compressed air exhaust can lower noise levels from the exhaust by up to about 10 dBA. When feasible, external jackets on the impact equipment can achieve a reduction of 5 dBA. Whenever feasible, use quieter procedures, such as drilling rather than impact equipment operation.

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.

b. **Findings** – With implementation of local noise control requirements and proposed mitigation, impacts would be reduced to a less than significant level.

c. **Supportive Evidence** – Please refer to pages 4.11-15 through 4.11-17 of the Draft Program EIR.

2. **Impact N-2.** Implementation of the 2015 RTP would increase traffic-generated noise levels on highways and roadways which could expose sensitive receptors to noise in excess of normally acceptable levels. This is a Class II, significant but mitigable, impact.

   a. **Mitigation** – SRTA recommends that individual project lead agencies implement the following mitigation measures for applicable transportation projects. These measures can and should be implemented for all projects developed pursuant to the 2015 RTP that would result in noise impacts. Project-specific environmental impacts may require these mitigation measures be revised or expanded in response to site-specific conditions:

   N-2(a) Individual project lead agencies of 2015 RTP projects that would result in noise exceeding normally acceptable levels shall complete detailed noise assessments using applicable guidelines (e.g., Federal Transit Administration Transit *Noise and Vibration Impact Assessment* for rail and bus projects and the California Department of Transportation *Traffic Noise Analysis Protocol* for roadway projects). The individual 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.

b. **Findings** – Implementation of the recommended programmatic measures would reduce potential impacts to a less than significant level.

c. **Supportive Evidence** – Please refer to pages 4.11-18 through 4.11-19 of the Draft Program EIR.

3. **Impact N-3.** The proposed 2015 RTP land use scenario would encourage infill development, which may place sensitive receptors in areas with unacceptable noise levels. This is a Class II, significant but mitigable, impact.

   a. **Mitigation** – Local general plan noise policies and ordinance requirements would apply to development associated with RTP implementation. SRTA recommends that individual project lead agencies implement the following mitigation measure for applicable transportation projects located in close proximity to noise sensitive uses that would result in impacts related noise exposure.

   N-3 If a 2015 RTP 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 individual 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 with perimeter weather stripping, air condition system so that windows and doors may remain closed, and situating exterior doors away from roads. This shall be accomplished during the project's individual environmental review.

   b. **Findings** – Compliance with local general plans and implementation of the programmatic mitigation measure would reduce potential impacts to a less than significant level.

   c. **Supportive Evidence** – Please refer to pages 4.11-19 through 4.11-20 of the Draft Program EIR.

FINDINGS FOR IMPACTS IDENTIFIED AS SIGNIFICANT AND UNAVOIDABLE (Class I)

SRTA hereby finds that mitigation measures that have been identified in the Program EIR that will lessen the following significant environmental impacts but not to a less than significant level. These findings are based on the discussion of impacts in the detailed issue area analyses in Section 4.0 of the Draft Program EIR as well as relevant responses to comments in the Final Program EIR.

The findings below are for Class I impacts, where implementation of the project may result in the following significant, unavoidable environmental impacts:

A. BIOLOGICAL RESOURCES (CLASS I)

1. **Impact B-3.** Implementation of transportation improvements proposed and the land use scenario envisioned by the 2015 RTP may impact wildlife movement, including fish migration, and/or impede the use of a native wildlife nursery. This impact would be Class I, significant and unavoidable.

    a. **Mitigation** – SRTA recommends that individual project lead agencies implement the following mitigation measures for applicable transportation projects, including but not limited to those projects identified in Table 4.3-5. These measures can and should be implemented for future development pursuant to the 2015 RTP that would impact wildlife movement, including fish migration, and/or impede the use of native wildlife nursery.

