Amador Countywide Pedestrian and Bicycle Plan

Adopted October 5th, 2017

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Amador County Transportation Commission

Acknowledgements

2017 Pedestrian and Bicycle Plan Committee

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1. Introduction

The Amador Countywide Pedestrian and Bicycle Plan is an effort by the Amador County Transportation Commission (ACTC) in coordination with other member agencies to update the 2006 Amador Countywide Pedestrian and Bicycle Plan with the goal to make walking and biking safer and easier in Amador County. The plan is available to be used as an advisory plan and technical resource for Amador County and the cities of Sutter Creek, Jackson, Ione, Amador City, and Plymouth. The Project List is a summary of projects that the local jurisdictions can use to prioritize pedestrian and bicycle improvements, seek grant funding, and work with the development community as General Plans and zoning maps are developed.

The plan serves two purposes: (1) To be the foundation for the pedestrian and bicycle component of the Regional Transportation Plan (RTP). (The RTP is the long-range transportation plan which is updated every four to five years that guides the development of the overall transportation system in the county. The last RTP was published in 2015 and work is underway for the next update). (2) To organize high-priority pedestrian and bicycle projects among Amador County's member agencies to successfully compete for funding from federal, state, and regional sources. In particular, this plan aims to increase the chance that priority projects will obtain funding from the California Transportation Commission's Active Transportation Program, the primary construction funding source for pedestrian and bicycle projects.

An Active Transportation Plan or Pedestrian and Bicycle Plan must be coordinated with neighboring jurisdictions and be consistent with local and regional transportation plans. This plan has been prepared under the guidance of ACTC's member agencies including Amador City, City of Sutter Creek, City of Jackson, City of Plymouth, City of Ione, and Amador County. Projects that are identified in the plan are consistent with the Amador County General Plan (2016), Regional Transportation Plan (2015), California State Bicycle and Pedestrian Plan (2016), Amador City General Plan (198, City of Ione General Plan, City of Plymouth Circulation Plan and Street Development Impact Mitigation Fee Update, City of Jackson TCIP/TIM Fee Update and Nexus Report Draft, and the City of Sutter Creek General Plan.

Pursuant to the Complete Streets Act, an Active Transportation Plan must include certain components or explain why they are not applicable. The required components of an Active Transportation Plan, and their location in this document, are as follows:

Component	**Section**
The estimated number of existing bicycle trips and pedestrian trips in the plan area, both in absolute numbers and as a percentage of all	Ch. 4 (4.1)

trips, and the estimated increase in the number of bicycle trips and pedestrian trips resulting from implementation of the plan.	
The number and location of collisions, serious injuries, and fatalities suffered by bicyclists and pedestrians in the plan area, both in absolute numbers and as a percentage of all collisions and injuries, and a goal for collision, serious injury, and fatality reduction after implementation of the plan.	Ch. 4 (4.2) Ch. 1 (1.1)
A map and description of existing and proposed land use and settlement patterns which must include, but not be limited to, locations of residential neighborhoods, schools, shopping centers, public buildings, major employment centers, and other destinations.	Ch. 1 (1.2)
A map and description of existing and proposed bicycle transportation facilities, including a description of bicycle facilities that serve public and private schools and, if appropriate, a description of how the five E's (Education, Encouragement, Enforcement, Engineering, and Evaluation) will be used to increase rates of bicycling to school.	Ch. 4 (4.1) Appendix B
A map and description of existing and proposed end-of-trip bicycle parking facilities.	Appendix C Appendix B (within maps)
A description of existing and proposed policies related to bicycle parking in public locations, private parking garages and parking lots and in new commercial and residential developments.	Ch. 4 (4.1) Ch. 7 (7.2)
A map and description of existing and proposed bicycle transport and parking facilities for connections with and use of other transportation modes. These must include, but not be limited to, bicycle parking facilities at transit stops, rail and transit terminals, ferry docks and landings, park and ride lots, and provisions for transporting bicyclists and bicycles on transit or rail vehicles or ferry vessels.	Ch. 4 (4.1) Ch. 6 (Proposed Projects) Appendix B
A map and description of existing and proposed pedestrian facilities**,** including those at major transit hubs and those that serve public and private schools and, if appropriate, a description of how the five E's (Education, Encouragement, Enforcement, Engineering, and Evaluation) will be used to increase rates of walking to school. Major transit hubs must include, but are not limited to, rail and transit terminals, and ferry docks and landings.	Ch. 4 (4.1) Ch. 6 (Proposed Projects) Appendix B
A description of proposed signage providing wayfinding along bicycle and pedestrian networks to designated destinations.	Ch. 6 (Proposed Projects)

A description of the policies and procedures for maintaining existing and proposed bicycle and pedestrian facilities, including, but not limited to, the maintenance of smooth pavement, ADA level surfaces, freedom from encroaching vegetation, maintenance of traffic control devices including striping and other pavement markings, and lighting.	Ch. 7 (Implementation)
A description of bicycle and pedestrian safety, education, and encouragement programs conducted in the area included within the plan, efforts by the law enforcement agency having primary traffic law enforcement responsibility in the area to enforce provisions of the law impacting bicycle and pedestrian safety, and the resulting effect on collisions involving bicyclists and pedestrians.	Ch. 3 (3.4.1 & 3.4.2)
A description of the extent of community involvement in development of the plan, including disadvantaged and underserved communities.	Ch. 5 (Public Outreach)
A description of how the active transportation plan has been coordinated with neighboring jurisdictions, including school districts within the plan area, and is consistent with other local or regional transportation, air quality, or energy conservation plans, including, but not limited to, general plans and a Sustainable Community Strategy in a Regional Transportation Plan.	Ch. 1 (Introduction)
A description of the projects and programs proposed in the plan and a listing of their priorities for implementation, including the methodology for project prioritization and a proposed timeline for implementation.	Ch. 6 (List of Projects)
A description of past expenditures for bicycle and pedestrian facilities and programs, and future financial needs for projects and programs that improve safety and convenience for bicyclists and pedestrians in the plan area. Include anticipated revenue sources and potential grant funding for bicycle and pedestrian uses.	Ch. 4 (4.3) Appendix B Ch. 7 (7.2)
A description of steps necessary to implement the plan and the reporting process that will be used to keep the adopting agency and community informed of the progress being made in implementing the plan.	Ch. 7 (7.3)
A resolution showing adoption of the plan by the city, county or district. If the active transportation plan was prepared by a county transportation commission, regional transportation planning agency, MPO, school district or transit district, the plan should indicate the support via resolution of the city(s) or county(s) in which the proposed facilities would be located	Appendix F

1.1 Goals and Objectives

Goal 1. Promote an efficient network of bikeways and pedestrian facilities throughout Amador County.

Objective 1a. Focus countywide pedestrian and bicycle funding to improvements that provide access to key destinations including schools, downtowns, transit, regional parks, commercial areas, healthcare facilities, and community services.

Objective 1b. Provide technical assistance to local jurisdictions for the implementation of pedestrian and bicycle projects of countywide significance that create continuous facilities and eliminate major physical barriers or impediments.

Objective 1c. Collaborate with Caltrans and other local agencies to implement pedestrian and bicycle infrastructure (such as shoulder widening) of regional significance.

Objective 1d. Encourage and support construction of “complete streets” throughout Amador County that incorporate best practices in pedestrian and bicycle design and minimize conflicts between pedestrians and other travel modes.

Objective 1e. Support local agency compliance with provisions related to public access of the Americans with Disabilities Act, Manual on Uniform Traffic Control Devices, and other relevant guidance documents.

Goal 2: Improve bicyclist and pedestrian safety and security.

Objective 2a. Collect and analyze data on traffic collisions involving pedestrians and cyclists to determine trends, hot spots, and impacted areas and use this information to guide planning and funding decisions to focus on areas with greatest safety threats.

Objective 2b. Prioritize safety of vulnerable users in roadway design and promote pedestrian and bicycle projects in areas that significantly address safety and security concerns.

Objective 2c. Provide consistent, accessible, and universal education regarding the rights and responsibilities of all roadway users.

Objective 2d. Address systemic risks on local roads by applying low cost safety countermeasures.

Objective 2e. Increase targeted enforcement at locations prone to speeding and other forms of aggressive driving.

Objective 2f. Reduce the number, rate, and severity of bicycle and pedestrian involved collisions in Amador County.

Goal 3: Integrate pedestrian and bicycle needs into transportation planning activities, and support local planning efforts to encourage and increase walking and biking.

Objective 3a. Pursue internal and external partnerships to address bicycle and pedestrian needs in project implementation, maintenance and preservation. (Potential partnerships include Caltrans, Amador County Recreation Agency, Eldorado National Forest, CAL FIRE, Indian Grinding Rock State Historic Park, Bureau of Land Management, Motherlode Land Trust, and the Amador Council of Tourism).

Objective 3b. Develop policies to oversee the Pedestrian and Bicycle funding account in order to prioritize projects included in the Pedestrian and Bicycle Plan. Active transportation projects should be considered regionally, with equal opportunity given for project development in unincorporated areas of the County as well as the incorporated cities.

Objective 3c. Integrate priorities from the Pedestrian and Bicycle Plan into the Regional Transportation Plan updates for Amador County.

Objective 3d: Support low-stress or separated bicycle and trail routes for tourism, recreation, and utilitarian transportation, where feasible.

Objective 3e: Support efforts to integrate land use and transportation planning to maximize effectiveness of active transportation investments.

Objective 3f: Work with local partners such as the Amador Council of Tourism, Amador County Recreation Agency, and major recreation landholders to integrate trails and local bicycling and walking networks to produce user maps that support walking and bicycling based tourism.

Goal 4: Maximize capacity for implementation of pedestrian and bicycle projects, programs, and plans.

Objective 4a: Compete for maximum funding for pedestrian projects and programs from countywide, regional, state, and federal sources and also attract funding from private and non-traditional sources.

Objective 4b: Provide timely information on funding opportunities to local jurisdictions and provide assistance in submitting applications for project funding.

Objective 4c: Collaborate with local agencies and others to identify and secure additional sustainable funding streams for the maintenance of pedestrian infrastructure.

Objective 4d: Develop and maintain a list of diverse pedestrian and bicycle projects throughout the county to position Amador County to maximize funding opportunities as they arise.

Objective 4e: Maintain bicycle and pedestrian infrastructure location data in the ACTC Geographic Information System (GIS) database.

Objective 4f: Coordinate with local partners such as Public Health, California Highway Patrol (CHP), and local police departments to promote pedestrian and bicycle safety education and enforcement programs.

1.2 Amador County Setting

Amador County is located approximately 35 miles southeast of Sacramento on the western slope of the Sierra Nevada mountain range. Amador County is part of California's historic Mother Lode region, which was settled by non-Native Americans during the early 1850's Gold Rush era. Many of the Region's roadways, especially those in historic cities such as Sutter Creek, Amador City, and Jackson were laid out by these early miners and settlers.

At approximately 593 square miles in size, Amador County is one of the smallest counties in the State of California. The County's elevation ranges from a low of 250 feet in the County's western foothills to a high of more than 9,000 feet in mountainous peaks of the Sierra Nevada on the County's eastern boundary. The County has an estimated population of 36,995[1]. The majority (60%) of the County's population lives in rural unincorporated areas of the County. Geographically, the County can be divided into two physiographic divisions referred to locally as the "Foothills" and "Upcountry" areas. The lower elevation foothill areas in the western portion of the County are typified by rolling hills with extensive rangelands and oak woodlands. The Foothills contain most of the County's population, which is generally concentrated within or around the County's five incorporated cities: Ione, Amador City, Plymouth, Sutter Creek, and Jackson (the County Seat). The Foothills also contain several small, unincorporated communities such as Camanche, Buena Vista, Fiddletown, Drytown and River Pines. Another important foothill community, Martell, is an unincorporated area between the cities of Sutter Creek and Jackson that is generally being developed as a commercial and industrial "Regional Service Center". The higher elevation Upcountry area in the eastern portion of the County is largely typified by a forested landscape that is bisected with steep canyons and sweeping ridge tops. The Upcountry area contains several unincorporated communities: Pine Grove, Volcano, Pioneer, Buckhorn, and Kirkwood, as well as large tracts of rural-residential housing that are dispersed throughout the area. Upcountry areas outside of rural-residential ownership are predominantly comprised of public and private forest lands that are typically managed for timber production or for watershed and recreational values. Most non-residential lands Upcountry are owned by industrial timber companies such as Sierra Pacific Industries or are under the jurisdiction of the U.S. Forest Service. The Upcountry area also contains numerous

[1] 2011-2015 American Community Survey (ACS) 5-year Population Estimates

resorts and high-use recreational destinations such as Plasse's Resort and Kit Carson Lodge at Silver Lake, Bear River Reservoir, Indian Grinding Rock State Historic Park, El Dorado National Forest, and Kirkwood Ski Resort. Below are maps of the proposed land use and settlement patterns as well as two maps that demonstrate the locations of key destinations within Amador County including: schools, shopping centers, public buildings, major employment centers, and other destinations.

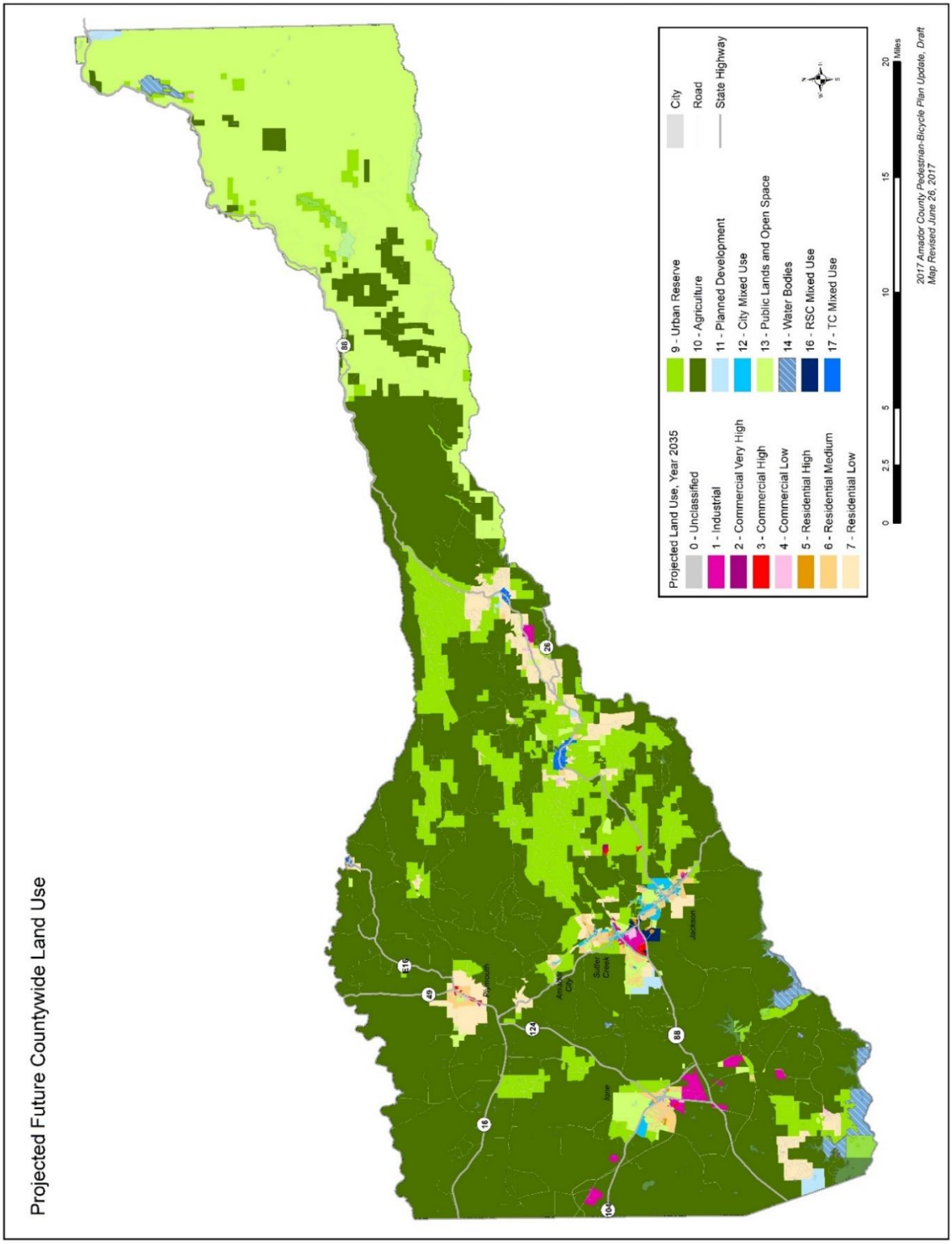

Figure 1.Projected Future Land Use of Amador County

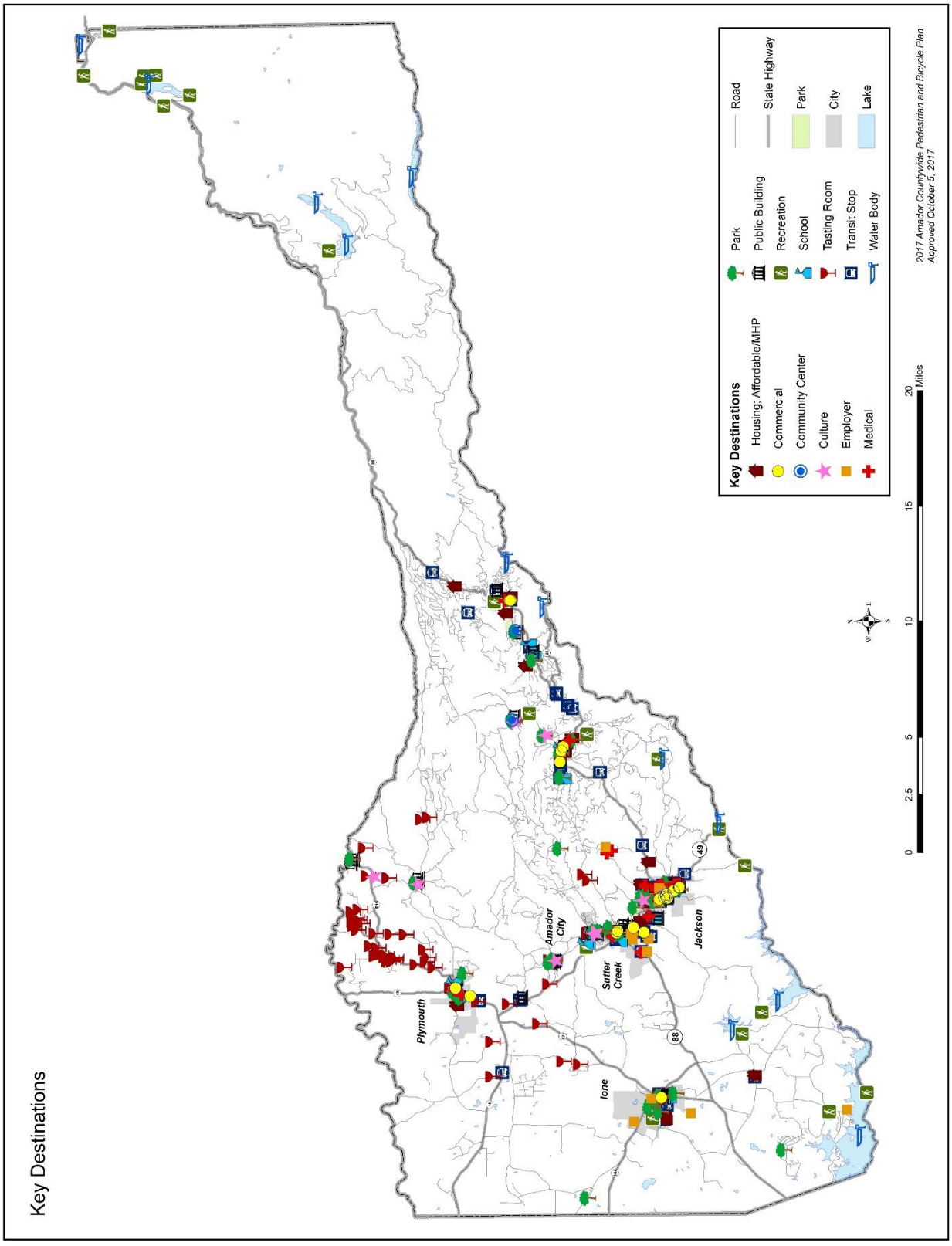

Figure 2. Key Destinations in Amador County

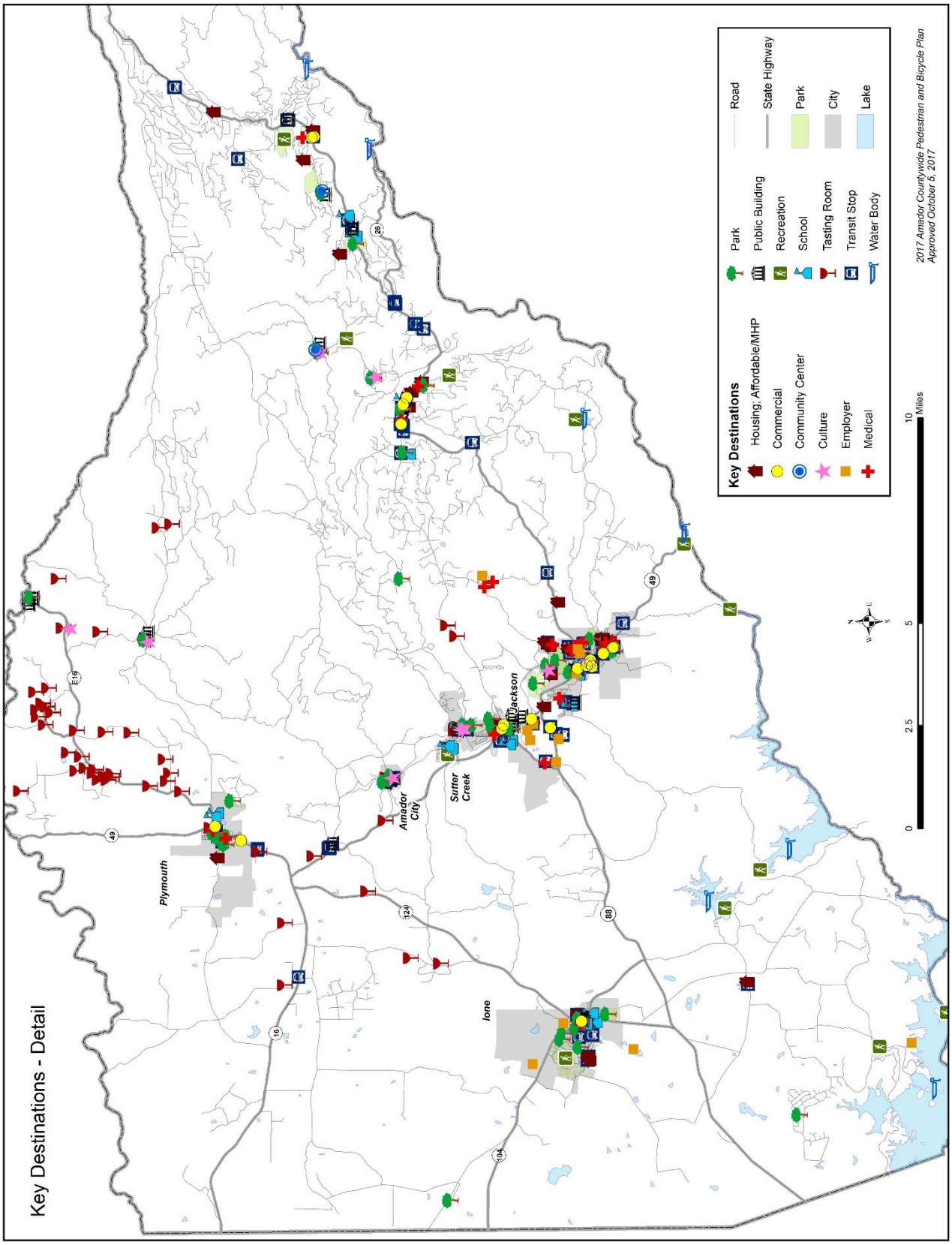

Figure 3. Key Destinations in Amador County- Detail

2. Benefits of Active Transportation Investments

In the United States, the demand for walking and biking facilities, or active transportation, has increased. The following is a summary of the various benefits to investing in active transportation infrastructure which are described in the following sections.

