2020 Tuolumne County Active Transportation Plan

September 2020

Tuolumne County Transportation Council

2020 Tuolumne County Active Transportation Plan

Report Prepared For:

Tuolumne County Transportation Council

Report Prepared By:

GREEN DOT transportation solutions

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Introduction

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1. INTRODUCTION

"In every walk with nature, one receives far more than he seeks."

- John Muir

Tuolumne County is a gateway to worldwide destinations for hiking, camping, mountain biking, rock climbing, skiing, and other outdoor recreation. Millions of visitors to Yosemite National Park and the High Sierras travel through the County annually in personal vehicles, buses, and motor homes, often visiting the historic Gold Rush-era communities of Sonora, Columbia, Jamestown, Big Oak Flat, and Groveland along the way.

Despite Tuolumne County's ample opportunities for recreational hiking and mountain biking, many residents do not feel safe walking or biking to school, work, or the store. This is due in part to sparse population distribution in much of the County. However, even residents of the City of Sonora and other relatively dense communities feel unsafe traveling along roadways without a vehicle due to lack of dedicated facilities for walking or biking.

A man walks every day, 4 to 7 miles, around Sonora. He owns a vehicle but still walks for exercise and errands. One day, he was walking home along the edge of Sanguinetti Road when he was pulled over by a Police officer. The officer told him that it was illegal to walk on the road, but there was no public pathway to walk on. The officer requested that he go to the other side of the road to walk, but the man replied that it was private property. With no solution available, the officer kept telling him to leave the road. Finally, the man asked the officer to give him a citation, so that he could take it to court and highlight the issue of unsafe walking pathways in Sonora. The officer left him to keep walking.

Community anecdotes such as this one, combined with collision history, show there is a significant need for safer walking and biking paths in Tuolumne County. The Tuolumne County Transportation Council determined it was necessary to develop a plan for better walking and biking facilities and increased connectivity.

1.1 About the Tuolumne County Transportation Council

The Tuolumne County Transportation Council (TCTC) is the state-designated Regional Transportation Planning agency (RTPA) for Tuolumne County. TCTC is responsible for developing transportation improvements that reflect the needs, concerns and actions of all the agencies involved in the Tuolumne County region, while contributing to the region's mobility needs, economic health, and environmental quality.

1.2 About the Active Transportation Plan

The Tuolumne County Active Transportation Plan is a planning effort with the goal of enhancing walking, biking, and multimodal mobility throughout Tuolumne County. Creating safe and efficient opportunities to walk and bike to work, school, shopping, and services along the region's most congested travel corridors can reduce the environmental impacts of transportation and reduce the need to continually expand more costly vehicular infrastructure. This Plan will identify and prioritize necessary infrastructure improvements and programs that have the potential to increase safety, access, and health. The Plan was developed in coordination with previous and concurrent planning efforts while ensuring that all future active transportation projects are compliant with state and federal goals.

According to the American Community Survey, approximately 91% of the Tuolumne County workforce commutes by vehicle, and 81% of the workforce drives alone. An estimated 1.9% walk and only 0.3% bike to work. An estimated 4.7% of Tuolumne County households do not have access to a car. People who are dependent on walking and biking rely on the existing infrastructure to travel throughout Tuolumne County. Transportation equity is an integral component for a vibrant and active community. Failing to prioritize walking and biking reduces accessibility and puts low-income residents, senior citizens, and people with a disability at a disadvantage. The Active Transportation Plan will help Tuolumne County develop a strategy

to promote mobility and equal access to existing and proposed pedestrian and bicycle networks and will prioritize feasible projects that are needed and desired by the community.

Tuolumne County faces multiple barriers to equitable mobility. The County's rural geography presents a unique challenge to creating efficient connections over long distances. In Tuolumne County, schools, public services, employment areas, health centers, parks and recreation areas are located far from residential areas. Improving connections to these public destinations will not only enhance health, but may also stimulate the economy. Understanding obstacles will allow for Tuolumne County to progress from a predominately "car culture" towards a more active culture.

Nearly 6,000 students attend 26 public schools located in Tuolumne County. According to the American Community Survey, approximately 13.2% of the population is school-aged (between 5 and 18). Surveys distributed to parents of Tuolumne County schools showed that approximately 6% of Tuolumne County students rely on walking or biking to get to and from school. Over half of parents surveyed stated that their child lives within two miles of their school, indicating that factors other than distance prevent students from walking or biking to school. These surveys are discussed in further detail in Section 1.6.2 and Attachment B.

The California Department of Transportation (Caltrans) adopted a State Bicycle and Pedestrian Plan in 2017, titled "Toward an Active California," which presents a vision of all Californians having the ability to walk and bicycle safely, conveniently, and comfortably by 2040. Goals of the plan include doubling walking, tripling bicycling, and reducing bicycle and pedestrian fatalities by ten percent each year. These statewide goals are ambitious, especially for rural automobile-dependent Tuolumne County. However, the purpose of the Tuolumne County Active Transportation Plan is not only to meet State goals; rather, to increase Tuolumne County's capacity to create a safe, healthy, and more connected community.

1.3 Goals and Objectives

The Tuolumne County Transportation Council has a vision for the regional transportation network to promote and maintain a reliable, flexible, equitable and multimodal transportation system that is safe and accessible to all users.

A vision defines an organization's purpose. Goals are broad statements that describe a desired product or end result toward which efforts are focused. Objectives are measurable movement toward a goal. Strategies represent a course of action. A policy is a direction statement to guide actions.

The Tuolumne County Regional Transportation Plan has developed 10 overarching goals for the regional transportation network:

Regional Goal 1: Enhance the quality of life of Tuolumne County residents by providing transportation access to jobs, housing, recreation, and community services.

Regional Goal 2: Preserve the multimodal system by maintaining, managing, and efficiently utilizing the existing transportation system.

Regional Goal 3: Improve the multimodal system by expanding and enhancing transportation choices, and connections to meet the future transportation needs.

Regional Goal 4: Promote strategic and cost-effective transportation investments that create sustainable economic growth and improve transportation services and facilities.

Regional Goal 5: Practice environmental stewardship by protecting air quality, natural resources, historical and cultural assets.

Regional Goal 6: Integrate land use and transportation decisions by prioritizing infrastructure investments within the defined community boundaries that strikes a balance between development, available infrastructure, and conservation of natural resources.

Regional Goal 7: Consider transportation safety, and security in all transportation funding decisions.

Regional Goal 8: Support a vibrant economy by enhancing the movement of goods and people to spur economic development,

growth, and job creation.

Regional Goal 9: Encourage and promote public involvement and social equity in all transportation decisions.

Regional Goal 10: Continue the inter-organizational commitments of cooperative, mutually dependent action that is required to provide efficient multimodal transportation system.

In addition to the regional transportation goals, a set of goals, objectives and policies has been developed specifically for the active transportation network in Tuolumne County and the multimodal planning process. These goals, objectives, and policies have been updated for this Plan and are described in the following sections, categorized by topic.

1.3.1 Transportation System Management

Goal 1. Develop a transportation system that maximizes the use of transportation facilities in the most efficient and cost-effective way.

Objective 1.1. Manage the transportation system efficiently by increasing multimodal access while reducing costs and managing resources.

Policy 1.1.1. Reduce the need to expand vehicular infrastructure by encouraging complete street design which incorporates public and social service transportation, bicycling, walking, ridesharing, micro-mobility, and carpools/vanpools.

Policy 1.1.2. Support traffic signals, roundabouts, and/or operational improvements necessary to increase the capacity and/or flow of traffic on the local streets and highways network while improving safety for bicyclists and pedestrians.

Policy 1.1.3. Implement access management plans where appropriate to improve roadway performance and safety.

Policy 1.1.4. Support funding efforts of focused planning studies that implement the theme of Active Transportation.

1.3.2 Complete Streets

Goal 2. Plan for a balanced multimodal transportation network that meets the needs of all users of streets, roads, and highways for safe and convenient travel.

Objective 2.1. Improve alternative modes of transportation by adding new bicycle infrastructure, pedestrian travelways, and improving bus stops.

Policy 2.1.1. Incorporate bicycle, pedestrian, and transit improvements when designing roadway improvements when appropriate.

Policy 2.1.2. Provide new bicycle, pedestrian, and transit facilities on existing streets and roads where appropriate.

Policy 2.1.3. Seek funding for bicycle and pedestrian facilities adjacent to roadways and provide bus stop improvements along fixed transit routes.

Policy 2.1.4. Prioritize projects within community centers and more densely developed areas that would close infrastructure gaps and provide Safe Routes to School.

Policy 2.1.5. Support legislation that streamlines the regulatory burden to construct Complete Streets.

Policy 2.1.6. Develop and designate marketing materials promoting the use alternative transportation modes.

1.3.3 Smart Mobility Framework

Goal 3. Plan, support, and implement Smart Mobility Framework and Context Sensitive Solutions.

Policy 3.1.1. Support and implement Context Sensitive Solutions throughout the City of Sonora and Tuolumne County.

Policy 3.1.2. Support land use decisions consistent with the smart growth principle.

Policy 3.1.3. Prioritize infrastructure investments that support smart mobility principles.

Policy 3.1.4. Use the public input process and environmental reviews to ensure context sensitive solutions are considered in

the project development phase.

Policy 3.1.5. Support the pursuit of transportation funding through all available resources, including traffic mitigation fees.

1.4 Benefits of Active Transportation

1.4.1 Health and Fitness

Engaging in active transportation reduces the risk of diabetes, heart disease, arthritis, obesity, and various other preventable diseases and chronic health conditions. Walking and biking on a daily basis reduces tension, body fat levels, anxiety, depression, and the risk of developing certain cancers.

Transportation systems influence the way in which people interact with their environment. Walking, biking, and taking public transportation increases social interaction while single passenger vehicles limit those opportunities for social interaction.

Investing in active transportation infrastructure protects open space by reducing urban sprawl. Ensuring that regional and local destinations are accessible makes walking, biking, and public transportation more appealing options. Encouraging infill development has the potential to change travel patterns in Tuolumne County, ultimately reducing air pollution and traffic congestion. The California Air Resources Board reports that about 40% of California's air pollution comes from cars and trucks and recommends reducing automobile trips as part of its Sustainable Communities strategies.

1.4.2 Safety

Additional shoulder, bike lane, sidewalk, and crosswalk improvements maximize multimodal safety on accident-prone road segments and intersections. Hazard elimination, hazard control devices, and progressive facility design reduces traffic injuries, collisions, and fatalities. These design methods include measures such as creating a physical barrier between motorists and non-motorists, traffic-calming strategies such as roundabouts and speed feedback signs, among other strategies.

The Tuolumne Active Transportation Plan will increase safety by identifying transportation issues in the transportation network and identifying priorities for improving the multimodal network. This Active Transportation Plan includes a list of projects in the region with the potential to reduce collisions and increase safety of walking and biking.

1.4.3 Community Access and Equity

Investing in active transportation infrastructure will help Tuolumne County achieve transportation equity. Improving existing infrastructure increases access to local and regional destinations including major employment centers, educational centers, medical centers, public transit centers, social services, and recreational opportunities. Increasing connectivity and providing infrastructure for bicyclists and pedestrians reduces unsafe conditions and will encourage bicycling, walking, and public transit as a viable transportation choice.

Many people either do not have access to a vehicle or are unable to operate one. Within Tuolumne County, an estimated 1,040 households do not have access to a vehicle (4.7%), 9,700 residents are living with a disability (17.5%), 9,650 residents are 17 years old or younger (17.4%), and 5,150 are 75 years old or older (9.3%) and may have difficulty maintaining a driver's license or operating a vehicle (2017 American Community Survey 5-Year Estimates). Active transportation meets the needs of these demographic groups that do not have a vehicle and helps mobilize members of disadvantaged communities.

1.4.4 Environment

Encouraging increased active transportation and transit use will improve air quality and will assist Tuolumne County in meeting state and federal goals for greenhouse gas (GHG) emissions reductions.

In 2006, California Assembly Bill 32 (AB 32), The California Global Warming Solutions Act of 2006, was passed. AB 32 requires a state reduction in greenhouse gas (GHG) emissions to no more than the 1990 emissions levels by 2020. In 2016, California Senate Bill 32 (SB 32) was passed, which expands AB 32 and sets a 2030 GHG emissions reduction target of 40 percent below 1990 levels.

Statewide, the transportation sector accounts for approximately 40% of the GHG emissions in California. 28% of total emissions are from passenger vehicles and 8.4% are from heavy-duty vehicles. Creating opportunities for more people to walk, bike, or use transit instead of driving has the potential to reduce a significant amount of GHG emissions in Tuolumne County and Statewide. There is a prompt need in California and Tuolumne County to align regional goals and prioritized projects with state and national policy to reduce vehicle miles traveled and GHG emissions. Projects proposed in this Active Transportation Plan aim to reduce greenhouse gas emissions and improve air quality by reducing vehicle miles traveled.

1.4.5 Support Locals

Engaging in active transportation enhances quality of life by increasing socialization and improving residents' well-being and sense of place. Sense of place refers to a person's relationship with their geographical location, including physical structures and community. Single-occupant cars increase social isolation. Having more people on the street creates a welcoming and vibrant atmosphere, ultimately encouraging others to be active participants.

According to Smart Growth America, residents who walk or bike are more likely to spend money at local businesses than those who drive. Active community members support local establishments due to their proximity and accessibility. Rather than spending money on gas and vehicle maintenance, pedestrians and bicyclists are able to spend money within the local economy. Vehicle owners are likely to venture to large-scale shopping centers but could instead walk or bike downtown to shop at a local business if they felt safer and the trip was convenient by bike or foot*.

In addition, increasing non-motorized access to recreation destinations drives tourism. Tuolumne County's position as the gateway to Yosemite Valley and countless other recreational opportunities are highlighted in the context of active transportation and the recreational value of walking and biking.

** It is acknowledged that in many areas of Tuolumne County walking and bicycling to local businesses is either very difficult or very unlikely. Cedar Ridge, Phoenix Lake, Crystal Falls, and many other locations have dispersed populations and little to no bicycle/pedestrian paths. Additionally, steep terrain is a barrier to walking and biking.*

1.5 Planning Process

1.5.1 Inter-Agency Coordination

This Plan was developed as a coordinated effort including local, regional, state, and federal agencies, as well as Tribal entities. Tuolumne County, the City of Sonora, Caltrans District 10, federally recognized Native American tribal governments, and the Caltrans Tribal Liaison participated in the identification of transportation project needs and provided input on the Plan.

Stakeholders were invited to community meetings, provided project updates, and encouraged to review the Plan in various stages of development.

For a full list of stakeholders, see Attachment A.

1.5.2 Coordination with Other Plans and Studies

The Tuolumne County Active Transportation Plan is consistent with previous and concurrent planning efforts in the County. The Plan builds on the information presented in the following documents to create a comprehensive, current plan for future active transportation projects.

- Tuolumne County Recreation Master Plan (2002)
- Tuolumne Band of Me-Wuk Indians Bicycle Plan (2003)
- Tuolumne County Bikeways and Trails Plan (2005)
- Columbia Circulation Improvement Plan (2010)
- Tuolumne Parking and Alleyway Study (2010)
- Tuolumne Community Mobility Enhancement Study (2011)
- Tuolumne County Trails, Paths to Health and Prosperity (2011)
- Tuolumne Tomorrow: Tuolumne County Regional Blueprint (2012)
- Tuolumne County's Regional Blueprint Greenhouse Gas Study Report (2012)
- Dragoon Gulch Trails Master Plan (2013)
- Vision Sonora (2013)
- Summerville Trail Feasibility Study (2014)
- Groveland Active Transportation and Circulation plan (2015)
- Tuolumne County Regional Transportation Plan (2016)
- City of Sonora General Plan 2020 Land Use, Parks & Recreation, and Circulation Elements (2018)
- Tuolumne County General Plan Transportation Element (2018)
- Central Sierra Zero Emission Readiness Plan (2019)
- Inter-Regional Bicycle Tourism (and Economic Development) Plan (2020)

The Active Transportation Plan is part of an ongoing effort to increase transportation safety and efficiency in Tuolumne County. The Inter-Regional Bicycle Tourism Plan is being concurrently developed to promote safe multimodal travel in Tuolumne County and surrounding counties. It will also improve and promote bicycle tourism for economic development with an emphasis on improving disadvantaged, low income Rural Communities and Small Cities. The Plan will identify and analyze priority routes for enhancing bicycle tourism along rural and scenic state highways and local roads, with an eye to improving travel conditions for all modes. This project will cover the counties of Tuolumne, Calaveras, San Joaquin, Stanislaus, and Alpine.

1.6 Community Outreach

A variety of tools were used to engage the Tuolumne County community including workshops, community pop-ups, individual stakeholder communication, a project specific website, and a questionnaire.

For a detailed summary of the outreach process, see Attachment B. Table 1.1 lists the locations and dates where community workshops and pop-ups were held.

Table 1.1
Outreach Events List

Type	Date	Time	Location
Community Workshop	*July 22, 2019*	*5:30-7:00PM*	*Groveland Community Hall*
	July 23, 2019	*5:30-7:00PM*	*Jamestown Community Hall*
	January 9, 2020	*5:30-7:00PM*	*Tuolumne County Senior Center, Sonora*
Pop-Up Event	*May 18, 2019*	*9:00AM-7:00PM*	*Tuolumne Relay for Life 17807 Tuolumne Rd, Tuolumne*
	June 8, 2019	*8:00AM-3:00PM*	*Twain Harte Community Yard Sale Downtown Twain Harte Village*
	June 22, 2019	*9:00AM-1:00PM*	*Bike Rodeo Sonora Chrysler Dodge, Sonora*
	July 13, 2019	*5:00-8:00PM*	*2nd Saturday Art Night In front of Union Democrat, Sonora*

1.6.1 Stakeholders

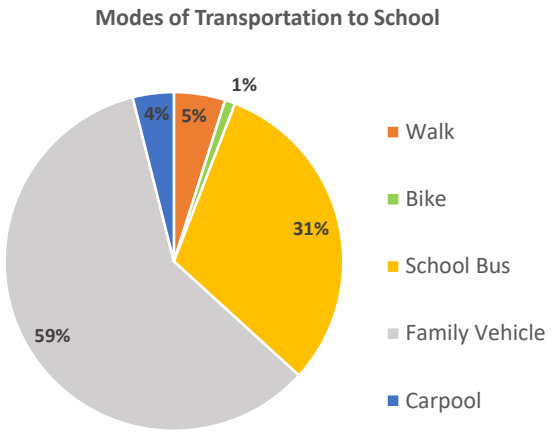
Stakeholders included city council members, the County board of supervisors, the Motherlode Bike Coalition, elementary and middle school officials, school district superintendents, community members, and agency staff. A list of stakeholders initially contacted for input in the planning process can be found in Attachment A.

1.6.2 Schools

School Surveys

The project team communicated with elementary and high schools in Tuolumne County to gather information regarding active transportation usage and needs. As part of this outreach process, schools were provided with surveys from the National Center for Safe Routes to School (www.saferoutesinfo.org). Surveys were completed by teachers and parents, returned to the project team, and analyzed to determine school zones with high frequency of walking and biking, as well as identify barriers and locations for potential projects.

A total of 193 completed parent surveys were received from Sonora Elementary, Sonora High, Soulsbyville Elementary, and Twain Harte Elementary School. All Tuolumne County schools were provided with parent surveys, but many did not return them. Parent responses showed that 52% of children live less than two miles from their school, but less than 1% of students ride their bikes to school and 5% of students walk to school.



School Interviews

The project team also contacted public school administration throughout the County by email and phone during July of 2019. The project team then interviewed available administrators including superintendents and principals by phone and email, asking questions to determine walking and biking safety issues and needs surrounding the schools.

The project team gathered from multiple interviews that many schools are inaccessible to students who would like to walk or bike, including Curtis Creek Elementary, Tenaya Elementary, and Soulsbyville Elementary. This is in part due to Tuolumne County's rural geography and rugged topography, where most students live many miles from their school and physically cannot reach it by walking or biking. Most students either take a school bus or are dropped off by a parent. However, pedestrian and bike access is also limited by correctible issues such as lack of safe walking and biking paths.

1.6.3 Community Workshops

The Tuolumne County Transportation Council and project team hosted three workshops to introduce the Active Transportation Plan and solicit feedback from the community. The meetings included a presentation on the benefits of walking and biking, existing conditions and barriers to mobility, and solutions for improving opportunities to walk and bike in Tuolumne County. After the presentation, community members had the opportunity to break into small groups and interact with the planners and discuss the Plan in greater detail. Community members were given the opportunity to develop priority projects, identify concerns with existing bicycle and pedestrian infrastructure, and voice their concerns, suggestions, and preferences. Maps and surveys were made available at the meeting to help attendees identify specific areas throughout the project area that present a concern or opportunity for safe bicycle or pedestrian travel.

1.6.4 Pop-Up Outreach

The project team visited popular locations and events in Tuolumne County communities to gather input by setting up a booth with educational materials, large scale maps, comment cards, and questionnaires. This approach reached a broader cross section of the community instead of only those already aware of transportation planning efforts. The project team held a pop-up outreach booth at the Tuolumne Relay for Life, Twain Harte Community Yard Sale, Sonora Bike Rodeo, and Sonora 2nd Saturday Art Night.

1.6.5 Online Engagement

Questionnaire

A questionnaire was developed to facilitate participation and gather community input. The questionnaire presented questions intended to gauge the community's travel behavior and provide a space for specific input, such as areas in need of walking and biking improvements. The questionnaire was made available online through SurveyMonkey and presented in paper format for community meetings and pop-ups. A summary of 183 community members' responses to the questionnaire can be found in Attachment B.

Website

A project website was created to display project information, community workshop notifications, agency information, documents, a feedback form, and a link to the online questionnaire.

Social Media

The project team developed an online presence by creating the Tuolumne County Active Transportation Plan Facebook page. The project-specific Facebook page distributed project information online, engaged community members, provided plan development information, and advertised upcoming community meetings.

Existing Tuolumne County Facebook groups and pages were utilized when possible for reposting meeting flyers and survey links.

1.6.6 Outreach Responses

183 questionnaires were completed and 111 other responses were provided through 84 comment cards, verbal comments recorded at meetings, and other printed materials. The main comments received from the community are displayed in Table 1.2, while further details can be found in Attachment B. Respondents generally desired safer crossings, wider shoulders, bike lanes, and sidewalks. Community members who attended meetings or took the questionnaire frequently requested a multi-use path for walking and biking be constructed between Sonora and Columbia. Other locations in Table 1.2 were also identified as priorities for improvement based on comments from the community.

Table 1.2
Tuolumne ATP Community Input

Source	Responses
Survey Monkey	**183**
Common comments: *Safer crossings, wider shoulders, bike lanes, sidewalks:* *1. Hwy 49: Sonora to Columbia* *2. Sonora: Washington St, Greenley Rd, Mono Way* *3. Groveland: Hwy 120/Main St, Ferretti Rd*	
Comment Cards / Other Comments	**111**
Common comments: *1. Twain Harte downtown improvements: ADA improvements, multi-use trail to Middle Camp/S Fork* *2. Regional: Sonora to Columbia Regional Trail* *3. Sonora: Tuolumne Road wider shoulders, Washington Street safer crossings*	

1.7 Coordination with Native American Tribal Governments

There are two federally recognized Tribal governments in Tuolumne County: the Tuolumne County Band of Me-Wuk Indians and Chicken Ranch Rancheria of Me-Wuk Indians. The Tuolumne Band of Me-Wuk Indians has tribal lands in the community of Tuolumne east of Sonora. The Chicken Ranch Rancheria of Me-Wuk Indians has tribal lands in Jamestown. Table 1.3 lists the contact information for the Tribes contacted during the ATP planning process.

Table 1.3
Tribal Contact List

Name	Contact Person	Mailing Address
Tuolumne Band of Me-Wuk Indians	Dore Bietz, Planner	P.O. Box 699 19595 Me-Wu Street Tuolumne, CA 95379
Chicken Ranch Rancheria of Me-Wuk Indians	-	16929 Chicken Ranch Road Jamestown, CA 95327

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Setting and Background

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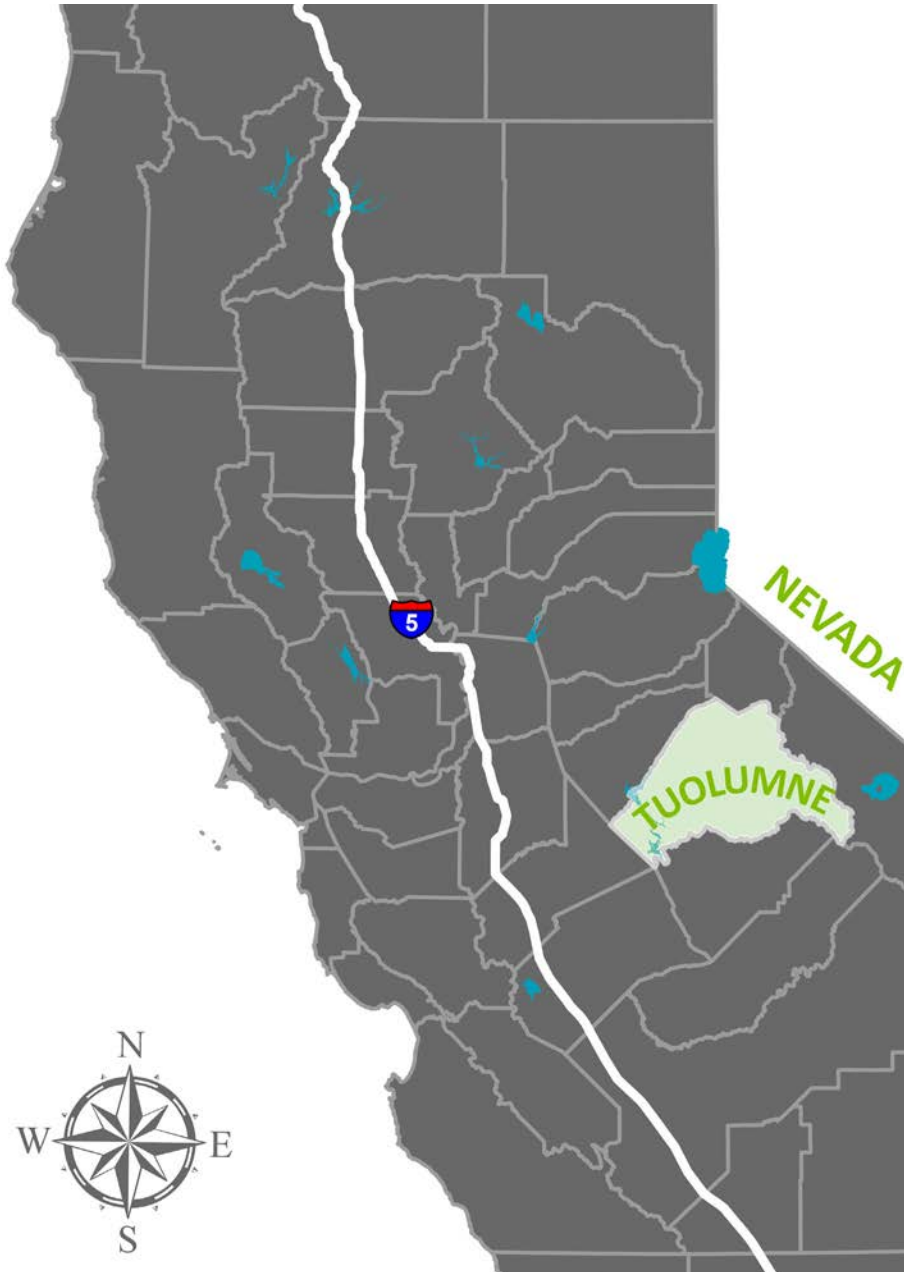
2. SETTING AND BACKGROUND

2.1 Regional Context

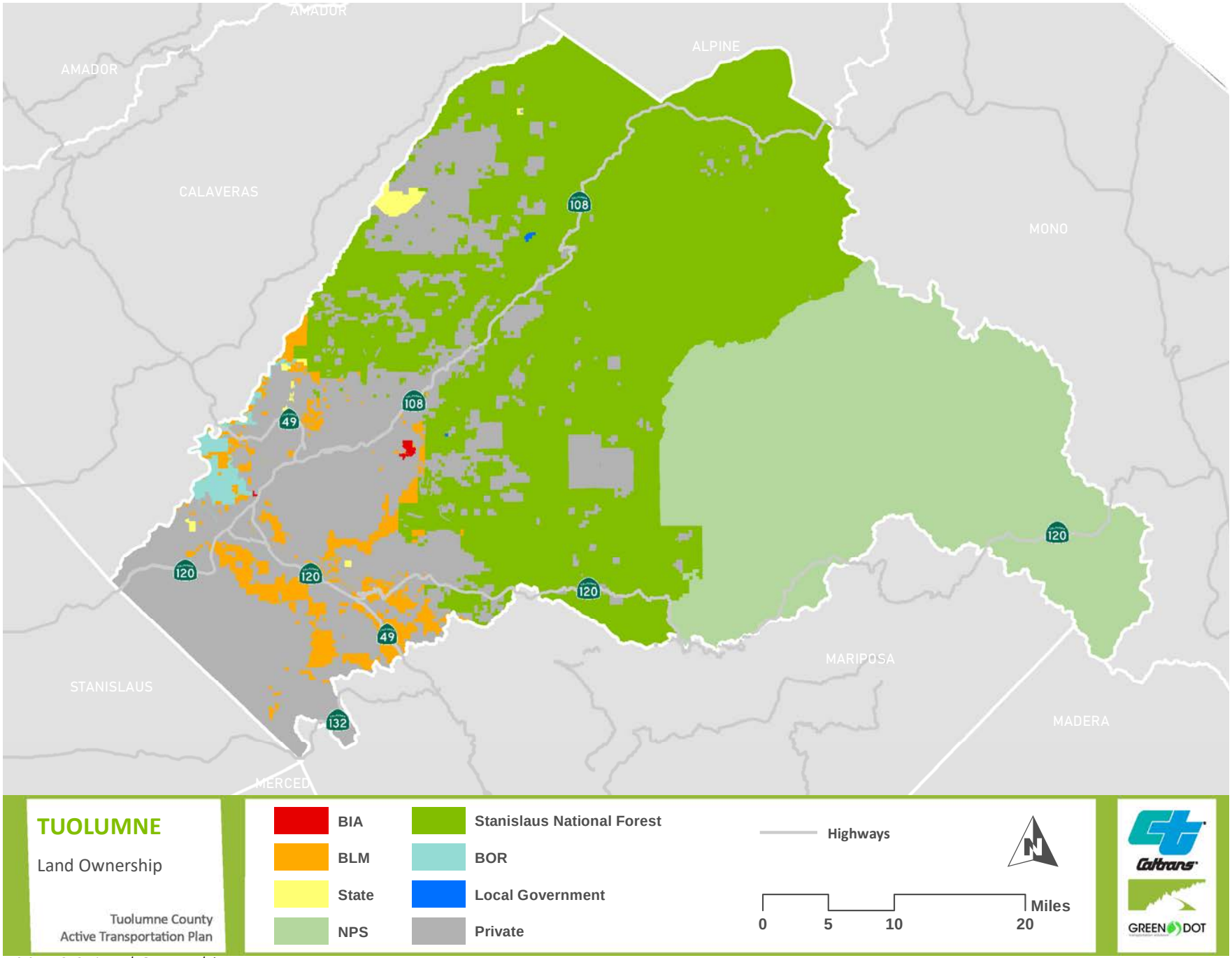
Tuolumne County is located in the central Sierra region in the foothills of the Sierra Nevada mountain range, commonly referred as the Mother Lode region due to its history related to the California Gold Rush. The Me-Wuk (also spelled Miwok) people lived in Tuolumne County for thousands of years prior to the Gold Rush.

Tuolumne County was established in 1850 and was one of the original 27 counties of California. Tuolumne County is bounded by Calaveras and Alpine Counties to the north, Mono County to the east, Mariposa County to the south, and Stanislaus County to the west (see Map 2.2). Tuolumne County has a total land area of 2,274 square miles, ranking 23rd in land area out of the 58 Counties in California. Out of the 2,274 square miles of Tuolumne County, approximately 75% is comprised of public land. Federal land in the County includes Yosemite National Park, Stanislaus National Forest, Bureau of Land Management, and Bureau of Reclamation lands.

