

2025 ALPINE COUNTY

REGIONAL TRANSPORTATION PLAN



Mosquito Lake, Alpine County



PRESENTED BY

Green DOT Transportation Solutions

ACKNOWLEDGMENTS



PREPARED FOR

ALPINE COUNTY
LOCAL TRANSPORTATION COMMISSION



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0. EXECUTIVE SUMMARY

0.1. INTRODUCTION

The Alpine County Local Transportation Commission (ACLTC) is the Regional Transportation Planning Agency (RTPA) for Alpine County. LTC's overall mission is to provide transportation planning for the region. To do so, the LTC seeks to plan, communicate, and coordinate with the residents, stakeholders, and partners of Alpine County, the unincorporated communities of Woodfords Community, Alpine Village, Mesa Vista, Markleeville, Kirkwood, Bear Valley and Caltrans to create a balanced regional transportation system. Each RTPA is required by federal law (Title CFR 450.300, Subpart B) and State law (CA Government Code Section 65080) to conduct long-range planning to establish their region's vision and goals, and to clearly identify the region's unique transportation needs.

Creation of the Regional Transportation Plan (RTP) is the principal responsibility of ACLTC. A long-range planning document that acts as the basis for transportation planning in the region over a 20-year planning horizon, the RTP is a living document that is required to be updated every 4-5 years so that Alpine County maintains its eligibility for many of the State's funding programs. Each RTP update calibrates the region's needs based on changing demographics, and political, economic, and environmental conditions.

The RTP focuses on all modes of transportation including roadway, bicycle, pedestrian, transit, freight, aviation, and rail. The RTP is developed through a cooperative process between ACLTC, Caltrans, Tribal governments, stakeholders, and community members. Guidance for RTP development comes from the California Transportation Commission (CTC). The CTC adopted the most recent update to the RTP Guidelines on January 26, 2024, which established the elements and development process required for the RTP. Three elements are required by statute and encompass the framework of the Plan:

The Policy Element (Chapter 3) identifies legislative, planning, and financial and institutional issues and requirements, as

well as provides a regional vision and a series of goals that are upheld by specific objective and policy statements.

- The Action Element (Chapter 4) describes the programs and actions necessary to support the County's vision. The Action Element identifies transportation projected needs for the County over the next 20 years, by each mode.
- The Financial Element (Chapter 5) identifies the current and anticipated available revenue sources to fund transportation projects and programs identified in the Action Element.

0.2. OVERVIEW OF REGIONAL VISION

The overarching regional vision for ACLTC is to maintain a safe, efficient, and convenient countywide transportation system, including roadways, non-motorized systems, transit, freight, air travel, and any other applicable modes that enhance the lifestyle of the residents and meet the travel needs of people and goods moving through and within Alpine County.

Historically, the primary local and regional issues are centered around a lack of funding earmarked to maintain the integrity of existing facilities. Legislative efforts including California's Senate Bill 1 (SB 1) (2017) and the federal Infrastructure Investment and Jobs Act (IIJA) (2021) have greatly increased the funding available to TCTC and local agencies for maintenance and development of the regional transportation network. Through a state gasoline tax and increased vehicle registration fees, SB 1 is a \$52 billion transportation fund that is used exclusively for transportation purposes, including maintenance, repair and rehabilitation of roads and bridges, new bicycle and pedestrian facilities, public transportation, and planning grants. Furthermore, California was allocated \$20.4 billion through the IIJA, of which \$15.57 billion will be utilized for transportation.

The following goals have been established and ordered to reflect the regional importance of improving all modes of transportation in Alpine County:



- Provide and maintain a safe and efficient transportation system for the movement of people and goods within the region and connect to points beyond Alpine County
- Optimize the use of existing interregional and regionally significant roadways to improve safety, prolong functionality, and maximize return-on-investment
- Strategically improve the interregional and regionally significant roadways to keep people and freight moving safely, effectively, and efficiently
- Align financial resources to meet the highest priority transportation needs
- Practice agricultural, environmental, and resource stewardship
- Create vibrant, people-centered communities
- Provide an integrated, multimodal range of practical transportation choices
- Promote public access and awareness in the planning and decision-making process

0.3. OVERVIEW OF ACTION ELEMENT

Over 50 projects have been identified in the Action Element (Chapter 4) of this document including roadway, bridge, transit, bicycle and pedestrian, and aviation projects. The following figures shows the project needs in the region.

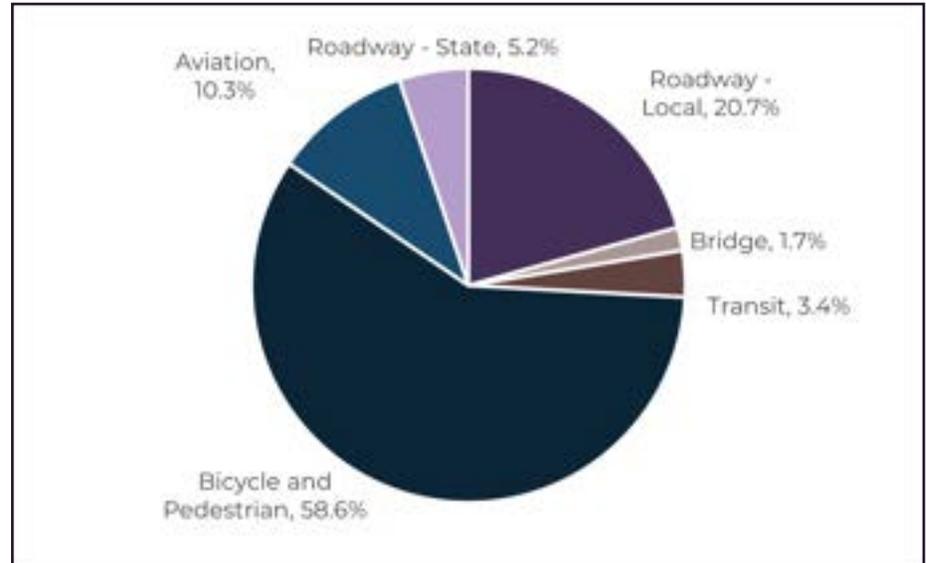


Figure 0.1: Percentage of Projects by Mode

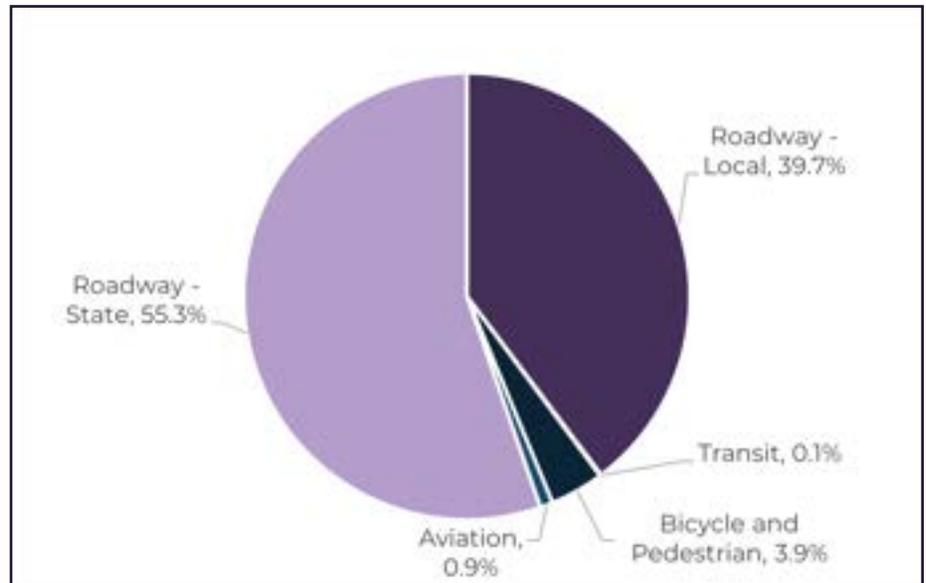
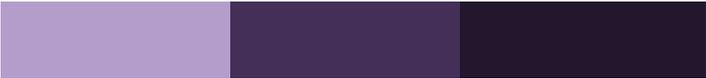


Figure 0.2: Percentage of Funding Needs by Mode



0.4. OVERVIEW OF FINANCIAL ELEMENT

Over \$71 million has been identified in short-range transportation needs in the Alpine County region, and an additional \$1 million has been identified in long-range transportation needs. Table 5.2 in the financial element (Chapter 5) summarizes the funded project needs or funding shortfall for each mode.

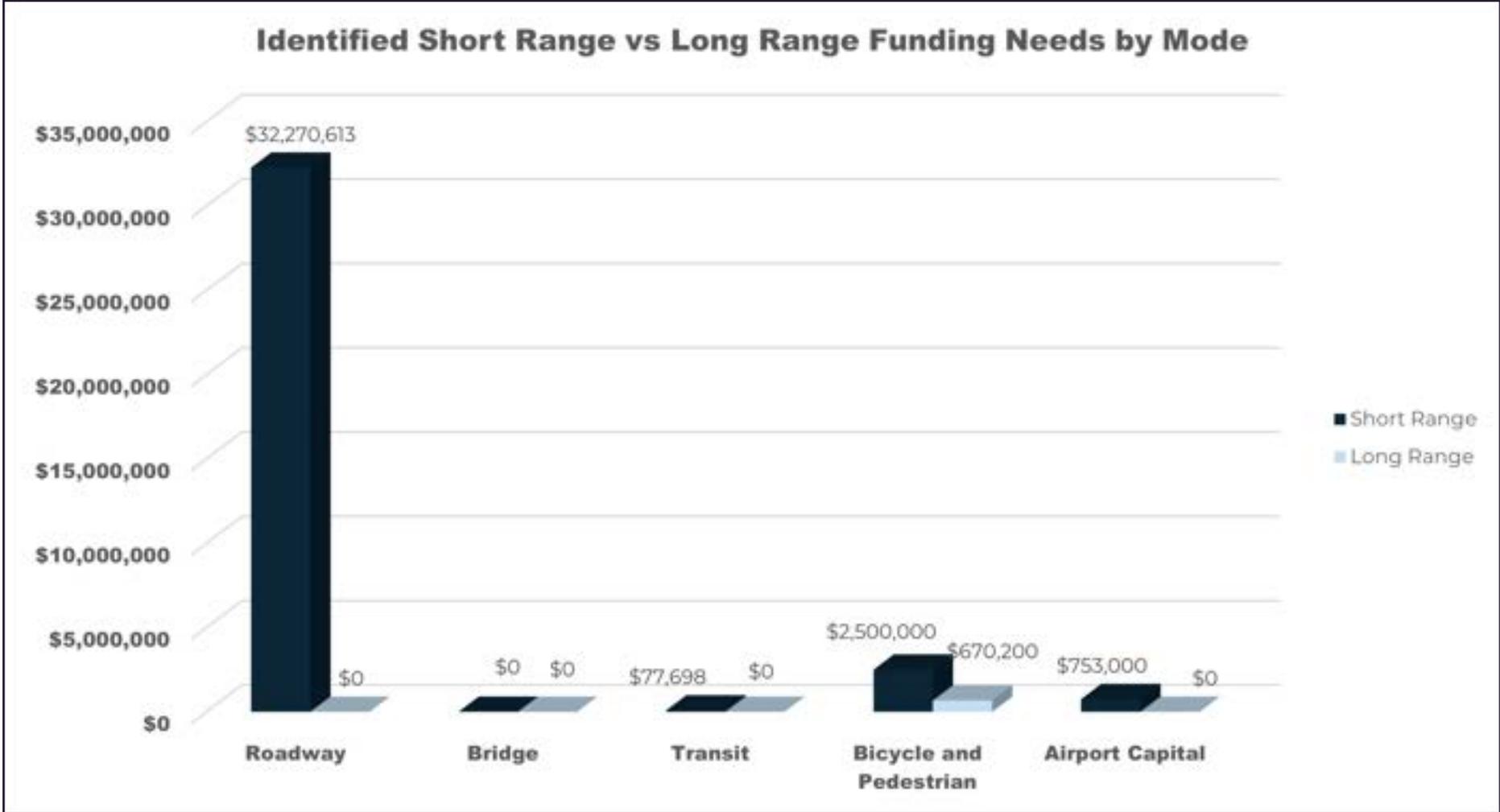


Figure 0.3: Short Range vs Long Range Funding Needs by Mode

1. INTRODUCTION

1.1. ABOUT THE ALPINE COUNTY TRANSPORTATION COMMISSION

The Alpine County Local Transportation Commission (ACLTC) is the Regional Transportation Planning Agency (RTPA) for Alpine County. The ACLTC is comprised of an executive secretary and the five-member board of supervisors representing the various districts in the County. The RTPA is required by California law to adopt and submit an updated Regional Transportation Plan (RTP) to the California Transportation Commission (CTC) and to the California Department of Transportation (Caltrans) every four or five years. The last update to the Alpine County RTP was adopted in 2020.

1.2. ABOUT THE REGIONAL TRANSPORTATION PLAN

1.2.1. PURPOSE OF THE PLAN

The purpose of the Regional Transportation Plan is to provide a vision for the transportation network in the region, supported by transportation goals, for ten-year (2025-2035) and twenty-year (2025-2045) planning horizons. The RTP documents the policy direction, actions, and funding strategies designed to maintain and improve the regional transportation system using the following methods:

- Assessing the current modes of transportation and the potential of new travel options within the region.
- Prioritizing actions that both build climate preparedness and reduce GHG emissions.
- Identifying projected growth corridors and predicting the future improvements and needs for travel and goods movement.
- Identifying and documenting specific actions necessary to address the region's mobility and accessibility needs and establishing short-term and long-term goals to facilitate these actions.

- Identifying and integrating public policy decisions made by local, regional, State, and Federal officials regarding transportation expenditures and financing.

Over the past decade, combatting climate change has emerged as a primary goal for the State of California. Executive Order B-30-15 directs State agencies to take climate change into account in planning and investment decisions and employ full life-cycle cost accounting to evaluate and compare infrastructure investments and alternatives. As stated in the 2024 RTP Guidelines, guiding principles RTPA's should consider for alignment with the best practices in adaptation planning and with state agency efforts include:

1. Take climate change into account in planning and investment decisions, including consideration of:
 - Prioritizing integrated actions that enhance climate preparedness, reduce GHG emissions, and provide multiple benefits;
 - Where possible, choosing flexible and adaptive approaches to prepare for uncertain climate impacts and time-frames;
 - Protecting the state's most vulnerable populations (see the OPR guide, *Defining Vulnerable Communities in the Context of Climate Adaptation*);
 - Leveraging partnerships, collaborative approaches, robust and equitable community and tribal engagement, and equitable decision making and processes to identify and implement both risks and solutions;
 - Prioritizing natural infrastructure solutions, as defined in Public Resources Code 71154(c)(3) (e.g., flood plain and wetlands restoration or preservation, combining levees with restored natural systems to reduce flood risk, and urban tree planning to reduce high heat days); and,



- Recovering from natural disaster impacts in a way that builds future resilience.
- 2. Employ full life-cycle cost accounting for infrastructure projects to evaluate and compare investments and alternatives for climate risk and adaptation needs.
- 3. Reevaluate design and planning standards to address future conditions.

Consider both time horizon-based planning, as well as trigger-based “phased” planning (for more information, see “Adaptation Pathways” section of the APG).

1.2.2. RTP ELEMENTS

RTPs must include the following three elements:

- The **Policy Element** (Chapter 3) describes the transportation issues in the region, identifies and quantifies regional needs, and describes the desired short-range and long-range transportation goals, and pragmatic objective and policy statements. The objective and policy statements shall be consistent with the funding estimates of the financial element.
- The **Action Element** (Chapter 4) describes the programs and actions necessary to implement the plan and assigns implementation responsibilities. The action element may describe all transportation projects proposed for development during the 20-year or greater life of the plan. The action element shall consider congestion management programming activities carried out within the region.
- The **Financial Element** (Chapter 5) summarizes the cost of plan implementation constrained by a realistic projection of available revenues. The financial element shall also contain recommendations for allocation of funds. A county transportation commission created pursuant to the County Transportation Commissions Act (Division 12 (commencing with Section 130000) of the Public Utilities Code) shall be responsible for recommending projects to

be funded with regional improvement funds, if the project is consistent with the regional transportation plan. The first five years of the financial element shall be based on the five-year estimate of funds developed pursuant to Section 14524. The financial element may recommend the development of specified new sources of revenue, consistent with the policy element and action element.

1.3. RTP PLANNING REQUIREMENTS

1.3.1. NEW PLANNING REQUIREMENTS

Since the adoption of the most recent Alpine County RTP in 2020, there has been an update to the RTP Guidelines, adopted January 26, 2024. Key Additions to the 2024 RTP Guidelines for RTPAs include the following items:

1. Alignment with performance measurements and asset management.
2. Goals and policies for the State’s Climate Action Plan for Transportation Investments (CAPTI).
3. Planning Practice Examples in Appendix F.

1.4. CLIMATE CHANGE AND ENVIRONMENTAL QUALITY

The Air Quality Conformity Determination provides an analysis of the emission of pollutants from transportation sources that can be expected to result from the implementation of this plan. This analysis must document that the projects included in the RTP, when constructed, will not emit more pollutants than allowed in the emissions budget set forth in the State Implementation Plan (SIP). As Alpine County is in attainment for all federal air quality standards, this RTP is not subject to transportation conformity requirements.

Environmental documentation is required under the California Environmental Quality Act (CEQA). The environmental documentation states whether there will be an environmental



impact of the plan, and if so, what that impact will be. Depending on the scope of the plan and the local environment, environmental documentation may be a negative declaration, a mitigated negative declaration, or a full environmental impact report (EIR). The ACLTC has preliminarily determined that the Alpine County 2025 RTP will not have significant effects on the environment and therefore expects to adopt a negative declaration, based on the Environmental Initial Study that finds no significant effect on the environment.

1.5. RTP PLANNING PROCESS

1.5.1. PARTICIPATION AND COORDINATION

A creative and inclusive public participation campaign was executed to inform the public about the RTP and include the Alpine County community in the planning process. The community was notified about the RTP and invited to community workshops through a project website and email blasts to stakeholders, a social media campaign through Facebook, and physical flyers posted at various locations throughout the County. Community members were notified of the option to provide feedback online through various channels, including the RTP project website, via a questionnaire promoted through various social media channels, and directly to the project team via email or phone.

The Alpine County Local Transportation Commission does not have an official Public Participation Plan, however the ACLTC supports an equitable public participation campaign. During the development of this RTP, the inclusion of Tribal members was emphasized. Both hard copies and links to the digital RTP questionnaire were distributed through Tribal leadership directly to Hung a Lel Ti members. Self-addressed, stamped envelopes were included with hard copy questionnaires to encourage participation and to make the process convenient. Infographics and flyers inviting the public to community meetings were also posted in the Hung A Lel Ti community and placed in the Tribal community building.

Several goals included in this RTP (Chapter 3, Policy Element), center around equitable planning and creating and equitable transportation network in the region. Tribal coordination and inclusion are both goals identified in this RTP as well as strategies to build a more equitable transportation system. Tribal projects have been identified in **Table 4.6** on page 46. Other projects that will benefit disadvantaged populations in Alpine County include transit projects and bicycle/pedestrian safety projects that will help mobilize low-income, youth, and senior populations, and people with a disability.

Community Workshops

The first community workshop, held on October 3rd, 2024, in Markleeville, CA, introduced the Regional Transportation Plan and presented background information and the plan development process, and a second community workshop was held on October 9th, 2024 in Bear Valley, CA. Community members who attended were solicited for feedback and were given the opportunity to provide input on project lists, recommend new transportation projects, identify transportation issues, and voice their concerns. The meeting included a presentation on the benefits of regional transportation planning, existing conditions and barriers to mobility, and solutions for improving transportation throughout the County. After the presentation, the project team was available to interact with community members and provide more in-depth discussions on transportation issues in the region. The questionnaire was promoted during meetings. For a full list of outreach methods and materials, see **Appendix A: Outreach**.

Community Feedback

Much of the community feedback received during the public outreach process centered on the need for safety and bicycle/pedestrian improvements in the region. Alpine County is a popular destination for hiking, bicycling, and other recreational activities, and many residents take part in these activities.



Consistent with findings from the Alpine Active Transportation Plan (2018), input from the RTP process identified a need for bicycle and pedestrian safety for drivers and active transportation users, shoulder widening improvements, bicycle/pedestrian signage, and other safety improvements. For all identified project needs, see Chapter 4. Bicycle and Pedestrian improvement projects are detailed in **Table 4.3**.

1.5.2. COORDINATION WITH OTHER PLANS AND STUDIES

The goals, policies, and objectives of this RTP are consistent with the goals of the following documents:

- Alpine County General Plan (2009).
- Alpine County Short Range Transit Plan (2016).
- Alpine County Coordinated Public Transit Human Services Transportation Plan (2015).
- Alpine County Active Transportation Plan (2018).
- Alpine County Wayfinding Plan (2014).
- Alpine County Bicycle and Pedestrian Master Plan (2010).
- Alpine County Fleet Analysis for Zero Emissions Vehicles (2019).
- Tribal Transit Planning Survey (2009).
- Tribal Transportation Plan (1995).
- Alpine Airport Layout Plan (1995).
- General Plan Circulation Element, adopted by Alpine County in 2011.
- RTPs of El Dorado, Calaveras, Amador, Tuolumne and Mono Counties in California, and Tahoe MPO/RTPA in Nevada and California.

1.5.3. COORDINATION WITH NATIVE AMERICAN TRIBAL GOVERNMENTS

The CTC Guidelines require agencies preparing the RTP to consult with and consider the interests of Tribal Governments in the development of transportation plans and programs, including funding of transportation projects accessing tribal lands through state and local transportation programs. This requirement has been emphasized in the 2024 RTP Guidelines.

The lone Federally recognized tribal entity within Alpine County is the Hung A Lel Ti Community Council of the Washoe Tribe of Nevada and California. This 2025 RTP update process actively encouraged the participation of the Hung A Lel Ti Community Council. The contact information for the Tribe is listed in **Appendix A: Outreach**. Tribal feedback focused on the need for safety improvements to Diamond Valley Road. The highest-priority Tribal project is a shoulder widening project along Diamond Valley Road at the entrance to the Hung A Lel Ti community. This project would provide paved shoulders in areas with poor sight distance and has been listed in Chapter 4 of this Plan, which summarizes regional project needs (**see Table 4.6 -Tribal Projects**).

2. EXISTING CONDITIONS

2.1. SETTING

Alpine County is located in the Sierra Nevada Mountains in eastern California, approximately 30 miles south of South Lake Tahoe, 85 miles south of Reno, Nevada and 120 miles east of Sacramento, California (see Figure 2.1 on Page 9) Alpine County is one of the smaller counties in California, with a land area equaling approximately 740 square miles. The County is bounded by El Dorado County to the north, Amador, Calaveras, and Tuolumne Counties to the west, Mono County to the south, and Douglas County, Nevada to the east. There are no incorporated cities in Alpine County. Markleeville, Kirkwood, Bear Valley, Woodfords and Alpine Village are the primary communities in the County; the tribal community of Hung A Lel Ti is located near Woodfords.

Alpine County is the least populous county in California with only 1,141 people as of the 2023 Census Bureau estimates. The rural and mountainous nature of the County is ideal for recreational opportunities, including fishing, skiing, hiking, hunting, and bicycling. Almost 95% of the County's land is publicly owned and includes portions of the Mokelumne and Carson-Iceberg Wilderness Areas and Humboldt-Toiyabe, Stanislaus and Eldorado National Forests. Grover Hot Springs State Park is also located in Alpine County, near Markleeville.

2.2. POPULATION TRENDS

2.2.1. HISTORIC POPULATION

Historically, the population in Alpine County steadily increased from 1960 until the year 2000, when it peaked and started to slowly decline. Since 2000, when the estimated Alpine County population was at a peak of 1,208, the population dropped to about 1,175 in 2010.

According to the California Department of Finance (DOF), the total population in Alpine County in 2015 was 1,162. By 2020, the DOF estimated the population to be 1,142, which calculates

to an approximate -0.35 percent annual change on average. Countywide population density in 2020 was estimated to equal 1.5 persons per square mile. The forecasted population of Alpine is expected to decrease an average of 2.8 percent every 5 years from 2020 to 2040.

2.3. DEMOGRAPHICS

2.3.1. AGE OF POPULATION

Alpine County's 65+ age demographic is generally increasing and is expected to reach approximately 32.6% of the total population by 2040 (Table 2.1). Alpine County's 36-64 demographic is expected to decrease 6.2% by 2040. The aging Alpine County population may put strain on the County's dial-a-ride transit system in the coming decades.

Table 2.1: Existing Age of Population

Existing Age of Population						
	Total Pop.	Under 5	Ages 5-19	Ages 20-34	Ages 35-59	Ages 60-74
Alpine County	1515	135	272	195	457	417

Source: 2022 American Community Survey 5-Year Estimates

2.3.2. DEMOGRAPHICS

Alpine County residents are predominately white (71%); however, there are substantial percentages of Native American (19%) and Hispanic (7.4%) populations. The demographics of Alpine County are detailed in Table 2.2 on page 10.

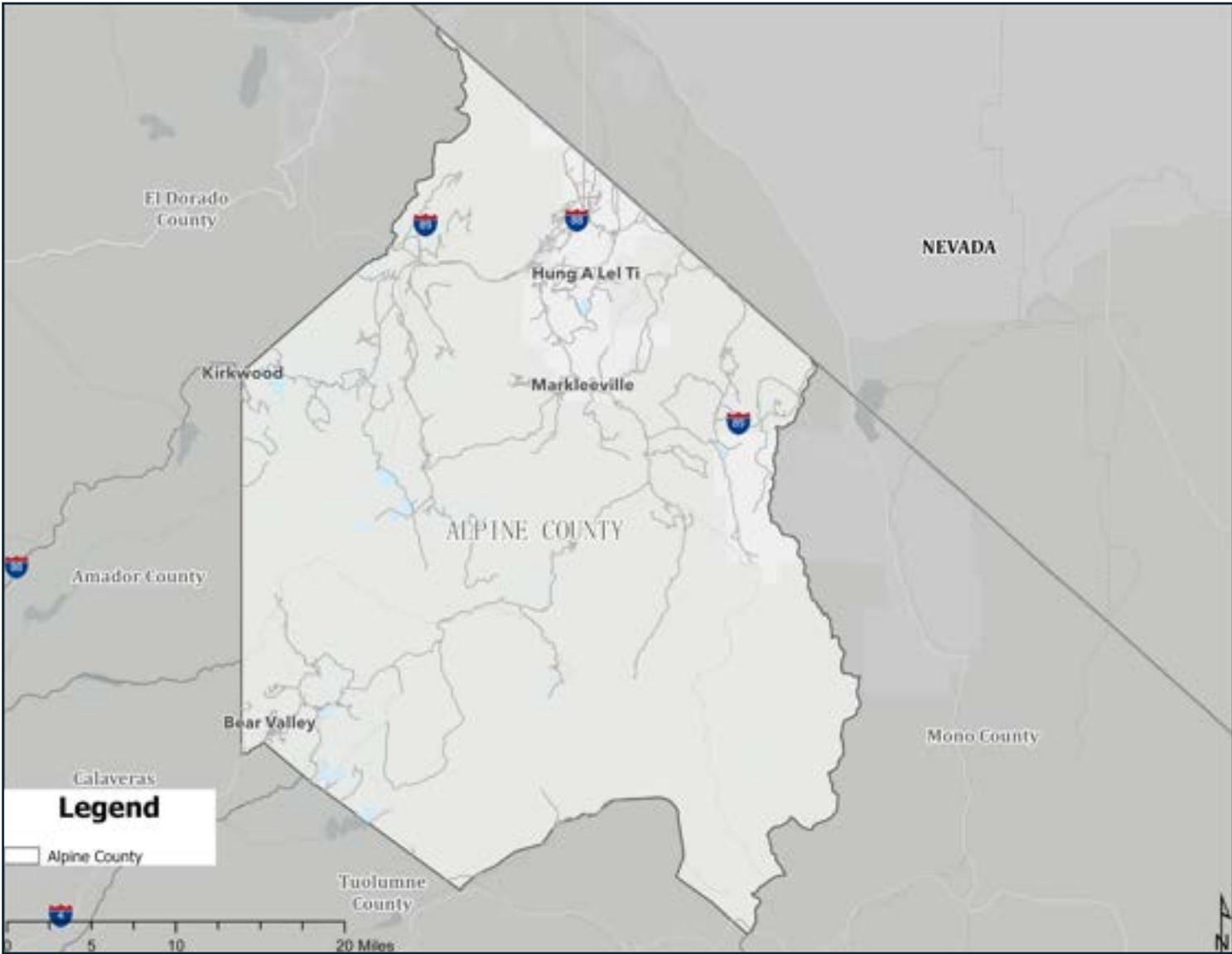


FIGURE 2.1: PROJECT LOCATION MAP



Table 2.2: Race and Ethnicity

Race and Ethnicity		
Race/Ethnicity	Number	Percent
White	801	71.0%
Black or African American	10	0.9%
American Indian and Alaska Native	214	19.0%
Asian	12	1.1%
Native Hawaiian and Other Pacific Islander	-	0.0%
Hispanic or Latino	84	7.4%
Some Other Race	7	0.6%
Total County Population	1,128	100.0%

Source: 2021 American Community Survey 5-Year Estimates

2.4. SOCIOECONOMIC CONDITIONS

2.4.1. INCOME AND POVERTY

The 2018 American Community Survey states that the median household income in Alpine County was \$64,688 in 2018, which is slightly less than the state average of \$71,228. The two most common income brackets in Alpine County are in the \$50,000-\$74,999 and \$100,000-\$149,999 ranges, each accounting for 17.1% of the population. This information is detailed in **Table 2.3**

Table 2.3: Median Household Income

Median Household Income			
Income	Alpine County	California	United States
Less than \$10,000	2.1%	4.8%	5.5%
\$10,000 to \$14,999	2.3%	3.2%	3.7%
\$15,000 to \$24,999	4.8%	5.5%	6.8%
\$25,000 to \$34,999	8.3%	5.9%	7.3%
\$35,000 to \$49,999	7.6%	8.5%	10.7%
\$50,000 to \$74,999	17.9%	13.8%	16.2%
\$75,000 to \$99,999	6.0%	12.0%	12.8%
\$100,000 to \$149,999	23.4%	17.6%	16.9%
\$150,000 to \$199,999	13.1%	10.6%	8.7%
\$200,000 or more	14.5%	18.0%	11.5%
Median Income	\$101,125	\$91,551	\$74,755

Source: 2022 American Community Survey 5-Year Estimates

In Alpine County, 22.5% of the population is below the poverty line. This is a significantly greater percentage than either the State or Country average, which are 14.3% and 14.1% respectively (**Table 2.4**).