- Safety: Traffic calming and reduced collisions sites.
- Public Health: Improvements to health and wellness such as reduced obesity rates and decreased risk for cardiovascular disease.
- Environmental: Provides access for residents to enjoy the natural environment while reducing greenhouse gas emissions which results in better air quality,
- Economic: Benefits to local downtowns and businesses, increased home values, and major contributor to tourism industry.
- Transportation Options for Disadvantaged Communities: Pedestrian and bicycle infrastructure provide low cost transportation options for disadvantaged communities thereby reducing living costs.

Walking and bicycling, for transportation purposes, have experienced a significant increase in popularity over the years. In 2000, the share of people walking, biking, and taking public transit in California was only 11%. By 2013 it had more than doubled to 23% according to the California Household Travel Survey (CTP 2040, 53).

Due to Amador County's higher than average age demographic and popularity as a retirement region, it is important to develop safe walking areas for seniors. Regular moderate exercise such as walking has been identified as a crucial strategy to improve health for all, and particularly for senior populations. Researchers agree that inactive seniors are at increased risk for falling and developing chronic health conditions such as cardiovascular disease and diabetes, and generally experience a lower quality of life than their active counterparts[2]. Research suggests that it is important that seniors be supported by an amenable physical, social and cultural environment that allows for easy and safe access to walking at venues close to seniors homes. In a study that identified barriers to walking for seniors, it was found that traffic hazards, fall hazards, and crime are the biggest barriers to walking for seniors such as the lack of sidewalks and pedestrian connections. The greatest facilitators to walking identified in the

[2] Edwards, N., Lockett, D., and Willis, A.. "Through Seniors' Eyes: An Exploratory Qualitative Study to Identify Environmental Barriers to and Facilitators of Walking". C*anadian Journal of Nursing Research.* (2005). Vol 37.3, 48-65. (Edwards, Lockett, and Willis, 49)

same study were availability of places to sit, aesthetic qualities, easy access, and availability of washrooms.

In addition, younger generations are driving less than prior generations and prefer multi-modal options such as walking, biking, car-sharing and public transit to meet their transportation needs[3]. From 1995 to 2009, the percent of autos driven by 21-30 year olds declined from 20.8 percent to 13.7 percent, according to the Federal Highway Administration's 2010 Household Travel Survey. According to American Community Survey (ACS) 5-year estimates, Amador County is home to approximately 5,156 millennials[4] (14% of the total population). Regardless of age, the demand for pedestrian and bicycle infrastructure is increasing.

2.1 Safety Benefits

Pedestrian and bicycle improvements have significant safety benefits for communities. According to a study by the University of North Carolina Highway Safety Research Center conducted for the Federal Highway Administration the likelihood of a site with a paved sidewalk being a crash site is 88.2 percent lower than a site without a sidewalk[5] (this is particularly important to consider in high pedestrian- use areas such as school zones and commercial cores).

Similarly, studies have found that roads with bicycle infrastructure result in safety benefits. One study found that streets with protected bike lanes saw 90 percent fewer injuries per mile than those with no bike infrastructure[6]. Nearly all safety benefits from bicycle infrastructure discussed in research are credited to a protected or separated bicycle lane. Literature agrees that current and potential bicycle riders prefer protected or separate bike lanes for transportation purposes.

2.2 Public Health

Active transportation options are well known for their health benefits to reduce blood pressure, the risk of heart disease, and obesity. In addition, research suggests there are mental and psychological benefits that come with having a safe and pleasant place to walk or bike to enjoy the outdoors and interact with others.

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[3] Filisko, G.M. "How Millennials Move: The Car-Less Trend". National Association of Realtors. August 2, 2012. Accessed online August, 2016. http://www.realtor.org/articles/how-millennials-move- the-car- less-trends. (Filisko, 2012 and Moore, 2014)

[4] ACS 2011-2015 5 Year Estimates: Amador County Population between Ages 20-35

[5] McMahon et al., 2002. An Analysis of Factors Contributing to "Walking Along Roadway Crashes": Research Study and Guidelines for Sidewalks and Walkways. US Department of Transportation Federal Highway Administration. Pedestrian and Bicycle Safety Research Program. February, 2002. McLean, VA (McMahon et al., 2002)

[6] Teschke, K., et al. Route Infrastructure and the Risk of Injuries to Bicyclists: A Case-Crossover Study. American Journal of Public Health. Volume 102, Issue 12. December, 2012. (Teschke, K., et al., 2012)

Obesity, especially childhood obesity, has become a national issue of concern. According to a national study by the Safe Routes to School National Partnership, childhood obesity rates are even higher in rural communities, with 40-50% of children in rural areas overweight or obese, meaning rural children are 25% more likely to be overweight than urban children[7].

According to a 2014 community assessment of Amador County (prepared by First 5), between the years of 2001 to 2011, the prevalence of Amador County obesity increased from approximately 25% to 35%[8]. The Supplemental Nutrition Assistance Program Education (SNAP-Ed) found that the rate of overweight/obesity is 64%, with 27% of those being obese for Amador County and other small, rural counties in the area (Alpine, Calaveras, Inyo, Mariposa, Mono, and Tuolumne). The average overweight/obesity rate in 2017 for Amador, Tuolumne, Calaveras, Mariposa, Mono, and Inyo county children between ages 12-17 is 42%[10]. Countywide, the rate of diabetes is 10% for Amador (versus 8% for the state as a whole)[14].

First 5's Community Assessment also found that from 2006-2010, Amador students were more overweight, especially compared to peers in other demographically similar areas[13]. In 2015, Amador County's overweight and obese student rate for 5th, 7th, and 9th graders was 32.8%, 28.2%, and 32.6% respectively, 3-6% higher than Tuolumne County averages and slightly below state averages[9].

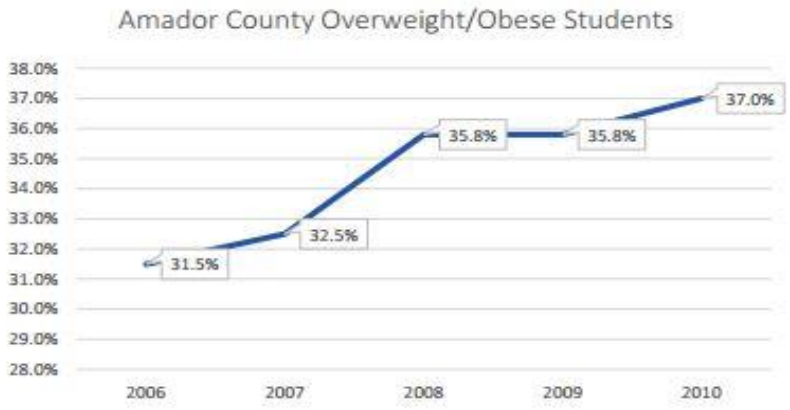


Figure 4. Amador County Overweight/Obese Students Percent Change from 2006 to 2010

[7] National Safe Routes to School Partnership Quick Facts. http://www.saferoutespartnership.org/healthy-communities/101/facts. Accessed online April, 2017.
[8] Amador County Community Assessment. First 5 Amador. August 2014.
[9] Tuolumne County Community Health Assessment: 2017-2019. Sonora Regional Medical Center. 2016.

Safe Routes to School infrastructure has been shown to increase physical activity in children by 20% to 200%10. Currently, Amador County schools lack completely safe routes to school and are in need of significant sidewalk and crossing improvements.

2.3 Environmental Benefits

The 2040 California Transportation Plan (CTP) calls for GHG emission reductions as required by state law (AB 32, SB 375, and SB 32) by setting the following targets: reduce GHG emissions to 1990 levels by 2020, 40% below 1990 levels by 2030, and 80% below 1990 GHG levels by 2050. According to the 2040 CTP, currently 15% of California auto trips are less than one mile, and 70% are less than 10 miles. This demonstrates that if a modest number of these were replaced with biking or walking, the state could dramatically reduce GHG emissions and improve public health[11].

The State identified increased bicycle and pedestrian transportation as an important strategy to meet California's GHG targets and therefore committed an average of $120 million a year[17] in federal and state funds to increase active transportation as well as additional funds from cap and trade revenue. Since then the State has passed the 2017 Road Repair and Accountability Act, Senate Bill 1, which provides an additional $100 million a year to the Active Transportation Program.

2.4 Economic Benefits

Pedestrian and Bicycle facilities are noted for benefiting real estate values, improving character of main streets and local businesses, and increased tourism. Reduced medical costs are also associated with increased access to safe walking and biking facilities.

Caltrans administered a statewide survey to determine the needs and desires for biking and walking as part of the 2016 California State Bicycle and Pedestrian Plan and found that 79% of respondents believe that walkability and bikeability are important in selecting a home; however, only 45% said they could get to their destination by bike safely while 50% think the walking infrastructure is in good condition where they live[12].

[10] Advancing Transportation and Health: Approaches from the Federal Safe Routes to School Program that offer broad application. American Public Health Association. 2012

[11] 20140 California Transportation Plan: Integrating California's Transportation Future. California Department of Transportation (Caltrans). June 2016.

[12] Toward and Active California State Bicycle and Pedestrian Plan. California Department of Transportation. 2017.

One study, in 2009, found that customers who walked and biked a commercial street in Toronto spent more money in the area than those who drove there[13]. Tourism is a primary contributor to the Amador County economy. The retail trade, which has been the County's largest employment sector since early 1990, provides accommodations and food services that also support tourism[14]. Nationwide, estimates show that the spillover of bicycle related activities could be as high as $133 billion including the estimated $46.9 billion that cyclists spend on meals, transportation, lodging, gifts and entertainment[15].

In addition, pedestrian and bicycle improvements create cost effective transportation options for low-income residents. In Amador County, the average percentage of income spent on transportation and housing for a median income family is 57% with approximately 30% spent on transportation[16] which is double that of the statewide average percentage of household budget spent on transportation. This is likely caused by the high Single Occupancy Vehicle (SOV) commuting that is common to Amador County residents. The median commute distance for Amador County is 38.9 miles and 77% of Amador commuters drive alone to get to work[17]. Increased living costs have dramatic effects in rural areas, particularly for transportation. The percent of income spent on transportation costs alone for low-income residents in Amador County equates to 77.5% for very-low income and 38% for a working individual[7]. Increasing walking, biking, and public transit options prove to be valuable strategies to reduce transportation costs for local residents. These options are a valuable economic development strategy to increase residents' ability to pay for goods as well as connect residents to local community services and businesses. Pedestrian and bicycle facilities can benefit disadvantaged communities.

2.5 Disadvantaged Communities

It is important that active transportation options be offered to disadvantaged communities. The state has set a target that a minimum of 25% of the Active Transportation Program funds in the Small Urban and Rural programs must benefit disadvantaged communities.

[13] The Clean Air Partnership. (2009). Bike Lanes, On-Street Parking and Business: A Study of Bloor Street in Toronto's Annex Neighborhood: http://www.cleanairpartnership.org/pdf/bike-lanes-parking.pdf

[14] "Economic Attractors, Conditions, and Trends". Ch. 3: Economic Development (E-4). Amador County General Plan.

[15] Flusche, Darren. Bicycling Means Business: The Economic Benefits of Bicycle Infrastructure. Advocacy Advance League of American Bicyclists and Alliance for Biking & Walking. July, 2012.

[16] Location Affordability Index Model. Department of Housing and Urban Development (HUD) and Department of Transportation (DOT). Amador County Profile for Median Income, Very-Low Income, and Working Individual.

[17] Derived from Amador County MySidewalk Profile. MySidewalk calculates median commute distance using Census LEHD-LODES data based on spatial distributions of workers' employment and residential locations and the relation between the two at the Census block level.

In rural areas, such as Amador County, it can be difficult to identify disadvantaged communities using common data sources. According to the 2017 Adopted Active Transportation Program guidelines, an area must meet at least one of the following criteria to qualify as a disadvantaged community:

- The Median Household Income (Table ID B19013) is less than 80% of the statewide median based on the most current Census Tract (ID 140) level data from the 2010-2014 American Community Survey (<$49,191).
- At least 75% of public school students within two miles of the project area are eligible to receive free or reduced-price meals under the National School Lunch Program.
- 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 2.0 (CalEnviroScreen 2.0) scores (score must be greater than or equal to 36.62).

The following data collection was developed to identify locations within Amador County that would qualify as a Disadvantaged Community to be competitive for Active Transportation Program funds according to Median Household Income, National School Lunch Program eligibility, and the CalEnviroScreen tool.

Median Household Income

According to these guidelines, a community qualifies as a disadvantaged community if its median income is less than 80% of the statewide median. To determine disadvantaged communities within Amador, data was collected for all Census Designated Places (CDP) within Amador County from both the 2010-2014 ACS Community Survey 5 year estimates for Median Income in the past 12 months as well as more recent data from the 2011-2015 ACS 5 year estimates for Median Income in the past 12 months (adjusted to 2015 inflation rates). In addition, an analysis was performed to identify communities in the area that have a higher percentage than the state average (12.2%) of people whose income is below the poverty level. The following table demonstrates which regions within Amador County qualify as disadvantaged, with disadvantaged communities according to the 2017 ATP guidelines criteria highlighted in red. Those that have a median income less than 80% of statewide mean in 2015 and a higher percentage of families whose income is below the State Poverty average of 12.2%, are highlighted in orange.

Table 1 demonstrates that the majority of Amador County cities and communities qualify as a Disadvantaged Community according to the ATP guidelines. Those that qualify include Amador City, Buckhorn, Fiddletown, City of Jackson, Kirkwood, Martell, Pine Grove, Pioneer, City of Plymouth, Red Corral, River Pines, and Sutter Creek.

Table 1. Amador County Qualified Disadvantaged Communities (DAC)

Geography	**Future Scoring Guidelines-Median Income** (2011-2015 ACS 5 Year Estimates Median Income in the Past 12 Months)	**ATP 2017 Guideline Scoring Criteria-Median Income** (2010-2014 5 Year Estimates Median Income in the Past 12 Months)	**% of Families & People Whose Income is Below Poverty Line** (2011-2015 ACS 5 year Estimates)
California	$61,818	$61,489	12.2
DAC Qualification	**≤$49,454**	**≤$49,191**	**≥12.2**
Amador County	$54,171	$52,964	7.0
Amador City	$43,750	$48,750	23.5
Buckhorn CDP	$45,469	$49,583	8.4
Buena Vista CDP	$58,472	$58,419	15.2
Camanche North Shore CDP	$65,231	$77,375	0
Camanche Village CDP	$79,150	$86,176	0
Drytown CDP	-	$77,188	0
Fiddletown CDP	$50,750	$42,500	0
City of Ione	$50,231	$50,617	7.7
City of Jackson	$43,689	$41,745	9.9
Kirkwood CDP	-	$39,375	-
Martell CDP	-	$13,508	0
Pine Grove CDP	$59,375	$48,571	3.7
Pioneer CDP	$46,429	$42,614	0
City of Plymouth	$44,844	$44,531	7.8
Red Corral CDP	$66,125	$30,431	18.4
River Pines CDP	$49,750	$48,285	0
City of Sutter Creek	$40,707	$41,071	8.5
Volcano CDP	-	-	-

California Communities Environmental Health Screening Tool

The California Communities Environmental Health Screening Tool (CalEnviroScreen) is a screening methodology that can be used to help identify California communities that are disproportionately burdened by multiple sources of pollution. The tool ranks communities from 1%, least polluted, to 100%, most polluted. However it has been criticized for deficiencies in its capacity to recognize disadvantaged communities, particularly in rural areas. According to the most recent update of the Cal Enviro Screen Tool 3.0, Amador County regions are between the 16-55 percentiles of California pollution scores. The western portion of the county, which includes Ione, Camanche, and areas near Jackson, Martell, and the rural midway between Jackson to Pine Grove have the highest (most polluted) ranking in the county, falling between 50-55% whereas the Upcountry or eastern portions of the County primarily rank from 31-35%[18].

National School Lunch Program Qualifications

Table 2 demonstrates the percentage of students that are eligible for the National Free or Reduced Price Meal Program (FRPM) as of 2015-2016 within Amador County. According to the 2017 ATP Guidelines, to be considered a disadvantaged community, a school must have 75% or more of their student population eligible for free or reduced price meals. In 2015-2016 the only school that qualified in Amador County was Independence High School. Therefore projects in the Martell region that improve connectivity and access to Independence High School could be prioritized.

In summary, many Amador County citizens have expressed interest in improving bicycle and pedestrian facilities. According to the 2015 Amador County Recreation Agency's Master Plan and Needs Assessment, the most popular request for new facilities by County residents are "more opportunities to walk and bicycle" (ACRA Needs Assessment, 93). The same study found that the types of trails that should have the highest priorities in Amador are off-street and multi-use paved trails that "connect neighborhoods with community destinations", followed by nature trails (ACRA Master Plan). Responses received support the demand and need for pedestrian and bicycle improvements within Amador County to improve mobility, enhance access to local businesses, reduce obesity rates, and reduce local GHG emission levels by providing alternative transportation options for residents.

These demands for active transportation facilities are only expected to increase into the future.

[18] CalEnviroScreen Tool: https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-version-20

Table 2. Amador County Qualified Disadvantaged Schools

School	**% Eligible for FRPM [19] (2015-2016)**	**% Eligible for FRPM (2014-2015)**
Amador County Special Education*	74.5%	69.7%
Independence High School	85.5%	75.6%
North Star Independence Study	52.9%	46.8%
Amador High	39.5%	34.4%
Argonaut High	37.3%	32.7%
Ione Elementary	49%	45.2%
Jackson Elementary	58.1%	54.6%
Pine Grove Elementary STEM Magnet	47.2%	43.9%
Pioneer Magnet School for the Visual and Performing Arts	70.8%	62.3%
Plymouth Elementary	59.3%	59.6%
Shenandoah Valley School	42.9%	28.6%
Sutter Creek Elementary	41.6%	42.5%
Jackson Junior High	50.8%	49.0%
Ione Junior High	49%	41.9%

**Amador County Special Education students are spread out across the District. The state requires the reporting of Special Education students be reported in lump sum as County Special Education because their funding travels through the County funding process.*

[19] Student Poverty Free and Reduced Meal Plan Data: http://www.cde.ca.gov/ds/sd/sd/filessp.asp

3. Best Practices for Active Transportation

3.1 General Needs of Cyclists & Pedestrians

In order to address federal, state and regional goals of increasing the amount of people walking and/or biking as a mode of transportation, it is important to create a safe and efficient environment for them to do so. By utilizing examples from around the world, context sensitive solutions can be developed that meet the general needs of our citizens while conforming to approved standards.

Cyclists and pedestrians in rural areas have much different needs that those in an urban environment. The concept however is the same, users need a safe and efficient facility to encourage the trip. The facility design and trip type is different. Users can be broken down into two basic categories: commuters and recreational users.

Commuter Needs

Regular bike and pedestrian commuters are interested in getting to their destination quickly. They either choose their mode of transportation from desire or necessity, but the facility they need is the same. The average bike commuter will only travel up to 5 miles and about 12 minutes before choosing their automobile instead. Pedestrian commuters will find the shortest route possible. In Amador County, commute-focused facilities should be no more than 5 miles from community cores and should focus on intersection safety improvements and facility connectivity and continuity. Safe Routes to School projects fall under the commute category as well. Projects identified in Chapter 6 generally conform to this rule of safety, connectivity and continuity.

Due to the rural nature of Amador County, significant numbers of regular bike and pedestrian commuters is unlikely to be realized. The barrier is simply the distance between residential areas and community cores, schools and services. In addition to the distance, the physical geographic constraints for constructing bicycle and pedestrian facilities must also be considered.

Recreational Needs

Amador County provides residents and visitors with an abundance of recreation opportunities. Recreational Tourism is recognized in the 2016 County General Plan as a growing economic generator for the County. Destination tourism for cyclists and recreation associated with agricultural tourism, camping and the like, will grow and continue to support the need for enhanced pedestrian and bicycle facilities.

3.2 Types of Cyclists and their Needs and Preferences

Cyclists can be placed in 1 of 4 generally accepted groups based on their relationship with bicycle transportation. By surveying the user types in Amador County, planners and engineers are able to provide better physical design solutions to fit the existing and prospective users in our communities.

The four (4) identified types of cyclists and potential cyclists include:

1. **Experienced (Strong & Fearless) (<23.8%):** Riders will ride in roadway despite traffic and roadway conditions.
2. **Casual (Enthused and Confident) (31.6%):** Riders are comfortable sharing the roadway with automotive traffic, but they prefer to do so operating on bike specific or separated facilities.
3. **Less Confident (Interested but Concerned) (23%):** This group is curious about bicycling but are afraid to ride and nervous to ride with traffic. Feel safe on separate paths.
4. **Less likely to ride (No way, No how) (21.6%):** This group of people are concerned about their safety or are just not interested in riding a bike on roadways.

There are generally two types of "Experienced" cyclists with varying needs and preferences: Recreational cyclists and Touring cyclists. Recreational cyclists are looking for longer rides for exercise, training, social or family rides. They tend to travel 20-70 miles at a time in larger groups, usually 4-12 cyclists. They prefer scenic rides on back country roads with low traffic volumes. Touring, training and longer distance recreational cyclists seek longer routes with good pavement condition and minimum intersections to navigate. Touring cyclists generally travel alone or in pairs over several days or weeks, traveling between 50-100 miles a day on average and spend between $20-100 per day on accommodation and food. Touring cyclists are comfortable traveling on heavy traffic roadways and tend to follow Adventure Cycling's National Bicycle Route Network as well as local and regional bicycling guidebooks. Experienced cyclists have similar preferences to drivers of motor vehicles: improved pavement conditions and widened paved shoulders.

Casual and Less Confident cyclists include families, commuters, and others that have a desire to cycle but do not feel completely comfortable on shared roadways, particularly high traffic roadways. They prefer separated multi use paths or separated bicycle lanes (Class I).

3.3 Facility Designs

Bicycle and pedestrian facility design standards are established by the Federal Highway Administration, California Department of Transportation, the National Association of City

Transportation Officials, the American Association of State Highway and Transportation Officials, and locally developed and adopted guidelines. The following common applications of facility design can be used as a reference point, but coordination of design applications is done at the State and local government level. (*Small Town and Rural Multimodal Networks; US DOT Federal Highway Administration, December 2016; Chapter 11, Design Standards; NACTO's Urban Bikeway Design Guide; AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities; AAASHTO Guide for the Development of Bicycle Facilities***;** *as well as Caltrans Local Assistance Procedures Manual all describe acceptable design standards, specifications, procedures, guides, and references that are acceptable in the geometric, drainage, and structural design of Local Assistance projects).*

3.3.1 Pedestrian Facilities

A pedestrian is defined in the California Statewide Bicycle and Pedestrian Plan as any person walking, skateboarding, and using a wheelchair or other mobility device, or any other form of human-powered transportation other than a bicycle. Motorized wheelchair users are also considered pedestrians. Pedestrian infrastructure should consider the special needs of seniors, children, seniors, and people with mobility impairments including walkers pushing a stroller and wheelchair users.