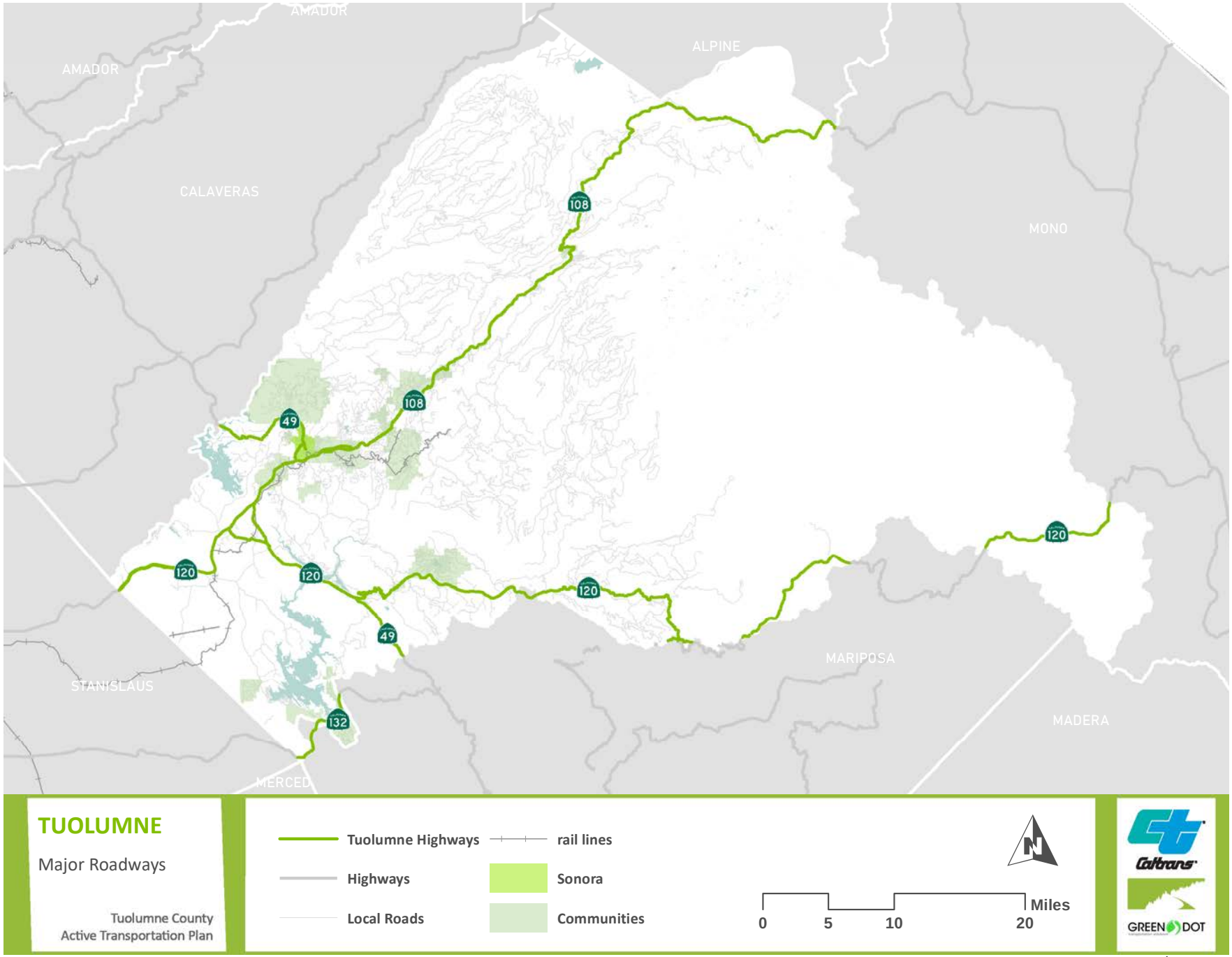
The lone incorporated city in Tuolumne County, the City of Sonora, is located on the western side of the County near the intersection of State Route 49 and State Route 108. The City of Sonora was first settled by Mexican miners (from Sonora) in 1848 and serves as the Tuolumne County seat.



Map 2.1: Location Map



Map 2.2: Land Ownership



Map 2.3: Major Roadways

2.2 Commuting

2.2.1 Vehicle Ownership

According to the American Community Survey, vehicle ownership in Tuolumne County was higher than the United States average in 2018. In Tuolumne County, 95.3% of households had access to a car. This was more than 4% higher than the United States average of 91.2%. Additionally, Tuolumne County residents were more likely to own two, three, or more vehicles than the rest of the nation. Tuolumne County's rural geography makes vehicle ownership necessary for nearly all residents and discourages active modes of transportation.

Table 2.1
Vehicle Ownership

Vehicle Available	Tuolumne County	United States
None	4.7%	8.7%
1	28.7%	33.0%
2	37.7%	37.3%
3+	28.9%	21.0%

Source: 2018 ACS 5-Year Estimates

2.2.2 Mode Share

The majority of the Tuolumne County workforce commutes to work in a single-occupant vehicle (see Figure 2.3 and Table 2.2). Approximately 90.8% of the Tuolumne County workforce commutes by vehicle, with over 81.4% of the workforce driving alone. Tuolumne residents are a third less likely to walk, bike, or take public transit to work than the United States average; only 2.7% of the workers in Tuolumne County commutes by transit, walking or biking, compared to 8.3% of all Americans.

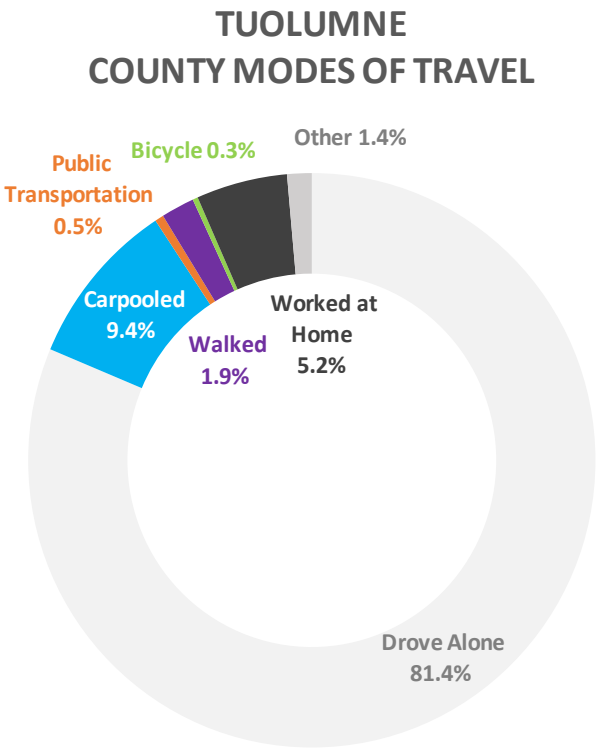


Figure 2.1: Mode Share

Table 2.2
Modes of Travel

	Tuolumne County	United States
Drove Alone	81.4%	76.4%
Carpooled	9.4%	9.1%
Public Transportation	0.5%	5.0%
Walked	1.9%	2.7%
Bicycle	0.3%	0.6%
Worked at Home	5.2%	4.9%
Other	1.4%	1.2%

Source: 2018 American Community Survey 1-year Estimates

2.2.3 Electric Bicycles and Scooters

There is not significant use of E-bikes and scooters in Tuolumne County currently. However, as electric micro-mobility options become more common throughout California, there is potential for increased use in Tuolumne County for recreation and commuting. Electric bikes and scooters are especially useful for hills, which makes them especially appealing for residents of communities with steep terrain. Education and encouragement programs may be necessary for drivers to be aware of E-bikes and scooters.

2.3 Population

2.3.1 Existing Population

The California Department of Finance estimated the population of Tuolumne County to be approximately 54,991 in 2012 and 53,964 in 2019. On average, the County's population decreased by 0.27% annually between 2012 and 2019 (see Table 2.3). Over the past seven years, the City of Sonora has accounted for around 8.9% of the County's population. The other 91.1% of the population live in small communities throughout the unincorporated County. Population growth has remained steady in the City of Sonora in the past few years while the unincorporated and overall County population has dropped slightly.

2.3.2 Historic Population

According to the US Census Bureau, Tuolumne County's population increased by 150% between 1970 and 2010 from 22,169 to 55,365. Population growth in Tuolumne county has slowed since 2000. Between 2000 and 2010, the County's population only increased at an average annual rate of 1.5%.

Table 2.3
Existing Population

	Population 2012	Population 2013	Population 2014	Population 2015	Population 2016	Population 2017	Population 2018	Average Annual Percent Change
Sonora	4,884	4,886	4,906	4,874	4,889	4,876	4,890	0.02%
Unincorporated	50,107	50,052	50,176	49,790	50,063	49,849	49,850	-0.09%
Total County Population	**54,991**	**54,938**	**55,082**	**54,664**	**54,952**	**54,725**	**54,740**	-0.08%

Source: California Department of Finance Projections

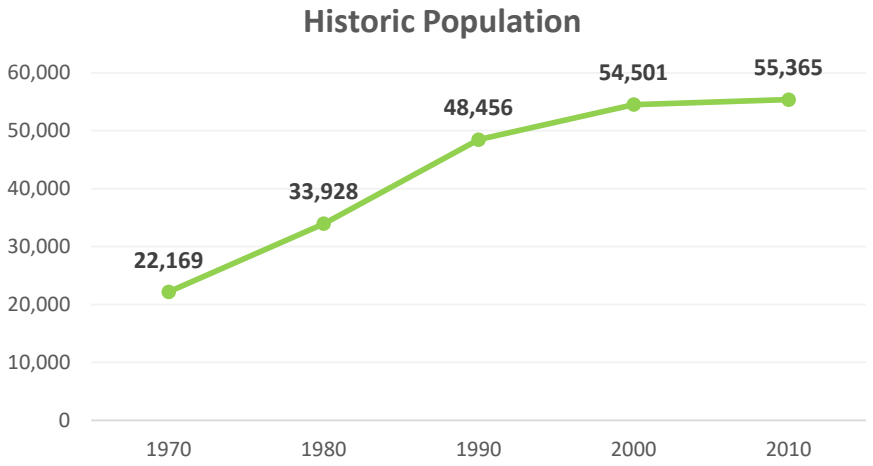


Figure 2.2: Historic Population

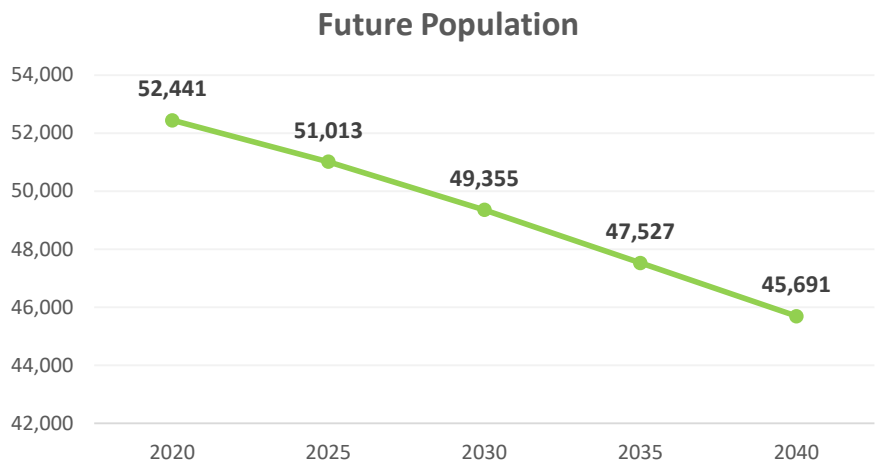


Figure 2.3: Future Population

2.3.3 Future Population

According to the Caltrans Long-Term Socio-Economic Forecasts by County, the population will decrease slightly in Tuolumne County over the 20-year planning horizon of this planning document. Between 2020 and 2040, it is estimated that the County population will decrease from around 52,441 to 45,691 for an average decrease of 0.64% per year.

2.3.4 Age of Population

Tuolumne County's age distribution is expected to undergo modest population change in the coming decades. As seen in Figure 2.4, the California Department of Finance projects the proportion of the County population that is 65 years and older will increase from about 28.8% to about 32.4% by 2040. As the Tuolumne County population ages, there will be a greater demand for transit services and the need to safely accommodate pedestrians and pedestrian accessibility will become a greater priority.

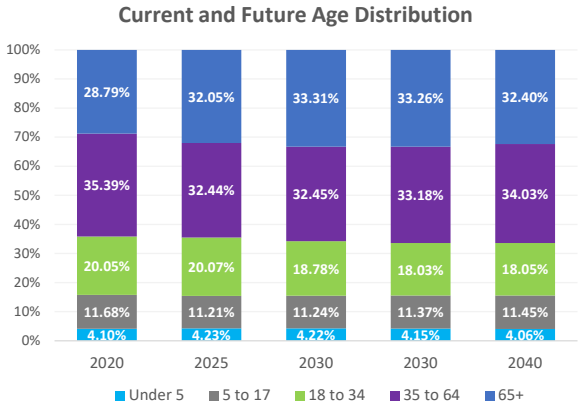


Figure 2.4: Current and Future Age Distribution

2.2.5 Demographics

Figure 2.5 illustrates Tuolumne County's race demographics as reported by the 2018 American Community Survey Estimates. The County's population is predominantly white (80.8%) with a significant Hispanic/Latin population (11.8%).

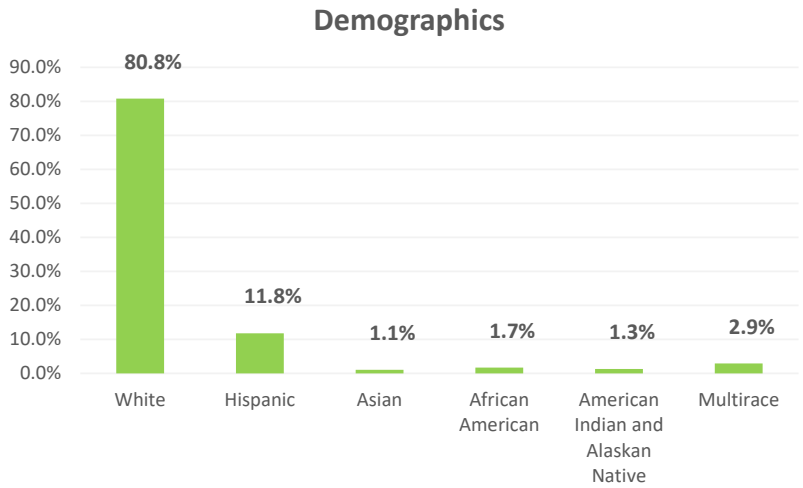


Figure 2.5: Demographics

2.4 Socioeconomic Conditions

2.4.1 Income

Tuolumne County has a larger percentage of households in lower income ranges than the rest of California, as seen in Table 2.4. In the City of Sonora, an estimated 42.3% of households had an annual income under $35,000 in 2018. County-wide, 31.9% of households had an annual income under $35,000, compared with only 25.4% of Californians and 29.5% of United States residents.

Table 2.4
Income

Household Income	City of Sonora	Tuolumne County	California	United States
Under $10,000	6.1%	5.8%	5.1%	6.3%
$10,000 to $14,999	12.2%	6.5%	4.4%	4.6%
$15,000 to $24,999	11.2%	9.2%	8.0%	9.3%
$25,000 to $34,999	12.8%	10.5%	7.9%	9.3%
$35,000 to $49,999	17.8%	12.6%	10.9%	12.6%
$50,000 to $74,999	12.2%	18.0%	15.9%	17.5%
$75,000 to $99,999	12.8%	13.9%	12.3%	12.5%
$100,000 to $149,999	8.5%	13.5%	16.2%	14.6%
$150,000 to $199,000	4.0%	4.0%	8.3%	6.3%
$200,000 or more	2.5%	6.0%	11.0%	7.0%

Source: 2018 American Community Survey Estimates

2.4.2 Poverty

Despite having a much lower household income than the California and United States averages, Tuolumne County has a lower proportion of the population living below the poverty line (see Figure 2.6). It can be assumed that although the average household income is much lower in Tuolumne County, smaller average household sizes contribute to a smaller proportion of the population qualifying as below poverty.

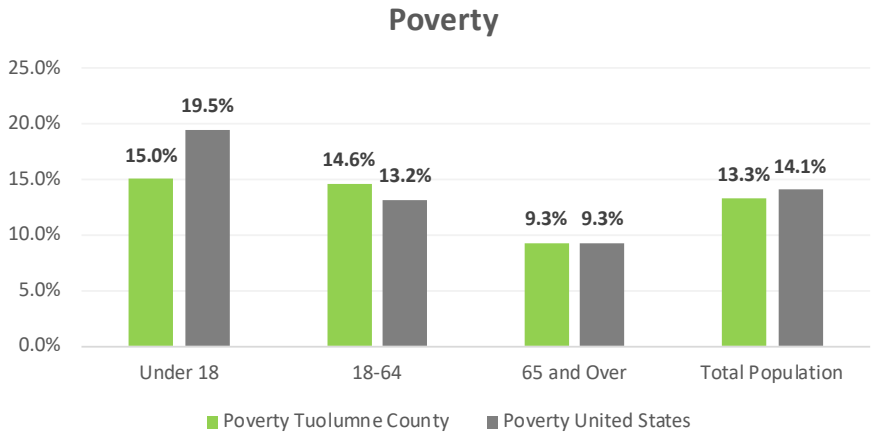


Figure 2.6: Poverty

2.4.3 Employment

Major employment sectors in Tuolumne County include government, healthcare, education and tourism. As seen in Table 2.5, the largest employers in Tuolumne County are Adventist Health Sonora and the Corrections Department. Casinos, Dodge Ridge Ski Resort, department stores, schools, and government agencies employ hundreds of workers.

Tourism related to outdoor recreation is an important component of the regional economy and employment. In addition to Dodge Ridge Ski Resort, residents are employed by sporting goods stores, campgrounds, and other businesses that benefit from recreation and tourism. Yosemite National Park is centered in Tuolumne County and neighboring Mariposa County. Since 2000, an average of almost 4 million people have visited Yosemite Park annually. People travelling to Yosemite from other counties and regions patronize Tuolumne County hotels, restaurants, gas stations, and other businesses.

Table 2.5
Major Employers

Name	Location	Industry	Employees
Adventist Health Sonora	Sonora	Hospitals	1,000-4,999
Corrections Dept	Jamestown	Government Offices-State	1,000-4,999
Black Oak Casino	Tuolumne	Casinos	500-999
Dodge Ridge Ski Resort	Pinecrest	Skiing Centers & Resorts	500-999
Hetch Hetchy Project	Groveland	Government Offices-City, Village & Twp	250-499
Moccasin Low Head Hydro Prjct	Moccasin	Power Plants	250-499
Tuolumne General Hospital	Sonora	Emergency Medical & Surgical Service	250-499
Walmart	Sonora	Department Stores	250-499
Chicken Ranch Bingo & Casino	Jamestown	Casinos	100-249
Columbia College	Sonora	Schools-Universities & Colleges Academic	100-249
Diestel Family Turkey Ranch	Sonora	Ranches	100-249
Hetch Hetchy Water & Power	Moccasin	Government Offices-County	100-249
Kohl's	Sonora	Department Stores	100-249
Lair of the Golden Bear	Pinecrest	Camps	100-249
Lowe's Home Improvement	Sonora	Home Centers	100-249
Pine Mountain Lake Assn	Groveland	Associations	100-249
Ranch House Restaurant	Jamestown	Restaurants	100-249
Safeway	Sonora	Grocers-Retail	100-249
Sierra Pacific Industries	Chinese Camp	Lumber-Manufacturers	100-249
Sonora High School	Sonora	School Districts	100-249
Tuolumne County Human Svc Agcy	Sonora	Government Offices-County	100-249
Tuolumne County Sheriff	Sonora	Government Offices-County	100-249
Tuolumne County Special Educ	Sonora	Schools	100-249
Tuolumne Mewuk Tribal Council	Sonora	Casinos	100-249

Source: California Employment Development Department

2.4.4 Unemployment

Relative to California and the United States, Tuolumne County has a slightly higher unemployment rate. As seen in Table 2.6, Tuolumne County has an unemployment rate of 6.8% compared to 6.7% for California and 5.9% nation-wide. However, a large portion of the Tuolumne County population is not actively participating in the workforce; only 48.8% of Tuolumne County are in the workforce

compared to 63% for both California and the United States. Additionally, it is important to note that these statistics were obtained from the 2018 American Community Survey estimates, and therefore do not reflect the rise in unemployment due to the COVID-19 pandemic in 2020.

Table 2.6
Unemployment

	Total	Labor Force	Labor Force Participation Rate	Employment Rate	Unemployment Rate
Tuolumne County	46,031	22,449	48.8%	45.5%	6.8%
California	31,109,195	19,758,291	63.5%	58.9%	6.7%
United States	257,754,872	163,276,329	63.3%	59.3%	5.9%

Source: 2018 American Community Survey 5-Year Estimates

2.4.5 Educational Attainment

Table 2.7 highlights the significant differences between educational attainment in the City of Sonora, Tuolumne County, California, and the United States. The City of Sonora and Tuolumne County have a lower rate of higher education than California and the United States. Only 12.9% of people 25 and over in Tuolumne County have a bachelor's degree or higher while the state and national rates are 20.8% and 19.4%, respectively.

Table 2.7
Educational Attainment

	Less than High School	High School Graduate	Some College, No Degree	Associate's Degree	Bachelor's Degree	Graduate or Professional Degree
City of Sonora	10.4%	33.2%	27.0%	7.6%	12.8%	9.0%
Tuolumne County	9.6%	28.4%	31.2%	10.8%	12.9%	7.2%
California	17.1%	20.6%	21.3%	7.8%	20.8%	12.5%
United States	12.3%	27.1%	20.6%	8.4%	19.4%	12.1%

Source: 2018 American Community Survey 5-Year Estimates

2.4.6 Housing

In 2018, Tuolumne County had an estimated 31,487 housing units. Of these, about 71.2% of units were occupied, with a vacancy rate of 28.9%, over four times the state vacancy rate of 7.9% (see Table 2.8). This high vacancy rate is explained by the presence of vacation homes, many of which are only occupied during summer months. Of occupied dwellings in Tuolumne County, 69.8% were owner-occupied and 30.2% were renter-occupied.

Table 2.8
Selected Housing Characteristics

	Total Housing Units	Occupied	Vacant	Owner-Occupied	Renter-Occupied
City of Sonora	2,433	86.9%	13.1%	45.2%	54.8%
Tuolumne County	31,487	71.2%	28.8%	69.8%	30.2%
California	14,084,824	92.1%	7.9%	54.6%	45.4%
United States	136,384,292	87.8%	12.2%	63.8%	36.2%

Source: 2018 American Community Survey Estimates

According to the American Community Survey population estimates, the median household income in Tuolumne County was estimated at $56,493 in 2018 (see Table 2.9). This is 20.6% lower than the California median household income of $71,228. However, the median value of a house in Tuolumne County is only 58.6% of the statewide median home value, allowing for a higher homeownership rate than the state average.

Table 2.9
Median Household Income vs. Average Home Price

	City of Sonora	Tuolumne County	California	United States
Median Household Income	$41,130	$56,493	$71,228	$60,293
Median Home Value	$278,900	$278,900	$475,900	$204,900
Median Household Income as % of Median Home Value	14.7%	20.3%	15.0%	29.4%

Source: 2018 American Community Survey Estimates

2.4.7 Disadvantaged Communities

Residents of Tuolumne County generally have lower incomes and are less likely to have college degrees than the rest of California, as described in the previous sections. Rural communities frequently struggle with a lack of opportunities for employment and higher education. These socioeconomic disadvantages faced by residents of rural areas can be made worse by the lack of funding available to build safe walking and biking facilities in rural counties and cities.

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 2014-2018 American Community Survey (ACS) (<$56,982). Five out of Tuolumne County's eleven census tracts qualify as disadvantaged communities by this measure, as shown in Table 2.10 and Map 2.4. One tract, 9852.02, does not have census data available.
- 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. No census tracts in Tuolumne County qualify as disadvantaged communities using the CalEnviroScreen 3.0 metrics.
- Free or Reduced Price School Meals – To qualify as a disadvantaged community using this metric, at least 75% of public school students in the project area must be eligible to receive free or reduced-price meals (FRPM) under the National School Lunch Program. Five out of the twenty-six schools in Tuolumne County have at least 75% FRPM eligibility and approximately 50% of all students enrolled in public schools in Tuolumne County are eligible (see Table 2.11).
- Healthy Places Index: The Healthy Places Index includes a composite score for each census tract in the State. As of 2020, no census tracts in Tuolumne County are in the lowest 25th percentile.
- Other, including criteria for projects on Native American Tribal Lands.

Table 2.10
Disadvantaged Communities

Census Tract	HPI	MHI	% California MHI	Active Commute
11	60.5	$58,558	82%	8.6%
12	29.3	$36,815	52%	6.6%
21	50.4	$38,750	54%	4.3%
22	60.7	$73,835	104%	0.0%
31	35.9	$62,355	88%	0.4%
32	53.6	$69,223	97%	1.9%
41	50.4	$49,386	69%	0.0%
42	63.1	$54,650	77%	0.2%
51	32.7	$50,000	70%	2.9%
52.01	37.7	$65,357	92%	0.6%
9852.02	No Data	No Data	-	-
Tuolumne County	**55.4**	**$55,893**	**78%**	**2.2%**
California	**-**	**$71,228**	**100%**	**3.7%**

Census Tracts in RED qualify as disadvantaged, meaning MHI is less than 80% of the statewide MHI

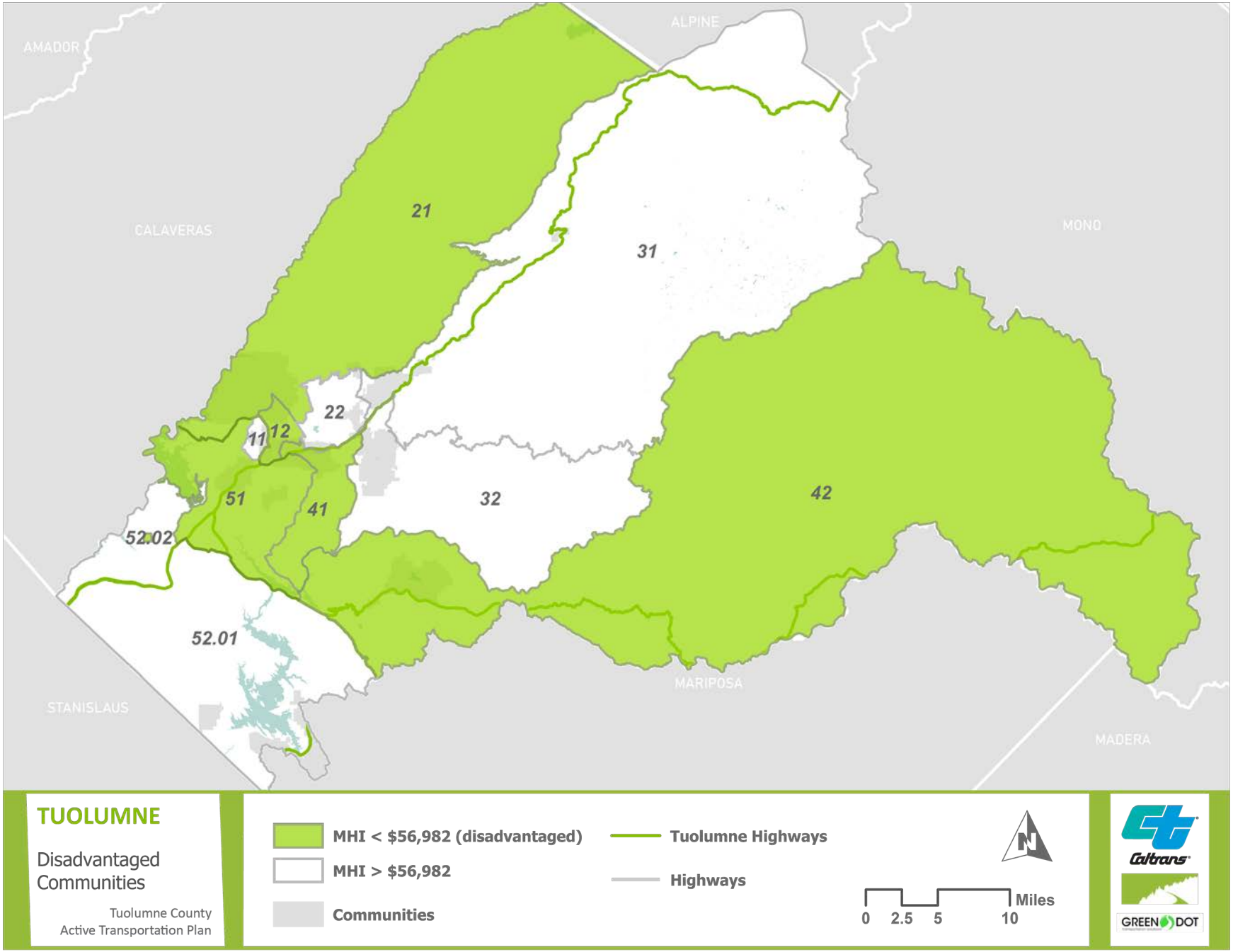
"Source: (1) The California Healthy Places Index
(2) 2014-2018 American Community Survey 5-Year Estimates"

Table 2.11
Free or Reduced Meal Eligibility

School Name	Enrollment	Reduced Eligibility	
		Count	Percent
Gold Ridge Educational Center	8	8	100%
Tuolumne County Community/ISP	17	14	82%
Tuolumne County Special Education	81	53	65%
Belleview Elementary	177	90	51%
Columbia Elementary	467	283	61%
Curtis Creek Elementary	495	258	52%
Chinese Camp Elementary	31	17	55%
Jamestown Elementary	350	269	77%
Sonora Elementary	722	319	44%
District Office	3	0	0%
Dario Cassina High	58	44	76%
Theodore Bird High	49	15	31%
Sonora High	961	358	37%
Soulsbyville Elementary	566	226	40%
Summerville Elementary	406	210	52%
Gold Rush Charter	467	202	43%
Long Barn High	11	6	55%
South Fork High	1	0	0%
Cold Springs High	1	1	100%
Mountain High	3	2	67%
Connections Visual and Performing Arts Academy	215	44	20%
Summerville High	388	145	37%
Twain Harte	270	167	62%
Tioga High	56	32	57%
Don Pedro High	42	25	60%
Tenaya Elementary	200	112	56%
Total	**5922**	**2984**	**50%**

Schools in RED qualify as disadvantaged

Source: California Department of Education 2018/19 FRPM Data



Map 2.4: Disadvantaged Census Tracks (Source 2014--2018 ACS)

Existing Conditions

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3. EXISTING CONDITIONS

3.1 EXISTING NETWORKS

Active transportation users in Tuolumne County are served by a network of trails, bike routes, sidewalks, and transit. This section outlines the existing opportunities for walking, biking, and public transportation, as well as the gaps in this network. Identifying barriers to active transportation use and highlighting opportunities for improvement will help the TCTC identify projects and obtain funding for improvements.

3.2 INFRASTRUCTURE AUDIT METHODS

The consultant team used a combination of document review, remote analysis and field visits to compile an inventory of existing active transportation infrastructure and travel demands in Tuolumne County. The team inventoried existing bicycle and pedestrian infrastructure, existing transit stops, school routes, and other routes connecting significant origin and destination points.

The existing facilities inventory began by using remote technology to inventory significant existing pedestrian infrastructure. The project team used existing GIS data and a combination of ESRI ArcMap, Google Earth, and Google Maps Streetview to assess the presence of sidewalks, ADA compliant curb ramps, obstructions or hazards to pedestrians, bikeways, transit stops, schools and school zones, and crosswalks. Features were compiled to create base maps for field analysis.

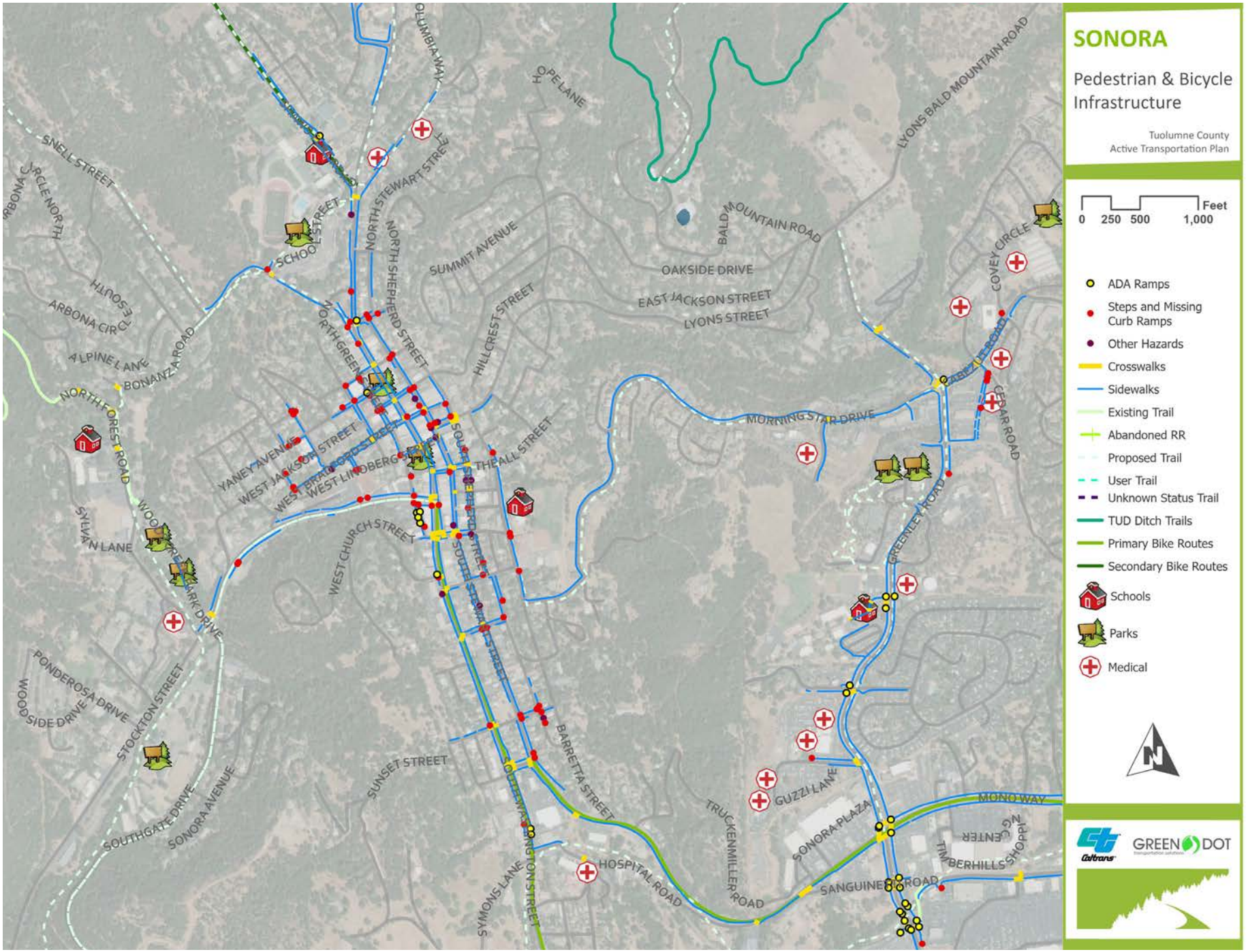
Walking audits were performed at locations considered by the TCTC and consultant team to be significant pedestrian areas. The project team used existing data collected in the remote analysis to field check the data and visually inspect areas that prove challenging to map in the remote exercise. The project team used ArcGIS Collector in the field to capture data, in addition to taking notes and using printed maps for reference. Collector and physical maps allowed team members to collect new data and check the accuracy of remote analysis.

Bicycle routes identified in existing GIS data were found to have no existing infrastructure such as bike lanes, route signage, or sharrows. These routes were included in the maps presented in the following section to illustrate the roadways bicyclists currently use.

