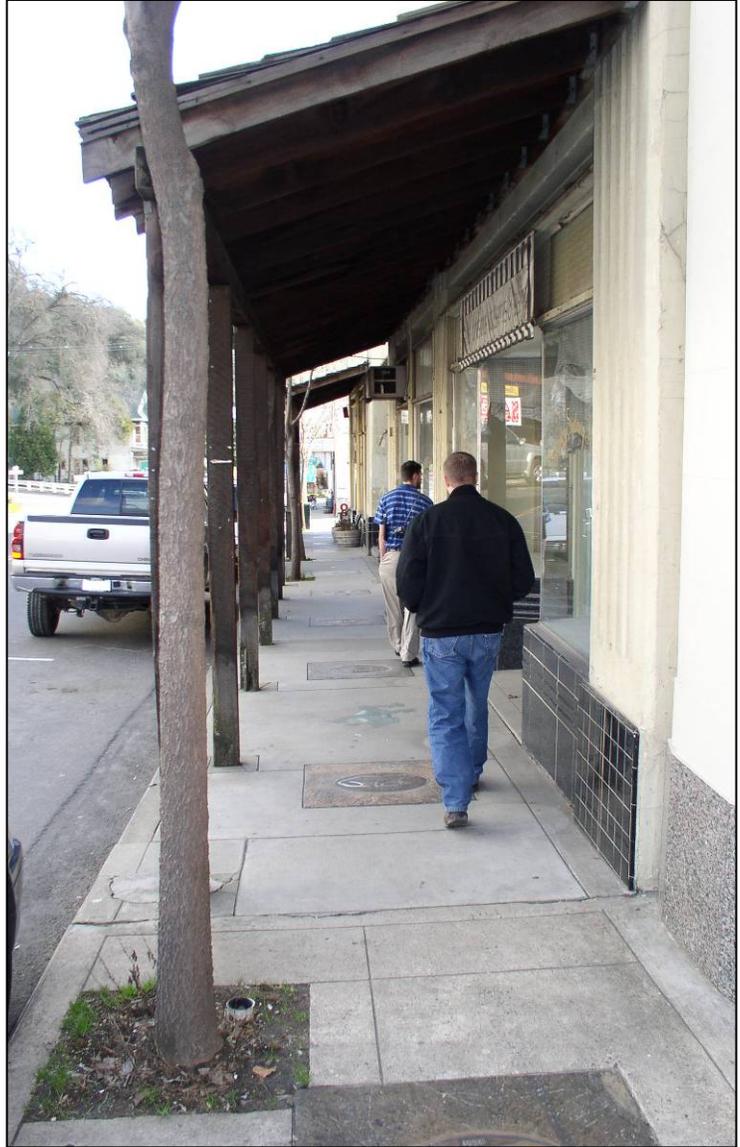


Calaveras County Pedestrian Master Plan



Adopted Wednesday, October 10, 2007



CALAVERAS COUNCIL
of GOVERNMENTS



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1.0 Introduction

The Calaveras County Pedestrian Master Plan (CCPMP) was prepared by Alta Planning + Design under contract to the Calaveras Council of Governments (CCOG). This Pedestrian Master Plan is a result of the diligent efforts of the Calaveras Council of Governments, Calaveras County staff, the communities of Calaveras and citizens interested in improving the pedestrian environment in Calaveras County. The Plan could not have been developed without the committed efforts of these organizations and residents.

This Plan has been prepared as a countywide document, but is also intended to guide efforts to improve walking conditions at the local level in the various communities of Calaveras County. The Plan integrates elements of the general plan, the regional transportation plan and other previous planning efforts. This Plan represents the County's first comprehensive pedestrian planning effort.

1.1 Setting and Study Area

The study area includes all built portions of Calaveras County. The diverse topography and geography of Calaveras ranges from elevations of about 300 feet above sea level in the western end of the County to almost 9,000 feet above sea level at the eastern edge. West to east, the rolling hills of developed areas such as Angels Camp, Valley Springs, San Andreas and Copperopolis gradually give way to the more and more rugged, mountainous terrain that characterizes areas such as Arnold, West Point, Dorrington, Murphys and Railroad Flat. Although the eastern end of the County is less developed, it is host to popular year-round recreation destinations that provide opportunities for snow sports, golfing, hiking, camping, fishing and road and mountain bicycling. The County is located between two major recreational and scenic destinations. To the north is Lake Tahoe and on the south is Yosemite National Park. In addition, State Route 4 from Arnold to Markleeville was designated a National Scenic Byway in 2006.

The majority of Calaveras County's population resides along the Highway 4, Highway 49 and Highway 12/26 corridors. The major portion of the County's employment is centered in San Andreas and Angels Camp. Calaveras' only incorporated city is Angels Camp, with a population of 3,000. The County's 15 unincorporated communities range in size from Wallace (population 230) to Arnold (4,244). Of the total population of 40,554 approximately 27,723 (68%) live in the incorporated and unincorporated communities, while 12,832 (32%) live in the other unincorporated areas of the county.¹ The estimated population in 2005 was 46,871, a 13.5% increase over the 2000 Census, substantially higher than the national rate of growth of 5%.² Calaveras County residents have an average per capita income of \$21,420 and are statistically older than average.¹

The existing transportation roadway network of Calaveras County includes 867 miles of developed paved public roads, consisting of 149 miles in the state highway system, 689 miles in the county roadway system, and 29 miles in the City roadway system.³ Travel in the County is primarily by automobile due to the rural nature of the roadway network. Long distances between destinations

¹ US Census 2000

² US Census 2005 Population Estimates

³ Calaveras County 2007 Regional Transportation Plan; excludes unpaved, undeveloped roads and all state and federal parkland roads

and a lack of shoulders and formal pedestrian facilities have limited opportunities for nonmotorized travel. The network is built around four state highways, including State Routes 4, 12, 26 and 49. These routes are classified as minor arterials and connect with a system of collector and local streets.

The County is served by Calaveras Transit which serves most of the population, employment and recreation centers in the County and connects to inter-county bus service such as Greyhound.

1.2 Why does Calaveras County need a Pedestrian Master Plan?

Calaveras County is growing at a rate higher than the overall rate of growth in the state of California. Managing traffic is a key strategy for the growing communities of Calaveras County to ensure they maintain their rural nature and community character. This Plan is one step in providing alternative modes and addressing future traffic congestion in the County.

In addition to traffic congestion, others reasons are enjoyment, health and recreation for the residents of Calaveras County. Since walking is a popular and accessible form of recreational activity in the United States, we can assume that a significant number of County residents walk at least occasionally and will benefit from this Plan. When walking is available as a daily mode of transportation or recreation, substantial health benefits can result. This is especially true for the older segment of the population who benefit most from such low-impact forms of exercise.

Finally, safety concerns are one of the primary reasons to improve walking conditions in Calaveras County. Although the incidence of collisions involving pedestrians may be low, concerns about safety have been identified through the local user survey as an important reason people do not walk. Addressing these concerns for pedestrians through physical and program improvements is another major objective of this Plan.

1.2.1 Funding Requirements

There are no specific plan requirements for most state and federal funding sources that this Plan must meet. However, having an adopted pedestrian plan substantially improves the chances of securing funding for any project that is a part of this planning process.

1.3 Role of the Pedestrian Plan

The Calaveras County Pedestrian Master Plan is primarily a coordinating and resource document for the County unincorporated areas and Angels Camp, with a focus on developing local networks of walkways, programs and specific pedestrian policies. The Plan helps to promote good access to popular destinations countywide and ensure the development and application of consistent design standards. Key goals of the Plan are to provide consistency with other plans as well as to promote the critical aspect of policy integration and coordination with the County Department of Public Works and the County Planning Department, to ensure that projects proposed in this Plan can be funded and implemented in a timely fashion.

To the extent feasible, this Plan has incorporated existing local plans, priorities as part of its recommendations. Plans reviewed include:

- *Arnold Rural Livable Community-Based Mobility Plan* (draft materials), 2007
- 2006 TE application for “Cosgrove pedestrian and bicycle corridor”
- 2006 *Cowell Creek Corridor Project*
- 2005 Transportation Enhancements (TE) application for “Connection and extension of existing sidewalks along Highway 4/49”
- *Development Manual Part 2: Road Templates*, Calaveras County Public Works Department, 2005
- West Point Elementary School Caltrans SR2S Project grant application, 2005
- San Andreas Elementary and San Andreas High School Caltrans SR2S Project grant application, 2002
- Albert Michelson Elementary School Caltrans SR2S Project grant application, 2001
- *Calaveras County Regional Transportation Plan Update*, CCOG, 2001
- *Arnold Community Plan*, 1998
- Circulation Element, *Calaveras County General Plan*, CCOG, 1996
- *Arnold Community Plan*, 1981

A more detailed review of past planning efforts is found in Chapter 2: Goals, Objectives, and Policy Actions.

By adopting this document, the County and City of Angels will meet State and Federal requirements for the projects identified in this Plan. All projects in this Plan will require additional feasibility, design, environmental documentation, and/or public input prior to being funded and constructed. All projects and plans would need to conform with the adopted General Plan.

1.4 Pedestrian Master Plan Process

This Plan was developed during 2006/2007 under the purview of the Calaveras Council of Governments (CCOG). CCOG is the Regional Transportation Planning Agency (RTPA) for the County of Calaveras and the City of Angels. CCOG’s initial public outreach included an online user survey of pedestrian conditions and needs. To engage residents in the production of this Plan, CCOG hosted three public meetings – one with the Calaveras County Board of Supervisors and two before CCOG. In addition, CCOG convened a Steering Committee to guide development of the Plan. The committee was composed of representatives from:

- Each Supervisorial District
- Arnold – Golden Chain Bicycle Club
- Angels Camp – Mt. Peddler Bicycle Shop
- Copperopolis – local bicyclist/pedestrian
- Copperopolis – local bicyclist

- West Point – local bicyclist
- Railroad Flat – local bicyclist/pedestrian
- Valley Springs – local bicyclist/pedestrian
- Forest Service, Calaveras Ranger District – District Ranger
- Caltrans – District 10 Transportation Planner
- County Public Works – Transportation Planner
- Calaveras COG – Transportation Planner

1.5 Overview of the Plan Structure

This report is divided into sections, detailed below:

Section 1 – Introduction: Sets the context for the Plan including purpose and structure.

Section 2 - Goals and Objectives: Summarizes the goals, policies, and objectives guiding the implementation of the Master Plan, incorporating previous planning efforts.

Section 3 – Needs Analysis: This chapter reviews the relationship between pedestrian activity, existing conditions and facilities, commute patterns, demographics, land use and collisions.

Section 4 – Pedestrian Facilities: Outlines the recommended walkway improvements, including sidewalks, pathways, crosswalks and intersection improvements. Outlines an implementation strategy, including feasibility analyses and costs estimates for proposed projects.

Section 5 – Pedestrian Programs: Describes existing and proposed programs and non-infrastructure improvements.

Section 6 – Funding: Describes opportunities to fund the improvements described in this plan.

Appendix A – Supplemental Pedestrian Facility Design Guidelines

2.0 Goals, Objectives, and Policy Actions

2.1 Planning and Policy Context

This section summarizes past planning efforts and establishes a policy framework to guide future transportation decisions and capital improvement programming for both unincorporated Calaveras County and incorporated Angels Camp. This undertaking is intended to promote regional planning, offer opportunities to coordinate infrastructure improvements and to incorporate past planning efforts into the current Plan.