    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 a 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.

b. Findings – With implementation of the above mitigation measures, potential impacts to wildlife movement and nursery sites would be reduced, but

disruption to wildlife movement is still anticipated. Thus, this impact would remain Class I, significant and unavoidable.

c. **Supportive Evidence** – Please refer to pages 4.3-58 through 4.3-60 of the Final Program EIR.

B. CULTURAL RESOURCES (CLASS I)

1. **Impact CR-1** – Implementation of proposed transportation improvements envisioned by the 2015 RTP could disturb known and unknown cultural resources. Impacts to historical resources would be Class I, *significant and unavoidable*.

a. **Mitigation** – In general, prior to commencement of any action, development or land use changes on lands subject to federal jurisdiction or for projects involving federal funding, a cultural resource survey and an environmental analysis must be prepared. Historic resources are also protected under the regulations of the National Historic Preservation Act and the Department of Transportation Act of 1966. County and city sponsored projects would be subject to local ordinance requirements, including General Plan provisions that protect cultural resources.

In order to provide protection of cultural resources, SRTA recommends that individual project lead agencies implement the following mitigation measures for applicable transportation projects, including but not limited to those projects identified in Table 4.4-3:

CR-1(a) The individual project lead agency of a 2015 RTP 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:

1. Prior to construction, a map defining the Area of Potential Effects (APE) shall be prepared on a project by project basis for 2015 RTP 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).

6. Based on the evaluations of the Phase II studies, if necessary Phase II 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.

b. **Findings** – Implementation of the above measures would reduce potential impacts to historic structures. However, because redevelopment or demolition that may be required to implement transportation improvements may result in the permanent loss of historic structures, this impact would remain Class I, *significant and unavoidable*.

c. **Supportive Evidence** – Please refer to page 4.4-8 to 4.4-11 of the Draft Program EIR.

C. LAND USE (CLASS I)

1. **Impact LU-5.** Implementation of proposed transportation improvements and the land use scenario envisioned by the 2015 RTP could result in the conversion of agricultural lands including Prime Farmland and lands under Williamson Act contract to non-agricultural uses. This is considered a Class I, significant and unavoidable impact.

   a. **Mitigation** – No measures are available to mitigate the loss of agricultural lands, short of eliminating proposed roadways that would traverse or be adjacent to Prime Farmland or Williamson Act lands. SRTA recommends that individual project lead agencies implement the following mitigation measures for applicable transportation projects that may result in impacts to agricultural lands. Project-specific environmental impacts conducted by a lead agency for an applicable transportation project may require these mitigation measures be revised or expanded in response to site-specific conditions:

   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) Compensate for conversion impacts to Prime Farmland by purchasing agricultural conservation easements (ACE) or funding the acquisition of agricultural mitigation lands through an appropriate land trust.

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:

a. Design the proposed roadway projects to avoid or minimize the displacement of current and reasonably foreseeable agricultural operations from affected Williamson Act contract lands.

b. 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.

b. Findings – Although the above measures would reduce impacts to Prime Farmland and lands under Williamson contract to the degree feasible, such impacts cannot be fully mitigated due to the potential conversion to non-agricultural use. Impacts from individual projects will need to be addressed on a case-by-case basis; however, because impacts to individual Prime Farmland and lands under Williamson contract cannot be assumed to be less than significant, agricultural impacts are considered *significant and unavoidable*.

c. Supportive Evidence - Please refer to pages 4.10-14 through 4.10-16 of the Draft Program EIR.

FINDINGS REGARDING ALTERNATIVES

A. LEGAL REQUIREMENTS FOR ALTERNATIVES

Public Resources Code § 21002 provides that "public agencies should not approve projects as proposed if there are feasible alternatives…which would substantially lessen the significant environmental effects of such projects." "Feasible" means "capable of being accomplished in a reasonable period of time taking into account economic, environmental, legal, social, and technological factors" (CEQA Guidelines § 15364). The concept of feasibility also encompasses whether a particular alternative promotes the Project's underlying goals and objectives, and whether an alternative is

impractical or undesirable from a policy standpoint. (See *City of Del Mar v. City of San Diego* (1982) 133 Cal.App.3d 410; *California Native Plant Society v. City of Santa Cruz* (2009) 177 Cal.App.4th 957.)