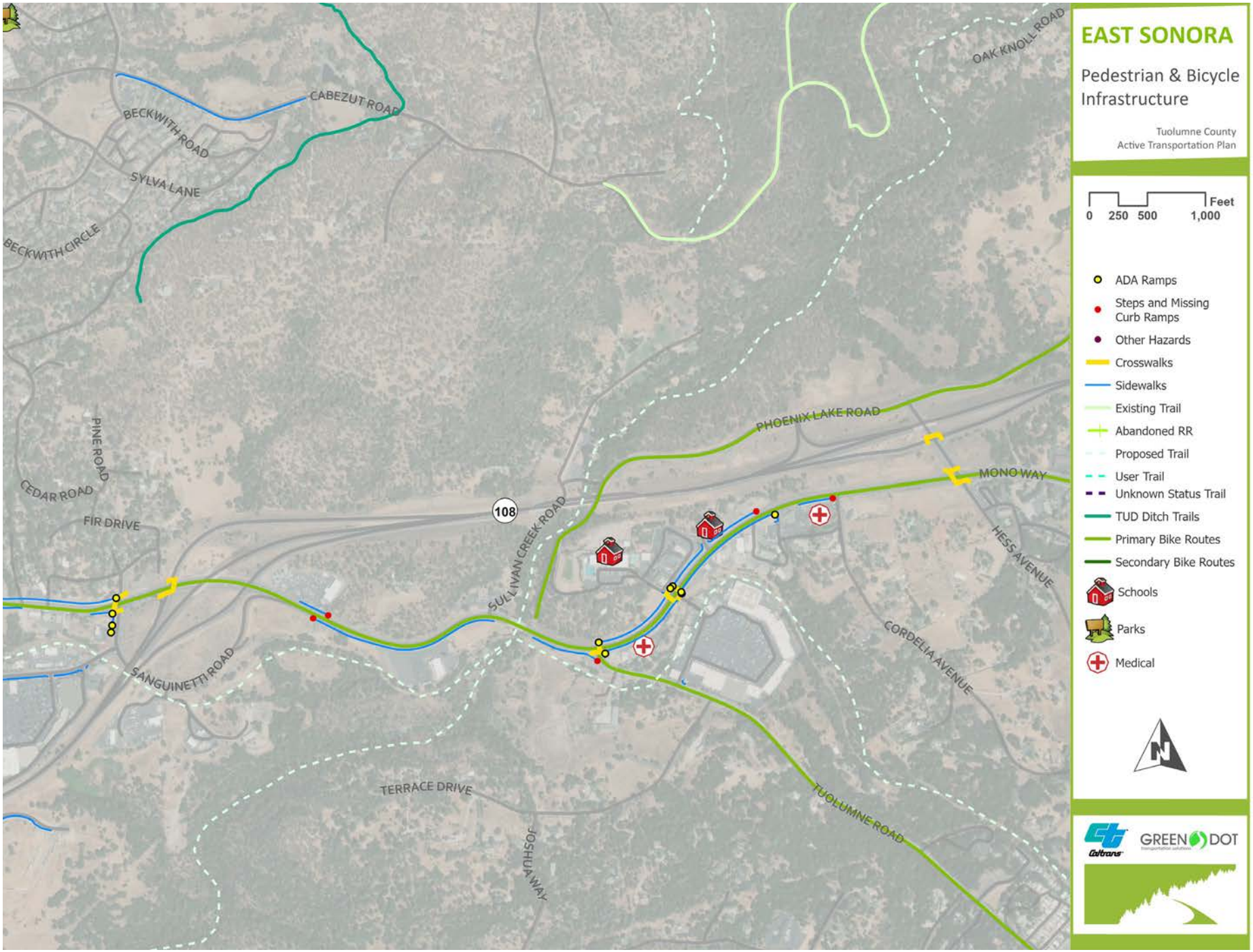
Trails and proposed trails were identified based on existing GIS data from past planning efforts. The proposed trails layer does not exactly match the projects outlined in Chapter 5, rather, they reflect the projects proposed prior to this Plan.

3.3 INFRASTRUCTURE AUDIT MAPS

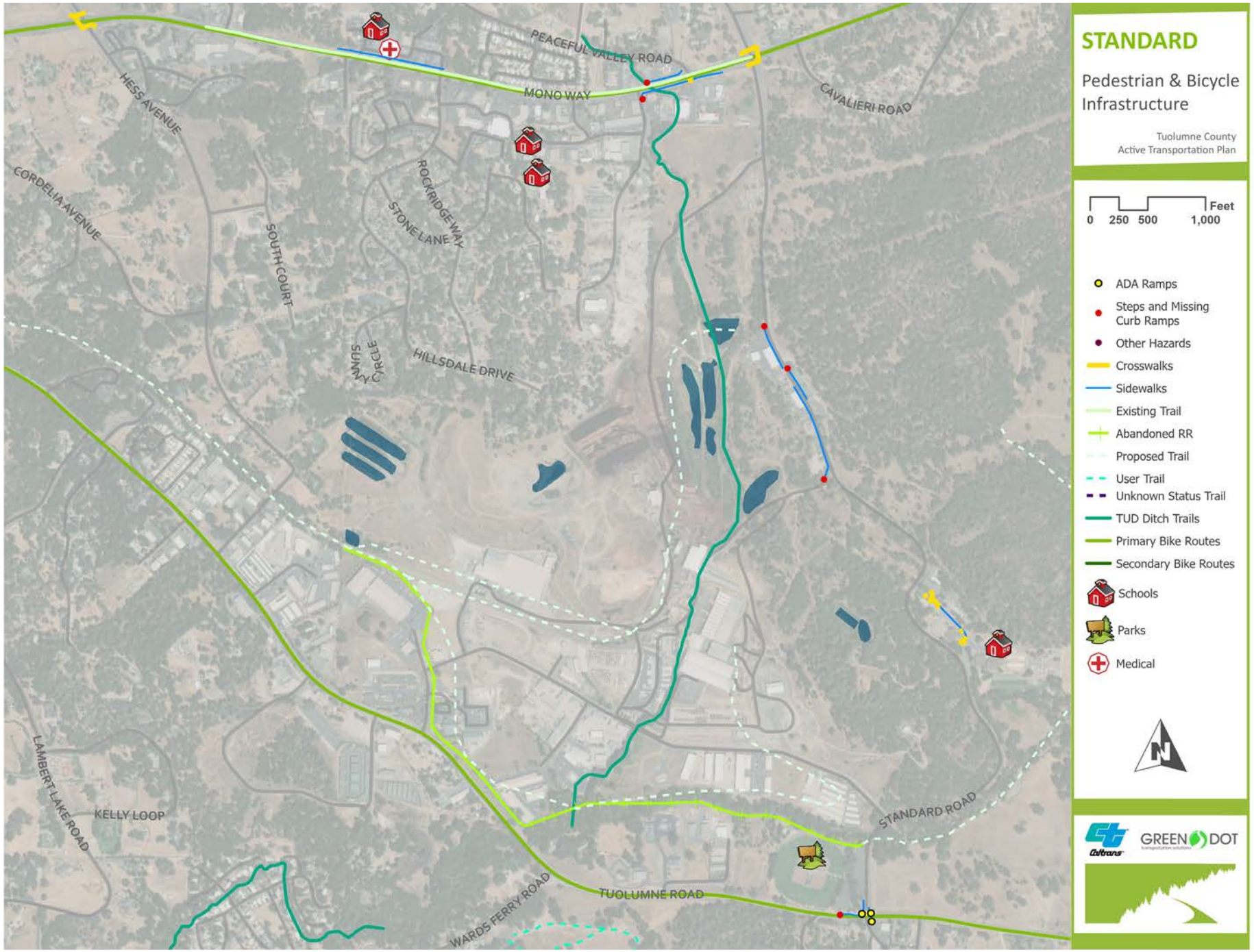
Maps 3.1 through 3.9 display the results of the infrastructure audit. The facilities identified in each community are described in Sections 3.4 through 3.6.



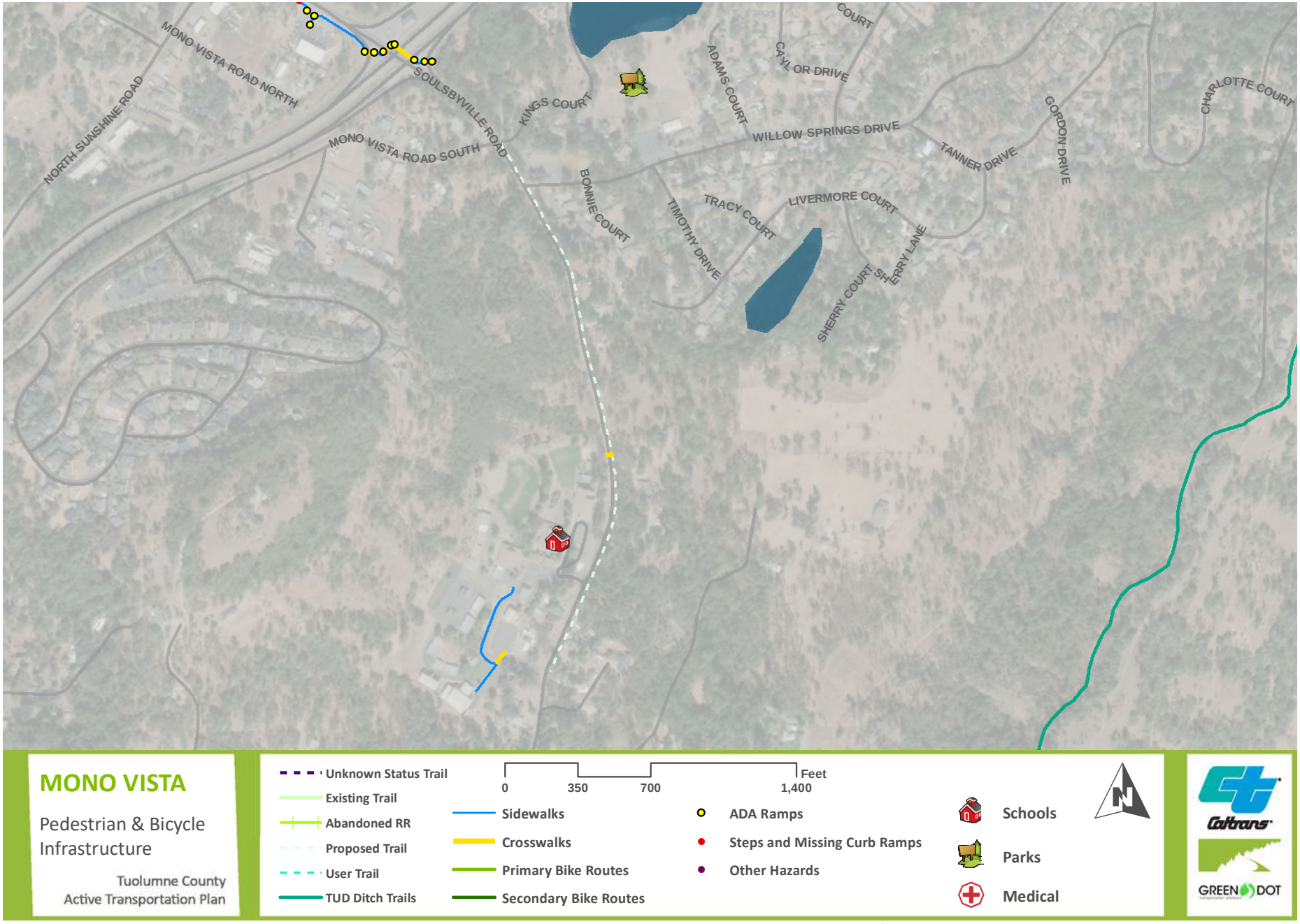
Map 3.1: Sonora Pedestrian & Bicycle Infrastructure



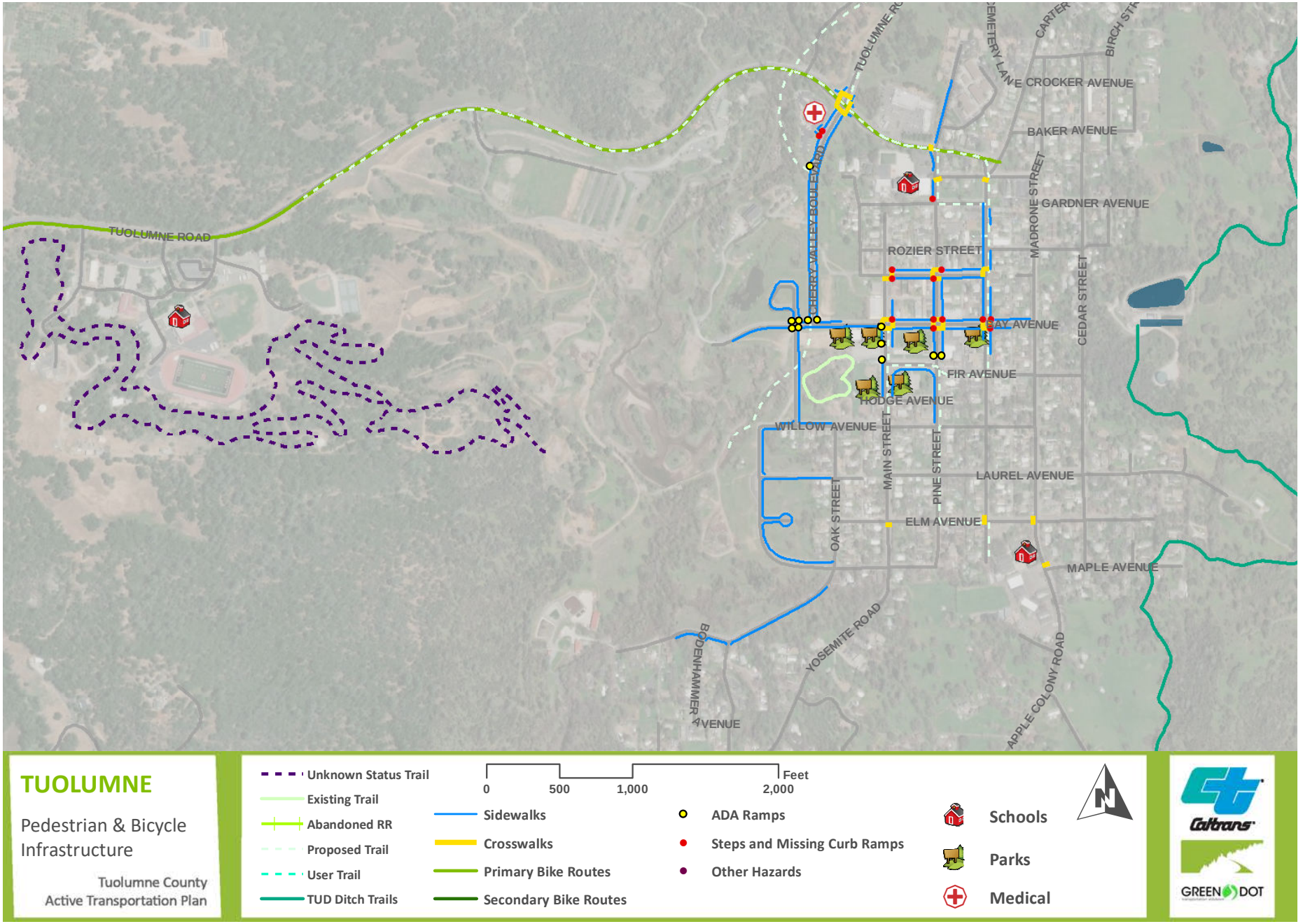
Map 3.2: East Sonora Pedestrian & Bicycle Infrastructure



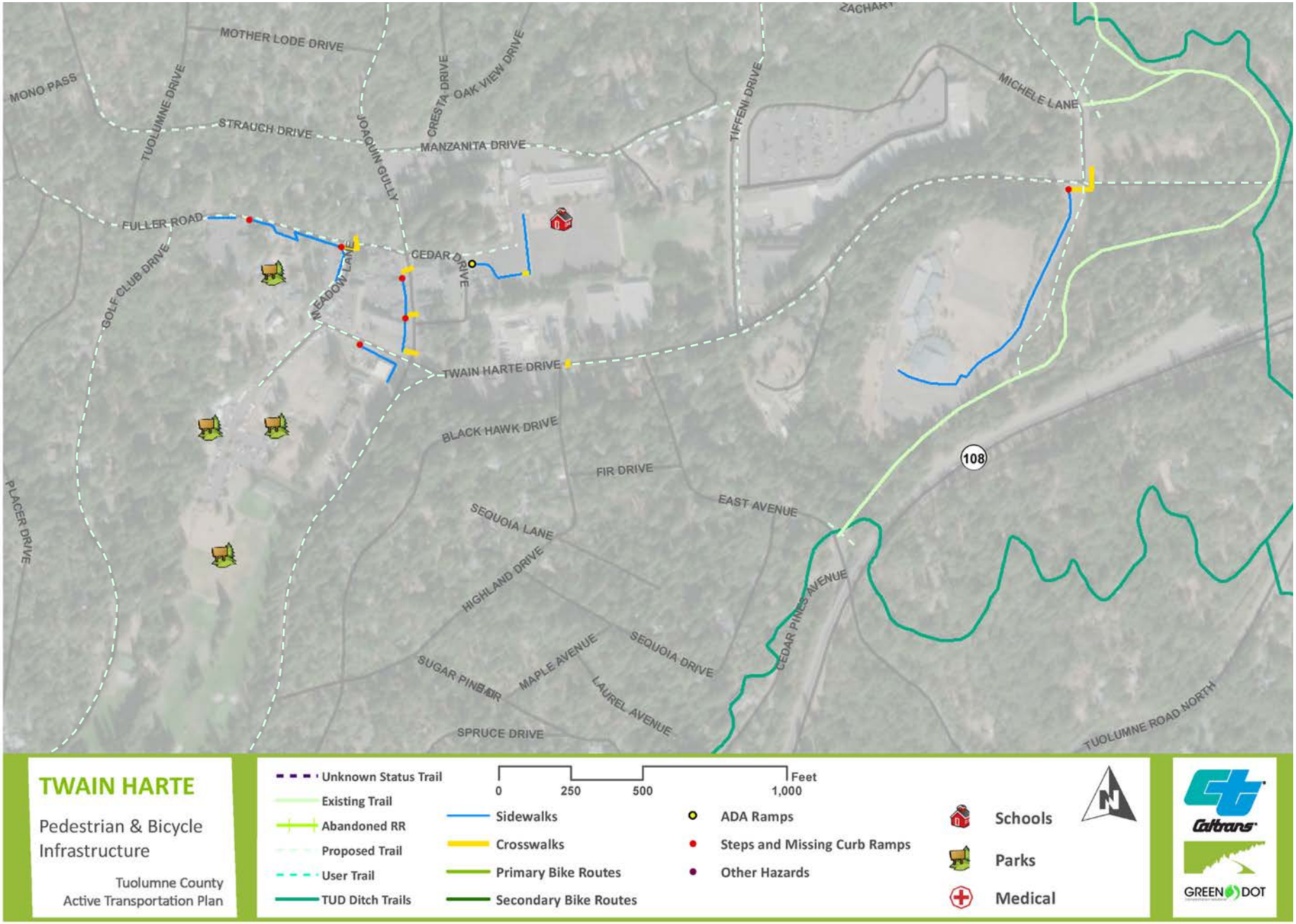
Map 3.3: Standard Pedestrian & Bicycle Infrastructure



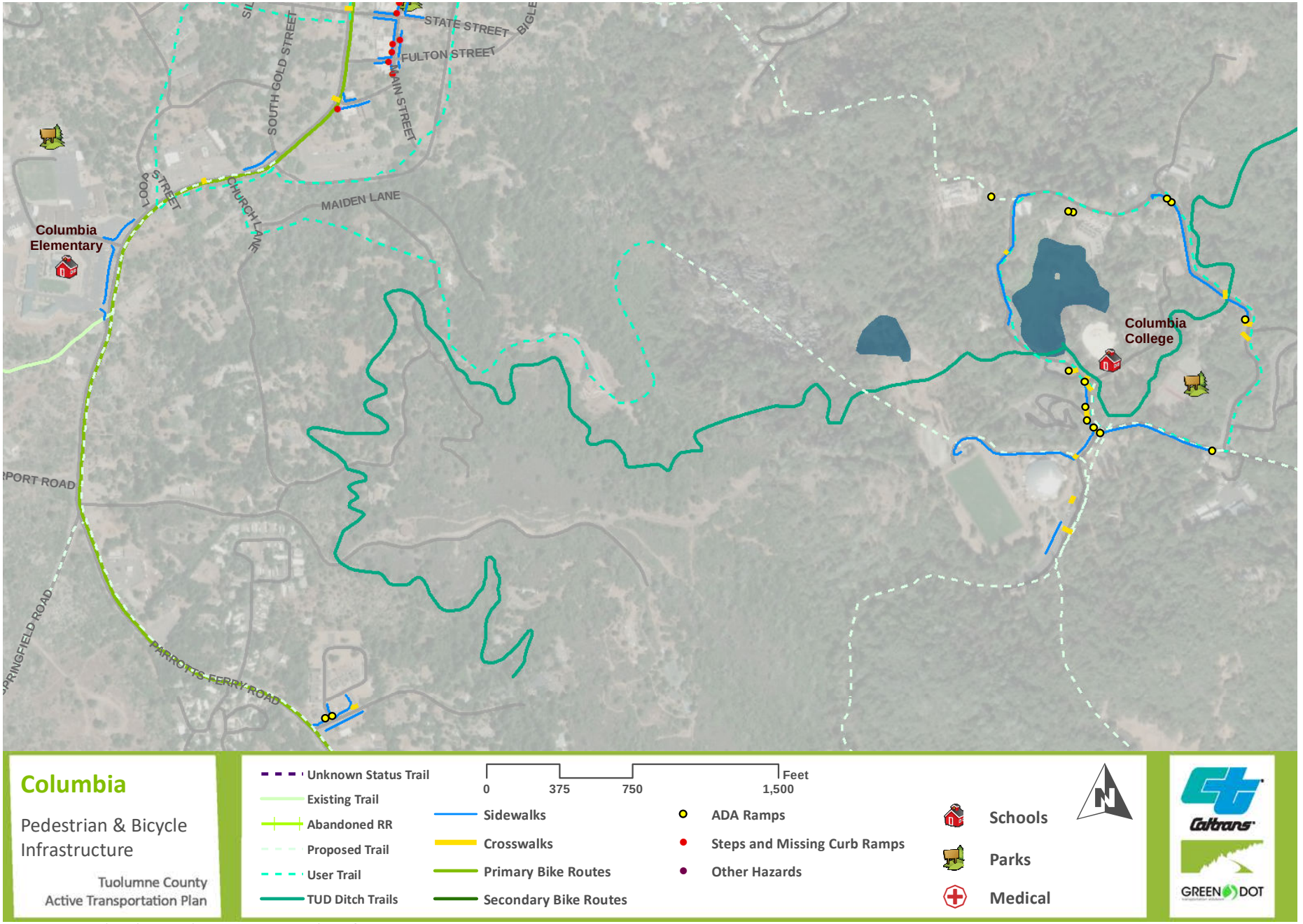
Map 3.4: Soulsbyville/Willow Springs Pedestrian & Bicycle Infrastructure



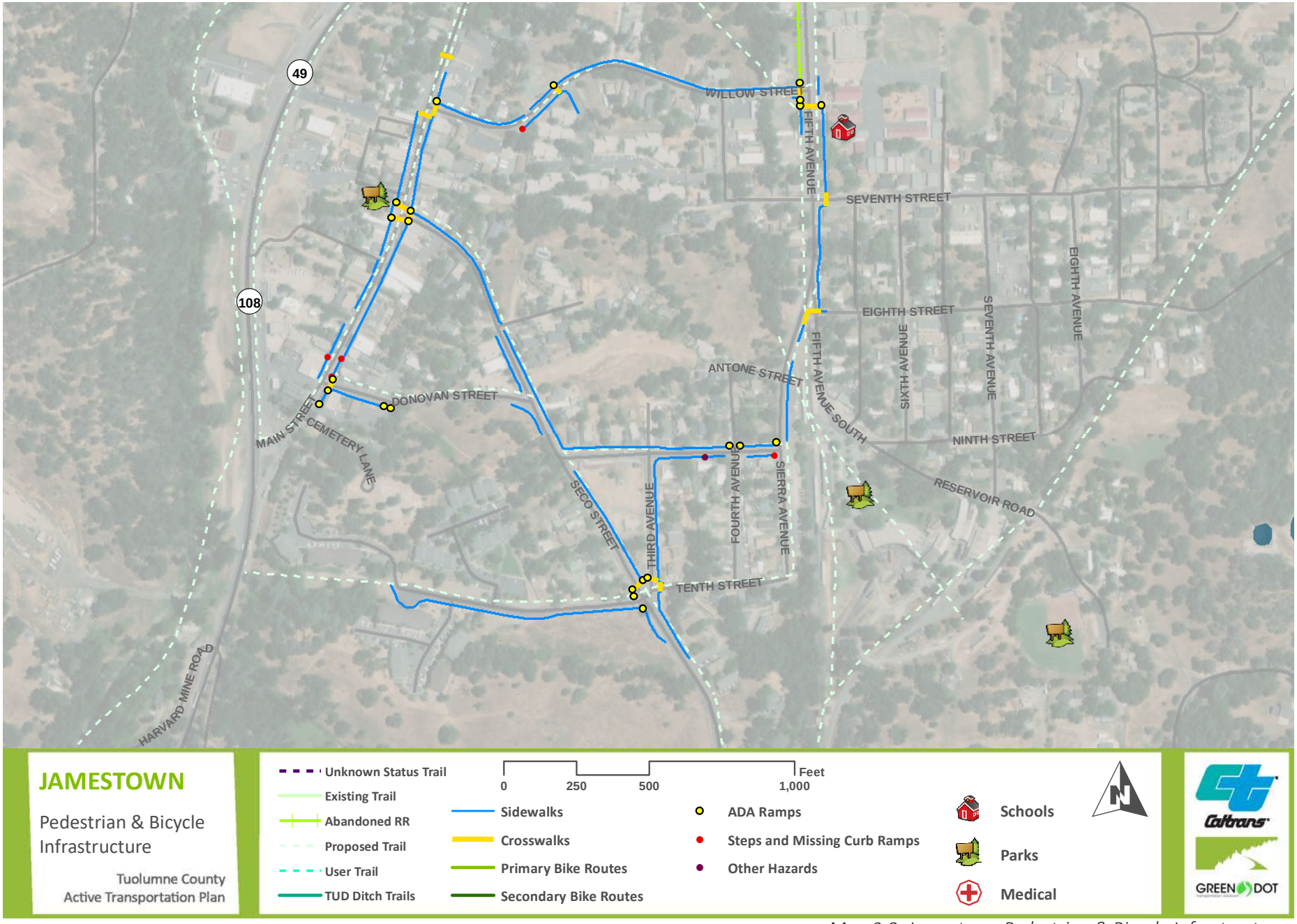
Map 3.5: Tuolumne Pedestrian & Bicycle Infrastructure



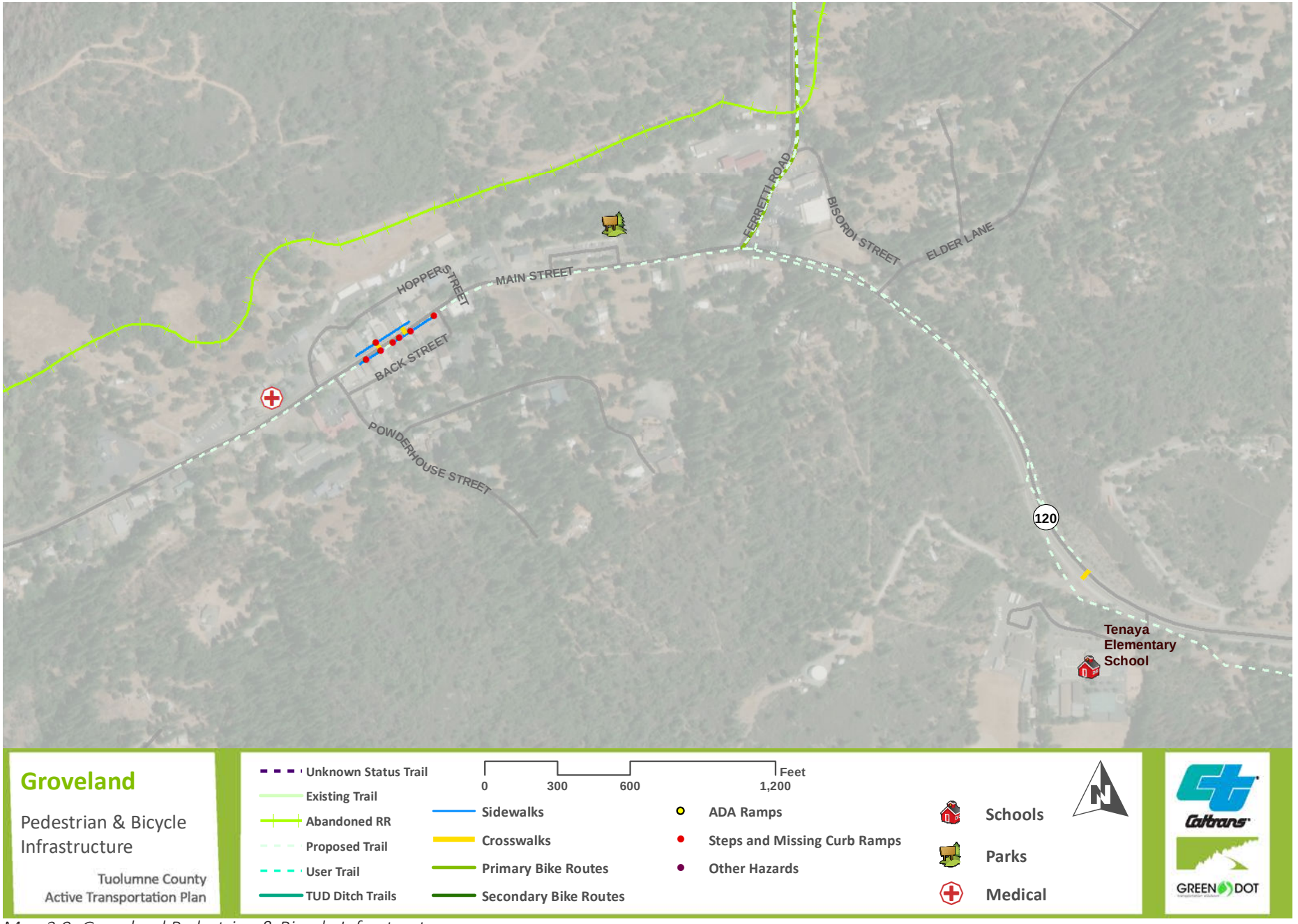
Map 3.6: Twain Harte Pedestrian & Bicycle Infrastructure



Map 3.7: Columbia Pedestrian & Bicycle Infrastructure



Map 3.8: Jamestown Pedestrian & Bicycle Infrastructure



Map 3.9: Groveland Pedestrian & Bicycle Infrastructure

3.4 PEDESTRIAN FACILITIES

Sonora: Map 3.1

Sonora contains a network of sidewalks, crosswalks, and curb ramps. However, due to the community's age and geography, much of these facilities are not ideal for elderly and disabled users. Many sidewalks are steep, lack ADA compliant ramps, have obstacles such as steps or poles, and are crossed by unpaved driveway cuts and vehicle parking. South Washington Street and Mono way are identified as bicycle routes by existing GIS data, however, there are no designated bicycle facilities.

East Sonora: Map 3.2

East Sonora contains numerous medical and shopping centers as well as relatively new, connected walking facilities. Sidewalks in East Sonora generally have curb ramps with tactile domes and are connected by crosswalks at intersections. Several roadways are used by bicyclists, but no designated bicycle facilities exist.

The Sanguinetti Road/Sanguinetti Loop intersection is an issue for bikers and pedestrians. The bypass ramp designs on Mono Way and the circulation from Mono Way westbound to Sanguinetti Loop and Sanguinetti Road are particularly challenging for bikers and pedestrians. Significant sidewalk gaps exist along Mono Way.

Standard: Map 3.3

Standard has occasional sidewalks and crosswalks along Mono Way and Standard Road. Sidewalks are mainly located adjacent to businesses and Curtis Creek Elementary School. Several roadways are used by bicyclists, but no designated bicycle facilities exist. A Tuolumne Utility District ditch is used as a trail.

Soulsbyville/Willow Springs: Map 3.4

Mono Vista has new crosswalks and curb ramps at the intersection of Highway 108 and Soulsbyville Road. Soulsbyville Elementary has a narrow path which some students use to access the school from the Willow Springs neighborhoods. However, the path is overgrown and there are no crossings on Soulsbyville Road for students walking to school.

Tuolumne: Map 3.5

The community of Tuolumne contains a small network of sidewalks and crosswalks in its downtown core, as well as sidewalks on Cherry Valley Boulevard from Bay Avenue to Tuolumne Road. Several streets along the west side of the community feature new sidewalks and ADA compliant curb ramps, but are closed to the public or are not through streets. These streets were constructed for a subdivision that has not been built.

Twain Harte: Map 3.6

The community of Twain Harte contains several crosswalks and sections of sidewalk. However, most sidewalk sections do not connect and lack curb ramps. Several of the crosswalks need to be re-striped.

Columbia: Map 3.7

Columbia does not have a connected network of walking and biking facilities. However, the community includes two locations with facilities designed for pedestrians: Columbia State Historic Park and Columbia College.

Columbia State Historic Park's central streets are formatted in dense blocks designed to accommodate pedestrians. Along these streets are wooden boardwalks, most of which have stairs. Many of the core streets are off-limits to cars during the summer months. This greatly improves the pedestrian experience and mobility, and historic character within the park.

Columbia College features a network of sidewalks and crosswalks allowing users to safely walk between buildings and along roadways within the campus. However, the campus lacks bicycle or pedestrian connectivity with the surrounding communities.

Jamestown: Map 3.8

Jamestown contains a network of sidewalks connecting its community core. Recent improvements including sidewalks and ADA compliant ramps provide walking connections from Main Street to surrounding residential neighborhoods. However, there are no safe walking or biking facilities serving Jamestown Elementary on 5th Avenue, creating a dangerous environment for students who walk or bike to school. Numerous trails have been proposed for the community.