2.1.1 Relationship to Other Calaveras County Plans

The Pedestrian Master Plan is intended to coordinate and guide the provision of all pedestrian-related plans, programs, and projects in the County. The studies or planning efforts listed below have been reviewed and consulted, studied for consistency, and where appropriate, incorporated into the Calaveras County Pedestrian Master Plan. Each plan summary describes relevant goals, objectives and policies as well as a summary of previous infrastructure and program proposals.

Mokelumne Hill Main Street Sidewalk Enhancement Project (Transportation Enhancements Application), 2007

The Mokelumne Hill Transportation Enhancement (TE) project provides \$86,000 of funding for one (1) bike rack, a handicap accessible ramp, six historical street lamps and 560 linear feet of sidewalk construction and improvements. The sidewalks and streetlamps will improve pedestrian enjoyment and safety and are intended to reduce speeding of automobiles from Center Street onto Main Street by narrowing the roadway and defining the edge of the street.

Arnold Rural Livable Community-Based Mobility Plan, 2007

This study plans to produce 30% level of design concepts for pedestrian and bicycle facilities, connections to transit and possible in-fill development options for the downtown area of Arnold. Recommended improvements from the current countywide Plan will be incorporated into the Arnold area effort as applicable.

Cosgrove Pedestrian and Bicycle Corridor Project (Transportation Enhancements Application), 2006

This project proposes to construct a 6,000 linear foot, 12-foot-wide pedestrian and bicycle pathway along Cosgrove Creek in Valley Springs. The trail will connect residential, commercial, schools and public agencies as an alternative to vehicular means. CCOG has submitted a funding application for \$350,000 of Transportation Enhancements funding for the pathway. The project has been incorporated into the proposed projects of the Pedestrian Plan.

Cowell Creek Corridor Project, 2006

This project proposes to connect destinations within the towns of Arnold and White Pines via a combination of pathways and on-street routes traveling parallel to but away from the main corridor

of Highway 4. The project details have been analyzed and incorporated into the proposed improvements as appropriate.

City of Angels Highway 4/49 Sidewalk Project 2005 (Transportation Enhancements Application), 2005

This project proposes to build sections of sidewalk between existing sidewalk segments, creating a continuous ADA accessible pedestrian transportation facility along Highway 4/49 in City of Angels. The City has submitted a funding application for \$439,000 of Transportation Enhancements funding for the pathway. The project has been folded into the proposed projects of the Pedestrian Plan.

Development Manual Part 2: Road Templates, Calaveras County Public Works Department, 2005

This internal design document establishes consistent guidelines for roadway geometry by providing cross-sections of common roadway configurations and right of way widths. The manual describes design guidance for different roadway classifications, including two, three and four lane community and regional roads, emergency access roads, hillside roads and partial width roads. Specifications include facilities for bicycles and pedestrians on selected roadway types. Design guidelines proposed in the current planning effort were dovetailed with these adopted specifications.

West Point Elementary School Safe Routes to Schools Improvement Project, 2005

This project proposes to install new ADA-compliant sidewalk, curb and gutter, ramps and crosswalks along the school frontage and extending along the southwest side of Bald Mountain, across Highway 26 and continuing along the southwest side of Pine Street to the intersection of Pine and Main Streets. The project will install markings at SR2S crossings consistent with MUTCD standards.

San Andreas Elementary School and San Andreas High School Safe Routes to Schools Improvement Projects, 2002

This project installed new sidewalks, curb and gutter, ramps and crosswalks in the areas of San Andreas adjacent to the elementary and high schools on Lewis Road and High School Street, respectively.

Albert Michelson Elementary School Safe Routes to Schools Improvement Project, 2001

This project proposes to install new sidewalks, curb and gutter, ramps, crosswalks and bicycle lanes in the area of Murphys on Highway 4 and Pennsylvania Gulch Road near the school. Improvements to this area, originally estimated at \$420,000 have been folded into the proposed projects for the current Plan.

Calaveras County Regional Transportation Plan Update, CCOG, 2001

This plan was adopted to bring Calaveras County into compliance with California Transportation Commission 1999 Regional Transportation Plan guidelines. Its purpose is to guide development of the County's transportation system and lays out policies and actions intended to address all modes, including roadways, public transit, goods movement, bicycle and pedestrian needs, aviation and transportation system management. Proposed projects for each mode are prioritized, including Class

I, II and III bikeways and sidewalks. The plan includes a number of goals pertaining to non-motorized transportation designed to promote safety on local roads and state highways and encourage a multi-modal transportation system including bicycling, walking and transit as integral elements.

At the time of writing, the CCOG was in the process of working with a consultant to update the 2001 RTP.

Calaveras County General Plan, 1996

The purpose of this plan is to meet state planning requirements and to assist decision makers in coordinating land use and infrastructure decisions. Both the Circulation and Open Space elements contain policies relevant to the Pedestrian Plan.

The Open Space Element describes efforts to develop local and regional trails to provide bicycle and pedestrian access to open space and recreation. It incorporates the efforts to create the Mokelumne Coast to Crest Trail by securing a permanent, public trail access along the North Fork of the Mokelumne River which would connect from the San Francisco Bay to the Sierra Nevada Range just south of Lake Tahoe.

2.1.2 Relevant State Guidelines

The *Caltrans Highway Design Manual* contains specific, mandatory design requirements for pedestrian facilities. The Caltrans requirements are summarized in Appendix A - Design Guidelines.

2.2 Goals, Objectives and Policy Actions

2.2.1 Goals

Goals provide the context for the specific objectives and policy actions discussed in the Pedestrian Master Plan. The goals provide the long-term vision and serve as the foundation of the Plan. Goals are broad statements of purpose, while policy actions provide a bridge between general policies and actual implementation guidelines, which are detailed in Chapter 5.

2.2.2 Goals and Objectives

The following goals incorporate those relevant to pedestrian travel from previously adopted plans such as the *Calaveras County Regional Transportation Plan Update, CCOG, 2001* and the *Calaveras County General Plan, CCOG, 1996*. Alta recommends that staff and the steering group adopt these goals for inclusion in the *2007 Calaveras County Pedestrian Plan* with any necessary changes.

Goal 1: Increase Opportunities for Walking in Calaveras County

Objective 1.1: The County should expand pedestrian travel opportunities to increase walking for transportation and recreation

Policies

- 1.1.1 Provide or enhance pedestrian facilities whenever there is road resurfacing, major repair, new construction, or overpass construction, in particular through partnership with Caltrans.
- 1.1.2 Apply for local, state, and federal grants for major sidewalk and pathway projects.
- 1.1.3 Construct new sidewalks and associated facilities according to Caltrans and AASHTO pedestrian design guidelines and the supplemental design guidelines provided in this plan.
- 1.1.4 Incorporate Pedestrian Master Plan projects into the County’s Capital Improvements Program.
- 1.1.5 Partner with Caltrans to analyze, design and seek funding for walkway and crossing improvements along state highways near key destinations, especially to address safety concerns.

Objective 1.2: The County should maintain the existing pedestrian network

Policies

- 1.2.1 Establish a systematic approach to identifying walkway (sidewalk, pathway and roadway shoulder) repair needs using input from the public.
- 1.2.2 Develop ongoing funding resources for walkway maintenance.
- 1.2.3 Develop a mechanism for jurisdictional responsibility and accountability for maintaining walkways.

Objective 1.3: Enhance pedestrian access to transit facilities, including regional transit

Policies

- 1.3.1 Develop bus transit stops according to the Pedestrian Design Guidelines.
- 1.3.2 Develop regional transit stops with direct pedestrian connections to adjacent land uses wherever feasible.

Goal 2: Establish Pedestrian Design Guidelines That Will Direct the Construction of Pedestrian Environments That Are Attractive, Functional and Accessible to All People

Objective 2.1: The County should design and construct the highest quality of pedestrian facilities possible that are accessible to all people

Policies

- 2.1.1. Design facilities to meet the needs of all users including, older adults, children, and people with disabilities.
- 2.1.2. Conform to applicable ADA design standards and the needs of Calaveras County residents.
- 2.1.3. Utilize the latest innovative and effective pedestrian designs included in the supplemental design guidelines of this Plan.
- 2.1.4. Develop appropriate pedestrian design elements in multi-modal projects.

Objective 2.2: As a long-term goal, the County should establish and maintain Pedestrian Design Guidelines that respond to the unique characteristics of Calaveras County’s rural character

Policies

- 2.2.1. Develop and adopt Pedestrian Design Guidelines that will assist in the construction of a wider range of pedestrian enhancements.
- 2.2.2. Require all land developers to use these Pedestrian Design Guidelines when developing pedestrian facilities projects.
- 2.2.3. Develop design standards that are appropriate to the pedestrian volumes in the different areas of the County.
- 2.2.4. Develop unique design standards for existing historic downtown areas and undeveloped rural areas consistent with the character and current plans and policies for those areas.

Goal 3: Increase the Number of Calaveras County Residents Who Walk for Commuting, Utilitarian and Recreational Purposes

Objective 3.1: The County should encourage people to walk through education and awareness efforts

Policies

- 3.1.1 Implement the outreach, education and promotion programs described in the Pedestrian Plan.

- 3.1.2. Develop signage system and targeted outreach program to educate motorists regarding pedestrian right of way.

Objective 3.2: The County should continue to support Safe Routes to Schools efforts that increase the number of students walking to school

Policies

- 3.2.1. Partner with local schools to support an active Safe Routes to School Program in Calaveras County.
- 3.2.2. Implement Safe Routes to School Projects and Programs by continuing to apply for Safe Routes to Schools Grant funding.

Goal 4: Ensure the Timely Construction of Pedestrian Environments as Described in this Plan

Objective 4.1: The County should continue to work to fund construction of the pedestrian improvements in this plan

Policies

- 4.1.1. Establish a Board of Supervisors policy that requires that a portion of Local Transportation Funds remaining after funding of local transit needs be spent to construct improvements described in this plan.
- 4.1.2. Partner with other agencies such as Caltrans to pursue these funding opportunities for pedestrian projects as stand-alone efforts or as part of larger transportation improvements.
- 4.1.3. Require that all new development projects construct pedestrian improvements described in this plan as part of mitigation benefits to the surrounding community.

Objective 4.2: The County should adopt new zoning ordinances that will promote the implementation of this plan

Policies

- 4.2.1. Develop land use, site, building design, circulation and parking guidance, requirements, and incentives for zoning ordinance changes.
- 4.2.2. Adopt Pedestrian Guidelines as a standard for all new construction as Conditions of Approval for all new Development Permit approvals.

Objective 4.3: The County should develop and construct the improvements in this plan in a timely fashion as adequate funding is secured

Policies

4.3.1. Environmental documentation, right of way acquisition and plans, specifications and detail cost estimates should be developed as soon as adequate funding is available.

4.3.2. Project should be constructed as soon as adequate funding is available to avoid escalation and cost overruns.

Goal 5: Ensure the Effectiveness and Longevity of the Plan Policies, Projects and Programs

Objective 5.1: The County should require that the policies, programs and projects of the Pedestrian Master Plan be integrated into all ongoing and future planning and design documents and guidelines

Policies

5.1.1 Update local roadway design standards to include sidewalks in all developed downtown areas or developing residential areas.