The issue of alternatives feasibility arises twice in the CEQA process, once when the EIR is prepared, and again when CEQA findings are adopted. When assessing feasibility in an EIR, the EIR preparer evaluates whether an alternative is "potentially" feasible. Potentially feasible alternatives are suggestions by the EIR preparers which may or may not be adopted by lead agency decisionmakers. When CEQA findings are made after EIR certification, the lead agency decisionmaking body independently evaluates whether the alternatives are actually feasible, including whether an alternative is impractical or undesirable from a policy standpoint. (See *California Native Plant Society v. City of Santa Cruz* (2009) 177 Cal.App.4th 957.)

If a significant impact can be substantially lessened (i.e., mitigated to a less than significant level) by adoption of mitigation measures, lead agency findings need not consider the feasibility of alternatives to reduce that impact. (*See Laurel Hills Homeowners Association v. City Council* (1978) 83 Cal.App.3d 515.) Nevertheless, Chapter 6 of the EIR and these Findings of Fact do consider the ability of potentially feasible alternatives to substantially reduce all of the Project's significant impacts, even those impacts reduced to less-than-significant levels through adoption of mitigation measures.

An EIR must only evaluate reasonable alternatives to a project that could feasibly attain most of the project objectives and evaluate the comparative merits of the alternatives (CEQA Guidelines § 15126.6(a)). In all cases, the consideration of alternatives is to be judged against a rule of reason. The lead agency is not required to choose the environmentally superior alternative identified in the EIR if the alternative does not provide substantial advantages over the proposed Project; and (1) through the imposition of mitigation measures the environmental effects of a project can be reduced to an acceptable level, or (2) there are social, economic, technological, or other considerations that make the alternative infeasible. (Pub. Res. Code §§21002, 21002.1; CEQA Guidelines §15092.)

The proposed 2015 RTP alternatives were selected for review in the EIR because of their potential to avoid or substantially lessen project impacts, or because they were required under CEQA Guidelines (e.g., the No Project alternative). The project and alternatives are described in more detail in the 2015 RTP Final Program EIR and Appendices thereto.

Three alternatives are considered for the proposed 2015 RTP: Alternative 1: The No Project Alternative, Alternative 2: Mobility - Enhanced Transportation Choices, and Alternative 3: Accessibility - Encourage Transportation Efficient Land Use. Alternative 2 focuses on increasing the use of multi-modal transportation options by making aggressive transit and active transportation investments across Shasta County. Additional funding for alternative transportation modes is assumed in the form of increased state grant support for active transportation projects; SRTA's continued support of local agencies in seeking active transportation grants; and an additional funding emphasis on active transportation by SRTA. Future populations would be more dispersed than in the 2015 RTP; however, active transportation and transit projects would improve mobility options. Alternative 3 focuses on transportation-efficient land use patterns. This is accomplished by way of targeted transportation investments and the application of regional and local incentives programs, and policies that encourage infill and redevelopment on vacant and underutilized parcels within strategic growth areas. The level of transportation investments by mode would not change from current practice; however, the location of said investments would favor transportation-efficient urban areas and rural community centers. Residential densities would be higher than the 2015 RTP, resulting in fewer acres of land converted for new

development. Funding for development incentives is assumed to come from state grants such as Cap and Trade, Affordable Housing and Sustainable Development programs.

B. FINDINGS ON ALTERNATIVES

The following project alternatives identified in the Environmental Impact Report are rejected for the following reasons. Evidence supporting the below analysis is presented in EIR Chapter 6.