Sidewalk

Sidewalks are recommended in community cores where pedestrian traffic is prevalent or desired. Sidewalks accommodate pedestrian safety and comfort in high traffic areas and with higher vehicle speeds.

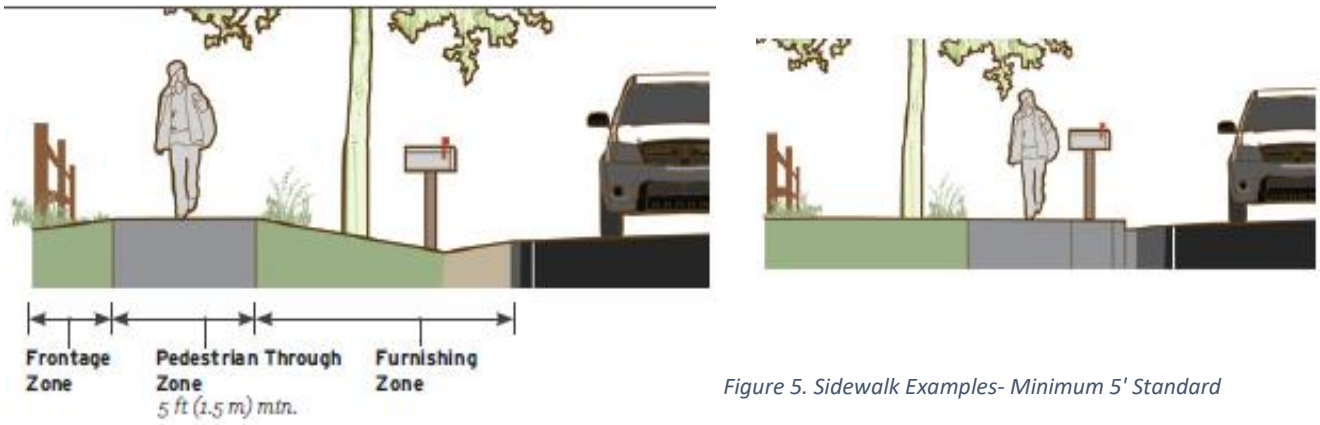


Figure 5. Sidewalk Examples- Minimum 5' Standard

Pedestrian Crossing Treatments

Rectangular Rapid Flashing Beacon (RRFB)

The RRFB is relatively inexpensive (approximately $20,000-$40,000 per crossing) and is ideal for locations with mid-to somewhat high traffic volumes. RRFBs use an irregular flash pattern that is similar to emergency flashers on police vehicles and have been proven to increase yield rates to between 74%-100%. This pedestrian crossing treatment does not require safety warrants on state highways. In March of 2016, ACTC allocated Regional Surface Transportation Program (RSTP) to be spent to install RRFB's at both the Town Hall pedestrian crossing in downtown Pine Grove as well as the pedestrian crossing between downtown Jackson and Mel & Faye's diner on Highway 88.

Pedestrian Hybrid Beacon

The Pedestrian Hybrid Beacon, formerly known as the HAWK system is a RED pedestrian-activated signal developed for high speed and wide-crossing conditions. The beacon is not illuminated until it is activated by a pedestrian, triggering the warning yellow lens on the major street. After a set amount of time, the indication changes to a dual solid red light to notify drivers on the major street while indicating a walking person symbol to pedestrians. At the conclusion of the walk phase, the beacon displays an alternating flashing red light, and pedestrians are shown an upraised hand symbol with a countdown display informing them of the time left to cross. During the alternating flashing red lights, drivers can proceed after coming to a full stop and checking that pedestrians have already crossed their lane of travel. Each successive driver is legally required to come to a full stop before proceeding during the alternating flashing red phase. The Pedestrian hybrid beacon has been proven to reduce crashes by 69%. This mechanism is more costly, estimated to cost $200,000 per location, and does require safety warrants be installed on state highways.

3.2.2 Americans with Disabilities Act Compliance

Government entities responsible for designing and constructing transportation facilities available to the public must comply with the Americans with Disabilities Act of 1990 (ADA). The section implementing the requirements for State and local agencies is called Title II and is published as the 1991 ADA Accessibility Guidelines located in the Code of Federal Regulations at 28 CFR part 35 (title II).

ADA accessibility for sidewalks and transportation facilities is governed by the law and each State and local entity is required to have an ADA Transition Plan describing their schedule and approach to ensure their jurisdiction facilities are ADA compliant. For the purposes of the Amador Bicycle and Pedestrian Accessibility Plan, it is understood that current design practices

will be followed for newly constructed facilities in accordance with the local jurisdictions ADA Transition Plan and design guidelines such as the 2010 ADA Standards for Accessible Design.

3.3.2 Bicycle Facility Designs

A bicyclist as defined in the California Statewide Pedestrian and Bicycle Plan is any person riding a bicycle or tricycle, including Class I and II e-bikes, cargo bikes, recumbent bikes, or other variations. Bikeway facilities are categorized as Bikeway Classes I, II, and III:

- Class I: Provides completely separated right of way for the exclusive use of bicycles and pedestrians with minimized cross-flow. These include separated bike lanes, bike paths and shared-use, multimodal paths.
- Class II: Provides a striped lane for one-way bike travel on a street or highway. These include paved shoulders with a 6ft minimum designated bike lane. A local example is the bicycle lane on Argonaut Lane running from Mariposa St to Hoffman St near Argonaut High School in Jackson.
- Class III: Provides for a signed shared roadway that provides for shared use among pedestrians, bicyclists, and motor vehicle traffic, typically on lower volume roadways. The roadway has signs posted identifying it as a bike route. These include paved shoulders with designated bike route signs or rural roadways with designated bike route signage. A local example is Church St. by Jackson Elementary School.

Shared-Use Path & Separated Bicycle Lanes (Class I)

The shared-use path is separated from roadways and is intended for bicycle and pedestrian recreation and utilitarian use. Occasionally, shared use paths accommodate equestrians to one side providing many modes of opportunity. Shared use paths have a minimum of 8-foot wide paved surface with 10 to 14 foot widths recommended. Striping and signs are optional.

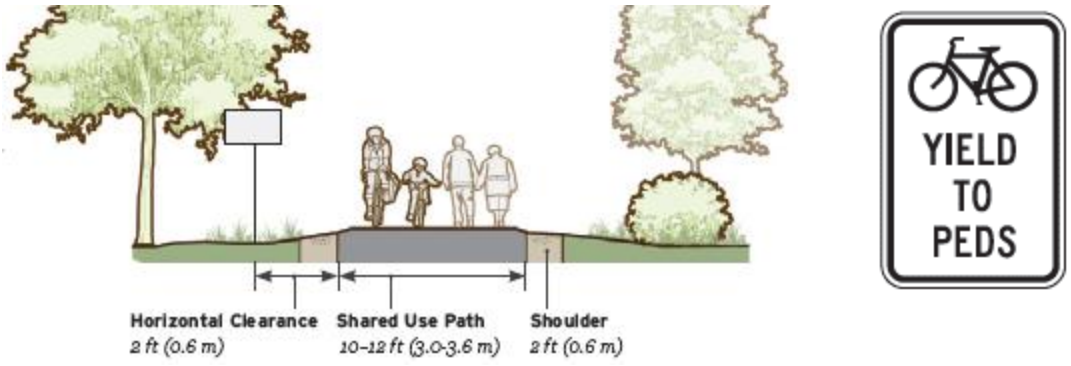


Figure 6. Shared-Use Path Cross Section and Signs

In addition, the separated Bike Lane is built for the exclusive use of bicyclists located within or directly adjacent to the roadway. It is physically separated from motor traffic with a curb or landscaping vertical barrier.

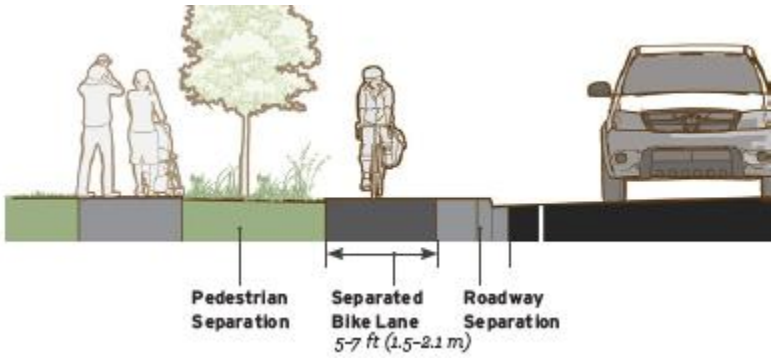


Figure 7. Separated Bike Lane Cross Section

Bike Lanes (Class II)

Where parking and pedestrian uses occupy the curbside zones and travel lanes constrain cyclists, bike lanes are an appropriate treatment. Bike lanes should be designed with 6 feet of minimum width and preferably a buffer between the vehicle lanes. Striping includes solid white line and standard bike lane symbol markings as specified in the MUTCD.

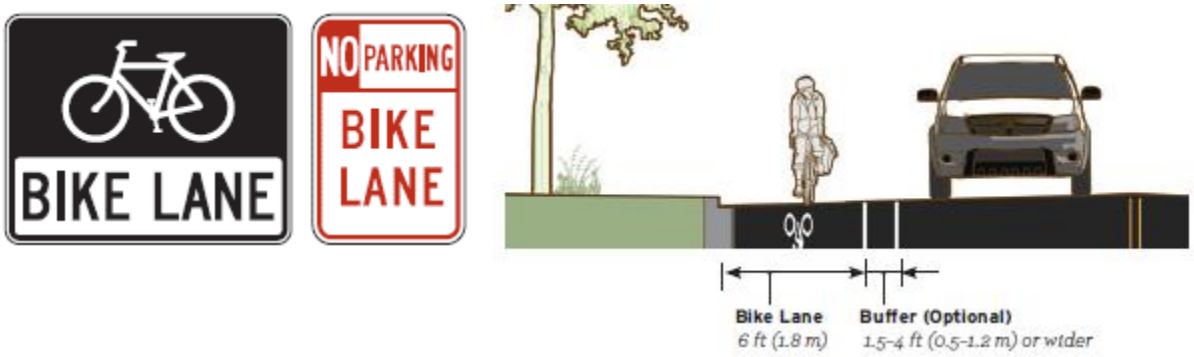


Figure 8. Class II Bike Lane Cross Section and Signs

Bike Routes (Class III)

Bike routes provides for shared use with pedestrian or motor vehicle traffic. Bike routes are marked with signs as specified in the MUTCD.

Paved shoulders are reasonable solutions for long stretches of roadway and other areas prevented from applying other bicycle and pedestrian solutions. Paved shoulders accommodate bicycles and pedestrians in rural areas and are a benefit to motor vehicles as well. Rumble strips, often used in conjunction with paved shoulders must be constructed in accordance with FHWA technical advisory advice (FHWA Technical Advisory 5040.39).

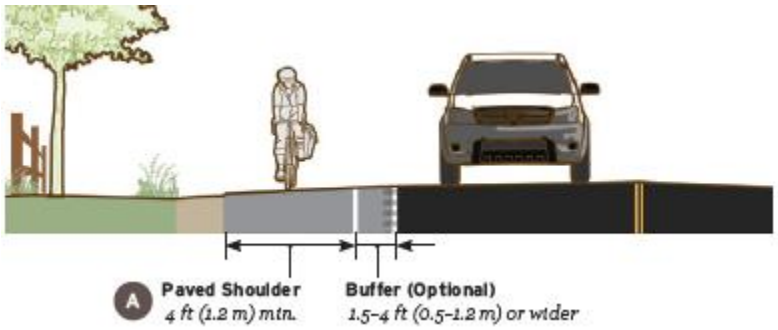


Figure 9. Paved Shoulder Cross Section

Bicycle Parking

Bicycle parking is a crucial component to encourage bicycling, especially commuter bicycling. Currently, the majority of cyclists in Amador County are recreation cyclists and therefore less likely to use bicycle parking. Recreation cyclists often do not carry locks with them to reduce their weight while bicycling rarely leave their bike unattended for long periods of time. In order to accommodate recreation cyclist's needs, jurisdictions could invest in bicycle racks with built in locks. To accommodate commuter needs, bicycle parking should be prioritized in service areas such as downtowns, commercial areas, grocery stores, office buildings, post offices, and other commonly used areas.

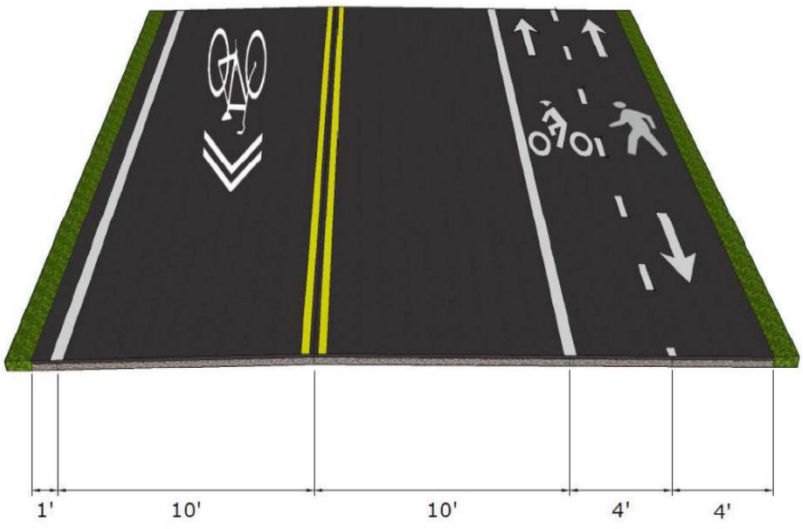
3.4 Rural and Low Cost Solutions

Bicycle and pedestrian Infrastructure improvements often do not meet the threshold for Cost Benefit Analysis. This is particularly apparent in rural areas where it is difficult to evaluate the value to existing users and estimate the encouragement effect on potential users. Low cost solutions are often overlooked, but can be quite effective. The most common low cost solution is striping and space definition. Each facility user should know exactly where they are intended to be. A common example is at transition points of intersections and commercial areas with

multiple access points. Other low cost solutions can include bike lanes, bike route signs, user guidance signs, pedestrian warning signs, cross walk installation and school zone markings. Proper maintenance of striping and facilities is also important and can be a low cost solution for improvements.

One unique low cost solution that was implemented in Humboldt County utilized the shoulder of the road to paint a pedestrian and bicycle lane on one side of the roadway to connect two school zones (as seen in Figure 7). This solution could be considered for the Hoffman St area between Jackson Jr. High and Argonaut High School.

Figure 10 & 11. Innovative Safe Routes to School Project in Humboldt County to connect Elementary School and High School. Photo by Emily Sinkhorn, Redwood Community Action Agency.



In addition to low cost solutions, short term trial projects can benefit jurisdictions in two ways; 1) to test effects of new designs on vehicle flow and facility function and 2) to introduce new ideas and facility types to the public. Short term trials can be instrumental in shifting attitudes to adopt change that ultimately will improve safety for bikers and walkers and encourage more people to walk and bike. They also allow engineers to adjust the proposed improvements to maximum effectiveness before installing more permanent infrastructure. The following graphic identifies some quick build project applications.

Figure 11. Quick Build Project Applications

Figure 12. Sample of Low Cost Repainting Solution to Improve Pedestrian Access.

In addition, local jurisdictions can choose some of the following mechanisms to implement low cost solutions to improve safety for both pedestrians and bicyclists.

Shoulder Widening

One of the greatest safety improvements for pedestrians and bicyclists, as well as vehicular traffic, in rural areas is to widen the shoulders of roadways. In Amador County in particular there are many windy roadways with blind corners and little to no shoulder. It is recommended that jurisdictions consider making shoulder width improvements on all new construction projects and prioritize shoulder widening for crucial pedestrian and bicycle corridors, which are listed in Appendix B. Priority should be given to areas that connect Jackson, Martell, and Sutter Creek (such as Jackson Gate Rd, Sutter Hill Rd., and Old Rte. 49 from Sutter Creek to Sutter Hill) and popular County roads and key connectors that are listed in the Interregional Routes and Trails section of the project list in Appendix B such as SR 88, SR 49 from Drytown to Plymouth, Latrobe Rd, Shenandoah Rd, Fiddletown Rd, Buena Vista Rd, Michigan Bar Rd, Sutter Ione Rd, and Sutter Volcano Rd. All shoulder widening projects used a 4’ shoulder width (instead of the Caltrans 8’ design standard) on both sides of the roadway for project cost estimates as an alternative low cost solution that can still meet design standards and provide room for bicyclists.

Bike Pull Outs

Due to the high costs and limited feasibility due to topographical constraints in some areas, jurisdictions can consider implementing bike pull outs. In order to reduce bicycle and vehicle conflicts while minimizing costs, local jurisdictions can prioritize improvements to be made on blind corners and uphill sections of roadways, where bicycle speeds are lower (thus forcing vehicle traffic delays). By installing bike pull outs on blind corners and providing climbing lanes for bicyclists on steep grades, vehicle and bicycle conflicts are greatly reduced. This can be prioritized as a low cost solution on roadways designated for shoulder widening in the project list, such as the Shenandoah Valley and Interregional Route (IR) projects.

Maintaining Historical Character

It is a primary concern of Amador County cities and communities to maintain the historical character of the area. Amador City developed a unique solution when constructing their downtown bridge project to comply with ADA requirements while also maintaining the “historic mining town” feel of the City by installing rust colored ADA curb ramps instead of the common bright yellow ramps. Amador City acts an example of how to maintain the historic character of the Gold Country region while implementing new transportation projects which that should continue to be implemented throughout the region.

Figures 13&15. Amador City's rust colored ADA curb ramps and stone pedestrian crossing.

3.5 Pedestrian and Bicycle Programs

3.5.1 The E's

Leading programs in California and the United States use various versions of what's called the "E's". The program consists of two to six components that address regional objectives to improve walking and biking in local communities. Some of the "E's" are less relevant in rural areas. The 3 E's (Education, Encouragement, and Engineering) will help guide pedestrian and bicycle improvements in Amador County. General definitions are defined below and implementation of these concepts is discussed later in this chapter and appear in the implementation plan.

Education

There are many programs offering pedestrian and bicycle safety training for schools, large employment centers and communities. These courses are often facilitated by local public works and planning departments, advocacy groups, and outside organizations such as the Safe Routes to School Partnership or the League of American Bicyclists instructors. The programs cover safe walking, biking and driving habits. Additionally, education programs teach communities the health and psychological benefits of walking and biking.

Encouragement

Encouragement programs are focused on getting people to choose walking and biking as a mode of transportation and recreation. These programs often target school children through facilitated events such as National Walk to School Day and May as National Bike Month. Most events have incentives for school children to walk or bike to school and make it fun so they will continue to do it throughout the school year.

In addition to the event-focused encouragement programs, schools and neighborhoods often set up regular methods for children to safely and consistently walk or ride to school. The "walking school bus" and "bike train" establish a meeting place and have chaperoned groups walk and bike from residential areas to school. This program can also benefit children who want to participate but do not live in reasonable proximity to school. For these students, parents can drive their children to the meeting location and they can walk or ride to school with their friends.

Engineering

Developing infrastructure that protect and encourage people to walk and bike is a critical component of safe walking and biking. The most successful engineering programs require a commitment from local agencies to include the recognition of all modes of transportation when developing projects. In addition, it is important for the design engineers to have a firm understanding of the community's perspective on project sites. This collaboration during project development is critical and can happen through regular evaluation efforts or project specific outreach meetings.

In the last 6 years, progressive thinking engineers have been developing design guidance that is transforming the way our communities improve and grow. It is important that State and local agencies stay abreast of the latest design guidelines that consider all users, including pedestrians and bicyclists and apply context sensitive project solutions.

3.5.2 Putting the E's to Work

Education, encouragement and engineering are basic components for the effective implementation of a pedestrian and bike plan. In order to maintain safe roadways that welcome and accommodate all users, educational efforts must be made to target bicyclists and pedestrians as well as motorists. Collisions and fatalities impact pedestrians and bicyclists in a higher proportion to vehicle users due to their vulnerability (see Figure 6). All roadway users must be educated on the rights and responsibilities of each mode, the different design components of pedestrian and bicyclist infrastructure and their functions, and how to safely

navigate from origin to destination. This collaboration will help keep pedestrians and cyclists safer in our communities.

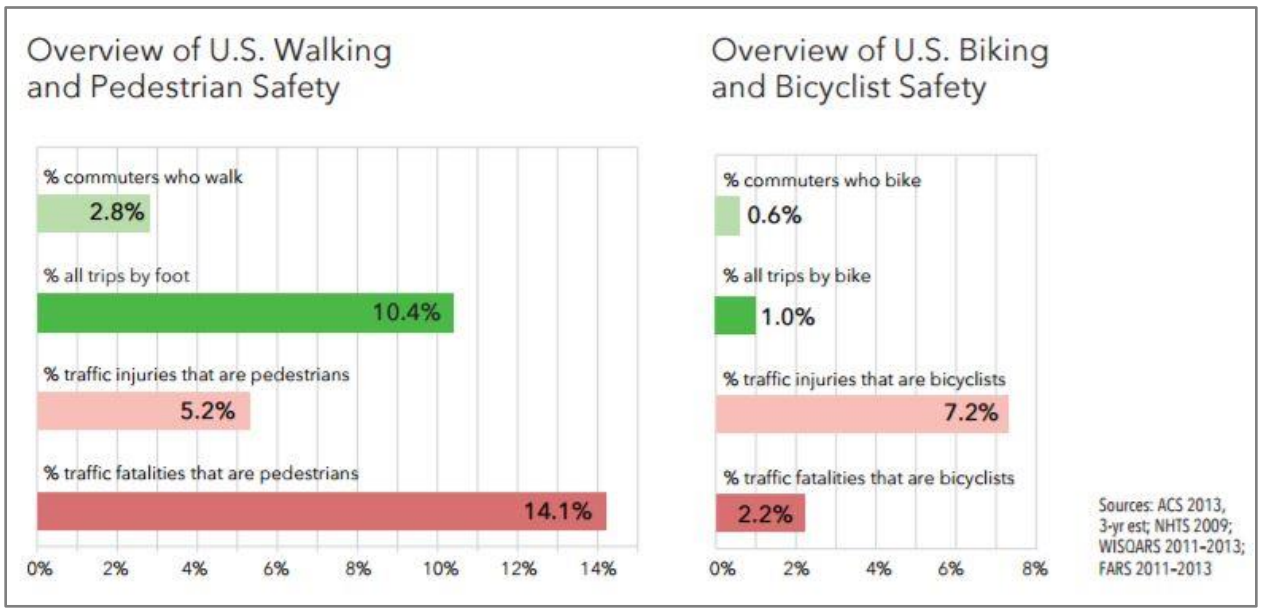


Figure 146. Pedestrian and Bicycle Safety

Educational programs, active transportation encouragement and multi-modal design are important and cost-effective ways to improve the safety and quality of travel for pedestrians, bicyclists, and the vehicles with whom they share the road with. Efforts to educate, enforce and encourage active transportation have been shown to be effective, and yet constitute a small percentage of active transportation projects in the State of California. The combined funding through Cycles 1 and 2 of the California's Active Transportation Program provided funding for projects with total costs totaling over $1.5 billion dollars, only about 3.78% of which was designated for non-infrastructure (NI) components (see Figure 7). Non-infrastructure components are reserved for plans and programs, and include any educational or encouragement programs.