5.1.2 Require inclusion of all pedestrian improvements from this plan in upcoming capital projects, where appropriate.

5.1.3 Require inclusion of Pedestrian Plan policies, programs and improvements in all ongoing and future planning efforts, as applicable.

3.0 Needs Analysis

This section summarizes the pedestrian needs in Calaveras County that have been identified by staff, the steering committee, the public and during field inspections. Specific projects and programs to address these needs are presented in Chapters 4 and 5.

3.1 Multi-Modal Mindset at the Design Stage

Several steering committee members and members of the public have noted the opportunity for improving the pedestrian environment through new development occurring in the growth areas of Calaveras County. Some of the design concepts suggested include:

- Designs of new and retrofitted developments need to provide equal accommodation for automobiles, bicycles and pedestrians.
- Mixed-use developments with integrated land uses are needed, since they can foster more pedestrian-friendly environments, generate less vehicle trips and create interesting places.
- In line with encouraging new approaches to development, codes need to reflect that sidewalks should be automatically required for all new development or when it is anticipated that a road will attain a particular threshold with respect to either speeds or vehicle trips per day.
- A “park once” policy, in which centralized public parking facilities would be built to serve a given area, is needed in core areas so as to reduce trips and the number of parking spaces required. An example of this would be centralized parking for the Arnold downtown area and installation of pedestrian facilities to encourage walking throughout the commercial area along Highway 4.

3.2 Local Sidewalks and Rural Roads Pedestrian Analysis

Most pedestrian activity in Calaveras County occurs in the developed areas in the western section of the County or along the Highway 4 corridor. As a result most of the County’s existing sidewalks and pathways are located in those areas. In addition to these areas this analysis also considers rural roads.

Nonexistent or Inadequate Facilities

There are numerous places where sidewalks do not exist or end abruptly. The majority of the County’s sidewalks are in the developed areas of the County where pedestrian activity is higher and most rural roads outside these areas do not have sidewalks. Although some of these roads have paved shoulders which are used for walking, such shoulders are not designed for pedestrian safety. See the following collision analysis for information on collisions that occurred while pedestrians were walking along the edge or shoulder of the road. The surface condition of existing sidewalks, shoulders and informal pathways needs to be improved. Tripping obstacles range from broken and sidewalk sections to overgrown shrubs and landscaping that block passage.

Accessibility

Although there are several locations where wheelchair ramps exist, there are many intersections where they do not exist, or where, if they do exist, they are in conjunction with discontinuous sidewalks. Many sidewalks may need to be widened so as to give them an adequate and comfortable capacity for wheelchairs. As sidewalks are widened and made accessible by the introduction of ramps, utility poles need to be removed so that accessibility is truly achieved. In addition, paved shoulders alongside rural roads used for walking do not meet ADA requirements.

Connectivity

Among the problems created by nonexistent sidewalks, discontinuous or poorly maintained sidewalks is that pedestrians cannot rely on paths to connect them to places to which they desire to walk. This issue exists on both small and large scales in Calaveras County. There are in areas in the commercial and employment areas of the developed County where crossings of state highways are lacking between nearby destinations such as schools and employment centers. Because most rural roads do not have sidewalks or adjacent pathways or trails for walking there exists a countywide problem of connectivity between neighboring communities or between neighborhoods and destinations such as local schools or markets.

Maintenance and improvements to existing walkways would enable residents to make better use of these facilities and access transit stops for travel out of their community. Creating a connected network of pedestrian facilities can also foster “placemaking” at town centers. This is can already been seen in the parts of San Andreas, Angels Camp, Murphys and Arnold with existing continuous walkways. Potential for such development exists in these areas as well as the rapidly developing areas such as those in Copperopolis.

3.3 Access to Transit

Pedestrian access to transit is a key component of a successful local pedestrian network and enables walking as a regional mode of transportation. About 0.3 percent of commuters use public transit in Calaveras County. Calaveras Transit is operated by the Calaveras County Department of Public Works and funded through the Transportation Development Act. Existing public transit service in Calaveras County provides deviated fixed-route service to most County communities including the City of Angels, Arnold, Avery, Mokelumne Hill, Murphys, San Andreas, Railroad Flat, Valley Springs, and West Point. In addition, Calaveras Transit provides a seasonal Ski Bus that runs on a fixed route between San Andreas and Bear Valley Resort. See Chapter 5 for maps showing local routes and stops for Calaveras Transit.

Currently all transit stops are marked with signs. Not all stops are ADA compliant or have sidewalks or pathways for pedestrian access. According to Calaveras Transit staff, no transit stops have benches, shelters or informational kiosks. No specific policies are in place to ensure sidewalks or pathways within the catchment zone of the bus stop. Transit staff indicated that as of November, 2006 Calaveras County has received a grant to install benches and shelters at several transfer locations. In addition the Calaveras Council of Governments has received a grant to study ADA compliance and accessibility at all transit stops countywide.

Improving nonmotorized access to transit is an important part of making walking a part of daily life in Calaveras County. Linking walking with public transit overcomes barriers such as trip distance,

personal safety and security concerns, and walking at night, in poor weather, or up hills. This link also enables pedestrians to reach more distant areas for both recreation and transportation. Walking to transit instead of driving benefits communities by reducing taxpayer costs, air pollution, demand for park-and-ride land, energy consumption and traffic congestion with relatively low cost investments.

Typical needed access to transit improvements include:

- Maintenance of bus stop signs
- Information kiosks providing route information and schedules
- Shelters accessible via curb ramps and concrete pads
- Benches
- Safe access to stops, including walkways, pathways and crossings in bus stop vicinity and within a 0.5 to 0.75-mile radius
- Wayfinding signage to/from transit stops at selected locations, for example downtown Angels Camp, San Andreas, Murphys and Arnold among others

3.4 Access to Work and Commercial Destinations

Aside from recreational and school trips, two of the primary reasons for walking are as part of travel to work or for utilitarian purposes such as shopping. This demonstrates the need for improvements in the commercial and downtown areas of Calaveras County, as well as access to work destinations outside those areas. **Table 3-1** provides details on major employers within Calaveras County which are addressed as destinations in the project recommendations in Chapter 4.

Table 3-1: Major Employers in Calaveras County

Rank	Company	Address	City/Town	Employees
1	County Office of Education	185 S. Main St.	Altaville, CA 95221	946
2	County Government	891 Mountain Ranch Road	San Andreas, CA 95249	380
3	Mark Twain St. Joseph's Hospital	768 Mountain Ranch Road	San Andreas, 95249	248
4	Oars Raft Trips (seasonal)	2687 Highway 49	Angels Camp, 95222	35-500
5	CA Depart. of Forestry (seasonal)	785 Mtn. Ranch Road	San Andreas CA 95249	138-258
6	39th District Agricultural Assn. (seasonal)	South Highway 49	Angels Camp, CA 95222	4-150
7	Human Resources Council, Inc.	593 W. St. Charles St.	San Andreas, CA 95249	150
8	U.S. Forest Service (seasonal)	5314 Highway 4	Hathaway Pines, CA 95233	49-99
9	Greenhorn Creek Golf Resort	711 McCauley Ranch Rd	Angels Camp, 95222	75-80
10	Kautz Ironstone Vineyards	1894 Six Mile Road	Murphys, CA 95247	80

Rank	Company	Address	City/Town	Employees
11	Sequoia Woods Country Club	1000 Cypress Point Drive	Arnold, CA 95223	35-75
12	United Parcel Service	2342 Gun Club Road	Angels Camp, CA 95222	65
13	Big Trees Market	2182 Highway 4	Arnold, CA	63
14	Mar Val Grocery	55 S Highway 26	Valley Springs	51

3.5 Education and Awareness Building

Awareness of the needs of pedestrians should be incorporated into school programs through the use of pedestrian safety courses. Additionally, education and pedestrian awareness issues should be incorporated into Department of Motor Vehicle driver's license tests. Education materials should focus equally on ways that both drivers and pedestrians can interact safely.

3.6 Collision Analysis

As described in the following collision analysis section, there were 39 reported collisions involving pedestrians and motor vehicles between 2001 and 2006 in Calaveras County. Two of these collisions resulted in pedestrian fatalities, and 32 collisions resulted in pedestrian injuries.. As discussed, a proportionately high number of these collisions involved pedestrians walking along the side of the road where a sidewalk was not available.

Data for reported pedestrian collisions in Calaveras County were collected from the Statewide Integrated Traffic Records System (SWITRS) for the years 2001-2006, and are presented in **Table 3-2** below. Note that data for 2006 extends only through October, the last month it was available at the time of this writing.

During the five-year period of collision records reviewed for this Plan, only 2 fatalities were reported, both involving pedestrians. Both were recorded as the pedestrian's fault and occurred during the day while the pedestrian was walking on the side of the road. Perhaps the most interesting trend in collisions involving pedestrians was the large number of incidents that occurred when pedestrians were walking on the shoulder or along the side of the road, which could indicate a need for facilities in those areas. In addition, the relatively high percentage of pedestrians hit while using crosswalks may suggest a need for increased crosswalk enforcement of motorists or it may suggest that those marked crosswalks are in bad locations or don't have the appropriate enhancements for the location.

Table 3-2: Collisions Involving Pedestrians in Calaveras County, 2001-2005

Total Number Ped Collisions	Number Injuries	Number Fatalities	Number Property Damage Only	Motorist at Fault	Pedestrian at Fault	Unknown Fault	Ped in Xwalk	Ped not in Xwalk	Ped in Road/On Shoulder
39	32	2	5	59%	33%	8%	20%	15%	41%

Source: SWITRS, State of California

3.7 Public Outreach

3.7.1 Survey

A user survey was developed to assess levels of walking and get public input on needed improvements. The Calaveras County Council of Governments distributed paper surveys and posted a survey on their website for a period of over 30 days.

To date, 49 respondents returned surveys. The results are summarized below and shown in **Figures 3-1 through 3-4**.

- *Place of Residence:* Respondents to the survey were fairly evenly distributed across the county, with larger respondent groups from Copperopolis, Valley Springs, Angels Camp, Murphys and Arnold. Nearly 1/3 of the respondents are from the communities of Angels Camp and Murphys both of which have partially developed but functional pedestrian networks.
- *Reasons for Walking:* Pedestrian trip purpose among respondents was primarily recreational, with approximately 25% of respondents also indicating that they walk to run short errands. Only 5% indicated that they traveled by foot to work, school or transit, compared to 8% of respondents who indicated that they do not walk at all.
- *Obstacles to Walking:* Nearly half of respondents indicated that lack of sidewalks and safety issues related to automobiles were reasons they don't walk. Other reasons included lack of lighting, difficulty with crossings and distances too far to walk.
- *School Commute:* Only 10% of respondents indicated that they walk or bike to school every day or occasionally compared to the nearly 15% who indicated "never".

3.7.2 Needs

Steering Committee members, staff and survey respondents suggested the needs summarized below. The top priorities will be considered in more detail in Chapter Five.