Groveland: Map 3.9

Groveland contains a small downtown surrounded by rural neighborhoods. The Downtown core has several short sections of unconnected sidewalk, most of which are near the end of their useful life and lack curb ramps. Two crosswalks cross SR 120 downtown, while one crosswalk serves Tenaya Elementary School to the East of downtown. No walking or biking facilities serve the neighborhood of Pine Mountain Lake, a private community of over 2600 residents located northeast of downtown off Ferretti Road.

Several trails have been proposed for the community, including the Hetch Hetchy Railroad grade, located just north of downtown.

3.5 EXISTING GAPS

Tuolumne County's rural communities generally lack connectivity of non-motorized facilities. The region features numerous routes for recreational bicycling and hiking but lacks safe paths and bikeways to provide connections for locals and tourists who walk or bike within or between communities.

3.4.1 State Route 49 Corridor

State Route (SR) 49 links numerous historic Gold Rush era communities in the Sierra Nevada foothills, including Jamestown, Sonora, and Columbia. There is a need for safe facilities for non-motorized travel between these three communities.

The community has voiced significant support for a trail connecting Sonora to Columbia College, and there is also community demand for a trail connecting Sonora to Jamestown.

3.5.2 Sonora

The Sonora Historic Downtown Core contains numerous businesses where locals and tourists shop, dine, and are employed. Washington Street, part of SR 49, is the main street in Downtown Sonora and is lined with historic buildings. Washington Street experiences a large volume of traffic, causing a need for safer pedestrian crossings. Crosswalks exist at most intersections, but the City of Sonora has proposed upgrading them to high visibility crosswalks due to frequency of pedestrian collisions. There are no designated routes for bicyclists.

Other roads which community members identified as lacking safe non-motorized facilities include Stockton Street, Racetrack Road, Greenley Road, Mono Way, Sanguinetti Road, Lyons Street / Bald Mountain Road, and Shaws Flat Road.

3.5.3 Columbia

Columbia has limited sidewalks and paths; those present are located mainly within Columbia College campus and Columbia State Historic Park. The community needs safe paths for residents and visitors to access Columbia Elementary School and Columbia College by walking and biking.

3.5.4 Jamestown

Jamestown has a limited network of existing sidewalks with gaps that still need to be filled, particularly along 5th Avenue by Jamestown Elementary School. Currently, there is continuous sidewalk to the south of Jamestown Elementary School along 5th Avenue, and east of the school along Willow Street. However, there is no sidewalk along 5th Avenue north of the school and no sidewalk on Seventh Street, Sixth Avenue, or Fourth Avenue in the immediate vicinity of the school. The lack of sidewalks or other walking facilities on 5th Avenue and adjacent streets may discourage students from walking to Jamestown Elementary from nearby neighborhoods, and puts students who do walk in danger.

3.5.5 Groveland

There are several barriers hindering pedestrian movement throughout the different parts of downtown Groveland including non-ADA compliant bridges and gaps up to 350 feet long between sidewalks. Some of the existing sidewalks have crumbled or are not ADA accessible. SR 120 bisects the town and vehicles travel at uncomfortable speeds for walkers and bikers despite travelling along a road that narrows as it comes into town. Pedestrians use the narrow shoulders to walk along both SR 120 and Ferretti Road.

The neighborhood of Pine Mountain Lake is located adjacent to Groveland's downtown core off Ferretti Road and contains 2,671 residents. Pine Mountain Lake has neither internal walking or biking facilities nor connections into Groveland.

3.5.6 Twain Harte

The community of Twain Harte is surrounded by recreational facilities but lacks non-motorized facilities within its downtown core and residential neighborhoods. Some sidewalks exist downtown, but they lack connectivity or safe crossings. Twain Harte's small downtown core contains all of the community's shops, restaurants, hotels, and park.

A new park, called Twain Harte Meadows Park, is being constructed adjacent to the downtown core and existing Eproson Park and Twain Harte Golf Course. Twain Harte Elementary School is located just outside the downtown business district. The Sugar Pine Railroad Trail is accessible southeast of downtown, and the Tuolumne Ditch Access trailhead is located on the north side of the community.

Currently, none of these destinations are connected by safe walkways or bikeways. No bikeways or sidewalks connect the downtown and school to the surrounding neighborhoods.

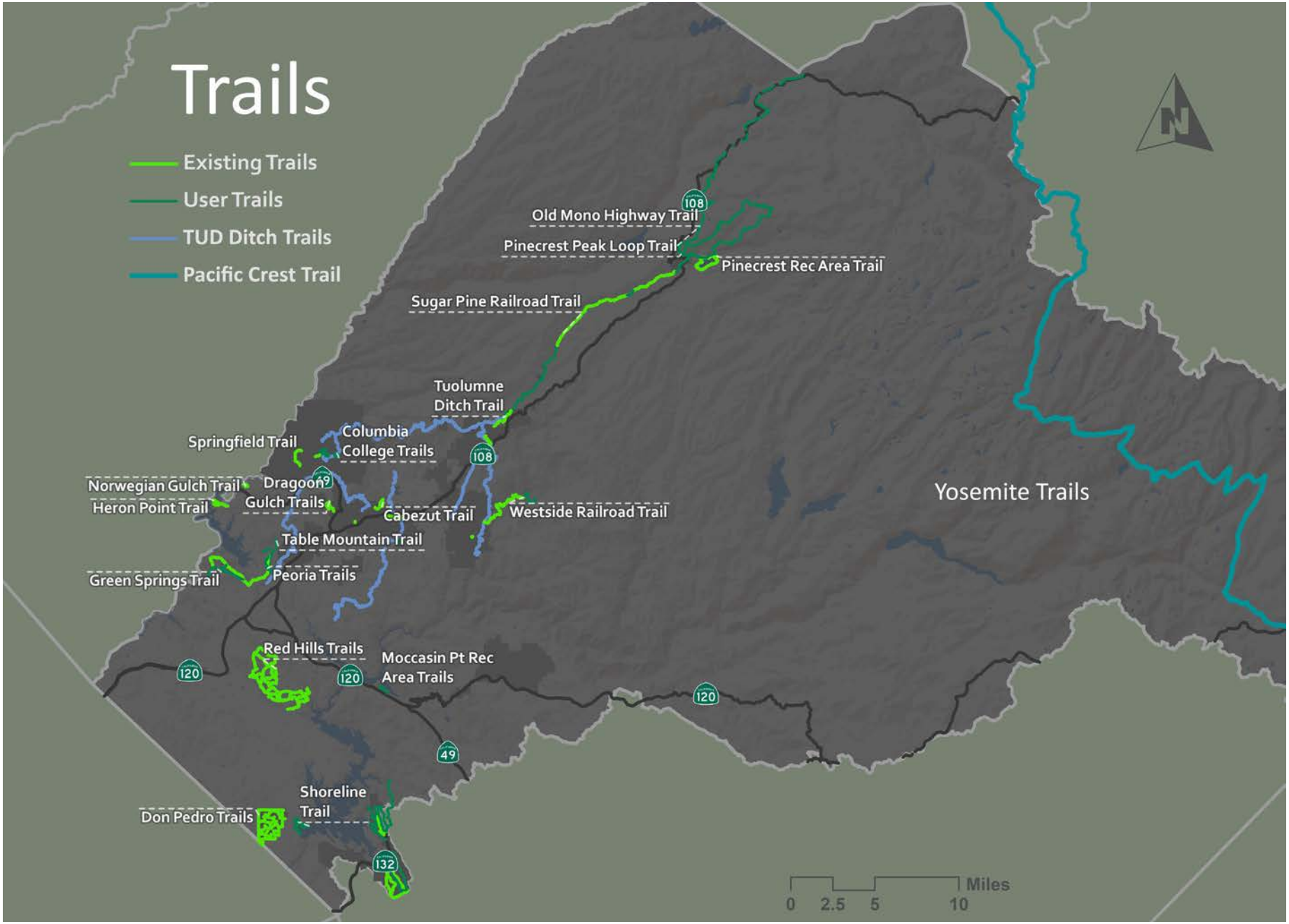
3.5.7 Tuolumne

The community of Tuolumne has sidewalks within its downtown core and some areas of residential streets. However, the community lacks non-motorized connectivity to Summerville High School, Black Oak Casino Resort, other community destinations, or regional connections.

3.6 TRAILS

Tuolumne County has an expansive network of recreational trails, displayed in Map 3.10. Trails are generally located near population centers including Sonora, Jamestown, Twain Harte, and Columbia. Others are located in popular recreation areas or between communities. A much broader network of trails has been proposed in previous planning documents, and information about them can be found in the projects list in Attachment D. Existing and proposed trails can be seen in more detail in the facilities maps for each community presented in Section 3.4.

The Pacific Crest Trail, which is maintained by the Pacific Crest Trail Association, is also displayed in Map 3.10. The Pacific Crest Trail crosses the East end of the County for approximately 50 miles, and straddles the border between Tuolumne and Mono Counties for several miles to the North. Additionally, Yosemite National Park contains a network of trails.



Map 3.10: Map of Trails and Bike Routes in Tuolumne County

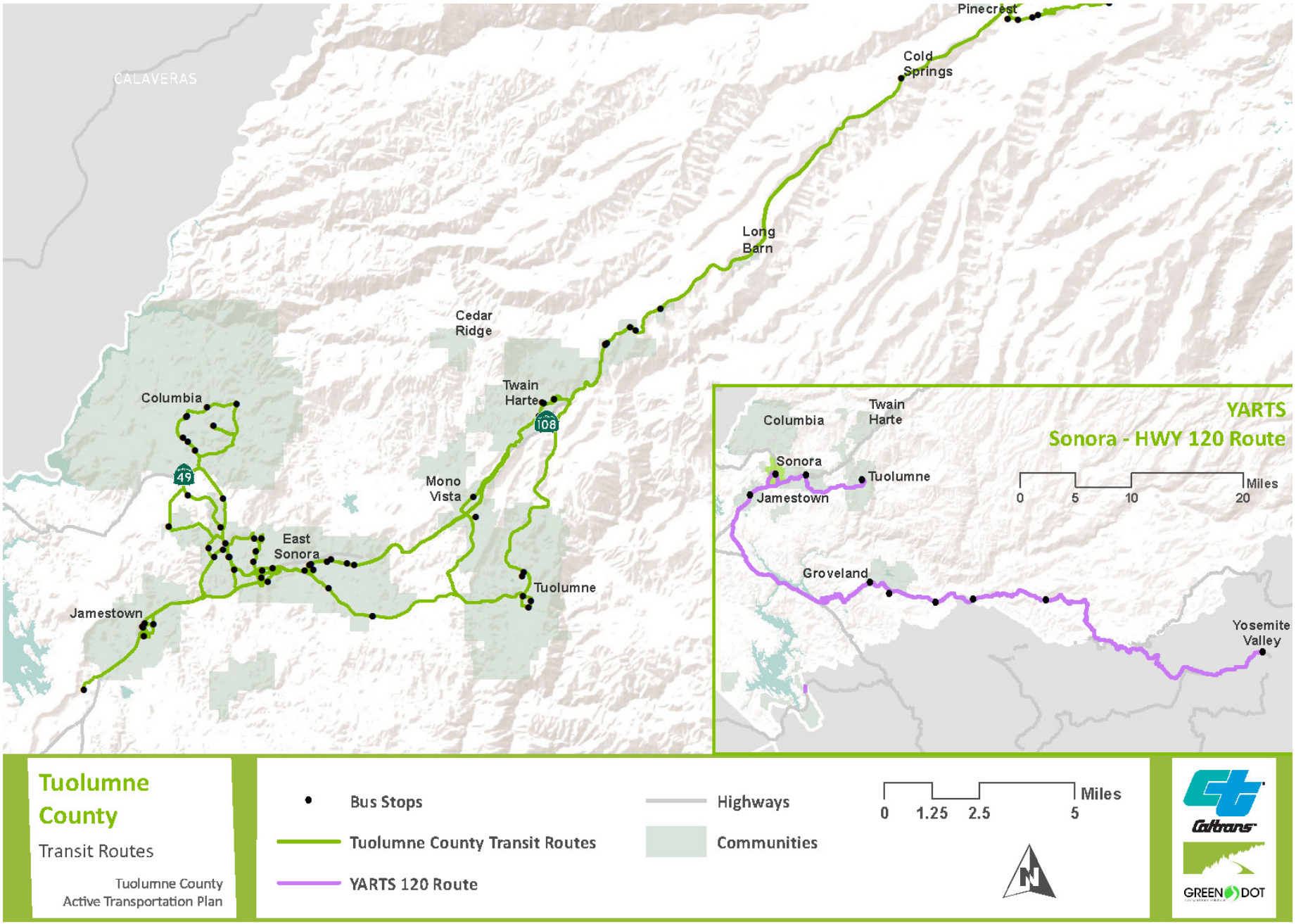
3.7 TRANSIT

Most Tuolumne County communities are served by Tuolumne County Transit. Routes 1-5 are year-round fixed routes with Dial-a-Ride service also available during the week in addition to a general public service on Saturdays. East Sonora is served Monday through Friday with a general public Dial-a-Ride only. Pinecrest Bus, Adventure Trolley, and SkiBUS are seasonal fixed route bus services. Table 3.1 shows these services in detail, and Map 3.11 displays their general locations.

Table 3.1
Tuolumne County Transit Routes

Route Name	Service Area	Service Type	Days	Season
1. Sonora Loop	Downtown Sonora, shopping centers, Sonora High School, East Sonora	Fixed Route	Monday - Friday	Year-round
2. Sierra Village – Sonora	Sierra Village, Mi-Wuk Village, Sugar Pine, Twain Harte, Crystal Falls, Willow Springs, East Sonora	Fixed Route	Monday - Friday	Year-round
3. Jamestown – Sonora - Columbia	Sonora, Chicken Ranch, Jamestown, East Sonora, Columbia College	Fixed Route	Monday - Friday	Year-round
4. Sonora – Columbia	Sonora, Columbia College, Columbia State Park, West Sonora	Fixed Route	Monday - Friday	Year-round
5. Sonora – Tuolumne	East Sonora, Tuolumne, Black Oak Casino	Fixed Route	Monday - Friday	Year-round
6. Sonora – Crystal Falls	Phoenix Lake - Sonora Meadows - Crystal Falls	General Public Dial-a-Ride	Monday - Friday	Year-round
Pinecrest Bus	Jamestown to Pinecrest	Fixed Route	Weekends and Holidays	Summer
Adventure Trolley	Sonora, Jamestown, Columbia	Fixed Route	Saturdays	Summer
SkiBUS	Sonora to Dodge Ridge	Fixed Route	Weekends and Holidays	Winter

In addition to Tuolumne County Transit, Yosemite Area Regional Transportation System (YARTS) offers seasonal service between Tuolumne, Sonora, Jamestown, Groveland, and Yosemite Valley on its Sonora – Hwy 120 Route.



Map 3.11: Tuolumne County Transit Routes

3.8 PARK AND RIDE FACILITIES

There is a park and ride facility located on State Route 120 near Ponderosa Lane in Groveland at Mile Post 32.2. The facility provides eight parking spaces. The only other facility is located in Tuolumne, downtown near the ballfields, library, and pool.

In March 2004, Caltrans District 10 published an updated Park and Ride Plan. That plan identified five new park and ride facilities planned for the county:

- Near the Bypass on State Route 108 between Standard Road and Via Este in the East Sonora Area between post mile 4.33 and 5.87
- Near the Bypass on State Route 108 between Via Este and Sunshine Road in the East Sonora Area between post mile 5.87 and 6.86
- Near State Route 49 in Jamestown at post mile 14.34
- Junction of State Route 129 and 108 at Yosemite Junction, post mile 12.08
- Near the Junction of SR-120 and Highway J-59 (La Grange Road), post mile 8.19

The City of Sonora's General Plan 2020 Circulation Element states that a park and ride facility could help alleviate some of the demands on the City's circulation system. Potential locations for such facilities might include, but are not limited to:

- Near the South Washington Street/Highway 108 intersection
- Near the Fir Drive/Mono Way/Bypass intersection (eastern city limits)
- Along Bergel Road, the extension of Phoenix Lake Road west of Hess. A bicycle and pedestrian connection from Bergel Road to Mono Way would be needed.
- Adjacent to the Tuolumne County Transit yard on Sanguinetti Road

3.9 COLLISIONS

Collision data for the years 2006 through 2018 was acquired from the UC Berkeley Transportation Injury Mapping System. According to this data, 4,283 collisions were recorded during these years. Of these collisions, 664 occurred in Sonora, while 3,619 happened in the unincorporated County. County-wide, 195 of all collisions involved pedestrians and 70 involved bicyclists. Locations of collisions involving bicyclists and pedestrians are displayed in Maps 3.12 through 3.18.

Figure 3.1 displays the number of collisions involving bicyclists and pedestrians and whether they occurred in Sonora or unincorporated Tuolumne County.

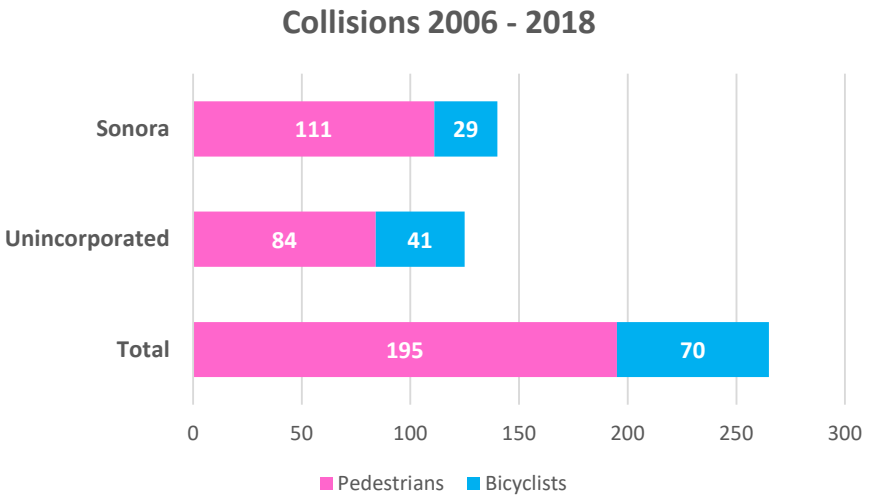


Figure 3.1: Collisions 2006-2018

Figure 3.2 breaks down the number of pedestrian collisions per year by collision severity. Figure 3.3 shows the number of bicycle collisions per year by severity. Map 3.12 displays the locations of bicycle and pedestrian collisions in Tuolumne County.

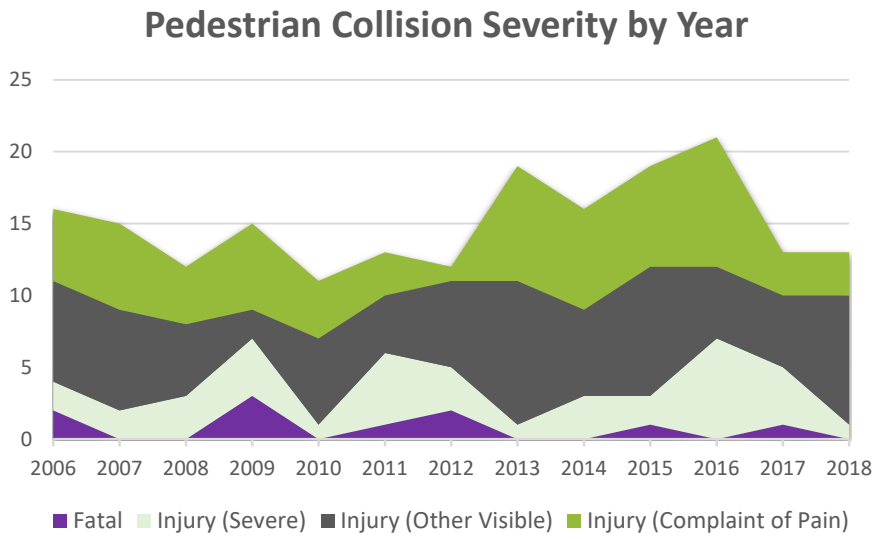


Figure 3.2: Pedestrian Collision Severity by Year

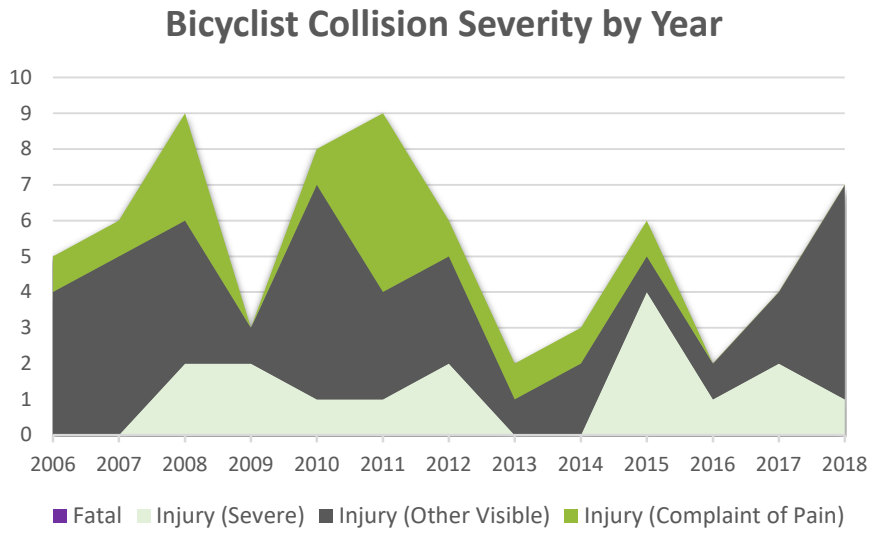


Figure 3.3 Bicyclist Collision Severity by Year

3.9.1 Sonora: Map 3.13

Sonora was the location of 140 bicycle and pedestrian collisions from 2006 through 2018. Figures 3.4 through 3.6 break down this number by parties involved and severity. The majority of these collisions occurred along Washington Street and Mono Way, as shown in Map 3.13. The Washington Street Downtown Core has the highest density of pedestrian and bicycle collisions in Sonora and Tuolumne County. Collisions have occurred along SR 49 that are not displayed in the map due to an error in the Transit Injury Mapping System.

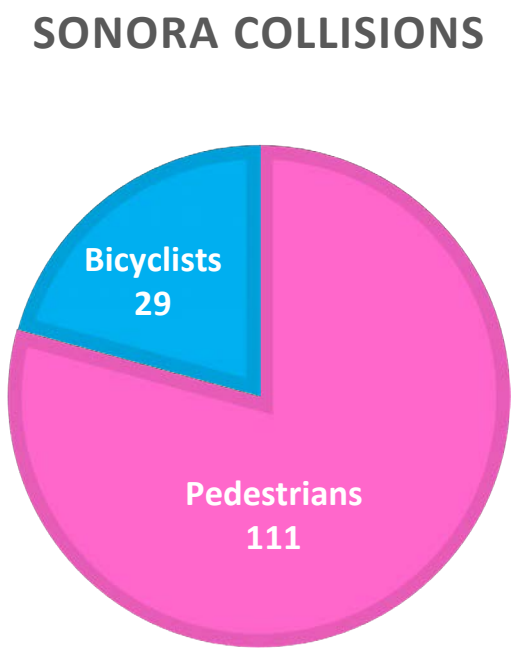


Figure 3.4: Sonora Collisions

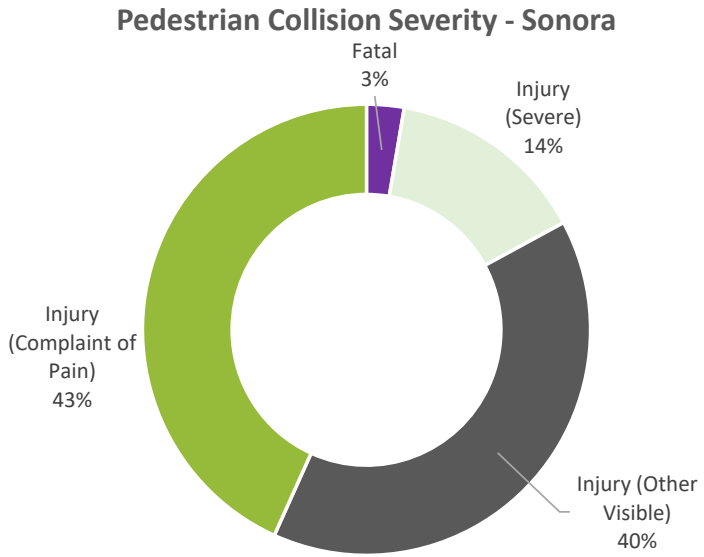


Figure 3.5: Pedestrian Collision Severity - Sonora

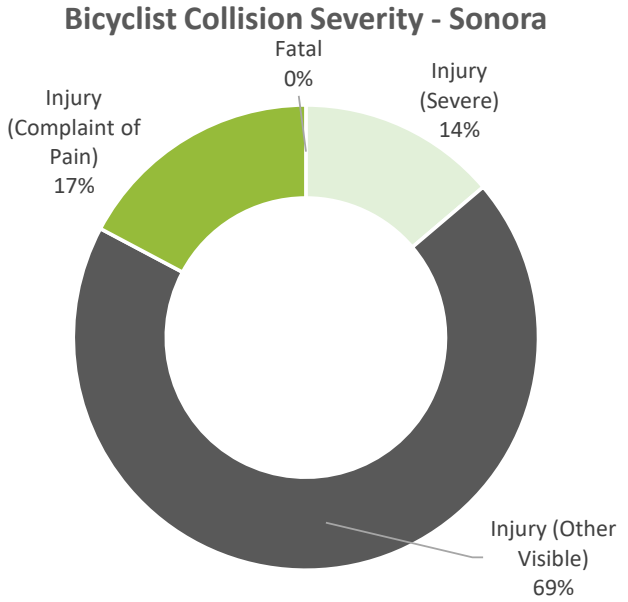


Figure 3.6: Bicyclist Collision Severity - Sonora

3.9.2 East Sonora: Map 3.14

In the communities of East Sonora and Standard, collisions occurred along Mono Way and Tuolumne Road. The SR 108 interchange and Sanguinetti Road/Loop intersection are shown in Map 3.14.

3.9.3 Mono Vista and Tuolumne: Map 3.15

Collisions occurred in various locations along SR 108 and in the community of Tuolumne.

3.9.4 Twain Harte: Map 3.16

Several bicycle and pedestrian collisions took place in residential areas of Twain Harte. Additionally, several collisions occurred along SR 108 in Mi-Wuk Village and Sierra Village.

3.9.5 Columbia: Map 3.17

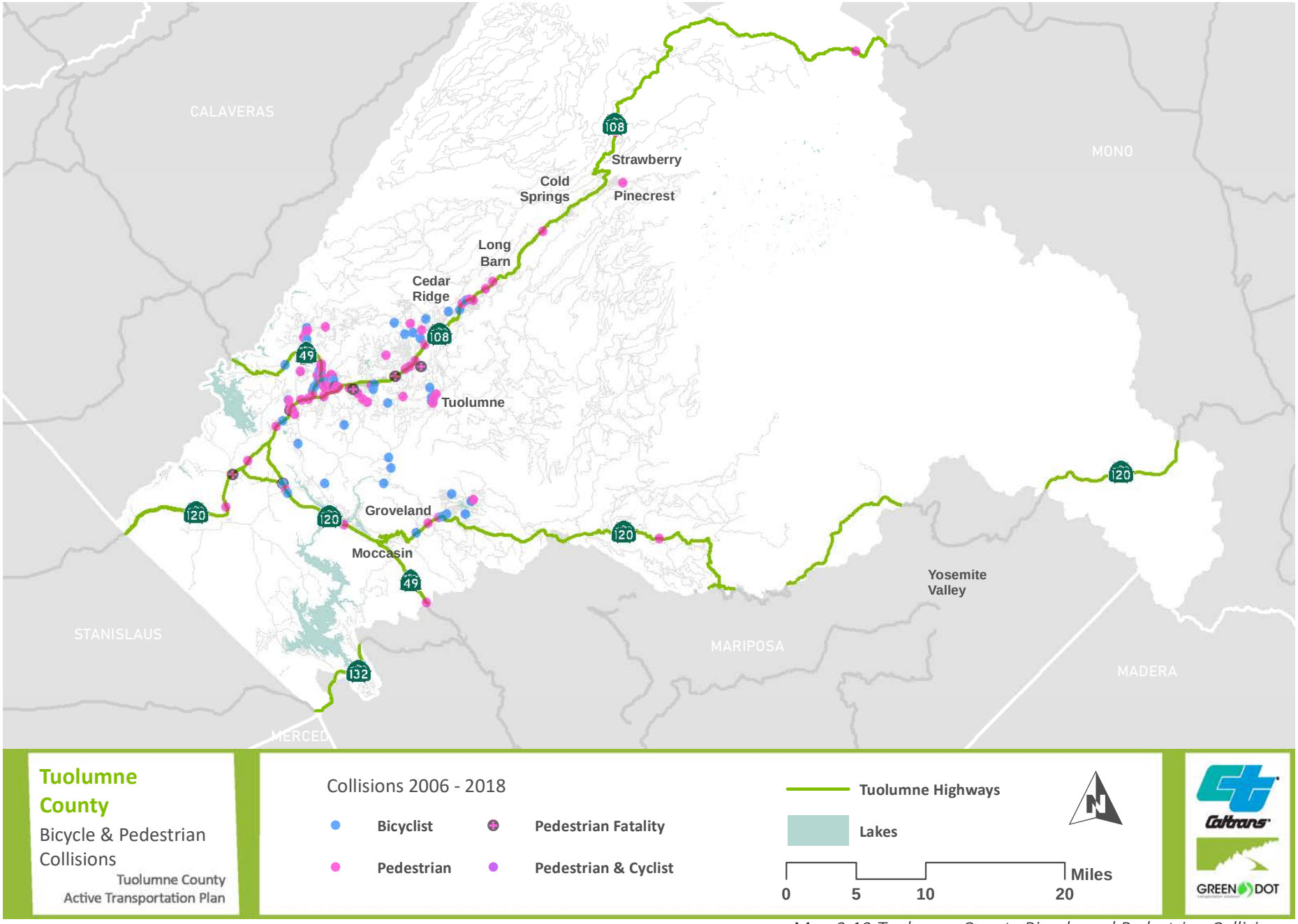
Columbia, located just north of Sonora, has experienced several bicycle and pedestrian collisions within the community center and along SR 49.

3.9.6 Chinese Camp – Intersection of SR 120 and SR 49: Map 3.18

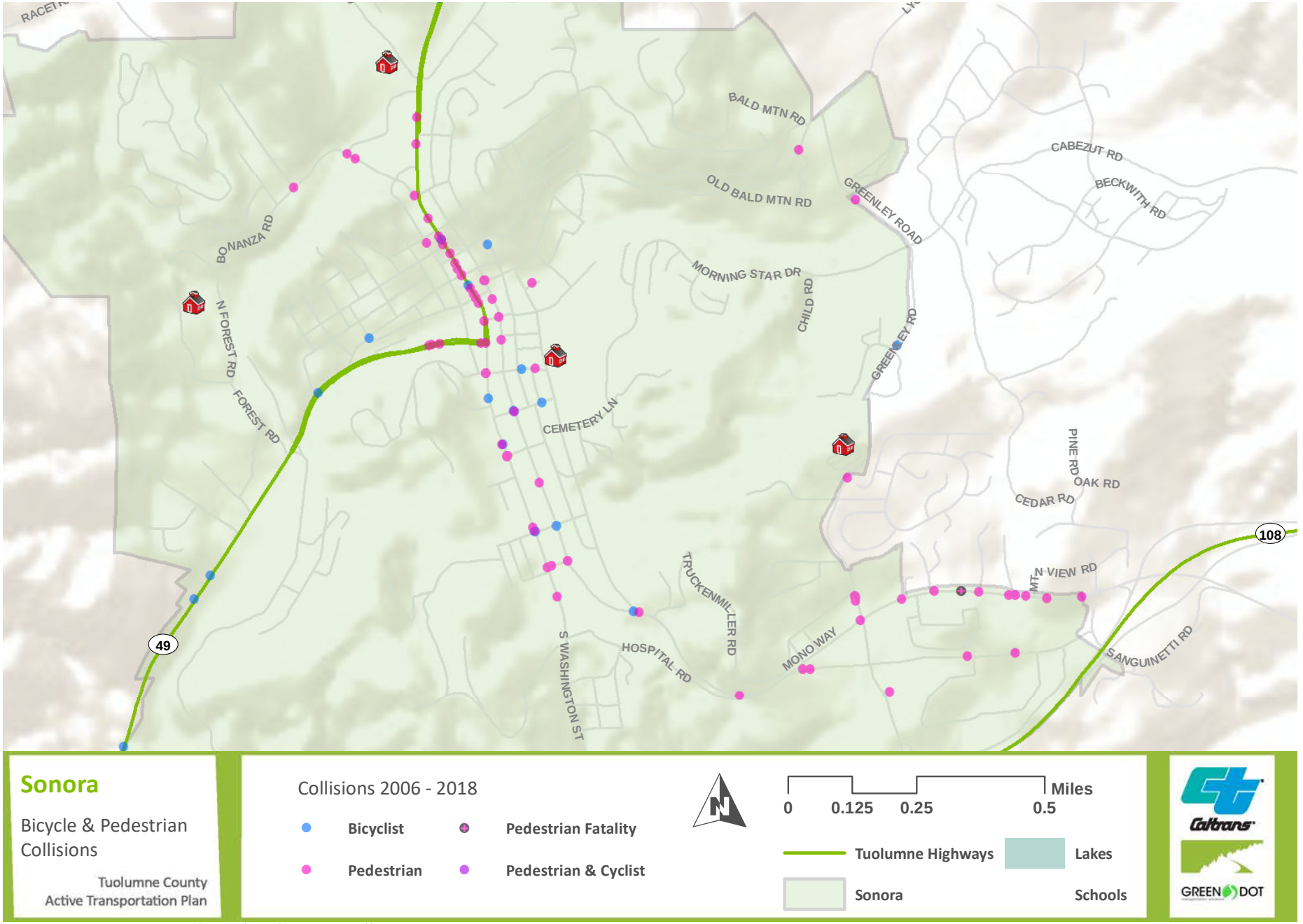
A pedestrian injury and a cyclist injury occurred along SR 120/49 in Chinese Camp. A pedestrian fatality occurred outside this community along SR 108 near Obyrnes Ferry Road.