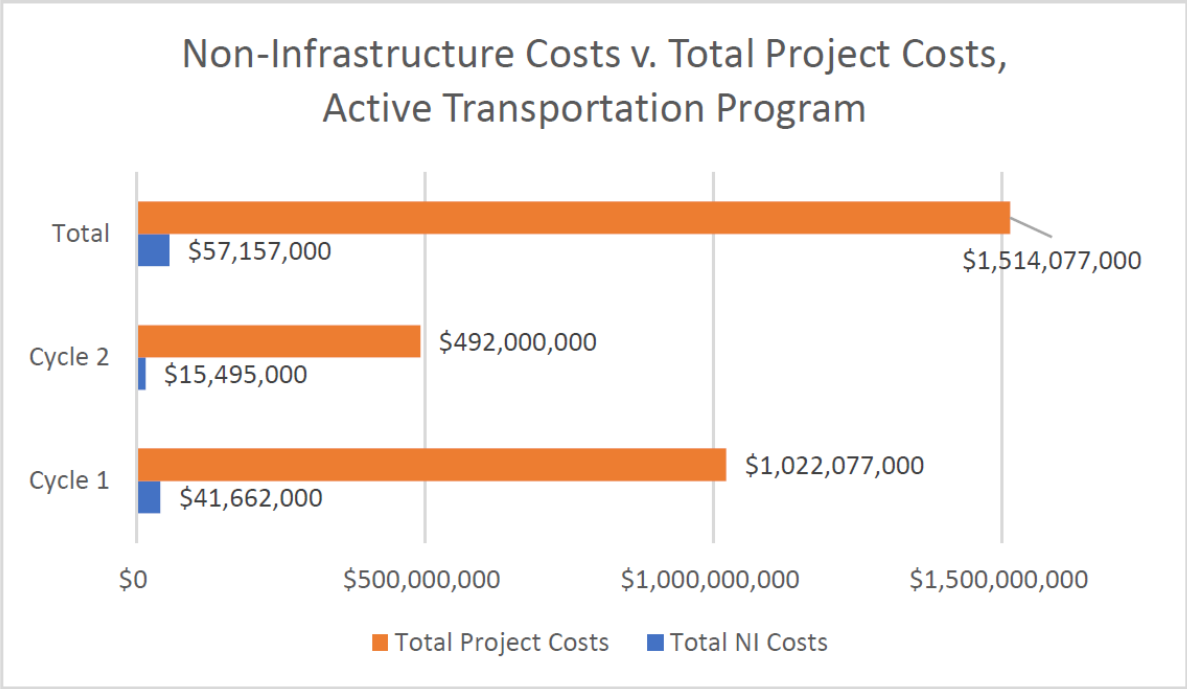


Figure 15. ATP Non Infrastructure Programs vs Total Project Costs

As seen in Figure 8, taken from Bicycling & Walking in the United States 2016 (Alliance for Biking & Walking), there are a number of state level educational programs in California. Many of these efforts simply include the availability of information for users who seek it, such as, "Safety guide on motorist/bicyclist interaction" and "State bicycle riders manual or pocket guide" (#6 and #7 in Figure 8). Disseminating the information available and appropriating funding for the educational efforts is left to the regional and local levels.

Statewide Education Efforts

Key to statewide education efforts

1. Share the road campaign
2. Share the road driver training for state employees
3. Drivers license test that includes motorists rights and responsibilities toward cyclists
4. State commercial drivers license test with questions on motorists rights and responsibilities towards cyclists
5. Information on the rights and responsibilities of the motorist/bicyclist interaction in the state drivers manual
6. Safety guide on motorist/ bicyclist interaction
7. State bicycle riders manual or pocket guide
8. Statewide Safe Routes to School curriculum
9. Police training on state vehicle code as it applies to bicyclists
10. Diversion program for traffic offenders that includes information on sharing the road with bicyclists

State	1	2	3	4	5	6	7	8	9	10
Alabama					✓					
Alaska			✓		✓				✓	
Arizona	✓	✓	✓		✓	✓	✓	✓		
Arkansas			✓		✓		✓		✓	
California	✓	✓	✓		✓	✓		✓	✓	
Colorado	✓		✓	✓	✓		✓	✓	✓	
Connecticut			✓	✓	✓	✓		✓	✓	
Delaware	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Florida	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Georgia	✓		✓		✓	✓	✓	✓	✓	
Hawaii	✓		✓	✓	✓	✓				
Idaho			✓		✓		✓		✓	
Illinois	✓	✓	✓	✓	✓	✓			✓	
Indiana	✓		✓		✓		✓	✓	✓	
Iowa	✓		✓	✓	✓			✓	✓	
Kansas	✓				✓					
Kentucky	✓		✓		✓		✓		✓	
Louisiana	✓		✓		✓				✓	
Maine	✓		✓		✓	✓	✓	✓	✓	
Maryland	✓		✓	✓	✓	✓	✓	✓	✓	✓
Massachusetts	✓		✓		✓	✓	✓	✓	✓	
Michigan	✓		✓	✓	✓	✓		✓	✓	✓
Minnesota	✓	✓	✓		✓	✓	✓	✓	✓	
Mississippi	✓				✓	✓	✓	✓		
Missouri	✓	✓	✓	✓	✓	✓			✓	
Montana	✓		✓		✓	✓	✓		✓	
Nebraska			✓	✓	✓			✓	✓	
Nevada	✓		✓		✓	✓	✓			
New Hampshire	✓	✓	✓	✓	✓	✓		✓	✓	✓
New Jersey	✓	✓	✓	✓	✓	✓	✓	✓	✓	
New Mexico	✓		✓		✓	✓		✓	✓	
New York	✓		✓		✓	✓	✓		✓	✓
North Carolina	✓		✓		✓	✓	✓	✓	✓	
North Dakota	✓	✓	✓	✓	✓	✓				
Ohio	✓		✓		✓	✓	✓	✓	✓	✓
Oklahoma	✓		✓	✓	✓	✓		✓	✓	
Oregon	✓		✓	✓	✓		✓	✓	✓	
Pennsylvania	✓		✓	✓	✓	✓	✓	✓	✓	
Rhode Island	✓		✓		✓	✓			✓	
South Carolina	✓	✓	✓	✓	✓			✓	✓	
South Dakota			✓	✓	✓				✓	
Tennessee	✓				✓	✓		✓	✓	
Texas	✓	✓	✓		✓	✓	✓	✓	✓	✓
Utah	✓		✓	✓	✓	✓	✓	✓	✓	✓
Vermont	✓		✓		✓	✓		✓	✓	
Virginia	✓		✓	✓	✓	✓	✓	✓		
Washington	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
West Virginia			✓	✓				✓	✓	
Wisconsin	✓	✓	✓	✓	✓	✓		✓	✓	✓
Wyoming	✓		✓	✓	✓			✓		

Figure 168. Education Efforts by State

The following sections are a summary of the available programs and recommendations for educating, encouraging and engineering safe bicycle and pedestrian travel in Amador County.

Safe Routes to School

The Safe Routes to School (SRTS) program is a national program focused on increasing the number of students who walk or bike to school by funding projects that improve safety and walkability around schools. This includes educational or other non-infrastructure projects or project components. Since 2000, the Safe Routes to School Program has funded hundreds of projects in California over 10 cycles, totaling $427 million in project costs.

Skills and Safety Training

Skills and safety training courses are an important component to improve the safety of all roadway users, especially with regards to pedestrian and bicyclist rights, etiquette and habits. In Amador County, skills and safety training courses could be provided to the public, as funding allows, to include educational topics such as how to avoid collisions and citations, how to ride safely, how to improve your visibility as a bicyclist/walker, and how to appropriately use the existing infrastructure.

Walk & Bike to School Days

Walk and Bike to School Day is a National program organized by the Partnership for a Walkable America that encourages students to utilize active forms of transportation. The program promotes an organized day for students to walk or bike to school, focusing on pedestrian safety, traffic congestion, and concern for the environment.

Some schools in Amador County have programs to promote walking and biking to school and actively participate in Walk to School Day. For example, Ione Elementary has hosted Walk Sacramento and FedEx assemblies to promote walking and biking to school. In addition, the Ione Police Department has given safety talks on walking and biking and promotes a weekly walk to school day in which staff help to direct students to the correct paths to school. Sutter Creek Elementary has participated in the weekly Walk to School Days. Plymouth Elementary has also hosted a Walk to School day. Jackson Elementary and Amador High School have staff available at major intersections during high traffic times to ensure students are safe at pedestrian crossings nearby. Some schools do not currently have any programs to promote walking and biking to school, partially due to the lack of safe conditions near some school zones.

Bike Month (May) is another popular program that generates energy for biking. This event has been going strong since 1956 and was established by the League of American Bicyclists. The event showcases the benefits of bicycling and encourages more folks to give biking a try. The event is typically coordinated locally by bike advocacy groups, bike shops, schools and employers. Incentives and competitions are encouraged and the League of American Bicyclists has free advertising and informational items for organizers to utilize. The event is also associated with the National Bike Challenge which allows riders to track their commute, utilitarian and recreation bike trips and compete against classmates, workplaces and anyone using the tracking system. Most recently, Ione schools hosted a Bike to School event for Bike Month in which 60 students biked to school in Ione with the support of Ione Police Department.

Bicycle Donation and Repair

Donated bicycles may be distributed to schools and major employers in the county for use by employees and school children. Bicycles may be rented or loaned free of charge. Equipment such as water bottles and helmets could also be provided for students and employees. Bicycles may be purchased new or obtained at a reduced price through auctions, second-hand stores or through online outlets such as Craigslist and Offer Up. Many schools have bicycle repair classes or after school programs that take donated bikes, have students fix them up and then give them to less fortunate children who don't already have a bike to ride.

Incentive Programs

Incentive programs could be used as a tool to encourage more workers and schoolchildren to walk and bike to school. Workplace incentives can be especially effective. Employers can offer cash incentives for active transportation users who bike or walk to work, as well as providing prizes or parties once a certain amount of trips are taken. Workplaces can offer employees an additional compensation on a monthly or trip-based basis. Incentives can help reduce overall health insurance costs by promoting a healthy workforce.

4. Existing Conditions

4.1 Current State of Pedestrian and Bicycle Transportation in Amador County

Amador County transportation is primarily characterized by motorized vehicle use, as demonstrated by Census Data and American Community Survey (ACS) estimates for Amador County. According to the 2000 Census data, 3.5% of Amador commuters used walking as their primary means of travel and only 0.22% bicycled to work. When projecting changes in bicycle and pedestrian commuting patterns over time, ACS 2010-2014 data was used to calculate commuter changes. It was estimated in 2014 that Amador County's walking commuters slightly increased to 3.8% (0.3% higher than 2000), whereas bikers decreased to 0.1% of total commuters. When comparing this to national and state averages, we find that Amador County is ahead of the 2008-2011 national average for walking (2.2%), but falls behind the average for biking to work (0.6%).

Table 3. Amador County's Means of Transportation to Work for Workers 16 years and over, U.S. Census (2000), Amador County

Commute Type	**Number of Amador Commuters**	**% of Total Amador Commuters**
Total Amador Commuters	13, 378	100.00%
Car, truck, van	12,000	89.70%
Public Transportation	39	0.29%
Motorcycle	57	0.43%
Bicycle	29	0.22%
Walked	463	3.46%
Other Means	86	0.64%
Worked at home	704	5.26%

Table 4. Commuting Characteristics for Amador County, 2010-2014 American Community Survey (ACS) 5-year Estimates

Commute Type	Number of Amador Commuters	% of Total Amador Commuters
Total Amador Commuters	11869	100.00%
Car, truck, van	9,216	77.65%
Public Transportation	87	0.73%
Taxi, Motorcycle & Other	155	1.21%
Bicycle	12	0.1%
Walked	446	3.76%
Other Means	848	7.14%

According to the 2015 Regional Transportation Plan for Amador County, a small percentage of the Region's population walks as their means of transportation for short distance trips (e.g. work, shopping, etc.), as well as their means of exercise. Formal pedestrian facilities such as sidewalks and crosswalks are largely limited to developed communities, Central Business Districts (CBD), and some newly-developed commercial and residential areas. However, in most areas of the County, paved sidewalks do not exist or have continuity gaps and the widths of roadway shoulders are typically insufficient to be considered adequate for pedestrian purposes. Therefore pedestrians are often forced to share the road with automobiles, which may discourage pedestrian travel overall.

Similarly, a small percentage of the Region's population uses bicycles in lieu of automobiles for short to medium-distance trips. Few designated bicycle facilities currently exist in Amador County. The 2006 Amador Countywide Pedestrian and Bicycle Plan found that the primary purpose for walking and biking in Amador County is largely for social or recreational purposes and that the greatest barriers to walking and biking are the lack of space and infrastructure to safely accommodate walkers and bikers (2006 Amador Countywide Pedestrian and Bicycle Plan). During the planning process of the 2015 Regional Transportation Plan, input showed that the region appears to be experiencing a significant increase in inter-regional recreational cycling on the State Highway System and particularly on low volume rural roadways, where cyclists often feel safer due to lower traffic volumes. This observation was supported by the routes chosen by several local bicycle tours and bicycle groups, such as the "Pardee Party", "Sierra Century", and "Clark's Corner Cycling Challenge", the "Erma's Diner Bicycle Group", and the "Motherlode Bike Coalition", that utilize Amador County roads such as Buena Vista Rd, Fiddletown Rd, and Sutter Creek Volcano Rd. The region's rolling hills are popular with cyclists and attract riders from Sacramento, Stockton, and nearby areas. However this poses safety-

related conflicts with motorists at certain roadway locations as many of the region's roadways are very narrow and are not equipped with paved shoulders thus forcing bicyclists and motorists to share the road. Complaints have been received from various County and City agencies in regards to safety concerns and potential conflicts between motor-vehicles and cyclists on numerous roads in the region such as Latrobe Rd, Sutter Creek Volcano Rd, and Fiddletown Rd.

4.1.1. Existing Pedestrian Facilities

Due to the rural nature of Amador County, there are connectivity gaps for pedestrians between downtown zones and residential areas. Since many of the roads were constructed during the gold rush, roadways are narrow and windy with little to no shoulder and many of the downtown zones have outdated and historical sidewalk infrastructure which pose as barriers to pedestrian travel. Notably, rural one way roadways act as crucial pedestrian corridors due to their low speeds and traffic volumes. These roadways include the backroads near Amador City, Pine Acres, Sutter Creek and Jackson such as Turner Rd, Gold Strike Rd, Mahoney Mill Rd, and more.

Amador County Walkability Scores

Walkability has become a crucial component of measuring living conditions and real estate value over the years. This has led to the development of tools such as www.walkscore.com that measure a given address or town's walkability score based upon road metrics and walking distances to local amenities such as community services, stores, restaurants, and more. Walk score ranks communities into five categories: "Walkers Paradise" (daily errands do not require a car), "Very walkable" (most errands can be accomplished on foot), "Somewhat Walkable" (some errands can be accomplished on foot), and two "Car-dependent" categories with scores of 25-49 (most errands require a car), and scores 0-24 (almost all errands require a car). The following scores have been given by walkscore.com for the following cities and communities within Amador County as of May, 2017:

Cities

- Jackson: 76 (Very walkable)
- Sutter Creek: 58 (Somewhat walkable)
- Ione: 59 (Somewhat walkable)
- Plymouth: 35 (Car-dependent)
- Amador City: 9 (Car-dependent)

Communities

- Martell: 41 (Car-dependent)
- Pine Grove: 34 (car-dependent)
- Pioneer: 14 (car-dependent)
- River Pines: 11 (car-dependent)
- Volcano: 10 (car-dependent)
- Fiddletown: 0 (car-dependent)

While these scores reflect the capacity for citizens to access necessary services and amenities, they do not necessarily reflect the communities' pedestrian infrastructure.

Existing Sidewalks

In July and August of 2016, the Amador County Transportation Commission carried out a sidewalk audit to identify where sidewalks, pedestrian crossings, and potential hazardous sidewalk and curb conditions are located throughout the region. The data collected from this sidewalk audit was used to determine the percentage of roads with sidewalks for each incorporated city as well as unincorporated communities. According to the sidewalk audit, only 2.27% of all County roads have associated sidewalks. Ione has the largest percentage of roads with sidewalks, followed by Jackson, Sutter Creek, Plymouth, and Amador City.

Table 5. Amador County Sidewalk Audit Results

Cities & Communities	**% of roads with sidewalks**
Ione	46.16%
Jackson	25.69%
Sutter Creek	16.22%
Plymouth	7.95%
Amador City	2.29%
Martell	7.39%
Pine Grove	0.48%
Volcano	0.28%
Fiddletown	0.13%
Pioneer/Buckhorn/Red Corral	0%
Camanche/Buena Vista	0%
Drytown	0%
River Pines	0%
Kirkwood	0%
Total Unincorporated Area	**0.12%**
Total (Countywide)	**2.27%**

Though Ione and Jackson have the greatest existing capacity for pedestrian travel in the County. This does not mean they are without hazardous pedestrian and bicycle conditions. They have also had the highest number of pedestrian and bicycle accidents in the past ten years.

Existing Trails & Walking Areas

According to the recently updated Park and Recreation Master Plan by the Amador County Recreation Agency, Ione also has the most park space with access to Trails and Pathways (Grover Park, Heath Knoll Park, Perry Earl Park, Howard Park, Train Park, and Oakridge Park). Other parks in the County with trails and pathways include: Tailing Wheels Park in Jackson, Mt. Zion in Pine Grove, and the Indian Grinding Rock State Park in Volcano. Work is underway to identify and document other walking, running, cycling and mountain biking routes and trails within Amador County.

In order to document the existing walking and biking routes and trails within Amador County, a collaborative initiative between Amador County Transportation Commission, Amador Council of Tourism (ACT), and Amador County Recreation Agency (ACRA) was developed called the "Active Amador Inventory" in August of 2016. This inventory is being used to identify areas that pedestrians and cyclists are likely to access, identify wayfinding improvements for walking and biking routes, and develop a list of recreational opportunities for biking and walking within the County. A list of trails and low traffic rural roads used for recreational walking and biking is listed below.

- Amador City "Walking Loops"
  - Turner Rd, School St, Amador Creek Rd, Bunker Hill Rd, String Bean Alley, Mayflower Rd, New Chicago Rd, Fremont Mine Rd.
- Pacific Gas &Electric (PG&E) Areas
  - Electra Rd
  - Lake Tabeaud
  - Tiger Creek Rd & Tiger Creek Spillway
- Mt. Zion
  - Walking path to Mt. Zion Lookout Tower
- Mokelumne Coast to Crest Trail
  - Access point at Ellis Rd near Salt Springs Reservoir.
- El Dorado National Forest
  - Shealor Lake
  - Silver Lake
  - Thunder Mountain
  - Granite Lake
  - Bear Reservoir
  - Salt Springs Reservoir
- East Bay MUD Hiking Trails
  - North Shore Camanche Walking Trail
  - Costa Mesa Coast to Crest Trail- 26 mile trail with access points at South Camanche and Middle Bar Rd

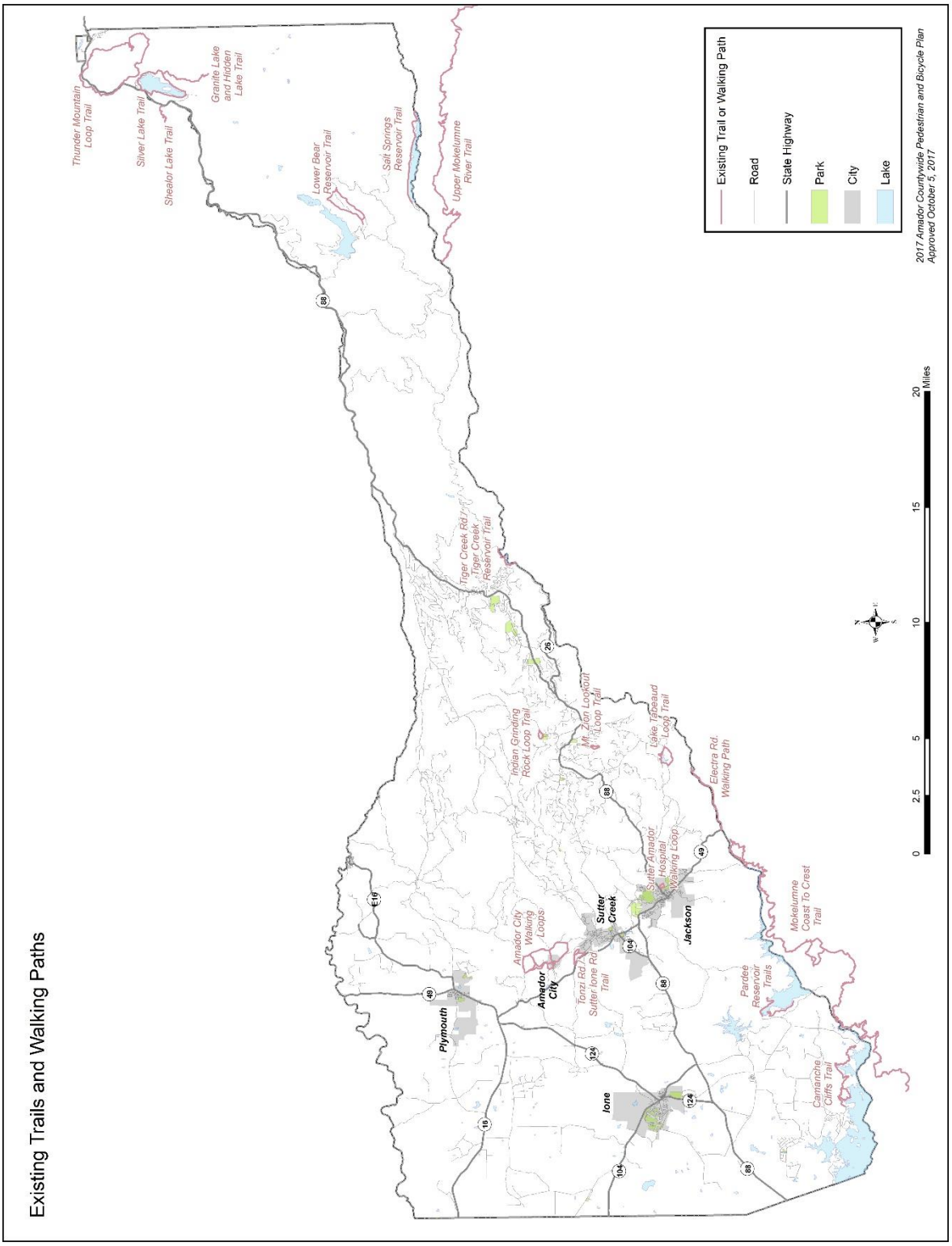


Figure 19. Map of Existing Publicly Accessible Trails and Walking Areas in Amador County