- Overall lack of facilities
- A strong desire for safe walkways in the developed downtown commercial areas of the county, especially continuous walkways alongside state highways in these areas such as Arnold, Murphys and San Andreas
- Desire for walkways in developing areas such as parts of Valley Springs and Copperopolis
- Changes to driver behavior, including speeding and not yielding to pedestrians
- Improved crossings, including better crosswalks and lighting
- Desire for walkways separated from the road, such as sidewalks or pathways in rural areas
- Increase in opportunities for recreational walking in residential and scenic areas
- Improved school commute access

Figure 3-1: Place of Residence

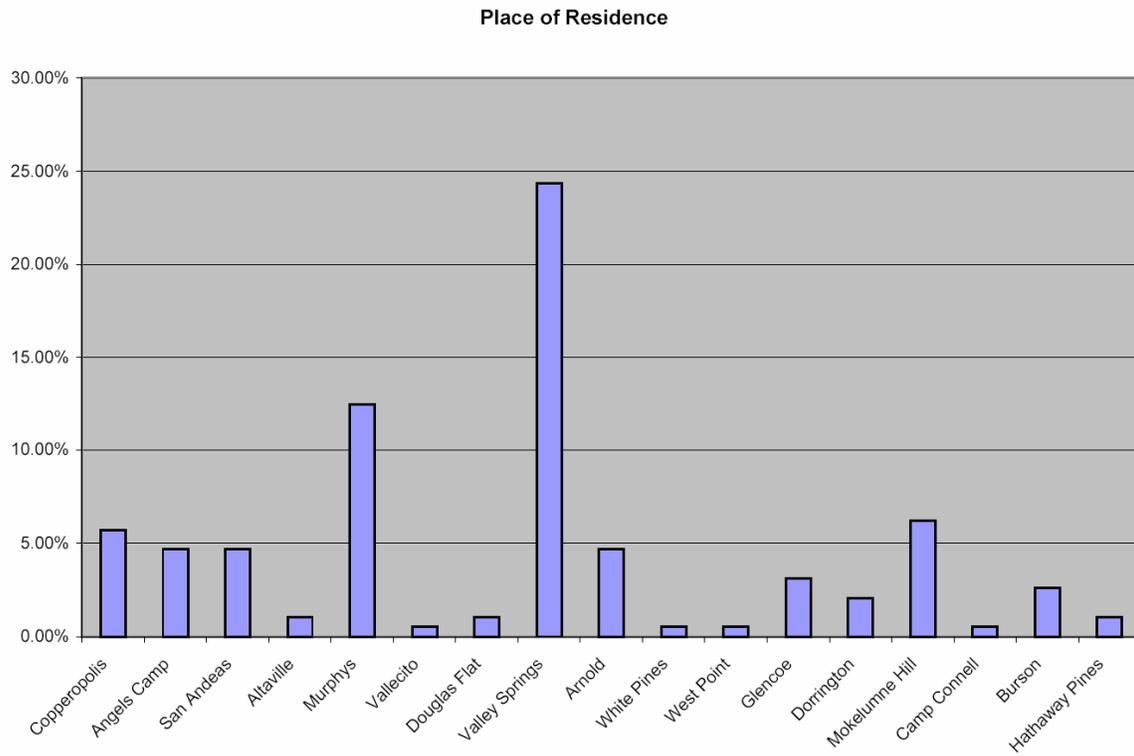


Figure 3-2: Reasons for Walking

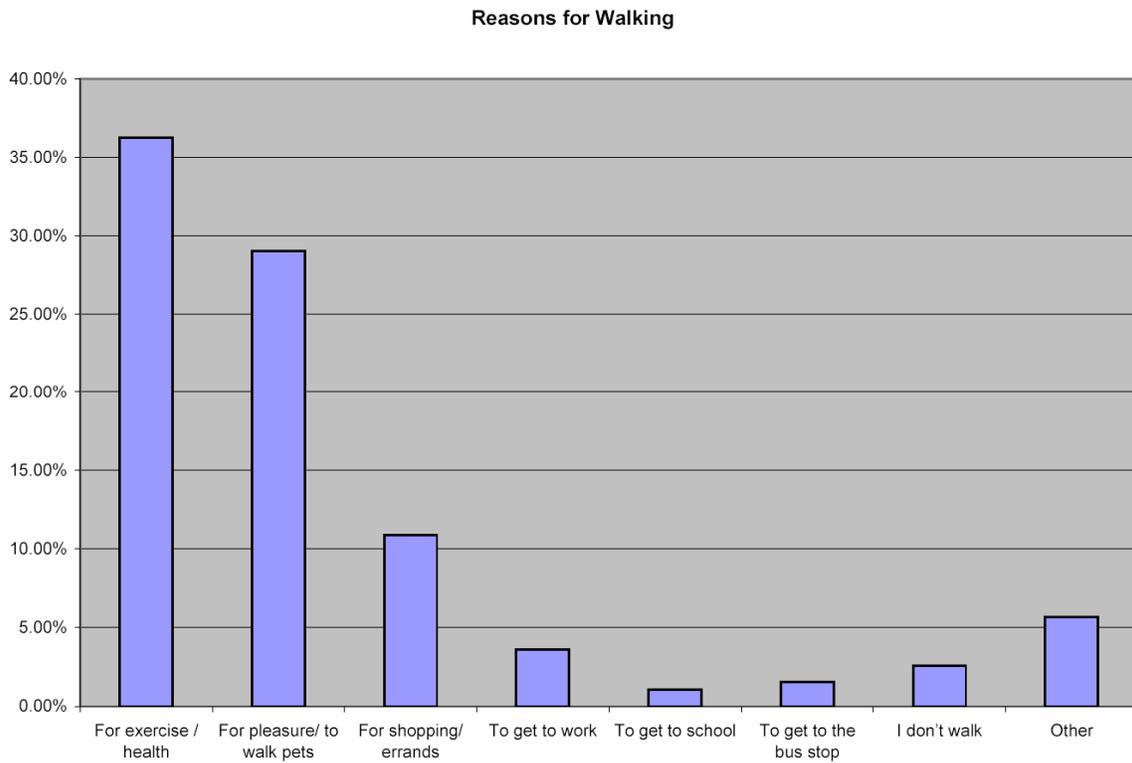


Figure 3-3: Obstacles to Walking

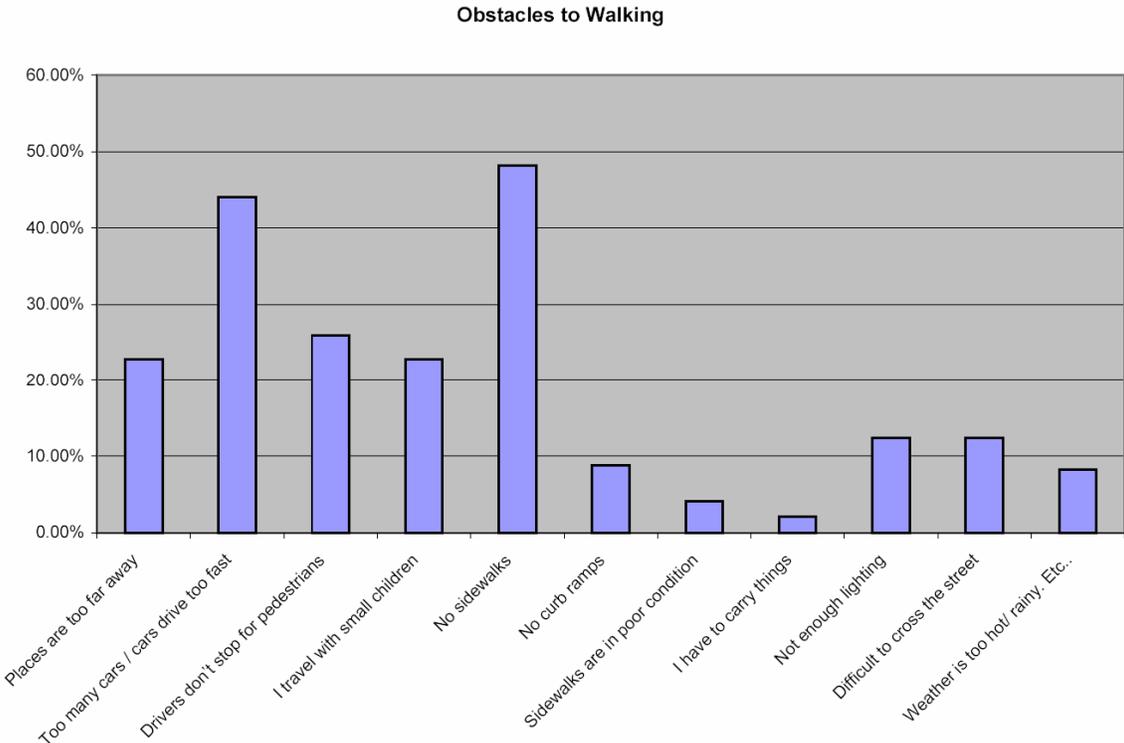
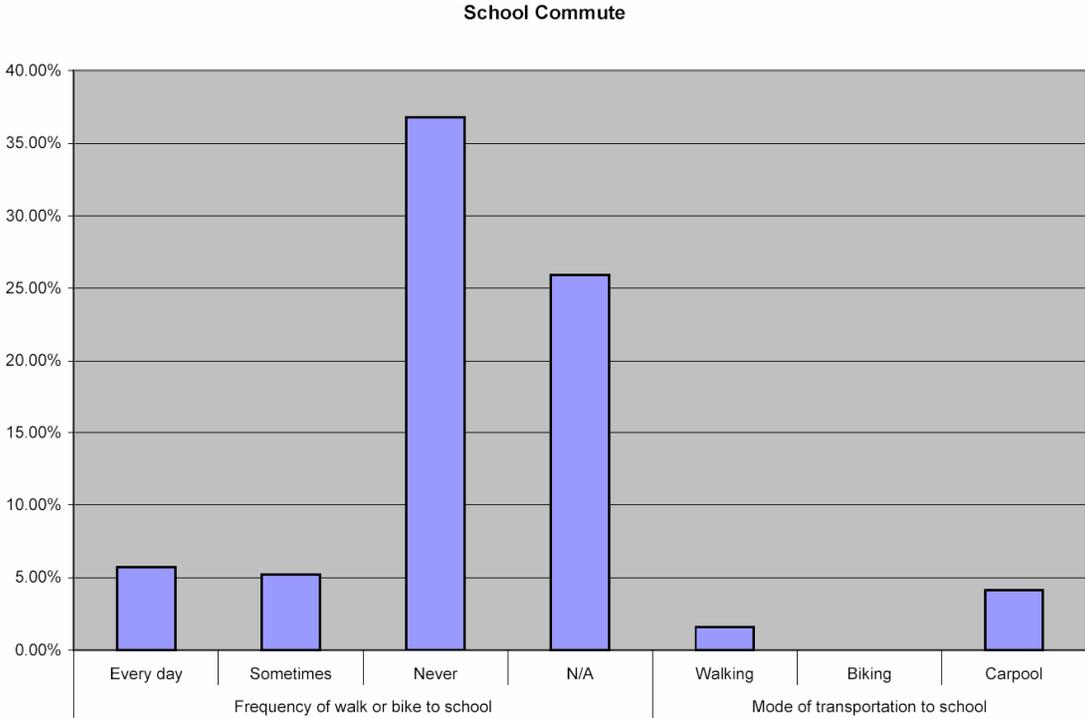


Figure 3-4: School Commute



3.7 Current Usage and Future Benefits

3.7.1 Pedestrian Usage Data

Journey to work data shown in **Table 3-3** was obtained from the 2000 US Census for Calaveras County, California, and the United States.