3.9.7 Groveland: Map 3.19

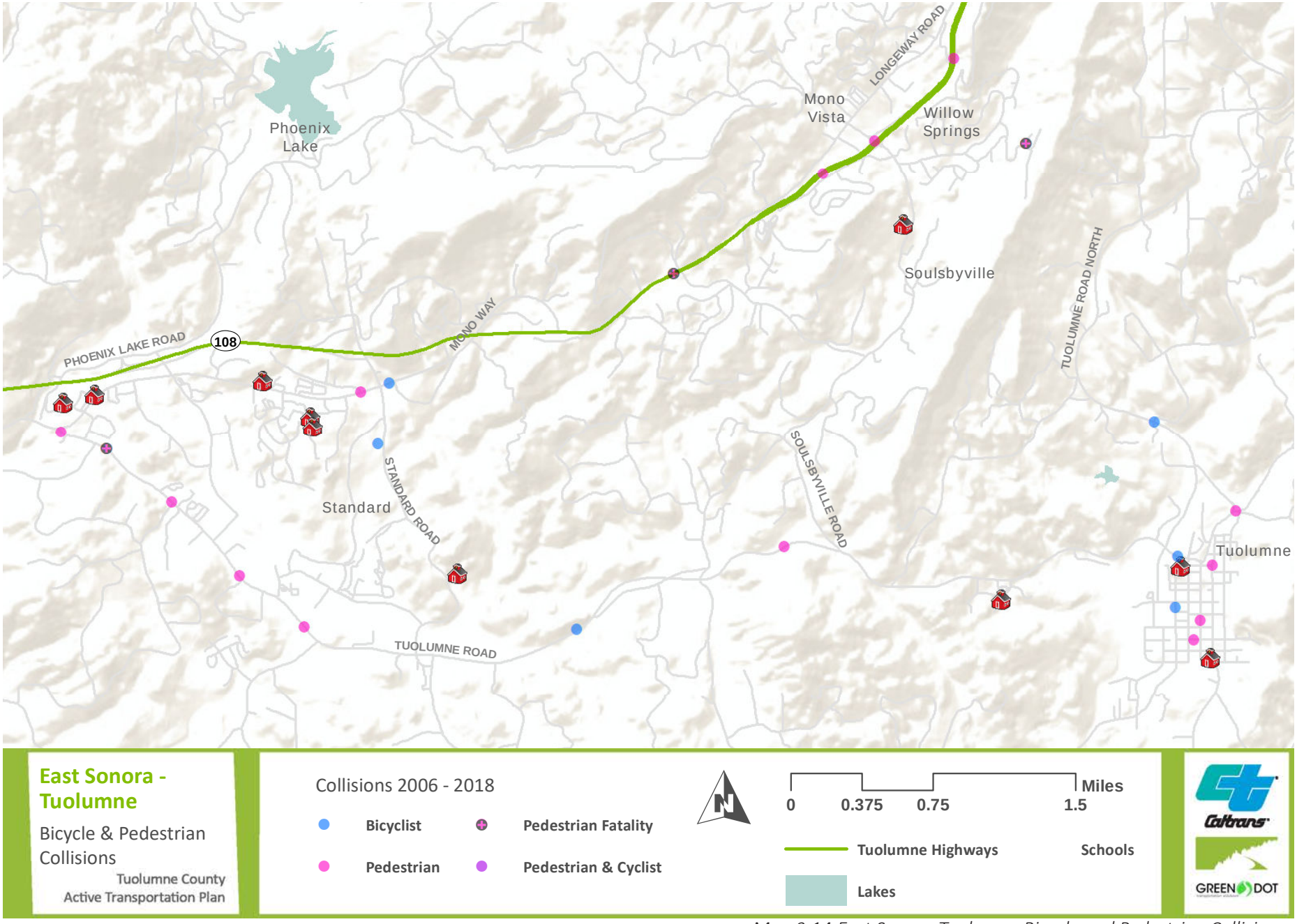
Two bicycle collisions occurred near the intersection of SR 120 / Main St and Ferretti Rd, while one pedestrian collision occurred in the downtown business district. All resulted in injuries. Several collisions also took place in residential areas of Groveland and the adjacent Pine Mountain Lake neighborhood.



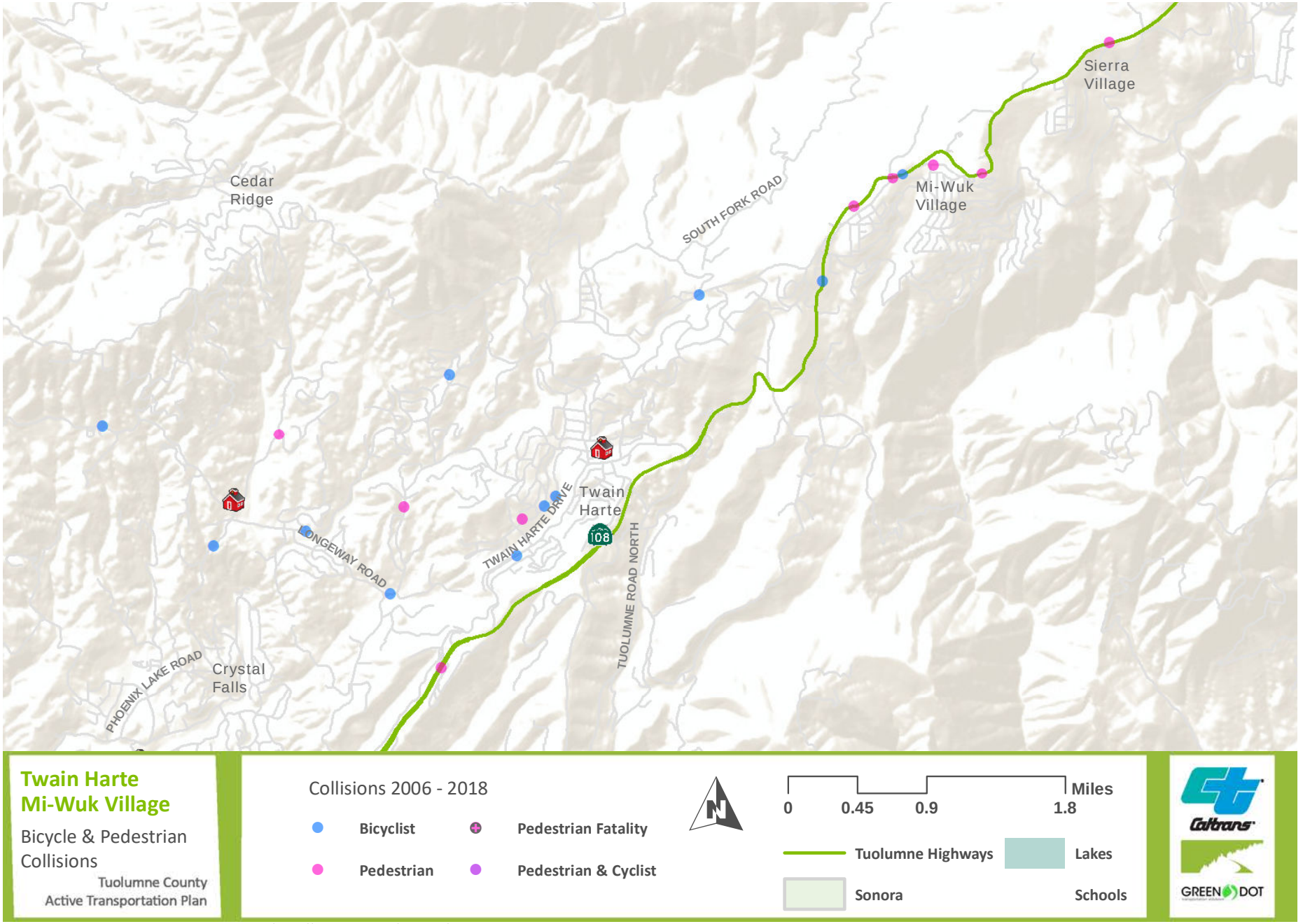
Map 3.12:Tuolumne County Bicycle and Pedestrian Collisions



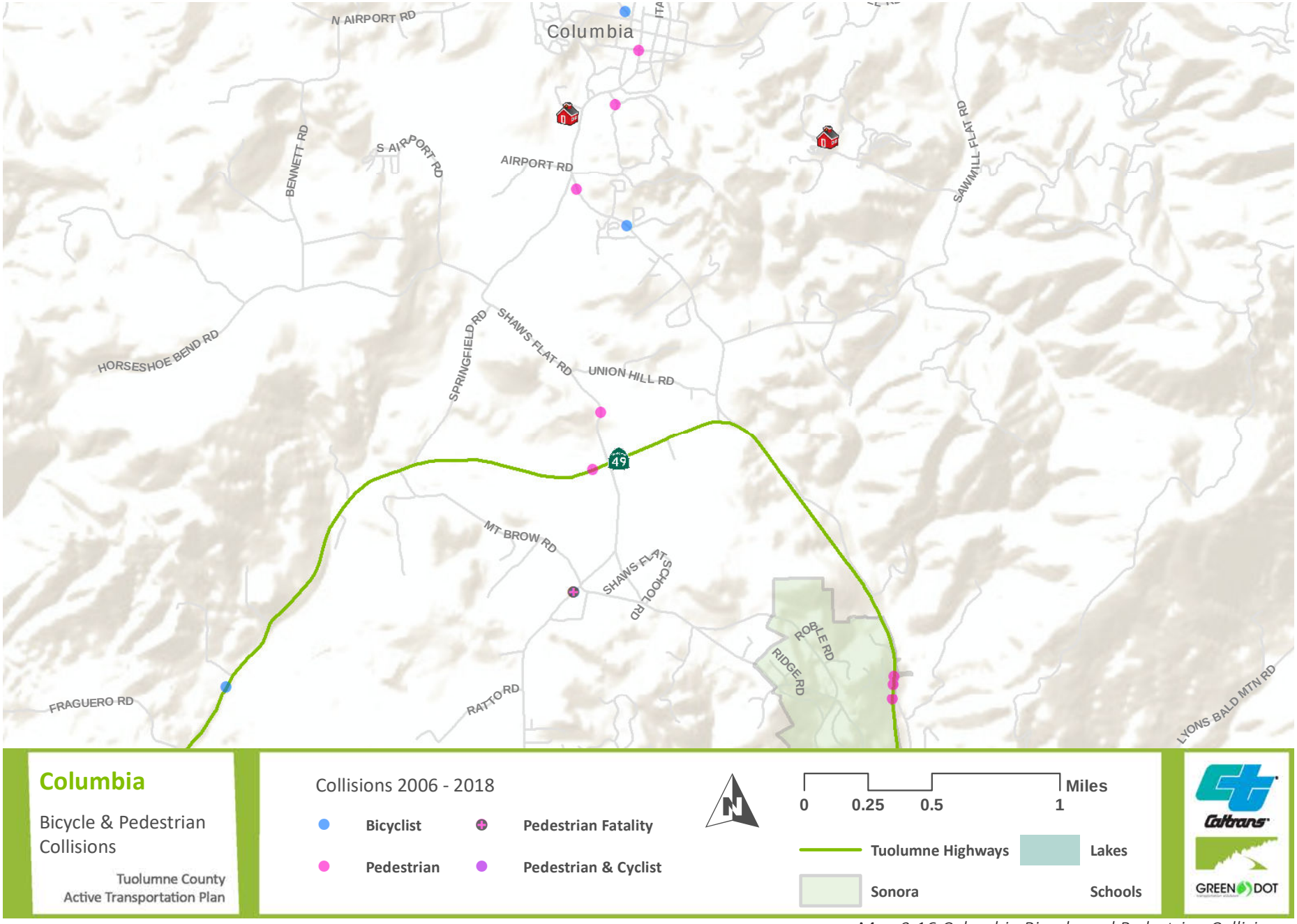
Map 3.13: Sonora Bicycle and Pedestrian Collisions



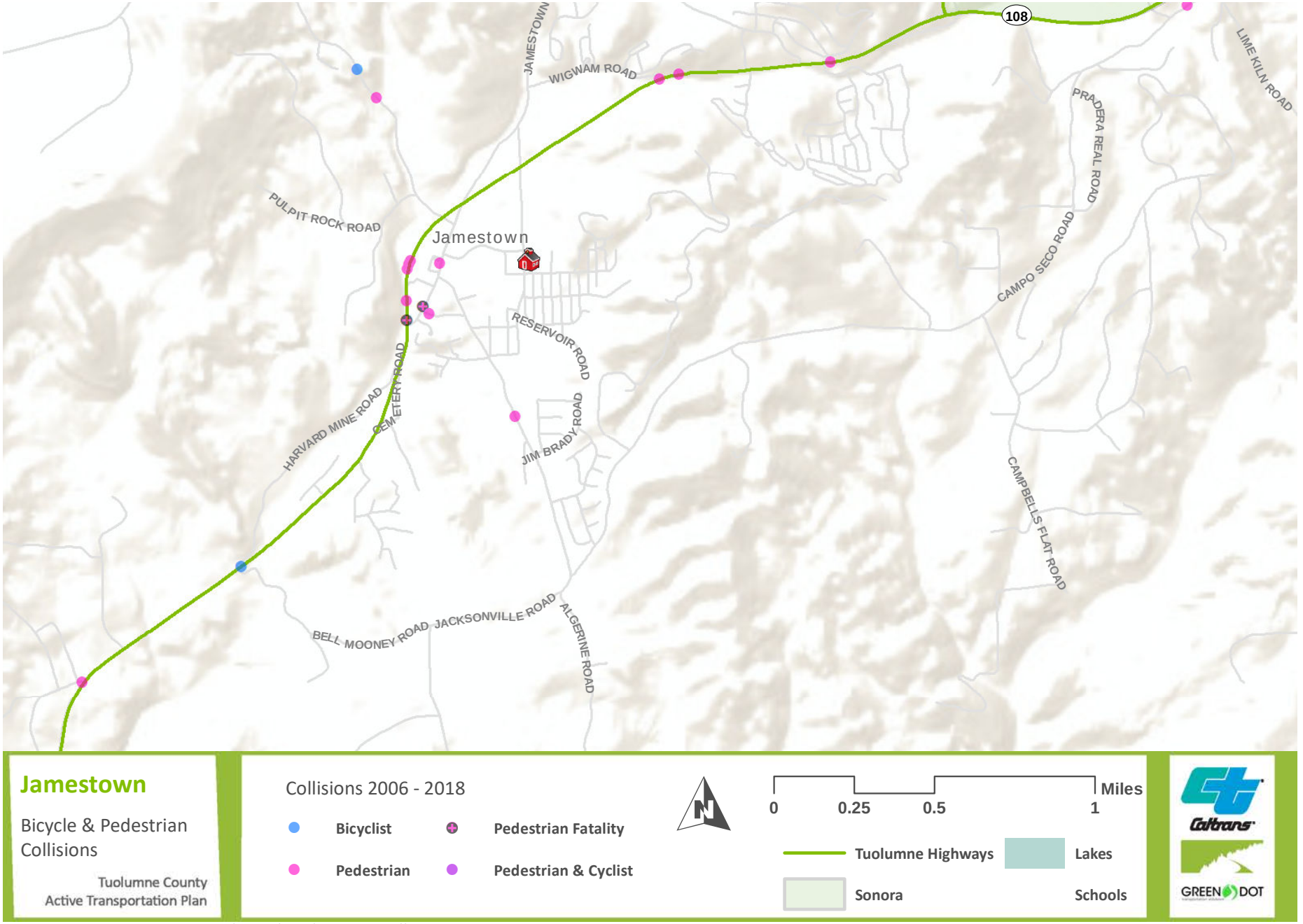
Map 3.14:East Sonora-Tuolumne Bicycle and Pedestrian Collisions



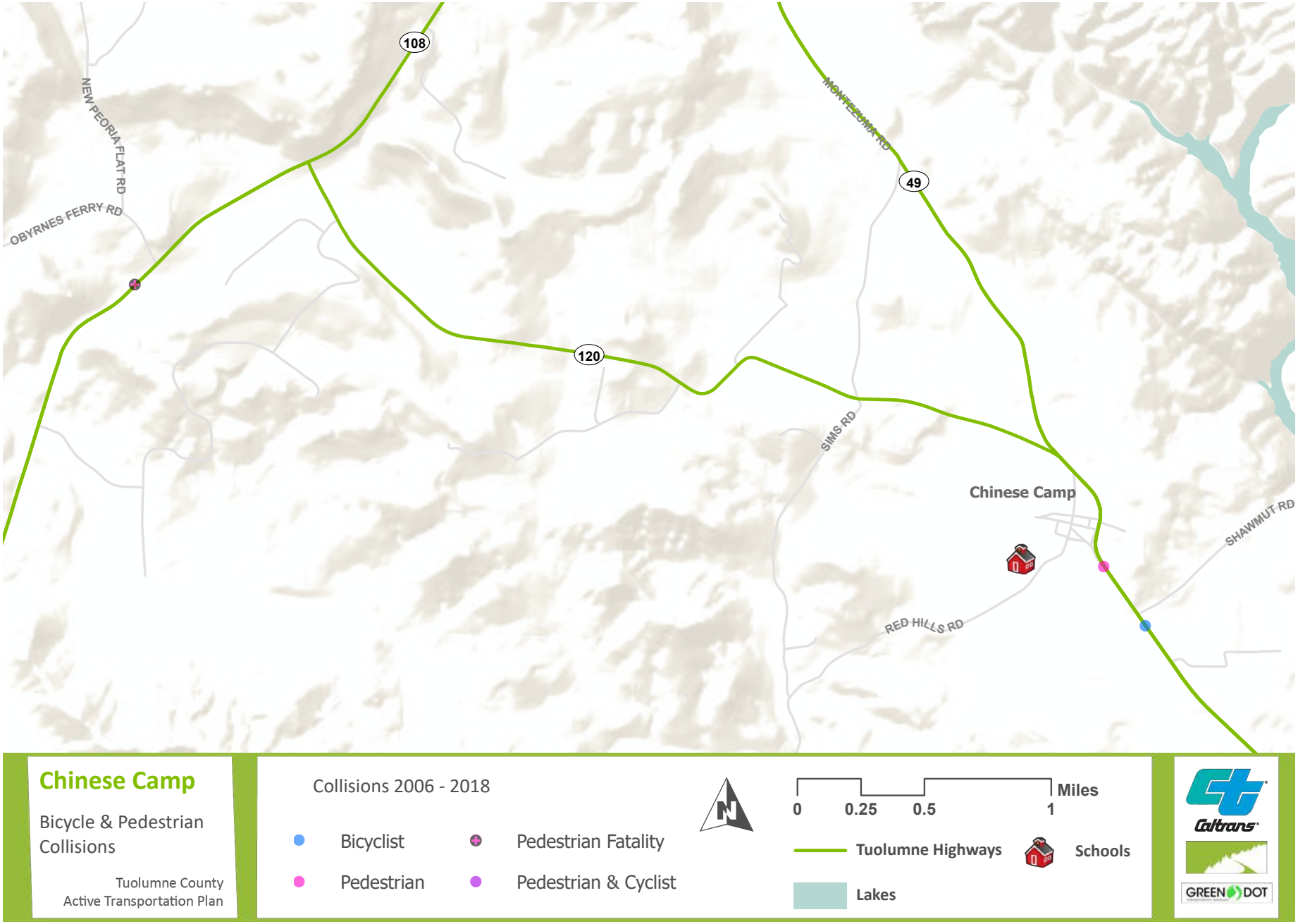
Map 3.15: Twain Harte Mi-Wuk Village Bicycle and Pedestrian Collisions



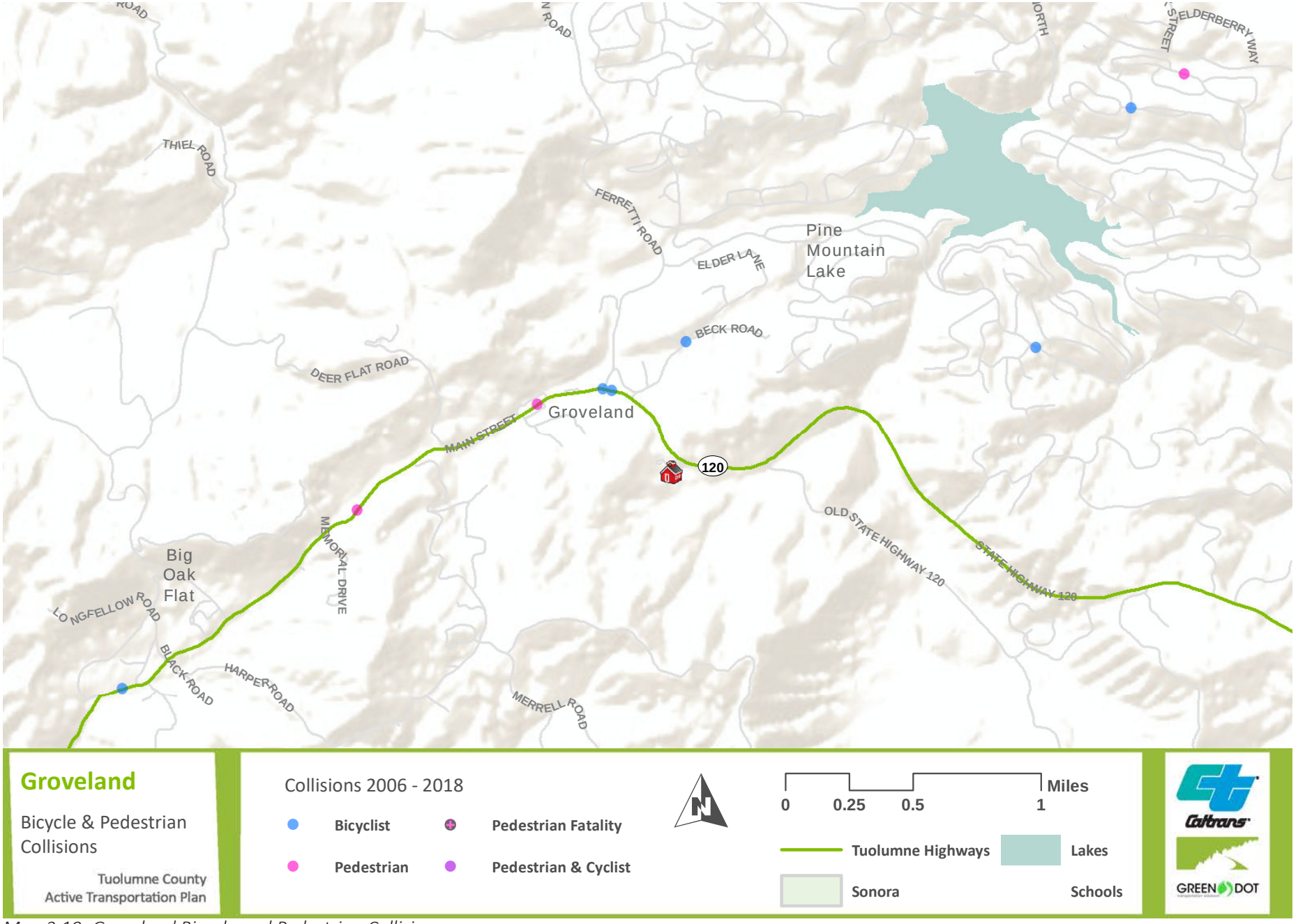
Map 3.16:Columbia Bicycle and Pedestrian Collisions



Map 3.17: Jamestown Bicycle and Pedestrian Collisions



Map 3.18:Chinese Camp Bicycle and Pedestrian Collisions



Map 3.19: Groveland Bicycle and Pedestrian Collisions

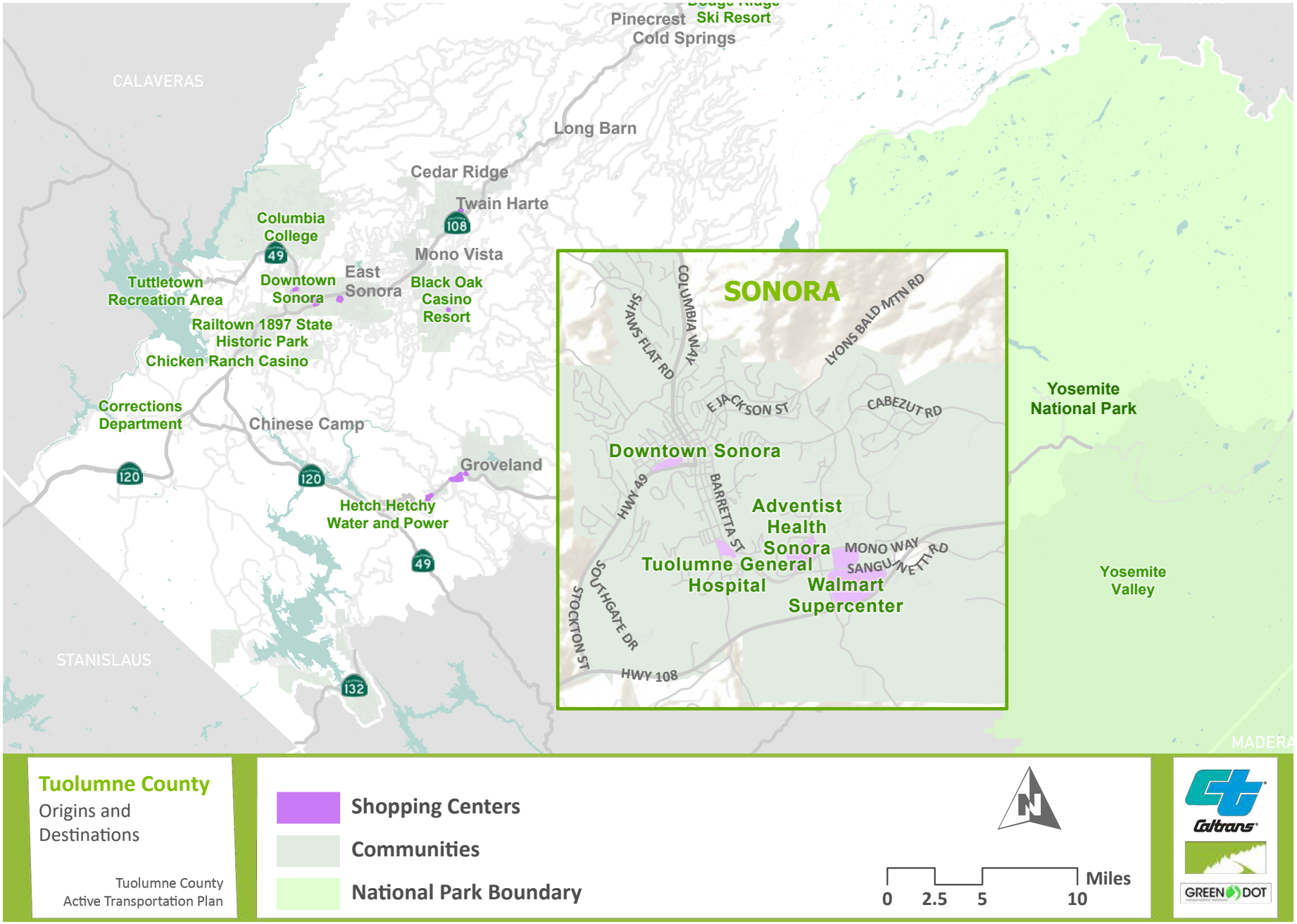
3.10 TRAVEL BEHAVIOR

Most Tuolumne County residents drive personal automobiles and do not feel comfortable walking and biking regularly. This is largely because communities are geographically far apart and lack safe non-motorized facilities. Tuolumne County's rugged topography also discourages walking and biking. Some roads identified as existing or potential bicycle corridors have very steep hills that would be challenging for the average cyclist. Planning and constructing active transportation projects is made difficult by hills, ravines, and narrow roadways without shoulders.

According to the Safe Routes to School parent surveys, 5% of students walk to school and 1% of students bike to Sonora Elementary, Sonora High, Jamestown Elementary, Soulsbyville Elementary, and Twain Harte Elementary School.

Map 3.20 displays the locations of communities, destinations, and major employers in Tuolumne County. Regional destinations for travel are nearly all located in and around Sonora. The shopping centers on Mono Way, the Courthouse, the downtown core, and schools are all destinations which are currently accessed by walking and biking and could be more accessible if safe facilities and regional connections existed.

Columbia College is a significant regional destination for education and employment, with potential for regional trail connections. Adventist Health employs over 1,000 people in Sonora, and the Corrections Department employs over 1,000 in Jamestown. Other major employers in Tuolumne County are displayed in Table 2.5.



Map 3.20: Map of destinations for shopping, employment, and education.

3.11 PAST AND CURRENT PROJECTS

Prior planning efforts in Tuolumne County have identified necessary projects for improving walking, biking, and transit connections. Section 5 includes newly developed priority infrastructure projects and includes new and already-programmed projects in the Priority Projects List. The following active transportation projects have been programmed through previous planning efforts and are in various stages of development.

3.11.1 Jamestown to Columbia Regional Trail

A trail connecting the communities of Jamestown, Sonora, and Columbia was proposed in the 2005 Tuolumne County Bikeways and Trails Plan, and was supported by community members who took the Active Transportation Plan questionnaire or attended public outreach events. Several routes have been proposed for the trail.

The project proposed in the 2005 Tuolumne County Bikeways and Trails Plan is a trail or class II bikeway approximately 6.1 miles long from the vicinity of Jamestown Road to Shaws Flat Road, to Springfield Road, and on to Parrotts Ferry Road. This route would bypass Sonora.

This Active Transportation Plan proposes a trail with two main segments and one connecting trail. The first segment connects Jamestown to Sonora, where it connects to the proposed Dragoon Gulch Connector Trail, followed by the Sonora to Columbia Trail.

Jamestown to Sonora Trail

The 2005 Tuolumne County Bikeways and Trails Plan, 2016 RTP, and 2013 Vision Sonora Plan include a proposed trail connecting Jamestown and Sonora. The Plans call for construction of a bicycle and pedestrian path and a Class II bicycle path from the Fairgrounds to Jamestown. A feasibility study would determine route alternatives including following Stockton Road, following Woods Creek, or using other rights-of-way.

The 2002 Tuolumne County Recreation Master Plan and the Sonora General Plan 2020 include the Woods Creek Trail as a programmed project. The trail would connect Sonora and Jamestown, as well as potentially continuing to Lake Don Pedro. The proposed Woods Creek Trail could serve as the Jamestown to Sonora Regional Trail.

Dragoon Gulch Connector Trail

The proposed Dragoon Gulch Connector Trail in Sonora would provide a safe connection between the two longer trail segments. The trail bypasses Downtown Sonora by following Woods Creek from the Fairgrounds north to Snell Street, where existing sidewalks connect to Sonora High School and North Washington Street. In addition to serving as a regional trail connection, the Dragoon Gulch Connector Trail provides a scenic and useful trail connection to destinations within Sonora including the High School, Fairgrounds, and Sonora Estates retirement community. The 2016 RTP lists the Dragoon Gulch Connector Trail as a Tier 2 priority project.

Sonora to Columbia Trail

The proposed Sonora to Columbia Trail would provide a safe multi-modal connection between Sonora and Columbia College. Currently, there is no safe path for pedestrians walking to and from the College, as SR 49 and Sawmill Flat Road have extremely limited shoulders, sidewalks, or bike lanes.

The proposed trail route begins at the intersection of North Washington Street and Columbia Way near Sonora High School and ends at Columbia College, near the existing athletic field. The first segment of the route follows Columbia Way until it ends at SR 49. The second segment is routed along SR 49 until the intersection of Old Sonora Columbia Road. From there, the trail follows Old Sonora Columbia Road for approximately 0.5 miles until several alternate routes are encountered. Options include using the state highway right-of-way, using the TUD Shaws Flat ditch system, travelling along the Woods Creek drainage, crossing neighboring properties, and utilizing existing easements. Each of the optional routes eventually meets Sawmill Flat Road. The trail will follow Sawmill Flat Road to an existing TUD sanitary sewer easement which connects Sawmill Flat Road to the college property. An alternative route follows SR 49

and Sawmill Flat Road before using the TUD easement to Columbia College.

This proposed trail is heavily supported by community members, as seen in comments from outreach events and the questionnaire.

3.11.2 Sierra Railroad Trail

The Sierra Railroad is an active railway serving Tuolumne County. The railroad is centrally located to the communities of Jamestown, Sonora and Standard, and offers opportunity to create a Rails with Trails project. The main line begins in Oakdale (Stanislaus County) and terminates at Sierra Pacific Industries yard in Standard (Tuolumne County). There is informal pedestrian activity along the railroad grade currently, but the rail line has been the object of several planning studies, including one funded by the Rails-to-Trails Conservancy in 2004 which evaluated the entire 55-mile corridor. The Sierra Railroad Trail is proposed as two or more project sections including a Sonora Section and East Sonora Section.

3.11.3 Sonora Community Trail

Located on County property Sonora, the Sonora Community Trail will provide its visitors with a unique opportunity to stroll through the Mother Lode's oak woodlands. The Sonora Community Trail is a trail loop of approximately 1 mile. The trail is co-located on County owned property with complementary existing uses on site including the Tuolumne County Senior Center, Main Branch Tuolumne County Library, the Heaven-for-Kids Playground, and the Skate park. There is a natural drainage that runs through part of the property and great vistas that provide spectacular views of Bald Mountain and the surrounding Gold Country. The trail follows contour lines making it gently undulating and accessible to a wide variety of trail users.

Trail construction began in January 2019 in cooperation with the Forest Service Trail building team. The Project was put on hold during the Federal shutdown, but later resumed construction. The trail is currently on track to be open to the community in the Summer of 2020.

3.11.4 Ditch Sustainability Plan

The purpose of the Tuolumne Utilities District (District) Ditch Sustainability Project (DSSP) case study is to graphically identify high usage areas, usage conflicts, opportunities for improvements to protect water quality, provide public access, develop ditch trail standards to protect water quality from public use, and develop strategies to link the ditch system to heritage tourism and recreation.

3.11.5 Tuolumne County Recreation Master Plan (2002)

The 2002 Plan outlines various recreation needs in Tuolumne County, including new and upgraded trails. The Plan proposes construction or access improvements for 23 trails.

3.11.6 Tuolumne Band of Me-Wuk Indians Bicycle Plan (2003)

Five projects are programmed in the 2003 Tuolumne Band of Me-Wuk Indians Bicycle Plan. The projects are bicycle paths with bicycle parking, serving as a connection between Tribal community facilities and the Tuolumne townsite.