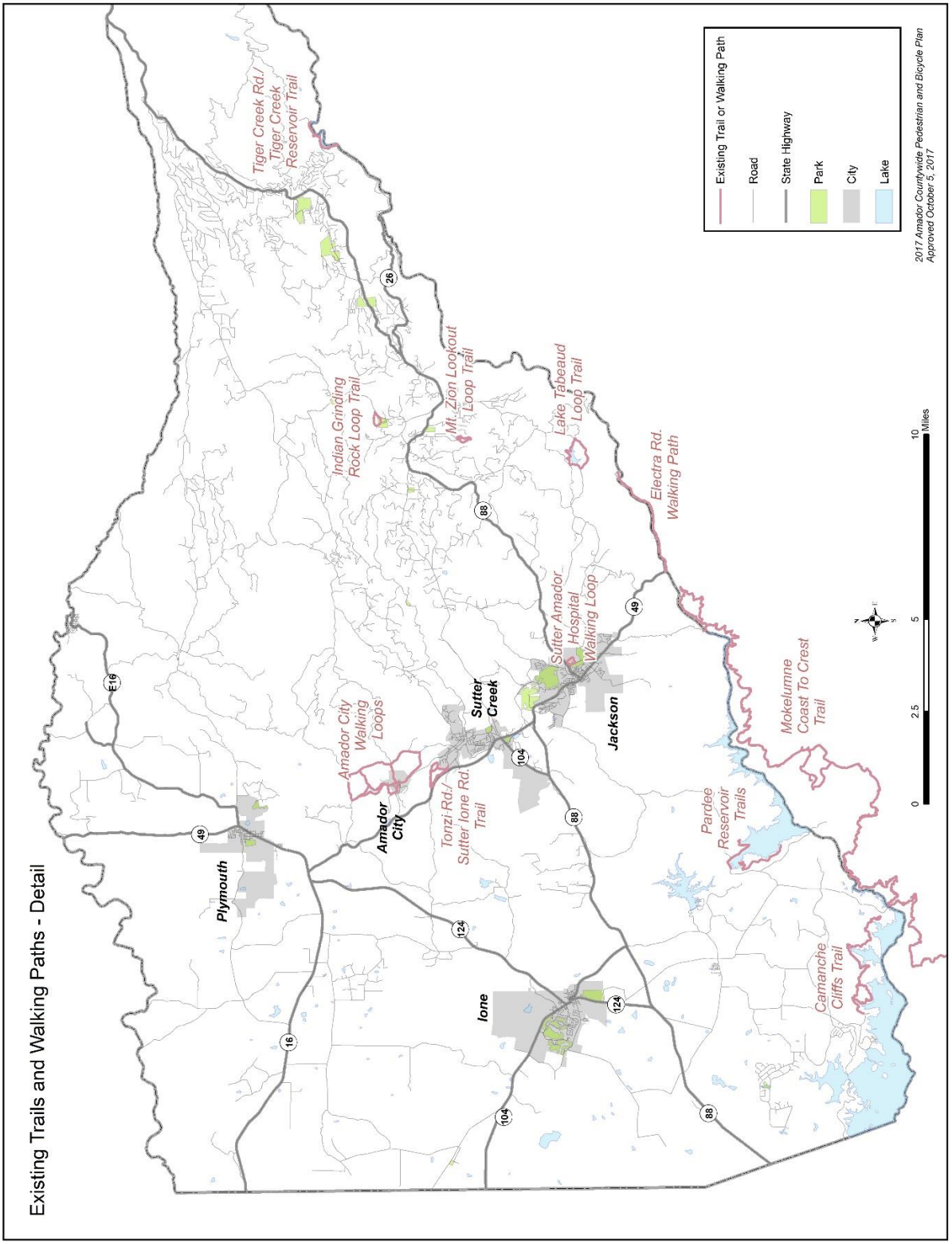


Figure 17. Zoomed in map of existing trails and walking areas

Pedestrian Signs

The following inventory identifies the locations of formal pedestrian crossing signs within Amador County.

Pedestrian Crossing Signs

- Cook's Station Hwy 88 (Upcountry)
- SR 88 in front of Pioneer Elementary (Pioneer)
- SR 88 in Pine Grove near Elementary School at Pine Grove/Volcano Rd(Pine Grove)
- SR 88 in front of Pine Grove Town Hall (Pine Grove)
    - Rectangular Rapid Flashing Beacon to be installed 2017.
- SR 49/Hoffman St (Jackson)
- SR49/Mel&Fayes
    - Rectangular Rapid Flashing Beacon to be installed 2017.
- Near the bridge at Water St/Pitt St (Jackson)
- SR 49 (Drytown)
- Entering Main St on Old Highway 49 (Amador City)

Please Drive Slow (Pedestrian Friendly Village/Zone) Sign

- Rams Horn Grade Rd (Volcano)
- Main St/Old Highway 49 (Amador City)
- South Bound and North Bound

Pedestrian Zone

- Entrance to Plymouth on Highway 49 (Plymouth)
- Raylan Dr (Sutter Creek)
- Northbound
- Old Rte 49- Sutter Creek
- Southbound, entering downtown from Jackson

4.1.2. Bicycle Facilities

The following inventory documents existing bicycle facilities within Amador County. The facilities and infrastructure that currently exist are organized into the following categories: Bicycle storage and parking and designated bicycle infrastructure (Class I, II, and III).

Bicycle Storage and Parking

- 3 large bicycle racks and 4 bicycle locker storage spaces at Sutter Hill Transit Center (Sutter Hill/Martell)
- 3 bicycle parking racks at the Jackson Bike Shop (Jackson)
- 1 bicycle rack at the Court House on Argonaut Ln (Jackson)
- 1 bicycle rack at Ione Junior High School (Ione)
- 1 bicycle rack at the Park and Ride lot at the corner of S Sacramento St & E Main St. (Ione)
- Multiple bicycle racks along Main St. (Ione) donated by developer Jack Phillips
    - City Hall
    - Main St & N. Ione St
    - Train Park
- 1 bicycle rack at Main St. Park (Plymouth)
- 1 bicycle rack at Prospect Cellars (Plymouth)

Existing Bicycle Infrastructure

Below is a documented list of Class I, II, and III designated bicycle routes.

United States Bicycle Route 50 (USBR50)

On April 25, 2017 the Amador County Board of Supervisors approved a recommendation to Caltrans to approve a national bicycle route that connects San Francisco to Washington D.C. (USBR50) to pass through Amador County. The route is a designated bicycle route by Adventure Cycling Association as a part of their United States Bicycle Route System (USBRS) which when complete, will encompass 50,000 miles of route designated for cross-country travel, regional touring, and commuting by bicycle. The USBR50 recommended route within Amador County consists of SR88 from the Upcountry County Line at Kirkwood to the turnoff for SR104 where it then passes through Ione before directing north on Michigan Bar Rd until reaching the County line with Sacramento. The route will then continue up towards Folsom to follow the American River Trail towards San Francisco.

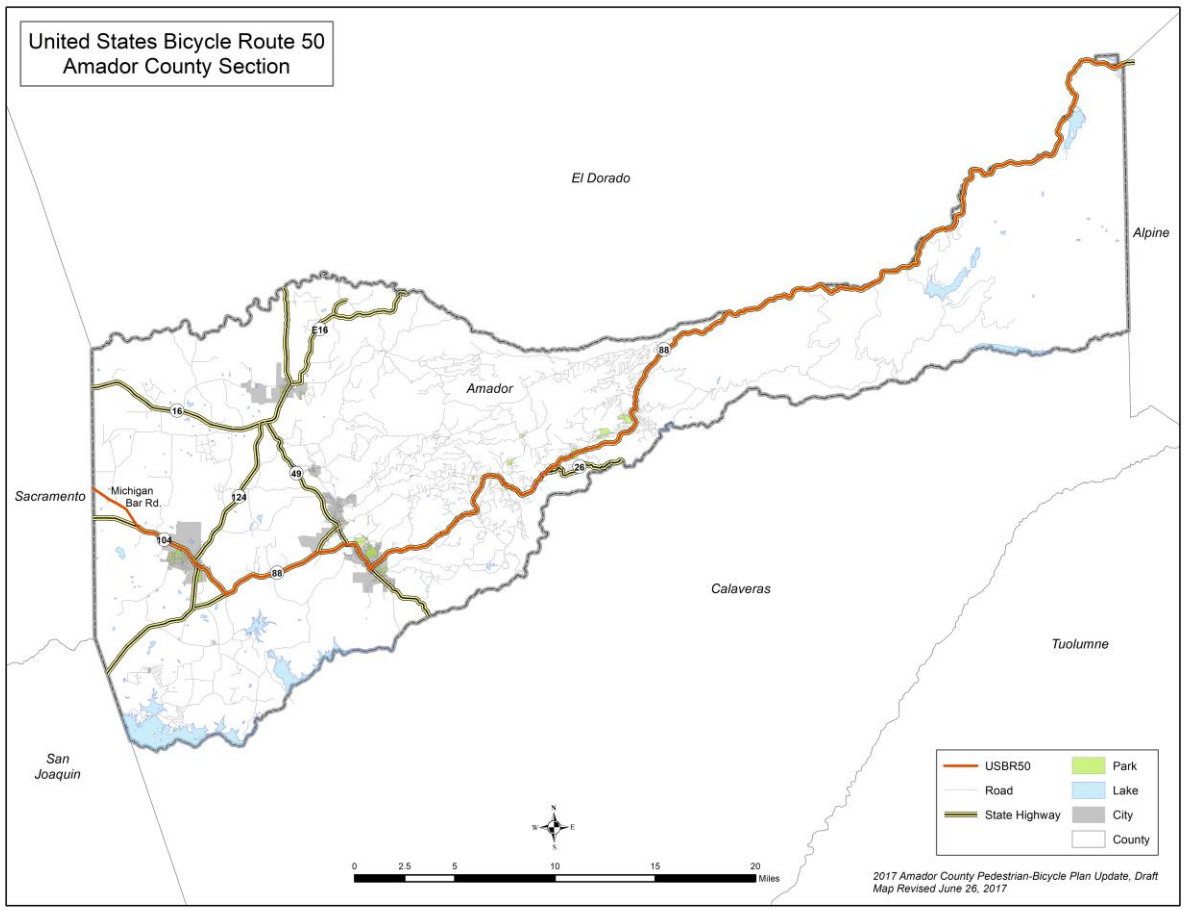


Figure 181. Recommended United States Bicycle Route 50 (USBR50) Amador County Section

Existing Class I Bicycle Routes

- Sutter Creek Gateway Project- .25 mile stretch of separated multi-use path at intersection of Old Rt. 49 and Highway 49 near Valley View Way.

Existing Class II Bicycle Routes

- Bicycle lane on Argonaut Lane running from Mariposa St to Hoffman St near Argonaut High School (Jackson)
- Bicycle and NEV lane on Mission Blvd near Hospital (Jackson)
- Shakeley Lane, between Edgebrook Drive/Sutter Ln and Preston Ave (Ione)

Existing Class III Bicycle Routes

- 1 Bike Route Sign @ Church St/Court St near elementary school (Jackson)
- Bike Route Signs in Castle Oaks Development (Ione)

- 3ft Share the Road Sign
  - Jackson Valley Rd (East of Buena Vista on both sides of the road)

- Traditional Share the Road Signs on Highway 88
  - Kit Carson Lodge
  - Kirkwood Meadows
  - Before Cook's Station

4.1.3. Complimentary Facilities

Amador Transit

Amador Transit (AT) is the primary provider of public transportation services within Amador County. AT provides general public deviated fixed route service and Dial-a-Ride door to door service within Amador County as well as a regional service to Sacramento County. AT operates a fleet of 13 buses and 1 van providing daily service for six routes Monday through Friday between the hours of 5:40 AM and 6:30PM, not including holidays. Seven routes provide connections between Sutter Creek/Sutter Hill, Martell, and Jackson with additional connections to Upcountry, Plymouth, Calaveras County, Ione, and Sacramento. While bicycle racks are not commonly found at bus stop locations, all buses are equipped with front bicycle racks that can accommodate two bicycles per bus. The Sutter Hill Transit Center, the departure and end point for all bus routes, is equipped with sheltered bicycle locking stations. When comparing bicycle usage of transit riders to previous years, surveys found that transit bicycle usage steadily declined from 2013 to 2015. However, bicycle usage reached peak use in 2015-2016 with a total 980 rider trips utilizing the bus bicycle facilities throughout the year.

Table 6. Bicycle Ridership on Amador Transit 2012-2016

Year	# of bikes	Total Number of Trips	Bicycle Ridership as % of Total Ridership
2012-2013	848	67,669	1.25%
2013-2014	753	72,379	1.04%
2014-2015	592	74,691	0.79%
2015-2016	980	69,070	1.42%
Average	**793**	**70,952**	**1.12%**

Improving Active Transportation Access to Transit Stops

Active Transportation investments should be targeted to improve access to transit services. In addition, bicycle parking locations should be included near existing and future transit stop locations to encourage greater use of the stops by facilitating transfers and improving access to transit for pedestrians and bicyclists. There is an opportunity for bike to transit and walk to transit to partially address the identified need to connect dispersed Amador County residents to transit services.

Community Events & Activities

The following is a sample list of events and activities in Amador County that are relevant to walking and biking.

Walk/Run Events

- 49er Bypass Run (Sutter Creek)
- Annual Youth 5k Run (Jackson)
- Bedbug Challenge 10K Run & 5K Walk/Run (Ione)
- Bunsen to Beaker Run (Jackson)
- Color Madness 5K Walk/Run (Jackson)
- Jackson Midtown 5K Walk/10K Run
- Jug & Rose Race (Volcano)
- Kirkwood Chili Thin Air Cook-Off 5K/10K (Kirkwood)
- Purple Soldier Neon Fun Run (Jackson Rancheria)
- Sutter Creek 5K Duck Dash
- Turkey Trot at Lake Tabeaud (Jackson/Pine Grove)

Biking Events

- Amgen Tour of California
- Push America
- Pardee Party
- Sierra Century
- Clark's Corner Cycling Challenge
- Amador Triathlon (Camanche)

Organizations

The following is a list of organizations relevant to walking and biking in Amador County.

- Amador County Recreation Agency (ACRA)
- Amador Council of Tourism (ACT)
- Amador High School Cross Country Team
- Argonaut High School Cross Country Team
- Erma's Diner Bike Group
- Motherlode Bike Coalition
- Amador County Hiking Meetup Group
- Wheezer-Geezers Walking Group

In addition, several local social service organizations coordinate walking group activities including:

- Community Compass- A behavior management program.
- Sierra Wind Wellness and Recovery Center- A self-help center.
- The ARC- Provides support services to persons with intellectual and developmental disabilities.

4.1.4. Gaps, Obstacles and Barriers

Topography and Land Use

Many of the roadways in Amador County have significantly steep grades, which poses a barrier to bicycle and pedestrian travel. In addition, Amador County lacks high population density areas and the presence of cycling generators and supportive demographics (e.g. a university, young adults). There is also a presence of historically traditional auto-oriented roadway and land use design which has not taken into consideration pedestrian and bicycle travel.

Weather

During the winter months, Amador County receives heavy amounts of rain. At times certain roadways commonly used for pedestrian and bicycle travel flood. In particular, back roads between Amador City and Sutter Creek as well as Clinton Rd (Jackson), West Marlette St (Ione), and Sutter Creek Volcano Rd can be affected. In addition the lack of street lighting in many regions in the County (even within cities and communities) is identified as a barrier to walking and biking in the region.

Funding

As demonstrated by the lack of improvements in bicycle and pedestrian improvements since the adoption of the 2006 Amador Countywide Pedestrian and Bicycle Plan, there are limited funds available to implement active transportation related projects within the County.

Due to funding limitations, pedestrian and bicycle improvements should be coordinated with existing and proposed roadway improvement projects to leverage funds. Positive collaborations and communications with Caltrans and other agencies and entities such as Amador County Recreation Agency, Amador Council of Tourism, Amador County Chamber of Commerce, and the Amador County Historical Society should be maintained.

Vehicle Conflicts

Many Amador County roads are rural, residential, have suitable speeds and low traffic volumes which attract pedestrians and bicyclists. However this poses various vehicle-pedestrian and vehicle-bicycle conflicts especially on windy roads that have little to no shoulder. Specific

roadways that were mentioned as being of concern for vehicle-bicycle conflict are: Fiddletown Rd, Shenandoah Rd, Stoney Creek Rd, Sutter Creek Volcano Rd, Rams Horn Grade, and Shake Ridge Rd.

Most of the vehicular collisions with pedestrians and cyclists are seen in areas in which the state highways (SR16, SR49, SR88, SR104, and SR124) pass through Amador County cities and communities, particularly in the downtown zones of Ione and Jackson.

4.2 Collision Data for Pedestrians and Bicyclists

Amador County experienced 108 total Pedestrian and Bicycle Collisions over the ten year period between 2006 and 2015 according to the California Highway Patrol's (CHP) Statewide Integrated Traffic Records System (SWITRS). Of these, 61 collisions (56.5%) involved a pedestrian and 47 (43.5%) involved a cyclist. Compared to similar areas (e.g. Calaveras County), Amador experienced 22% more collisions (between 2008-2012) than Calaveras despite having a smaller population and geographic area. Calaveras experienced 44 pedestrian and bicycle collisions (26 pedestrian and 18 bicycle) whereas Amador experienced 57 collisions in the same time period (29 pedestrian and 28 bicycle).

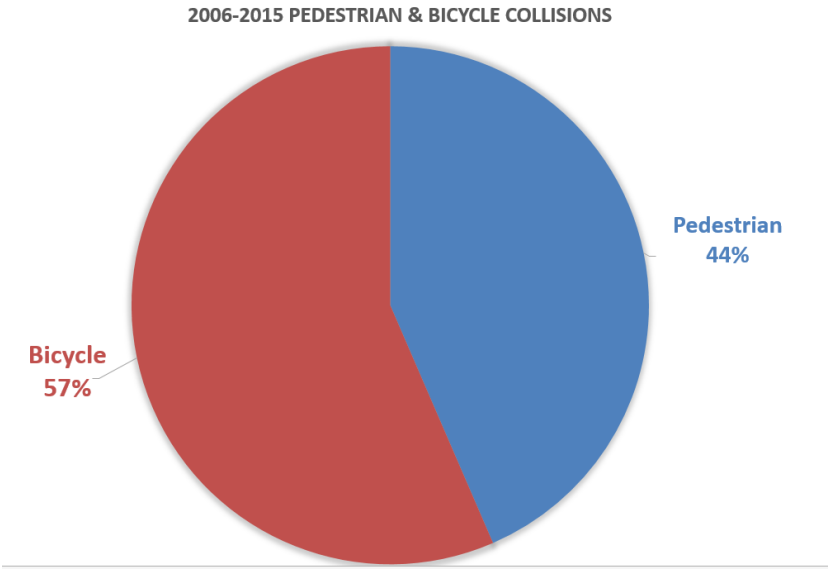


Figure 192.2006-2015 Bike and Pedestrian Collisions in Amador

The following chart shows collisions reported for each calendar year. This demonstrates that bicycle and pedestrian collision numbers have remained fairly constant over the period of 2006-2015, with an average of 10 collisions per year. Below are details regarding the locations of each of the collisions and if any resulted in severe or fatal injuries. Sixteen of the collisions caused severe injuries (12 of which were bicycle related) and four were fatal (1 bicycle related).

Further information regarding each collision can be found in Appendix A: SWITRS Bicycle and Collision Report Data.

Table 5. Pedestrian and Bicycle Collisions by City/Region from 2006-2015 in Amador County

City	Pedestrian	Bicycle	Total	% of Total
Jackson	13	6	19	17.6%
Ione	12	8	20	18.5%
Plymouth	1	2	3	2.8%
Sutter Creek	9	1	10	9.3%
Amador City	0	0	0	0.0%
Unincorporated	26	30	56	51.9%
Totals	**61**	**47**	**108**	**100%**

Table 6. Pedestrian and Bicycle Collisions by Severity and City/Region from 2006-2015 in Amador County

	Pedestrian		***Bicycle***	
City	**Severe**	**Fatal**	**Severe**	**Fatal**
Jackson	4	1	2	0
Ione	0	0	1	0
Plymouth	0	0	1	0
Sutter Creek	0	0	1	0
Amador City	0	0	0	0
Unincorporated	0	2	7	1
Totals	**4**	**3**	**12**	**1**

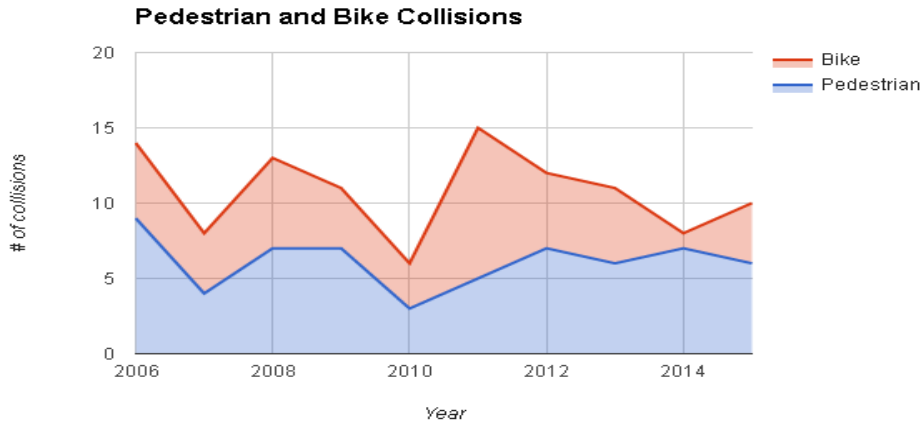


Figure 20. 2006-2015 Total Number of Pedestrian and Bicycle Collisions in Amador County

Transportation Injury Mapping System (TIMS) Geographic Information System (GIS) Tool, a visual analysis of pedestrian and bicycle collisions in the County from 2006-2015, shows that only 53 of the 108 total pedestrian and bicycle collisions were geographically identified. Of the 53 collisions in the TIMS data, it shows that the downtown area of Ione, and the Jackson area experienced the highest concentration of pedestrian and bicycle collisions. In Ione, most collisions occurred on Highway 104 within the downtown region of Ione. In Jackson, most collisions occurred on the section of Highway 88/49 between Sutter St. and Highway 88 (a common school zone pedestrian crossing area) as well as the area on Highway 49 near Marcucci Lane.