Table 3-3: Journey to Work Data

Mode	United States	Calaveras County		
		California	%	Number of People
Bicycle	0.4%	0.9%	0.3 %	51
Walked	3.0%	3.0%	2.9 %	422
Drove Alone	78.3%	74.7%	79.4 %	11,718
Carpool	12.6%	15.1%	16.3 %	2,408
Public Transit	4.9%	5.3%	0.3 %	42
Other	0.5%	1.1%	0.8 %	102
				14,743

Source: U.S. Census 2000

As shown, approximately 2.9% of Calaveras County journey-to-work trips are made by foot. The data above is likely to be an underestimate of the true amount of walking in the County. Census data does not include the number of people who walk for recreation or for utilitarian purposes (two primary trip purposes according to user surveys), students traveling to school, or commuters who travel from outside Calaveras County. Census data also reflects only a person's dominant commute mode and does not count non-motorized trips that are part of another trip, for example a person who walks to a transit station.

3.7.2 Future Usage and Benefits

A key goal of the pedestrian plan is to maximize the number of people walking for commute, utilitarian or recreational purposes. Encouraging pedestrian commuters can help reduce traffic congestion and air pollution. The latent “need” for pedestrian facilities—versus actual pedestrians—is difficult to quantify.

Mode split refers to the choice of transportation people make whether for work or non-work trips. Currently, the average household in the U.S. generates about 10 vehicle trips per day. Work trips account for less than 30 percent of these trips on average. Using the available Census 2000 population data, about 422 people in Calaveras County walk to work on an average day. This represents 2.9% of 14,743 total work trips.

For example, doubling the adult pedestrian mode share to approximately 6% of all work-related trips translates to an increase to 885 projected pedestrian commuters. These pedestrians will be saving over half a million vehicle trips per year with resulting air quality and traffic congestion benefits.

As noted above, this projection is likely to be an underestimate of the true “latent demand” for walking in the County. Census data does not include the number of people who walk for recreation or for utilitarian purposes (two primary trip purposes according to user surveys), students traveling to school, or commuters who travel from outside Calaveras County. In particular CCOG staff have identified recreational walkers as an underserved user group for which demand is difficult to quantify based on existing levels of use. Census data also reflects only a person’s dominant commute mode and does not count non-motorized trips that are part of another trip, for example a person who walks to a transit station. Actual increases in walking for all trip purposes could be substantially higher than the estimate given above.

4.0 Pedestrian Facilities

4.1 Introduction

This chapter describes the existing conditions for pedestrians and proposes new facilities to improve the walking environment. Recommended pedestrian improvements are focused on the existing and developing downtown and residential centers of the County. Note that the specific improvements described here, although they are presented as actionable projects, also serve as examples of the types of improvements that could be implemented in other areas in the County.

4.2 Calaveras County Pedestrian Vision

Calaveras County has a growing reputation as a desirable, dynamic community. One of the aspects that makes a community more enjoyable and recreation-friendly are places where people feel comfortable walking, whether they be school children or senior citizens. The long term vision of this Plan is to make Calaveras County a more accessible rural community, a place where there is a balance between the automobile and alternative modes, where walkways are connected to provide a consistent experience within communities.

4.3 Creating Local Walkways

A local walkway ‘network’ is a system of sidewalks, pathways and crosswalks that, for a variety of reasons including safety and convenience, provide a superior level of service for pedestrians. There is an established methodology for selecting pedestrian improvements for any community. As a Countywide Plan, one of the major goals of the Plan is to build on local walkway facilities such as sidewalks or pathways already approved or proposed by communities. Thus, local plans provide the basis for some of the walkways. Another important criterion is input from the local community and local staff familiar with the best routes and existing constraints and opportunities. Input was received through a public survey, multiple meetings with the Steering Committee, from staff and via an extensive field survey and analysis process.

In addition, the consultant team considered some of the following criteria in selecting projects:

1. Existing walking patterns based on reports from surveys and users
2. Traffic volumes and travel speeds on streets
3. Curb-to-curb width and overall available right of way and shoulder conditions
4. Number of destinations served, including schools, parks and employment centers
5. Presence of reasonable alternatives for pedestrians
6. Directness and connectivity to destinations
7. Accident data and safety concerns

Calaveras County local pedestrian improvements were developed with a focus on connecting destinations within communities, addressing routes used by pedestrians, and focusing on specific opportunities and constraints. Because of the local nature of pedestrian improvements, the walkway “network” is inherently incomplete – not every street in every community is suitable for a sidewalk and distances between communities make it impractical to install pathways or sidewalks to connect them.

Finally, it is important to remember that the pedestrian improvements serve as guidelines to those responsible for implementation. The projects themselves may change over time as a result of changing walking patterns and implementation constraints and opportunities.

4.4 Open Space Access

With Big Trees State Park, Stanislaus National Forest, New Melones, New Hogan, Pardee and Comanche South reservoir lands managed by East Bay Municipal Utilities District, Bear Valley Ski Resort and numerous local parks and open space areas, Calaveras is a major open space and outdoor recreation destination. While a great natural resource, these parklands also attract increased seasonal traffic flows resulting in congestion and degradation of the experience for residents and visitors alike. A key strategy being pursued at the national level by entities such as the National Park Service is measures to eliminate or minimize the use of vehicles to access these destinations. Walking is already a very popular means of recreation and sometimes accessing visitor destinations.

Many of the pedestrian recommendations in this Plan directly address access to the numerous open space destinations in Calaveras.

4.5 Environmental Protection

Walking is one of the most environmentally sound forms of travel possible, and directly helps reduce problems associated with motor vehicle use such as air, noise, and water pollution, over-development, and ground covering by asphalt. At the same time, some of the more ambitious pathway proposals in this Plan may have environmental impacts of their own. Some of these may be direct, such as impacts to local biological or geological resources, and others may be indirect, such as impacts of unleashed dogs in habitat areas. All of the projects in this Plan will require additional feasibility analysis, which will include environmental analysis as needed once the project is deemed feasible and a preliminary design developed. Once completed, the pedestrian improvements and programs in this Plan will help to make Calaveras one of the most environmentally sound communities in the country.

4.6 Proposed Pedestrian Improvements

The following section details projects that provide increased opportunities for residents of Calaveras County to walk for transportation or recreation. Note that Multi-Use Pathways described here are also included in the *Calaveras County Bicycle Master Plan, 2007* as they are shared-use facilities.

Improvements were selected by:

- input from staff from Calaveras County and CCOG,

- the Steering Committee,
- the public (through surveys),
- previous priority projects (from existing planning efforts),
- and the consultant team based on their local knowledge and cycling experience, the orientation of funding programs, and the planning criteria outlined above.

4.6.1 Improvement Types

The following information on sidewalk and walkway design is provided to clarify the types of improvements that are described in this chapter. More details are provided in Appendix A: Design Guidelines.

Sidewalks and Pathways

Well-designed sidewalks encourage walking for recreation and transportation purposes. Typical sidewalk design includes minimum widths to accommodate the disabled as well as additional width based on expected number of users. Providing a buffer area between the sidewalk and the roadway will encourage walking by increasing the comfort of pedestrians. Buffering can be achieved through planter strips, bike lanes or on-street parking. In addition to sidewalks, multi-use pathways serve as recreational or transportation walking routes. In the heaviest-use areas, such pathways can have areas delineated by striping or stenciling (or separate parallel walkways) that are designated for pedestrian use.

The following sections provide preliminary concept-level cost estimates for needed sidewalk segments in the local communities of Calaveras County. Note that sidewalk estimates do not include other streetscaping elements such as benches, landscaping or other pedestrian amenities. The segments described in this report may need an additional level of feasibility analysis prior to implementation, to assess Americans with Disabilities Act compliance with regard to grades or sidewalk obstacles or obstructions such as utility poles and stairways.

Several segments of new Class I pathway are proposed in this plan. The following sections provide a cost estimate breakdown for implementation of these projects, organized by community. It should be noted that of all the projects proposed in this plan, the pathways will require a higher level of environmental scrutiny compared to sidewalks and crosswalks which typically have little to no environmental impact unless undeveloped land is involved. Because of the expense involved with construction of Class I pathways, prioritization, phasing and alternate funding strategies are critical to eventual implementation. Note that these pathway facilities are duplicated in the *Calaveras County Bicycle Master Plan, 2007*. Priorities given in that document are based on a Countywide, not local implementation strategy and as such differ from the pedestrian priorities given here.

Intersection Improvements

Intersection design is crucial to encouraging pedestrian use. Appropriate pedestrian design at intersections can range from simple striped crosswalks at low traffic volume locations to high-visibility crosswalks with pedestrian push-buttons and crossing countdown heads. Provision of pedestrian-activated signals is essential at key intersections to ensure that people walking in these areas do not cross against the signal. This is especially important for off-peak users when motor

vehicles may not be present to trip signals at intersections with loop detectors. In rural areas, pedestrian concerns focus on provision of crosswalks, landings, and sidewalks, pathways or shoulders. Ensuring appropriate sight distances near corners or on curvilinear roads is critical to pedestrian crossing safety. Pedestrian concerns in rural areas also include trail and path intersections where such facilities cross roadways at mid-block locations.

The California Vehicle Code Section 275 defines a crosswalk as either:

- That portion of a roadway included within the prolongation or connection of the boundary lines of sidewalks at intersections where the intersecting roadways meet at approximately right angles, except the prolongation of such lines from an alley across a street.
- Any portion of a roadway distinctly indicated for pedestrian crossing by lines or other markings on the surface.

At intersections, a crosswalk is effectively a legal extension of the sidewalk across the roadway. Crosswalks are present at all intersections, whether marked or unmarked, unless the pedestrian crossing is specifically prohibited by the local jurisdiction. At mid-block locations, crosswalks only exist if they are marked. See Appendix A for definitions of different crosswalk types and treatments.

4.6.2 Implementation

The steps between the infrastructure elements identified in this Plan and final completion vary from project to project, but typically include:

1. Adoption of this Plan by the Board of Supervisors.
2. Completion of a Feasibility Study, which typically includes preliminary design, environmental analysis, alternatives analysis, related agency coordination, local staff, or by consultants. The final product should yield a preferred design alternative, environmental clearance, and an accurate cost estimate. At this stage any project involving a State Highway or Caltrans right-of-way should have appropriate encroachment permits and maintenance agreements in place, prior to funding, final design and construction.
3. Approval of the preferred project by the local governing board, including acceptance of any environmental documentation. Local agency typically must commit to providing 10% of the project cost, and assume responsibility for the cost, operation, and liability for the project.
4. Funding applied for and obtained for the project. Typically, all environmental work must be completed, local approval obtained, and the right-of-way in public control.
5. Completion of final Plans, Specifications, and Estimates (P,S&E). Once completed, bids for construction services can be obtained.
6. Construction of the Project.

Projects Phasing and Prioritization

Phase I: Costs for all improvements that can be constructed as a part of planned development or upcoming roadway construction project should be folded into those larger projects. This strategy will save substantial materials and project administration costs. The first step in this phase is

adoption of the policies in Chapter 2 requiring the construction of improvements from this plan as a condition of private development.

Phase II: The remaining projects should be funded as monies are available, with the County and other applicable agencies proactively seeking funding for these stand-alone projects.