The No Project Alternative (Alternative 1) would not be considered environmentally superior overall. Although it would result in the fewest construction-related impacts and impacts associated with ground disturbance, many of the transportation improvements and greater density development envisioned in the 2015 RTP would not occur. The No Project Alternative is rejected because total VMT, energy usage, emissions of air pollutants, and GHG emissions impacts would be greater with this alternative as compared to the 2015 RTP.

The Mobility Alternative's (Alternative 2) transit and active transportation improvements would improve accessibility to alternative modes of transportation, but the Mobility Alternative is not considered environmentally superior to the proposed project. The additional land use strategies known to reduce VMT that would be applied with the proposed project would not be applied with this alternative and therefore would not reduce VMT as much as the 2015 RTP. This would result in greater air quality, GHG, energy, and transportation impacts. Further, because improvements with this alternative would be spread across Shasta County rather than within existing developed urban and town centers envisioned under the 2015 RTP greater overall transportation and non-transportation infrastructure construction activity and ground disturbance would occur when compared to the 2015 RTP. Accordingly, this alternative would have a greater impact on aesthetics (change of character), agricultural lands, and biological resources. Thus this alternative is rejected.

The Accessibility Alternative (Alternative 3) would performs similarly to the 2015 RTP in terms of transportation performance measures, and in comparison to the other alternatives analyzed in the EIR under CEQA, it is considered to be environmentally superior. Overall, VMT would be less than the 2015 RTP as this alternative would result in higher urban densities. Additionally, based exclusively on VMT, this alternative would result in slightly less air contaminant emissions, GHG emissions, and transportation impacts than the 2015 RTP. Further, this alternative would result in a decrease in the amount of agricultural lands that may be converted for other uses and the amount of habitat impacted (biological resources). The Accessibility Alternative is determined to be the environmentally superior alternative when considering overall environmental impact relative to the performance metrics and attainment of SB 375 requirements. However, although it is the environmentally superior alternative, this alternative is rejected because it would be legally and financially infeasible for SRTA to ensure that additional funding for development incentives (which are assumed to come from state grants such as Cap and Trade, Affordable Housing and Sustainable Development programs) would be available to influence the land use densities and patterns assumed with this alternative. SRTA has no authority to adopt local land use plans or approve local land use projects that will implement a more intensified land use pattern. SB 375 specifically provides that nothing in SB 375 supersedes the land use authority of cities and counties, and that cities and counties are not required to change their land use plans and policies, including general plans, to be consistent with an RTP/SCS. (Government Code §65080(b)(2)(J). Further, although this alternative would reduce some environmental impacts compared to the 2015 RTP, this alternative would not avoid the significant unavoidable impacts related to conversion of agricultural lands, biological resources (wildlife movement), and cultural resources (historic structures). Therefore this alternative is also rejected.

FINDINGS ON CUMULATIVE IMPACTS

A. INTRODUCTION

Chapter 4 of the EIR includes an analysis of both project-specific and cumulative impacts of the proposed project, as required by CEQA. This EIR is a Program EIR that analyzes the effects of cumulative buildout of the 2015 RTP. The proposed 2015 RTP considers probable future projects included in the range of transportation projects designed to meet the plan goals and current and projected future needs, and the Final Program EIR analyzes the cumulative impacts of these projects. The cumulative effects of all probable future circulation system improvements are included in the analysis of the proposed project's impacts.

In Chapter 4.0, thresholds of significance for cumulative impacts are the same as those for direct, project-specific impacts, as authorized by CEQA case law. (*See Save Cuyama Valley v. County of Santa Barbara* (2013) 213 Cal.App.4th 1059.) When project-specific impacts are judged to be significant, they also by definition are considered "cumulatively considerable" incremental contributions to significant cumulative impacts. (See CEQA Guidelines Section 15130(a).) Mitigation measures adopted for project-specific impacts in Sections IV and V of these findings also are feasible options for mitigating the proposed project's incremental contribution to significant cumulative effects. (See CEQA Guidelines Section 15130(b)(5).)