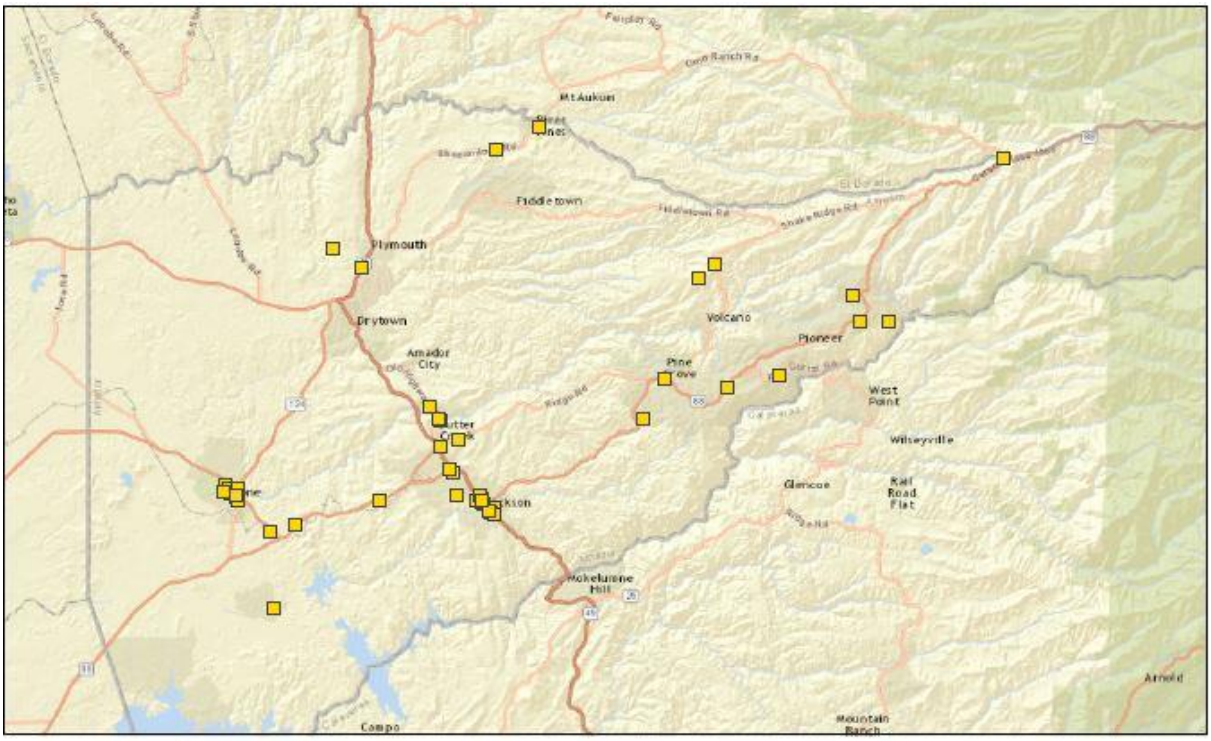


Figure 21. 2006-2015 Locations of Bike and Pedestrian Collisions in Amador County using TIMS GIS Tool

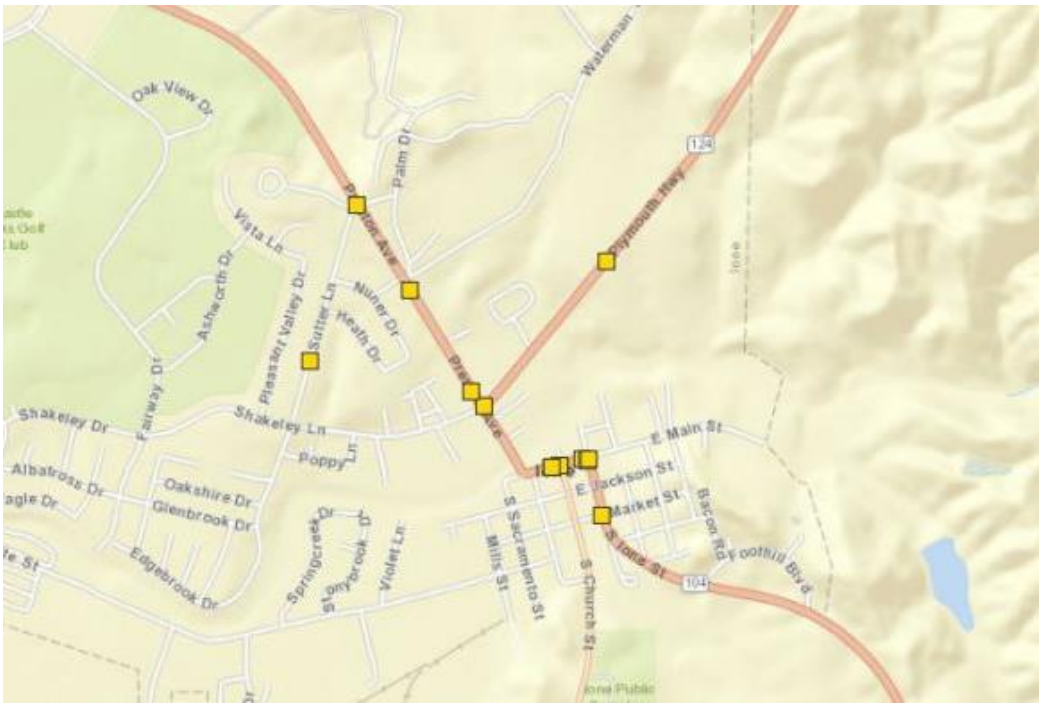


Figure 225. 2006-2015 Ione Pedestrian and Bicycle Collision Locations using TIMS GIS Tool

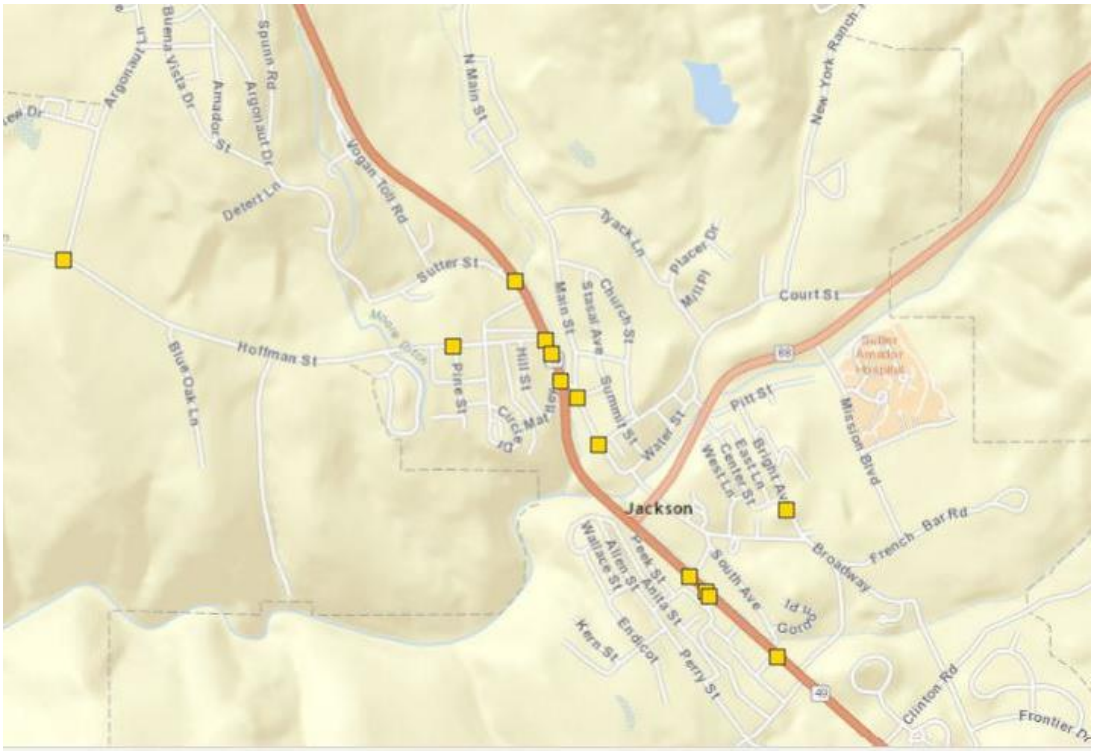


Figure 236. 2006-2015 Jackson Pedestrian and Bicycle Collision Locations using TIMS GIS Tool

4.3 Recent Expenditures for Pedestrian and Bicycle Facilities

Since 1995, the ACTC has set aside 2% of its available Transportation Development Act (TDA) revenues to implement the Region's priority pedestrian and bicycle improvements. These funds were loaned out for other purposes in 2010 and have since been repaid in-full. However, the Region has seen limited pedestrian or bicycle improvements since the 2006 Plan was adopted. The set aside account as of December, 2016 holds $328,838.44 and accumulates approximately $17,000 additionally each year. The fund was most recently used to assist the City of Jackson and Amador City for pedestrian improvements and planning purposes.

Primarily, expenditures on pedestrian and bicycle improvements within the County over the past ten years have been curb cut out and sidewalk improvements in new construction projects carried out by Caltrans. For example, along SR 49 in Martell near the intersections of SR 49 and Trade Center Drive/Industry Boulevard, throughout Jackson near Main St, and improvements in Ione along State Route 104. In 2008 Sutter Creek was awarded a grant to implement handicap modifications in the downtown area. In 2009, the City of Jackson constructed a Safe Routes to School project which placed a bicycle lane and added sidewalks on the west side of Argonaut Ln between Mariposa St and Hoffman St (the total project costs were $609,000). In 2013/14, Amador City constructed a streetscape project as part of a bridge replacement project in their downtown area which improved pedestrian facilities at the corner of Old Route 49 and Amador Creek Road all of which are now ADA compliant.

In 2015 the ACTC issued a call for projects for bicycle and pedestrian improvements. From this, the ACTC granted the following funds for various pedestrian and bicycle improvements.

- $65,000 to the City of Jackson for sidewalk improvements on Church St near the Elementary School.
- $8,000 awarded to Amador City for a planning study for pre-engineering visualization for pedestrian safety and bicycle and car parking improvements.

In February of 2017, the ACTC allocated $80,000 be spent to purchase two Rectangular Rapid Flashing Beacons (RRFB) to be installed at the crosswalks in front of the Town Hall on SR 88 in Pine Grove and the pedestrian crossing at Mel & Faye's Diner on SR 88 in Jackson.

4.4 Current Policies Related to Active Transportation within Amador County

Amador County

2016 General Plan Policies

Policy CM-3: Provide transportation alternatives to the automobile.

Policy CM-3.1: Identify priorities for the expansion of bicycle and pedestrian transportation that respect the rights of private property owners.

Policy CM-3.2: The County will seek funding for, and include pedestrian and bicycle facilities in Capital Improvement Planning, as feasible. These improvements should connect residents to communities, activity centers, and adjacent developments, and offer an alternative to automobile transportation.

Policy CM-3.3: Coordinate with public agencies to connect trail facilities.

Policy CM-3.4: Consider transportation needs in the context of new development proposals. Promote land use patterns which place residents near activity centers and essential services to reduce the need for frequent automobile travel.

Policy CM-3.7: The County will work cooperatively with Caltrans and local jurisdictions to identify priority alternative transportation improvements for bicycles, pedestrians, and transit users for state routes that intersect cities and towns and serve as main streets for these communities.

Policy CM-2.4: Maintain a Traffic Impact Fee program whereby new transportation needs (including bicycle and pedestrian needs) generated by new development are paid for by the development on a fair-share basis.

2015 Regional Transportation Plan (RTP) Policies

Policy 1B: ACTC recommends that the cities and county require new development to provide onsite facilities or otherwise contribute toward offsite facilities that can help minimize or otherwise mitigate their traffic impacts by encouraging people to walk, bicycle, use transit, rideshare, or otherwise reduce their reliance upon the private automobile.

Policy 6A: The ACTC will help the county, and Caltrans to implement the Goals, Policies, Objectives, and improvements identified in the adopted Amador Countywide Pedestrian and Bicycle Transportation Plan.

Policy 6B: ACTC recommends that the cities and county incorporate planned pedestrian and bicycle improvements with any updates to their General Plan circulation elements, transportation Capital Improvement Programs, and local building standards.

Policy 6C: The ACTC will help the cities, county, and Caltrans to incorporate planned pedestrian and bicycle improvements with the development and delivery of regional roadway projects identified in the RTP, city/county General Plan Circulation Elements, and transportation Capital Improvement Programs, and Caltrans' State Highway Operation and Protection Program (SHOPP) to the greatest extent feasible.

Policy 6D: ACTC recommends the cities, county, and Caltrans incorporate planned pedestrian and bicycle improvements such as shoulder widenings with development and delivery of their roadway improvement projects.

Policy 6E: The ACTC will assist the cities and County with the planning of shoulder widening projects that provide the state-mandated 3 feet of passing separation between bicyclists and motorists.

Jackson

City of Jackson's General Plan 2008 Circulation Element Update

Policy 2.A.3 The City shall require that new development's internal circulation plans include provisions for pedestrians, bicycles, automobiles, parking and bus facilities as well as Neighborhood Electric Vehicles (NEVs) consistent with separately adopted alternative transportation plans and/or guidelines.

Policy 6.A.1: The City shall construct sidewalks or pedestrian walkways along Highway 49 and 88.

Policy 6.A.2: The City shall continue to require new development to construct sidewalks or meandering walkways along all street perimeters.

Policy 6.A.3: The City shall promote use of walking routes, walkways, and hiking trails.

Policy 6.A.4: The City shall encourage businesses to shelter sidewalks through the use of awnings and increased outdoor seating.

Policy 6.A.5: The City shall encourage walking tours throughout the City through the use of signage designating points of interest.

Policy 6B.1: The City shall eliminate barriers to bicycle traffic within selected areas.

Policy 6.B.2: Bicycle lanes shall be constructed along new or reconstructed arterial and collector routes in, or adjacent to, the City wherever possible.

Policy 6.B.3: The City shall require new development to construct bicycle routes and/or provide secure facilities (i.e. bike racks), where feasible.

Policy 6.B.4: The City shall encourage existing businesses and employers to provide bicycle storage and lockers in order to promote bicycle commuter travel.

Policy 6.B.5: The City shall promote bicycle safety awareness and the responsibilities of cyclists.

Policy 6.B.6: The City shall continue to encourage the coordination of bicycle use with mass transit by equipping all buses with bicycle racks.

Sutter Creek

City of Sutter Creek's 2012 General Plan Draft Policies

Policy C-1.5.1: Road sections shall have curbs and gutters or alternative drainage facilities adequate for receiving storm water runoff from roadway surfaces. New roadway sections shall include sidewalks or pedestrian routes that provide safe and efficient pedestrian access. Sidewalks are preferred but may be deleted in an effort to minimize grading if an alternative is provided for pedestrian use that meets the satisfaction of the Planning Commission or City Council.

Policy C-1.11.1: Bicycle lanes or paved shoulders should be provided on new arterial and collector roadway facilities unless separated bicycle routes are provided for.

Policy C-1.11.2: When required for pedestrian access to public service facilities, the Planning Commission may require development projects to construct pedestrian walks.

Policy C-1.11.3: Sutter Creek will urge the safe crossings on Old Highway 49 especially on Old Highway 49 toward Sutter Hill Road and Sutter Creek-Volcano Rd.

Policy C-1.11.4: Sutter Creek should require new development proposals help create walking paths or lanes along Old Sutter Hill Rd and Sutter Creek-Volcano Rd.

Policy C-1.11.5: New development projects should be required to create a creekside trail system along Sutter Creek going toward Volcano as the city limits are moved outward.

Policy C-1.11.6: The design of public facilities, including pedestrian facilities shall comply with the Americans with Disabilities Act.

Policy C-1.11.7: New development projects should be tied together and to existing parts of the City by an interlinked bicycle and pedestrian trail network as addressed in the Parks and Recreation Element.

Policy C-1.11.8: Sutter Creek will require new development proposals to help coordinate a bike system to ensure safe access to schools and parks within town.

Policy C-1.11.9 The Sutter Hill commercial and industrial area should have bicycle and pedestrian access from the adjacent multifamily designated area. Specific facilities for pedestrian and bicycle circulation should be added to the Sutter Hill circulation plan.

Amador City

City of Amador City 1983 General Plan Policies

"Provide sidewalks along Highway 49 with safe separation from vehicular traffic."

Ione

City of Ione 2009 General Plan

Policy CIR-1.13: Evaluate potential crossings of Sutter Creek to alleviate traffic levels on existing roadways.

Policy CIR-2.1: Create a system of sidewalks, off-street trails and multi-use paths, as generally illustrated on Figure 4-3, that are used for walking, bicycling, and equestrian use that are attractive, natural, and safe transportation corridors.

Policy CIR-2.2: Consider how all plans and projects affect all modes of transportation, including bicyclists and pedestrians.

Policy CIR-2.3: Require bicycle and pedestrian connections to public transit systems at stops; carpool/vanpool park-and-ride lots; and activity centers.

Policy CIR-2.4: In designing development projects, design for the pedestrian first.

Policy CIR-2.5: Provide sidewalks throughout the City. Meandering sidewalks are discouraged, except where necessary to accommodate site-specific features such as trees or habitat.

Policy CIR-2.6: Provide safe and convenient bicycle access to all parts of the community.

Policy CIR-2.7: Provide bike lanes or other bike facilities along all arterials, connectors, and on local roadways when necessary and feasible to provide for interconnected routes. On-street bike routes may be provided on roadways as deemed necessary by the City.

Policy CIR-2.8: Promote bicycling and walking as a safe and attractive activity. Educate all road users to share the road and interact safely.

Policy CIR-2.9: Consult with ACTC to ensure that local bikeways and trails connect to regional bikeways and trails to provide for a regional bikeway and trail system in support of the Amador County Bicycle and Pedestrian Master Plan.

Plymouth

City of Plymouth 2009 General Plan

Goal 4G: “Complete Streets” providing an improved experience for all users.

Goal 4K: Improved system for walkability and community-wide bicycle access.

Goal 4L: Enhanced pedestrian safety through good design and incorporation of appropriate improvements.

Goal 4M: Provision of appropriately-scaled amenities to improve the pedestrian experience.

Goal 4N: Increased access to public transit services.

Goal 4O: Improvement of existing streets to include sidewalks and curbs and gutters.

5. Public Outreach

Public participation occurred throughout the planning process using the following outreach efforts:

- Oversight Committees
- Key Stakeholder Interviews
- School Principal Survey
- Community Meetings
- Social Media
- Mailing List
- Online Website (walkbikeamador.com)
  - Public Input Survey
  - Public Comment Map
  - Facebook Page
  - Email Distribution List (140+ subscribed followers)

The Pedestrian and Bicycle Plan ad-hoc committee consists of 10 people from the following: one representative from each City, two representatives from the County (one upcountry, and one foothill representative), and one representative from Amador County Unified School District, Amador County Recreation Agency, and Amador Council of Tourism. The committee met to oversee and assist with the work plan, public input survey and comment map, existing conditions, proposed and prioritized project lists, public outreach efforts, and the Draft Plan. In addition the Technical Advisory Committee and the Social Services Transportation Advisory Council for the Amador County Transportation Commission advised the planning process.

Figure 24. Outreach efforts with the Erma's Diner Bicycle Group

Beginning in September of 2016 a website was developed, walkbikeamador.com, to document the planning efforts and be a centralized hub to gather information related to the pedestrian and bicycle planning efforts happening in the County. The website allowed for easy online access to the public input survey as well as a public comment map. The website was heavily advertised through flyers that were distributed at local events including farmers markets and to local businesses. Information was also posted in the local paper, on the radio station, various news networks,

and through social media. The oversight committee met or contacted individuals and organizations throughout the county to discuss the plan and encourage community members to take the survey and identify locations where they walk and bike as well as hazards or barriers to walking and biking using the public comment map.

Stakeholders that were contacted included:

- City Managers and Mayors
- Amador Transit
- Caltrans
- Amador County Public Works
- Planning Commissioners
- California Highway Patrol
- Amador Water Agency
- Amador County Recreation Agency
- Amador County Unified School District
- Upcountry Community Council
- Pine Grove Civic Improvements Club
- Amador County Historical Society
- Bicycle Groups (Erma's Diner, Stockton Bike Club, Motherlode Bicycle Coalition)
- Jackson Bike Shop
- East Bay Municipal Utility District
- Amador Vintners Association
- Chamber of Commerce
- Local Businesses
- Volcano Community Association
- Senior Services and Active Aging
- Indian Grinding Rock State Historic Park
- Pacific Gas & Electric
- Sierra Pacific Industries
- Realtors
- American Association of University Women-Amador (CA) Branch
- Fitness Groups & Businesses

5.1 Principal Survey

A survey was distributed to all of the Amador County School Principals in early 2017 to better understand the improvements that are needed in school zones. The results of the survey are listed in Table 7 on the following page.

Table 7. Principal Survey Results

School	Estimated Students Walking	Estimated Students Biking	Description of Needed Improvements
Sutter Creek Elementary/Primary Schools	15	0	Sidewalks on Old Highway 49/Hanford St. between Main St. & Spanish St.
Shenandoah Valley School	0	0	Crosswalks at intersection of Highway 49 and Shenandoah Rd/Main St and sidewalks/path on Shenandoah Rd to school entrance.
Pine Grove STEM Elementary School	15	0	Improved crossings and traffic calming on Highway 88 just below driveway.
Pioneer Visual and Performing Arts Magnet School (Elementary)	5-6	0	Improved crossing on Highway 88 just below the school, there is no crossing guard, light, or signal.
Jackson Jr. High	Unknown	0	Improved sidewalk access from Highway 49 to school access on Hoffman St and pedestrian crossings on Highway 49/88. The Hoffman drop-off/pick-up area is unsafe. Addition of bicycle lanes, currently there are none.
Argonaut High School	75-100	<5	Argonaut Lane, additional sidewalks to connect to Highway 49. Sidewalks and bike lanes along Hoffman St from the Jr High to the High School.
Jackson Elementary	200	1-2	Sidewalks and crossing improvements along Court St. and near cemetery.
Ione Jr. High	50-75	5-10	S. Church St/Highway 124 improved crossings (currently unsafe) and sidewalks. Additional sidewalks on Highway 104.
Plymouth Elementary	50	10	Connect sidewalk gaps.
Ione Elementary	20	4-5	Additional sidewalks throughout town and improved crosswalks. Parking along the road of the school entrance makes it difficult to see students walking especially near congested entrance/exit which prohibits safe bicycling.
Amador High School	75-100	<10	Sidewalks and bike lanes along Highway 49 between Main St & Spanish St.
Independence High/North Star Independence High School	10	0	Ridge Rd & Bowers Dr/Prospect Dr intersection is very dangerous to cross.

5.2 Public Input Survey

From September 23th to December 31st, 2016 a walking and biking survey was available for public input. It was advertised through the walkbikeamador.com website and was promoted through Facebook, community meetings, the newspaper, the radio, and through networks of local organizations and news channels. A printable version of the survey and a Spanish version were also available. Printable surveys were distributed at community meetings.

The questionnaire addressed the following issues:

- Purpose and preferences of walking and bicycling trips
- Barriers to walking and bicycling
- Locations that residents are currently walking and bicycling

The respondents were given the opportunity to sign up for email updates related to the planning process, and were notified of upcoming meetings.