Projects in the following sections have been prioritized into High Priority (A), Medium Priority (B) or Lower Priority (C). These relative priority rankings are based primarily on number of users that will be served, input from the Steering Committee, staff and the public via the public surveys, ease of implementation, cost and other planning factors. The priorities stated here are intended to guide implementation within each local community. Because pedestrian improvements are essentially local in nature, Calaveras County should determine, in partnership with local communities, the process for project selection and prioritization of these proposed improvements.

4.6.3 Pedestrian Conditions and Recommended Improvements

This section provides detailed descriptions of existing pedestrian conditions and makes recommendations for a number of specific improvements identified by the Needs Analysis in Chapter 3. Typical improvements for these areas include addition of new high-visibility ladder crosswalks, installation of advance warning pedestrian crosswalk signs, upgrading of existing crosswalks to high visibility and repositioning existing crosswalk signs to be more effective. Curb ramps should be provided at all corners whether for new or upgraded crosswalk locations or new or existing sidewalks. Unless otherwise noted, all locations are presumed to have some kind of existing lighting, typically streetlights.

Valley Springs

Located at the intersection of Highways 12 and 26, historic Valley Springs has a small commercial/residential district including the Mar Val Grocery and Valley Springs Elementary School. The greater Valley Springs area includes some of the most quickly developing areas of housing, such as those around Rancho Calaveras. The proposed Cosgrove pathway project, a key opportunity corridor for nonmotorized recreation and travel, passes through this area. Nearby destinations include La Contenta Golf Course and New Hogan Reservoir. There are few pedestrian facilities in the developing areas of Valley Springs, and none to connect those areas to the historic commercial area.

The primary walking area in Valley Springs is the small commercial district at the intersection of Highways 12 and 26. Currently there are sidewalks along Highway 12 on the north side of the street with crosswalks on all legs of the intersection except the southern approach. The sidewalks become discontinuous as they go into the adjacent residential and commercial areas. In addition, there is an existing mid-block crosswalk southwest of this intersection. All crosswalks are striped with standard configuration. Proposed improvements include:

- Upgrading all existing crosswalks to high visibility, including new or repositioned advance warning signs and additional street lighting as needed
- Adding curb ramps at northwest and southwest corners, including new landing area for proposed sidewalk at southwest corner.

- Installing sidewalks on the west side of Highway 26 to access the shopping centers on east and west sides of Highway 26 south of intersection of Highway 12 and Highway 26.
- Providing new high visibility crosswalk of Highway 26 to connect shopping centers on east and west sides of Highway 26 south of intersection of Highway 12 and Highway 26. Mid-block location should include advance warning signs, concrete landing areas with curb ramps at either end of the crosswalk and possibly additional street lighting and a flashing pedestrian-actuated crosswalk beacon.
- Cosgrove Bicycle and Pedestrian Pathway: This pathway project in the Valley Springs area connects the existing downtown shopping area to existing and proposed new development as well as providing important access opportunities to nonmotorized recreation at Hogan Dam Reservoir. As a result of the Steering Committee and survey process, a spur of this pathway has also been proposed to run parallel to Highway 26 for school access purposes.

Table 4-1: Valley Springs Proposed Walkway Segments

Name	From	To	Community	Length (Feet)	Miles	Cost	Priority
Cosgrove Corridor Pathway	Hogan Dam Road	South Petersburg Road	Valley Springs	18,105	3.40	\$2,180,600	A
Cosgrove Pathway Highway 26 Spur	South Petersburg Road	Silver Springs Rapid Road	Valley Springs	7,267	1.40	\$897,900	B
Highway 26 Sidewalks (both sides)	Highway 12	Shopping Centers	Valley Springs	402	0.08	\$6,000	B
Total						\$3,084,500	

Table 4-2: Valley Springs Proposed Intersection Improvements

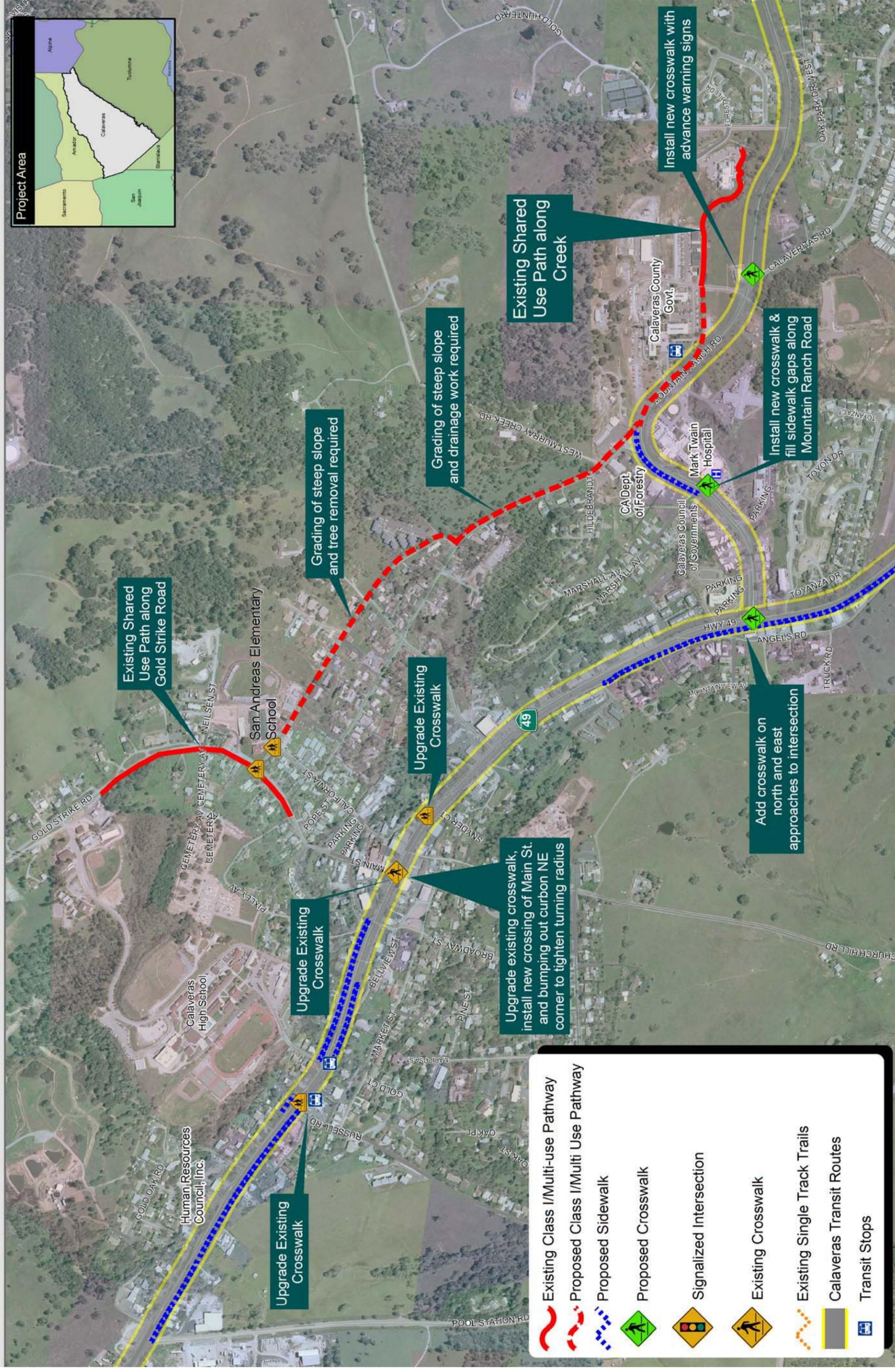
Location	Quantity Improvements							Cost Per Location	Priority
	Restripe Crosswalk	New Crosswalks	Single Curb Ramp/Landing	Double Curb Ramp/Landing	Advance Warning Signs	Pedestrian Crossing Beacon			
Valley Springs									
Highway 26 and Highway 12	4	2	4	3	12	1	\$31,500	A	
Total Valley Springs	4	2	4	3	12	1	\$31,500		

Calaveras County Pedestrian Plan - Valley Springs Commercial District FIG. 4-1



Calaveras County Pedestrian Plan - San Andreas

FIGURE 4-2



San Andreas

Located along Highway 49 (Main Street), San Andreas is home to the Calaveras County government offices. Four of Calaveras' top 14 major employment locations are in San Andreas including the Calaveras County Government offices, Mark Twain St. Joseph's Hospital, the California Department of Forestry office and the Human Resources Council office. Other destinations include San Andreas Elementary School and Calaveras High School as well as businesses located in the commercial and retail areas along Highway 49.

San Andreas is one of two towns whose "Main Street" segment of Highway 49 is the focus of commercial and pedestrian activity for the community. Existing pedestrian facilities include nearly complete but discontinuous sidewalks on both sides of Highway 49 with three existing crosswalks (two standard and one school), a multi-use pathway parallel to Gold Strike Road accessing San Andreas Elementary School and two existing school crosswalks at the school. At the south end of town discontinuous sidewalks can be found on both sides of Mountain Ranch Road and a new multi-use pathway connects the Calaveras County Government Building to the Hospital and CCOG offices area. Proposed improvements include:

- Installation of continuous sidewalks on both sides of Highway 49 between Mountain Ranch Road and Pool Station Road.
- Installation of continuous sidewalk route along Mountain Ranch Road between Highway 49 and Pope Street.
- Installation of new sidewalks along Lewis between California and Gold Strike Road as part of a Safe Routes to Schools project.
- Installation of new high visibility crosswalks and advance warning signs at Mountain Ranch Road and Highway 49 on the north and east approaches, including concrete landing areas with curb ramps at either end of the crosswalk and new street lighting at crosswalks, as needed.
- Providing new high visibility crosswalk of Mountain Ranch Road at the hospital. Mid-block location should include advance warning signs, concrete landing areas with curb ramps at either end of the crosswalk to connect to proposed and existing sidewalks and possibly additional street lighting and a flashing pedestrian crosswalk beacon.
- Providing new high visibility crosswalk of Mountain Ranch Road at Calaveritas. Location should include advance warning signs, concrete landing areas with curb ramps at either end of the crosswalk to connect to future sidewalks and possibly additional street lighting and a flashing pedestrian crosswalk beacon.
- Upgrade all existing school and standard crosswalks to high visibility, including new or repositioned advance warning signs
- Install street lighting at all crosswalks of Highway 49 where not currently provided.
- Curb extensions at the northeast corner of Highway 49 and Gold Strike Road.
- San Andreas Creek Pathway Extension: The existing pathway along the creek near downtown San Andreas would be extended as a sidepath along Pope Street and Lewis Avenue to provide access to both the Calaveras County Government buildings and San

Andreas Elementary School. The pathway would also provide important recreation and commuting opportunities for those residents living in the neighborhood along this corridor. Construction of the pathway would require some right-of-way acquisition as well as grading and drainage in key areas. Proximity to the roadway would likely require installation of a solid barrier between the path and road along some segments.