Table 2.4: Poverty Level

Poverty Level			
Place	Total Population	Population with Poverty Status	Percent Below Poverty Level
Alpine County	1,423	191	13.4%
California	38,858,130	5,966,132	15.4%
United States	315,037,594	39,133,145	12.4%

Source: 2022 American Community Survey 1-Year Estimates



2.4.2. EMPLOYMENT CHARACTERISTICS

Table 2.5 highlights the employment characteristics of Alpine County from the 2022 ACS 5-Year Estimates, which showed the county had an unemployment rate (2.7%) lower than the state average of (3.4%)

Table 2.5: Employment Characteristics

Employment Characteristics			
Geographic Area	Population 16 years and over	Labor Force Participation Rate	Unemployment Rate
Alpine County	1,216	55.8%	2.7%
California	31,552,708	63.9%	3.4%
United States	269,555,318	63.5%	2.7%

Source: 2022 American Community Survey 5-Year Estimates

2.4.3. EDUCATIONAL ATTAINMENT

Table 2.6 highlights the significant differences between educational attainment between Alpine County, California, and the United States. Alpine County has a lower rate of higher education attainment than California and the United States. Only 12.9% of people 25 and over in Alpine County have a bachelor’s degree or higher, while the state and national rates are 33.3% and 27.6%, respectively.

Table 2.6: Educational Attainment 18 Years and Over

Educational Attainment 18 Years and Over				
Geographic Area	Less than High School	High School	Some College or Associate’s Degree	Bachelor’s Degree or Higher
Alpine County	6.4%	20.6%	36.1%	36.9%
California	14.6%	22.3%	29.0%	34.1%
United States	16.3%	27.3%	30.1%	31.7%

Source: 2022 American Community Survey 1-Year Estimates

2.4.4. MAJOR EMPLOYERS

Government entities and the recreation and tourism industry account for a large portion of employment in Alpine County. Major employers, location and industry are detailed in Table 2.7 on page 12. Most major employers in Alpine County are located in Markleeville, the County seat, with some located in Kirkwood. This list only includes employers based in Alpine County; numerous major employment centers for Alpine residents are located in Carson City, Nevada and surrounding Counties.

Table 2.7: Major Employers

Major Employers		
Employer Name	Location	Industry
Alpine County Chamber-Commerce	Markleeville	Chambers of Commerce
Alpine County Health Dept	Markleeville	Government Offices-County
Alpine County Mental Health	Markleeville	County Government-Public Health Programs
Alpine County School	Markleeville	Schools
Alpine County Sheriff	Markleeville	Government Offices-County
Alpine County Social Svc Dept	Markleeville	Government Offices-County
Alpine County Superior Court	Markleeville	County Government-Courts
Alpine County Unified Sch Dist	Markleeville	Schools
Alpine Learning Ctr	Markleeville	Schools-Pre-School/Kindergarten-Academic
Barton Medical Clinic At	Kirkwood	Medical Centers
Child Protective Svc	Markleeville	Social Service & Welfare Organizations
Cutthroats Bar & Restaurant	Markleeville	Brewers (mfrs)
Diamond Valley Elementary Sch	Markleeville	Schools
Eastern Alpine Fire-Rescue	Markleeville	Fire Departments
Grover Hot Springs State Park	Markleeville	State Parks
Intero Real Estate Svc Inc	Markleeville	Real Estate
Kirkwood Meadows Pubc Utility	Kirkwood	Water & Sewage Companies-Utility
Kirkwood Mountain Resort	Kirkwood	Resorts
Kirkwood Real Estate	Kirkwood	Real Estate
Lake Tahoe Unified School Dist	Markleeville	School Districts
Rite-Passage Adolescent	Markleeville	Schools
Sorensen's Resort	Markleeville	Resorts
Transportation Department	Markleeville	Government Offices-State
US Forestry Dept	Markleeville	Fire Suppression
Womens Center	Markleeville	Sexual Counseling & Therapy

Source: California EDD Labor Market Information, April 2024



2.5. DISADVANTAGED COMMUNITIES

Identifying project locations as disadvantaged communities is important when applying for competitive funding such as through the California Transportation Commission’s Active Transportation Program. According to the Active Transportation Program Cycle 5 guidelines, a disadvantaged community can be defined through the following categories:

- Median Household Income - The Median Household Income is less than 80% of the statewide median based on the most current Census Tract level data from the American Community Survey (ACS). One of Alpine County’s two census tracts qualifies as a disadvantaged community by this measure, as shown in **Table 2.8** and in **Figure 2.2** on page 14.
- CalEnviroScreen – An area identified as among the most disadvantaged 25% in the state according to the CalEPA and based on the California Communities Environmental Health Screening Tool 3.0. Alpine County does not have any disadvantaged communities based on this metric.
- Free or Reduced-Price School Meals - At least 75% of public school students in the project area are eligible to receive free or reduced-price meals (FRPM) under the National School Lunch Program. Applicants using this measure must demonstrate how the project benefits the school students in the project area. No Alpine County schools can be determined as disadvantaged communities using this metric (**see Table 2.9**).
- Other - Projects located within Federally Recognized Tribal Lands (typically within the boundaries of a Reservation or Rancheria), projects located in areas that lack accurate Census or CalEnviroScreen data such as in a small neighborhood or unincorporated area, or regional definition.

Table 2.8: Disadvantaged Communities – Median Household Income

Disadvantaged Communities - Median Household Income (MHI)	
Geographic Area	MHI
Census Tract 100	\$101,125
California	\$91,905
*DAC defined as 80% California’s MHI, or \$73,524	
Source: 2022 American Community Survey 5-Year Estimates	

Table 2.9: Disadvantaged Communities – Free or Reduced-Price Meal Eligibility

Disadvantaged Communities - Free or Reduced-Price Meal Eligibility			
School Name	Enrollment (K-12)	Free/Reduced Eligible (Count)	Free/Reduced Eligible (%)
Alpine County Opportunity	2	2	100%
Bear Valley Elementary	6	1	17%
Diamond Valley Elementary	60	40	67%
*Disadvantaged Community defined as 75% or more of public school students are eligible for free or reduced lunch			
Source: California Department of Education Student Poverty FRPM Data			

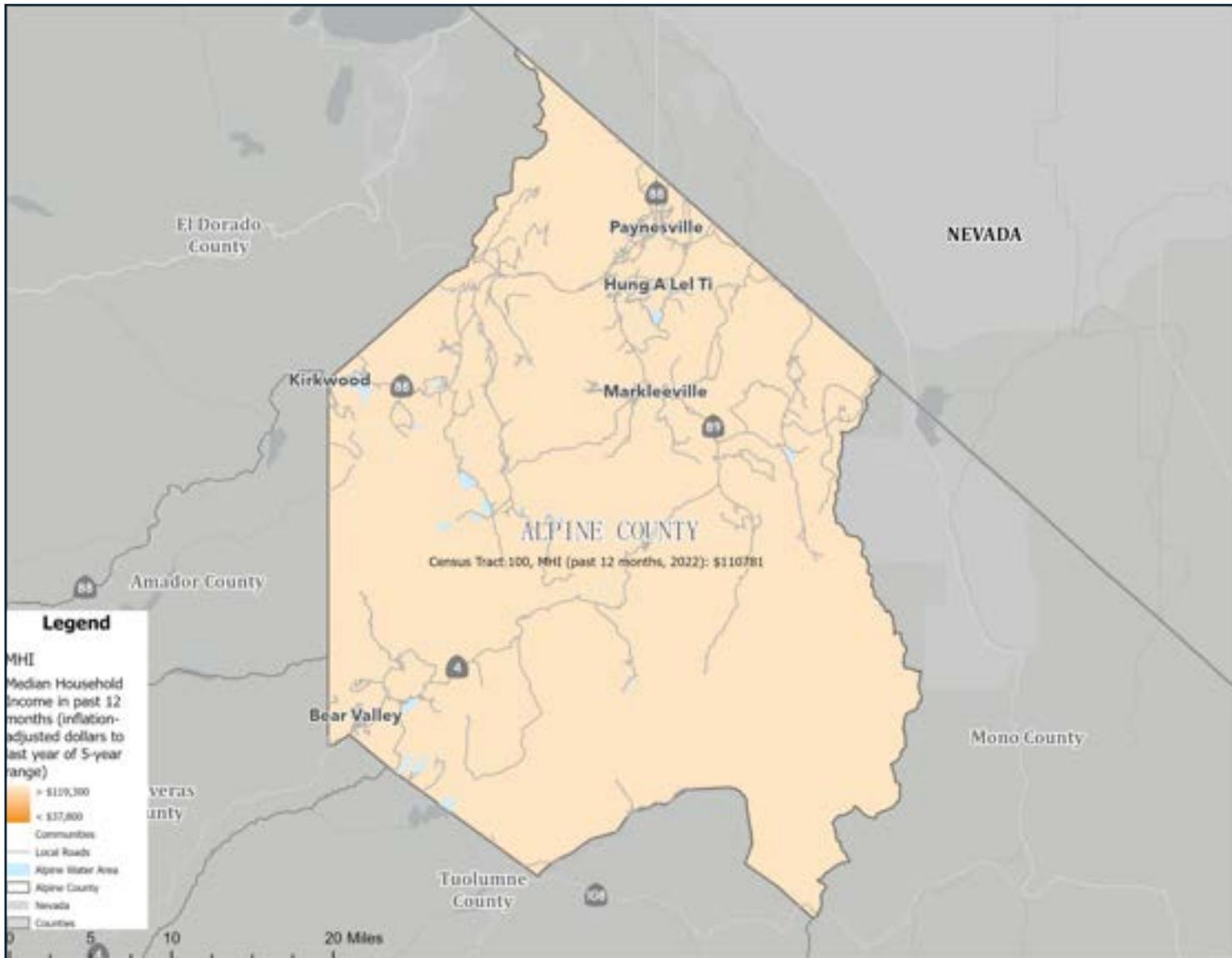


FIGURE 2.2: MEDIAN HOUSEHOLD INCOME MAP



2.6. HOUSING

2.6.1. HOUSING CHARACTERISTICS

According to the 2018 American Community Survey, out of the approximate 1,733 housing units in Alpine County, only an estimated 299 units were occupied. Of the units occupied, approximately 14.5% are owner-occupied and 2.8% are renter-occupied. Alpine County’s vacancy rate of 82.7% is significantly higher than the state or country (**Table 2.10**); the vacancy rate in Alpine County is approximately 10.5 times higher than the State average and 6.8 times higher than the national average.

Table 2.10: Housing Characteristics

Housing Characteristics							
Place	Total Housing Units	Owner Occupied		Renter Occupied		Vacant Units	
		Count	%	Count	%	Count	%
Alpine County	1,617	360	22.3%	75	4.6%	1,182	73.1%
California	14,392,277	7,407,361	51.5%	5,908,461	41.1%	1,076,455	7.5%
United States	145,078,188	84,649,084	58.3%	45,221,844	31.2%	15,207,260	10.5%

Source: 2022 American Community Survey 5-Year Estimates

2.6.2. HOME VALUE

The 2018 median household income in Alpine County of \$66,888 is below the state average of \$71,228 (**Table 2.11**). However, the median home value of Alpine County was \$349,000 according to the 2018 American Community Survey, which is substantially lower than the California median home value of \$475,900. The median household income relative to median home value is greater in Alpine County than the California average.

Table 2.11: Median Home Value

Median Home Value			
Geographic Area	Median Home Value	Median Household Income	Median Household Income as % of Home Value
Alpine County	\$463,900	\$101,125	21.8%
California	\$715,900	\$91,551	12.8%
United States	\$320,900	\$74,755	23.3%

Source: 2022 American Community Survey 5-Year Estimates

2.7. TRANSPORTATION

2.7.1. VEHICLE OWNERSHIP

In Alpine County, 94% of residents have access to one or more vehicles. This is similar to the rates both in California and the U.S. (Table 2.12).

Table 2.12: Vehicle Ownership for Occupied Housing Units

Vehicle Ownership for Occupied Housing Units			
Vehicles Available	Alpine County	California	United States
0	3.4%	6.9%	8.3%
1	31.5%	30.9%	33.2%
2	27.6%	36.5%	36.9%
3+	37.5%	25.7%	21.6%

Source: 2022 American Community Survey 5-Year Estimates

2.7.2. MODE SHARE

Single-occupant vehicles are the primary mode of transportation in Alpine County (66%). A heavy reliance on automobiles may be accredited to the rural nature of the County, low development densities, severe winter weather, and limited options for non-auto modes of travel. Alpine County commuter trips are categorized by the following modes of transportation: driving alone (66%), carpooling (11.5%), walking (7%), public transportation (0.3%), bicycle (0%) and taxicab, motorcycle, or other means (1.4%). An approximate 11.8% of Alpine County residents work from home. See Table 2.13.

Table 2.13: Commuter Mode Share

Commuter Mode Share			
Mode of Travel	Alpine County	California	United States
Drove Alone	62.2%	65.5%	68.7%
Carpool	8.6%	9.8%	8.6%
Public transportation (excluding taxicab)	0.5%	2.7%	3.1%
Walked	2.2%	2.4%	2.4%
Bicycle	2.4%	0.7%	0.5%
Taxicab, motorcycle, or other means	0.0%	1.7%	1.5%
Worked from home	24.1%	17.2%	15.2%

Source: 2022 American Community Survey 5-year Estimates



2.7.3. COMMUTING PATTERNS

As shown in **Table 2.14**, 98 of the 903 employed Alpine County residents work within Alpine County. The remaining work in other counties including El Dorado County and Douglas and Washoe Counties in Nevada.

Table 2.14: Commuting Patterns

		Commuting Patterns						
		Destination						
		Alpine County	Douglas County, NV	El Dorado County	Calaveras County	Alameda County	San Joaquin County	Other
Origin	Alpine County	61	62	30	17	15	13	82
	Douglas County, NV	73	8,372	2,028	-	-	-	7,521
	El Dorado County	-	941	26,873	-	580	986	24,719
	Calaveras County	-	-	307	4,756	143	618	3,775
	Alameda County	-	-	-	-	329,818	38,385	398,987
	San Joaquin County	-	-	-	-	9,358	139,893	109,937

Source: 2021 Longitudinal Employer-Household Dynamics

2.7.4. AIR QUALITY

Air quality is a key factor in the planning and assessment of transportation systems. Both State and federal laws impose strict regulations regarding the effects of transportation projects on air quality. Air quality standards are set at the state and federal level through the California Ambient Air Quality Standards (CAAQS) and National Ambient Air Quality Standards (NAAQS). California Air Resources Board (CARB) is the lead agency in California for climate programs and oversees all air pollution control efforts to maintain air quality standards. CARB sets State area designations for 10 criteria pollutants (ozone, suspended particulate matter (PM10), fine suspended particulate matter (PM2.5), carbon monoxide, nitrogen dioxide, sulfur dioxide, sulfates, lead, hydrogen sulfide, and visibility reducing particles) while the U.S. EPA sets federal area designations for 6 criteria pollutants (ozone, PM10, PM2.5, carbon monoxide, nitrogen dioxide, and sulfur dioxide).

For effective regional management and monitoring of air quality, CARB divides California into 15 air basins. Alpine County is part of the Great Basin Unified Air Pollution Control District (GBUAPCD). Air quality in the GBUAPCD is generally good, due to low population density, a limited number of industrial and agricultural installations and low levels of traffic congestion.

2.8. STREETS AND ROADS

2.8.1. CURRENT SYSTEM

As shown in **Table 2.15** there are a total of 252.46 miles of maintained roads in Alpine County. All maintained roads within the County are classified as rural roads. The County of Alpine owns and operates a total of 147.15 miles of roadway, while the State and U.S. Forest Service own and maintain 89.18 and 16.14 total miles, respectively. Many unmaintained miles of U.S. Forest Service roads exist in Alpine County as well.

Table 2.15: Roadway Mileage and Jurisdiction

Roadway Mileage and Jurisdiction		
Jurisdiction	Lane Miles	% Total Miles
Alpine County	134.03	53%
State Highways	83.71	33%
U.S. Forest Service	36.79	14%
Total	254.54	100%

Source: 2022 California Public Road Data

2.8.2. ROADWAY CLASSIFICATIONS

Figure 2.3 on page 19 displays the major roadways in Alpine County along with their functional classification, as designated by the Federal Highway Administration (FHWA). Roadway classifications are characterized in the following manner:

Arterials

Arterials provide the highest level of service at the greatest speed for the longest uninterrupted distance, with some degree of access control. The minor arterials identified in Alpine County are integrated inter-county roads connecting Alpine County to surrounding counties and cities, including cities and communities in the Bay Area and Central Valley. SR 4 and SR 89 are classified as minor arterials. Other principal arterials in

Alpine County connect with cities with populations 50,000 or greater. SR 88 and SR 89\Luther Pass are classified as other principal arterials.

Collectors

Collectors provide a less highly developed level of service at a lower speed for shorter distances by collecting traffic from local roads and connecting them with arterials. The FHWA further delineates collectors into major and minor collectors. Major collectors connect to arterials or regional destinations, and minor collectors generally connect local roadways to major collectors. Major collectors in Alpine County serve primarily intra-county travel serving smaller communities and countywide trip generators, such as consolidated schools, shopping, and recreational activities, and trip lengths may be comparable to those of minor arterials in low-density areas. Major collectors in Alpine County include Hot Springs Road, Blue Lakes Road, Diamond Valley Road, Emigrant Trail and Foothill Road. Airport Road is the lone identified minor collector in Alpine County.

Local Roads

Local roads provide access to adjoining properties and primary residences. There is virtually no through traffic. Most maintained miles in Alpine County are classified as local roads.

Table 2.16: Road Mileage by Functional Classification

Road Miles by Functional Classification					
	Maintained Mileage	Minor Arterial	Major Collector	Minor Collector	Local Road
Alpine County*	254.54	53.86	36.66	9.61	125.90

Source: California Public Road Data 2022

*Includes all jurisdictions/roads within Alpine County



FIGURE 2.3: ROADWAY CLASSIFICATIONS

2.8.3. PAVEMENT CONDITIONS

Due to limited funds, many roadways have pavement conditions that are in need of repair. The average Pavement Condition Index (PCI) for roadways in Alpine County is 41 (California Local Streets & Roads Needs Assessment 2018 Update). PCI values range from 0-100, and optimally, pavement improvements will occur when PCI levels are at 66 or above. As PCI ratings lower, preventative pavement repair costs increase exponentially. With a PCI of 70 or above, preventative maintenance is relatively inexpensive at about \$4.60-\$4.85/square yard. For PCI between 50 and 70, repair costs go up to about \$18.05-\$18.80/square yard. Once PCI goes below 50, repair costs rise to \$28.45-\$29.73/ square yard and can go up to almost \$70/square yard for roads that deteriorate to the point of needing a total reconstruction.

The PCI in Alpine County is at the high end of the PCI scores deemed “Poor” (PCI of 0-49). As seen in **Table 2.17**, Alpine County’s average PCI rating has consistently dropped slightly since 2012. Once pavement reaches this condition, it tends to deteriorate at a much faster rate and should be addressed as quickly as possible. Many of the projects listed in Chapter 4 are roadway rehabilitation projects and directly address pavement deterioration in the region.

Table 2.17: Pavement Condition Index (PCI)

Pavement Condition Index (PCI)						
Agency	2012 PCI	2014 PCI	2016 PCI	2018 PCI	2020 PCI	Change
Alpine County	68	66	68	68	68	0.00%
Legend	Good to Excellent (71-100)	At Risk (51-70)	Poor (25-50)	Failed (0-25)		

Source: California Statewide Local Streets and Roads Needs Assessment

2.8.4. BRIDGES

According to the 2018 California Streets & Roads Needs Assessment, there are 11 County-maintained bridges within Alpine County (**Table 2.18**). The Needs Assessment reports a Sufficiency Rating (SR) value for each bridge; bridges with values under 80 and above 50 are considered eligible for rehabilitation and bridges with a rating under 50 are considered structurally deficient or functionally obsolete and are eligible for replacement. Of the 11 bridges in Alpine County, 6 have a sufficiency rating below 80 but above 50 and are eligible for rehabilitation and 1 has a sufficiency rating under 50 and is eligible for replacement. The average SR rating for Alpine County bridges has dropped slightly since 2012, and the estimated cost for bridge needs is currently estimated at \$2 million. Bridges on rural roads are essential to the transportation network. Maintaining bridges so that the most direct route can be used to transport goods to the market is essential to being competitive in the current economy.



Table 2.18: Bridge Sufficiency Rating (SR)

Bridge Sufficiency Rating (SR)					
	2012	2014	2016	2018	2020
Number of Bridges	11	11	11	11	10
Average SR	75	75	74	74	68
Structures with SR <= 80	5	5	6	6	4
Structures with SR <= 50	1	1	1	1	3
Total Bridge Need (Millions)	\$1	\$1	\$2	\$2	\$2

Source: California Public Road Data 2012, 2014, 2016, 2018, 2020

2.8.5. TRAFFIC VOLUMES

Traffic volumes provide an indication of the daily or hourly utilization of a given roadway facility. This level of utilization can then be evaluated relative to the ability of the roadway to accommodate the traffic to yield an assessment of the quality of service experienced by the motoring public who use the facility.

Average annual daily traffic (AADT) volumes for Alpine County state highways can be seen in **Table 2.19** on page 22. The source of the existing condition roadway volumes in Alpine County are from the most recently published Caltrans traffic volumes for state highways (2017). As seen in **Table 2.19**, State Route 88 experiences the highest Annual Average Daily Traffic (AADT) in Alpine County. State Route 88 and State Route 89 are the main routes for goods movement, tourism, and local travel in the county. Many sections of State highways experienced no changes in traffic between 2013 and 2017.

Traffic volume forecasts can be seen in **Table 2.20** on page 23. A variable formula was used to forecast average traffic based on the average annual change from 2013-2017. Roadway segments with minor increases or decreases in this time period were projected at a matching constant rate of increase or decrease. Roadways with significant average traffic increases were projected at a higher rate of increase in proportion to traffic increases experienced between 2013 and 2018. Road segments that experienced no change between 2013 and 2017 have been projected to remain constant.

Table 2.19: Historic and Existing Average Annual Daily Traffic (AADT)

Historic and Existing Average Annual Daily Traffic													
Segment	2018		2019		2020		2021		2022		Avg. Change		
	Back	Ahead	Back	Ahead									
Route 4													
CALAVERAS/ALPINE COUNTY LINE	0	1,200	0	1,200	0	1,200	0	1,200	0	1,200		0%	
MOUNT REBA ROAD	1,250	1,200	1,250	1,200	1,250	1,200	1,250	1,200	1,250	1,200	0%	0%	
LAKE ALPINE	1,200	950	1,200	950	1,200	950	1,200	950	1,200	950	0%	0%	
EBBETTS PASS SUMMIT (ELEV. 8730 FEET)	490	490	490	490	490	490	490	490	490	0	0%	0%	
Route 88													
AMADOR/ALPINE COUNTY LINE	0	2,500	0	2,500	0	2,500	0	2,500	0	2,500		0%	
CAPLES LAKE	1,950	2,450	1,950	2,450	1,950	2,450	1,950	2,450	1,950	2,450	0%	0%	
CARSON PASS SUMMIT (ELEV. 8573 FEET)	2,500	2,450	2,500	2,450	2,500	2,450	2,500	2,450	2,500	2,450	0%	0%	
PICKETTS, WEST JCT. RTE. 89	2,200	2,950	2,200	2,950	2,200	2,950	2,200	2,950	2,200	2,950	0%	0%	
WOODFORDS, EAST JCT. RTE. 89	3,450	3,550	3,450	3,550	3,450	2,200	3,450	2,200	3,450	2,200	0%	-8%	
NEVADA STATE LINE	3,700	0	4,700	0	4,100	0	4,450	0	4,450	0	4%		
Route 89													
MONO/ALPINE COUNTY LINE	0	430	0	430	0	430	0	430	0	430		0%	
BULLION, JCT. RTE. 4 WEST	590	890	590	890	590	890	590	890	590	890	0%	0%	
LARAMIE STREET	950	910	950	910	950	910	950	910	950	910	0%	0%	
MARKLEEVILLE, WEBSTER STREET	720	1,700	720	1,700	720	1,700	720	1,700	720	1,700	0%	0%	
PICKETTS, JCT. RTE. 88	3,050	3,200	3,050	3,200	3,050	3,200	3,050	3,200	3,050	3,200	0%	0%	
ALPINE/EL DORADO COUNTY LINE; LUTHER PASS (ELEV. 7740)	3,200	0	3,200	0	3,200	0	3,200	0	3,200	0	0%		
Route 207													
JCT. RTE. 4	0	750	0	750	0	750	0	750	0	750		0%	
MT. REBA SKI RESORT	740	0	740	0	740	0	740	0	740	0	0%		

Source: Caltrans Traffic Census 2018, 2019, 2020, 2021, 2022



Table 2.20: Forecasted Average Annual Daily Traffic (AADT)

Forecasted Average Annual Daily Traffic												
Segment	Projected Growth Rate		2027		2032		2037		2042		2047	
	Back	Ahead	Back	Ahead	Back	Ahead	Back	Ahead	Back	Ahead	Back	Ahead
CALAVERAS/ALPINE COUNTY LINE	0%	0%	0	1200	0	1200	0	1200	0	1200	0	1200
MOUNT REBA ROAD	0%	0%	1250	1200	1250	1200	1250	1200	1250	1200	1250	1200
LAKE ALPINE	0%	0%	1200	950	1200	950	1200	950	1200	950	1200	950
EBBETTS PASS SUMMIT (ELEV. 8730 FEET)	0%	0%	490	0	490	0	490	0	490	0	490	0
AMADOR/ALPINE COUNTY LINE	0%	0%	0	2500	0	2500	0	2500	0	2500	0	2500
CAPLES LAKE	0%	0%	1950	2450	1950	2450	1950	2450	1950	2450	1950	2450
CARSON PASS SUMMIT (ELEV. 8573 FEET)	0%	0%	2500	2450	2500	2450	2500	2450	2500	2450	2500	2450
PICKETTS, WEST JCT. RTE. 89	0%	0%	2200	2950	2200	2950	2200	2950	2200	2950	2200	2950
WOODFORDS, EAST JCT. RTE. 89	0%	-5%	3450	1702	3450	1317	3450	1019	3450	789	3450	610
NEVADA STATE LINE	3%	0%	5159	0	5980	0	6933	0	8037	0	9317	0
MONO/ALPINE COUNTY LINE	0%	0%	0	430	0	430	0	430	0	430	0	430
BULLION, JCT. RTE. 4 WEST	0%	0%	590	890	590	890	590	890	590	890	590	890
LARAMIE STREET	0%	0%	950	910	950	910	950	910	950	910	950	910
MARKLEEVILLE, WEBSTER STREET	0%	0%	720	1700	720	1700	720	1700	720	1700	720	1700
PICKETTS, JCT. RTE. 88	0%	0%	3050	3200	3050	3200	3050	3200	3050	3200	3050	3200
ALPINE/EL DORADO COUNTY LINE; LUTHER PASS (ELEV. 7740)	0%	0%	3200	0	3200	0	3200	0	3200	0	3200	0
JCT. RTE. 4	0%	0%	0	750	0	750	0	750	0	750	0	750
MT. REBA SKI RESORT	0%	0%	740	0	740	0	740	0	740	0	740	0

Source: Caltrans Traffic Census 2018, 2019, 2020, 2021, 2022

2.8.6. VEHICLE MILES TRAVELED

Vehicle miles of travel (VMT) is a general but robust measure of vehicle activity. It measures the extent of utilization a transportation network experiences by motorists. Although it is not a good indicator of congestion, it is a great indicator of overall vehicle activity and identifies bottlenecks or high delay “hotspot” locations. VMT is commonly applied on a per-household or per-capita basis and is a primary input for regional air quality analyses and for developing VMT rates for safety analysis. Per Senate Bill 743 (Steinberg, 2013), VMT is now the basis for transportation impact identification and mitigation under the California Environmental Quality Act (CEQA). However, jurisdictions must also ensure consistency with current land use plans, some of which still utilize Level of Service as a primary metric. Future Regional Transportation Plan updates will be consistent with the County General Plan and will promote new developments adjacent to existing developments in order to reduce VMT and travel times.

VMT data is annually reported as part of the Federal Highway Performance Monitoring System (HPMS) program. The HPMS program uses a sample-based method that combines traffic counts stratified by functional classification of roadways by volume groups to produce sample based geographic estimates of VMT. HPMS VMT estimates are considered “ground truth” by the 1990 Federal Clean Air Act Amendments (November 15, 1990). HPMS VMT estimates are used to validate baseline travel demand models and to track modeled VMT forecasts over time. HPMS VMT estimates are reported for each county by local jurisdiction, state highway use, and other state/federal land roadways, e.g. State Parks, US Bureau of Land Management, US Forest Service, US Fish and Wildlife Service. HPMS VMT estimates are sample based. Due to smaller sampling requirements at the sub-county level of geography and in federal air quality attainment areas, desired 90/10 confidence level estimates of VMT are typically not attained in more rural areas of the state.