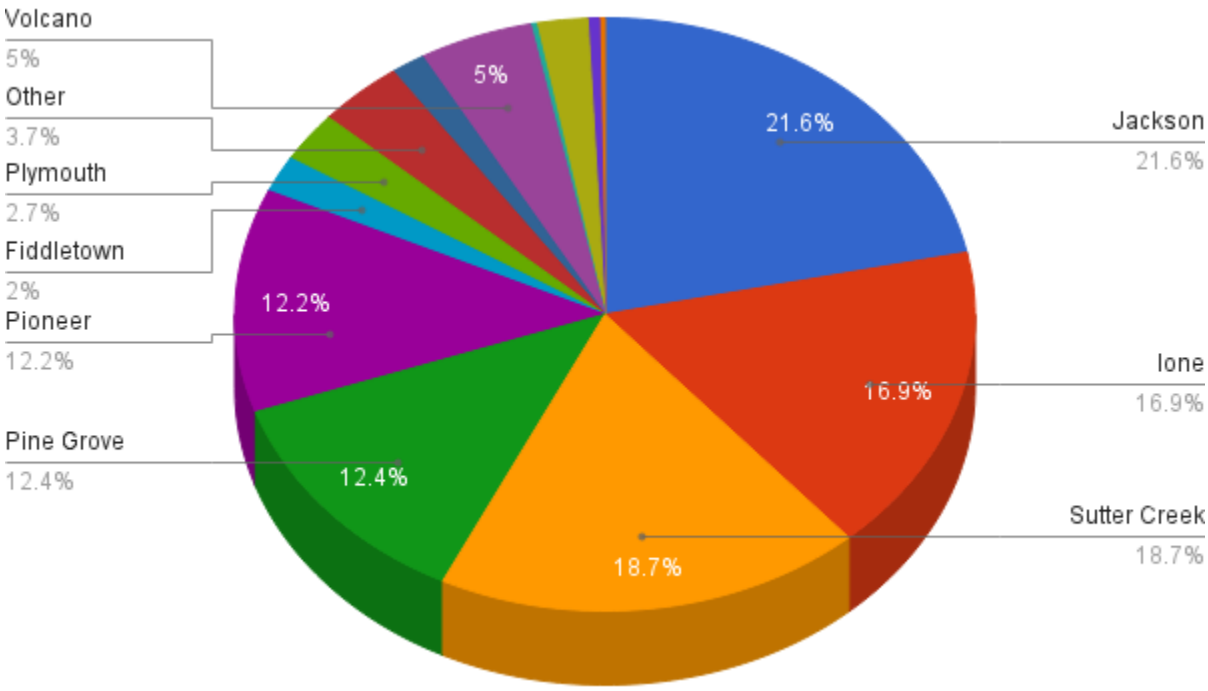
5.2.1 Survey Results

There were a total of 414 respondents to the survey, 94% of whom identified as current residents of Amador County. When considering the County's total population of approximately 35,000, this sample size represents a 95% confidence level with a +/-5% margin of error. Respondents appeared to live in various parts of the County that match the demographic composition of the County. Jackson and Ione residents had the highest response rates, 22% and 17% respectively, followed by Sutter Creek, Pine Grove, Pioneer, Volcano, and Amador City. However, the results may not be completely representative of the population given respondents were not randomly selected. Nonetheless, the following discussion outlines key observations regarding the 414 respondents' walking and bicycling habits and constraints.

Respondent Characteristics

Respondents were not asked to share their age or gender, however they were asked to identify the community or city they live in. The majority of respondents, 94%, identified that they live in Amador County. Of those who identified as not living in the County, some noted that they had lived in the County previously or are currently away for school. Locations of residence that were commonly mentioned among those who identified as not living in the County included: Calaveras, Stockton, Lodi, El Dorado, and Sacramento, which are all represented in the "Other" category of the following chart. The following chart demonstrates the frequency of residence location identified by respondents, once they had been categorized, for example some respondents identified as living "outside of Jackson" and were therefore categorized into the Jackson category. This helped to demonstrate to the planning team the quantity of residents that live in the rural midways between cities and communities.

What city or community do you live in? (407 responses)



Those marked as "Other" represent respondents that identified as living in areas that are not located within Amador or Calaveras County.

Not labeled:

- Calaveras: 1.5%
- Upcountry: 0.5%
- River Pines: 0.2%
- Drytown: 0.2%

Reasons to Invest

What is the most important reason for investing in walking and biking?

Respondents were asked to rank their top reasons for investing in walking and biking by indicating from a list of reasons with their respective level of importance: "Extremely Important", "Important", "Somewhat Important", and "Not at all important". The reasons for investing in walking and biking that were identified as most important were:

- Improving safety of walking/biking: 68% ranked as extremely important
- Creating safe routes to schools for walking and biking: 62% ranked as extremely important

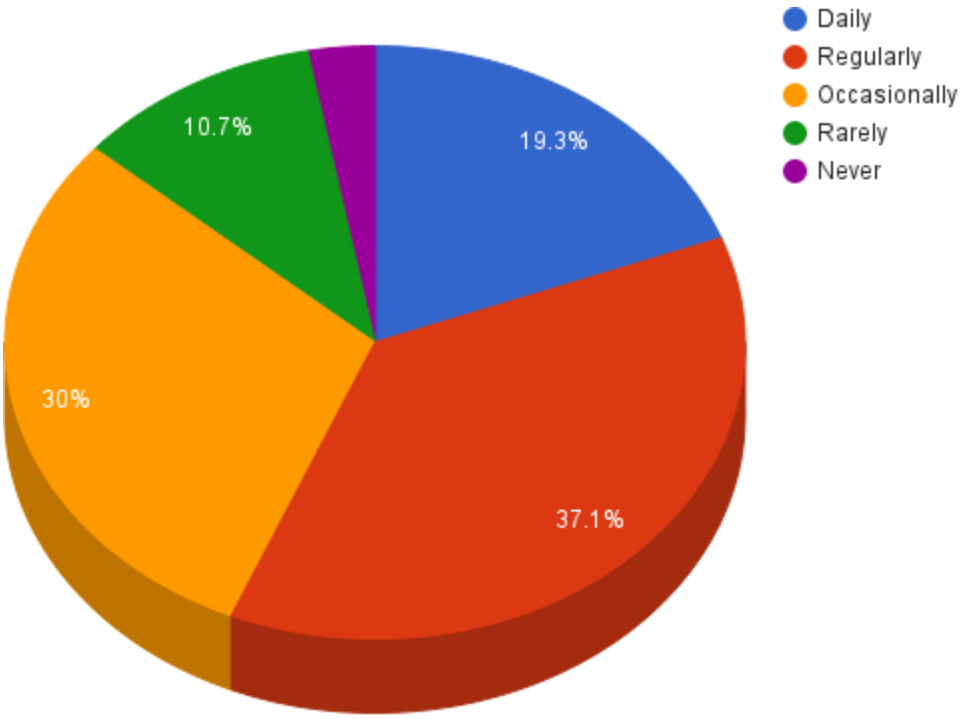
- Increasing health and physical activity: 60% ranked as extremely important
- Providing independent transportation for youth, seniors, people with disabilities, and others with limited access to a private vehicle: 40% ranked as extremely important

Walking Preferences

How often do you walk for transportation or recreation in Amador County?

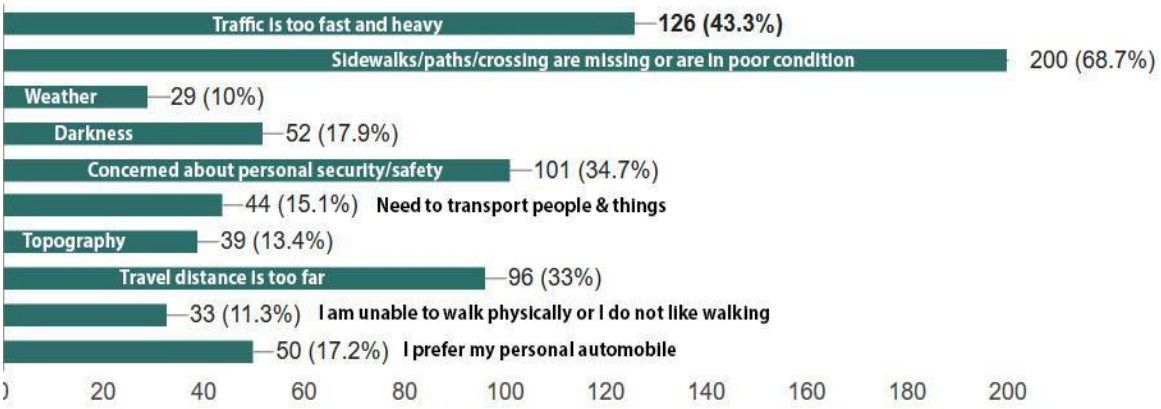
The majority of respondents (56%) indicated that they walk at least regularly, if not daily in Amador County. 30% indicated that they walk occasionally and 2.9% of respondents indicated that they never walk in Amador County.

How often do you walk for transportation or recreation in Amador County?



When asked what were the greatest barriers to walking in Amador, the top response was "sidewalks/paths/crossings are missing or are in poor condition", followed by "traffic is too fast and heavy", and "concerned about personal security/safety." This confirms earlier notions that walking in Amador currently feels unsafe due to a lack of separation from motor vehicle traffic due to missing sidewalks and paths.

If you do not walk regularly in Amador, what are the reasons that you do not? Check all that apply. (291 respondents)

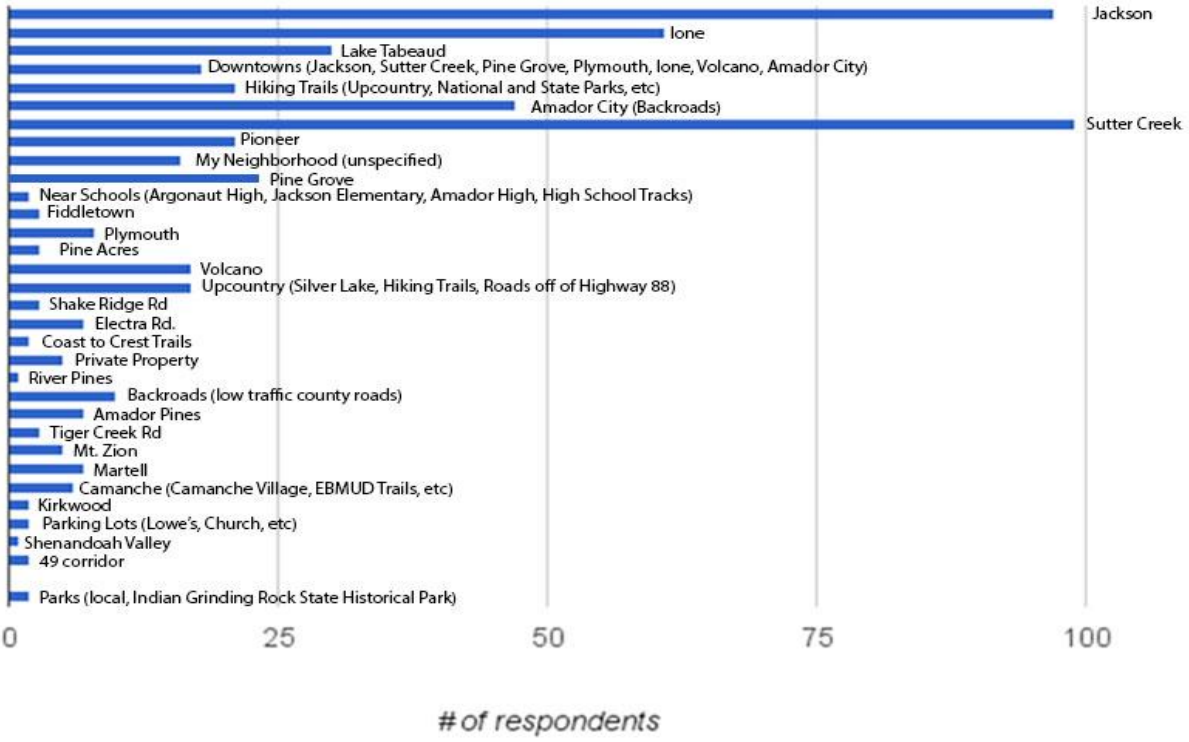


# of survey respondents in relation to reason identified

When asked how often people walked for various trip purposes (recreation, to walk pet, shopping, attend community events, etc.). It was found that the top purposes for walking are leisure/fitness (20% daily, 56% regularly) followed closely by walking a dog or pet (16% daily, 35% regularly) and shopping/errands/dining (10% daily, 23% regularly), and hiking recreation (9.5% daily, 52% regularly). 28% of respondents noted that they at least regularly walk to visit friends and 25% similarly indicated they at least regularly walk to attend community events. Ten percent of respondents indicated that they walk to commute to work daily or regularly. A very small percentage indicated that they walk daily or regularly to commute to school (5%) or to get to transit (2%).

When asked which areas within Amador County that you walk the most, the most common responses included Sutter Creek, Jackson, and Ione - in particular the historic downtowns of Sutter Creek and Jackson as well as the Castle Oaks housing development in Ione. The responses highlighted the heavy use of low volume local roads that are used for both walking and running especially those near the Mokelumne River (Electra Rd, Middle Bar Rd, and Stony Creek Rd). An important walking area that was frequently mentioned is Amador City and the narrow low traffic back roads that provide two (2), four (4), and six (6) mile walking loops around Amador City and between Sutter Creek and Amador City (Amador Rd, Turner Rd, String Bean Alley, Amador Creek Rd, Mayflower Rd, Bunker Hill Rd, and New Chicago Rd).

Which areas within Amador County do you walk in the most?



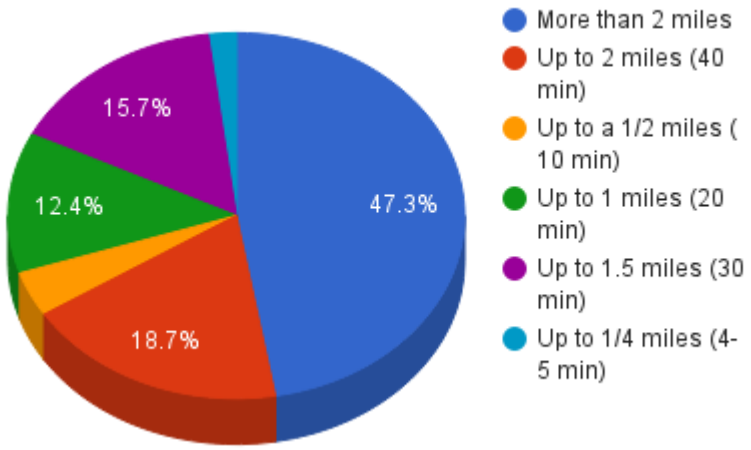
Areas from Most to Least:

- Sutter Creek
- Jackson
- Ione
- Amador City
- Lake Tabeaud
- Pine Grove
- Hiking Trails (Mostly Upcountry)
- Downtowns
- Pioneer
- Volcano
- Upcountry
- My neighborhood (unspecified)
- Backroads
- Plymouth
- Electra Rd.
- Amador Pines
- Martell
- Camanche (EBMUD trails, Camanche Resort and Village)
- Mt. Zion
- Private Property
- Pine Acres
- Tiger Creek Rd
- Fiddletown
- Shake Ridge Rd
- Coast to Crest Trails
- Schools
- 49 corridor
- Parks
- Kirkwood
- Parking Lots (Lowe's, Church, etc.)

The facilities that were identified as being the most important to improve walking and biking within Amador were (1) More walking paths and trails, (2) Improved sidewalks, (3) Improved pedestrian crossings, and (4) Fill in sidewalk gaps.

Most walking trips are less than 1.5 miles and most bicycling trips less than 3 miles in length, although recreational trips are often much longer. Reasonable trip times for walking and cycling are 30 minutes for work and school, 10-15 minutes for shopping/services, and most destinations within 7 miles. In urban planning, it is a widely accepted notion that most people will not walk further than ¼ to ½ mile to regularly access goods and services or the nearest transit stop. However, given the rural nature of Amador County, the planning team wanted to identify what a comfortable walking distance was for Amador County residents. Since most residents walk for leisure or fitness in the area, results were higher than average compared to urban areas. The majority of respondents identified that they felt comfortable walking at least up to two miles (47% identifying they were comfortable walking more than two miles, and 18% of respondents comfortable with walking up to 2 miles). Another 15% identified that they were comfortable walking up to 1.5 miles, 12% comfortable with 1 mile, 4% with ½ mile, and 2% comfortable with only a ¼ mile.

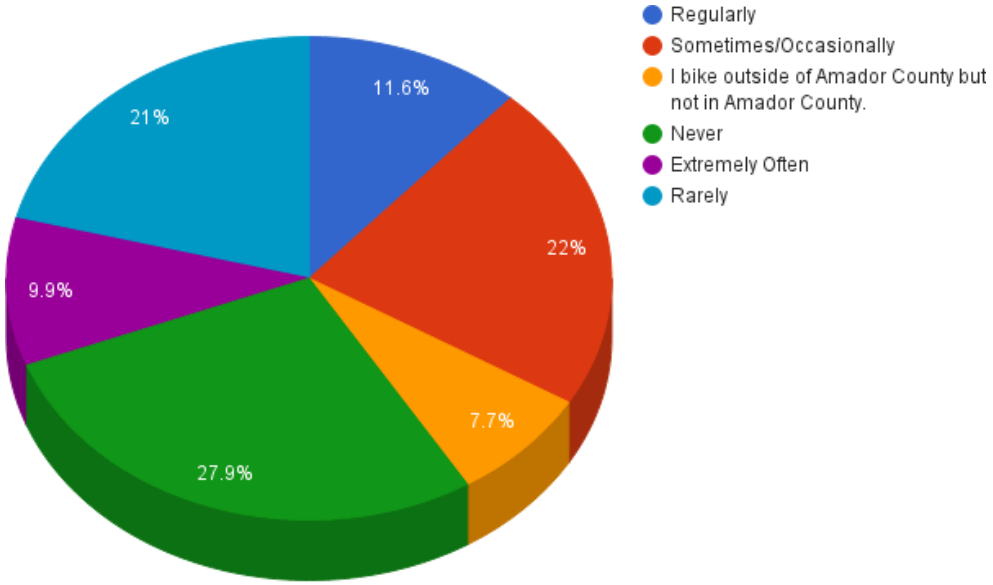
For a typical walk, what distance is comfortable for you? (407 respondents)



Biking Preferences

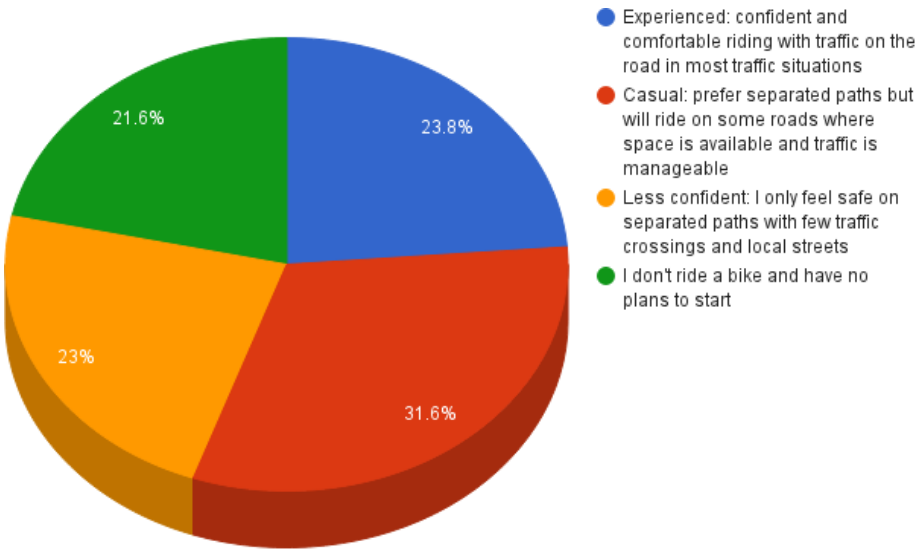
When asked whether or not respondents biked in Amador County, 10% indicated that they bike extremely often, 11.6% regularly, and 22% sometimes/occasionally. It was apparent that fewer respondents bike than walk in Amador, with 21% indicating that they rarely bike in Amador and 28% never bike in Amador. Another 8% of respondents claimed to bike outside of Amador but not in Amador.

Do you bike in Amador County? (405 respondents)



When asked to describe their comfort level with biking, nearly a third of the respondents (32%) identified as casual bikers, preferring separated paths and comfortable on some roads where space is available and traffic is manageable. 23% of respondents indicated that they felt they were an experienced rider (comfortable riding with traffic), whereas, 23% of respondents indicated they were less confident riding a bicycle and only feel safe on local streets and separated paths with few traffic crossings. 21% of respondents indicated that they do not ride a bike and have no plans to start riding as indicated by the following chart.

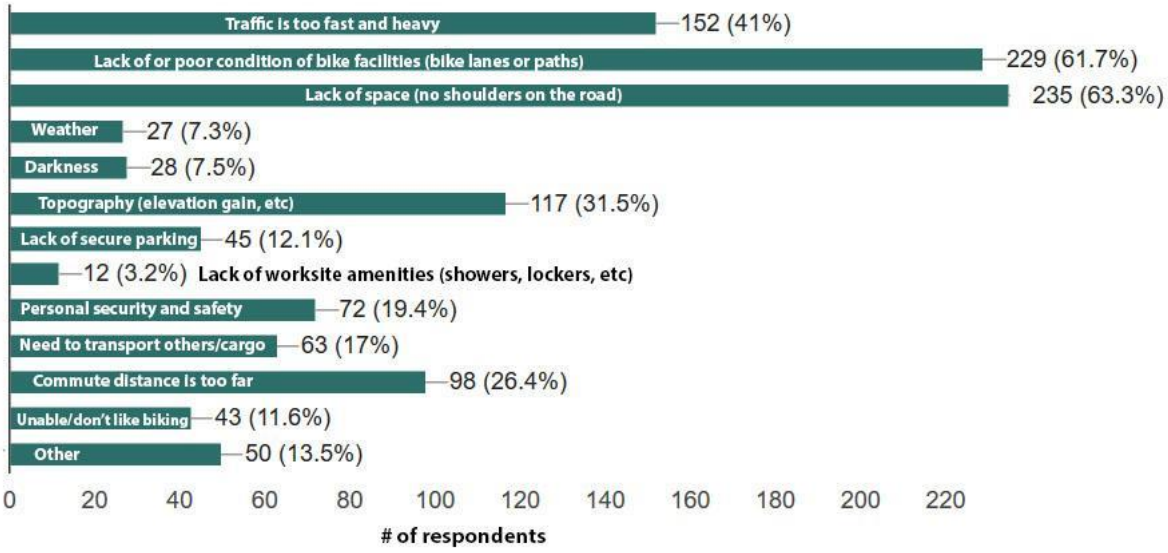
How would you describe your level of comfort or confidence biking? (410 respondents)



The primary trip purposes for bicycle riding by respondents were primarily for "Leisure/Fitness" (4% daily, 36% regularly) and "Recreation" (7.5% daily, 34% regularly). A small majority of respondents indicated that they bicycle regularly to visit friends (8%), shopping/errands/dining (7%), commute to work (5%), and commute to school (4%). Only four respondents (1%) indicated they rode a bicycle daily to commute to work. This confirms the use of County roads for recreational cycling and lack of commuter bicycle traffic.

This was further demonstrated by the responses to the question, "If you do not bike regularly in Amador, what is the main reason that you do not?" The two reasons that were identified by the most respondents was "lack of, or poor condition of bike facilities (bike lanes & paths)" as well as "lack of space (no shoulders on the road)". Other common responses to consider as barriers in Amador County for bicycling to be used for transportation is topography and long commutes. All responses for this question are demonstrated in the chart below.