3.11.7 Tuolumne County Bikeways and Trails Plan (2005)

Seven projects are listed as priority projects in the Tuolumne County Bikeways and Trails Plan, adopted in 2005. These projects were prioritized by participants in a community workshop. Non-priority projects are included in the projects list of this document, and some have also been programmed in the 2016 RTP. These non-priority projects were originally included in the 1996 RTP and the 2002 Recreation Master Plan.

3.11.8 City of Sonora General Plan 2020 Parks & Recreation and Circulation Elements (2018)

Sonora General Plan 2020 Recreation and Circulation Elements include proposed routes for bicycle and pedestrian facilities in addition to those contained in the Tuolumne County Regional Transportation Plan. The Circulation Element includes a Non-Motorized Element addressing proposed bicycle and pedestrian routes and sidewalks, with several projects, some of which were included in the 1996 RTP and some which were not.

The Parks & Recreation Element includes a list of potential parks and trails including Woods Creek Trail, Sonora Creek Trail, Shaw's Flat Ditch Trail, Sierra Railroad Trail, and trail staging areas. These projects are included in the Projects List in this Active Transportation Plan, located in Section 5 and Attachment G.

3.11.9 Columbia Circulation Improvement Plan (2010)

The 2010 Plan proposes numerous projects that would improve circulation for people who walk, bike, drive, or ride transit. These projects are included in the projects list in this document.

Discusses a Columbia Community Plan (2009) which proposes the following bicycle and pedestrian projects:

- Sawmill Flat Road to Columbia College via Melones Water Line
- Parrotts Ferry Road from Marble Quarry Road to Jackson Street
- Parrotts Ferry Road from the Dondero Trail to Jackson Street
- Columbia College to Sonora via Sawmill Flat Road, Parrotts Ferry Road and SR 49
- Columbia to Sonora via Parrotts Ferry Road and SR 49
- Stage Coach Trail from Columbia State Historic Park to Columbia College
- Squabbletown Trail from Sawmill Flat Road to Browns Flat
- Columbia Airport Trail from Horseshoe Bend Road to North Airport Road

Pedestrian only:

- Dondero Trail
- Bell Hill Trail from Columbia State Historic Park to Columbia College Par Course

3.11.10 Tuolumne Community Mobility Enhancement Study (2011)

The Plan outlines several potential projects for the community of Tuolumne including trails and sidewalk improvements.

Apple Colony Road, adjacent to the school, is popular for biking and walking. Many people park along the roadway adjacent to the school and use the area as a gathering point for walking and biking.

The Study proposes designating the bike paths (Carter, Pine, and Tuolumne Roads) within the community as a "Bike Boulevard" complete with signage and striping.

3.11.11 Dragoon Gulch Trail System

The Dragoon Gulch Trails Master Plan (2013) and 2016 RTP identify the need for expanding the Dragoon Gulch trail network. The 2016 RTP lists Dragoon Gulch Trail - Expansion - Phase II and Dragoon Gulch Connector Trail as Tier 2 priority projects.

3.11.12 Vision Sonora Projects

Funded by a grant from the California Department of Transportation (Caltrans) awarded to the Tuolumne County Transportation Council and sub-allocated to the City of Sonora, the Vision Sonora project was initiated to provide Sonora with a plan for a more vibrant community by directing physical improvements along the Highway 49 and Washington Street corridors. Several projects were developed as part of the Vision Sonora planning process, all with a focus on improving safety for pedestrians and bicyclists. Figure 3.7 displays the locations of Vision Sonora study areas as well as local landmarks.

The Red Church Pedestrian and Traffic Improvement Project is a project developed as part of the Vision Sonora planning process. It was awarded funding and is currently in the design phase with construction to follow. This project consists of narrowing SR 49 to reduce motorist speed, improving pedestrian crossings, and creating a pocket park.

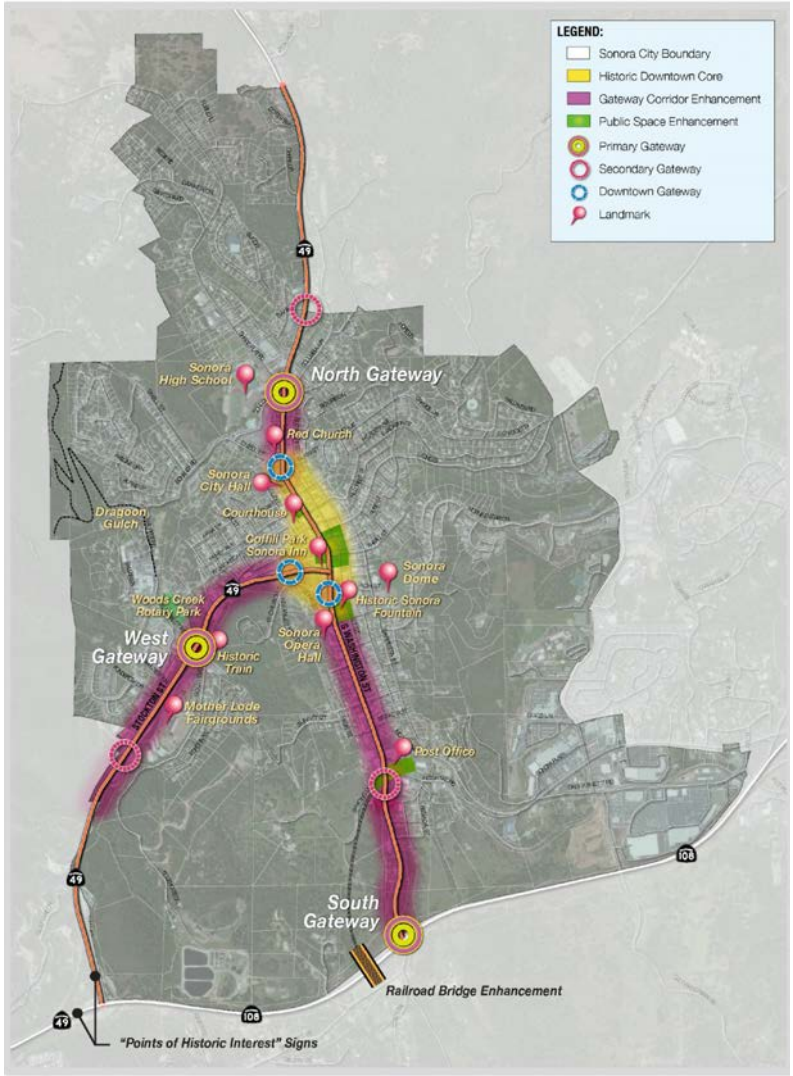


Figure 3.7: Map from Vision Sonora Plan showing locations of landmarks and projects.

3.11.13 Summerville Trail

The Summerville trail was originally envisioned as a connection between significant destinations in and around the Tuolumne townsite. Significantly, these include Summerville High School, Tuolumne townsite, and Black Oak Casino Resort. An approximately two-mile multi-use trail would link the region's largest employment center and one of the largest educational institutions with a significant proportion of the local population. The trail will not only provide safe and healthy transportation options, but will also help mitigate traffic congestion. The Summerville Trail Feasibility Study (2014) considers various possible alignments for the trail.

3.11.14 Groveland Active Transportation Projects

The Groveland Active Transportation and Circulation Plan (2015) identifies active transportation behavior and needs in the community of Groveland. One need is for a pedestrian wayfinding program offering guidance to destinations including schools, parking, Mary Laveroni Park, the Yosemite National Park Ranger Station, landmarks, and civic buildings. Another need is for several infrastructure improvements in the core of the community, largely along SR 120 from downtown Groveland to Tenaya Elementary. Numerous small improvements such as crossings, bike racks, sidewalks, and wider shoulders are recommended.

The town of Groveland has existing sidewalks along segments of SR 120 and Ferretti Road, but the various lengths of sidewalks do not provide connectivity to each other or to certain locations in town. There are several barriers hindering pedestrian movement throughout parts of downtown Groveland such as non-ADA compliant bridges and gaps up to 350 feet long between sidewalks. Some of the existing sidewalks have crumbled or are not ADA accessible. SR 120 bisects the town and vehicles travel at high speeds. Pedestrians who wish to walk along both SR 120 and Ferretti Road must use the narrow and dangerous shoulders.

There are two significant ATP projects identified in Groveland: the Groveland Sidewalks Along SR 120 and Ferretti Road project and the Hetch Hetchy Railroad Trail project.

The Groveland Sidewalks project proposes to install sidewalks and pedestrian paths at strategic locations in order to provide complete connectivity for pedestrians in downtown Groveland. The new pedestrian facilities will be placed at various locations along SR 120 and Ferretti Road. The project also proposes to improve existing pedestrian facilities and provide new pedestrian improvements including high visibility crosswalks, flashing beacons warning motorists to watch for pedestrians, and radar speed feedback signs to calm traffic.

The Hetch Hetchy Railroad Trail project utilizes the historic Hetch Hetchy railroad alignment just north of SR 120 and downtown Groveland. The multi-use trail extends from the new Groveland Community Resilience Center near Pine Mountain Lake along the railroad grade through Groveland. This trail will provide bicycle and pedestrian connectivity and recreation opportunities to residents and visitors of Groveland.

3.11.15 2016 Regional Transportation Plan Projects

The 2016 RTP (adopted 2017) lists numerous projects within Tuolumne County, many of which are related to active transportation, and are included in the projects list in Section 5 of this document. Figure 3.8 displays the locations of these non-motorized projects.

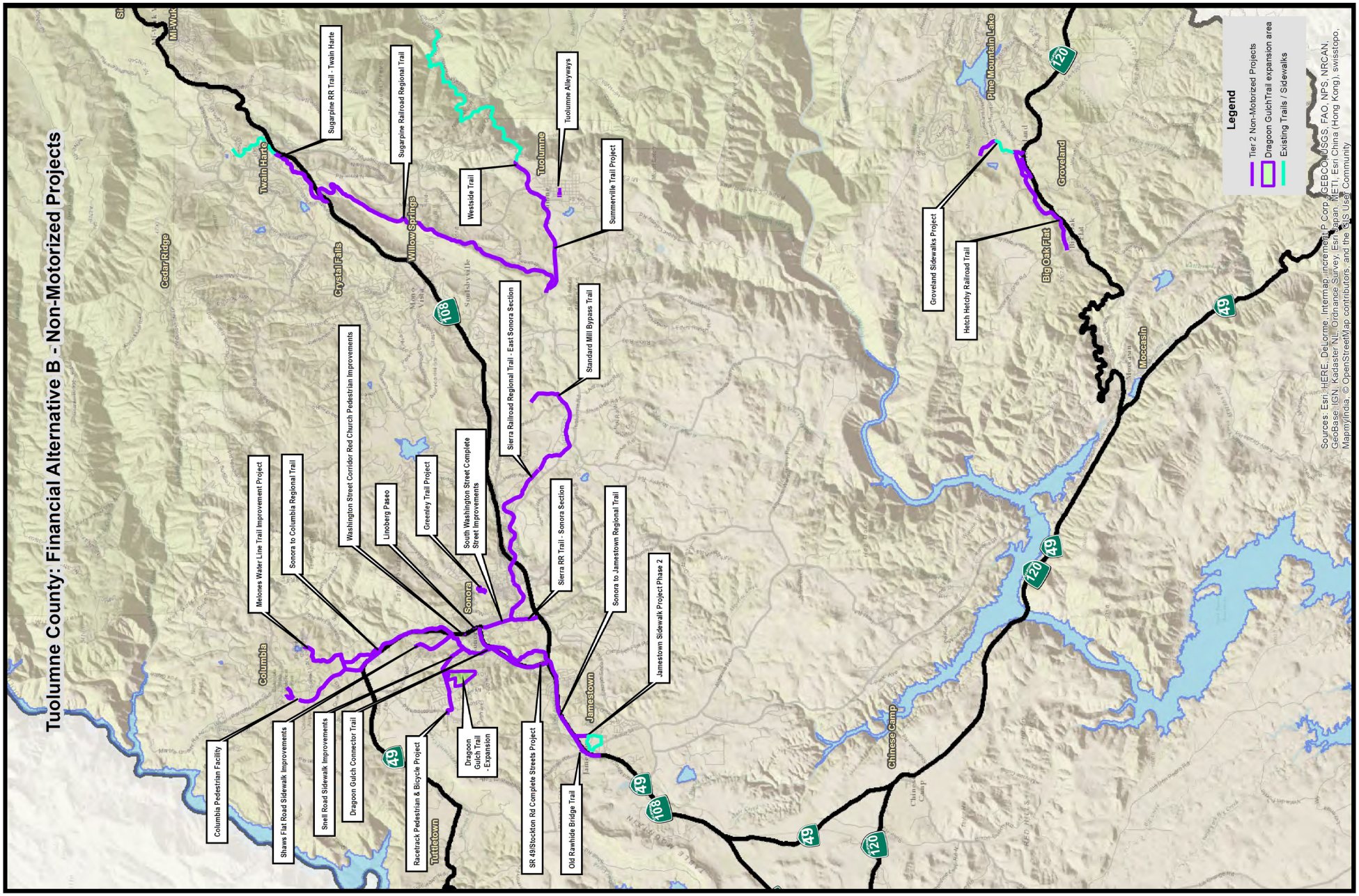


Figure 3.8: Map of non-motorized projects from 2016 RTP

Needs Assessment

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4. NEEDS ASSESSMENT

The needs of people who walk, bike, or use other non-motorized methods of transportation were assessed through the infrastructure audit, community outreach, and previous planning efforts.

The infrastructure audit (described in Section 3.2) identified the locations of gaps in infrastructure as well as obstacles preventing people from using existing facilities. Due to Tuolumne County's rural nature, few areas have existing walking and biking facilities, and therefore needs are unique to each location and must be determined largely from community outreach.

The unique needs of Tuolumne County's communities were identified through community outreach, summarized in Section 1.4 and available in more depth in Attachment B.

4.1 Bicyclists' General Needs

4.1.1 Community Input

Participants of the questionnaire most commonly identified missing bike lanes / lack of shoulders as a challenge associated with biking. Speeding, aggressive driving, lack of nearby trails, distracted driving, and unsafe crossings were also frequently identified as challenges.

The following figure displays community responses to the question "Below are some challenges associated with bicycling. In your opinion, which ones discourage you and others in your area from biking? (check all that apply)" from the questionnaire.

A desire line where users have created an unofficial path in Columbia

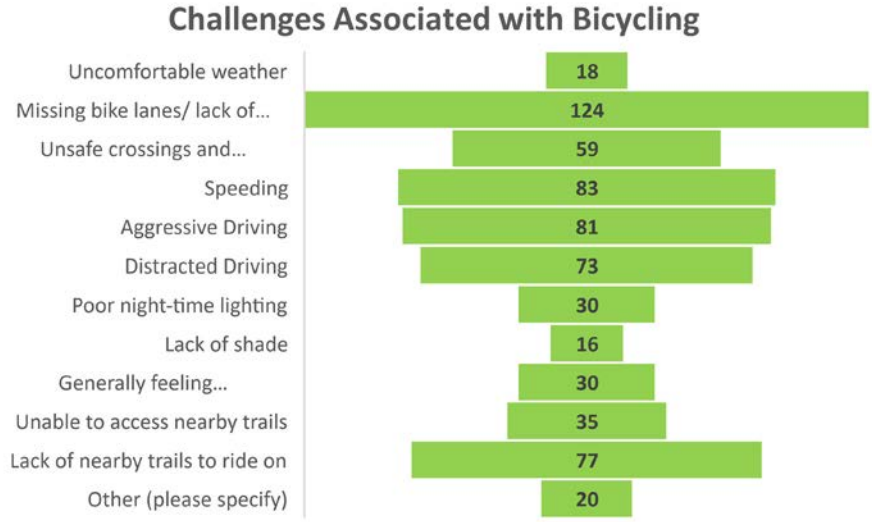


Figure 4.1: Challenges Associated with Bicycling

4.1.2 Bikeway Design Standards

Several different types of bikeways including shared routes, lanes, and paths could be constructed in Tuolumne County. Each style serves different needs and has requirements such as minimum width. The Caltrans Highway Design Manual sets standards for bikeway design, as outlined below. However, there are other design guidelines that may be followed, including the FHWA Small Town and Rural Design Guide and the Urban Bikeway Design Guide by the National Association of City Transportation Officials. These resources allow planners and engineers some flexibility to address unique situations and include progressive design ideas.

Class I Bikeways - Bike Paths

A Class I path is a paved trail with space for both walking and bicycling, with an exclusive right-of-way. Design standards require at least 8 feet of path width, 2 feet of shoulder width on each side of the path, and 8 feet of vertical clearance. Class I bike paths are typically located in parks and greenways and alongside rural roadways and railroads. It should be assumed that bike paths will be used for two-way travel except for rare situations where one direction of travel is necessary.

A Class I path should include the following:

- Minimum 8 feet paved width for a two-way bike path, with 10 feet preferred.
- Minimum 5 feet paved width for a one-way bike path.
- Minimum 2 feet of shoulder, and 3 feet where feasible.
- Minimum 2 feet of horizontal clearance from the paved edge of a bike path to obstructions, and 3 feet should be provided when feasible.
- Vertical clearance to obstructions across a bike path shall be a minimum of 8 feet and 7 feet over shoulder. Where practical, a vertical clearance of 10 feet is desirable.

Figure 4.2 displays an ideal Class I bike path.

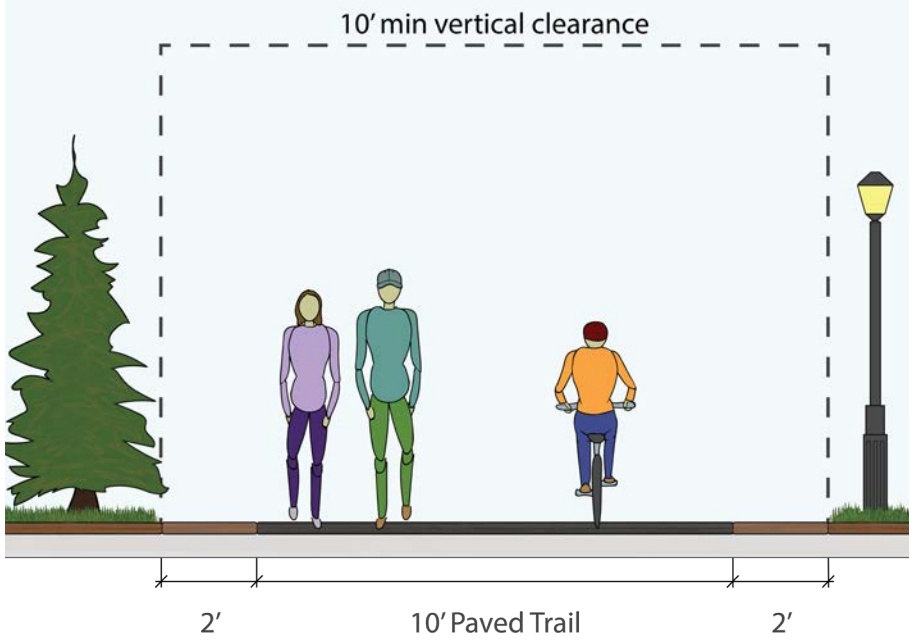


Figure 4.2: Class I - Bike Path

Class II Bikeways - Bike Lanes

Class II bikeways (bike lanes) are located within the roadbed, immediately adjacent to a traffic lane and separated by striping. A buffered bike lane may also be established within the roadbed, separated by a marked buffer between the bike lane and the traffic lane or parking lane. A bikeway located behind on-street parking, physical separation, or barrier within the roadway is a Class IV bikeway (separated bikeway), not a Class II bikeway.

Bike lanes are designed for bicycle travel in the same direction as adjacent vehicle traffic, although exceptions are allowed on one-way streets. Typical Class II bikeway configurations are illustrated in Figures 4.3, 4.4, and 4.5.

The minimum Class II bike lane width shall be 4 feet, except where:

- Adjacent to on-street parking, the minimum bike lane should be 5 feet.
- Posted speeds are greater than 40 miles per hour, the minimum bike lane should be 6 feet, or

- On highways with concrete curb and gutter, a minimum width of 3 feet measured from the bike lane stripe to the joint between the shoulder pavement and the gutter shall be provided.

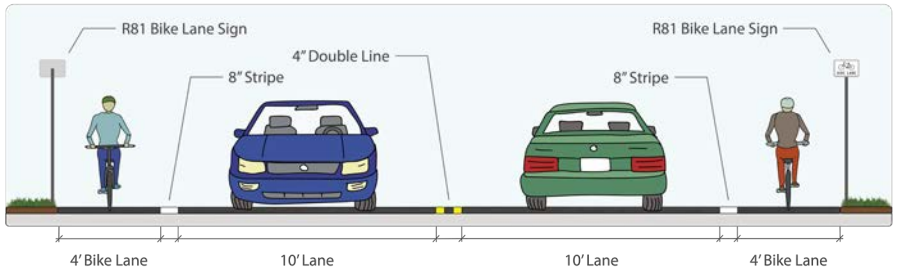


Figure 4.3: Class II - Buffered Bike Lane Without Curb and Gutter or Parking

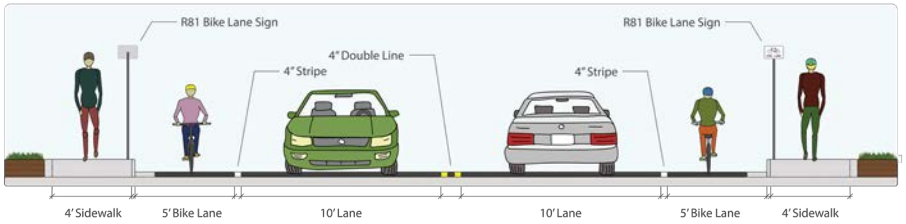


Figure 4.4: Class II – With Curb and Gutter and Without Parking

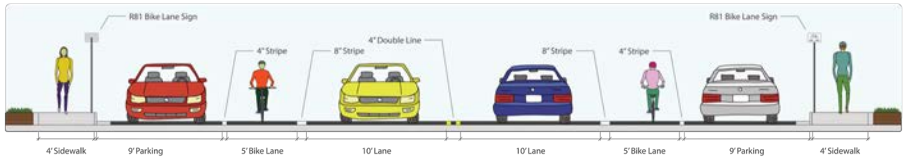


Figure 4.5: Class II - With Parking

Class III Bikeways – Bike Routes

Class III bikeways (bike routes) are intended to provide continuity to the bikeway system. Bike routes are established along through routes not served by Class I or II bikeways, or to connect discontinuous segments of bikeway (normally bike lanes). Class III facilities are facilities shared with motor vehicles on the street, which may be indicated by placing bike route signs along roadways. Additional enhancement of Class III facilities can be provided by adding shared roadway markings, also known as "sharrows", along the route.

Bike routes should offer a higher degree of service to bicyclists than alternative streets. Routes should only be signed if they meet criteria such as providing through and direct travel or having removed street parking. Figure 4.6 displays a standard Class III bike route design.

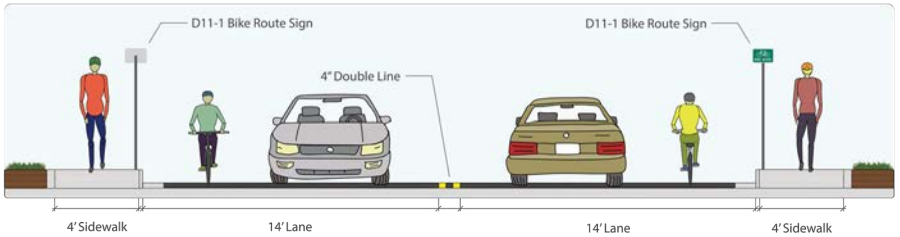


Figure 4.6 Class III - Bike Route

Class IV Bikeways – Separated Bikeways / Cycle Tracks

A Class IV bikeway is a bikeway separated from vehicle traffic behind on-street parking, physical separation, or a barrier within the roadway. Some Class IV bikeways are raised vertically to sit above the roadway, while other are separated by parked vehicles, painted buffers, or objects such as cubs or planter boxes. Class IV Bikeways are generally located in urban areas. Figures 4.7, 4.8, and 4.9 display potential Class IV Bikeway designs.

Separated bikeways typically operate as one-way bikeway facilities in the same direction as vehicular traffic on the same side of the roadway. However, two-way separated bikeways can also be used in specific settings.

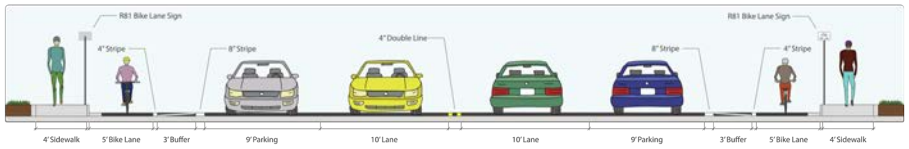


Figure 4.7: Class IV - Buffered Bike Lane

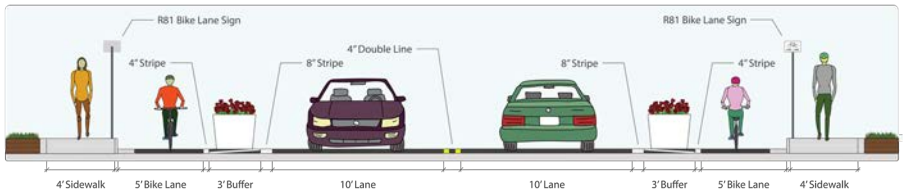


Figure 4.8: Class IV - Buffered Bike Lane with Physical Barrier

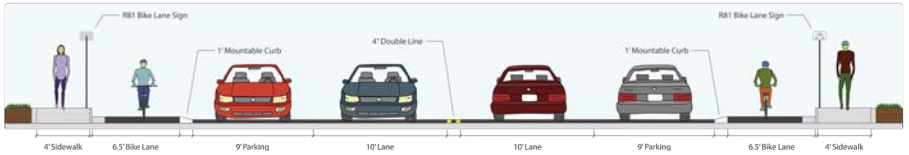


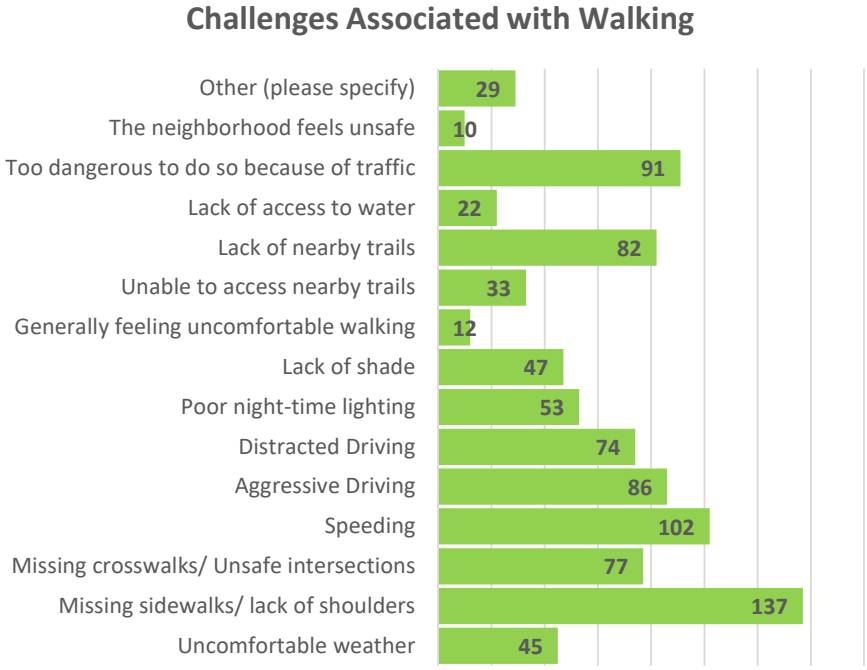
Figure 4.9: Class IV - Raised Cycle Track

4.2 Pedestrians' General Needs

4.2.1 Community Input

Community members frequently commented that they do not feel safe walking because of lack of shoulders or sidewalks, unsafe crossings, speeding cars, and distance between destinations.

Questionnaire participants responded that many locations on streets and highways need safer crossings, sidewalks, and wider shoulders. Missing sidewalks/shoulders, speeding, dangerous traffic, aggressive driving, missing crosswalks / unsafe intersections, and lack of nearby trails were all identified by community members as walking-related challenges.



4.3 Trail Users' General Needs

The main need of trail users is connectivity. Pedestrians and cyclists would like to access trails without driving, feel comfortable walking or biking from their homes to trailheads, and have more trails available to them.

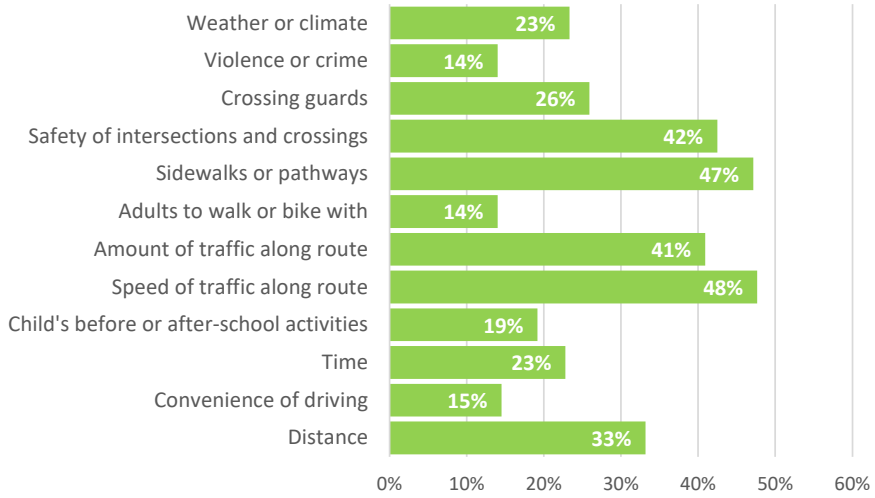
The focus of this Plan and its associated outreach is creating safer routes for daily walking and biking needs, rather than recreational trails. However, due to the rural nature of Tuolumne County, many proposed trail projects would also serve as routes for commuters and students, creating an overlap between their needs and those of recreational trail users. Multiple inter-community trails are included in the Projects List.

4.4 Electric Bicycle and Scooter Users' Needs

Electric bikes and scooters, also known as micromobility devices, are becoming more common throughout California. There is significant potential for increased use in Tuolumne County for recreation and commuting, especially in areas where steep hills and long distances have previously required residents to use cars.

The needs of these users are generally similar to those of cyclists, in that they may need separated facilities from vehicles along high-speed roadways. One concern brought forward during development of this Plan is the potential for issues with electric bikes and scooters traveling on multi-use paths. These devices can travel much faster than regular bicycles, and therefore could pose safety issues. The County and City of Sonora will likely have to decide whether to allow electric micromobility devices on mixed-use facilities.

Percentage of Respondents that Would let their Child Walk or Bike to School if Problem was Addressed



4.5 School Needs

The Project Team reached out to elementary, junior high, and high schools in Tuolumne County to gather information regarding active transportation usage and needs. As part of this outreach process, the schools were provided with surveys from the National Center for Safe Routes to School. Surveys were distributed to parents from Sonora Elementary, Sonora High, Soulsbyville Elementary, Jamestown Elementary, and Twain Harte Elementary School.

A total of 193 surveys were completed and returned. The majority of respondents expressed concerns over safety of sidewalks and infrastructure as the reason they would not let their child walk or bike to school. When asked to rate the how healthy walking or biking to/from school is for their child, 68% of parents viewed it as either healthy or very-healthy.

The project team also contacted the administration of public elementary schools in Tuolumne County and interviewed available administrators by phone, asking the following questions:

- Do any students walk or bike to and from school?
- How many students walk? How many bike to school?
- Are there safe walking and biking facilities surrounding the school?
- What prevents students from walking or biking to school?
- Are there areas that need improvements such as new sidewalks, curb ramps, crosswalks, or bike lanes?
- Are there bicycle racks or other bike storage facilities? How many bikes can they fit? Are they in an easily accessible and safe location?

This exercise concluded that many schools are inaccessible to students who would like to walk or bike. This is in part due to Tuolumne County's rural geography and rugged topography, where most students live many miles from their school and physically cannot reach it by walking. Most students either take a school bus or are dropped off by a parent. However, pedestrian access is also limited by correctable issues such as lack of safe walking and biking paths.

Recommended Infrastructure Projects

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5. RECOMMENDED INFRASTRUCTURE PROJECTS

The purpose of this Active Transportation Plan is to address Tuolumne County's active transportation needs. Taking into consideration community input and prior planning efforts, TCTC has identified a list of projects which will address the community's needs. Developing this Project List allows TCTC and other eligible applicants to pursue funding and construct projects.

5.1 Project Prioritization Methodology

Identifying projects for inclusion and prioritization began with a detailed study of past planning efforts. Projects from existing planning documents were compiled in the full Projects List, and additional projects were developed based on input from the public, County of Tuolumne, City of Sonora, and stakeholders.

The feedback collected during the community workshops and online community engagement during the development of the plan aided the project team in deciding which projects would be prioritized in this Plan. Significant criteria for prioritization included feasibility as well as completeness of project information including types of facilities, extents, and cost estimates. Projects were also assessed for competitiveness as Active Transportation Program grant applications.