Table 4-3: San Andreas Proposed Walkway Segments

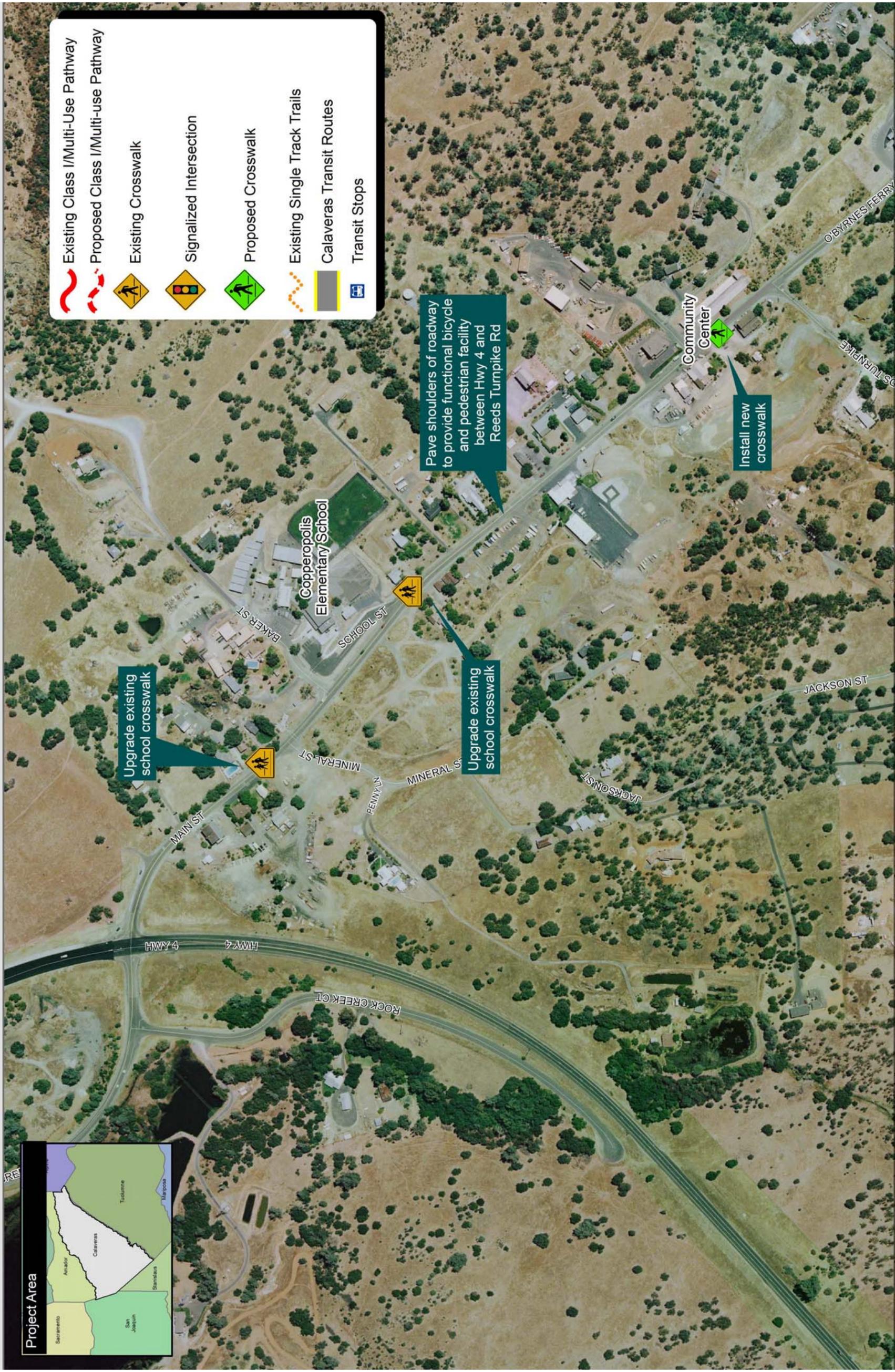
Name	From	To	Community	Length (Feet)	Miles	Cost	Priority
Highway 49 Sidewalk	San Andreas	San Joaquin Ave	San Andreas	3,217	0.6	\$48,255	A
Elementary School Multi-Use Pathway	Gold Hunter Road	East End Existing Pathway	San Andreas	325	0.10	\$64,100	B
Elementary School Multi-Use Pathway	Lewis Avenue	Pope Street	San Andreas	1,605	0.30	\$192,400	B
Elementary School Multi-Use Pathway	Pope Street	Govt Center Rd	San Andreas	1,130	0.20	\$128,300	B
Elementary School Multi-Use Pathway	Pope Street	California	San Andreas	2,123	0.40	\$256,500	B
Total						\$689,555	

Table 4-4: San Andreas Proposed Intersection Improvements

Location	Quantity Improvements							Cost Per Location	Priority
	Restripe Crosswalk	New Crosswalks	Single Curb Ramp/Landing	Double Curb Ramp/Landing	Advance Warning Signs	Pedestrian Crossing Beacon	Turn Radius Reduction		
San Andreas									
Mountain Ranch Road and Highway 49		2	2	1	4			\$11,500	A
Highway 49 & Russell Road	1		2		2			\$6,000	A
Highway 49 & Main Street	1		2		2		1	\$14,000	A
Highway 49 & Snyder	1		2		2			\$6,000	A
Mountain Ranch Road @ Hospital		1	2		2	1		\$8,000	B
Mountain Ranch Road @ Calaveritas		1	2		2	1		\$8,000	B
Total San Andreas	3	4	12	1	14	2	1	\$53,500	

Calaveras County Pedestrian Plan - Historic Copperopolis

FIGURE 4-3





ALTA
PLANNING + DESIGN



CALAVERAS COUNCIL
of GOVERNMENTS





0 0.1 0.2 0.4 Mile

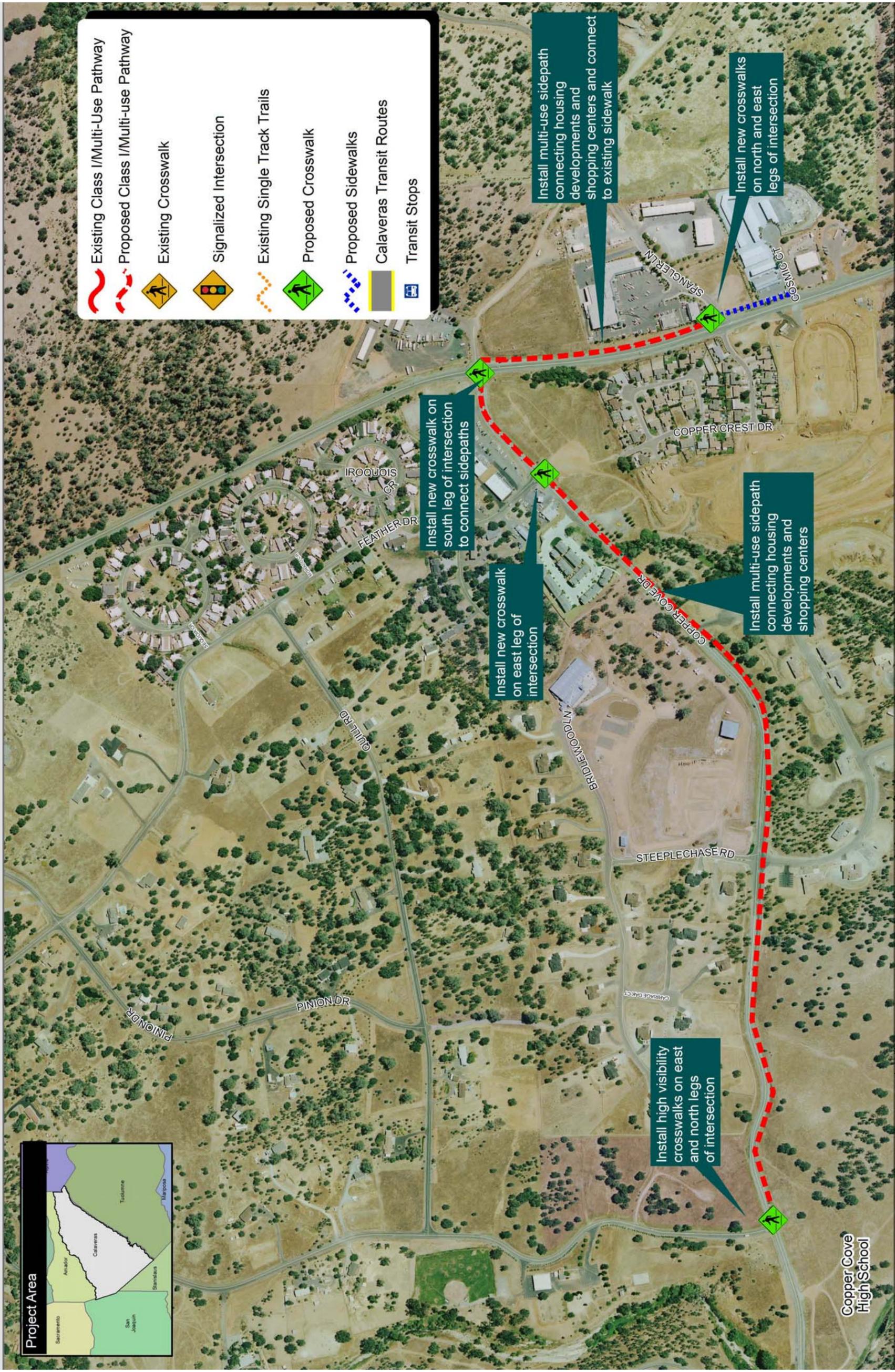


ALTA PLANNING + DESIGN
AUSA

Data Provided by: Calaveras County
Map Prepared by: Alta Planning+Design, June, 2007

Calaveras County Pedestrian Plan - Copperopolis

FIGURE 4-4



Copperopolis

Located south of the intersection of Highway 4 and OByrnes Ferry Road, this area is one of the most quickly developing communities in Calaveras County, with the majority of new development focused outside the area of historic Copperopolis. Currently there are very few pedestrian facilities in this community.

Pedestrian improvements in this area are divided into two parts: Historic Copperopolis and the area around the intersection of OByrnes Ferry Road and Copper Cove Drive, which is an example of the types of improvements that could be implemented elsewhere in the developing areas of Copperopolis as new development is planned and built.

Historic Copperopolis

Historic Copperopolis has several destinations such as the Copperopolis Elementary School, McCarty's Copper Inn general store and the Community Center. This area, near Highway 4, OByrnes Ferry Road and Reeds Turnpike has no sidewalks or designated walkways present. There are two existing school crosswalks, both serving the Elementary School. Potential improvements include:

- Upgrade both existing school crosswalks to high visibility, including new or repositioned advance warning signs
- Installation of a new high visibility crosswalk of OByrnes Ferry Road at Reeds Turnpike, to serve the general store and Community Center. Crosswalk should be high visibility and include advance warning signs, concrete landing areas with curb ramps at either end of the crosswalk and possibly additional street lighting and a flashing pedestrian crosswalk beacon.
- Paving and widening the shoulders of the roadway to provide a functional area for bicycling that can also serve light pedestrian travel needs; if warranted these shoulders could be consolidated into a multi-use sidepath between Highway 4 and Reeds Turnpike. Careful consideration should be given to facility choice in this area based on anticipated use compared to cost and to preserving the rural character of the area. Paving of the shoulder areas has been included in the *Calaveras County Bicycle Master Plan, 2007* as a Rural Roads Improvement project.