If you do not bike regularly in Amador, what is the main reason that you do not? (check all that apply)

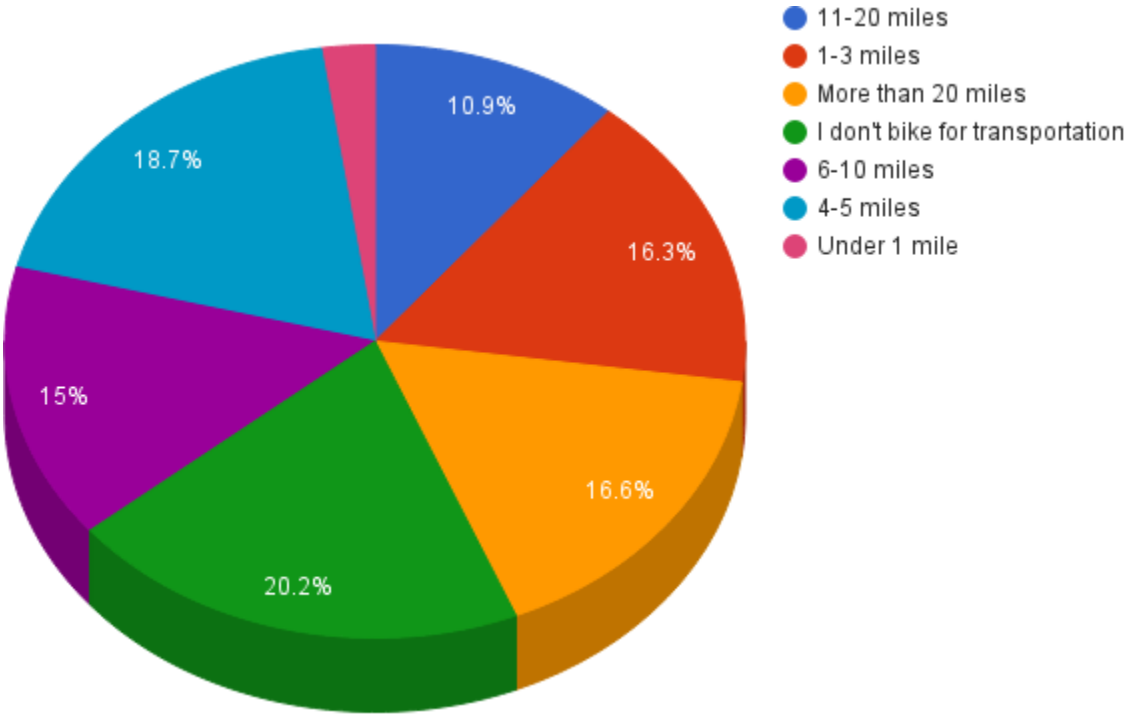


The majority of respondents identified that they prefer to cycle on paths/trails (68%), followed by bike lanes (63%), and side paths along roadways (39%). A small percentage identified they prefer to ride on the road; 28.7% on local streets and only 6% on roads where traffic speeds and volumes are high. Twenty three percent of respondents indicated they prefer riding on the shoulders of a roadway.

When asked what distance is comfortable for a typical bicycle trip, there were a wide range in responses which are demonstrated in Figure 9. A large percentage of respondents (20%) identified that they currently do not bike for transportation. Fifty two percent of respondents

identified that they bike between 0-10 miles, while 27.5% identified that they were comfortable biking more than 10 miles.

For a typical bicycle trip, what distance is comfortable for you? (386 responses)



In addition, when asked what facilities were the most important to promote bicycling in Amador, the most common responses were (1) More bicycle paths and trails, (2) paved shoulders on narrow roads, (3) wider outside lanes/shoulders, and (4) improved buffers between cyclists and vehicles.

When asked where bicyclists traveled the most, the most common areas were:

- Jackson: Clinton Rd, China Graveyard, Mission, Jackson Gate, Argonaut Drive, Hoffman.
- Ione and outside Ione: Castle Oaks Housing Development, West Marlette St, 5 mile Drive, Dave Brubeck Rd.
- Sutter Creek
- Sutter Creek Volcano Rd
- Amador City and surrounding back roads.
- Pine Grove & Pine Acres.
- Plymouth: Shenandoah Rd, Latrobe Rd, Downtown.
- Volcano: Daffodil Hill/Rams Horn, Hale Rd

- Pioneer: Buckhorn, Mace Meadows, Highway 88 corridor, Amador Pines.
- Back Roads
    - The most common roads mentioned were Fiddletown Rd, Sutter Ione Rd, Rams Horn Grade, Ostrom Rd, Carbondale, Hale Rd, Stony Creek Rd, Electra Rd, and Quartz Mountain Rd
- Shake Ridge Rd
- Highways
    - The Highway 88 corridor was most frequently noted, along with Highway 16, 104, 49, and 124.
- Camanche: Camanche Village, Curran Rd, Buena Vista, Jackson Valley Rd
- Upcountry: Most notably mentioned was Silver Lake.

A large number of respondents used this question to identify the lack of safety on Amador roads as a bicyclist. Twenty seven respondents mentioned that they do not bike currently because the roads are not safe.

The most common cycling routes that were mentioned were routes that (1) start in Ione and head to Plymouth or Sutter Creek; (2) between Sutter Creek and Volcano via Sutter Creek Volcano Rd; Sutter Creek to Volcano and Fiddletown via Shake Ridge Rd, Fiddletown Rd, and Hale Rd; (3) Plymouth and Fiddletown to River Pines and Mt Aukum via Ostrom Rd, Shenandoah Rd, Lawrence Rd, Tyler Rd; (4) Ione and Buena Vista to Pardee, Lake Amador, Camanche Village, Valley Springs, and Campo Seco via Buena Vista Rd, Stony Creek Rd, Camanche Rd, Camanche Pkwy, Dave Brubeck Rd, and Jackson Valley Rd.

6. Proposed Projects

After reviewing comments during the public outreach process, reviewing local jurisdiction planning documents, and analyzing popular origin and destination locations for pedestrians and bicyclists a list of pedestrian and bicycle projects was developed, see Appendix B. The projects are listed in no particular order and provide detailed information including the project location, description, planning level cost estimates, and location of the project in other planning documents (Local Proj ID). Included in Appendix B along with the project descriptions are detailed maps of project locations with key destinations and existing and proposed bicycle parking locations. Appendix C may be referenced for a list of the proposed bicycle parking locations.

In total, all **113** projects for the 5 cities and un-incorporated areas of Amador County are estimated to cost **$221,450,530**. The list represents a "wish-list" of projects to improve the safety and user experience of pedestrian and bicycle travel within Amador County. Each project has been ranked using a qualitative analysis method to evaluate the status of proposed projects, based on project support, safety, feasibility, and ability to achieve business and connectivity goals (see Appendix D). To supplement the project list, objectives were developed for each city and community within Amador County which are listed below.

6.1 Sutter Creek

Main Objectives: Connect residential areas to other residential areas and neighborhoods, connect residential areas to the downtown and commercial zones (Sutter Hill/Martell), and connect historic features and attractions so that visitors can comfortably walk between them.

6.2 Jackson

Main Objectives: Make it safer to walk and bike in downtown zone especially along sections of SR 88 and SR 49, develop Oro de Amador site with recreational trails that connect to downtown zone, and improve pedestrian and bicycle connectivity between Jackson Junior High School and Argonaut High School.

6.3 Ione

Main Objective: Reduce truck traffic in downtown zone, connect Elementary School and Junior High Schools to each other, and connect schools and downtown zone to Howard Park.

6.4 Amador City

Main Objective: Improve bicycle and pedestrian visitor experience with bicycle racks, benches, and water fountain while maintaining historic ambiance of the City and maintaining parking spaces.

6.5 Plymouth

Main Objective: Ensure successful construction of 2015 ATP grant award, improved pedestrian and bicycle access along SR 49 and Main St.

6.6 County Areas

Main Objective: Develop and maintain safe walking and biking areas through the local community zones of Pioneer, Pine Grove, Martell, Fiddletown, River Pines, Camanche, Buena Vista, and Volcano that connect residents to local community services and increase recreational access.

6.6.1 Pioneer

Main Objective: Work with Caltrans to develop pedestrian crossings in school and commercial zones.

6.6.2 Pine Grove

Main Objective: Successfully implement the pedestrian and bicycle components of the Pine Grove Corridor Improvement Project.

6.6.2 Martell

Main Objective: Improve pedestrian and bicycle facilities to increase active transportation to access good and services.

6.6.3 Shenandoah Valley

Main Objective: Improve safety of bicycling and walking.

6.6.4 Fiddletown

Main Objective: Improve safety of bicycling and walking.

6.6.5 River Pines

Main Objective: Improve safety of bicycling and walking.

6.6.6 Camanche/ Buena Vista

Main Objective: Improve safety of bicycling and walking and provide public restroom facilities for recreation users.

6.6.7 Drytown

Main Objective: Improve safety of bicycling and walking for local residents.

6.6.8 Volcano

Main Objective: Improve safety of bicycling and walking.

6.6.9 Interregional Connectors & Trails

Main Objective: To provide bicycle facility improvements on popular bicycling routes and key interregional connections between community areas. An effort should be made to widen shoulders along key corridors that connect residents to common destinations, which improves safety and road conditions for bicyclists, vehicles, and pedestrians.

Please see **Appendix B** for a full list of proposed projects including project description, cost estimates, location maps, and more.

7. Implementation

To ensure the implementation of the Amador County Pedestrian and Bicycle Plan, projects will be incorporated into the updates of the Regional Transportation Plan (RTP). In addition, the ad-hoc Pedestrian and Bicycle committee will continue to meet annually or bi-annually to ensure that projects are incorporated into the transportation planning process, are progressing to implementation, and local jurisdictions are incorporating policy recommendations into local plans and work efforts.

7.1 Policy Recommendations

The policies outlined below are recommended to be included in future updates of the Amador County General Plan and General Plan Circulation Elements for the five cities.

7.1.1 Enforcement Policies

- Support active enforcement of bicycle use and safety laws.
- Support bicycle safety education for all bicyclists.
- No operator of any vehicle shall stop, stand, park, or leave standing such vehicle upon any on-street path or lane designated by official signs or markings for the use of bicycles or otherwise drive or place the vehicle in such a manner that impedes pedestrian access on sidewalks.
- Bicycles may not leave bicycles on their sides or park bicycles on the sidewalk or roadway in a manner that obstructs multimodal traffic flows.

Enforcement and transportation planning and engineering officials should meet to ensure enforcement at high conflict zones and to promote safety awareness and education for all roadway users. Speed feedback signs and trailers can be used to reduce speeds and enforce speed limit violations in known speeding problem areas.

7.1.2 Bicycle Policies

- Develop bikeways, including shared routes and bicycle boulevards, when feasible, that comply with the standards of Sections 2374-2376 of the Streets and Highways Code pertaining to bikeways.
- Work to maintain current and adequate maps and guides of walking and biking areas within the County.
- Provide bicycle parking, as feasible, at public facilities and encourage private entities to do the same.

- Encourage maintenance of bikeways and bicycle support facilities in a condition favorable to use by bicyclists, including the sweeping of adopted bikeways on a regular basis.
- Provide bicycle parking as feasible at public facilities and encourage private entities and major employers, as appropriate, to provide support facilities that encourage bicycle commuting.
- Provide bicycle parking facilities at major bus transfer points and racks on all transit vehicles.

7.1.3 Land Use and Transportation Policies

Tourism is an increasingly important industry in Amador County. By connecting local attractions to historical downtowns, Amador County can improve the visitor experience. In addition, investing in high density housing in the Sutter Creek, Sutter Hill, Martell, and Jackson areas and further developing Martell as a Regional Service Center equipped with pedestrian and bicycle infrastructure that connects to downtown zones will help to increase pedestrian and bicycle transportation. To increase bicycle transportation in the county, it will be important to develop bicycle and pedestrian connectivity between Jackson and Sutter Creek, the primary service centers of the region. This could be done by prioritizing County projects in the Martell region. In addition, there are several land use policies and building codes that can help to improve pedestrian and bicycle transportation in Amador County.

- Bring building fronts to the street, rather than separating them from the street with large setbacks or parking. An accessible building entrance facing the street provides a seamless connection to the building for non-motorized travelers, helping to improve bicycle and pedestrian connections.
- If onsite parking is needed, it is recommended to place parking at the back or sides of the development to link new development with the street fabric. Pedestrians and bicyclists experience fewer hazards associated with curb cuts and motor vehicle ingress and egress. Creating pedestrian oriented building development and parking location standards can result in place making and safety benefits.
- Recommend new development projects consider providing onsite facilities and/or otherwise contribute towards offsite facilities that can help mitigate their traffic impacts by encouraging people to walk, bicycle, use transit, rideshare, or otherwise reduce their reliance upon the private automobile.
- Develop a balanced, equitable and efficient multimodal transportation system that provides a range of transportation choices; reduces congestion, improves mobility, optimizes connectivity, enhances safety, preserves existing infrastructure, communities,

and the environment, and supports socio-economic development throughout the Region.

7.2 Project Funding

One of the largest challenges to implementing pedestrian and bicycle projects is the lack of available funding. This section covers federal, state, regional, and local sources of funding, as well as some non-traditional funding sources that have been used by local agencies to fund bicycle, pedestrian, and safe routes to school infrastructure programs.

Active Transportation Program

The current Federal Highway Bill, Fixing America's Surface Transportation Act (2016-2020) created the Transportation Alternatives Program which focuses funding toward multimodal transportation projects. The program allowed States to utilize this funding to create their own funding programs following the basic principles of the Transportation Alternatives Program. California took advantage of this flexibility and created the Active Transportation Program or ATP. The purpose of the ATP is to encourage increased use of active modes of transportation by increasing the proportion of trips accomplished by walking or biking, increasing safety and mobility for non-motorized users, achieve greenhouse gas reduction goals (pursuant to SB375 and SB341), enhance public health, ensure disadvantaged communities fully share in the benefits of the program, and provide a broad spectrum of projects to benefit many types of active transportation users.

The program's first funding cycle took place in 2014 (programming projects for funding in 2016), in which the City of Jackson and the City of Sutter Creek submitted applications for projects. The California Transportation Commission (the administering agency for the ATP) adopted a list of 265 projects to receive $368 million in ATP funds, Amador County applications were not funded in this cycle. The second ATP funding cycle took place in 2015, the City of Plymouth and the City of Jackson applied for funding. As part of this cycle the CTC allocated $215 million in ATP funds to a list of 114 projects including $1.1 million which was awarded to the City of Plymouth's Safe Routes to School project to connect the Shenandoah Valley School to the Elementary School via a multi-use path and sidewalks. The third ATP Cycle took place in 2016, no Amador County agencies applied for this cycle. The next cycle of ATP, Cycle 4, is likely to take place in 2018.

Due to the highly competitive program, rural areas struggle to receive project awards in the Active Transportation Program. Due to the recent passage of SB1, this program will receive an additional $100 million annually. The Amador County Pedestrian and Bicycle Plan positions

priority projects of the cities and County for competition under the ATP and other federal, state, and regional funding sources.

Other Potential Funding Resources

- Congestion Management and Air Quality (CMAQ)
- State Transportation Improvement Program (STIP)
- Regional Surface Transportation Improvement Program (RSTIP)
- Office of Safety Grants
- Highway Safety Improvement Program (HSIP)
- Partnership for Sustainable Communities
- Federal Transit Administration (5339)
- Community Transformation Grants
- Regional/Local
- People For Bikes Community Grant Program
- Community Development Block Grant (CDBG)
- Recreational Trails Program
- Land and Water Conservation Fund
- Sustainable Transportation Planning Grant Program (Caltrans)
- Low Carbon Transit Operations Program (LCTOP)
- California Lending for Energy and Environmental Needs (CLEEN)
- Affordable Housing and Sustainable Communities Program
- Public Works Economic Development Program
- Developer Impact Fees
- Coordination in new construction
- Self-Help Sales tax
- Amador Community Foundation
- Private
- Bank of America Charitable Foundation, Inc. Neighborhood Excellence Program
- Community Action for a Renewed Environment (CARE)

7.3 Project Preparedness

7.3.1. Policy for ACTC Pedestrian and Bicycle Account

The ACTC maintains a pedestrian and bicycle trust fund account which accumulates 2% of Amador County's Local Transportation Fund (LTF). The current unobligated balance of the

account as of October, 2017 is $293,974.76. This fund should primarily be used to leverage funds for regional, state, and federal funds such as the Active Transportation Program as funds become available. The purpose of the Pedestrian & Bicycle Reserve Fund is to fund new regional pedestrian and bicycle facilities not already required for mitigation or programmed for funding. Current ACTC policy ensures that the Pedestrian and Bicycle Reserve Fund shall maintain a balance of $250,000 in reserve. Due to the limited amount of funds available, these funds are not be used to augment agency staff time. Likewise, ACTC will not charge cost to administer this process to the Pedestrian and Bicycle Reserve Fund. If sufficient funds are anticipated or have accumulated in the Pedestrian and Bicycle Reserve Fund, the ACTC will issue a call for projects. Applications will be evaluated based on the criteria below by a Review Team determined by the ACTC. The ACTC may request additional information prior to Commission approval. The Commission will review recommendations from the Review Team and decide which projects, if any, will be funded. Applications may be submitted for project infrastructure and construction as well as project development, such as planning, preliminary engineering, environmental documentation, etc.

The ACTC has established criteria to analyze and evaluate applications for pedestrian and bicycle transportation facilities (PUC Section 99401). Transportation project priorities are established in planning documents such as the Regional Transportation Plan (RTP), the Amador Countywide Pedestrian and Bicycle Transportation Plan, and programming documents such as the Regional Transportation Improvement Program (RTIP).

Selection Process Outline

1. Project sponsors may meet with ACTC staff to discuss potential projects.
2. ACTC staff will conduct an Eligibility Review of the applications and screen them for eligibility.
3. ACTC staff forwards the applications to the Review Team.
4. The Review Team prioritizes and ranks the applications, but does not discard any applications. The Review Team, Commissioners, and/or ACTC staff reserve the right to contact applicants during this project selection process for additional information.
5. ACTC staff will then provide a complete funding recommendation to the ACTC.

Eligibility Requirements

- Eligible agencies will abide with all applicable federal and state regulations.
- The project must conform to the RTP and/or the Amador Countywide Pedestrian and Bicycle Transportation Plan (21 CCR 6651).

- The project must conform to the general design criteria of the Streets and Highway Code (PUC Sec. 99401).
- The project must meet Americans with Disabilities Act (ADA) standards.
- The requested funds cannot be used to supplant existing programmed funds.
- For cooperative projects, other sources of funding must be identified. Supporting documentation shall show that matching funds are committed.
- Projects which are a required element of a larger capital improvement project or program are not eligible for funding.
- No single agency may submit an application that requests more funds than the total available for that fiscal year.
- Local agencies are generally responsible for all staff time which can be considered in-kind match.
- Funding shall not be used to fully fund the salary of any one person (PUC Sections 99233.3).

Project Scoring Criteria

- Potential for Increased Walking and Bicycling - identification of walking and bicycling routes to and from schools, transit facilities, community centers, employment centers, and other destinations; and including increasing and improving connectivity and mobility of non-motorized users. (30%)
- Consistency with Adopted Plans – level of consistency with goals in current, adopted RTP and Amador Countywide Pedestrian and Bicycle Transportation Plan (20%)
- Leveraging – includes third-party support, (e.g. project is competitive for grant funds from other programs; funds a project component needed to effectively compete for a state or federal grant) (20%)
- Limitations – scope/cost/size is such that project would not effectively compete in state and federal grant programs (15%)
- Project support – documented agency resources and public support (e.g. sufficient resources including staff time committed to complete within the programmed year(s); letters of support) (10%)
- Local match – percentage share of local cash and future in-kind funds committed to the project (5%)

Project Management and Delivery

Once projects have been approved by the ACTC. Invoices will be paid on a reimbursement basis only for work completed. Local agencies will provide sufficient documentation to support any invoice and include a project update with each invoice submission. Local agencies will inform ACTC of project completion in writing. Unused funds will be made available for other ACTC projects in the region.

8. References

Plans Reviewed

- 2006 Amador Countywide Pedestrian and Bicycle Plan
- 2015 Amador County Regional Transportation Plan (RTP)
- Jackson Creek Walk ATP Cycle 1 Application
- Sutter Creek Hanford Street Improvements ATP Cycle 1 Application
- Plymouth Safe Routes to School ATP Cycle 2 Application
- 2040 California Transportation Plan
- 2007 Calaveras Pedestrian Plan
- 2016 California State Bicycle and Pedestrian Plan
- El Dorado Pedestrian and Bicycle Plan
- City of Ione Downtown Plan 2012
- City of Ione Circulation Element
- City of Plymouth Circulation Plan and Street Development Impact Mitigation Fee Update
- City of Jackson TCIP/TIM Fee Update and Nexus Report Draft
- City of Sutter Creek Circulation Element

Other References

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Promoting Active Transportation: An Opportunity for Public Health Primer. American Public Health Association (APHA) and Safe Routes to School National Partnership. 2012. Accessed online: http://www.saferoutespartnership.org/sites/default/files/pdf/The_Final_Active_Primer.pdf

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State-wide Integrated Traffic Record System (SWITRS). Pedestrian and Bicycle Collision Data for each Calendar year. Compiled on August 24, 2016. California Highway Patrol (CHP).

Teschke, K., et al. Route Infrastructure and the Risk of Injuries to Bicyclists: A Case-Crossover Study. American Journal of Public Health. Volume 102, Issue 12. December, 2012.

2040 California Transportation Plan: Integrating California’s Transportation Future. California Department of Transportation (Caltrans). June 2016.

Toward and Active California State Bicycle and Pedestrian Plan. California Department of Transportation. 2017.

The Clean Air Partnership. (2009). Bike Lanes, On-Street Parking and Business: A Study of Bloor Street in Toronto’s Annex Neighborhood: http://www.cleanairpartnership.org/pdf/bike-lanes-parking.pdf

“Economic Attractors, Conditions, and Trends”. Ch. 3: Economic Development (E-4). Amador County General Plan.

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Location Affordability Index Model. Department of Housing and Urban Development (HUD) and Department of Transportation (DOT). Amador County Profile for Median Income, Very-Low Income, and Working Individual.

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Focus Groups, Interviews, and Public Meetings

Interview with Erma's Diner Bicycle Group. November 30, 2016. 14 people.

Interview with County Public Works/Community Development Director, Aaron Brusatori. August 24, 2016.

Interview with Sutter Creek City Manager, Amy Gedney. Sept 20th, 2016.

Interview with Jackson City Planner, Susan Peters. August 25, 2016.

Interview with Ione City Manager, Jon Hanken. September 14, 2016.

Email correspondence with Plymouth City Manager, Jeff Gardner. September-November, 2016.

Interview with Amador City Council Member Michael Brown & Mayor Susan Bragstad. May 11, 2017.

Interview with Local Cyclist Jon Brundyke. August 31, 2016.

Interview with Local Walkers, Zeitmans. November 17, 2016.

Interview with Amador County Recreation Agency. September 12, 2016.

Interview with Amador Council of Tourism. September-December, 2016.

Public Meeting. American Association of University Women (AAUW) - Amador (CA) Branch. October 19, 2016. 12 people.

Public Meeting. Upcountry Community Council. November 14, 2016. 20 people.

Public Meeting. Pine Grove Civic Improvements Club. November 2, 2016. 6 people.

Public Meeting. Camanche Village Residents Meeting. June 10, 2017. 9 people.

Amador County Recreation Agency. July 12th, 2017.

Sutter Creek City Council Meeting. July 17th, 2017.

Pine Grove Town Hall. July 19th, 2017.

Amador City Council Meeting. July 20th, 2017.

Jackson City Council Meeting. July 24th, 2017.

Amador County Board of Supervisors Meeting. July 25th, 2017.

Ione City Council Meeting. August 1st, 2017.

Amador County Unified School District Board Meeting. August 9th, 2017.

Plymouth City Council Meeting. August 24th, 2017.

Upcountry Community Council. August 14th, 2017.

Appendix A: SWITRS Data

Appendix B: Proposed Projects (Description & Maps)

Appendix C: Bike Parking Locations

Appendix D: Project Rankings

Appendix E: Public Comments

Appendix F: Resolution

Appendix G: Sidewalk Audit Maps