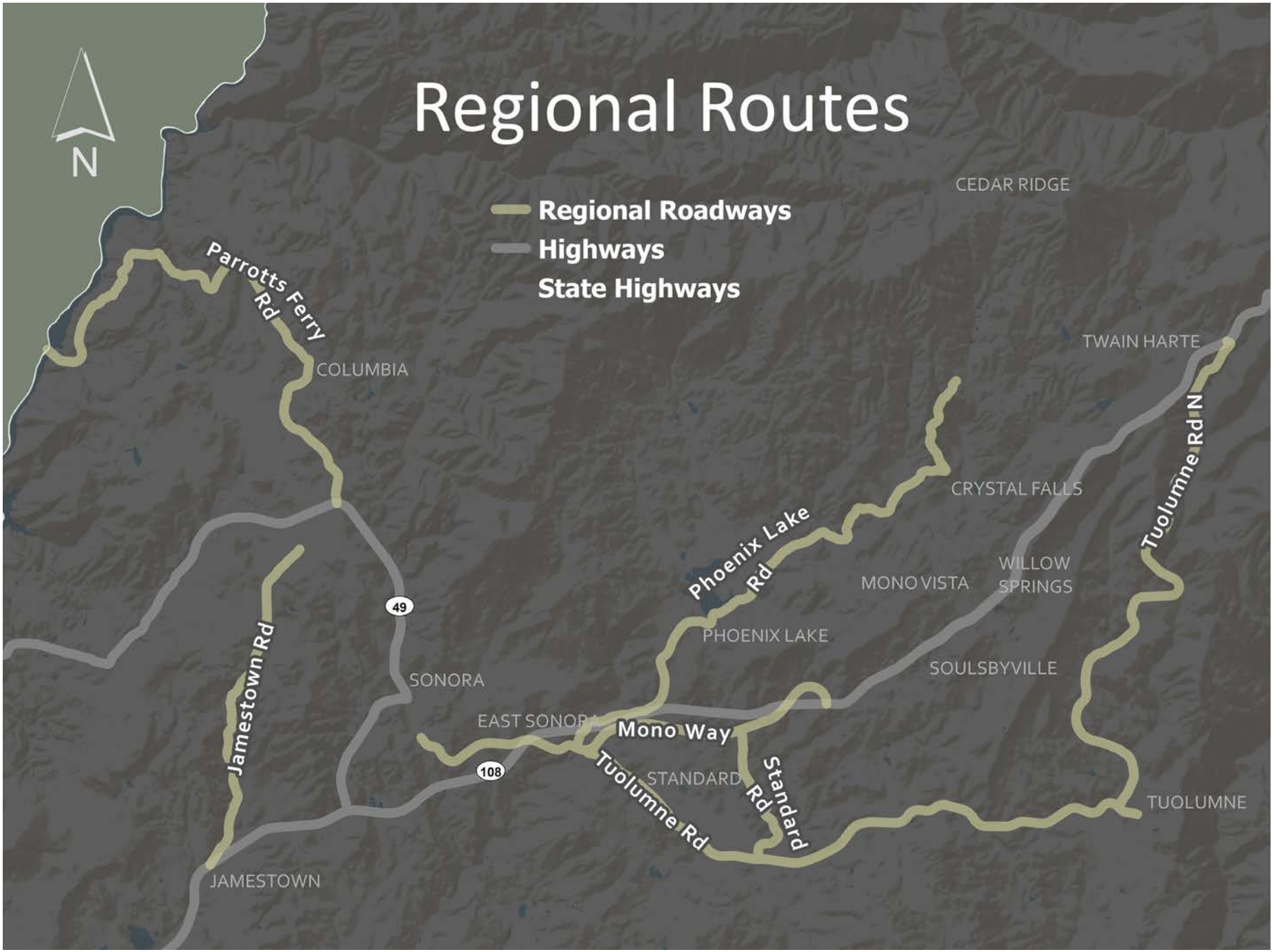
Only a small fraction of the total projects are included in the final Priority Projects List. However, all projects are included in Attachment G.

5.1.1 Regional Routes

A goal of the Active Transportation Plan is to develop a regional network for walking and biking in Tuolumne County. Creating regional routes for active transportation will increase safety and provide a feasible option for travel other than driving a car. The following roadways have been identified as regional travel routes, and projects have been developed to ensure future connectivity along these roads.

- Parrotts Ferry Road
- Jamestown Road
- Tuolumne Road
- Tuolumne Road North
- Standard Road
- Mono Way
- Phoenix Lake Road

In addition to the need for safe facilities for walking and biking along regional routes, there is a rising need for facilities where users of electric bikes (E-bikes) can travel separately from vehicles. Improvements in technology will make longer distances possible for more users of E-bikes, spurring the need for facilities such as wide shoulders, buffered bike & E-bike lanes, and separated paths along regional routes.



Map 5.1: Regional Routes

5.2 Projects List

Table 5.1 lists prioritized active transportation projects in Sonora. Table 5.2 lists prioritized active transportation projects in unincorporated Tuolumne County, sorted by community. These tables include abbreviated project descriptions. For a full list of active transportation projects proposed for Tuolumne County, see Attachment G.

ATP Ready

Projects labled "ATP Ready" have been identified by the project team as the most competitive for Active Transportation Program (ATP) grant funding or other funding programs in the near future. ATP Ready projects have significant documented community support, have robust project information, and would address an identified need such as safe access to schools or residences.

Tier 1

Tier 1 projects have significant community and/or local agency support, have robust project information, and would address an identified need. Tier 1 projects are also likely to be competitive for ATP funding.

Tier 2

Tier 2 projects have received support from the community and/or local agencies, would address an identified need, and have adequate project information. Most Tier 2 projects require more community outreach and project information.

No Tier Listed

These projects have not been prioritized, but are included in the full projects list in Attachment G. Many of these projects have received community support and would be competitive for grant funding.

Table 5.1
City of Sonora Active Transportation Projects

Project Number	Location	State Highway	Extents	Title	Project Type	Description
City of Sonora Priority Projects						
ATP-Sonora01	*Woods Creek, Bonanza Rd, Snell St, School St*	*Yes*	*SR 49 x Woods Creek Park Dr to School St x SR 49*	*Dragoon Gulch Connector Trail*	*Multi-Use*	*Construct a new pedestrian and bicycle path that connects Dragoon Gulch Trail with Sonora High, Sonora Community Estates, Downtown Sonora, and the Fairgrounds. This trail would follow Woods Creek/ Bonanza Road/Snell Street, and School Street from the intersection of SR 49/Woods Creek Park Drive to Intersection of School Street/SR 49. This project is a segment of the SR 49 Congested Corridor Study.*
ATP-Sonora02	*Washington Street and Stewart Street*	*Yes*	*Snell St to Church St*	*Sonora Historic Downtown Core*	*Multi-Use*	*Improve the Washington Street streetscape and non-motorized facilities, and create a bikeway along Stewart Street. Improve crossings, signage, and other pedestrian facilities on Washington Street. Create an on-street class III bike route by placing bike route signs and/or sharrows on Stewart Street and connecting streets. Connect route to Stockton Street to the west, Restano Way to the south, and Columbia Way to the north. Install bicycle racks within downtown Sonora*
ATP-Sonora03	*Stockton Street*	*Yes*	*Fairgrounds to Green St*	*Stockton Street Improvements*	*Multi-Use*	*Build a multi-use trail from the Fairgrounds to downtown, along the east side of Stockton Street from Fairgrounds entrance to Green Street where the sidewalk begins.*
ATP-Sonora04	*Intersection of Hwy 49, Shaws Flat Rd, Columbia Way, School St*	*Yes*		*Hwy 49/Shaws Flat Intersection Pedestrian/Bicycle Improvements*	*Multi-Use*	*Construct improvements to improve pedestrian/bicycle safety at the Hwy 49, Shaws Flat Rd., Columbia Way and School St. intersection.*
ATP-Sonora05	*Mono Way*	*Yes*	*Mono Way from Sanguinetti Rd to SR 108*	*Mono Way Pedestrian Improvements*	*Pedestrian*	*Construct sidewalks and safe crosswalks on Mono Way, connecting existing sidewalks. Construct pedestrian entrances to Crossroads shopping center, Junction shopping center, Timberhills shopping center. Install crosswalk with ramps across Mono Way from Timberhills shopping center. Install or re-stripe crosswalks at Mono Way/SR 108 interchange, Sanguinetti Road/Loop, Tuolumne Road/Mono Way. Construct crosswalk islands at intersection of Sanguinetti Rd and Mono Way.*
ATP-Sonora06	*Sonora*	*No*	*1.7 miles / 9000 feet*	*Sierra RR Trail - Sonora Section*	*Multi-Use*	*Construct a regional pedestrian and bicycle path from South Washington St. to Sanguinetti Rd in Sonora.*
ATP-Sonora07	*S Washington Street*	*No*	*Restano Way to Hwy 108*	*South Washington Street Pedestrian & Bicycle Improvements*	*Multi-Use*	*Install pedestrian/bicycle path or sidewalks along both sides of S. Washington Street from Restano Way to Hwy. 108.*
ATP-Sonora08	*Shaws Flat Rd*	*No*	*Sonora High School to Roble Rd*	*Shaws Flat Road Pedestrian & Bicycle Improvements*	*Multi-Use*	*Improve and enhance pedestrian/bicycle facilities along Shaws flat Rd. within the Sonora City Limits.*

Table 5.1
City of Sonora Active Transportation Projects

Source	Cost Estimate	Year of Cost Estimate	Priority	Prioritized By	Const. Year
City of Sonora Priority Projects					
2016 RTP, Dragoon Gulch Connector Trail Feasibility Study	*$1,250,000*	*2016*	*ATP Ready*	*TCTC*	
Vision Sonora, Questionnaire	*TBD*		*ATP Ready*	*Community*	
Vision Sonora	*$2,677,130*	*2013*	*ATP Ready*	*TCTC*	
City of Sonora	*TBD*		*Tier 1*	*City of Sonora*	
Questionnaire, 2005 Bike & Trails Plan	*TBD*		*Tier 1*	*Community*	
2005 Bike & Trails Plan, ATP Key Projects List, 2016 RTP, Sonora 2020 General Plan	*$2,165,000*	*2016*	*Tier 1*	*TCTC*	
City of Sonora	*TBD*		*Tier 2*	*City of Sonora*	
City of Sonora	*TBD*		*Tier 2*	*City of Sonora*	

Table 5.2
Tuolumne County Active Transportation Projects

Project Number	Location	State Highway	Extents	Title	Project Type	Description
County-Wide						
ATP-County01	Sonora, Columbia	Yes	Washington Street at Columbia Way to Columbia College	Sonora to Columbia Regional Trail	Multi-Use Regional Trail	Multi-use trail and Class II bicycle lane connecting Sonora with Columbia College and Columbia SHP. Begins at intersection of North Washington St and Columbia Way. Follows Columbia Way, SR 49, Old Sonora Columbia Road, undetermined path to Sawmill Flat Rd, and a TUD easement. Undetermined path to Columbia SHP.
ATP-County02	County-Wide	No	County-Wide	Ditch Sustainability Plan	Plan	Graphically identify high usage areas, usage conflicts, opportunities for improvements to protect water quality, provide public access, develop ditch trail standards to protect water quality from public use, and develop strategies to link the ditch system to heritage tourism and recreation.
ATP-County03	Sonora, Tuolumne	No	Tuolumne Rd from Mono Way to Tuolumne Rd N; Tuolumne Rd N	Tuolumne Road Pathway	Multi-Use	Widen shoulders and construct bike lanes or a multi-use path between Sonora and Tuolumne.
ATP-County04	Sonora, Jamestown	Yes	Fairgrounds to Jamestown	Jamestown to Sonora Regional Trail	Multi-Use Regional Trail	Construct a bicycle and pedestrian and bicycle path from the Fairgrounds to Jamestown. Determine the feasibility of different routes including following Stockton, following Woods Creek, or using other rights-of-way.
ATP-County05	Standard, Tuolumne, Sonora, East Sonora	No	3 segments	Sierra Railroad Trail	Multi-Use Regional Trail	Construct a regional pedestrian and bicycle path along the Sierra RR Grade. From South Washington St. to Sanguinetti Rd in Sonora. From Sanguinetti Rd to Hess Ave. From Tuolumne to Sierra Pacific Industries in Standard.
ATP-County06	SR 108	Yes	County-Wide	SR 108 Bikeway	Bikeway	Install bikeways with 4-8' shoulders and buffers on SR 108 throughout Tuolumne County.
ATP-County07	SR 120	Yes	County-Wide	SR 120 Bikeway	Bikeway	Install bikeways with 4-8' shoulders and buffers on SR 120 throughout Tuolumne County.
ATP-County08	SR 49	Yes	County-Wide	SR 49 Bikeway	Bikeway	Install bikeways with 4-8' shoulders and buffers on SR 49 where possible in Tuolumne County. Lack of existing shoulders on much of this route will prevent complete connectivity.
ATP-County09	Standard Rd	No	Entire length	Standard Road Pathway	Multi-Use	Walking and biking facilities along Standard Road.
ATP-County10	Tuolumne Rd N	No	Entire length	Tuolumne Road North Pathway	Multi-Use	Walking and biking facilities along Tuolumne Road North.

Table 5.2
Tuolumne County Active Transportation Projects

Source	Cost Estimate	Year of Cost Estimate	Priority	Prioritized By	Const. Year
County-Wide					
ATP Key Projects List, 2016 RTP, 2005 Bike & Trails Plan, Questionnaire	*$5,044,000*	*2016*	*ATP Ready*	*Community, TCTC*	
ATP Key Projects List	*TBD*		*Tier 2*	*TCTC*	
Questionnaire, Twain Harte Yard Sale	*TBD*		*Tier 2*	*Community*	
Recreation Master Plan, 2016 RTP, Vision Sonora, 2005 Bike & Trails Plan, Sonora 2020 General Plan Questionnaire	*$6,165,000*	*2016*	*Tier 2*	*Community*	
2005 Bike & Trails Plan, ATP Key Projects List	*TBD*		*Tier 2*	*TCTC*	
TCTC	*TBD*		*Tier 2*	*TCTC*	
TCTC	*TBD*		*Tier 2*	*TCTC*	
TCTC	*TBD*		*Tier 2*	*TCTC*	
TCTC	*TBD*		*Tier 2*	*TCTC*	
TCTC	*TBD*		*Tier 2*	*TCTC*	

Project Number	Location	State Highway	Extents	Title	Project Type	Description
ATP-County11	Jamestown Rd	No	N of Golf Links Rd	Jamestown Road Pathway	Multi-Use	Walking and biking facilities along Jamestown Road.
ATP-County12	Parrotts Ferry Rd	No	N of Columbia	Parrotts Ferry Road Pathway	Multi-Use	Walking and biking facilities along Parrotts Ferry Road.
Columbia						
ATP-County13	Parrott's Ferry Rd, Rose Quartz Rd, Loop St	No	Sawmill Flat Rd to Elementary School to Columbia SHP to neighborhoods	Columbia Safe Routes to School	Multi-Use	Construct a Safe Routes to School project by constructing walking and biking facilities from the elementary school and airport trail to Columbia SHP and downtown. The County has considered three different methods: sidewalks with vertical curb, meandering sidewalks, and striped pedestrian path in the existing areas of asphalt. When crossing Parrotts Ferry, use ladder style crosswalks with Flashing LED Sign Pedestrian Crossing, near and around the school. Construct a designated striped path on Loop Street and Rose Quartz Road.
ATP-County14	Parrott's Ferry Rd	No	Sawmill Flat Rd to Columbia SHP	Parrotts Ferry Bikeway	Bikeway	Bikeway along Parrotts Ferry Road near apartments, trailer park, elementary school.
ATP-County15	Melones Waterline TUD Easement	No	Sawmill Flat Rd to Columbia Campus Dr	Melones Water Line Trail Improvement Project	Multi-Use	Construct a ten foot wide two-direction Class I bicycle and pedestrian facility along the existing Melones Waterline TUD easement from Sawmill Flat Road to Columbia College.
East Sonora						
ATP-County16	Mono Way	Yes	SR 108 interchange to Peaceful Oak Rd	Mono Way 108 Interchange to Peaceful Oak Road Sidewalks	Pedestrian	Construct sidewalks on Mono Way from SR 108 interchange to Peaceful Oak Rd, connecting existing sidewalks.
ATP-County17	Mono Way, SR 108	Yes	108 interchange to Soulsbyville Road	Mono Way 108 interchange to Soulsbyville Road Class 2 Bike lane	Bikeway	Install Class 2 Bike lane Mono Way 108 interchange to Soulsbyville Road, on Mono Way and SR 108.
ATP-County18	SR 108	Yes	SR 108: High School Rd to Mono Way	SR 108 Pedestrian and Bicycle Path	Multi-Use	Construct safe walking and biking facility along the highway (49/108) between Mono Way in East Sonora and High School Road near Jamestown.
ATP-County19	Old Wards Ferry Rd	Yes	Highway 108 to Jacobs and Tannin	Old Wards Ferry Road Complete Street	Multi-Use	Complete street on Old Wards Ferry Road from Highway 108 to Jacobs and further into Tannin. Project will likely include wide shoulders and/or "share the road" signs. There are extensive right-of-way costs associated with this project which projected was approximately $7.8 million.

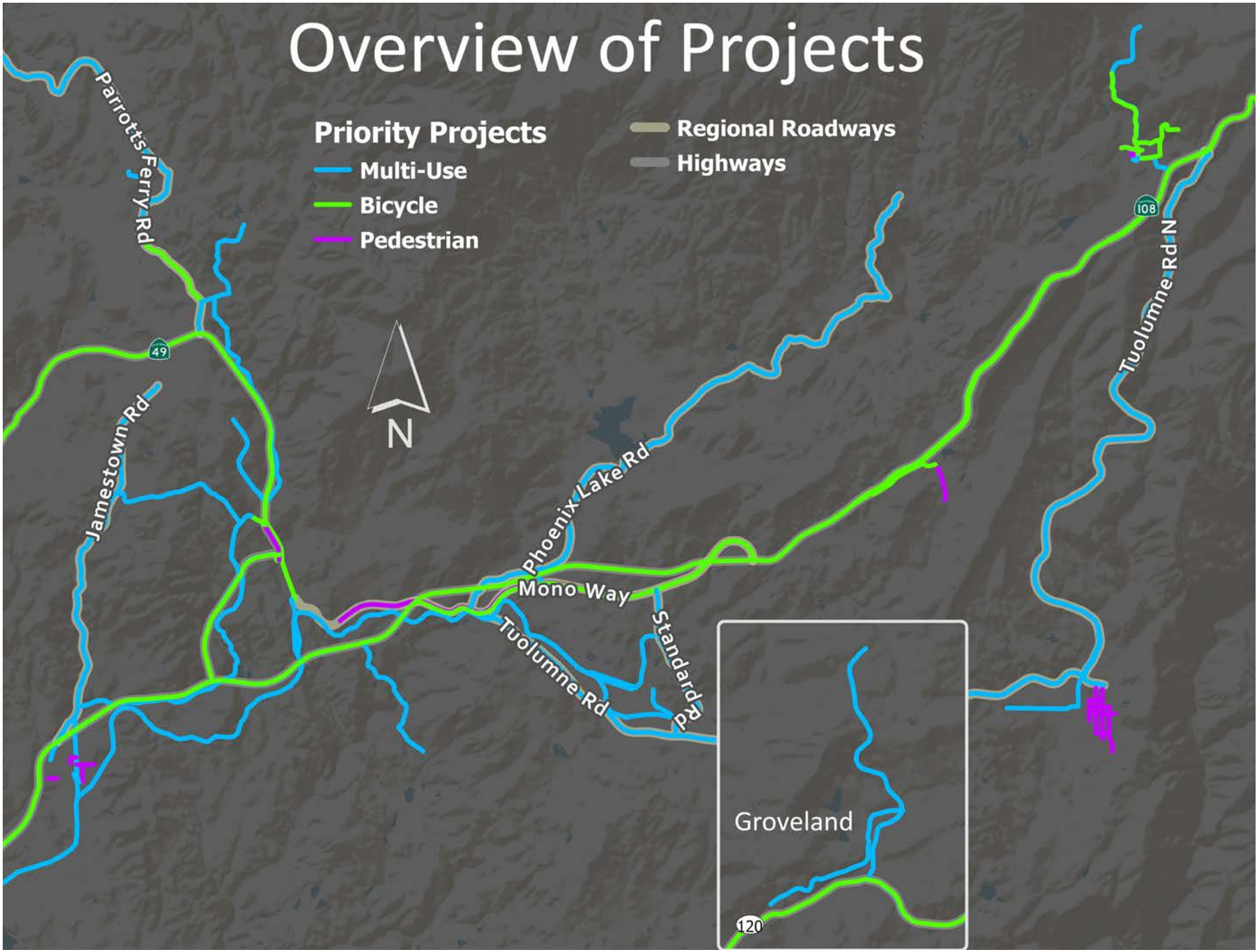
Source	Cost Estimate	Year of Cost Estimate	Priority	Prioritized By	Const. Year
TCTC	*TBD*		*Tier 2*	*TCTC*	
TCTC	*TBD*		*Tier 2*	*TCTC*	
Columbia					
2016 RTP, Questionnaire	*$1,870,000*	*2016*	*ATP Ready*	*Community*	
Questionnaire	*TBD*		*Tier 2*	*Community*	
2016 RTP, 2010 CCIP	*$540,000*	*2016*	*Tier 2*	*TCTC*	
East Sonora					
TCTC	*TBD*		*Tier 1*	*TCTC*	
TCTC	*TBD*		*Tier 1*	*TCTC*	
Questionnaire	*TBD*		*Tier 2*	*Community*	
County Public Works	*TBD*		*Tier 2*	*TCTC*	

Project Number	Location	State Highway	Extents	Title	Project Type	Description
Groveland						
ATP-County20	*Hetch Hetchy RR Grade*	*No*	*Deer Flat Rd to Feretti Rd at Pine Mountain Dr*	*Hetch Hetchy Railroad Trail Phase 1*	*Multi-Use*	*Construct a class I trail on GCSD property and former railroad ROW. Improve the Hetch Hetchy Railroad Grade for bicycle and pedestrian use from the Resilience Center to Deer Flat Road. Length may be reduced to only GCSD property if a permit from Hetch Hetchy RR is not attainable, ending the trail near Ponderosa Lane.*
ATP-County21	*SR 120, Ferretti Rd*	*Yes*	*SR 120, Ferretti Rd*	*Groveland Sidewalks Along SR 120 and Feretti Rd*	*Pedestrian*	*Improve existing facilities and install new sidewalks and pedestrian paths along SR 120 and Ferretti Rd in downtown Groveland. Construct sidewalks or paths through Downtown Groveland from the Yosemite Bank with access to the medical facility on the hill near Mountain Sage. Install crosswalks and traffic light at SR 120 and Ferretti Rd.*
ATP-County22	*Feretti Road, Hetch Hetchy RR Grade*	*Yes*	*SR 120 to Tioga High School*	*Groveland Tioga High School Trail*	*Multi-Use*	*Trail connecting downtown Groveland to Tioga High School along Feretti Road.*
ATP-County23	*SR 120*	*Yes*	*Ferretti Rd to Tenaya Elementary*	*Groveland Tenaya Elementary School Trail*	*Multi-Use*	*Construct walking and biking facilities from Downtown Groveland to Tenaya Elementary School.*
Jamestown						
ATP-County24	*5th Ave, Jamestown Rd, Donovan St, 7th St, 9th St, 4th Ave, 6th Ave, Willow St*	*Yes*	*5th Ave, Jamestown Rd, and adjacent streets from Railtown SHP to SR 108 / 49 to Golf Links Rd; Donovan St*	*Jamestown Community Connectivity*	*Multi-Use*	*Construct new multi-use improvements along 5th Ave in Jamestown from Railtown SHP to Jamestown Rd, and Jamestown Rd from 5th Ave to Golf Links Rd. Sidewalk improvements on 7th & 9th Streets, 4th & 6th Avenues, Willow St, and Donovan Street.*
ATP-County25	*Jamestown*	*Yes*	*SR 49/108*	*Jamestown SR 108/49 Complete Streets*	*Pedestrian*	*Construct safe crossings on Highway 49 / 108 at Main Street / Jamestown Rd and at 5th Ave. Install multi-use path on one side of highway, with sidewalk on both sides of 49 in commercial corridor from Lemon Drop Ln to 5th Ave.*
Phoenix Lake						
ATP-County26	*Phoenix Lake Rd*	*No*	*Phoenix Lake Rd, N Hess Ave, Bergel Rd from Mono Way to Paseo De Los Portales Rd*	*Phoenix Lake Road Improvements*	*Multi-Use*	*Construct safe walking and biking facilities along Phoenix Lake Rd, Bergel Rd, and Hess Ave from Mono Way to Phoenix Lake County Club Estates, potentially further with connections to Twain Harte. Project may consist of shoulder widening and installing "share the road" signs, or a multi-use path.*

Source	Cost Estimate	Year of Cost Estimate	Priority	Prioritized By	Const. Year
Groveland					
2016 RTP, 1996 RTP, 2005 Bike & Trails Plan	*$5,150,000*	*2016*	*ATP Ready*	*TCTC*	
ATP Key Projects List, 2016 RTP	*$2,880,000*	*2016*	*Tier 1*	*TCTC, Community*	
Recreation Master Plan, 2005 Bike & Trails Plan, Questionnaire	*$2,642,128*	*2005*	*Tier 2*	*Community*	
Questionnaire	*TBD*		*Tier 2*	*Community*	
Jamestown					
2016 RTP	*$2,200,000*	*2016*	*ATP Ready*	*Community*	
Questionnaire, TCTC	*TBD*		*Tier 1*	*Community*	
Phoenix Lake					
Questionnaire	*TBD*		*Tier 2*	*Community*	

Project Number	Location	State Highway	Extents	Title	Project Type	Description
Tuolumne Townsite						
ATP-County27	*Tuolumne*	*No*	*Summerville High School to Black Oak Casino*	*Summerville Trail Project*	*Multi-Use*	*Construct a multi-use trail between Summerville High School, Tuolumne townsite, and Black Oak Casino Resort. Trail may use a combination of railroad grade, existing roadways and sidewalks, and new paths.*
ATP-County28	*Tuolumne*	*No*	*Downtown*	*Tuolumne Downtown Sidewalks and Alleyways*	*Pedestrian*	*Improvements to downtown sidewalks and alleyways for pedestrian and wheelchair access.*
Twain Harte						
ATP-County29	*Joaquin Gully Rd, Middle Camp Rd, South Fork Rd, Twain Harte Dr, East Ave*	*No*	*Joaquin Gully Rd, Middle Camp Rd, South Fork Rd, Twain Harte Dr, and East Ave from Quaker Ln to Sugar Pine Trail Access*	*Twain Harte Multi-Use Trail*	*Multi-Use*	*Construct a walking and biking path along major roadways in Twain Harte: Joaquin Gully Rd, Middle Camp Rd, South Fork Rd, Twain Harte Dr, and East Ave. Connect Joaquin Gully Rd to new Twain Harte Meadows Park through shopping center.*
ATP-County30	*Joaquin Gully Rd, Twain Harte Dr*	*No*	*Joaquin Gully Rd at Twain Harte Dr*	*Downtown Twain Harte Improvements*	*Pedestrian*	*Construct sidewalks, ADA curb ramps, and crosswalks to complete the downtown Twain Harte pedestrian network. Install lighting. Improve intersection signage and striping at intersection of Joaquin Gully Rd and Twain Harte Dr.*
West Sonora						
ATP-School31	*Racetrack Road*	*No*	*Jamestown Road to future entrance of Dragoon Gulch Trail*	*Racetrack Road Pedestrian & Bicycle Project*	*Multi-Use*	*Construct approximately 3,800 feet of sidewalk, curb and gutter, and Class II bike lanes along the south side of Racetrack Road, from Jamestown Road to the City of Sonora's Dragoon Gulch Recreation Area.*
Schools						
ATP-School32	*Soulsbyville*	*No*	*Willow Springs Rd to Soulsbyville Elementary*	*Soulsbyville Elementary School Access*	*Pedestrian*	*Maintain Soulsbyville Elementary School walking path and install high-visibility crosswalk connecting path to Willow Springs.*
ATP-School33	*Twain Harte*	*No*	*Manzanita Dr, Joaquin Gully Rd, and Twain Harte Dr*	*Twain Harte SRTS*	*Bikeway*	*Construct bike lanes and bike paths on streets surrounding Twain Harte School.*

Source	Cost Estimate	Year of Cost Estimate	Priority	Prioritized By	Const. Year
Tuolumne Townsite					
ATP Key Projects List, 2016 RTP, questionnaire, Me-Wuk Bicycle Plan 2003	*$1,445,000*	*2016*	*ATP Ready*	*TCTC, Community*	
County Public Works, 2010 Tuolumne Parking & Alleyway Study, 2016 RTP	*TBD*		*Tier 2*	*Public Works*	
Twain Harte					
Questionnaire, Twain Harte Yard Sale, Twain Harte CSD	*TBD*		*ATP Ready*	*Community*	
Twain Harte Yard Sale	*TBD*		*Tier 2*	*Community*	
West Sonora					
2016 RTP	*$1,553,000*	*2016*	*ATP Ready*	*Community*	
Schools					
School Administration	*TBD*		*Tier 2*	*Schools*	
School Administration	*TBD*		*Tier 2*	*Schools*	
	$29,489,128				

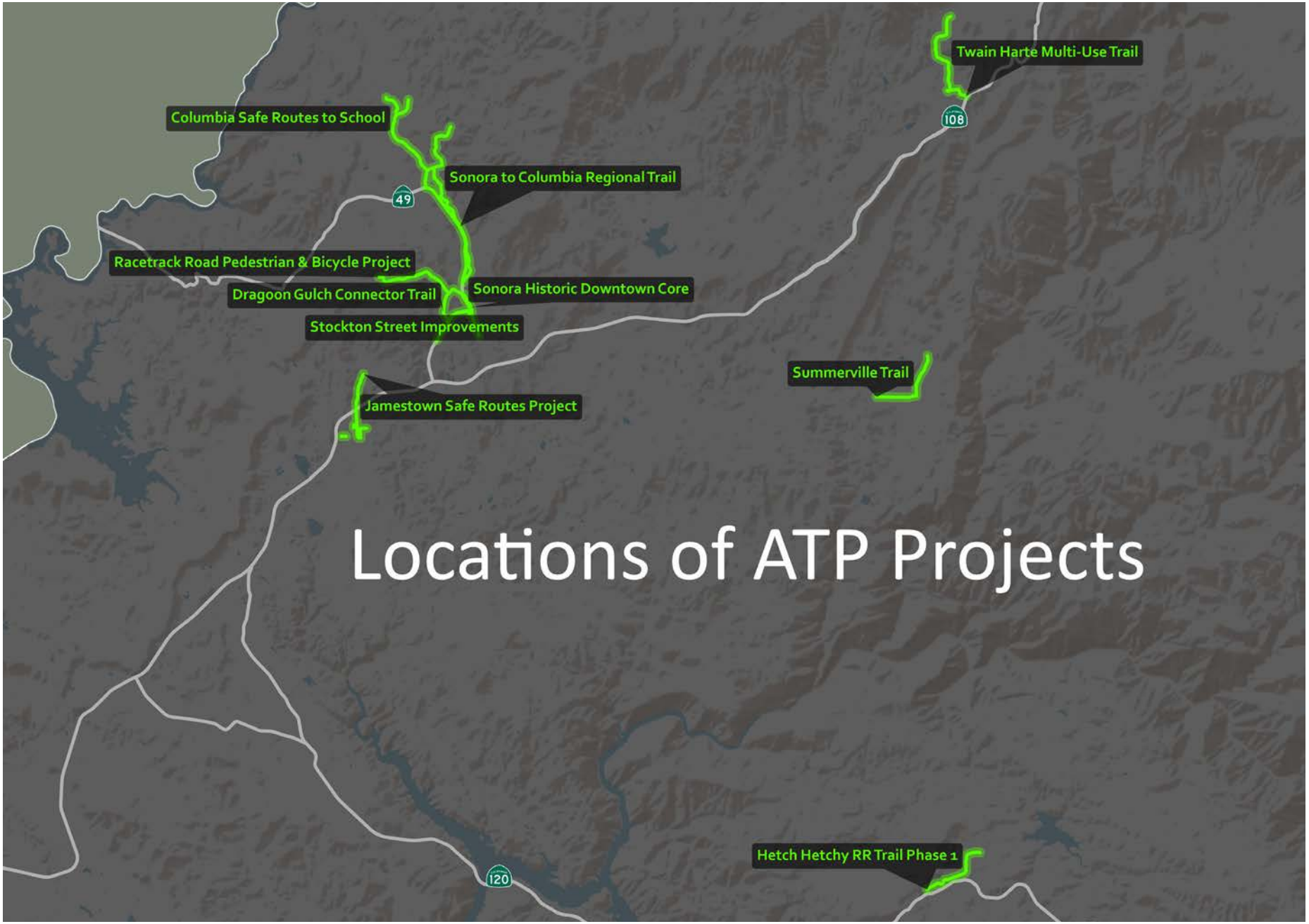


Map 5.2: Regional Overview of Projects

5.3 Priority Projects for the Active Transportation Program

10 projects were identified as priority candidates (ATP Ready) for Active Transportation Program (ATP) applications. The ATP is a statewide program further discussed in section 7: Funding. Several of these projects have been submitted for ATP funding previously. Projects were determined to be top priorities for funding through the ATP because of significant documented community support, ability to address active transportation needs, previous planning efforts confirming feasibility, and completeness of project information.

Conceptual designs, engineered plans, and cost estimates are required for a project to be ready for ATP submittal, and will be developed during the application writing process. Further details about the priority Active Transportation Program projects are available in Attachment E.



Map 5.3: Location of Priority Projects

5.3.1 Hetch Hetchy Railroad Trail Phase 1

The Hetch Hetchy Railroad Trail Phase 1 project is an eight-foot-wide accessible paved trail with support amenities, railcar bridge over Garrote Creek, benches, and lighting. The trail would extend from the Resilience Center to Deer Flat Road, providing the only non-motorized link between Pine Mountain Lake, the downtown Groveland business district, and Mary Laveroni Park. It will be the first phase in a larger planned trail project following the old Hetch Hetchy Railroad grade from Groveland to Big Oak Flat and potentially communities beyond.

5.3.2 Sonora to Columbia Regional Trail

The Sonora to Columbia Regional Trail would create a major multimodal link between downtown Sonora and Columbia College. Additionally, the trail would serve as a segment of the larger proposed Jamestown to Columbia Regional Trail.

Between Sonora and Columbia, SR 49 currently has a 1' to 2' shoulder, a dangerous route for pedestrians and bicyclists. Sawmill Flat Road has no shoulders and is a narrow, winding road.

The project consists of a multi-use trail and Class II bicycle lanes connecting Sonora with Columbia College. The trail begins at the intersection of North Washington Street and Columbia Way, with two proposed alignments north to Columbia College. One alignment follows Columbia Way, SR 49, Old Sonora Columbia Road, a path to Sawmill Flat Rd, and a TUD easement to Columbia College. The alternative route follows SR 49 and Sawmill Flat Road before using the TUD easement to Columbia College.