B. FINDINGS FOR SIGNIFICANT CUMULATIVE IMPACTS FOR WHICH PROJECT'S INCREMENTAL CONTRIBUTION HAS BEEN MITIGATED TO LESS THAN SIGNIFICANT LEVELS (CLASS II IMPACTS)

For the following impacts, SRTA hereby finds that in Section IV of these findings, mitigation measures have been identified in the EIR that will avoid or substantially lessen the proposed project's incremental contribution to the following significant cumulative impacts to a less than significant (i.e., less than cumulatively considerable) level. The significant impacts and the mitigation measures that will reduce them to a less than significant level are as follows:

- Impact AES-1: Mitigation Measures AES-1(a) – (d)
- Impact AES-2: Mitigation Measures AES-2(a) – (c)
- Impact AQ-1; Mitigation Measure AQ-1
- Impact AQ-3; Mitigation Measure AQ-3
- Impact B-1; Mitigation Measures B-1(a)-(j)
- Impact B-2; Mitigation Measures B-2(a)-(d)
- Impact CR-1 (for archeological and paleontological resources); Mitigation Measures CR-1(a)-(d)
- Impact G-1; Mitigation Measure G-1
- Impact G-2; Mitigation Measure G-2
- Impact GHG-1; Mitigation Measure GHG-1
- Impact W-1; Mitigation Measures W-1(a)-(e)
- Impact W-2; Mitigation Measures W-2(a)-(c)
- Impact W-3; Mitigation Measures W-3(a) – (b)

- Impact LU-1; Mitigation Measures for Impacts AES-2, AQ-1, AQ-3, and N-1 to N-3
- Impact LU-2; Mitigation Measures LU-2(a)-(c)
- Impact N-1; Mitigation Measures N-1(a)-(e)
- Impact N-2; Mitigation Measures N-2(a)-(b)
- Impact N-3; Mitigation Measure N-3

C. FINDINGS FOR SIGNIFICANT CUMULATIVE IMPACTS FOR WHICH PROJECT'S INCREMENTAL CONTRIBUTION HAS NOT BEEN MITIGATED TO LESS THAN SIGNIFICANT LEVELS (CLASS I IMPACTS)

For the following impacts, SRTA hereby finds that in Section V of these findings, mitigation measures have been identified in the EIR that will reduce the proposed project's incremental contribution to the following significant cumulative impacts, but not to a less than significant (i.e., less than cumulatively considerable) level. The significant impacts and the mitigation are as follows:

- Impact B-3; Mitigation Measures B-3(a)-(b)
- Impact CR-1 (for historic structures); Mitigation Measures CR-1(a)-(d)
- Impact LU-5; Mitigation Measures LU-5(a)-(f)

STATEMENT OF OVERRIDING CONSIDERATIONS

SRTA adopts and makes this statement of overriding considerations concerning the Project's unavoidable significant impacts to explain why the project's benefits override and outweigh its unavoidable impacts.

The Environmental Impact Report (EIR) has identified and discussed significant effects that may occur as a result of the Project. As set forth in these CEQA Findings, SRTA has made a reasonable and good faith effort to eliminate or substantially mitigate the impacts resulting from the Project and has made specific findings on each of the project's significant impacts and on mitigation measures and alternatives. With implementation of the mitigation measures discussed in the EIR, most of the project'seffects can be mitigated to a level of less than significant. However, even with implementation of all feasible mitigation, the project will result in significant and unavoidable impacts as follows:

1. Implementation of the 2015 RTP would impede wildlife movement, including fish migration, and/or impede the use of a native wildlife nursery. (Impact B-3)
2. Implementation of the 2015 RTP would disturb known and unknown cultural resources such as historic structures. (Impact CR-1)
3. Implementation of the 2015 RTP could convert agricultural lands including Prime Farmland and lands under Williamson Act contract to non-agricultural uses. (Impact LU-5)