Estimates of countywide VMT for Alpine County from 2014 to 2018 are provided in **Table 2.21**. As shown, some roadway jurisdictions such as State Highways and County roadways have minor changes between 2014 and 2018. However, other jurisdictions such as the State Parks Service roads and Bureau of Indian Affairs have had much more significant changes. Dramatic changes in VMT within the unincorporated County and on State/Federal/Tribal owned roadways can be attributed to roadway mile inventory changes (e.g., new or abandoned roadways).

Table 2.21: Historic and Existing Vehicle Miles Traveled (VMT)

Historic and Existing Vehicle Miles Traveled (VMT)					
Place	Lane Miles	2019 Daily VMT	2020 Daily VMT	2021 Daily VMT	2022 Daily VMT
Alpine County	134.03	41.35	42.88	55.23	52.84
State Highways	83.71	254.93	258.57	259.91	260.43
U.S. Forest Service	36.79	2.16	3.32	8.40	9.71

Source: California Public Road Data 2019, 2020, 2021, and 2022

Vehicle Miles Traveled have been projected over the lifetime of the RTP in **Table 2.22**. A variable formula was used to forecast VMT based on the average annual change from 2014-2017. Overall, VMT on roadways in Alpine County is not expected to change drastically between 2020 and 2040.



Table 2.22: Forecasted Vehicle Miles Traveled (VMT) Per Capita

Forecasted Vehicle Miles Traveled (VMT)					
Place	2022 Daily VMT	2027 Daily VMT	2032 Daily VMT	2037 Daily VMT	2042 Daily VMT
Alpine County	52.84	56.09	58.95	61.96	65.12
State Highways	260.43	276.45	290.55	305.37	320.95
U.S. Forest Service	9.71	10.31	10.83	11.39	11.97

Source: California Public Road Data 2019, 2020, 2021, and 2022

2.8.7. TRUCK TRAFFIC

Table 2.23 displays truck Average Annual Daily Traffic (AADT) volumes within Alpine County, as well as the percentage of total traffic is comprised of truck traffic. State Route 88 and 89 experience the highest truck AADT in Alpine County. In the segments of State Route 89 that experience the most truck traffic, trucks make up approximately 13.3% of the total vehicles on the road. From 2014 to 2018, State Routes 4, 88 and 207 have not significantly changed in total truck AADT levels; State Route 89 is the only highway with significant increase in truck traffic.

Table 2.23: Truck Traffic as Percentage of Total Traffic

Truck Traffic as a Percentage of Total Traffic					
Segment	2018	2019	2020	2021	2022
Route 4					
CALAVERAS/ALPINE COUNTY LINE	2.0%	2.0%	2.0%	2.0%	2.0%
Route 88					
PICKETTS, WEST JCT. RTE. 89	7.7%	7.9%	7.9%	7.9%	7.9%
PICKETTS, WEST JCT. RTE. 89	7.9%	7.7%	7.7%	7.7%	7.7%
NEVADA STATE LINE	7.4%	7.4%	7.4%	7.4%	7.4%
Route 89					
MONO/ALPINE COUNTY LINE	4.8%	4.8%	4.8%	4.8%	4.8%
BULLION, JCT. RTE. 4 WEST	5.4%	5.4%	5.4%	5.4%	5.4%
BULLION, JCT. RTE. 4 WEST	5.4%	5.4%	5.4%	5.4%	5.4%
PICKETTS, JCT. RTE. 88	13.3%	13.3%	13.3%	13.3%	13.3%
PICKETTS, JCT. RTE. 88	13.3%	13.3%	13.3%	13.3%	13.3%
Route 207					
JCT. RTE. 4	6.0%	6.0%	6.0%	6.0%	6.0%
MT. REBA SKI RESORT	3.2%	3.2%	3.2%	3.2%	3.2%

Source: Caltrans Traffic Census 2018, 2019, 2020, 2021, 2022.

2.8.8. SAFETY

Table 2.24 details a five-year collision history in the County of Alpine. The majority of collisions (approximately 64%) occurred on State Route 88. From 2015 to 2019, 12 of the total 117 collisions were fatal. For more detailed location data, please refer to the most current Statewide Integrated Traffic Records System managed by the California Highway Patrol (<http://iswitr.chp.ca.gov/Reports/jsp/userLogin.jsp>). See **Figure 2.4** on page 27 for a map of collisions in Alpine County.

Table 2.24: Collision History

Collision History				
Route	Total Collisions	Fatal Collisions	Pedestrian Collisions	Bicycle Collisions
2019				
SR 4	9	1	0	0
SR 88	15	0	0	0
SR 89	3	0	0	0
SR 108	0	0	0	0
2019 Total	27	1	0	0
2020				
SR 4	3	0	0	1
SR 88	11	0	0	0
SR 89	5	0	0	0
SR 108	0	0	0	0
2020 Total	19	0	0	1

Table 2.24 Continued

Route	Total Collisions	Fatal Collisions	Pedestrian Collisions	Bicycle Collisions
2021				
SR 4	4	0	0	3
SR 88	5	0	0	0
SR 89	7	0	0	0
SR 108	0	0	0	0
2021 Total	16	0	0	3
2022				
SR 4	4	1	0	0
SR 88	5	0	0	0
SR 89	4	1	0	0
SR 108	0	0	0	0
2022 Total	13	2	0	0
2023				
SR 4	6	0	0	1
SR 88	21	0	1	0
SR 89	6	0	0	0
SR 108	0	0	0	0
2023 Total	33	0	1	1

Source: Berkeley TIMS.

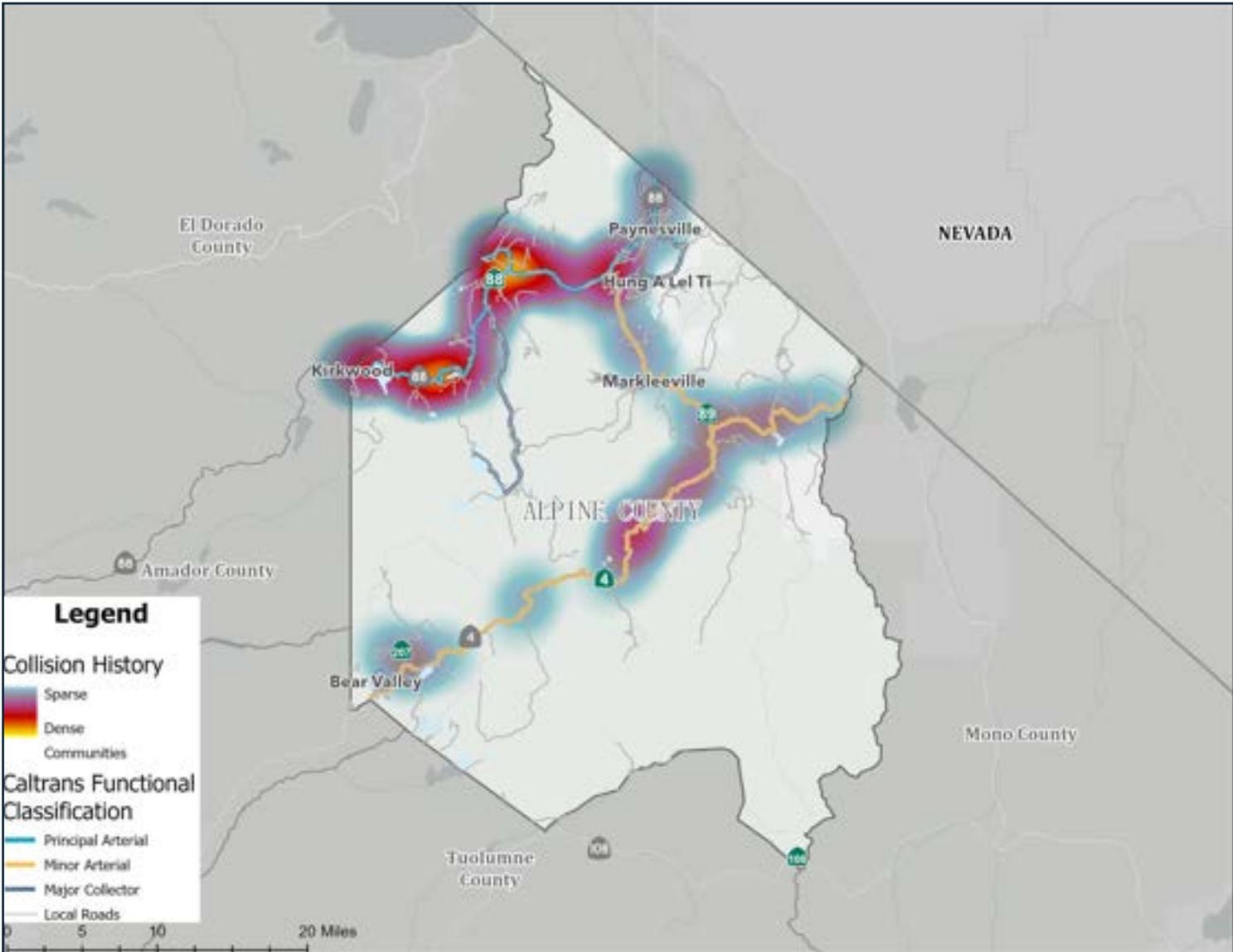


FIGURE 2.4: HEATMAP OF COLLISIONS

2.9. PUBLIC TRANSIT

The Dial-A-Ride program is for the general public and persons needing transportation assistance and is provided by Alpine County Community Development. Dial-A-Ride service is by appointment only and provides rides to and from Markleeville, Woodfords, Hung A Lel Ti, Minden, Gardnerville, Dresslerville, Kirkwood, South Lake Tahoe, and the Carson City Area. The Alpine Dial-A-Ride program does not service the Bear Valley area. This service operates Monday through Friday from 8:00am to 5:00pm and costs \$2.00-\$5.00 for a one-way fare and \$4.00-\$10.00 for round trip fare, depending on the service area and trip length. Dial-A-Ride provides special needs service for medical and social security needs only on Thursdays, and includes trips to and from Reno, Truckee, Placerville, and Sacramento. Other destinations that can be accomplished within a 12-hour period may be approved of the Community Development Director. Special needs services should be reserved at least 7 days in advance.

Passengers requesting Dial-A-Ride service should book appointments 24 hours in advance and are booked on a first come, first served basis. Inclement weather may cause delays and/or cancellation of services until conditions improve. Dial-A-Ride will not operate on roads where snow or icy conditions are present or where chain controls are in place. According to Alpine County Transit Financial Transaction Reports, Dial-A-Ride ridership has increased from 2016-2018, detailed in **Table 2.25**

2.9.1. RIDERSHIP

Table 2.25: Passengers per Revenue Hour

Passengers per Revenue Hour						
Transit Mode	2019	2020	2021	2022	2023	% Change
Bus	0.7	0.7	0.5	0.6	0.6	-14.29%

Source: National Transit Database Agency Profiles 2019, 2020, 2021, 2022, and 2023.

2.9.2. SOCIAL SERVICE TRANSPORTATION PROVIDERS

The purpose of the Social Services Transportation Advisory Council (SSTAC) is to identify the County's unmet transit needs through public input from a broad representation of service providers and public members representing the elderly, people with a disability, and persons of limited means. There are currently no social service providers offering transportation services to residents in Alpine County; however, Dial-A-Ride is utilized as a means for special needs, medical, and social security services on Thursdays. Dial-A-Ride ridership count has increased from 2016-2018, and the elderly population, 65+, of Alpine County (approximately 28%) is expected to continue to grow. With a growing elderly population, Dial-A-Ride services will most likely see a steady demand for their transportation services.

2.9.3. CONNECTIONS TO OTHER TRANSIT SYSTEMS

Foothill Rideshare Program

The Foothill Rideshare Program was a joint effort between Alpine County, Tuolumne County, Calaveras County, and Amador County to promote residents' use of intra-county carpooling. Due to lack of need and the cost of maintaining the program, the Foothill Rideshare is no longer in service, and no alternatives are being considered.

Amtrak

Amtrak Bus provides service in South Lake Tahoe, approximately 20 miles north of Alpine County. This station provides a bus connection to Amtrak's nationwide rail and bus network. This location is accessible via the Dial-A-Ride service.



Greyhound

A private operator that provides intercity bus service with routes throughout California and the U.S. Greyhound provides service within the region in Carson City and Reno in Nevada, and Truckee, California. These locations are accessible via the Dial-A-Ride service.

Carson Valley Airporter Service

Although the Carson Valley Airporter Service does not operate in Alpine County, it does provide regular service from Minden and Gardenville in Nevada to the Reno-Tahoe Airport. The Dial-a-Ride service may be used to connect locations throughout Alpine County to Minden.

2.9.4. ZERO-EMISSION BUSES

Innovative Clean Transportation Regulation Overview

CARB’s Innovative Clean Transit (ICT) regulation sets a goal for public transit agencies in California to transition from conventional buses to zero-emission buses (ZEBs) by 2040. The regulations require a gradual increase in an agency’s percentage of bus procurements to be ZEBs. For Small Transit agencies, 25% of all new bus purchases must be zero-emission by 2026 and 100% by 2029. Agencies can request waivers that allow purchase deferrals in the event of economic hardship or if zero emission technology cannot meet the service requirements of a given route.

Challenges in Alpine County

ACLTC faces several challenges in converting to an all-ZEB fleet, especially in accordance with CARB ICT regulations, purchasing requirements and schedule. Considerable funding will be required to accomplish the ZEB transition, which presents one significant challenge. ZEBs are more expensive to purchase than conventional vehicles and new infrastructure will be required to operate and maintain the vehicles. Continued

financial support at the local, state, and federal levels to offset the capital cost of this new infrastructure is imperative.

Beyond cost barriers, ACLTC must also ensure that available zero emission technologies can meet basic service requirements of the existing service routes and potential travel delays like extreme weather and construction. Currently, ACLTC is planning for a transition based on existing service and ZEB technology. Due to range limitations, current battery–electric technology may present a challenge for the current transit service. Fuel cell electric buses have a higher range, but their capital and operation costs are substantially more.

ACLTC will also need to consider resiliency as ZEBs are deployed. Battery–electric buses rely on electric charging, where a power outage at the depot could mean that providing scheduled service for those who depend on it might become impossible. In addition, in recent years, Alpine County has experienced an increase in power outages year-round due to storms, high winds, heat waves, and wildfires. If these trends continue, as expected, this will only heighten the need for ACLTC to have a strategy to charge buses during power outages.

2.10. ACTIVE TRANSPORTATION

2.10.1. BIKEWAYS

Alpine County State highways are extremely popular among cyclists due to the relatively low traffic volumes and impressive scenery. The annual ‘Death Ride’ event, which occurs every July and attracted just over 2,160 registered bikers in 2019, is based in Markleeville. Bikers ride through 129 miles of Alpine County roadway and climb 15,000 feet through Monitor Pass, Ebbetts Pass, and Carson Pass. Participants often train within Alpine County in the months leading up to the ride. Despite the high usage of the highways in Alpine County for bicycling, few separate recreational facilities exist for pedestrians and bicyclists.



The Lake Alpine Trail is an important bicycle/pedestrian facility in Alpine County, for tourists and residents alike. The Lake Alpine Trail is a paved pathway that circles Lake Alpine from the east end of the lake to Silver Tip Campground. The path continues as an unpaved trail from the campground into Bear Valley.

With Bear Valley Mountain Resort and Kirkwood Ski Resort offering bike rentals in the summer, numerous trails, and a bike park at Kirkwood, bicycling has become a staple summer recreational and tourist activity. Alpine County currently has a Bicycle and Pedestrian Master Plan, with a goal to improve overall bicycle and pedestrian safety.

2.10.2. PEDESTRIAN ACCESS AND TRAILS

There are few pedestrian-designated facilities in Alpine County. SR 89 through Markleeville does not have any sidewalks. Pedestrian facilities in the County, including sidewalks, are limited. In addition, signs warning of motorized traffic of pedestrians exist in Kirkwood and Bear Valley. Kirkwood Mountain Resort creates temporary pedestrian aisles with cones and traffic sticks during winter conditions. These temporary aisles connect parking, roads, and resort access points.

2.10.3. BICYCLE AND PEDESTRIAN RECOMMENDATIONS

The Alpine County Local Transportation Commission is committed to expanding bicycle and pedestrian facilities in the region where feasible. Projects including sidewalks and curb ramps in population centers such as Markleeville, Woodfords, and Bear Valley will be prioritized, and grant funding will be pursued when possible. In addition, the ACLTC will look for opportunities to coordinate bicycle and pedestrian safety and training. Bicycle and Pedestrian Safety Activities will include safety seminars for motorists and non-motorists, bicycle training education programs that teach students and residents bicycle safety, basic bicycle maintenance, and rules of the road are recommended. Bike rodeos are bicycle skill events where

bicyclists, particularly children, are provided the opportunity to practice and develop skills to ride a bicycle safely. The rodeos include skills activities, exhibits, games, and an evaluation and feedback component. Interactive events engage children in a controlled environment and make them more confident bicyclists/pedestrians. Educational programs encourage children to safely use active transportation on their own.

2.11. GOODS AND FREIGHT MOVEMENT

The main routes for truck traffic and goods movement in Alpine County are SR 89 and SR 88, respectively. SR 89 is a major connector for mountain communities in the Sierras, and SR 88 connects Stockton and the surrounding central valley with western Nevada. Truck traffic through Alpine County is not expected to increase rapidly in the future, as much of the truck traffic traveling from California to Nevada utilizes Interstate 80 to the north of the County.

2.11.1. GOODS MOVEMENT ISSUES IN ALPINE COUNTY

The following issues relating to goods and freight movement in Alpine County have been identified:

- Winter closures – State Route 89 closes from Monitor Pass to US 395 during severe winter weather events and occasionally closes over Luther Pass. Closures at Luther Pass due to winter weather interfere with efficient goods movement to, within, and through Alpine County, as Luther Pass at the junction SR 88/El Dorado County Line has the heaviest truck volumes in the region (see **Table 2.24**).
- Pavement condition – Large trucks have a proportionately greater impact on pavement condition due to heavier weights.



- Conservation - The key pressures on conservation targets for all freight generators within the region include mining and quarrying facilities, livestock ranching, farming, and logging.

Recommendations

In order to adequately prepare for future goods and freight movement in the region, additional studies and strategies are recommended to ensure that Alpine regional roadways have the capacity to efficiently and safely support goods movement. The following recommendations have been identified:

- Currently, the Alpine region utilizes data collected by and presented in the California Statewide Local Streets and Roads Needs Assessment Report to monitor pavement conditions, prepared every 2 years. The California Freight Mobility Plan (CFMP) 2020 recommends the collection and utilization of Weigh-In-Motion (WIM) data to identify appropriate pavement strength to accommodate trucking over the duration of anticipated useful life of the pavement improvements. WIM devices capture and record axle and gross vehicle weights of moving vehicles, as well as other data including vehicle classification, speed, and overall length. This data is subsequently used to inform pavement studies, highway monitoring and capacity studies, accident rate calculations, and load factor calculations for structures.
- The Alpine County region will rapidly need to prepare for vehicle electrification. In addition to personal vehicles and the transit fleet, Alpine County will need to prepare roadways to address sustainable freight transition. It is recommended that further planning efforts are needed to prepare for and implement Zero Emissions Vehicle (ZEV) infrastructure readiness, electric vehicle plug-in stations, and other planned improvements that would benefit economic outcomes while reducing the impacts of climate change on the region.

- It is recommended that a separate regional agricultural study and other planned studies that could assist in the public decision-making process are prepared. These studies for improving regional goods resiliency, preservation, and conservation on key natural resources would provide an explanation for how the region plans to address and manage future growth.
- It is recommended that an additional study to describe how the impacts of tourism and recreation affect freight demand for further regional economic/environmental studies are prepared by the region.
- Other recommendations to support goods and freight movement in the region include expanding the truck parking network and coordination of roadway planning relative to future planned developments and areas of natural resource development.

2.12. AVIATION

Alpine County owns and operates one public use general aviation airport, Alpine County Airport. The Alpine County Airport is located approximately 3 miles north of Markleeville, approximately 65 miles south of the Reno-Tahoe International Airport, and approximately 130 miles east of Sacramento International Airport. It is the only state designated general aviation facility within a 20-mile radius. Alpine County Airport Facilities include one unlit runway. According to the Alpine County General Plan, the airport serves approximately 100 aircraft operations annually. See **Figure 2.5** on page 32.

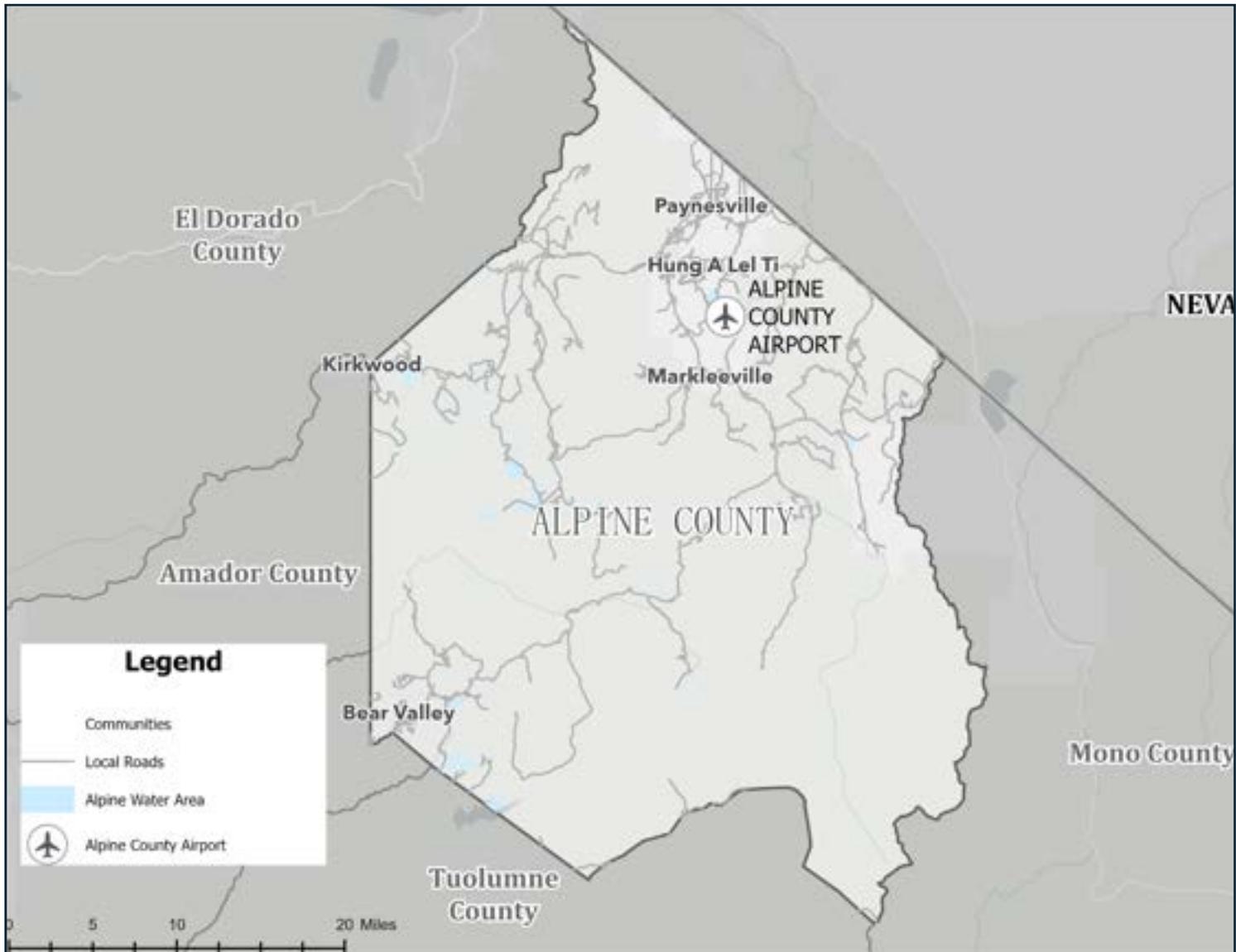


FIGURE 2.5: ALPINE COUNTY AIRPORTS

3. POLICY ELEMENT

The Policy Element identifies legislative, planning, financial, and institutional issues and requirements within the Alpine region. Consistent with the 2024 RTP Guidelines, the Policy Element is intended to:

- Describe the transportation issues in Alpine as a region
- Identify regional needs for both short-term (0-10 years) and long-term (11-20 years) planning horizons
- Maintain internal consistency with the Financial Element and fund estimates.

3.1. TRANSPORTATION ISSUES

3.1.1. FEDERAL ISSUES

Federal transportation policy direction and programming provides some of the direction through which transportation planning decisions are made at the State, regional and local levels. The Federal Highway Bill is updated every 5 years to reflect current programs.

Infrastructure Investment and Jobs Act (IIJA)

On November 15, 2021, President Joe Biden signed the Infrastructure Investment and Jobs Act (IIJA), also known as the Bipartisan Infrastructure Law (BIL). The IIJA allocated \$550 billion for new initiatives repairing and upgrading U.S. infrastructure. The bill allocated \$550 billion in funding for new initiatives to repair roads and bridges, improve public transit, and deliver clean drinking water and high-speed internet, among other provisions. It also reauthorized federal spending on long-standing infrastructure programs funding highway maintenance, electrical grid upgrades and water reclamation projects, among others, through 2026.

3.1.2. STATEWIDE ISSUES

California is dedicated to reducing GHG emissions through sustainable land use and transportation planning. In 2016, California SB 32 passed, which codifies a 2030 GHG emissions reduction target of 40% below 1990 levels. The transportation sector accounts for 37% of California's goals of GHG emissions reductions, such as SB 743 (described later), which has an impact on the RTP Guidelines and RTP development process. In 2017, transportation funding increased with California SB 1, a \$52 billion transportation program funded by increased State gas taxes and vehicle license fees.

Senate Bill 32 and the California Transportation Plan

SB 32 states that GHG emissions must be reduced to 1990 levels from current levels by 2030, and 80% below the 1990 levels by 2050 as described by AB 32 and Executive Order S-03-05. CTP 2050 is a roadmap for making equitable, transparent, and transformable transportation decisions in California. The CTP 2050 is a long-range policy plan that provides a collective vision for major metropolitan areas, rural areas, and State agencies to achieve critical statewide goals, policies, and recommendations to guide transportation decisions and investments in the twenty-first century that meet future multimodal mobility needs and reduce GHG emissions.

Senate Bill 1 and the Impact on the Transportation Funding

On April 28, 2017, California Governor Gavin Newsom signed Senate Bill 1 which dramatically increased funding for transportation projects in the State.

SB1, the \$52 billion transportation plan funded by vehicle license fees and increased taxes on gasoline and diesel fuel, included a new fee for vehicles that do not use fossil fuels, but do use public roads. This fund is used exclusively for transportation purposes, including maintenance, repair, and rehabilitation of roads and bridges, new bicycle and pedestrian facilities, public transportation, and planning grants.



SB 1 created the following new and augmented programs that fall under CTC guidelines:

- Active Transportation Program (ATP) – \$100 Million added annually for bicycle and pedestrian projects
- Local streets and roads – \$1.5 billion added annually for road maintenance and rehabilitation
- State Highway Operation and Protection Program (SHOPP) – \$1.9 billion added annually for State Highway projects
- State Transportation Improvement Program (STIP) – Funding source stabilized; funds historically received by the ACLTC would be restored for eligible projects

Senate Bill 743

Former Governor Brown signed Senate Bill (SB) 743 (Steinberg, 2013), which creates a process to change the way that transportation impacts are analyzed under CEQA. Specifically, SB 743 requires OPR to amend the CEQA Guidelines to provide an alternative to Level of Service (LOS) for evaluating transportation impacts. In 2018 the CEQA Guidelines were amended to include those alternative criteria, and auto delay is no longer be considered a significant impact under CEQA. Transportation impacts related to air quality, noise and safety must still be analyzed under CEQA where appropriate. SB 743 also amended congestion management law to allow cities and counties to opt out of LOS standards within certain infill areas. The updated 2017 RTP Guidelines have established vehicle miles traveled (VMT) as the metric to replace LOS. ACLTC has reported existing VMT and projected future VMT on critical regional roadways in the region in this document and will continue to be committed to supporting State and National GHG reduction goals as financially feasible.

California Electric Vehicle Mandate

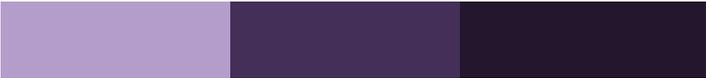
On September 23, 2020, Governor Newsom signed Executive Order (EO) N-79-20, establishing a State-wide goal that 100% of in-state sales of new passenger vehicles and trucks in the State will be zero emissions by 2035. The Executive Order establishes that 100% of medium to heavy-duty vehicles in the State be zero-emission by 2045 for all operations where feasible and by 2035 for drayage trucks. Transit fleets are also subject to the California Air Resources Board's (CARB) Innovative Clean Transit Rule, which requires that 25% of new vehicles in small fleets to be zero-emission by 2026, and all new vehicles by 2029.

3.1.3. REGIONAL AND LOCAL ISSUES

Even with new funding guaranteed by SB 1, the Road Repair and Accountability Act of 2017, local and regional issues primarily revolve around a shortage of funding to maintain the integrity of existing facilities. Other local and regional concerns include the need for transportation modes other than the automobile, enhance accessibility and connectivity between communities, health services, retail, recreational destinations, and employment centers. The following general categories of transportation issues have been identified:

- Maintenance and improvement of the existing road system
- Improvement of non-auto transportation modes and programs that lower vehicle emissions, including establishing an adequate electric grid for use by electric transit vehicles, personal electric vehicles, and electric bicycles
- Adherence to climate GHG reduction targets
- Promotion of economic development within the region

Economic development efforts should include Transportation Planning agencies in their planning decisions to ensure transportation infrastructure and programs adequately account for the demand on the system. The ACLTC will maintain



roadways to enable recreational tourism and commercial activity. Alpine County will continue efforts to increase participation in recreational activities such as fishing, camping, bicycling, and general tourism. Elements of the transportation system related to commercial activity include the following

- Road systems with adequate structural strength to support large truck movements on a regular basis
- Airport facilities to support fire suppression.