5.3.3 Dragoon Gulch Connector Trail

The Dragoon Gulch Connector Trail would provide an essential local and regional pedestrian and bicycle connection through Sonora. The multi-use path would connect Dragoon Gulch Trail with Sonora High, Sonora Community Estates, Downtown Sonora, commercial areas, and the Fairgrounds.

The proposed improvements begin with a sidewalk on the north side of SR 49 with a crosswalk to the Mother Lode Fairgrounds. A multi-use trail would begin at the intersection of SR 49/ Southgate Dr. and follow Woods Creek. The trail would cross the creek via a proposed bridge, then follow Bonanza Drive. A new crosswalk would connect the trail to an existing sidewalk on Snell Street. This project is a segment of the SR 49 Congested Corridor Study and the Jamestown to Columbia Regional Trail, which proposes a safe route for walking and biking from Jamestown to Columbia by way of Sonora.

5.3.4 Sonora Historic Downtown Core

This project aims to improve the Washington Street streetscape for pedestrians and create a parallel bikeway along Stewart Street. Pedestrian improvements will include safer crossings, signage, and potentially bulb-outs. Bicycle improvements will be minimal and include the necessary elements of a class III bike route, such as signage and adequate lane width, in addition to bicycle routes in Downtown Sonora. The bicycle route on Stewart Street will connect to Stockton Street to the west, Mono Way and Restano Way to the south, and Columbia Way to the north.

The County submitted a Cycle 4 ATP application for the project, using the name "Sonora - Washington Street (SR49) Pedestrian Safety Improvements". The application received 69 points out of 100 possible. The project has been changed to include bicycle improvements since this application was submitted.

5.3.5 Stockton Street Improvements

Construct a multi-use trail along Stockton Street (SR 49) from the Fairgrounds entrance at Southgate Drive to downtown at Green Street to create a safe and enjoyable bicycle and pedestrian travel path for local residents and visitors to access Downtown Sonora from the Fairgrounds. There are no current shoulders on Stockton Street in this section and adding a class I /Multi-use trail will encourage Fairground visitors to come downtown without having to re-park while providing a recreating amenity and valuable connection for residents.

5.3.6 Columbia Safe Routes to School

The Columbia Safe Routes to School project involves constructing safe walking and biking facilities from the elementary school and airport trail to Columbia State Historic Park and downtown. The County has considered three different methods: sidewalks with vertical curb, meandering sidewalks, and striped pedestrian path in the existing areas of asphalt. When crossing Parrotts Ferry, use ladder style crosswalks with Flashing LED Sign Pedestrian Crossing, near and around the school. Construct a designated striped path on Loop Street and Rose Quartz Road.

The County submitted a Cycle 3 ATP application for the project, using the name Columbia Pedestrian Facility. The application received 64 points out of 100 possible.

5.3.7 Summerville Trail Project

The Summerville Trail Project is a 1.5-mile multi-use/class I trail connecting Black Oak Casino to Summerville High School along North Tuolumne Road/Tuolumne Road. This trail will provide pedestrian and bicycle facilities along a collector road that currently does not have a designated bike lane or shoulder for cyclist and pedestrian use. The trail may use a combination of railroad grade, existing roadways, sidewalks, and new paths.

The County submitted a Cycle 3 ATP application for this project, using the name Tuolumne Pedestrian Trail. The application received 52 points out of 100.

5.3.8 Twain Harte Multi-Use Trail

The Twain Harte Multi-Use Path is a walking and biking path running alongside several main roads in Twain Harte, providing a safe connection to destinations prioritized by the community. The project will connect several destinations within Twain Harte: Twain Harte School, downtown businesses, Twain Harte Meadows Park, Sugar Pine Railroad Trail, and the Tuolumne Ditch Access at the north end of the project area. The path will be located along Joaquin Gully Road, Middle Camp Road, South Fork Road, Twain Harte Drive, and East Avenue.

5.3.9 Racetrack Road Pedestrian & Bicycle Project

This project creates a safe and continuous pedestrian and bicycle travel path linking West Sonora neighborhoods to Sonora High School, the Dragoon Gulch Recreational Area, and Downtown Sonora. The existing roadway is narrow, curvy, and hilly, and pedestrian and bicycle infrastructure is inadequate, with extremely narrow or no shoulders on the sides of the roadway. New sidewalk, curb, gutter, and class II bicycle lanes will provide a safer path for walkers and bikers.

The County submitted a Cycle 3 ATP application for the project. The application received 37 points out of 100 possible.

5.3.10 Jamestown Sidewalks Project Phase 2

The Jamestown Sidewalks Project Phase 2 builds on previous efforts including the Jamestown Beautification project and Jamestown Sidewalks Project Phase 1 to increase pedestrian facilities and connectivity in a small, unincorporated, and low-income community. Previous projects have created a pedestrian-friendly environment along Main Street and adjoining streets in downtown Jamestown. However, these improvements do not connect to Jamestown Elementary School, surrounding residences, and other destinations.

The project will expand the existing pedestrian network and create safe and continuous pedestrian travel paths between residential areas, Jamestown Elementary School, public transit facilities, recreation opportunities, and businesses. The project includes approximately 3,600 lineal feet of new sidewalk, curb and gutter, ADA improvements, and crosswalks within the vicinity of Jamestown Elementary School. Parking stalls adjacent to school and district offices may be modified. In addition, there will be approximately 400 linear feet of sidewalk to close existing gaps allowing safe pedestrian travel to Downtown Jamestown.

The project also includes connectivity to residential neighborhoods north of SR 49/108 along Jamestown Rd, with approximately 4,100 linear feet of new separated multi-use path providing safe multimodal travel south to historic downtown Jamestown and Jamestown Elementary School. The proposed project will connect with the proposed Caltrans intersection improvements at the 5th Ave and SR 49/108 junction.

The purpose of the project is to complete Jamestown's walking and biking network, thereby creating a safer environment and encouraging non-motorized transportation. Designated facilities for walking and biking are expected to reduce the potential for collisions and increase the number of students and other community members who walk and bike along 5th Avenue and adjacent streets.

The County applied for ATP funding for the project in Cycle 2 and Cycle 3. The Cycle 2 application received 65 points and the Cycle 3 application scored 63 points out of 100 possible. The County is applying for Cycle 5 ATP funds for the project.

5.4 Mode Shift and VMT Benefits Analysis

The Caltrans California Life-Cycle Benefit/Cost Analysis Active Transportation Model was used to measure the benefits associated with each project. The model uses multiple factors to estimate the benefits associated with an ATP project being built such as: emissions reduction, increased journey quality, health benefits, and induced active transportation trips (switching from vehicles to walking/biking). This model was chosen because it is comprehensive but requires minimal inputs, which can be useful for projects in rural areas that lack comprehensive transportation data.

Lack of data was problematic for several projects. Some projects analyzed are still being developed, the data presented is considered preliminary. Most data, such as cost, length, and improvement characteristics can be found in the projects list. The Tuolumne ATP questionnaire distributed by the project team was also used to estimate the current amount of bicycle/pedestrian daily trips, growth rate of these trips over a 20-year period, and purpose of the trip. Safe Routes to School (STRS) surveys were distributed to K-12 schools in the county and are also used to estimate the daily student trips taken. Other assumptions in the model are based on previous transportation studies and statewide data.

The outputs of this process allow analysis of how many vehicle miles traveled (VMT) will be reduced over time, assuming that more community members will switch to alternative modes of travel due to the increase in bicycle and pedestrian infrastructure in the area.

Tables 5.3 and 5.4 display the inputs and results of estimating the increase in bicycle and pedestrian trips over 20 years, after project construction is complete. Respondents in the project areas were asked how frequently they bike or walk for recreation or commute purposes, and if they would walk/bike more often if active transportation infrastructure was developed in their area. The responses were used to project an annual trip growth rate for each area, using the change between those who said they currently never walk/bike, but would if active transportation infrastructure was improved, for percentage growth calculation.

It is important to note that the questionnaire provided a small sample size and did not ask questions about specific project locations. Therefore, some projects, particularly the Summerville Trail project, have very limited data regarding current and future walking and biking trips. A very small number of residents of the communities of Tuolumne and Groveland participated in the questionnaire, affecting the accuracy of the Summerville Trail and GCSD Trail projects, respectively.

Additionally, three Priority Projects for the Active Transportation Program were not included in the analysis. The Jamestown Sidewalks Phase 2 project was not prioritized at the time the analysis was completed. The Twain Harte Multi-Use Trail and Columbia Safe Routes to School projects were under development at this time and therefore lacked sufficient data.

Table 5.3
Estimated Increase in Bicycle Trips Over 20 Years

Projects*	Current Daily Bicycle Trips	Projected Trips Year 1	Projected Trips Year 20	Growth Rate
Sonora Historic Downtown Core	5	6	78	14.0%
Dragoon Gulch Connector Trail	5	6	78	14.0%
Racetrack Road Pedestrian & Bicycle Project	5	5	69	14.0%
GCSD Trail	1	1	207	28.0%
Stockton Street Improvements	5	6	78	14.0%
Sonora to Columbia Regional Trail	7	6	78	14.0%
Summerville Trail Project	2	2	4	3.0%

**Note: Twain Harte Multi-Use Trail & Columbia Safe Routes to School projects were excluded from analysis due to insufficient project data.*

Table 5.4
Estimated Increase in Pedestrian Trips Over 20 Years

Projects*	Daily Trips, Pedestrian	Projected Trips Year 1	Projected Trips Year 20	Growth Rate
Sonora Historic Downtown Core	43	49	674	14.0%
Dragoon Gulch Connector Trail	43	49	674	14.0%
Racetrack Road Pedestrian & Bicycle Project	43	43	597	14.0%
GCSD Trail	2	4	500	28.0%
Stockton Street Improvements	43	49	674	14.0%
Sonora to Columbia Regional Trail	48	49	674	14.0%
Summerville Trail Project	5	5	9	3.0%

**Note: Twain Harte Multi-Use Trail & Columbia Safe Routes to School projects were excluded from analysis due to insufficient project data.*

Table 5.5
Summarized Model Results

Projects*	Benefit Cost Ratio	Cost	Benefit	Net
Sonora Historic Downtown Core	21	$0	$3.92	373.0%
Dragoon Gulch Connector Trail	2.9	$1	$3.56	231.0%
Racetrack Road Pedestrian & Bicycle Project	2.5	$2	$3.90	230.0%
GCSD Trail	2.2	$3	$5.93	325.0%
Stockton Street Improvements	1.3	$3	$3.47	82.0%
Sonora to Columbia Regional Trail	0.9	$5	$4.28	-57.0%
Summerville Trail Project	0	$1	$0.01	-140.0%

**Note: Twain Harte Multi-Use Trail & Columbia Safe Routes to School projects were excluded from analysis due to insufficient project data.*

Table 5.5 displays the summarized results of the model, sorted from highest to lowest benefit-cost ratio. A ratio greater than one means the benefits outweighs the costs, while a ratio less than one means the costs outweigh the benefits associated with the project. Several projects located in Sonora had similar outputs for their estimates. This is because input data collected from Sonora, such as current active transportation users, is all the same regardless of project. The Summerville Trail Project was not included in the final analysis of VMT and emissions saved because zero emission benefits were calculated due to a low amount of predicted daily trips. However, as noted previously, the small sample size of participants and lack of transportation data may have negatively affected the results of the model.

Figure 5.1 displays the estimated VMT that will be saved each year, for 20 years if the given project is built. Sonora projects had the most VMT saved due to their projected higher number of induced trips over time for their projects compared to others in Tuolumne County.

The results in Figure 5.1 display the tons of carbon monoxide saved over time if the specified project is built. The results were calculated by comparing the current projection of emissions in the project area to the projection of emissions if the project was built, given a certain amount of users would switch from vehicle transportation to a form of active transportation with the project built. The results in Figure 5.1 correlate with Figure 5.2, with Sonora projects overall having more emissions reductions, because those projects had the largest value of projected trips.

The Summerville trail has an unbalanced ratio due to the low amount of potential future users in the area, while Sonora to Columbia Regional Trail has a high project cost that comes close to breaking even with the benefits. All projects other than those two were found to have a higher amount of benefits associated with their project characteristics than the cost of the project, including additional safety benefits, health benefits and emission cost savings.

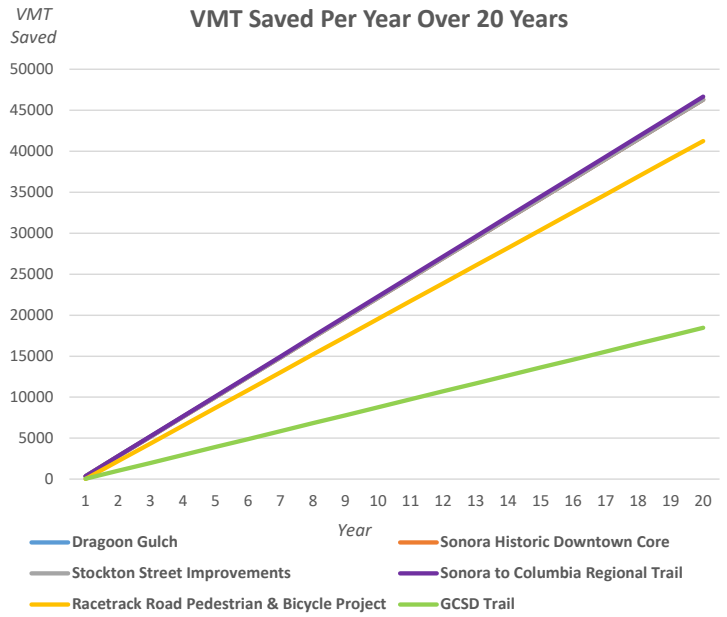


*Figure 5.1:VMT Saved Per Year Over 20 Years. *Note: Twain Harte Multi-Use Trail & Columbia Safe Routes to School projects were excluded from analysis due to insufficient project data.*

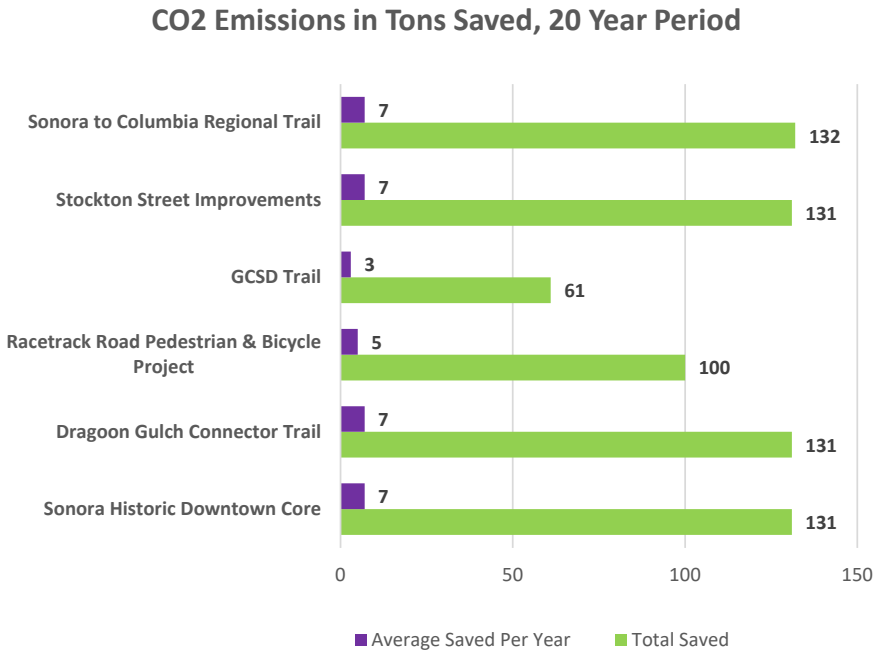


*Figure 5.2: CO2 Emissions in Tons Saved, 20 Year Period. *Note: Twain Harte Multi-Use Trail & Columbia Safe Routes to School projects were excluded from analysis due to insufficient project data.*

The model and the results presented here are a preliminary analysis. As each project is developed, traffic data, community input, project scope, and costs will change and affect the project's predicted benefits.

5.5 Performance Monitoring

To ensure that projects proposed in this Active Transportation Plan meet their objectives after implementation, they must be evaluated using the goals and objectives outlined in Section 1.3 of this document as a basis. Performance monitoring results should be able to inform decision makers and the public of project successes, illustrate areas that can be improved, demonstrate how funds are being used, and promote related projects for public support.

It is recommended that projects and programs be evaluated quantitatively by collecting data from bicycle and pedestrian counts, motor vehicle speed/volume counts, and bike parking/amenity assessments. TCTC needs to implement regional bike and pedestrian counts that will help communities and local agencies gain a better understanding of their active transportation network. Traffic counters will be installed with a goal of obtaining short and long duration count data. The data will help establish trends and travel patterns which will be applied when planning future projects and evaluating the success of current ones.

Through data collection and analysis, project successes and weaknesses can be identified. If a project does not meet its projected bicycle or pedestrian use, TCTC can determine the causes of the shortfall and develop more accurate projections for future projects.

5.6 State Highway Projects

Several priority projects are located fully or partially on State Highways 49, 108, and 120. To increase efficiency in future planning efforts, these projects were identified and are summarized in the following table. While some projects are located fully along State Highways, others are related through corridor studies or intersection improvements on a State Highway. Additionally, several projects included have the potential to affect a State Highway through increased pedestrian or bicycle traffic. State Highway projects are displayed in more detail in Table 5.1 and Table 5.2.

In addition to the prioritized projects in this Plan, TCTC encourages the inclusion of complete street elements in Caltrans projects. A complete street is a transportation facility that is planned, designed, operated, and maintained to provide safe mobility for all users, including bicyclists, pedestrians, transit vehicles, truckers, and motorists, appropriate to the function and context of the facility. Deputy Directive 64-R2, first signed in October 2008 and renewed in October of 2014, directs Caltrans to implement complete streets.

Table 5.6
State Highway Active Transportation Projects

Title	Project Type	State Highway	Relationship	Location	Extents	Community	Priority
Sonora							
Dragoon Gulch Connector Trail	*Multi-Use Trail*	*49*	*Part of SR 49 Congested Corridor Study. Affects two intersections.*	*Woods Creek, Bonanza Rd, Snell St, School St*	*SR 49 x Woods Creek Park Dr to School St x SR 49*	*Sonora*	*ATP Ready*
Sonora Historic Downtown Core	*Sidewalks, Crossings, Bikeway*	*49*	*Along route*	*Washington Street and Stewart Street*	*Snell St to Church St*	*Sonora*	*ATP Ready*
Stockton Street Improvements	*Multi-Use Trail*	*49*	*Along route*	*Stockton Street*	*Fairgrounds to Green St*	*Sonora*	*ATP Ready*
Hwy 49/Shaws Flat Intersection Pedestrian/Bicycle Improvements	*Crossings*	*49*	*Intersection*	*Intersection of Hwy 49, Shaws Flat Rd, Columbia Way, School St*		*Sonora*	*Tier 1*
Mono Way Pedestrian Improvements	*Multi-Use*	*108*	*Improvements to intersection of on ramps*	*Mono Way*	*Mono Way from Sanguinetti Rd to SR 108*	*Sonora*	*Tier 1*
Regional							
Sonora to Columbia Regional Trail	*Multi-Use Trail*	*49*	*Along route and part of SR 49 Congested Corridor Study*	*Sonora, Columbia*	*Washington Street at Columbia Way to Columbia College*	*Sonora, Columbia*	*ATP Ready*
Jamestown to Sonora Regional Trail	*Multi-Use Trail*	*49*	*Along route and/or part of SR 49 Congested Corridor Study*	*Sonora, Jamestown*	*Fairgrounds to Jamestown*	*Sonora, Jamestown*	*Tier 2*
SR 108 Bikeway	*Bikeway*	*108*	*Along route*	*SR 108 Bikeway*	*Bikeway*	*County-Wide*	*Tier 2*
SR 120 Bikeway	*Bikeway*	*120*	*Along route*	*SR 120 Bikeway*	*Bikeway*	*County-Wide*	*Tier 2*
SR 49 Bikeway	*Bikeway*	*49*	*Along route*	*SR 49 Bikeway*	*Bikeway*	*County-Wide*	*Tier 2*
East Sonora							
Mono Way 108 Interchange to Peaceful Oak Road Sidewalks	*Pedestrian*	*108*	*Begins at interchange*	*SR 108*	*SR 108 interchange to Peaceful Oak Rd*	*East Sonora*	*Tier 1*
Mono Way 108 interchange to Soulsbyville Road Class 2 Bike lane	*Bikeway*	*108*	*Along route*	*SR 108*	*108 interchange to Soulsbyville Road*	*East Sonora*	*Tier 1*

Table 5.6: State Highway Active Transportation Projects

SR 108 Pedestrian and Bicycle Path	*Multi-Use Trail*	*108*	*Along route*	*SR 108*	*SR 108: High School Rd to Mono Way*	*East Sonora*	*Tier 2*
Old Wards Ferry Road Complete Street	*Complete Street*	*108*	*Start/end at SR*	*SR 108*	*Highway 108 to Jacobs and Tannin*	*East Sonora*	*Tier 2*
Groveland							
Groveland Sidewalks Along SR 120 and Feretti Rd	*Sidewalks*	*120*	*Along route*	*SR 120, Ferretti Rd*	*SR 120, Ferretti Rd*	*Groveland*	*Tier 1*
Groveland Tioga High School Trail	*Multi-Use Trail*	*120*	*Start/end at SR*	*SR 120*	*SR 120 to Tioga High School*	*Groveland*	*Tier 2*
Groveland Tenaya Elementary School Trail	*Multi-Use Trail*	*120*	*Along route*	*SR 120*	*Ferretti Rd to Tenaya Elementary*	*Groveland*	*Tier 2*
Jamestown							
Jamestown Community Connectivity	*Sidewalks, Multi-Use Trail*	*108/49*	*Crosses SR*	*Jamestown*	*Willow St to SR 108 / 49*	*Jamestown*	*ATP Ready*
Jamestown SR 108/49 Complete Streets	*Crossings*	*108/49*	*Intersections*	*Jamestown*	*SR 49/108*	*Jamestown*	*Tier 1*

Active Transportation Programs and Recommendations

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6. ACTIVE TRANSPORTATION PROGRAMS AND RECOMMENDATIONS

Comprehensive active transportation initiatives involve more than simply construction projects. The Safe Routes to School National Partnership outlines a strategy for getting more people to regularly walk, bicycle, and use other methods of non-motorized transportation including a wheelchair, non-motorized scooter, or skateboard. The Safe Routes Partnership promotes 6 E's: Education, Encouragement, Engagement, Engineering, Evaluation, and Equity. Each of the 6 E's can be applied to further the goals of this Active Transportation Plan. This section focuses on the 5 E's not addressed in previous sections: Education, Encouragement, Engagement, Evaluation, and Equity. Engineering was included in the construction projects outlined in Section 5.

6.1 Engagement

The Safe Routes to School National Partnership recommends that all Safe Routes to School initiatives should begin by listening to students, families, teachers, and school leaders and working with existing community organizations, and build intentional, ongoing engagement opportunities into the program structure. Engagement is essential to all active transportation projects, including plans and studies.

6.2 Education

Students in Tuolumne County will benefit greatly from active transportation safety education. According to community input, many residents felt uneasy walking or biking. Most parents who participated in the School Surveys were "very concerned" about the safety of letting their children walk or bike to school. and the California Active Transportation Resource Center (ATRC) proposes classroom education, assemblies, bike rodeos, mock cities and traffic gardens, walking field trips, and group skill rides to educate and engage students in active transportation.

In addition to aiding students, safety education will be valuable in the long-term as the region's population ages and becomes reliant on public transportation.

Another potential need is driver education regarding safety laws and awareness of multimodal users. If electric bicycles and scooters become more commonly used in the County, Local Transportation funds may be used to buy TV commercials that teach drivers how to share roadways with these users.

6.3 Encouragement

Community driven events aid in encouraging greater use of active transportation methods. The bike rodeo sponsored by the local Motherlode Bicycle Coalition in conjunction with the California Highway Patrol, Sonora Cyclery, and Sonora Chrysler Dodge Jeep Ram Dealership teaches bike handling skills to children ages 5 and up, along with basic bike maintenance skills and helmet donations. A similar program for adults and children aged 16 and higher is ran in parallel with the bike rodeo. Motherlode Bicycle Coalition advertised the bike rodeo through fliers sent to local schools, and community coverage in the form of press releases.

Community bike events like these prompt participants to be mindful of their own bike handling abilities, as well as the physical state of their bike. Understanding the limitations of the bike may also help prevent future collisions or accidents. Newer or younger bike riders will build better habits in ensuring the components, especially the brakes, are in functioning condition. Moreover, they will also learn how to maneuver hazards in a confident manner.

These events do not require many resources to run or participate in. Safe Routes Partnership, a national non-profit, publishes a check-list

guide that advises how to setup and run a bike rodeo or equivalent event.

The Statewide Active Transportation Program and federal Safe Routes to School program (SRTS) all offer opportunities to acquire funding for education and encouragement. These programs seek to eliminate hurdles for children that walk or bike to school, whether they are caused by infrastructure and non-infrastructure factors.

6.3.1 Encouragement Examples Elsewhere

The city of Santa Barbara holds a month-long encouragement event in May called "CycleMAYnia". This bicycling focused event is led by Traffic Solutions in collaboration with different organizations, agencies, businesses, and community volunteers from Santa Barbara County. CycleMAYnia organizes 40 bike rides and events for participants of all age and skill groups.

Additionally, the city of Santa Barbara hosts a month-long bike challenge that invites teams of cyclists to compete for points gained by commuting to work by bicycle. Points accrued go towards earning donations for a team's chosen non-profit organization.

The City of Portland hosts a program called Sunday Parkways, which consists of a series of five free events opening the city's largest public space - its streets - to walk, bike, roll, and discover active transportation while fostering civic pride, stimulating economic development, and representing Portland's vitality, livability, and diversity. Each event takes place on a different Sunday in a different section of the City, along a designated route.

The Los Angeles Department of Transportation presents useful information about walking and biking in the City to residents through their Livable Streets website (https://ladotlivablestreets.org/). Hosting a community blog containing safety education and encouragement projects helps centralize information on past and upcoming events for the public to see.

6.3.2 Open Streets Initiatives

Since 1974 the city of Bogotá, Colombia closes off certain main streets to cars and other motor vehicles every Sunday from 7 am to 2pm. This event, Ciclovía ("Bike ways" in English), invites residents to use the newly freed space for leisure, whether they be biking, walking, or otherwise. Today, event infrastructure allows upwards of 1 million people to attend. This concept has been copied in other countries to positive reaction under the more generalized name Open Streets and can be scaled to the appropriate population or space size.

6.4 Evaluation

The creation of safety programs is one vital step towards improving bicycle and pedestrian habits. These programs benefit from pairing with local agencies (e.g. law enforcement departments), as well as from gathering and tracking public opinions or thoughts on the programs. Data collection in the form of surveys or questionnaires following events will support improvements of the programs in the future. Questions such as "Does your child utilize their bike more often after attending a Bike Rodeo?", or "Do you or your child feel confident in riding your bike with traffic?" could be asked in post-event questionnaires.

Classroom bicycle and pedestrian tallies, parent surveys, and bike/ped counts can help determine program success by quantifying increases in walking and biking. Examining collision data lends insight into the long-term effectiveness of safety programs.

However, as Tuolumne County is primarily rural with a low population, examining data from these methods may not verify the effectiveness of education and encouragement programs. Rather, objective results may require several years of data to best understand improvements in safety made by education and encouragement programs.

6.5 Equity

Disadvantaged communities tend to be the most dependent on active transportation and transit to connect them to economic opportunities and resources. Low-income Californians have the

highest rates of walking and bicycling, including walking to and from transit. Engaging disadvantaged communities is vital. Agency staff must support real, meaningful community engagement for both governmental and organizational decision-making, projects, and programs.

The ATRC recommends the following steps toward addressing equity and engaging disadvantaged communities in active transportation efforts:

- Involve the community in the planning process by partnering with local not-for-profit and/or community groups.
- Provide opportunities to meet and talk in informal settings, such as local community centers, religious centers, coffee shops, etc., in addition to government offices.
- Consider 'piggybacking' onto existing or ongoing local events.
- Carefully evaluate the use of technology in community engagement to not exclude anybody.
- Share information and announcements in ways that people actually receive information, which may include posting fliers, connecting to community networks, using social media, and other outreach methods.
- Provide opportunities for residents to participate during weekday and weekend times.
- Host events at schools when parents can drop by after picking up their children.
- Provide childcare at meetings or make events family friendly.
- Give surveys in multiple languages and consider the needs of people who are blind or have low vision and those who are deaf or hard of hearing. Anticipate diverse reading levels.
- Host pop-ups that include demonstration projects for more interactive engagement.

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Funding

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7. FUNDING

Competitive grant programs make up the bulk of funding sources for bicycle and pedestrian projects. However, some regions utilize regular formula funding to construct or supplement active transportation projects. Projects that receive funding typically have well developed foundations, have robust community support, and are priority projects in the region.

7.1 Federal

Most Federal funding sources are administered through the Federal Highway Administration (FHWA). Many of these programs allocate funds to state level agencies for regional and local distribution. The Federal Transit Administration and various non-profit organizations also provide funding and technical assistance for non-motorized facilities and programs.

7.1.1 Congestion Mitigation and Air Quality (CMAQ)

The Congestion Mitigation and Air Quality (CMAQ) program is an FHWA-administered program that provides funding for projects that will contribute to the attainment or maintenance of national air quality standards for ozone, carbon monoxide, and particulate matter. Although primarily used for transit and alternative fuels projects, Tuolumne County receives a small amount of CMAQ funding annually for active transportation projects. Tuolumne County's small annual CMAQ apportionment usually needs to be saved up over multiple cycles in order to make a viable project.

7.2 State

Various State of California agencies administer state funding sources including Caltrans and the California Transportation Commission. Revenue is generated through gas tax proceeds and allocated to the States transportation funding programs, including the Active Transportation Program.

7.2.1 Active Transportation Program (ATP)

The Active Transportation Program (ATP) is a statewide competitive funding program and is the main expected source of funds for active transportation projects in this Plan. ATP finding is sourced through Senate Bill 1 (SB1), leveraging $100,000,000 of revenues annually from the Road Maintenance and Rehabilitation Account. The amount of funds to be allocated in Cycle 5 (2021) is expected to be $450,000,000 statewide.

SB 1, passed in 2017, increased the gas tax and directs an additional $100 million each year to the Active Transportation Program, or about $223 million annually. The distribution of funds is highly competitive and is managed with the guidance of the ATP Program Guidelines developed by the California Transportation Commission (CTC). Funds are distributed using a competitive basis and eligible recipients submit applications to the CTC based on the following categories:

- 50% to the State for statewide competitive program
- 40% to Metropolitan Planning Organizations (MPO) in urban areas with populations greater than 200,000 for large urbanized area competitive programs
- 10% to small urban and rural regions with populations of 200,000 or less for small urban and rural area competitive programs

Tuolumne County is a rural county, and therefore eligible for the 60% of ATP funds available for small urban/rural and statewide projects. Due to the highly competitive nature of this grant program, 17 applications have been submitted for projects in Tuolumne County and only 1 project was awarded funding. However, the California Transportation Commission worked with stakeholders to revise the program guidelines for Cycle 5 to make rural projects more competitive. This should help Tuolumne County projects have a better shot at funding than previous cycles.

7.2.2 STIP

The State Transportation Improvement Program (STIP) is a five-year capital improvement program for transportation projects funded with revenues from the Transportation Investment Fund and other sources. The STIP is updated and adopted by the California Transportation Commission (CTC) every two years. The STIP programming cycle begins with the release of a fun estimate in July of odd-numbered years and adoption typical occurs in August. The fund estimate identifies the amount of new funds available for the programing of transportation projects. After the fund estimate is adopted, regional transportation planning agencies (RTIPAs) prepare a Regional Transportation Improvement Program (RTIP) for 75% of the statewide funding and submit is to the CTC.

7.2.3 Local

The Tuolumne County Transportation Council (TCTC) and local agencies support the development of active transportation projects through many funding methodologies defined in this section. Focused planning studies are encouraged by TCTC to ensure strategic planning and community input define the scope and goals of projects.

Local Transportation Fund

The Tuolumne County Transportation Council allocates 5% of the anticipated Local Transportation Funds (LTF) each year to the Pedestrian/Bicycle Facilities LTF Reserve for future projects. Only 2% is required to be allocated for bicycle and pedestrian projects.

Regional Surface Transportation Program

The Tuolumne region receives a portion of the Federal gas tax through a State of California exchange program. These funds, known as the Regional Surface Transportation Program funds are programmatically flexible and should be considered for the development of active transportation projects.

County of Tuolumne Policies and Funding

The Tuolumne County Board of Supervisors established a new policy regarding including bicycle and pedestrian improvements in local road projects. The Board also recently voted to significantly enhance Standard Road.

Policy 4.B.2 of the Policy & Implementation Programs of the General Plan states that the County shall expand and improve pedestrian sidewalks and facilities with a focus on safety, connectivity, and accessibility. This policy was adopted to implement the goal of encouraging alternate means of transportation by providing safe bicycle and pedestrian facilities within urban development boundaries.

The Board of Supervisors directed staff to incorporate multi-modal elements into the Standard Road Reconstruction Project. The Board voted unanimously to direct staff to apply for Active Transportation Program (ATP) funding and change the scope of the project to include Class II bike lanes to the planned reconstruction of Standard Road, in addition to Americans with Disabilities Act (ADA) improvements.

Transportation Impact Mitigation Fee

The current countywide Traffic Impact Mitigation Fee (effective July 1, 2017) establishes fees based on development type and size. The program should be modified to include specific fees and measures to fund bicycle and pedestrian improvements that improve access to development, mobility, and contribute to reducing vehicle miles traveled. Additionally, the exemptions in the fee program include service and public facilities that would benefit from active transportation access improvements. These exemptions should be evaluated with a cost benefit analysis and reconsidered.

Trail Me About It Fund

Trail Me About It is a local grant making program designed to support small scale improvements driven by community or social service organizations. Improvements may include trail planning, construction, maintenance, interpretive signage, trail maps and brochures, amenities, and access improvements. The Fund is managed by the Sonora Area Foundation.