In accordance with Section 15093 of the CEQA Guidelines, and having reduced the adverse significant environmental effects of the project to the extent feasible, having considered the entire administrative record on the project, and having weighed the benefits of the Project against its unavoidable adverse impacts after mitigation, SRTA hereby finds that the following legal, economic, social, and environmental benefits of the project outweigh its unavoidable adverse impacts and render them acceptable based upon the following considerations. Each benefit set forth below constitutes an overriding consideration warranting approval of the project, independent of the other benefits, despite each and every unavoidable impact.

a. The implementation of 2015 RTP transportation projects will provide for a comprehensive transportation system of facilities and services that meets the public's need for the movement of people and goods, and that is consistent with the social, economic, and environmental goals and policies of the region.

b. The project will improve transportation mobility and accessibility in the county.

c. The project will improve air quality by reducing emissions of ozone precursors compared to future No Project conditions.

d. The SCS will contribute to a reduction in greenhouse gas (GHG) emissions from passenger vehicles and light trucks, helping the Shasta County area to achieve the regional GHG reduction targets set by the California Air Resources Board (ARB).

e. The project will promote consistency between the California Transportation Plan 2025, the regional transportation plan and other plans developed by cities, counties, districts, Native American Tribal Governments, and State and Federal agencies in responding to Statewide and interregional transportation issues and needs.

f. The construction of transportation projects will result in both short-term and long-term economic benefits to the Shasta County area and its residents. Transportation projects will indirectly provide for a number of jobs relating to construction and maintenance. The RTP program includes $2.18 billion of transportation investments in the SRTA region. Other California MPO studies have shown that investments in regional transportation projects and programs provide numerous jobs locally (see, for example, SANDAG 2050 RTP-SCS, Technical Appendix 3, Table TA 3.1, average annual increase of 18,500 jobs).

MITIGATION MONITORING AND REPORTING PROGRAM

SRTA finds that a Mitigation Monitoring and Reporting Program (MMRP) for the 2015 RTP has been prepared for the project and has been adopted concurrently with these Findings (Public Resources Code, § 21081.6(a)(1)). The MMRP is described in the following sections.

A. PURPOSE AND INTENDED USE OF THE MMRP

The California Environmental Quality Act (CEQA) requires that an agency adopt a Mitigation Monitoring or Reporting Program (MMRP) prior to approving a project that includes mitigation measures. This MMRP has been prepared in compliance with the requirements of Section 21081.6 of the California Public Resources Code and Sections 15091(d) and 15097 of the CEQA Guidelines. The purpose of this MMRP is to ensure the adopted mitigation measures adopted in the findings of fact for the 2015 RTP are implemented, in accordance with CEQA requirements. The findings adopt feasible mitigation measures to reduce the significant environmental impacts of the 2015 RTP. This MMRP clarifies the process for SRTA and individual project lead agencies to ensure these mitigation measures are implemented, and designates responsibility for implementing, monitoring, and reporting mitigation.

B. MITIGATION MEASURES ADOPTED WITH THE 2015 RTP

The mitigation measures adopted in the 2015 RTP EIR findings are listed in Sections IV and V of these findings. Each mitigation measure identifies the parties responsible for implementation.

C. ENFORCEMENT

CEQA requires mitigation measures to be "fully enforceable" through the use of permit conditions, agreements, or other measures within each Lead Agency's authority (Public Resources Code

21081.6(b)). The adopted mitigation measures are programmatic first-tier mitigation that can and should be implemented by other sponsor agencies during future project-specific design and environmental review. The Lead Agency for each future project is responsible for assuring the project-specific mitigation measures it adopts are enforceable.