3.1.4. CLIMATE CHANGE AND GAS EMISSIONS

In 2006, the California State Legislature adopted Assembly Bill (AB) 32 known as the California Global Warming Solutions Act (Section 38560.5 of the Health and Safety Code). The bill establishes a cap on statewide greenhouse gas emissions (GHG) and sets forth the regulatory framework to achieve the corresponding reduction in statewide emissions levels. The updated 2024 RTP Guidelines document provides several recommendations for consideration by rural RTPAs to address GHG. The following strategies from the guidelines have been applied towards small Counties:

- Emphasize transportation investments in areas where desired land uses as indicated in a city or County general plan may result in vehicle miles traveled (VMT) reduction or other lower impact use.
- Recognize the rural contribution towards GHG reduction for counties that have policies that support development within their cities and protect agricultural and resource lands.
- Consider transportation projects that increase connectivity or provide means to reduce VMT without posing a negative effect on tourism and access to public lands.

SB 246 – Climate Change Adaptation

SB 246 (Chapter 606, Statutes of 2015) establishes the Integrated Climate Adaptation and Resiliency Program under the Office of Planning and Research (OPR). This program aims to coordinate local and regional efforts to adapt to climate change with statewide strategies.

SB 350 - Clean Energy and Pollution Reduction Act of 2015

SB 350 (Chapter 547, Statutes of 2015), known as the Clean Energy and Pollution Reduction Act of 2015, emphasizes the critical role of widespread transportation electrification in achieving climate goals and federal air quality standards. It underscores the importance of ensuring equitable access to zero-emission and near-zero-emission vehicles, particularly for disadvantaged and low- to moderate-income communities. This legislation directs agencies to incorporate these goals into regulations, guidelines, plans, and funding programs aimed at reducing greenhouse gas emissions.

Pursuant to PUC 740.12(a)(2), it is the policy of the state and the intent of the legislature to encourage transportation electrification as a means to achieve ambient air quality standards and the state’s climate goals. Agencies designing and implementing regulations, guidelines, plans, and funding programs to reduce GHG emissions shall take the findings described in paragraph (1) of PUC Section 740.12 into account. RTPAs may incorporate the directives from SB 350 in their planning processes.

Executive EOs on Climate Change Issues

Fighting climate change by cutting greenhouse gas emissions is a major objective for California. In July 2021, the California State Transportation Agency (CalSTA) introduced the Climate Action Plan for Transportation Infrastructure (CAPTI). This plan outlines suggestions for using discretionary transportation funds to address climate change. CAPTI is rooted in Executive



Orders N-19-19 and N-79-20, issued in 2019 and 2020 respectively, which set the framework for these efforts.

Executive Orders (EOs) regarding climate change establish a crucial framework for Regional Transportation Planning Agencies (RTPAs). Although EOs primarily target state agencies, integrating climate change policies within RTP planning processes supports California's goals of lowering per capita greenhouse gas (GHG) emissions and mitigating the impacts of climate change.

Since the last update in 2020, two Executive Orders have been issued addressing climate change. EO N-19-19, issued on September 20, 2019, advocates for using the State's investment portfolio to advance climate leadership and establish a framework for climate investments. The Climate Action Plan for Transportation Infrastructure (CAPTI) was formulated in response to this EO.

EO N-79-20, dated September 23, 2020, mandates that all in-state sales of passenger cars and trucks should be zero-emission by 2035. Additionally, it sets a goal for medium and heavy-duty vehicles in California to be zero-emission by 2045.

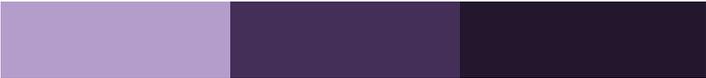
3.2. REGIONAL GOALS, OBJECTIVES, AND STRATEGIES

The comprehensive goals, objectives, and policies that have been developed for this RTP meet the needs of the region and are consistent with the County's regional vision and priorities for action, which set the framework for carrying out the roles and responsibilities of the ACLTC and assists them in their decision-making process for transportation investment. These objectives are intended to guide the development of a transportation system that is balanced, multi-modal, and will maintain and improve the quality of life in Alpine County. The goals, objectives, and policies for each component of the Alpine County transportation system are discussed below.

- A goal is the end toward which effort is directed; it is general and timeless
- An objective is a direction statement that guides actions for use in determining present and future decisions, often used to help reach goals.
- A policy is a specific means to accomplish the intent of the goal and direction of the policy.

The goals, objectives and policies set forth in this Plan are consistent with the policy direction of the ACLTC, the Alpine County General Plan Circulation Element, the 2018 Active Transportation Plan, the California Strategic Highway Safety Plan (SHSP), and the updated California Transportation Plan (CTP 2050). The CTP 2050 includes goals to improve travel times and ease traffic congestion; increase safety and security on bridges, highways, and roads; foster healthy lifestyles through active transportation; expand economic opportunities through the movement of people, freight, services, and information; and create a low-carbon transportation system that protects human and environmental health. The current Alpine County General Plan contains the following overall goals for Alpine County:

- Maintain the existing scenic quality available along all of Alpine County's highways (Goal 29).
- Improve safety and circulation on State Route 88 to and through Alpine County (Goal 30).
- Improve safety and circulation on State highway 4 to and through Alpine County (Goal 31).
- Improve safety and circulation on State highway 89 to and through Alpine County (Goal 32).
- Construct safe and efficient intersections for present and future levels of highway use (Goal 33).
- Increase County minimums for Alpine County (Goal 34).
- Ensure County minimum amounts are spent in Alpine County (Goal 35)



- Provide for the cost of maintenance on new and existing County roads (Goal 36)
- Upgrade existing roads and add new roads to the County system that meet projected needs and planned functional classifications and ensure that private roads do not become a burden or threat to the health, safety, or welfare of the general public (Goal 37).
- Provide for the transit needs of the County in a timely and economic fashion (Goal 38)
- Establish safe and adequate aviation facilities (Goal 39).
- Develop bicycle circulation and support facilities where safe and reasonable (Goal 40).
- Develop pedestrian circulation for the betterment of local commerce as well as the safety and convenience of local citizens (Goal 41).
- Fulfill the parking needs of local citizens and visiting traffic (Goal 42)
- Establish winter trails for cross-country ski and snowmobile use (Goal 43)
- Develop, maintain, and use pipeline, power line and communication facilities in a wise and efficient manner (Goal 44)

3.2.1. STATE HIGHWAYS AND REGIONAL ROADWAYS

With low traffic volumes, decreasing population and inadequate funds, expanding the capacity of the roadway system in the county is not a high priority for Alpine County. This sentiment was echoed in the public input process. Safety improvements and maintaining the existing system are of central importance.

GOAL 1. PROVIDE AND MAINTAIN A SAFE, EFFICIENT, AND CONVENIENT COUNTYWIDE ROADWAY SYSTEM THAT MEETS THE TRAVEL NEEDS OF PEOPLE AND GOODS THROUGH AND WITHIN THE REGION (SHORT/LONG TERM).

Objective 1.1. Identify and prioritize improvements to the roadway system (short/long term).

Policy 1.1.1. Support Tri-County (Amador County Transportation Commission, Alpine County Local Transportation Commission and Calaveras Council of Governments) Letter of Agreement (LOA) projects which improve safety, mobility and reliability for visitors and residents of Alpine County and travel to and from Alpine County.

Objective 1.2. Maintain roadways at acceptable safety standards (short/long term).

Policy 1.2.1. Identify and eliminate unsafe conditions on state highways and intersections, in coordination with Caltrans.

Policy 1.2.2. Prioritize roadway projects according to safety standards, including required maintenance and repair, in the most cost-effective manner given available resources.

Objective 1.3. Employ Intelligent Transportation System (ITS) strategies when feasible, cost effective, and where contextually appropriate. ITS includes technological improvements which will enhance the safety and reliability of roadways such as Changeable Message Signs (CMS) which provide travelers roadway information on detours, winter road closures and weather conditions (short term)

Policy 1.3.1. The ACLTC will consider the implementation of Intelligent Transportation Systems (ITS) technologies for individual modes based on availability, feasibility, and funding.

Objective 1.4. The County will work with developers and Caltrans to ensure that intersection improvements are installed at the appropriate time and in accordance with State and County design standards (short/long term).



Policy 1.4.1. Developers shall be responsible for constructing or improving intersections at new developments, including resort communities and ski areas, to maintain acceptable VMT on roadways that provide access or are affected by the development during the implementation of planned or phased development in these areas

3.2.2. ACTIVE TRANSPORTATION

There is a need to enhance bicycle and pedestrian facilities for recreational users, tourists and residents in Alpine County. Wider shoulders, bike lanes and paths will greatly increase safety in the region while way-finding signage and safe crossing areas will improve connectivity between community destinations. The public input process indicated that providing additional facilities for bicyclists is an important regional transportation need for both motorists and non-motorists.

GOAL 2. PROMOTE A SAFE, CONVENIENT, AND EFFICIENT NON-MOTORIZED TRANSPORTATION SYSTEM THAT IS PART OF A BALANCED OVERALL TRANSPORTATION SYSTEM (SHORT/LONG TERM)

Objective 2.1. Integrate pedestrian and bikeway facilities into a multimodal transportation system (long term).

Policy 2.1.1. Implement recommendations of the adopted Bicycle and Pedestrian Plan. Continue to update the Bicycle and Pedestrian Plan in order to be eligible for state and federal funding.

Policy 2.1.2. Incorporate non-motorized facilities where feasible when implementing improvements or new developments to the existing roadway network.

Policy 2.1.3. Prioritize roadway and street designs that avoid conflicts between automobiles and non-motorized users.

Policy 2.1.4. Require bikeway and pedestrian facilities in all appropriate future and development projects when feasible, to facilitate onsite circulation for pedestrian and bicycle travel and connections to the proposed system.

Policy 2.1.5. Pursue alternative funding mechanisms for the development of bicycle and pedestrian facilities, as well as look for potential partnerships or interagency agreements.

Policy 2.1.6. Implement complete streets that are context sensitive to rural areas, that foster equal access by all users in the roadway design.

Objective 2.2. Provide a pedestrian and bikeway system that emphasizes safety (short/long term).

Policy 2.2.1. :Prioritize improvement projects which will increase bicycle safety along corridors and intersections frequently used by school children, recreational cyclists, and visitors.

Objective 2.3. Prioritize active transportation projects that enhance the connectivity of the existing non-motorized system (short/long term)

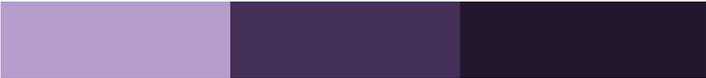
Policy 2.3.1. Coordinate with funding programs to provide multiple components of an infrastructure project when appropriate.

GOAL 3. PROMOTE ALTERNATIVE TRANSPORTATION TO SUPPORT THE RECREATIONAL TOURISM INDUSTRY AND ECONOMY OF THE REGION (SHORT/LONG TERM).

Objective 3.1. Promote equitable and sustainable use of resources (short/long term).

Policy 3.1.1. Actively seek funding sources for multi-modal transportation development.

Policy 3.1.2. Promote equity, cost effectiveness, and modal balance in planning, and allocate funds to regionally significant roadway and trail project.



3.2.3. TRANSIT

Despite low ridership on Alpine County public transit services, there is a portion of the population who require transportation to Douglas County or other urban areas for work, commercial or medical purposes. According to the American Community Survey, approximately 6 percent of residents in Alpine County had no vehicle available to them in 2018 (latest data available). Maintaining a limited level of transit service with the goal of more consistent service throughout both sides of the County is an important regional transportation need for Alpine County; however, it is difficult to provide these services in a cost-effective manner.

GOAL 4. PROVIDE FOR THE MOBILITY NEEDS OF COUNTY RESIDENTS, VISITORS, AND EMPLOYEES WITHIN THE FINANCIAL CONSTRAINTS OF STATE AND FEDERAL TRANSIT FUNDING (SHORT/LONG TERM)

Objective 4.1. Tailor public transportation and transit service provisions to the area’s population characteristics (long term)

Policy 4.1.1. Implement recommendations from the Alpine County Short Range Transit Plan. Update the plan a minimum of every five years as required by Caltrans or as necessary.

Policy 4.1.2. Consider transit services first in areas where the greatest operational efficiencies exist (i.e., dependent needs, recreational areas).

Policy 4.1.3. Include the Hung A Lel Ti Tribe in the transit planning process

Objective 4.2. Provide life-line transportation for transit-dependent residents (short/long term).

Policy 4.2.1. The ACLTC will conduct a minimum of one public hearing annually to consider and take testimony on unmet transit needs prior to expending LTF funds

Policy 4.2.2. Coordinate annual grant programs, such as FTA Section 5310, programs and assist agencies in preparing applications when applicable.

Policy 4.2.3. Ensure that public transit services are compliant with the Americans with Disabilities Act

Objective 4.3. As funding permits, develop transit service as an effective alternative transportation mode choice (long term).

Policy 4.3.1. : Expand transit service to meet the needs of employees commuting to work as warranted and financially feasible.

Policy 4.3.2. Support transit projects that serve recreation and commuter purposes.

Policy 4.3.3. Encourage coordination of inter- and intra-county transit service.

Objective 4.4. Promote the use of renewable and alternative fuels for transit where feasible (short/long term).

Policy 4.4.1. : Purchase renewable and alternative fuel transit vehicles where feasible. Actively seek funding that would allow the purchase of fleet vehicles that use renewable and clean alternatives.

Policy 4.4.2. Promote the use of renewable and alternative fueled transportation.

Policy 4.4.3. Develop partnerships with other departments and entities to expand the availability and use of alternative and renewable fuels.

3.2.4. AVIATION

Improvements to the airport are needed. Alpine County’s only funding source for airport capital improvements is the California Aid to Airport Program (CAAP) program, which has seen cutbacks in recent years due to State budget shortfalls. This indicates that other funding sources need to be pursued.



GOAL 5. MAINTAIN THE ALPINE COUNTY AIRPORT AS A SAFE AND OPERABLE GENERAL AVIATION FACILITY. EXPAND AIRPORT SERVICES ONLY IF ADDITIONAL FUNDING IS AVAILABLE BEYOND CAAP ANNUAL GRANT PROGRAM (LONG TERM).

Objective 5.1. Promote the safe, orderly, and efficient use of airport and air space and compatible land uses as addressed in the updated Airport Layout Plan (long term).

Policy 5.1.1. Support land use decisions that discourage or prevent development in the vicinity of the airport that may present significant public safety issues.

Policy 5.1.2. Implement Airport Capital Improvement Projects as funding allows priority for projects which are required to improve the safety of the airport.

3.2.5. RAIL

There is currently no rail service within Alpine County. The nearest railway line is in Truckee, approximately 74 miles north of Alpine County. The rail line is for passenger use only and is operated by Amtrak. Truckee also has a freight rail.

3.2.6. CLIMATE CHANGE AND ENVIRONMENTAL QUALITY

In California, transportation accounts for 37 percent of greenhouse gas emissions (GHG). Transportation strategies include: reducing, managing, and eliminating non-essential trips, GHG emissions and air pollution through smart land use, ITS, demand management, value pricing, and market-based manipulation strategies. With a population of less than 1,200 people and no traffic congestion, it is not likely that Alpine County policies will have a noticeable effect on GHG emissions. However, it is important that the county transportation and land use decision-makers pursue projects that adhere to adopted state strategies.

GOAL 6. ENHANCE SENSITIVITY TO THE ENVIRONMENT IN ALL TRANSPORTATION DECISIONS (SHORT/LONG TERM).

Objective 6.1. Promote transportation policies and projects that supports a healthy environment (short/long term).

Policy 6.1.1. Conduct environmental review consistent with CEQA for individual projects as they advance to the implementation stage of development

Policy 6.1.2. Avoid sensitive wildlife habitat when constructing transportation facilities contained in the proposed system whenever feasible. If sensitive areas are affected by new routes, mitigate impacts through the appropriate CEQA or NEPA process.

GOAL 7. REDUCE GREENHOUSE GAS (GHG) EMISSIONS (SHORT/LONG TERM).

Objective 7.1. Ensure that transportation projects contribute to the goal of lowering emissions (short term).

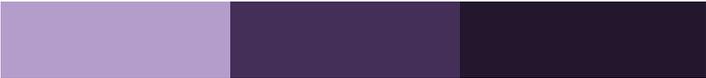
Policy 7.1.1. Comply with state and federal climate change regulations and standards.

Policy 7.1.2. Prioritize and recommend transportation projects that minimize vehicle emissions while providing cost effective movement of people and goods.

Policy 7.1.3. Promote projects that can be demonstrated to reduce air pollution, such as alternative fuel programs.

Policy 7.1.4. Develop plans that meet the standards of the California Clean Air Act and the Federal Clean Air Act and Amendments in coordination with the local Air Pollution Control District.

Policy 7.1.5. Consider GHG emissions as part of every transportation capital improvement project decision.



Policy 7.1.6. Pursue projects with positive GHG impacts that are realistic given the rural nature of Alpine County, including transit programs, ridesharing programs, bicycle and pedestrian improvements, ITS strategies, and maintenance of existing roadways to reduce vehicle emissions.

Objective 7.2. Ensure consistency with Senate Bill 743 to actively support greenhouse gas reduction targets (short term).

Policy 7.2.1. Replace Level of Service (LOS) analysis with Vehicle Miles Traveled (VMT) analysis as required statewide under CEQA and to support state and national goals to reduce greenhouse gas (GHG) emissions.

Policy 7.2.2. Prioritize projects that will actively reduce Vehicle Miles Traveled such as transit projects, bicycle and pedestrian improvements, ride share programs and other measures that will incentivize other modes of transportation over single-occupancy vehicles.

Policy 7.2.3. Implement compact pedestrian-oriented development that provides a mix of land uses within walking or biking distance that meet the daily needs of residents and visitors:

- Encourage clustered and infill development.
- Encourage and develop land use policies that focus development potential in locations best served by transit and other alternative transportation; and
- Implement parking strategies that encourage the “park-once” concept.

3.2.7. TRIBAL TRANSPORTATION

For Tribal communities within the Alpine region to have safe and efficient mobility options, benefit from equitable access to transportation resources, and have strong intersectoral partnerships for advocating and solving transportation issues within tribal communities.

GOAL 8. PROVIDE TRIBAL RESIDENTS WITHIN THE ALPINE REGION WITH SAFE, EFFECTIVE, AND FUNCTIONAL TRANSPORTATION SYSTEMS, INCLUDING STREETS, ROADS, PEDESTRIAN AND BICYCLE FACILITIES, AND TRANSIT.

Objective 8.1. Implement activities and plans in a culturally knowledgeable, sensitive manner while being respectful of Tribal sovereignty.

Policy 8.1.1. Consult with and involve Tribes in the development of planning documents.

Policy 8.1.2. Provide Tribes with information regarding various Federal, State and local transportation grant programs for which they may qualify.

Objective 8.2. Establish clear and ongoing communication with Tribes.

Policy 8.2.1. Establish a dedicated tribal liaison at the County that will ensure that extensive coordination and communication with Tribes is maintained and utilize cultural resource monitors in ancestral land.

Objective 8.3. Provide a transportation network that safely and sufficiently provides access between Tribal lands and their surrounding communities.

Policy 8.3.1. Coordinate with Tribes and surrounding communities to identify any concerns of safety within the region.

4. ACTION ELEMENT

The Action Element presents a plan to address the needs and issues for each transportation mode, in accordance with the goals, objectives, and policies set forth in the Policy Element. The Action Element will also highlight the programs, policies, technical assistance, investments, or other actions to support strategies and goals in the plan. In the Action Element, projects and programs are categorized as short- or long-range improvements, consistent with the identified needs and policies. These plans are based on the existing conditions, forecasts for future conditions and transportation needs discussed in the first three chapters of this RTP.

4.1. REGIONAL PRIORITIES

4.1.1. MAINTENANCE AND IMPROVEMENT EMPHASIS

In Alpine, the limited available funding is focused on maintaining existing facilities across all modes. Multimodal improvements for the transit system, aviation facilities, bikeway and pedestrian facilities, and the goods movement system will serve to implement a balanced multimodal transportation network, improve air quality, and help accommodate future travel demand in the region. Should a capacity-increasing project become a regional priority, it would be initiated only when fully or largely funded by revenue sources that otherwise could not be used for maintenance activities. Other capital projects can only be implemented after new funding sources become available to allow full funding of ongoing maintenance responsibilities. The region has limited capacity to fund and implement large projects due to funding and staffing constraints.

4.1.2. MAINTAIN CONNECTIVITY TO NEIGHBORING COUNTIES

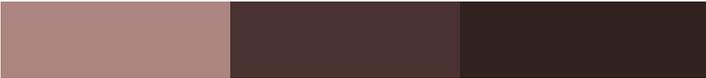
Maintaining the connections to Calaveras County via SR 4, Amador County and Douglas County, NV via SR 88, and connections to El Dorado and Mono Counties through SR 89 is necessary to provide access to key destinations outside of Alpine County. These connections are critical for the economy, health, and safety of the residents and visitors to Tehama County.

4.1.3. REGIONALLY SIGNIFICANT PROJECTS

The Hot Springs Road Reconstruction project is a collaboration between Alpine County and Caltrans to reconstruct Hot Springs Road, improve pavement conditions, and provide paved shoulders allowing for Class 2 and 3 bicycle lanes, where possible, from Laramie Street to the entrance of Grover Hot Springs Park. The primary purpose of the project is to increase safety for both drivers and bicyclists by providing drivers with a more consistent roadway section, and a wider recovery area should they veer out of the travel lane, in addition the wider paved shoulders add a safety buffer for bicyclists. The project also aims to improve road width for emergency responders and evacuating residents and visitors during emergencies (e.g., wildfires).

4.2. TRANSPORTATION SAFETY

Addressing transportation safety in a regional planning document can enhance the health, economic, and quality of life for users of the transportation network. There's a crucial need to establish proactive methods to boost the safety of the transportation network in order to reduce the historic reactionary response that is exhibited in transportation safety issues. In response to this need, California crafted a Strategic Highway Safety Plan (SHSP). This plan has a primary safety goal: to reduce roadway fatalities to less than one fatality per one hundred million vehicle miles traveled (VMT). The



SHSP concentrates on 15 “Challenge Areas” concerning transportation safety in California. For each Challenge Area, it provides background data, establishes specific goals, considers strategies to achieve those goals, and discusses institutional issues that could affect goal implementation. The policy aspect of this RTP incorporates safety goals and objectives in line with the California Strategic Highway Safety Plan, as well as addressing regional safety needs.

4.3. TRANSPORTATION SECURITY/ EMERGENCY PREPAREDNESS

Transportation security is another element which is incorporated into the RTP. Separate from transportation safety – transportation security and emergency preparedness address issues associated with large-scale evacuation due to a natural disaster or terrorist attack. Emergency preparedness involves many aspects including training and education, planning appropriate responses to possible emergencies, and communication between fire protection and county government staff. The Alpine region currently does not have an evacuation plan, and it is recommended that Alpine County of the ACLTC prepares one when feasible. In the Alpine County region, forced evacuation due to wildfire, flood or landslide is the most likely emergency scenario. Alpine County is approximately 740 square miles of forested landscape with small pockets of population centers and no formal countywide evacuation plan has been developed for the region. Identifying evacuation routes and other methods of evacuation is pertinent to the scope of the RTP. Three major state highways traverse Alpine County and act as the primary evacuation routes for local communities. Seasonal closures on SR 4 and SR 89 limit evacuation possibilities during the winter. The eastern portion of the county, evacuation routes should follow SR 89/88 east to Minden, Gardnerville or SR 88/89 north to US 50 in South Lake Tahoe. For Bear Valley residents, there is only one route out of the county in the winter: SR 4 west to Calaveras County. The

implementation of Intelligent Transportation System projects such as Road Weather and Information Systems (RWIS), Changeable Message Signs (CMS), and Closed-Circuit Television (CCT) could assist with maintaining a steady flow of traffic on these State highways while keeping evacuees informed. Although Alpine County communities are relatively close to the state highway system, the communities of Hung A Lel Ti, Woodfords, Markleeville, Shay Creek subdivision, Mesa Vista, and Bear Valley depend on local roadways such as Emigrant Trail, Diamond Valley Road, and Foothill Road for access to the State highways.

4.4. TRANSPORTATION SYSTEMS MANAGEMENT

Transportation systems management (TSM) is a term used to describe low-cost actions that maximize the efficiency of existing transportation facilities and systems. Urbanized areas can implement strategies using various combinations of techniques. However, in rural regions such as Alpine, many measures that would apply in metropolitan areas are not practical. Alpine County looks for the most effective, but least capital-intensive, solutions. On a project basis, TSM measures are in use to increase traffic flow efficiency and movement through intersections and along highways. Long-range TSM considerations can include:

- Signing and striping modifications.
- Parking restrictions.
- Paving and re-striping areas to facilitate off-street parking.
- Installing or modifying signals to provide alternate circulation routes for residents.
- Re-examining speed zones on certain streets.

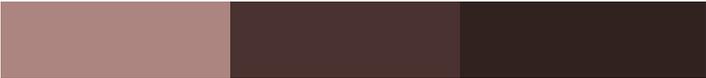
These types of actions will remain part of the RTP and General Plan planning process for the next 20 years.



4.5. INTELLIGENT TRANSPORTATION SYSTEMS (ITS)

Intelligent Transportation Systems, as defined in law, refers to the employment of “electronics, communications, or information processing used singly or in combination to improve the efficiency or safety of a surface transportation system.” The implementation of ITS is a priority for the U.S. Department of Transportation as a key component of the nationwide implementation of the National ITS Architecture. National ITS Architecture is a framework devised to encourage functional harmony, interoperability, and integration among local, regional, State, and Federal ITS applications. ITS includes technological improvements which enhance the safety and reliability of roadways. Common examples include Highway Advisory Radio (HAR) and Changeable Message Signs (CMS) which provide travelers roadway closure information on detours, road closures and weather conditions. CMS notifies travelers of seasonal roadway closures. The HAR and CMS systems are used to alert drivers of roadway closures, delays, and chain requirements. ITS also focuses on adding value to the existing infrastructure (highways, streets, bridges, trains, vehicles.) ITS projects are not a unitary solution and instead complement other transportation strategies. Benefits and cost assessments need to be considered at an early stage in system or project planning, to justify the deployment of technologies. As technology has changed, the emphasis of ITS has shifted from internal operational improvements to external coordination with other agencies, which enable each agency to achieve their mission more effectively. This inter-agency cooperation is the major objective of the Regional ITS Architecture. The ITS technologies proposed have the potential to strengthen efforts which ensure a safe, efficient and functional transportation system for all modes of travel in the County. Key ITS applications that exist or are recommended for various locations in Plumas County include:

- Transit and Traveler Information (e.g. Telephony and web-based Travel Information, mobility centers) to disseminate public transportation service information to a wider variety of users across a larger network of public transportation service providers.
- Highway Advisory Information Signage – Allows for coordination between the County, law enforcement agencies and Caltrans to disseminate current highway conditions to the public.
- Any other new or emerging ITS technologies.



4.6. PROJECT LISTS

4.6.1. ROADWAY PROJECTS

Table 4.1 shows current short range roadway projects for Alpine County, with funding needs totaling \$34 million. For long range projects, see Appendix C.

Table 4.1: Roadway Projects

Roadway Projects			
Funding Source	Description	Total Cost	Const. Year
Short Range (2025-2035)			
RMRA/LTF	Road Rehabilitation	\$11,453,016	2025-2028
RMRA/LTF	Preventative Maintenance	\$97,061	2025-2028
RMRA	Sawmill Road	\$77,760	2025
RMRA	Spring Cliff Road	\$84,796	2025
RMRA	Mule Ear Road	\$149,365	2025
RMRA	Snowshoe Road	\$195,615	2025
STIP	Hot Springs Rd. Reconstruction Phase 1	\$3,250,000	2025
STIP	Hot Springs Rd. Between PV Road and State Park Phase 2	\$1,200,000	2028
FLAP+	Hot Springs Rd. Between PV Road and State Park Phase 2	\$15,763,000	2029
Total - Short Range		\$32,270,613	

4.6.2. BRIDGE PROJECTS

There are no short range bridge projects for Alpine County. See Table 4.2 in Appendix C for the list of long range projects.

4.6.3. BICYCLE AND PEDESTRIAN PROJECTS

Table 4.3 shows one short range pedestrian and bicycle related project. The long range list is included in Appendix C.

Table 4.3: Bicycle and Pedestrian Projects

Bicycle and Pedestrian Projects			
Location	Project Description	Cost	Const. Year
Short Range (2025-2035)			
Hot Springs Road Markleeville to Grover	Hot Springs Road Class II Bike Facilities Between Markleeville and Grover HS State Park (Phase 1 & 2)	\$2,500,000	2029
Total - Short Range		\$2,500,000	

4.6.4. TRANSIT PROJECTS

There are no short range transit projects for Alpine County. See Table 4.4 in Appendix C for the list of long range projects.

4.6.5. AVIATION PROJECTS

There are no short range aviation projects for Alpine County. See Table 4.5 in Appendix C for the list of long range projects.

4.6.6. TRIBAL PROJECTS

Table 4.6 shows the tribal projects being planned for Alpine County.

Table 4.6: Tribal Projects

Tribal Projects			
Route	Project Description	Cost	Const. Year
Washoe Tribe - Short Range			
Diamond Valley Road	Widen the pavement along Diamond Valley Road to provide paved shoulders in areas with poor sight distance.	TBD	TBD
Total - Short Range		TBD	

4.6.7. CALTRANS SHOPP PROJECTS

Table 4.7 details the current SHOPP project list for Alpine County with \$44 million in funding available.

Table 4.7: CALTRANS SHOPP Project List

SHOPP Project List				
Route	Activity Location	Target RTL FY	Projected SHOPP Cycle	TYP Total Project Cost
88	Near Kirkwood, on Routes 88, 4, and 89 in Alpine, Amador, and El Dorado Counties at various locations. Install new Transportation Management System (TMS) elements and construct Maintenance Vehicle Pullouts (MPVs).	2024/2025	2024	\$20,405,000
4	Near Bear Valley, from east of Bear Valley Road to 1.2 miles west of Route 89 at various locations; also on Route 207 from 0.4 mile to 1.2 miles north of Route 4 (PM 0.38/1.19) at various locations. Rehabilitate drainage systems.	2026/2027	2024	\$16,802,000
4	Near Loope, from 1.6 miles west of Wolf Creek Road to west of Route 89; also on Route 88 and Route 89 at various locations. Rehabilitate drainage systems.	2024/2025	2024	\$7,751,000
Total SHOPP				\$44,958,000



4.7. PROGRAM-LEVEL PERFORMANCE MEASURES

In 2015 the Rural County Task Force completed a study on the use of statewide performance measure indicators for the 26 RTPAs in California to evaluate their applicability to rural and small urban areas like Alpine County; the study identified and recommended measures that would best suit the unique conditions and resources available in these locales. These performance measures continue to help in the selection of RTP project priorities and in monitoring how well the transportation system functions.

The following standards guided the selection of performance measures for this RTP:

Performance measures align with California transportation goals and objectives.

1. Performance measures are consistent with the current goals and objectives of Alpine County
2. Performance measures are applicable to Alpine County as a rural area
3. Performance measures can be linked to specific decisions on transportation investments
4. Performance measures do not impose substantial resource requirements on Alpine County
5. Performance measures can be normalized to provide equitable comparisons to urban regions

Program-level performance measures are used to help select RTP project priorities and to monitor how well the transportation system functions. The aim of each performance measure and its location within the RTP are described herewith.

4.7.1. PERFORMANCE MEASURE 1 – VEHICLE MILES TRAVELED (VMT)

This performance measure monitors VMT on State Highways. VMT data for State Highways in the County are provided in the California Public Road Data report, which is updated and published annually. The California Public Road Data report provides statistical information from the Highway Performance Monitoring System (HPMS), which, in addition to VMT, includes data on the extent, condition, performance, use, and operation characteristics of the Nation’s highways. Because rural areas contain population centers of less than 5,000 people or have areas with a population density of less than 1,000 persons per square mile, VMT is not reported on local roadways. Within the California Public Road Data report, VMT for the County is reported in the table titled “Highway Performance Monitoring System (HPMS) Mileage Summary by Functional Classification, Population and Net Land Area.” Monitoring this performance measure requires minimal resources as data for the State Highway System is readily available.

Desired outcome and RTP/State goals:

- Measure of overall vehicle activity and use of roadway network
- Input maintenance and system preservation
- Input to safety
- Input health-based pollutant reduction, input GHG reductions
- RTP Goals 1, 2, 3, 6

4.7.2. PERFORMANCE MEASURE 3 – SAFETY

Addressing transportation safety in a regional planning document can improve health, financial, and quality of life issues for the public. There is a need to establish methods to proactively improve the safety of the transportation network.



This performance measure monitors safety through the total accident cost and should be reviewed annually. To obtain a full picture of this data, staff may be required to access secondary data sources. Reasonably accurate data can be used directly for benefit/cost analysis. The County tracks the number of collisions on local roads and compiles the data to identify locations that need safety improvements. California Statewide Integrated Traffic Records System data from CHP is used to monitor the number of fatal and injury collisions by location to identify needed improvements.

Desired outcome and RTP/ State goals:

- Establish baseline values for the number of fatal collisions and injuries per average daily traffic on select roadways over the past three years
- Monitor the number, location, and severity of collisions. Recommend improvement to reduce incidence and severity
- Work with Caltrans to reduce the number of collisions on State Highways in Alpine County

4.7.3. PERFORMANCE MEASURE 4 – MODE SHARE/ SPLIT

This performance measure monitors transportation mode and mode share to understand how State and County road's function based on modes used. The data is reported as a trend over time from 2000 and does not require a high level of additional resource requirements. Although the data is less accurate for smaller counties, the data is reasonably accurate in Alpine County. This performance measure cannot be used as a benefit/cost analysis.

Desired outcome and RTP/State goals:

- Multimodal
- Efficiency
- GHG Reduction
- RTP Goals 2, 3, 4, 5, 6

4.7.4. PERFORMANCE MEASURE 5 – TRANSIT

This performance measure monitors the cost-effectiveness of transit in Alpine County and is reported to the Alpine County Transit Agency Board. In accordance with section 99405(c) of the Public Utilities Code and the Transportation Development Act, the Transit Agency Board adopted resolution 11-2002, the alternative performance criteria for the transit system in lieu of the 10% Fare Box Recovery ratio. The criteria adopted was the actual cost per passenger which is an accurate and tangible measurement. Monitoring cost-effectiveness helps the County achieve its goals to provide transit services and remain fiscally solvent with the limited funding resources available in rural communities. In addition to monitoring cost-effectiveness, the County monitors transit coverage for vulnerable populations through its annual Unmet Transit Needs assessment.

Desired outcome and RTP/State goals:

- Increase Productivity
- Increase Efficiency
- Reduce cost per passenger
- RTP Goals 3, 6

4.7.5. PERFORMANCE MEASURE 6 – VEHICLE MILES TRAVELED VMT

This performance measure monitors VMT on State Highways. VMT data for State Highways in the County are provided in the California Public Road Data report, which is updated and published annually. The California Public Road Data report provides statistical information from the Highway Performance Monitoring System (HPMS), which, in addition to VMT, includes data on the extent, condition, performance, use, and operation characteristics of the Nation's highways. Because rural areas contain population centers of less than 5,000 people or have areas with a population density of less than 1,000 persons per square mile, VMT is not reported on local roadways. Within the California Public Road Data report, VMT for the County is



reported in the table titled “Highway Performance Monitoring System (HPMS) Mileage Summary by Functional Classification, Population and Net Land Area.” Monitoring this performance measure requires minimal resources as data for the State Highway System is readily available.

Desired outcome and RTP/State goals:

- Measure of overall vehicle activity and use of the roadway network
- Input maintenance and system preservation
- Input to safety
- Input health-based pollutant reduction, input GHG reduction
- RTP Goals 1, 2, 3, 6

4.7.6. PERFORMANCE MEASURE 7 – LAND USE

This performance measure monitors the efficiency of land use and is reported over time since 2000. There is a need in Alpine County to balance land preservation with land use patterns that discourage sprawl and leap-frog development. Accessing this data requires minimal resource requirements and should be reviewed every 2 years for a high level of accuracy. This kind of data is not used for benefit/cost analysis.

Desired outcome and RTP/State goals:

- Land Use Efficiency
- Coordinate with Caltrans on State Highway projects to maintain them at acceptable levels and reduce lane miles needing rehabilitation
- Recommend RTP projects to maintain roads at or above the minimum acceptable condition as set by the County
- RTP Goals 6

Table 4.8: Alpine RTP Program Level Performance Measure

Alpine County RTP Program Level Performance Measures							
Performance Measure	Performance Measure Indicator	Metric	Mode	Level	Data Source	Monitoring Frequency	RTP Goals
1. Transportation System Investment	Distressed Lane Miles	<ul style="list-style-type: none"> • Total and percent • By jurisdiction 	Roadway	NA	NA	Triannual	1, 2, 3, 4, 5, 10
2. Preservation/ Service Fuel Use/ Travel Distance/ Time/ Cost	Pavement Condition Index	<ul style="list-style-type: none"> • Local Roads 	Roadway, trucks	NA	NA	2 years	1, 2, 3, 4, 5, 10
3. Safety	Total Accident Cost	<ul style="list-style-type: none"> • Per capita • Per VMT 	Roadway , transit, people	NA	NA	Annual	1, 2, 3, 4, 10
4. Mode Share/Split	Journey to work	<ul style="list-style-type: none"> • Work trips/ commute (Peak Periods) • Drive alone, carpool, transit, walk, bike 	Roadway, transit, people	NA	NA	Triannual	1, 3, 5, 6, 7, 11, 12, 13
5. Transit	Total Operating Cost	<ul style="list-style-type: none"> • Per revenue mile 	Regional, corridor, mode	NA	NA	Annual	1, 3, 5, 6, 7, 11, 12, 13

5. FINANCIAL ELEMENT

The financial element identifies current and expected revenue resources available to implement the short-range (2024-2033) and long-range (2034-2043) projects defined in the Action Element of the RTP. The funding in the short-range project list is financially constrained and is either programmed or is reasonably assumed to be available in the year identified. Long-range projections are subject to change and should be updated with each subsequent RTP cycle. Each funding resource identified in the financial element is aligned with eligible projects for that specific resource. The intent of the Financial Element is to define realistic funding constraints and opportunities.

5.1. PROJECTED REVENUES

Table 5.1 presents the expected revenue sources and funding for the next 20 years, categorized by short or long-range timelines. All estimates account for expected inflation based on the consumer price index inflation rate and adjusted to reflect the cost in year of expenditure. Long-range projections are subject to change as funding levels may fluctuate based on sales and excise tax revenue, legislation, and program and policy change.

Table 5.1: Projected Revenues from Federal, State and Local Sources for Alpine County

Projected Revenues from Federal, State, and Local Sources* for Alpine County			
Revenue Category	Revenue		
	Short-Range (1-10 yr)	Long-Range (11-20 yr)	Total
Grant Programs			
Federal Lands Access Program (FLAP)	TBD	TBD	TBD
Highway Safety Improvement Program (HSIP)	TBD	TBD	TBD
Grant Programs Total	TBD	TBD	TBD
Bridge Programs			
Highway Bridge Program (HBP)	TBD	TBD	TBD
Bridge Programs Total	\$-	\$-	\$-
Roadway Programs - Local			
Highway Users Tax Account (HUTA)	\$6,341,430	\$6,341,430	\$12,682,859
SBI Roadway Maintenance and Rehabilitation Account (RMRA)	\$4,334,163	\$4,334,163	\$8,668,325
Regional Surface Transportation Program (RSTP)	\$-	\$-	\$-
Receipts from Federal Lands (Secure Rural Schools)	N/A	N/A	N/A

Table 5.1 Continued

Revenue Category	Revenue		
	Short-Range (1-10 yr)	Long-Range (11-20 yr)	Total
Federal Lands Access Program (FLAP)	\$15,763,000		
State Transportation Improvement Program (STIP)	\$7,610,000	\$4,235,000	\$11,845,000
Roadway Programs - Local Total	\$34,048,592	\$14,910,592	\$33,194,184
Transit Programs			
State Transit Assistance (STA) State of Good Repair	\$129,407	\$129,407	\$258,813
SB125 - TIRCP and ZETCP	\$739,518	\$-	\$739,518
Transit Programs - Total	\$868,925	\$129,407	\$998,331
Aviation Programs			
Annual Distribution for Aviation	\$100,000	\$100,000	\$200,000
Aviation Programs - Total	\$100,000	\$100,000	\$200,000
Total Transportation Revenue	\$35,017,517	\$15,139,999	\$34,394,516
Roadway Programs - State			
State Highway Operations and Protection Program	\$44,958,000	TBD	\$44,958,000
Roadway Programs - State Total	\$44,958,000	TBD	\$44,958,000



5.2. COST SUMMARY

Table 5.2 contains a summary of the RTP improvement costs identified for each modal category in the RTP, indicating its financial constraints. Estimates in parentheses represent areas where projected costs are greater than projected revenues. As can be seen, these funding constraints are an issue for many long-range projects.

Table 5.2: Revenue vs. Cost by Mode

Revenue vs Costs by Mode							
Project Type	Funding Source	Projected Revenue by Mode		Projected Costs by Mode		Difference	
		Short Range	Long Range	Short Range	Long Range	Short Range	Long Range
Roadway	HUTA, RMRA, RSTP, STIP	\$34,048,592	\$14,910,592	\$32,270,613	TBD	\$1,777,979	
Roadway - State	SHOPP	\$44,958,000	TBD	\$44,958,000	TBD	\$-	
Bridge	HBP	\$-	\$-	\$-	TBD	\$-	
Bicycle and Pedestrian	FLAP	\$2,500,000	TBD	\$2,500,000	\$670,200	\$-	\$(670,200)
Transit	STA	\$868,925	\$129,407	\$-	\$77,698	\$868,925	\$51,709
Airport Capital	Annual Distribution for Aviation, AIP	\$100,000	\$100,000	\$-	\$753,000	\$100,000	\$(653,000)
Total		\$82,475,517	\$15,139,999	\$79,728,613	\$1,500,898	\$2,746,904	\$(1,271,491)

5.3. REVENUE VS COST BY MODE

5.3.1. ROADWAY

Table 5.3 compares Alpine County roadway improvement costs to the expected available revenues. Roadway revenues identified here include the STIP, Regional Surface Transportation Program, Highway Users Tax Account, the Federal Lands Access Program, receipts from federal lands, and local transportation funds. Each of these programs have different eligibility requirements, but revenues are generally used for roadway preservation, rehabilitation, reconstruction, and other improvements.

Table 5.3: Comparison of Roadway Costs to Expected Revenue

Comparison of Roadway Costs to Expected Revenue						
	Projected Revenue by Mode		Projected Costs by Mode		Difference	
	Short Range	Long Range	Short Range	Long Range	Short Range	Long Range
Estimated Roadway Costs - Local	\$34,048,592	\$14,910,592	\$32,270,613	TBD	\$1,777,979	\$14,910,592
Estimated Roadway Costs - State	\$44,958,000	TBD	\$44,958,000	TBD	\$-	TBD

5.3.2. BRIDGES

Table 5.4 compares the expected revenue for bridge projects to expected costs for the next 20 years. The Highway Bridge Program will cover a percentage of the cost of replacing or rehabilitating public highway bridges.

Table 5.4: Comparison of Bridge Costs to Expected Revenue

Comparison of Bridge Costs to Expected Revenue						
	Projected Revenue by Mode		Projected Costs by Mode		Difference	
	Short Range	Long Range	Short Range	Long Range	Short Range	Long Range
Estimated Bridge Costs	\$-	\$-	\$-	TBD	\$-	TBD

5.3.3. BICYCLE AND PEDESTRIAN

Future funding for bicycle and pedestrian projects in Alpine County will come primarily from the Active Transportation Program, a highly competitive State grant program. However, a portion of the County’s FLAP grant will fund bicycle/pedestrian improvements along Hot Springs Road.

Table 5.5: Comparison of Bikeway and Pedestrian Costs to Expected Revenue

Comparison of Bikeway and Pedestrian Costs to Expected Revenue						
	Projected Revenue by Mode		Projected Costs by Mode		Difference	
	Short Range	Long Range	Short Range	Long Range	Short Range	Long Range
Estimated Bicycle and Pedestrian Costs	\$2,500,000	TBD	\$2,500,000	\$670,200	\$-	\$(670,200)



5.3.4. TRANSIT

Transit projects are funded under the Transportation Development Act, which provides money from the Local Transportation Fund (LTF) and State Transit Assistance (STA) to supporting public transportation. LTF is derived from a quarter cent of the state sales tax collected within Alpine County and STA is generated from a statewide sales tax on motor vehicle (diesel) fuel. Additional funding for transit capital purchase and pilot projects is available through the Federal Transit Administration Programs. Local funds and transit fares also cover some costs

Table 5.6: Comparison of Transit Costs to Expected Revenue

Comparison of Transit Costs to Expected Revenue						
	Projected Revenue by Mode		Projected Costs by Mode		Difference	
	Short Range	Long Range	Short Range	Long Range	Short Range	Long Range
Estimated Transit Costs	\$868,925	\$129,407	\$-	\$77,698	\$868,925	\$51,709

5.3.5. AVIATION

The Federal Aviation Administration allocates an aviation grant of \$10,000 per year, per eligible airport. Managing the finances required for airport maintenance can pose significant challenges. While grants are subject to availability, there are resources that can assist the County in securing financial aid through the California Aid to Airports Program (CAAP), with a particular focus on the Airport Improvement Program, Acquisition and Development Program, or Local Airport Loan Program. These avenues may offer valuable support in addressing financial needs related to airport upkeep.

Table 5.7: Comparison of Aviation Costs to Expected Revenue

Comparison of Aviation Costs to Expected Revenue						
	Projected Revenue by Mode		Projected Costs by Mode		Difference	
	Short Range	Long Range	Short Range	Long Range	Short Range	Long Range
Estimated Aviation Costs	\$100,000	\$100,000	\$-	\$753,000	\$100,000	\$(653,000)

2025 ALPINE COUNTY

REGIONAL TRANSPORTATION PLAN

APPENDICES



Mosquito Lake, Alpine County



PRESENTED BY

Green DOT Transportation Solutions

APPENDIX A

OUTREACH

STAKEHOLDER LIST

PROJECT TEAM	
Organization	Contact Person
Alpine County Community Development	Sam Booth
Green DOT Transportation Solutions	Jeff Schwein
Green DOT Transportation Solutions	Nathaniel Redmond
Green DOT Transportation Solutions	Kailey Flynn
STAKEHOLDERS	
Organization	Contact Person
Alpine County BOS	Charles Dobson
Alpine County BOS	Evan Mecak
Alpine County BOS	Irvin Jim
Alpine County BOS	Terry Woodrow
Alpine County BOS	David Griffith
Alpine County Chamber of Commerce	Meghan Wolff
Alpine County Economic Development	JT Chevallier
Alpine County HHS	Tim Streeper
Alpine County Planning Commission	Tom Sweeny
Alpine County Planning Commission	Jim Haen
Alpine Outdoor Recreation Association	Andy Lovell
Alpine Trails	Mark Schwartz
Alpine Watershed Group	Kimra McAfee
Bear Valley Business Association	Eric Jung
Caltrans	Lloyd Clark
Citizen	John Cressaty
Citizen/ County Librarian	Rita Lovell
Citizen/CA Alps Cycling	Mark Schwartz
CSA 1	Kimi Johnson
Humboldt-Toiyabe National Forest	Brian Hansen
Intero Realty	Teddy Carlson-McKone
Markleeville Design Review Committee	Rich Harvey
Markleeville General Store	Avery Hellman
Scenic Byway Association	Michelle Plotnik
Woodfords Store	Sandy Jonkey
NEIGHBORING COUNTIES	
Organization	Contact Person
Amador CTC	John Gedney
Calaveras COG	Melissa Raggio
El Dorado County Transportation Commission	Woodrow Deloria
Mono County LTC	Wendy Sugimura
Tahoe MPO	Julie Regan
Tuolumne CTC	Darin Grossi
NEIGHBORING TRIBES	
Organization	Contact Person
Washoe Tribe	Kenneth Cruz
	Geoff Ellis
Hung a Lel Ti	Irvin Jim Jr.

OUTREACH SUMMARY

Outreach Summary

Alpine County Regional Transportation Plan

Prepared by:

Green DOT Transportation Solutions

Prepared for:

Alpine County Local Transportation Commission

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0 INTRODUCTION

Throughout the course of the Regional Transportation Plan (RTP) planning process, various outreach methods were utilized to ensure comprehensive community participation and input. The comments and feedback received were instrumental in shaping the Plan and the future of transportation in Alpine County that is reflective of the community’s needs and wants.

This attachment details the community outreach and engagement efforts undertaken by the RTP Project Team to actively engage local stakeholders and gather critical feedback.

1 MATERIALS AND NOTIFICATIONS

1.1. WEB-BASED OUTREACH

1.1.1. *Project Website*

A dedicated website was created to serve as a central hub for all information related to the Regional Transportation Plan (RTP). The website featured comprehensive details on the project’s scope, the planning process, and timelines. It also provided information on community outreach meetings, project documents, and direct links to online surveys. The website was updated throughout the development of the Plan to reflect the latest progress and to encourage continuous community engagement.

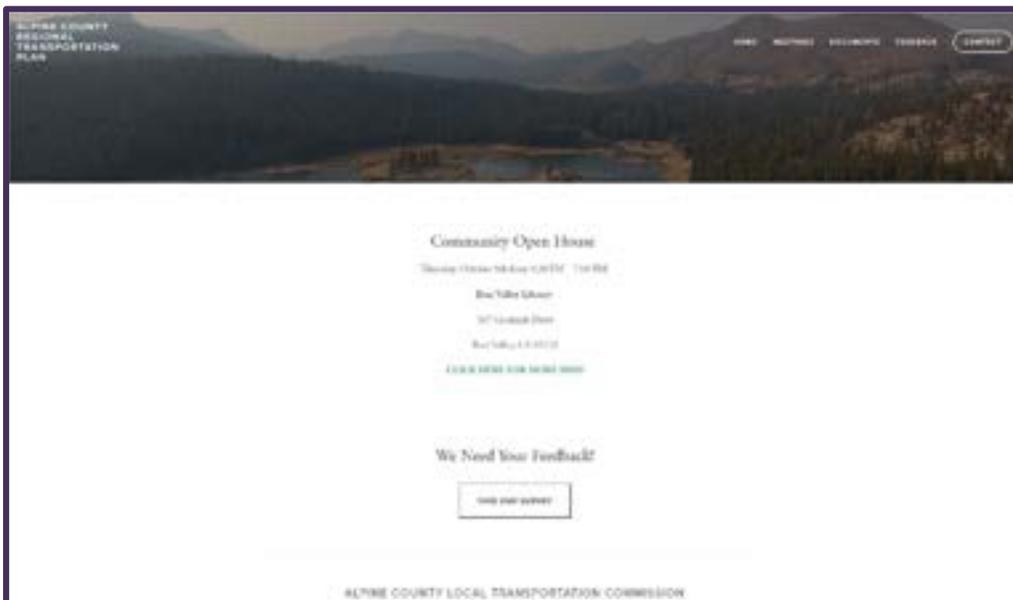


Figure 1.1: Project Website

1.1.2. Advertising and Media

Social Media

The project team employed a multifaceted approach to disseminate information about the RTP, utilizing both digital and physical channels to maximize community engagement. Online, detailed graphics and updates were regularly posted to project-specific social media profiles. These platforms were strategically used to enhance the project’s visibility by sharing content on community event pages, and by identifying and following key community stakeholder organizations to foster a robust online presence.



Figure 1.2: RTP Social Media Posts



Figure 1.3: RTP Flyers

Physical Flyering

In addition to digital outreach, physical flyers were posted in key areas before any outreach events. These were strategically placed at prominent community locations in the weeks prior to the scheduled community meetings. The advanced distribution was designed to ensure that community members had ample time to organize their schedules and participate effectively in the planning process.

2 STAKEHOLDER ENGAGEMENT

2.1. STAKEHOLDER ADVISORY COMMITTEE

The Stakeholder Advisory Committee (SAC) was established to provide comprehensive governance and advisory structure for the Regional Transportation Plan. The SAC was composed of an expansive group of stakeholders including agency staff, Tribal members, Chamber of Commerce members, Board of Supervisors, County staff, non-profit organizations, Caltrans District 10, and prominent community members. These stakeholders brought a wide range of perspectives and expertise, crucial for addressing the diverse needs of the community the project serves. The inclusion of educational and emergency services leaders, along with the library director, ensured that the committee could consider and integrate broader community concerns such as safety, access to educational facilities, and public resources.

2.2. NEIGHBORING COUNTIES AND TRIBES' CONSULTATION LETTERS

Formal consultation letters were mailed to neighboring counties and tribes including: Amador CTC, Calaveras COG, El Dorado County Transportation Commission, Mono County LTC, Tahoe MPO, Tuolumne CTC, Washoe Tribe and Hung a Lel Tei. There was no response for further consultation from any entity that was contacted.

3 PUBLIC EVENTS

3.1. COMMUNITY WORKSHOPS

The Alpine County Local Transportation Commission and project team hosted two open house workshops to introduce the 2025 Regional Transportation Plan, provide updates and collect feedback from the community. The workshops were advertised and promoted to encourage community members to attend and provide input.

Community members were given the opportunity to determine priority projects and identify concerns with existing transportation conditions. Sign in sheets, maps, surveys, and comment cards were made available at the meeting to help attendees identify specific areas within the County that are a community concern for safe travel. For a summary of feedback received at the events, please refer to Section 4: Data Collection and Feedback.

3.1.1. Markleeville - October 4, 2024

The Markleeville Community Open House was held at the Alpine County Admin Building. This was held in conjunction with the Markleeville Community Transportation Plan, bolstering attendance and engagement for both Plans. Approximately 15 people attended throughout the event.

3.1.2. Bear Valley - October 5, 2024

The Bear Valley Community Workshop was held at the Bear Valley Library. There were five attendees present.

3.2. EXHIBITS

3.2.1. Presentation

The Project Team developed a presentation to deliver to attendees that broke down the purpose and goals of a Regional Transportation Plan in addition to important context to Alpine County. Throughout the presentation there were opportunities for the public to interject and comment on the Plan or process.



Figure 3.1: Presentation Slide

3.2.2. *Community Maps*

At each community workshop, there were community maps provided that displayed routes around the County and routes around the specific community. Attendees were able to write or draw on the map to provide location specific feedback. This exercise allowed the attendees and the Project Team to collaborate on where potential improvements would be functional and practical based on the community's knowledge of the area.



Figure 3.2: County-Wide Map Exhibit

4 DATA COLLECTION AND FEEDBACK

4.1. SURVEY

To enhance community engagement and gather valuable input from local stakeholders in Alpine County, a streamlined and user-friendly survey was developed. The primary objective of this survey was to capture the transportation-related concerns and suggestions from the community, thereby identifying key areas for potential improvements within the County.

The survey was crafted to be concise yet comprehensive, ensuring that participants could complete it within a short time frame, between three to five minutes. This

brevity was intentional to encourage higher participation rates by respecting the time constraints of community members.

To facilitate easy access and participation, the survey was hosted online. The survey link was prominently posted on the project's official website and was also disseminated through various communication channels to reach a broad audience within the community. This strategic placement ensured optimal visibility and accessibility, inviting extensive community participation, and ensuring that a diverse range of voices was heard in the planning process.

The survey collected eight responses from residents primarily in Bear Valley and Markleeville. Though this is a small respondent size, it provided detailed insights into travel patterns, infrastructure needs, and transportation priorities of those community members



Figure 4.1: Survey (Online)

4.2. SUMMARY OF FEEDBACK

4.2.1. Quantitative Results

Travel Patterns

Out-of-County Travel Frequency: 50% travel out-of-county "a few times a month".

Primary Destinations: 87.5% travel to "other" destinations (primarily Carson City, NV; Lake Tahoe/Truckee; Bay Area).

The high percentage of "other" destinations (87.5%) and long commute distances reflect Alpine County's geographic isolation and residents' dependence on out-of-county services and employment.

Vehicle Dependency: 50% drive daily (7 days/week), 75% drive at least 5+ days per week.

Commute Distance: 37.5% commute 2-5 miles, with significant variation in distances.

Transportation Mode Usage

Public Transit: 62.5% do not use public transit in Alpine County, with 25% citing lack of service availability.

Bicycle Usage: Evenly distributed across frequency categories (12.5% each for most categories).

Walking: 75% walk 5-7 days per week (37.5% each for daily and 5-6 days/week).

Transportation Concerns and Priorities

Top Priority: 37.5% rank road maintenance as highest priority.

Road maintenance ranks as the top transportation priority (37.5%), indicating infrastructure degradation concerns alongside expansion needs.

Secondary Priorities: Transit options and walking/biking options each ranked as top priority by 25% of respondents.

Primary Concerns: 50% identify "other" concerns, primarily related to speeding, lack of bicycle/pedestrian facilities, and access limitations.

4.2.2. Inadequate Public Transit Infrastructure and Connectivity

Quantitative Evidence

62.5% do not use public transit in Alpine County.

87.5% travel to destinations outside standard service areas.

50% travel out-of-county multiple times monthly.

Qualitative Evidence

The absence of functional public transit emerges as a critical gap. Respondents explicitly state "there is no public transit in Alpine County" and "No public transit from village to ski area." Specific service gaps identified include:

- Bear Valley village to ski area connectivity
- Inter-community connections (Woodfords to Kirkwood)
- Regional connections to Arnold and other transit networks
- Frequency limitations for existing services

Comments emphasize the need for transit connections beyond Alpine County boundaries, with one respondent noting the importance of "some sort of public transportation to get people out of the county to connect with other forms of public transportation."

4.2.3. Bicycle and Pedestrian Infrastructure Deficiencies

Quantitative Evidence

62.5% selected "other" improvements needed, with multiple responses specifying bicycle/pedestrian facilities.

Bicycle usage shows high variability, suggesting infrastructure limitations rather than lack of interest.

75% walk regularly despite infrastructure constraints.

Qualitative Evidence

Respondents consistently identify specific locations requiring bicycle and pedestrian improvements:

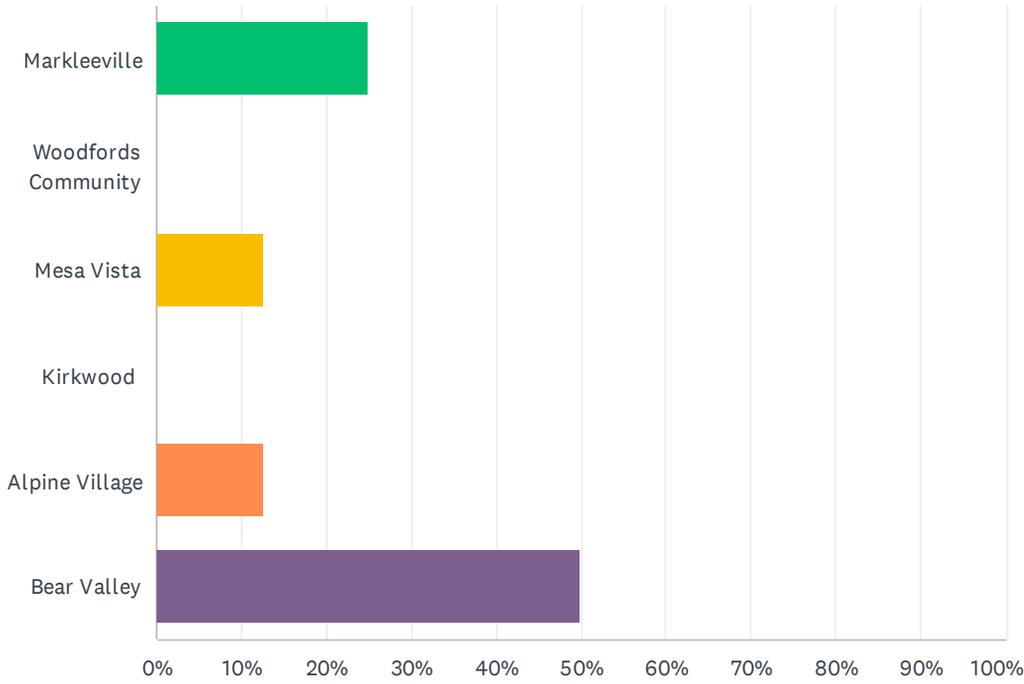
- Highway 4 and Bear Valley Road intersection
- Woodfords to Monitor Pass/Ebbetts Pass corridor
- Downtown areas lacking basic pedestrian amenities
- Inter-community connections for non-motorized transportation

The demand spans both recreational and utilitarian needs, with requests for "marked mtb trails," "trails connecting communities," and basic infrastructure like "sidewalks, curb ramps, and crosswalks." One respondent specifically noted the lack of "bicycle and pedestrian facilities" as a primary transportation network concern.