D. IMPLEMENTATION AND REPORTING

SRTA shall designate a staff person (Executive Director of SRTA or Designee) to serve as Coordinator with the member agencies (those agencies that would act as Lead Agencies for further environmental review of individual transportation projects) for overall implementation and administration of this MMRP, and its application to future projects. Agencies considering approval of future projects under the 2015 RTP would utilize the Program EIR as a basis in determining potential mitigation measures for subsequent activities. The agencies responsible for implementing the mitigation measures, described as "the individual project lead agency" in the Program EIR, will be the lead agency for the individual future projects under the 2015 RTP. The project lead agency for individual projects will involve one of the following agencies: the cities of Anderson, Redding, and Shasta Lake City, Shasta County, Caltrans, and public transit agencies. The individual project lead agency, which will be the lead agency for individual future projects under the 2015 RTP, will be responsible to monitor mitigation measures that are required to be implemented for the project.

Mitigation measures will typically occur at, or prior to, the following milestones:

- *During individual environmental review.* These are measures that need undertaking during individual project-level environmental review of RTP transportation projects. These measures include items such as assessment of identification of specific project level noise reduction measures, and measures to reduce impacts on biological resources.
- *Prior to issuance of a grading permit.* These are measures that need to be undertaken before earth moving activities begin. These measures include items such as staking the limits of environmentally sensitive areas or vegetation to remain, confirming biological mitigation plans with resource agencies, and including pertinent design details in the project plans.
- *During project construction.* These measures are those that need to occur as the project is being constructed. They include monitoring the construction site for the proper implementation of dust and emission controls, erosion controls, biological protection, and examining grading areas for the presence of cultural materials.
- *Following construction.* These measures apply to project components that would go into effect at completion of the project construction phase, including items such as management or monitoring plans (e.g., revegetation, etc.).

RESOLUTION

RESOLUTION NUMBER:	**15-10**
SUBJECT:	**Adopt Shasta County Regional Activity-Based Travel Demand Model (ShastaSIM v.1.1)**

WHEREAS, the Shasta Regional Transportation Agency (SRTA) is the federally designated Metropolitan Planning Organization (MPO) for the Shasta County region; and

WHEREAS, SRTA is the agency responsible for maintaining a continuing, cooperative, and comprehensive transportation planning process which will result in a Regional Transportation Plan pursuant to 23 U.S.C. 134(a) and (g), 49 U.S.C. §5303(f); 23 C.F.R. §450, and 49 C.F.R. §613; and

WHEREAS, SRTA is the Lead Agency in preparing the Regional Transportation Plan and is required to comply with the California Environmental Quality Act (CEQA) [Cal. Pub. Res. Code § 21000 et seq.]; and

WHEREAS, pursuant to CEQA Guidelines Section 15002(f), an Environmental Impact Report (EIR) is the public document used by a governmental agency to analyze the significant environmental effects of a proposed project, to identify alternatives, and to disclose possible ways to reduce or avoid the potential environmental damage; and

WHEREAS, SRTA is responsible for updating and maintaining the region's travel demand model; and

WHEREAS, the Shasta County regional activity-based travel demand model (ShastaSIM (v.1.1)) is the technical tool used to assist in the updating of the regional transportation plan; and

WHEREAS, SRTA has completed development of the 2015 Regional Transportation Plan and Sustainable Community Strategy using ShastaSIM v.1.1; and

WHEREAS, the modeling methodology and results support SRTA's determination that the Sustainable Community Strategy, if implemented, would meet the California Air Resource Board's greenhouse gas reduction targets, as required under Senate Bill 375; and

WHEREAS, SRTA desires to provide an updated regional activity-based travel demand model for use in the Shasta County region;

NOW, THEREFORE, BE IT RESOLVED that the Shasta Regional Transportation Agency:

1. Approves the updated Shasta County Regional Activity-based Travel Demand Model, ShastaSIM (v.1.1), for use in all travel modeling activities in the Shasta County region; and
2. Authorizes the executive director to make changes to the model and related documentation, as necessary, for approved projects in the region.

PASSED AND ADOPTED this 30th day of June, 2015, by the Shasta Regional Transportation Agency.

Missy McArthur, Chair
Shasta Regional Transportation Agency