SURVEY RESULTS

Q1 What community do you live in?

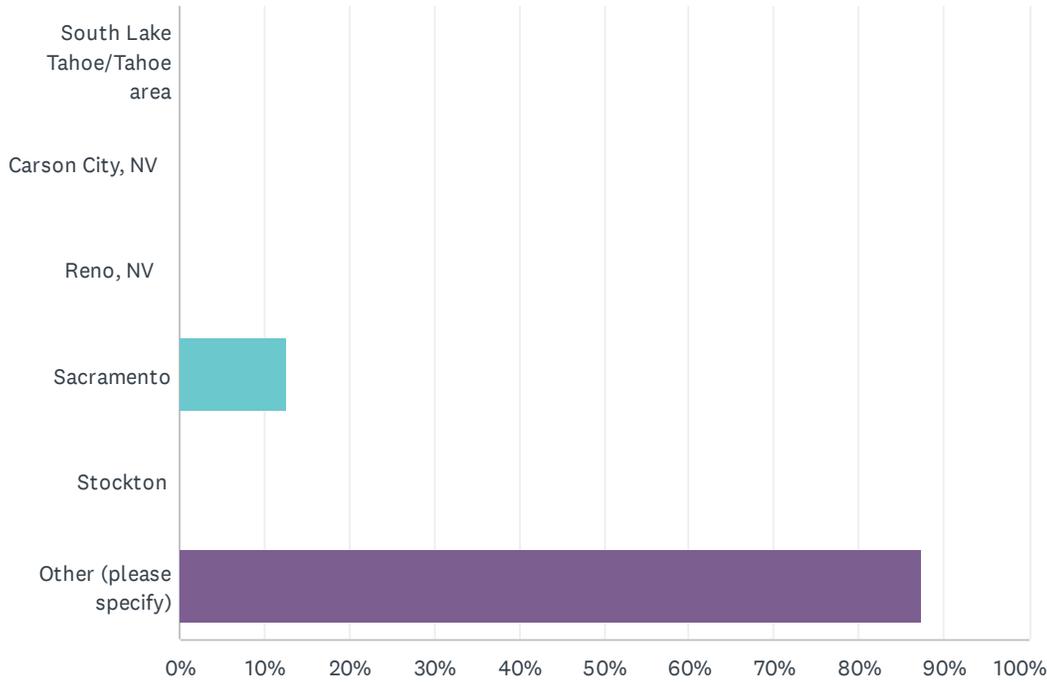
Answered: 8 Skipped: 0



ANSWER CHOICES	RESPONSES
Markleeville	25.00% 2
Woodfords Community	0.00% 0
Mesa Vista	12.50% 1
Kirkwood	0.00% 0
Alpine Village	12.50% 1
Bear Valley	50.00% 4
TOTAL	8

Q2 What are your most frequent out-of-county destinations?

Answered: 8 Skipped: 0

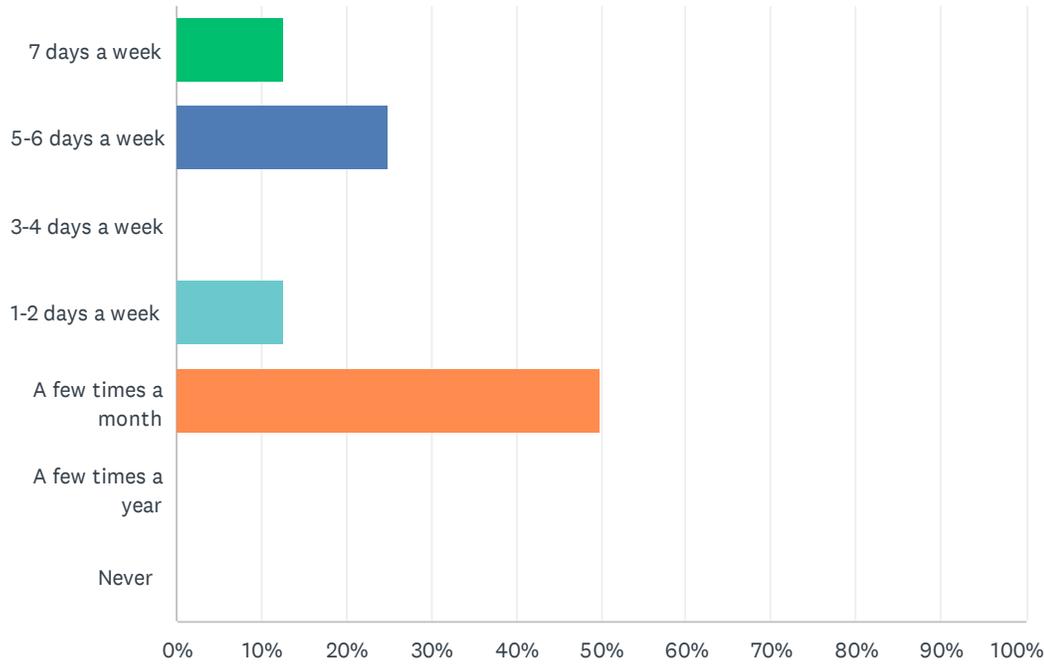


ANSWER CHOICES	RESPONSES
South Lake Tahoe/Tahoe area	0.00% 0
Carson City, NV	0.00% 0
Reno, NV	0.00% 0
Sacramento	12.50% 1
Stockton	0.00% 0
Other (please specify)	87.50% 7
TOTAL	8

#	OTHER (PLEASE SPECIFY)	DATE
1	Mono, Mammoth, Lyon	5/6/2025 2:32 PM
2	Carson City, NV and Lake Tahoe/Truckee	5/6/2025 2:27 PM
3	Lake Tahoe/Truckee and Carson City, NV	5/6/2025 2:23 PM
4	Angels Camp, murphys, Sonora	10/9/2024 3:01 PM
5	bay area	10/9/2024 2:06 PM
6	Bay area	10/9/2024 10:52 AM
7	Minden, NV	10/7/2024 7:37 PM

Q3 How frequently do you travel out-of-county?

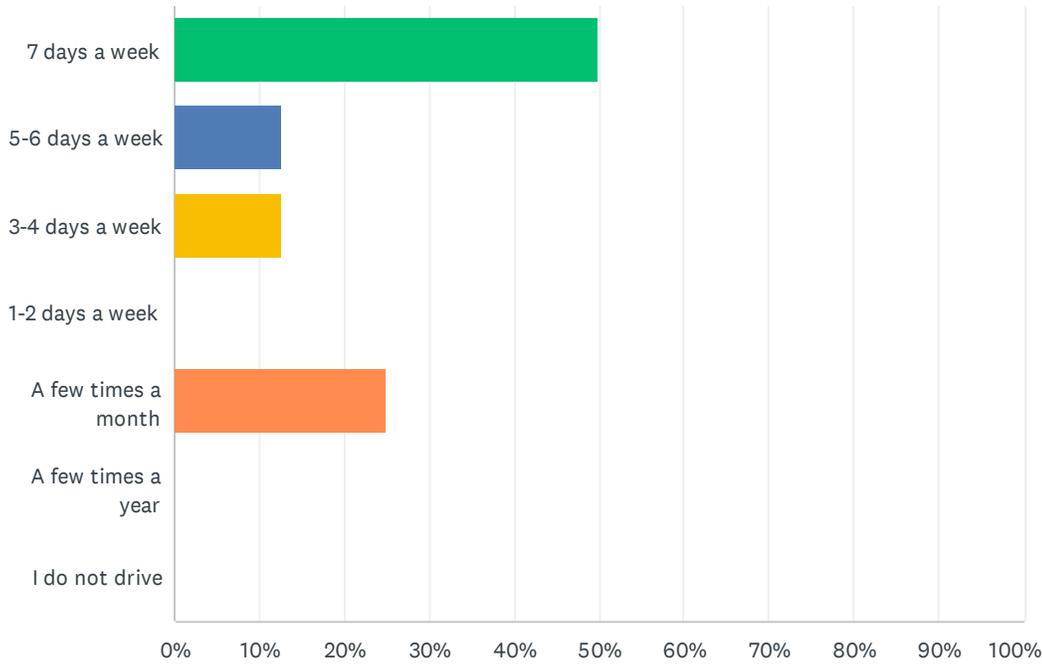
Answered: 8 Skipped: 0



ANSWER CHOICES	RESPONSES	
7 days a week	12.50%	1
5-6 days a week	25.00%	2
3-4 days a week	0.00%	0
1-2 days a week	12.50%	1
A few times a month	50.00%	4
A few times a year	0.00%	0
Never	0.00%	0
TOTAL		8

Q4 How often do you drive a vehicle, on average?

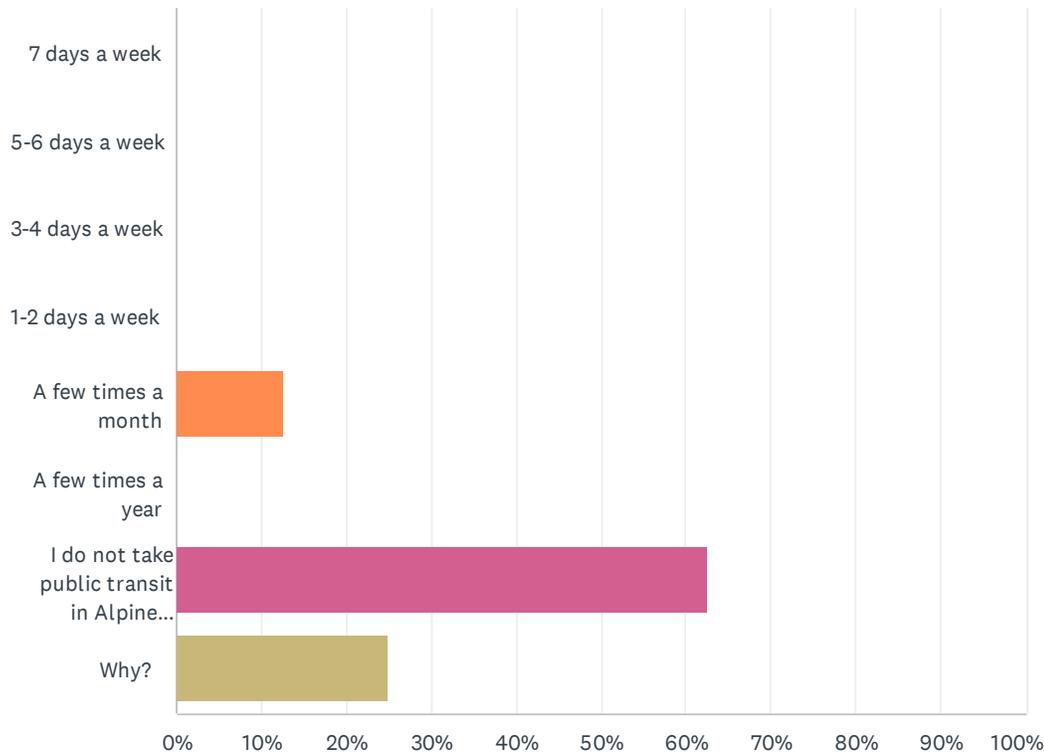
Answered: 8 Skipped: 0



ANSWER CHOICES	RESPONSES	
7 days a week	50.00%	4
5-6 days a week	12.50%	1
3-4 days a week	12.50%	1
1-2 days a week	0.00%	0
A few times a month	25.00%	2
A few times a year	0.00%	0
I do not drive	0.00%	0
TOTAL		8

Q5 Approximately how often do you use public transit in Alpine County?

Answered: 8 Skipped: 0

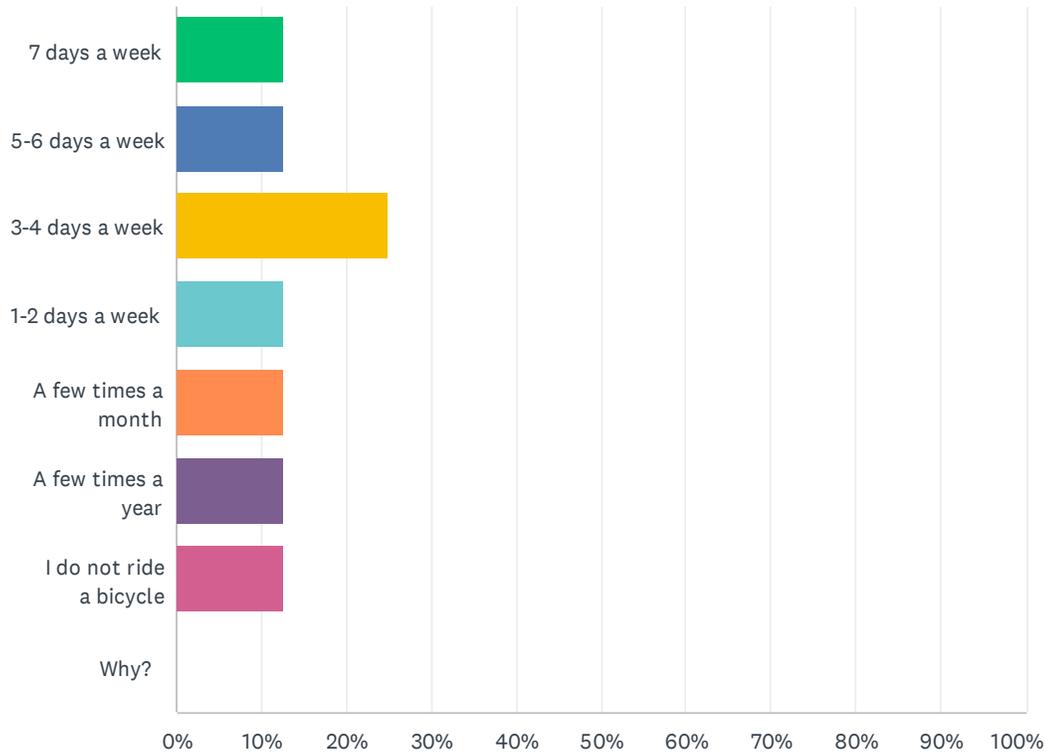


ANSWER CHOICES	RESPONSES
7 days a week	0.00% 0
5-6 days a week	0.00% 0
3-4 days a week	0.00% 0
1-2 days a week	0.00% 0
A few times a month	12.50% 1
A few times a year	0.00% 0
I do not take public transit in Alpine County	62.50% 5
Why?	25.00% 2
TOTAL	8

#	WHY?	DATE
1	because there is no public transit in Alpine County	10/9/2024 2:06 PM
2	No public transit from village to ski area	10/7/2024 3:42 PM

Q6 Approximately how often do you ride a bicycle in Alpine County (including recreational or utilitarian trips)?

Answered: 8 Skipped: 0

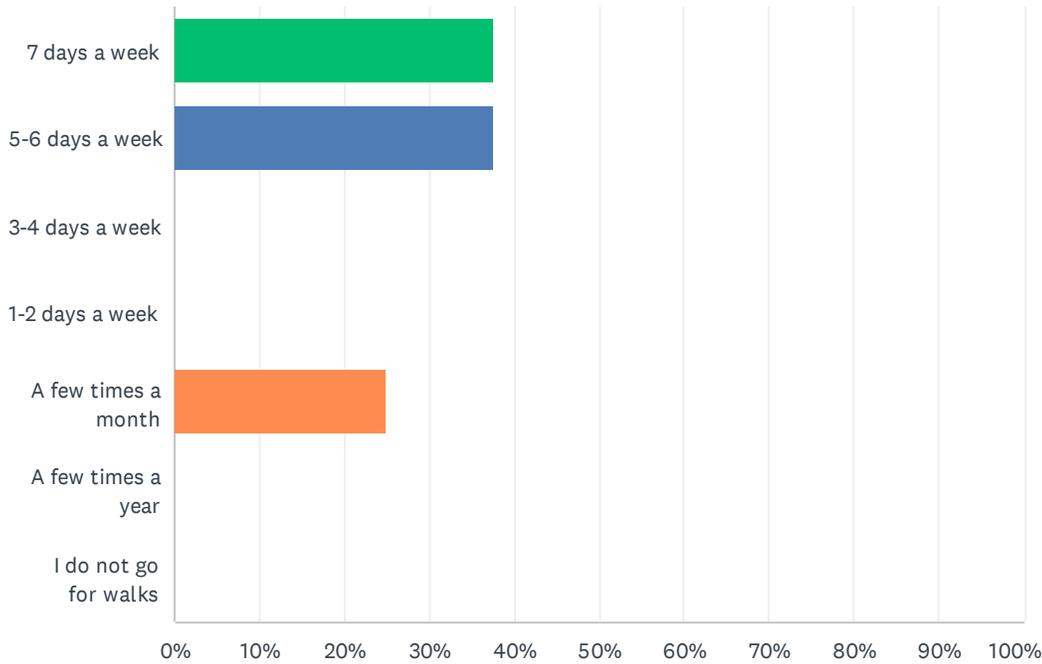


ANSWER CHOICES	RESPONSES
7 days a week	12.50% 1
5-6 days a week	12.50% 1
3-4 days a week	25.00% 2
1-2 days a week	12.50% 1
A few times a month	12.50% 1
A few times a year	12.50% 1
I do not ride a bicycle	12.50% 1
Why?	0.00% 0
TOTAL	8

#	WHY?	DATE
	There are no responses.	

Q7 How often do you walk in Alpine County (including recreational or utilitarian trips)?

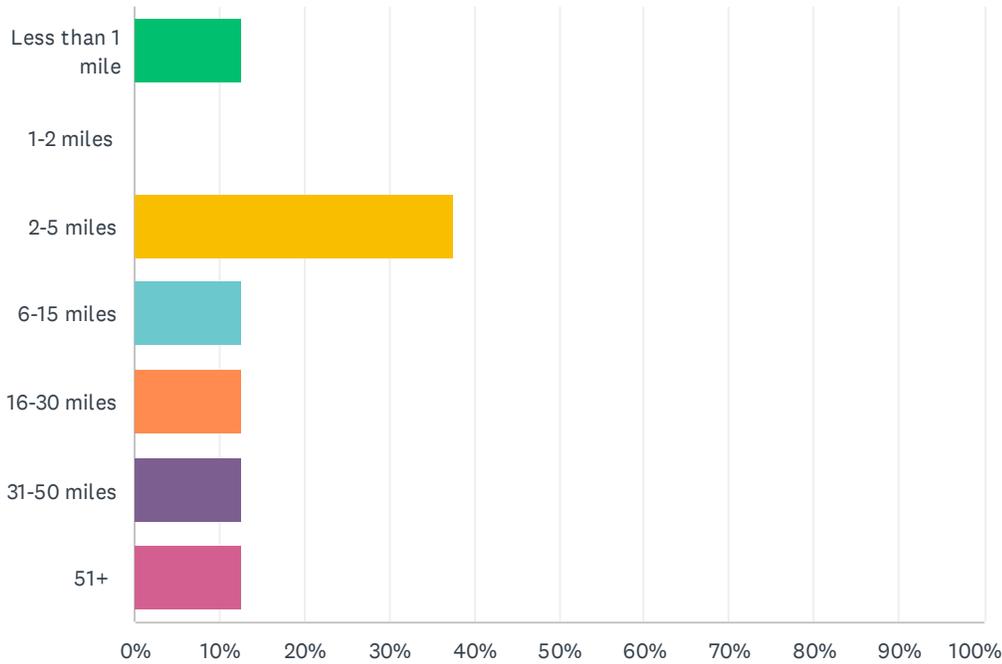
Answered: 8 Skipped: 0



ANSWER CHOICES	RESPONSES
7 days a week	37.50% 3
5-6 days a week	37.50% 3
3-4 days a week	0.00% 0
1-2 days a week	0.00% 0
A few times a month	25.00% 2
A few times a year	0.00% 0
I do not go for walks	0.00% 0
TOTAL	8

Q8 How far do you commute to work, school, or other frequent destinations?

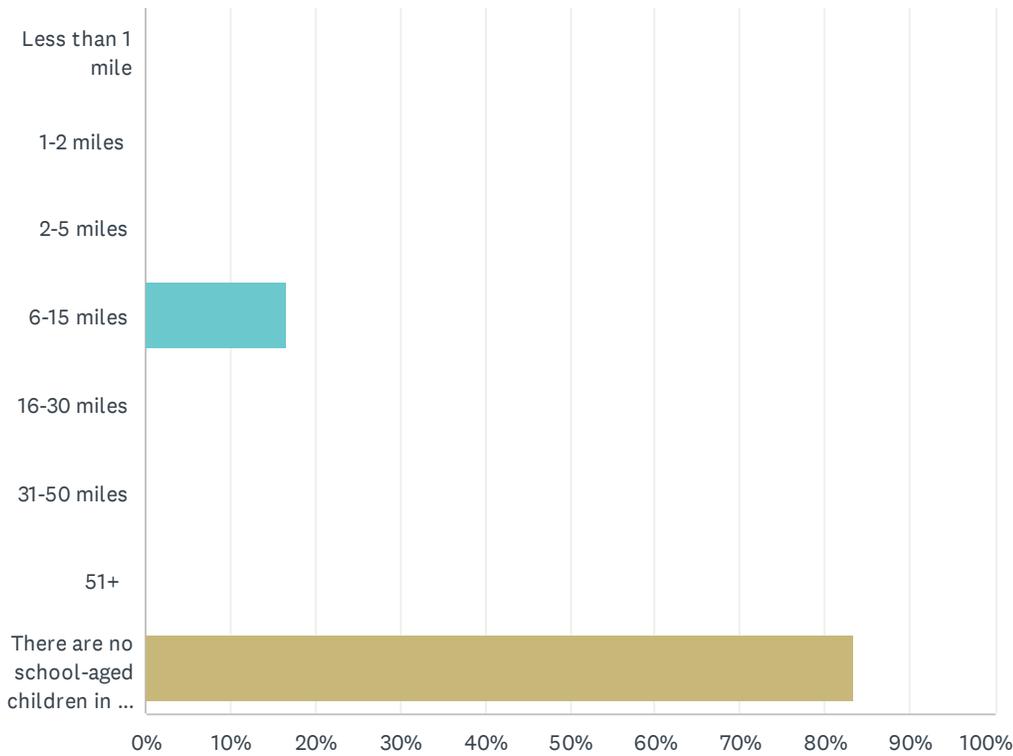
Answered: 8 Skipped: 0



ANSWER CHOICES	RESPONSES
Less than 1 mile	12.50% 1
1-2 miles	0.00% 0
2-5 miles	37.50% 3
6-15 miles	12.50% 1
16-30 miles	12.50% 1
31-50 miles	12.50% 1
51+	12.50% 1
TOTAL	8

Q9 If you have school-aged children, how far do they commute to school?

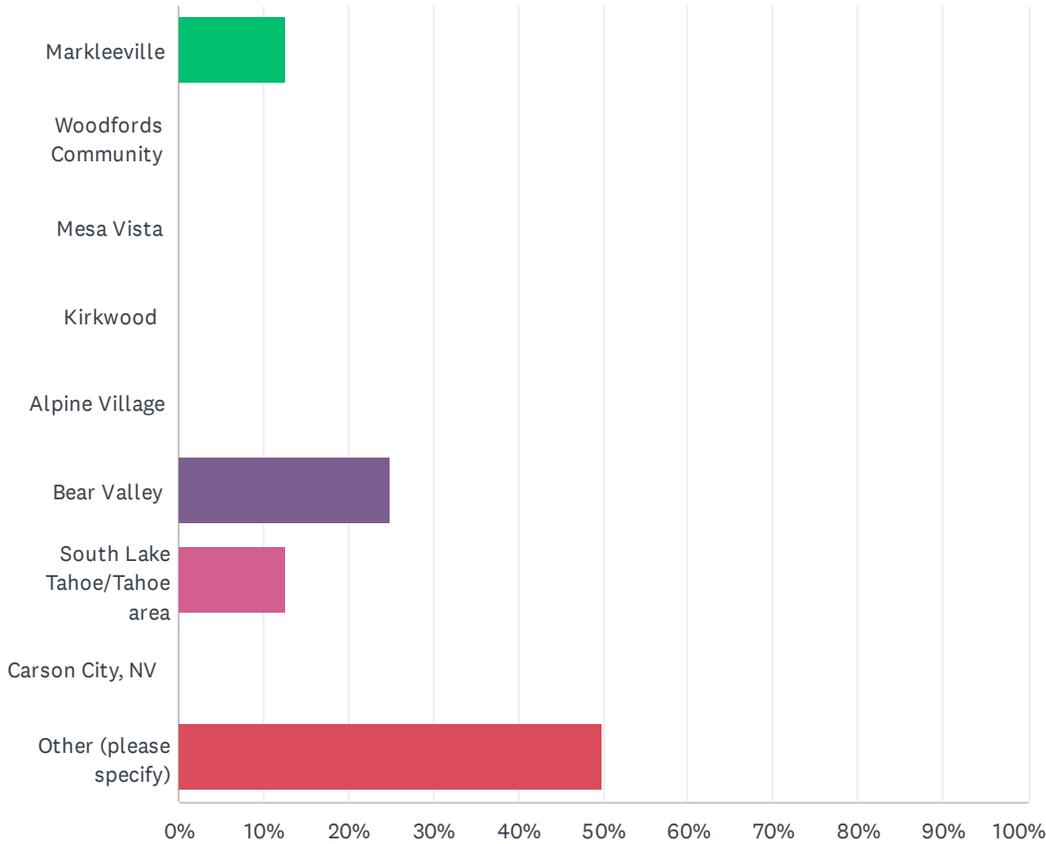
Answered: 6 Skipped: 2



ANSWER CHOICES	RESPONSES	
Less than 1 mile	0.00%	0
1-2 miles	0.00%	0
2-5 miles	0.00%	0
6-15 miles	16.67%	1
16-30 miles	0.00%	0
31-50 miles	0.00%	0
51+	0.00%	0
There are no school-aged children in my household	83.33%	5
TOTAL		6

Q10 Which general area do you work in or travel to most often?

Answered: 8 Skipped: 0



ANSWER CHOICES	RESPONSES
Markleeville	12.50% 1
Woodfords Community	0.00% 0
Mesa Vista	0.00% 0
Kirkwood	0.00% 0
Alpine Village	0.00% 0
Bear Valley	25.00% 2
South Lake Tahoe/Tahoe area	12.50% 1
Carson City, NV	0.00% 0
Other (please specify)	50.00% 4
TOTAL	8

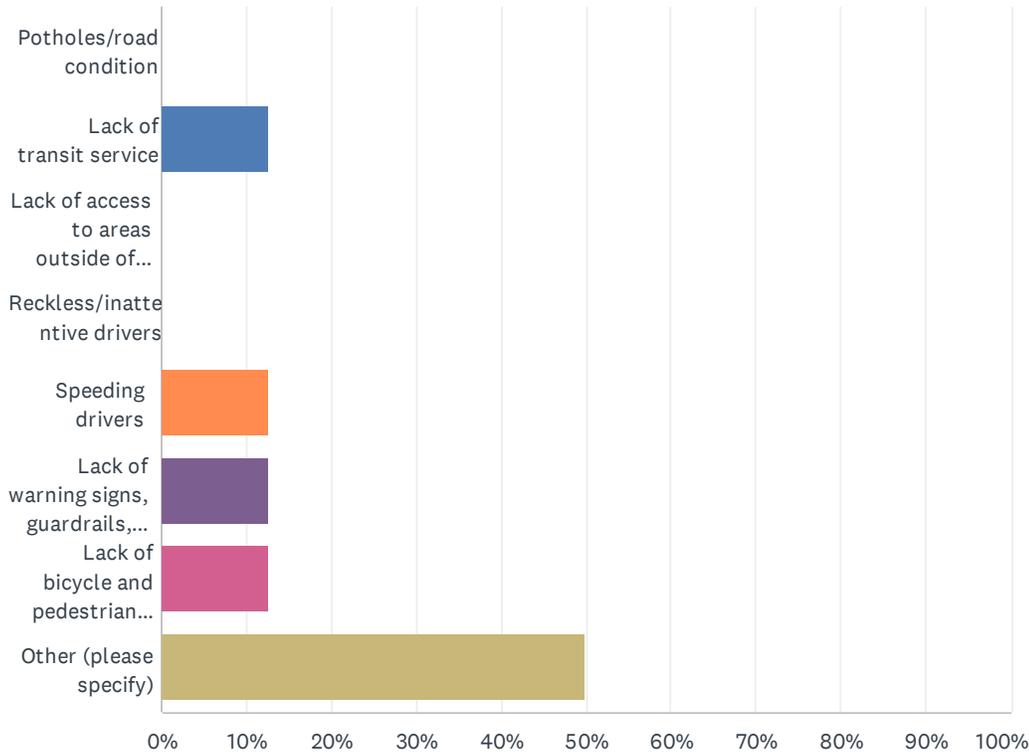
#	OTHER (PLEASE SPECIFY)	DATE
1	alpine Village, Markleeville, Kirkwood, South Lake Tahoe/Truckee, remote recreational areas	5/6/2025 2:27 PM

Alpine County Regional Transportation Plan Community Survey

2	Ridiculous question if you don't live in Markleeville	10/9/2024 3:01 PM
3	Arnold, CA	10/9/2024 2:06 PM
4	Minden, NV	10/7/2024 7:37 PM

Q11 What concerns do you have with the transportation network in Alpine County? Check all that apply.

Answered: 8 Skipped: 0



ANSWER CHOICES	RESPONSES
Potholes/road condition	0.00% 0
Lack of transit service	12.50% 1
Lack of access to areas outside of Alpine County	0.00% 0
Reckless/inattentive drivers	0.00% 0
Speeding drivers	12.50% 1
Lack of warning signs, guardrails, etc.	12.50% 1
Lack of bicycle and pedestrian facilities	12.50% 1
Other (please specify)	50.00% 4
TOTAL	8

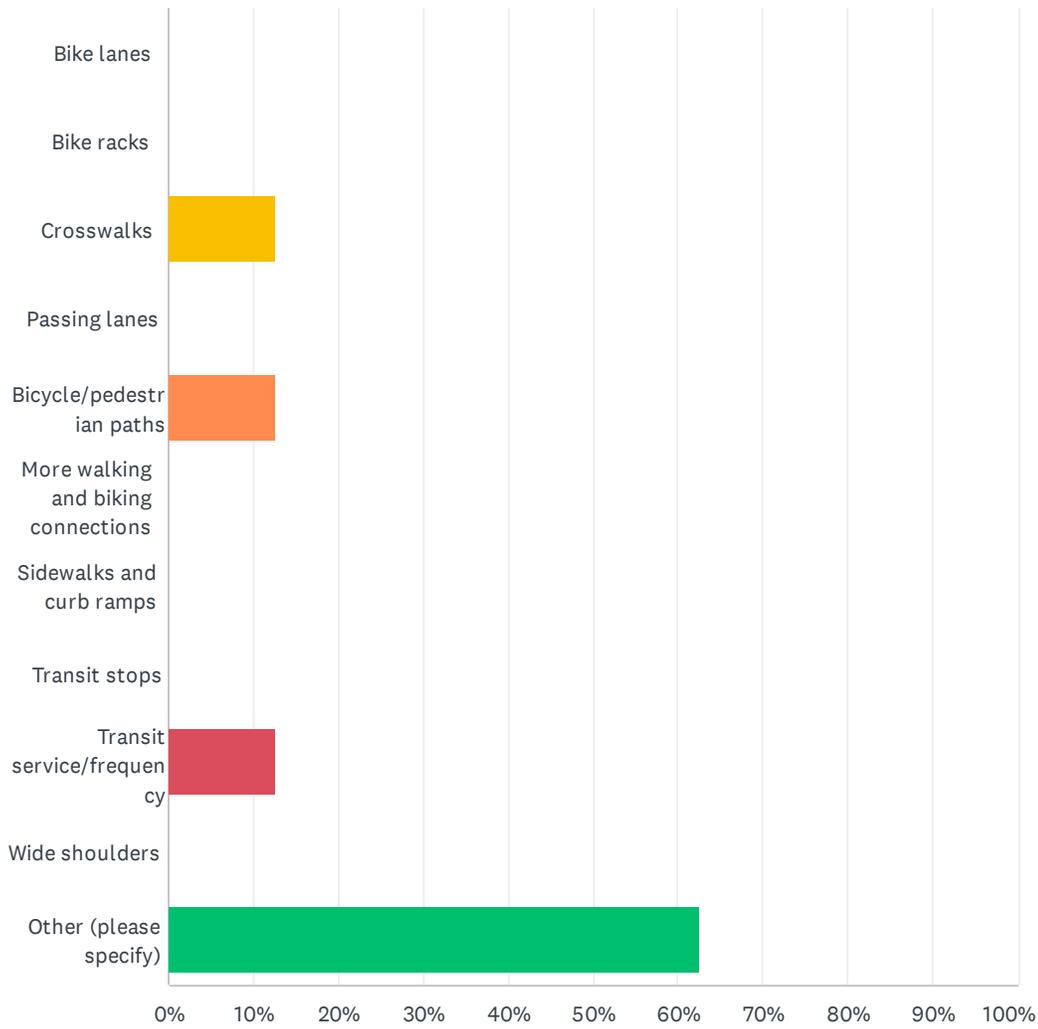
#	OTHER (PLEASE SPECIFY)	DATE
1	Speeding, Lack of bicycle and pedestrian facilities, lack of access to areas outside of Alpine county, deterioration of dirt roads to access recreation	5/6/2025 2:27 PM
2	Not enough options	10/9/2024 3:01 PM

Alpine County Regional Transportation Plan Community Survey

3	Would be nice to connect the bus that goes to Arnold up to Bear Valley	10/9/2024 2:06 PM
4	No transit for most needed route, BV village to ski area	10/7/2024 3:42 PM

Q12 Would you like to see more of the following? Check all that apply.

Answered: 8 Skipped: 0



Alpine County Regional Transportation Plan Community Survey

ANSWER CHOICES	RESPONSES	
Bike lanes	0.00%	0
Bike racks	0.00%	0
Crosswalks	12.50%	1
Passing lanes	0.00%	0
Bicycle/pedestrian paths	12.50%	1
More walking and biking connections	0.00%	0
Sidewalks and curb ramps	0.00%	0
Transit stops	0.00%	0
Transit service/frequency	12.50%	1
Wide shoulders	0.00%	0
Other (please specify)	62.50%	5
TOTAL		8

#	OTHER (PLEASE SPECIFY)	DATE
1	marked mtb trails	5/6/2025 2:32 PM
2	Bike lanes, pedestrian paths, sidewalks and curb ramps, wide shoulders, trails connecting communities	5/6/2025 2:27 PM
3	sidewalks, curb ramps, and crosswalks	5/6/2025 2:23 PM
4	any form of public transportation	10/9/2024 2:06 PM
5	Can only select one: but transit stops and frequency, bike racks, and bike/ped paths are my selections	10/9/2024 10:52 AM

Q13 What areas need more bicycle and pedestrian facilities? (ex. communities, neighborhoods, specific streets, specific intersections, etc.)

Answered: 5 Skipped: 3

#	RESPONSES	DATE
1	woodsforfs to monitor pass/ebetts	5/6/2025 2:32 PM
2	linking communities to towns and recreational areas	5/6/2025 2:27 PM
3	Downtown	5/6/2025 2:23 PM
4	Hwy 4 and Bear Valley Road	10/9/2024 3:01 PM
5	Woodforfs Station to Hope Valley	10/7/2024 7:37 PM

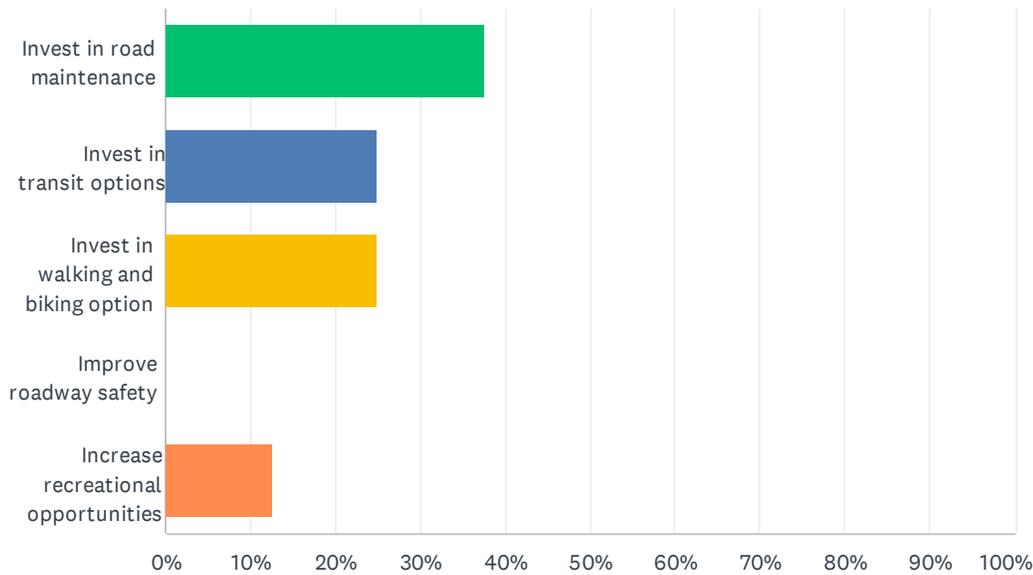
Q14 What areas need better transit service or facilities? (ex. communities, neighborhoods, specific streets, specific intersections, etc.)

Answered: 4 Skipped: 4

#	RESPONSES	DATE
1	woodsforbs, bear valley, hung le ti	5/6/2025 2:32 PM
2	Better frequency between communities, ie bear valley to Arnold	10/9/2024 10:52 AM
3	Woodforbs to Kirkwood shuttle	10/7/2024 7:37 PM
4	Bear Valley village	10/7/2024 3:42 PM

Q15 Please rank the following transportation needs in order of priority (1 is your highest priority and 5 is least).

Answered: 8 Skipped: 0



ANSWER CHOICES	RESPONSES
Invest in road maintenance	37.50% 3
Invest in transit options	25.00% 2
Invest in walking and biking option	25.00% 2
Improve roadway safety	0.00% 0
Increase recreational opportunities	12.50% 1
TOTAL	8

Q16 Do you have any comments or suggestions regarding the transportation network in Alpine County?

Answered: 5 Skipped: 3

#	RESPONSES	DATE
1	Trails! Trail heads developed! Snow parks on monitor!	5/6/2025 2:32 PM
2	Invest in walking and bicycling options and increase recreational activities	5/6/2025 2:27 PM
3	Improve downtown	5/6/2025 2:23 PM
4	Repeating it would be ideal to have some sort of public transportation to get people out of the county to connect with other forms of public transportation	10/9/2024 2:06 PM
5	Follow the plans already created 15 years ago. Did you even read them?	10/7/2024 7:37 PM

APPENDIX B

COORDINATION WITH STATE WILDLIFE ACTION PLAN

Table 5.4-1 Conservation Units and Targets – Central Valley and Sierra Nevada Province*

Conservation Unit	Geographic and Ecological Summary	Conservation Target	Target Summary	Focal CWHR Types Associated with Target
Great Valley Ecoregion	<p>Contains the alluvial plains of the Sacramento and San Joaquin Valleys. Summers are hot and dry and winters are mild. Oceanic influence on climate is slight in the middle of the Great Valley, which receives some marine air through the Carquinez Strait, but becomes negligible at the north and south ends of the Valley. Predominant vegetation includes annual grassland, cheatgrass, valley oak, vernal pools and wetland communities, blue oak, allscale and saltgrass.</p> <p>Elevation range: 0 to 2,000</p>	American Southwest Riparian Forest and Woodland	Diagnostic species include Fremont cottonwood, black and red willow, California sycamore, California wild grape, arroyo willow, narrow-leaf willow, button-bush, and spice bush. Most stands are found in permanently moist settings or riparian settings where sub-surface water is available year-round.	Valley Foothill Riparian
		Freshwater Marsh	This vegetation type consists of freshwater emergent marshes and coastal/tidal marshes and meadows. It can be found surrounding streams, rivers, lakes and wet meadows. These habitats occur on virtually all exposures and slopes, provided a basin or depression is saturated or at least periodically flooded. Dominant species are generally perennial monocots including graminoids such as rushes, reeds, grasses and sedges. Dominant species include: common reeds, hardstem bulrush, small-fruited bulrush, water parsley, slough sedge, soft rush, salt rush, and pacific silverweed.	Fresh Emergent Wetland
Sierra Nevada Foothills Ecoregion	<p>Includes the hot foothills of the Sierra Nevada, and the southwestern end of the Cascade Ranges, adjacent to the Great Valley. Predominant vegetation communities include blue oak, broom, cheatgrass, chamise, mixed chaparral, foothill pine, and valley oak.</p> <p>Elevation range: 200 to 5,000</p>	Chaparral	Represented by a wide variety of floristic alliances, but in general can be grouped into coastal (maritime), xeric (dry, sunny slopes), mesic (cooler, shady slopes), and lower montane (somewhat frost sensitive) types. All of these groupings have different characteristic species and fire regimes. The core diagnostic species are shrubs with evergreen thickened leaves including many species of manzanita, <i>Ceanothus</i> , scrub oaks, and other characteristic shrubs: toyon, chamise, flannel-bush, silk-tassel bush, and many others. Many shrubs tend to break down into their fire responses, including obligate-seeding and resprouting strategies.	Mixed Chaparral; Chamise-Redshanks Chaparral
		California Foothill and Coastal Rock Outcrop Vegetation B2	Vegetative cover is generally < 2%. Cliffs and outcrops west of the deserts and inland from the immediate coast, south of central California. Rock surfaces or rapidly eroding unstable slopes are characteristic. Stands do not include alpine or subalpine sparse, rocky vegetation, and also do not include the sparsely vegetated portions of the warm and cold deserts. Target is poorly understood floristically; includes coastal succulents (e.g., <i>Dudleya</i> and <i>Coreopsis gigantea</i>).	Barren

Table 5.4-1 Conservation Units and Targets – Central Valley and Sierra Nevada Province*

Conservation Unit	Geographic and Ecological Summary	Conservation Target	Target Summary	Focal CWHR Types Associated with Target
Sierra Nevada Foothills Ecoregion (continued)		Desert Transition Chaparral	These chaparral stands occur in the "rain shadow" of the mountains. Compared to the target "Chaparral," the stands are less dense, contain a mix of other non-chaparral shrubs with desert affinities, and tend to have less frequent and less intense fires. This target contains the desert margin scrub oaks <i>Quercus john-tuckeri</i> , <i>Q. turbinella</i> , and <i>Q. cornelius mulleri</i> , also sugar-bush, red-shank, Silk-tassel bush, and cup-leaf ceanothus. Understory short shrubs include golden-bush, California buckwheat, and matchweed. Prickly-pear, cholla, jojoba, nolina, and other desert perennials and annuals are also common associates in many of the stands.	Mixed Chaparral; Chamise-Redshanks Chaparral
		Montane Chaparral	These are cold-adapted and occupy successional relationships to various coniferous forests on productive sites, or persist in rocky or other poor soil sites. Contains the <i>Ceanothus cordulatus</i> , <i>C. velutinus</i> , <i>Arctostaphylos patula</i> , <i>A. nevadensis</i> , <i>Chrysolepis sempervirens</i> , and <i>Q. vaccinifolia</i> -dominated montane chaparrals. Does not include bittercherry, ocean spray or other taller winter deciduous shrub stands, which may occur near or adjacent to these evergreen stands.	Montane Chaparral
		California Foothill and Valley Forests and Woodlands	These forests may be open woodlands to denser forests, and may be dominated by broadleaf evergreen or deciduous hardwoods, co-dominated by hardwoods and conifers, or dominated entirely by conifers. Understories can be grassy, shrubby, or mixed with both. This target contains two groups, one dominated by broad leaf trees and the other dominated by conifers. Fire ecology is varied depending on the spacing of trees and the herbaceous or woody understory characteristics.	Coastal Oak Woodland; Blue Oak Woodland; Blue Oak-Foothill Pine; Montane Hardwood; Valley Foothill Riparian; Valley Oak Woodland; Closed-Cone Pine-Cypress; Juniper

Table 5.4-1 Conservation Units and Targets – Central Valley and Sierra Nevada Province*

Conservation Unit	Geographic and Ecological Summary	Conservation Target	Target Summary	Focal CWHR Types Associated with Target
Sierra Nevada Ecoregion	<p>The temperate to very cold parts of the Sierra Nevada, which is a north-northwest aligned mountain range that is much steeper on the east than on the west side. Predominant vegetation communities include mixed conifer, ponderosa pine, Jeffrey pine, white fir, red fir, lodgepole pine, huckleberry oak, western juniper, aspen, big sagebrush, mixed subalpine forest, mountain hemlock, whitebark pine, and giant sequoia. Elevation range: 1,000 to 14,495</p>	<p>North Coastal Mixed Evergreen and Montane Conifer Forests</p>	<p>All of these forests average cooler and wetter conditions than California Foothill and Valley Forests and Woodlands. There is relatively broad overlap between the three groups composing this target. The moist coastal mixed evergreen has (or had) tanoak, madrone, giant chinquapin mixed frequently with Douglas-fir, but also mixes with bigleaf maple and red alder in upland settings. The more interior mixed evergreen forests have cooler winters and warmer summers than the moist coastal group above, and contain Oregon oak and drier Douglas-fir with canyon oak mixes.</p>	<p>Montane Hardwood; Montane Hardwood-Conifer; Douglas-Fir; Klamath Mixed Conifer; Sierran Mixed Conifer; White Fir; Eastside Pine; Jeffrey Pine; Ponderosa Pine</p>
		<p>Alpine Vegetation</p>	<p>This target is representative of the state’s alpine zone in the Sierra Nevada, Cascades, White, Sweetwater, and Klamath Mountains. It either occurs above timberline or is found localized within subalpine areas in cold air drainages (e.g., North-facing slopes, often near long persisting snow banks). The characteristic species are either herbaceous (many are cushion plants, some tufted or rhizomatous graminoids) or low prostrate or dwarf shrubs. Different groups segregate based on substrate type (e.g., scree, talus, felfield) and moisture regime (e.g., snowbank, felfield). Snowbank indicator species include white heather, several species of saxifrage, and sedge. Felfield indicators include alpine reedgrass, Congdon sedge, alpine goldenbush, and Phlox species, among others. Alpine turf indicators include dwarf willows, dwarf huckleberry, Muir’s hairgrass, and several sedges.</p>	<p>Alpine Dwarf-Shrub</p>
		<p>Pacific Northwest Subalpine Forest</p> <p>B4</p>	<p>Includes montane conifer forests and woodlands adapted to very high winter snowfall, from montane to subalpine elevations. Snow loads are the greatest anywhere in North America and persist well into the summer. Tree germination is also limited in some cases by the short period the ground is not covered by snow. Characteristic trees include red fir, mountain hemlock, and western white pine.</p>	<p>Red Fir; Subalpine Conifer</p>

Table 5.4-1 Conservation Units and Targets – Central Valley and Sierra Nevada Province*

Conservation Unit	Geographic and Ecological Summary	Conservation Target	Target Summary	Focal CWHR Types Associated with Target
Sierra Nevada Ecoregion (continued)		Wet Mountain Meadow	Typical of low lying sites in the mountains and in some lower elevation valleys and depressions. Widespread throughout the state wherever freshwater meadows and seeps occur. Saturated soil or standing water through the growing season are key characteristics. Wet mountain meadows are generally characterized by herbaceous plants with shrubs or trees absent or sparse (<20 percent cover), or along the edges. Most species are perennial and canopy cover is generally dense (60-100 percent).	Wet Meadow
		Western Upland Grasslands	Dominated by grasses, which are typically not restricted to moisture surrounding landscape (not seeps, riparian, or wet meadows). Dominant vegetation generally includes native grasslands of Idaho fescue, Great Basin wild rye, blue wild rye, one-sided bluegrass. It also includes the non-native grasslands that are from cool temperate settings in Eurasia such as creeping bentgrass, velvetgrass, Kentucky bluegrass, and Harding grass and cheat-grass.	Perennial Grassland; Annual Grassland
Sacramento HUC 1802	Encompasses much of northern California. Includes the Sacramento River Basin, including Shasta Lake and the isolated Clear Lake drainage basin, in California; and drainage into Goose Lake in Oregon. Covers an area of 27,600 square miles. Traverses the Coastal, Cascade, Warner, and Sierra Nevada mountain ranges and Modoc Plateau.	Clear Lake Native Fish Assemblage	Species of Greatest Conservation Need (SGCN) associated with target are Clear Lake hitch, Sacramento perch, Clear Lake tule perch, Pacific brook lamprey, prickly sculpin, Sacramento blackfish, Sacramento pikeminnow, California roach, Sacramento sucker, three-spine stickleback, and rainbow trout.	N/A
Central Lahontan HUC 1605	Includes the Central Lahontan Basin, consisting of the Carson, Truckee, and Walker River Basins in California and Nevada. Covers an area of 12,500 square miles. This unit is characterized by a diverse topography and climate. It includes high points along the eastern slopes of the Sierra Nevada and adjacent valley bottoms. The unit experiences very high to very low levels of precipitation associated with heavy snowfall in the mountainous regions and rainshadow effects in the valleys to the east and a similarly wide variation in temperature extremes. Varied topography and climate provides for a correspondingly diverse array of habitats, including abundant high quality waters and wetlands that support many distinct and unique plants and communities in this unit. Particularly notable are	Carson River Native Fish Assemblage	Includes 10 species of native fish. SGCN associated with target are Paiute cutthroat trout, Lahontan cutthroat trout, mountain sucker, and mountain whitefish. Other species in native fish assemblage are Paiute sculpin, Lahontan creek tui chub, Lahontan redbreast, Lahontan speckled dace, and Tahoe sucker.	N/A
		Walker River Native Fish Assemblage	SGCN associated with target are Lahontan cutthroat trout, mountain sucker, mountain whitefish, and freshwater mussels.	N/A

Table 5.4-1 Conservation Units and Targets – Central Valley and Sierra Nevada Province*

Conservation Unit	Geographic and Ecological Summary	Conservation Target	Target Summary	Focal CWHR Types Associated with Target
Central Lahontan HUC 1605 (continued)	<p>endemic fish species such as Paiute cutthroat trout and several species of desert pupfish. Numerous beneficial uses related to biological resources have been identified in this unit; as well as numerous CDFW-designated Significant Natural Areas.</p> <p>Elevation range: 4,200 to 11,400</p>			
San Joaquin HUC 1804	<p>Includes the entire San Joaquin River basin and its tributaries, including the Chowchilla, Merced, Stanislaus, Calaveras, Cosumnes, Mokolumne, Fresno, and Tuolumne rivers, Panoche Creek, and Mormon Slough. Also includes the San Luis reservoir and the San Joaquin Delta. Covers an area of 15,600 square miles.</p> <p>This unit, together with the Sacramento unit (1802), covers about one fourth of the total area of the state and furnishes roughly 51% of the State’s water supply. The upper portions of this unit are characterized by high gradient mountain streams entering low gradient meadows and grasslands/agricultural lands and in areas terminating into large warm water lakes with unique native fish assemblages. Surface water from this unit in combination with the Sacramento unit meet and form the Delta, which ultimately drains into the San Francisco Bay. Two major water projects, the CVP and SWP, deliver water from the Delta to Southern California, the San Joaquin Valley, Tulare Lake Basin, the San Francisco Bay area, as well as within the Delta boundaries. The Delta is a maze of river channels and diked islands. Historic and ongoing point and nonpoint source discharges impact surface waters in this unit.</p> <p>Significant portions of major rivers and the Delta within this unit are impaired, to some degree, by discharges from agriculture, mines, urban areas and industries. The wetlands of this unit form important waterfowl habitat for migratory waterfowl using the Pacific Flyway.</p> <p>The alluvial fans within portions of this unit contain salts and selenium, which can be mobilized through irrigation practices and can pose potential threat to condition of surface waters and wetlands supporting important wildlife.</p> <p>Elevation range: 0 to 12,800</p>	<p>San Joaquin Native Aquatic Species</p> <p>B6</p>	<p>SGCN associated with target are hardhead, California roach, Red Hills roach, Sacramento sucker, Sacramento pikeminnow, Sacramento blackfish, Sacramento spittail, hitch, western pearlshell mussel, California floater mussel, Paiute cutthroat trout, Lahontan cutthroat trout, rainbow trout, California red-legged frog, foothill yellow-legged frog, and mountain yellow-legged frog.</p>	<p>N/A</p>

Table 5.4-1 Conservation Units and Targets – Central Valley and Sierra Nevada Province*

Conservation Unit	Geographic and Ecological Summary	Conservation Target	Target Summary	Focal CWHR Types Associated with Target
Tulare-Buena Vista Lakes HUC 1803	<p>Includes drainage into the closed basins of Tulare and Buena Vista Lake in portions of Fresno, Kern, Kings, and Tulare counties of the southern San Joaquin Valley, California. Covers an area of 16,200 square miles. This unit is situated in the topographic horseshoe formed by the Diablo and Temblor Ranges on the west, by the San Emigdio and Tehachapi Mountains on the south, and by the Sierra Nevada Mountains on the east and southeast. It receives flood water from the major rivers during times of heavy runoff and surface water only drains from this unit north into the San Joaquin River in years of extreme rainfall. This unit once supported vast tule marshes, riparian corridors, abundant wetlands, and one of the most diverse, productive grasslands in temperate North America. However, the Tulare and Buena Vista lakes basin has been developed for farming due to its fertile soils, relatively cloudless summers, and high quality runoff from the adjacent mountains; it is now one of the most important agricultural centers of the world. Surface water supplies are inadequate to support the present level of agricultural and other development; ground water resources supply additional demands.</p> <p>Of primary concern in this unit is the accumulation of salts due to importation and evaporative use of the water. Evaporation ponds are being used for disposal of these saline waters, but the ponds are known to detrimentally impact wildlife. Additionally, historically poor sanitation associated with recreational uses and erosion from construction, logging, grazing, and irrigated agriculture are threats to stream environments in this unit.</p> <p>Elevation range: 160 to 13,200</p>	Upper Kern Native Fish Assemblage	SGCN associated with target are California golden trout, hardhead, Kern River rainbow trout, and Little Kern golden trout. Other native fish in the assemblage is Sacramento sucker	N/A

Table 5.4-2 Key Ecological Attributes – Central Valley and Sierra Nevada Province

Key Ecological Attributes	Conservation Units and Targets																
	Great Valley		Sierra Nevada Foothills					Sierra Nevada					Sacramento HUC 1802	Central Lahontan HUC 1605	San Joaquin HUC 1804	Tulare-Buena Vista Lakes HUC 1803	
	American Southwest Riparian Forest and Woodland	Freshwater Marsh	Chaparral	California Foothill and Coastal Rock Outcrop Vegetation	California Foothill and Valley Forests and Woodlands	Desert Transition Chaparral	Montane Chaparral	North Coastal Mixed Evergreen and Montane Conifer Forests	Alpine Vegetation	Pacific Northwest Subalpine Forest	Wet Mountain Meadow	Western Upland Grasslands	Clear Lake Native Fish Assemblage	Carson River Native Fish Assemblage	Walker River Native Fish Assemblage	San Joaquin Native Aquatic Species	Upper Kern River Native Fish Assemblage
Area and extent of community	X	X	X	X		X	X		X	X	X	X	X	X	X	X	X
Community structure and composition		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Connectivity among communities and ecosystems	X	X	X	X		X	X		X		X	X	X		X	X	
Fire regime			X	X	X	X	X	X		X	X	X		X			X
Hydrological regime	X							X								X	
Nutrient concentration and dynamics													X				
Pollutant concentrations and dynamics													X	X			
Soil quality and sediment deposition regime	X				X						X	X	X	X			X
Successional dynamics	X	X	X		X	X	X	X		X							
Surface water flow regime	X	X											X	X	X	X	X
Water level fluctuations											X	X				X	
Water quality															X	X	
Water temperatures and chemistry																X	

Table 5.4-3 Focal Species of Conservation Strategies Developed for Conservation Targets – Central Valley and Sierra Nevada Province

Common Name	Scientific Name	Conservation Units and Targets ¹															
		Great Valley		Sierra Nevada Foothills				Sierra Nevada				Sacramento HUC 1802	Central Lahontan HUC 1605		San Joaquin HUC 1804	Tulare-Buena Vista HUC 1803	
		American Southwest Riparian Forest and Woodland	Freshwater Marsh	Chaparral	California Foothill and Coastal Rock Outcrop Vegetation	California Foothill and Valley Forests and Woodlands	Desert Transition Chaparral	Montane Chaparral	North Coastal Mixed Evergreen and Montane Conifer Forests	Alpine Vegetation	Pacific Northwest Subalpine Forest	Wet Mountain Meadow	Western Upland Grasslands	Clear Lake Native Fish Assemblage	Carson River Native Fish Assemblage	Walker River Native Fish Assemblage	San Joaquin Native Aquatic Species
Invertebrates																	
California floater mussel	<i>Anodonta californiensis</i>															X	X
Western pearlshell mussel	<i>Margaritifera falcata</i>													X	X	X	X
Valley elderberry longhorn beetle*	<i>Desmocerus californicus dimorphus</i>	X															
Fishes																	
Pacific lamprey*	<i>Entosphenus tridentatus</i>															X	
Goose Lake lamprey*	<i>Entosphenus tridentatus</i> ssp. ¹																
Pit-Klamath brook lamprey	<i>Lampetra lethophaga</i>																
Green sturgeon*	<i>Acipenser medirostris</i>															X	
Lahontan cutthroat trout*	<i>Oncorhynchus clarkii henshawi</i>													X	X	X	
Paiute cutthroat trout*	<i>Oncorhynchus clarkii seleniris</i>													X		X	
Rainbow trout	<i>Oncorhynchus mykiss</i>											X				X	
California golden trout*	<i>Oncorhynchus mykiss aguabonita</i>																X
Kern River rainbow trout*	<i>Oncorhynchus mykiss gilberti</i>																X
Goose Lake redband trout*	<i>Oncorhynchus mykiss</i> ssp. ¹																
Little Kern golden trout*	<i>Oncorhynchus mykiss whitei</i>																X
Mountain whitefish	<i>Prosopium williamsoni</i>													X	X		
Hitch	<i>Lavinia exilicauda chi</i>															X	
Clear Lake hitch	<i>Lavinia exilicauda chi</i>											X					
California roach	<i>Lavinia symmetricus</i>											X				X	
Pit roach*	<i>Lavinia symmetricus mitrulus</i>																
Hardhead*	<i>Mylopharodon conocephalus</i>															X	X
Sacramento blackfish	<i>Orthodon microlepidotus</i>											X				X	
Sacramento pickeminnow	<i>Ptychocheilus grandis</i>											X				X	
Lahontan redband	<i>Richardsonius egregius</i>												X	X			
Speckled dace	<i>Rhinichthys osculus</i>												X	X			
Lahontan Lake tui chub*	<i>Siphateles bicolor pectinifer</i>												X				
Lahontan Creek tui chub	<i>Siphateles bicolor obesa</i>												X	X			
Goose Lake tui chub*	<i>Siphateles bicolor thalassina</i>																
Sacramento sucker	<i>Catostomus occidentalis lacusanserinus</i>											X				X	X
Goose Lake sucker*	<i>Catostomus occidentalis lacusanserinus</i>																
Mountain sucker*	<i>Catostomus platyrhynchus</i>												X	X			
Tahoe sucker	<i>Catostomus tahoensis</i>												X	X			
Unarmored threespine	<i>Gasterosteus aculeatus</i>											X					

Table 5.4-3 Focal Species of Conservation Strategies Developed for Conservation Targets – Central Valley and Sierra Nevada Province

Common Name	Scientific Name	Conservation Units and Targets ¹															
		Great Valley		Sierra Nevada Foothills					Sierra Nevada				Sacramento HUC 1802	Central Lahontan HUC 1605		San Joaquin HUC 1804	Tulare-Buena Vista HUC 1803
		American Southwest Riparian Forest and Woodland	Freshwater Marsh	Chaparral	California Foothill and Coastal Rock Outcrop Vegetation	California Foothill and Valley Forests and Woodlands	Desert Transition Chaparral	Montane Chaparral	North Coastal Mixed Evergreen and Montane Conifer Forests	Alpine Vegetation	Pacific Northwest Subalpine Forest	Wet Mountain Meadow	Western Upland Grasslands	Clear Lake Native Fish Assemblage	Carson River Native Fish Assemblage	Walker River Native Fish Assemblage	San Joaquin Native Aquatic Species
stickleback*	<i>williamsoni</i>																
Sacramento perch	<i>Archoplites interruptus</i>												X				
Clear Lake tule perch	<i>Hysteroecarpus traski lagunae</i>												X				
Prickly sculpin	<i>Cottus asper</i>												X				
Paiute sculpin*	<i>Cottus beldingi*</i>													X	X		
Pit sculpin	<i>Cottus pitensis</i>																
Amphibians																	
California tiger salamander*	<i>Ambystoma californiense</i>	X		X		X	X	X									
Southern long-toed salamander*	<i>Ambystoma macrodactylum</i>								X	X	X	X	X				
Limestone salamander*	<i>Hydromantes brunus</i>			X	X		X	X									
Mount Lyell salamander*	<i>Hydromantes platycephalus</i>								X	X							
Red-bellied newt	<i>Taricha torosa</i>		X														
Western spadefoot*	<i>Spea hammondi</i>			X	X		X	X									
Kern Canyon slender salamander	<i>Batrachoseps simatus</i>					X											
Tehachapi slender salamander	<i>Batrachoseps stebbinsi</i>					X			X								
Relictual slender salamander	<i>Batrachoseps relictus</i>								X								
Yosemite toad	<i>Anaxyrus canorus</i>													X	X		
Northern leopard frog	<i>Lithobates pipiens</i>											X	X				
Foothill yellow-legged frog*	<i>Rana boylei</i>	X															
California red-legged frog*	<i>Rana draytonii</i>	X	X			X											
Southern mountain yellow-legged frog	<i>Rana muscosa</i>								X	X	X	X	X				
Sierra Nevada yellow-legged frog	<i>Rana sierra</i>													X	X		
Reptiles																	
Northwestern western pond turtle*	<i>Actinemys marmorata</i>	X	X			X											
Blunt-nosed leopard lizard*	<i>Gambelia sila</i>			X	X		X	X									
Blainville's horned lizard (coast horned lizard) *	<i>Phrynosoma blainvillii</i>			X	X		X	X									
Sagebrush lizard	<i>Sceloporus graciosus</i>								X	X							
Western skink	<i>Plestiodon skiltonianus</i>	X				X											
California legless lizard*	<i>Anniella pulchra</i>			X	X		X	X									
Southern rubber boa*	<i>Charina umbratica</i>								X								
Ring-necked snake	<i>Diadophis punctatus</i>	X		X	X	X	X	X									
California mountain kingsnake	<i>Lampropeltis zonata</i>										X	X					
San Joaquin whipsnake	<i>Masticophis flagellum ruddocki</i>			X	X		X	X									

Table 5.4-3 Focal Species of Conservation Strategies Developed for Conservation Targets – Central Valley and Sierra Nevada Province

Common Name	Scientific Name	Conservation Units and Targets ¹															
		Great Valley		Sierra Nevada Foothills					Sierra Nevada				Sacramento HUC 1802	Central Lahontan HUC 1605	San Joaquin HUC 1804	Tulare-Buena Vista HUC 1803	
		American Southwest Riparian Forest and Woodland	Freshwater Marsh	Chaparral	California Foothill and Coastal Rock Outcrop Vegetation	California Foothill and Valley Forests and Woodlands	Desert Transition Chaparral	Montane Chaparral	North Coastal Mixed Evergreen and Montane Conifer Forests	Alpine Vegetation	Pacific Northwest Subalpine Forest	Wet Mountain Meadow	Western Upland Grasslands	Clear Lake Native Fish Assemblage	Carson River Native Fish Assemblage	Walker River Native Fish Assemblage	San Joaquin Native Aquatic Species
Gopher snake	<i>Pituophis catenifer</i>	X		X	X		X	X				X	X				
Coast patch-nosed snake*	<i>Salvadora hexalepis virgulata</i>			X	X		X	X									
Giant garter snake*	<i>Thamnophis gigas</i>	X	X	X	X		X	X									
Birds																	
Greater white-fronted goose	<i>Anser albifrons</i>	X	X	X	X		X	X								X	
Sooty grouse	<i>Dendragapus fuliginosus</i>								X	X							
California quail	<i>Callipepla californica</i>	X		X	X	X	X	X									
Great egret	<i>Adea alba</i>	X	X	X	X		X	X									
Great blue heron	<i>Ardea herodias</i>	X	X	X	X		X	X									
Black-crowned night heron	<i>Nycticorax nycticorax</i>	X	X														
Least bittern*	<i>Ixobrychus exilis</i>	X	X														
American white pelican*	<i>Pelecanus erythrorhynchos</i>		X													X	
California condor*	<i>Gymnogyps californianus</i>			X	X		X	X		X							
Osprey	<i>Pandion haliaetus</i>	X	X			X			X	X						X	
Northern goshawk*	<i>Accipiter gentilis</i>	X				X			X	X	X						
Golden eagle*	<i>Aquila chrysaetos</i>	X		X	X	X	X	X	X	X	X	X					
Rough-legged hawk	<i>Buteo lagopus</i>			X	X		X	X									
Ferruginous hawk	<i>Buteo regalis</i>			X	X		X	X									
Swainson's hawk*	<i>Buteo swainsoni</i>	X		X	X	X	X	X									
Northern harrier*	<i>Circus cyaneus</i>		X	X	X		X	X									
White-tailed kite*	<i>Elanus leucurus</i>			X	X	X	X	X									
Bald eagle*	<i>Haliaeetus leucocephalus</i>	X				X			X							X	
Snowy plover (interior population)*	<i>Charadrius nivosus</i>															X	
Western yellow-billed cuckoo*	<i>Coccyzus americanus occidentalis</i>	X															
Short-eared owl*	<i>Asio flammeus</i>		X	X	X		X	X				X	X				
Long-eared owl*	<i>Asio otus</i>	X		X	X	X	X	X				X	X				
Burrowing owl*	<i>Athene cunicularia</i>	X		X	X	X	X	X									
Great gray owl*	<i>Strix nebulosa</i>									X							
Spotted owl*	<i>Strix occidentalis</i>								X	X							
Vaux's swift*	<i>Chaetura vauxi</i>								X		X	X					
Black swift*	<i>Cypseloides niger</i>			X	X		X	X	X	X							
American peregrine falcon*	<i>Falco peregrinus anatum</i>		X	X	X	X	X	X		X							
Prairie falcon	<i>Falco mexicanus</i>			X	X		X	X									
Olive-sided flycatcher*	<i>Contopus cooperi</i>								X	X							
Loggerhead shrike*	<i>Lanius ludovicianus</i>			X	X		X	X									
Hutton's vireo	<i>Vireo huttoni</i>	X				X											

Table 5.4-3 Focal Species of Conservation Strategies Developed for Conservation Targets – Central Valley and Sierra Nevada Province

Common Name	Scientific Name	Conservation Units and Targets ¹															
		Great Valley		Sierra Nevada Foothills					Sierra Nevada				Sacramento HUC 1802	Central Lahontan HUC 1605		San Joaquin HUC 1804	Tulare-Buena Vista HUC 1803
		American Southwest Riparian Forest and Woodland	Freshwater Marsh	Chaparral	California Foothill and Coastal Rock Outcrop Vegetation	California Foothill and Valley Forests and Woodlands	Desert Transition Chaparral	Montane Chaparral	North Coastal Mixed Evergreen and Montane Conifer Forests	Alpine Vegetation	Pacific Northwest Subalpine Forest	Wet Mountain Meadow	Western Upland Grasslands	Clear Lake Native Fish Assemblage	Carson River Native Fish Assemblage	Walker River Native Fish Assemblage	San Joaquin Native Aquatic Species
Clark's nutcracker	<i>Nucifraga columbiana</i>								X								
Purple martin*	<i>Progne subis</i>	X	X	X	X	X	X	X									
Bank swallow*	<i>Riparia riparia</i>	X	X	X	X		X	X			X	X					
Common yellowthroat*	<i>Geothlypis trichas*</i>	X	X	X	X		X	X									
Marsh wren	<i>Cistothorus palustris</i>		X														
Yellow-breasted chat*	<i>Icteria virens</i>	X															
Yellow warbler*	<i>Setophaga petechia</i>	X		X	X	X	X	X									
Rufous-crowned sparrow	<i>Aimophila ruficeps</i>			X	X		X	X									
Grasshopper sparrow*	<i>Ammodramus savannarum</i>			X	X		X	X									
Song sparrow	<i>Melospiza melodia</i>	X	X														
California towhee	<i>Melospiza crissalis</i>			X	X		X	X									
Savannah sparrow*	<i>Passerculus sandwichensis</i>			X	X	X	X	X									
Tricolored blackbird*	<i>Agelaius tricolor</i>	X	X	X	X	X	X	X									
Gray-crowned rosy-finch*	<i>Leucosticte tephrocotis</i>								X								
Mammals																	
Vagrant shrew	<i>Sorex vagrans</i>										X	X					
Pallid bat*	<i>Antrozous pallidus</i>	X		X	X	X	X	X									
Townsend's big-eared bat*	<i>Corynorhinus townsendii</i>			X	X		X	X									
Spotted bat	<i>Euderma maculatum</i>			X	X		X	X									
Western small-footed bat	<i>Myotis ciliolabrum</i>	X		X	X		X	X									
Long-eared bat*	<i>Myotis evotis</i>								X								
Fringed myotis*	<i>Myotis thysanodes</i>	X		X	X		X	X									
Yuma myotis	<i>Myotis yumanensis</i>	X															
Western pipistrelle	<i>Parastrellus hesperus</i>			X	X		X	X									
Western mastiff bat	<i>Eumops perotis californicus</i>	X	X	X	X		X	X									
American pika*	<i>Ochotona princeps</i>								X	X							
Snowshoe hare	<i>Lepus americanus</i>								X								
Black-tailed jackrabbit	<i>Lepus californicus</i>			X	X		X	X			X	X					
Riparian brush rabbit*	<i>Sylvilagus bachmani riparius</i>	X															
Mountain beaver	<i>Aplodontia rufa</i>								X	X							
Nelson's antelope squirrel*	<i>Ammospermophilus nelsoni</i>	X															
Northern flying squirrel	<i>Glaucomys sabrinus</i>								X	X							
California pocket mouse	<i>Chaetodipus californicus</i>			X	X		X	X									
North American beaver	<i>Castor canadensis</i>		X														
Heermann's kangaroo rat*	<i>Dipodomys heermanni heermanni</i>			X	X		X	X									
Giant kangaroo rat*	<i>Dipodomys ingens</i>	X															
San Joaquin kangaroo rat*	<i>Dipodomys nitratooides</i>			X	X		X	X									

Table 5.4-3 Focal Species of Conservation Strategies Developed for Conservation Targets – Central Valley and Sierra Nevada Province

Common Name	Scientific Name	Conservation Units and Targets ¹																
		Great Valley		Sierra Nevada Foothills					Sierra Nevada					Sacramento HUC 1802	Central Lahontan HUC 1605	San Joaquin HUC 1804	Tulare-Buena Vista HUC 1803	
		American Southwest Riparian Forest and Woodland	Freshwater Marsh	Chaparral	California Foothill and Coastal Rock Outcrop Vegetation	California Foothill and Valley Forests and Woodlands	Desert Transition Chaparral	Montane Chaparral	North Coastal Mixed Evergreen and Montane Conifer Forests	Alpine Vegetation	Pacific Northwest Subalpine Forest	Wet Mountain Meadow	Western Upland Grasslands	Clear Lake Native Fish Assemblage	Carson River Native Fish Assemblage	Walker River Native Fish Assemblage	San Joaquin Native Aquatic Species	Upper Kern River Native Fish Assemblage
Fresno kangaroo rat*	<i>Dipodomys nitratooides exilis</i>			X	X		X	X										
San Joaquin pocket mouse*	<i>Perognathus inornatus inornatus</i>	X		X	X	X	X	X										
Dusky-footed woodrat	<i>Neotoma fuscipes</i>			X	X		X	X	X			X	X					
Riparian (=San Joaquin Valley) woodrat*	<i>Neotoma fuscipes riparia</i>	X																
Large-eared woodrat	<i>Neotoma macrotis</i>			X	X		X	X										
Deer mouse	<i>Peromyscus spp.</i>	X		X	X		X	X	X									
Porcupine*	<i>Erethizon dorsatum</i>					X			X	X								
Gray wolf*	<i>Canis lupus</i>								X									
Sierra Nevada red fox*	<i>Vulpes vulpes necator</i>									X								
Ringtail*	<i>Bassariscus astutus</i>	X		X	X	X	X	X	X			X	X					
California wolverine*	<i>Gulo gulo</i>								X	X	X							
Northern river otter	<i>Lontra canadensis</i>	X	X			X												
Pacific marten*	<i>Martes caurina [=americana]</i>								X	X	X							
Fisher - West Coast DPS*	<i>Pekania [=Martes] pennanti</i>								X		X							
American badger*	<i>Taxidea taxus</i>	X		X	X	X	X	X	X			X	X					
Western spotted skunk	<i>Spilogale gracilis</i>	X		X	X	X	X	X	X									
Tule elk*	<i>Cervus elaphus nannodes</i>	X				B13												
Sierra Nevada bighorn sheep	<i>Ovis canadensis sierrae</i>									X	X							

Table 5.4-5 Stresses and Pressures for American Southwest Riparian Forest and Woodland

Priority Pressures	Stresses												
	Geophysical and Disturbance Regimes	Hydrology and Water Characteristics							Ecosystem Conditions and Processes				
	Change in sediment erosion-deposition regime	Change in runoff and river flow	Change in flood occurrence, frequency, intensity, and area flooded (including hydroperiod)	Change in water levels and hydroperiod	Change in water temperature	Change in groundwater tables	Change in nutrients	Change in pollutants	Change in spatial distribution of habitat types	Change in community structure or composition	Change in biotic interactions (altered community dynamics)	Change in succession processes and ecosystem development	Habitat fragmentation
Agricultural and forestry effluents	X			X			X	X		X			
Annual and perennial non-timber crops	X	X	X	X	X	X	X	X	X	X	X	X	X
Commercial and industrial areas	X	X	X	X		X		X	X	X		X	X
Dams and water management/use	X	X	X	X	X	X			X	X		X	X
Household sewage and urban waste water	X			X			X	X		X	X		
Housing and urban areas	X	X	X	X		X		X	X	X		X	X
Invasive plants/animals				X					X	X	X	X	
Livestock, farming, and ranching	X		X				X		X	X	X		X
Logging and wood harvesting	X									X			
Roads and railroads	X	X								X		X	X
Utility and service lines			B15							X			X

Table 5.4-6 Stresses and Pressures for Freshwater Marsh													
Priority Pressures	Stresses												
	Geophysical and Disturbance Regimes	Hydrology and Water Characteristics						Soil and Sediment Characteristics	Ecosystem Conditions and Processes				
		Change in sediment erosion-deposition regime	Change in runoff and river flow	Change in water levels and hydroperiod	Change in flood occurrence, frequency, intensity, and area flooded (including hydroperiod)	Change in groundwater tables	Change in pollutants		Change in nutrients	Change in soil moisture	Change in spatial distribution of habitat types	Change in community structure and composition	Change in succession processes and ecosystem development
Agricultural and forestry effluents	X		X			X	X			X			
Annual and perennial non-timber crops	X	X	X	X	X	X	X	X	X	X	X	X	
Commercial and industrial areas	X	X	X	X	X	X		X	X	X	X	X	
Dams and water management/use	X	X	X	X	X			X	X	X	X	X	
Household sewage and urban waste water	X		X			X	X			X			
Housing and urban areas	X	X	X	X	X	X		X	X	X	X	X	
Invasive plants/animals	X		X					X	X	X	X		
Livestock, farming, and ranching	X	X		X			X			X	X		
Mining and quarrying	X					X							
Roads and railroads	X	X		X _{B16}						X	X	X	X

Table 5.4-7 Stresses and Pressures for Chaparral; Desert Transition Chaparral; Montane Chaparral; California Foothill and Coastal Rock Outcrop Vegetation

Priority Pressures	Stresses				
	Geophysical and Disturbance Regimes	Ecosystem Conditions and Processes			
	Change in natural fire regime	Change in spatial distribution of habitat types	Change in community structure or composition	Change in succession processes and ecosystem development	Habitat fragmentation
Annual and perennial non-timber crops		X	X	X	X
Climate change	X	X	X	X	X
Fire and fire suppression	X	X	X	X	X
Housing and urban areas	X	X			X
Invasive plants/animals	X	X	X	X	X
Renewable energy		X ^{B17}	X	X	X

Table 5.4-8 Stresses and Pressures for California Foothill and Valley Forests and Woodlands							
Priority Pressures	Stresses						
	Geophysical and Disturbance Regimes	Soil and Sediment Characteristics	Ecosystem Conditions and Processes				
	Changes in natural fire regime	Changes in soil moisture	Change in spatial distribution of habitat types	Change in community structure or composition	Change in biotic interactions (altered community dynamics)	Change in succession processes and ecosystem development	Habitat fragmentation
Fire and fire suppression	X	X	X	X	X	X	X
Housing and urban areas	X		X	X			X
Invasive plants/animals	X	X		X	X	X	
Livestock, farming, and ranching	X		X	X	X	X	X
Recreational activities	X			X		X	
Roads and railroads				X			X

Table 5.4-9 Stresses and Pressures for North Coastal Mixed Evergreen and Montane Conifer Forests

Priority Pressures	Stresses				
	Geophysical and Disturbance Regimes	Ecosystem Conditions and Processes			
	Change in natural fire regime	Change in community structure or composition	Change in biotic interactions (altered community dynamics)	Change in succession processes and ecosystem development	Habitat fragmentation
Fire and fire suppression	X	X		X	X
Livestock, farming, and ranching	X	X	X	X	X
Logging and wood harvesting	X	X	X	X	X
Renewable energy					X
Utility and service lines		X _{B19}			X

Table 5.4-10 Stresses and Pressures for Alpine Vegetation

Priority Pressures	Stresses				
	Soil and Sediment Characteristics	Ecosystem Conditions and Processes			
	Change in soil moisture	Change in spatial distribution of habitat types	Change in community structure or composition	Change in biotic interactions (altered community dynamics)	Habitat fragmentation
Climate change	X	X	X		X
Commercial and industrial areas		X	X		X
Invasive plants/animals	X	X	X	X	X
Livestock, farming, and ranching	X	X	X	X	X
Recreational activities	X	B20	X		

Table 5.4-11 Stresses and Pressures for Pacific Northwest Subalpine Forest

Priority Pressures	Stresses					
	Geophysical and Disturbance Regimes	Soil and Sediment Characteristics	Ecosystem Conditions and Processes			
	Change in natural fire regime	Change in soil moisture	Change in spatial distribution of habitat types	Change in community structure or composition	Change in succession processes and ecosystem development	Change in biotic interactions (altered community dynamics)
Climate change	X	X	X	X	X	X
Fire and fire suppression	X	X	X	X	X	X
Parasites/pathogens/diseases	X			X		X
Recreational activities		B21		X		

Table 5.4-12 Stresses and Pressures for Wet Mountain Meadow; Western Upland Grasslands

Priority Pressures	Stresses										
	Geophysical and Disturbance Regimes		Hydrology and Water Characteristics				Soil and Sediment Characteristics	Ecosystem Conditions and Processes			
	Change in sediment erosion-deposition regime	Change in natural fire regime	Change in runoff and river flow	Change in water levels and hydroperiod	Change in groundwater tables	Change in nutrients	Change in soil moisture	Change in sediment quality	Change in spatial distribution of habitat types	Change in community structure or composition	Change in succession processes and ecosystem development
Agricultural and forestry effluents			X		X						
Annual and perennial non-timber crops	X	X	X	X	X	X	X	X	X	X	X
Catastrophic geological events	X		X				X		X	X	X
Dams and water management/use	X		X	X	X		X	X	X	X	X
Fire and fire suppression	X	X					X	X	X	X	X
Housing and urban areas	X	X	X	X	X	X		X	X	X	X
Industrial and military effluents			X								
Invasive plants/animals (non-native species)		X					X			X	
Invasive plants/animals* (native species)				X			X		X	X	X
Livestock, farming, and ranching	X	X	X		X	X	X	X	X	X	X
Logging and wood harvesting	X	X	X				X		X	X	X
Mining and quarrying					X						X
Parasites/pathogens/ diseases					X		X				X
Recreational activities		X						X		X	X
Roads and railroads	X		X		B22					X	X

APPENDIX C

PROJECT LISTS

**Table 4.1
Roadway Projects**

Funding Source	Description	Total Cost	Const. Year
Short Range (2025-2035)			
RMRA/LTF	Road Rehabilitation	\$ 11,453,016	2025-2028
RMRA/LTF	Preventative Maintenance	\$ 97,061	2025-2028
RMRA	Sawmill Road	\$ 77,760	2025
RMRA	Spring Cliff Road	\$ 84,796	2025
RMRA	Mule Ear Road	\$ 149,365	2025
RMRA	Snowshoe Road	\$ 195,615	2025
STIP	Hot Springs Rd. Reconstruction Phase 1	\$ 3,250,000	2025
STIP	Hot Springs Rd. Between PV Road and State Park Phase 2	\$ 1,200,000	2028
FLAP+	Hot Springs Rd. Between PV Road and State Park Phase 2	\$ 15,763,000	2029
Short Range Total		\$ 32,270,613	
Long Range (2036-2045)			
STIP	Diamond Valley Road	TBD	2040
STIP	Pleasant Valley Road	TBD	2040
STIP	Various Local Roads	TBD	TBD
Long Range Total		TBD	

Table 4.2

Bridge Projects

Funding Source	Route	Description	Cost	Const. Year
Unconstrained				
HBD, Toll Credit	Crystal Springs Camp- West Fork of Carson River Bridge	Rehabilitate Bridge	TBD	TBD
Long Range Total			TBD	

**Table 4.3
Bicycle and Pedestrian Projects**

Location	Project Name/Description	Cost	Const. Year
Short Range (2025-2035)			
Hot Springs Road Markleeville to Grover	Hot Springs Road Class II Bike Facilities Between Markleeville and Grover HS State Park (Phase 1 & 2)	\$ 2,500,000	2029
Short Range Total		\$ 2,500,000	
Long Range (2036-2045)			
Countywide / State Highway Projects			
SR 89 at Turtle Rock Park	Safe Recreational Crossings of State Highway	TBD	TBD
SR 88 - Pacific Crest Trail at Kit Carson Pass	Safe Recreational Crossings of State Highway	TBD	TBD
SR 88 O Kirkwood Trail Crossing	Safe Recreational Crossings of State Highway	TBD	TBD
SR 4 at Bear Valley Road	Safe Recreational Crossings of State Highway	TBD	TBD
SR 4 at Bear Valley - Lake Alpine Trail Crossing	Safe Recreational Crossings of State Highway	TBD	TBD
Highway Guide Sign Replacement	Countywide Wayfinding Implementation	TBD	TBD
Natural Features, Portals and Places Signage	Countywide Wayfinding Implementation	TBD	TBD
Visitor Kiosks	Countywide Wayfinding Implementation	TBD	TBD
Community Projects - Markleeville			
Markleeville	Future projects identified in Community Transportation Plan	TBD	TBD
SR 89 at Montgomery Street	Crosswalks and pedestrian warning signage	TBD	TBD
SR 89 - Markleeville to Woodfords	Class II - Bike signage and shoulder widening to accommodate Class II Bicycle Lanes	TBD	TBD
SR 4 - Markleeville	SR 89 Shoulder and Pavement Improvements	TBD	TBD
Laramie Street - County Building Driveway	Markleeville Class I Path	TBD	TBD
Community Projects - Woodfords and Alpine Village			
East side of SR 89 from Diamond Valley Rd. to Barber Rd.	Alpine Village Trail	TBD	TBD
SR 89/Luther Pass Road from County Line to SR 88/99	Luther Pass Road Class III Bicycle Route	TBD	TBD
SR 88 from the SR 89 junction in Woodfords to the Nevada State Line	SR 88 Class III Bicycle Route	TBD	TBD
Diamond Valley Road - Barber Road	Alpine Village Trail	TBD	TBD
East end of Manzanita Lane - Diamond Valley School	Manzanita Drive/Diamond Valley Trail	TBD	TBD
Community Projects - Kirkwood			
Kirkwood Meadows Road - Luther Pass Road	Class II - SR 88 Bike Lanes and Shoulder Widening	TBD	TBD
Loop Road - Kirkwood Meadows Drive	Loop Road Crosswalks	TBD	TBD
Kirkwood Meadows Drive - At Main Lodge	Kirkwood Meadows Road - Main Lodge Crossing	TBD	TBD
Kirkwood Meadows Drive - At Main Lodge	Pedestrian Access on Kirkwood Meadows Bridge Striping	TBD	TBD
SR 88/ Emigrant Trail Road Intersection - Kirkwood Meadows Drive Bridge	Class II - Kirkwood Meadow Road Bike Lanes	TBD	TBD
Community Projects - Bear Valley			
SR 4 in the Lake Alpine area	Lake Alpine Speed Feedback Signs	TBD	TBD
Bear Valley - elementary school, library, Bear Valley Lodge, gas station	Bicycle Parking	TBD	TBD
Bear Valley Road - Creekside Drive	Class I Bear Valley Loop Path	TBD	TBD
Community Projects - Hung-A-Lel-Ti			
Health Center - Diamond Valley Road	Hung-A-Lel-Ti Class I Multi-Use Path	TBD	TBD
Other Unconstrained			
Weber Street - SR 89	Additional SR 89 Bikeway Signage- Identify segments for shoulder widening	\$ 670,200	TBD
Various	Countywide SR2S Program	TBD	TBD
Sierra Pines Trailer Park - Manzanita Drive	Sierra Pines Class I Multi-Use Path	TBD	TBD
on SR 88 - Visitor Center	Carson Pass Pedestrian Crossing Overhead Flashing Beacons	TBD	TBD
Mosquito Lakes Campground Entrance	Mosquito Lakes Pedestrians Crossing	TBD	TBD
SR 4 Entrance to Lake Alpine - SR 4 Exit from Lake Alpine	Lake Alpine Speed Reduction Signage	TBD	TBD
Long Range Total		\$ 670,200	
Total Bicycle and Pedestrian Projects		\$ 3,170,200	

Table 4.4
Transit Projects

Funding Source	Project Description	Cost	Const. Year
Unconstrained			
FTA, SB125	Bus Shelter Maintenance	\$ 2,698	TBD
FTA, SB125	Replace older bus with electric vehicle and charging station	\$ 75,000	TBD
Long Range Total		\$ 77,698	

**Table 4.5
Aviation Projects**

Funding Source	Project Description	Cost	Const. Year
Unconstrained			
CAAP	AC Overlay and restripe runway	\$ 300,000	2050
CAAP	Chip seal and restripe runway	\$ 140,000	2050
CAAP	Install safety related signage	\$ 18,000	TBD
CAAP	Install 2 windsocks	\$ 20,000	TBD
CAAP	Fence and gate airport property	\$ 275,000	TBD
TBD	Air Cargo Operations and Goods Movement Study	TBD	TBD
Long Range Total		\$ 753,000	

Tribal Projects			
Route	Project Description	Cost	Const. Year
Washoe Tribe - Short Range			
Diamond Valley Road	Widen the pavement along Diamond Valley Road to provide paved shoulders in areas with poor sight distance.	TBD	TBD
Short Range Total		TBD	

**Table 4.7
SHOPP Project List**

Route	Activity Location	Target RTL FY	Projected SHOPP Cycle	TYP Total Project Cost
88	Near Kirkwood, on Routes 88, 4, and 89 in Alpine, Amador, and El Dorado Counties at various locations. Install new Transportation Management System (TMS) elements and construct Maintenance Vehicle Pullouts (MPVs).	2024/2025	2024	\$ 20,405,000
4	Near Bear Valley, from east of Bear Valley Road to 1.2 miles west of Route 89 at various locations; also on Route 207 from 0.4 mile to 1.2 miles north of Route 4 (PM 0.38/1.19) at various locations. Rehabilitate drainage systems.	2026/2027	2024	\$ 16,802,000
4	Near Loope, from 1.6 miles west of Wolf Creek Road to west of Route 89; also on Route 88 and Route 89 at various locations. Rehabilitate drainage systems.	2024/2025	2024	\$ 7,751,000
Total SHOPP				\$ 44,958,000