Copperopolis - OByrnes Ferry Road and Copper Cove Drive Intersection Area

The section south of historic Copperopolis consists primarily of new subdivision developments in a variety of areas. Two shopping centers and the Copper Meadows subdivision are located near this intersection and other area destinations include the future Copper Cove High School location further west on Copper Cove Drive, Saddle Creek Golf Course and Lake Tulloch. Currently there is a sidewalk leading from the southeast corner of this intersection into the shopping center, but none along the other approaches. There are no existing crosswalks.

Proposed improvements include:

- Construction of multi-use pathways on the south side of Copper Cove Drive and east side of OByrnes Ferry Road. These pathways would connect the existing and planned developments along Copper Cove Road to the existing shopping centers and developments near the intersection of Copper Cove and OByrnes Ferry Road. A sidepath would allow users to walk

for recreation or to restaurants and shops. Some right-of-way acquisition may be necessary, although construction of the pathway could be financed through future development.

- Installation of a new high visibility crosswalks on the east leg of the intersection at Copper Cove Drive and Feather Drive. Location should include advance warning signs, concrete landing areas with curb ramps at either end of the crosswalk and possibly additional street lighting.
- Installation of a new high visibility crosswalks on the east leg of the intersection at Copper Cove Drive and Black Creek Drive. Location should include advance warning signs, concrete landing areas with curb ramps at either end of the crosswalk and possibly additional street lighting and a flashing pedestrian crosswalk beacon.
- Installation of a new high visibility crosswalk on the south leg of the intersection of OByrnes Ferry Road and Copper Cove Drive; Location should include advance warning signs, concrete landing areas with curb ramps at either end of the crosswalk and possibly additional street lighting and a flashing pedestrian crosswalk beacon.
- Installation of a new high visibility crosswalk of the north leg of OByrnes Ferry Road at Spangler Lane, to encourage residents of the adjacent Copper Meadows subdivision to walk to the shopping center across the street. Location should include advance warning signs, concrete landing areas with curb ramps at either end of the crosswalk and possibly additional street lighting and a flashing pedestrian crosswalk beacon.
- Installation of a short new segment of sidewalk south of Spangler Lane.

Table 4-5: Copperopolis Proposed Walkway Segments

Name	From	To	Community	Length (Feet)	Miles	Cost	Priority
OByrnes Ferry Road Sidewalk	Spangler Lane	Cosmic Court	Copperopolis	378	0.1	\$5,670	A
Copper Cove Drive Multi-Use Pathway	Black Creek Drive	OByrnes Ferry Road	Copperopolis	4,729	0.90	\$577,200	A
OByrnes Ferry Road Multi-Use Pathway	Copper Cove Drive	Spangler Lane	Copperopolis	1,107	0.20	\$128,300	B
Total						\$711,170	

Table 4-6: Copperopolis Proposed Intersection Improvements

Location	Quantity Improvements							Cost Per Location	Priority
	Restripe Crosswalk	New Crosswalks	Single Curb Ramp/Landing	Double Curb Ramp/Landing	Advance Warning Signs	Pedestrian Crossing Beacon			
Historic Copperopolis									
OByrnes Ferry Rd north of N. Baker @ the school	1		2		2	1	\$8,000	A	
OByrnes Ferry Rd south of N. Baker @ the school	1		2		2	1	\$8,000	A	
OByrnes Ferry Rd & Reeds Turnpike		1	2		2	1	\$8,000	B	
Total Historic Copperopolis	2	1	6		6	3	\$24,000		
Copperopolis Copper Cove Dr/OByrnes Ferry Rd									
Copper Cove Dr and OByrnes Ferry Rd		1		2	3	1	\$12,200	A	
Copper Cove Dr and Black Creek Dr		2	2	1	3	1	\$13,300	A	
Copper Cove Dr and Feather Dr		1	2		2		\$6,000	B	
OByrnes Ferry Rd and Spangler Lane		1	2		2		\$6,000	B	
Total Copperopolis Copper Cove Dr/OByrnes Ferry Rd		5	6	3	10	2	\$37,500		

Angels Camp

Located south of San Andreas on Highway 49 (Main Street) Angels Camp is Calaveras County’s only incorporated city. The County Office of Education is located here as well as three schools: Bret Harte Union High School, Mark Twain Union Elementary School and Angels Creek Community Day School. Other retail and commercial destinations are found along Highway 49. Recreational destinations within and near Angels Camp include Utica Park, the Greenhorn Creek Golf Resort, the Calaveras County Fairgrounds and New Melones Reservoir.

Any recommendations for this incorporated City will need approval by city staff prior to adoption of this plan. The historic “gold rush” downtown area and the section of Highway 49/4 to the north both have nearly complete sidewalks. Along Highway 49, the intersections with Murphys Grade Road and Highway 4 both have pedestrian signal heads as well pedestrian push-button actuators and full curb ramps and landings/sidewalks. There are some ADA accessibility issues regarding the sidewalks in the historic district, due to stairway barriers and elevation differences between the street and sidewalk levels. A total of eleven crosswalks of Highway 49 exist in Angels Camp, one of which is a school crosswalk. In addition, a pedestrian crosswalk signal provides a connection between Bret Harte Union High School and the parking lot on the other side of Murphys Grade Road. Proposed improvements include:

- Installing continuous sidewalks on both sides of Highway 49 between Highway 4 north and Highway 4 south, including an extension on the west side of Highway 49 to the Longs shopping center, with the exception of a short, constrained segment on the east side of the highway just north of downtown
- Upgrading all crosswalks of Highway 49 and the Murphys Grade Road crosswalk to high visibility, including new or repositioned advance warning signs and additional street lighting where not currently provided.
- Correcting the improperly positioned locations of push buttons and pedestrian signal heads at the intersection of Highway 49 and Highway 4 (north)
- Installing a new high visibility school crosswalk of Highway 4 (south) at Angels Creek Community Day School. Mid-block location should include advance warning signs, concrete landing areas with curb ramps at either end of the crosswalk and possibly additional street lighting and a flashing pedestrian crosswalk beacon.

Table 4-7: Angels Camp Proposed Walkway Segments

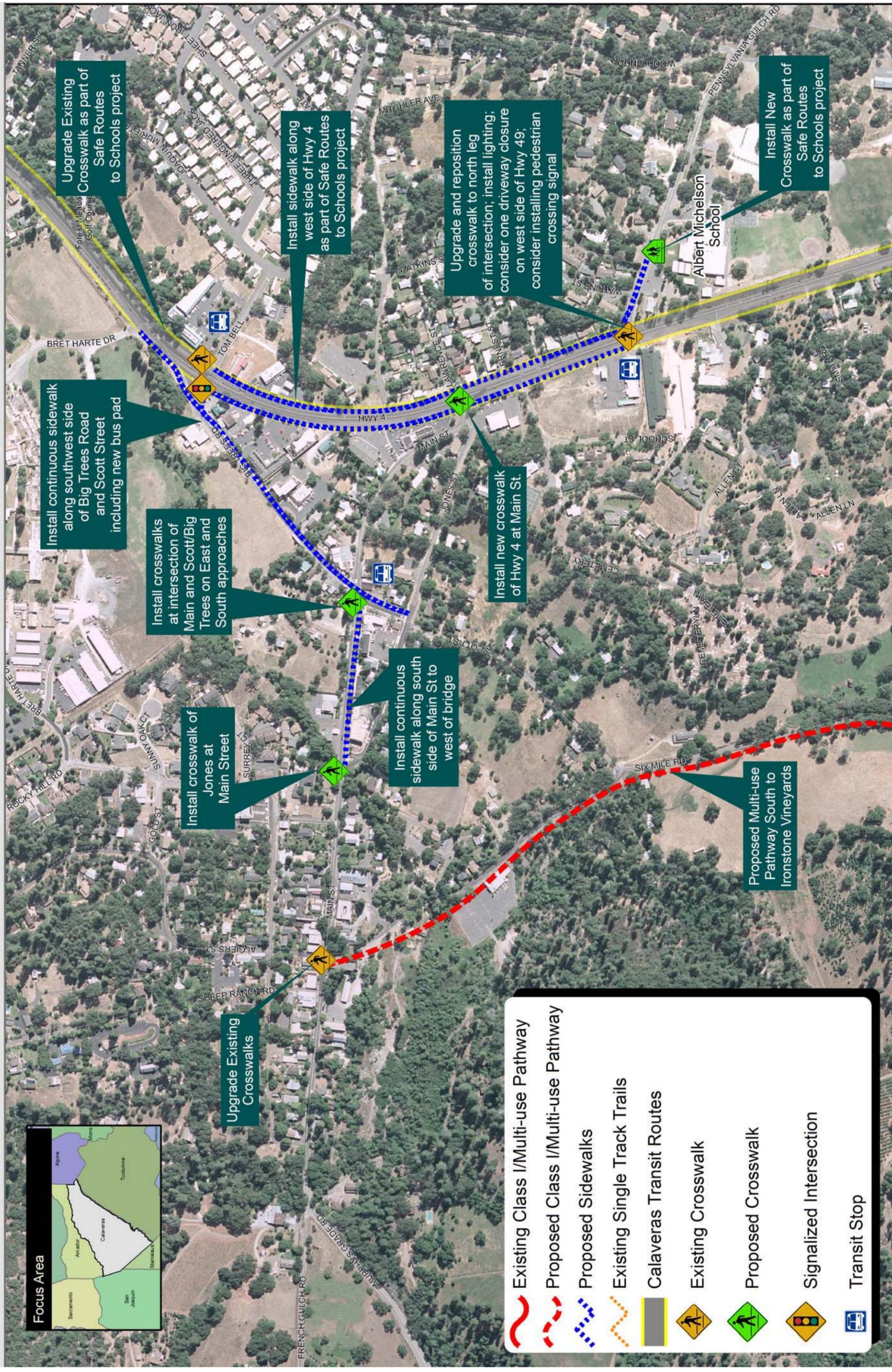
Name	From	To	Community	Length (Feet)	Miles	Cost	Priority
Main Street - Angels Sidewalk	Dogtown Road	Highway 4	City Of Angels	11,492	2.2	\$172,380	A
Total						\$172,380	

Table 4-8: Angels Camp Proposed Intersection Improvements

Location	Quantity Improvements							Cost Per Location	Priority
	Restripe Crosswalk	New Crosswalks	Single Curb Ramp/Landing	Double Curb Ramp/Landing	Advance Warning Signs	Pedestrian Crossing Beacon			
Angels Camp									
Highway 4 and Highway 49 (north)	3						\$1,800	A	
Highway 49 & Stanislaus	1		2		2		\$6,000	A	
Highway 49 & Hardscrabble	1		2		2		\$6,000	A	
Highway 49 & Highway 4 (south)	3		4	2	3		\$21,400	A	
Murphys Grade Road @ High School	1				2		\$1,000	A	
Highway 49 & Murphys Grade Road	4			1			\$6,900	A	
Highway 4 & Depot Rd		1	2		2	1	\$8,000	A	
Highway 49 & Monte Verda St	1		2		2		\$6,000	B	
Highway 49 & Lee Lane	1		2		2		\$6,000	B	
Highway 49 (between Stanislaus and Bret Harte)	1		2		2		\$6,000	B	
Highway 49 & Sams Way	1		2		2		\$6,000	B	
Highway 49 & Pine Street	1		2		2		\$6,000	B	
Highway 49 (between Hardscrabble and Finnegan Ln)	1		2		2		\$6,000	B	
Total Angels Camp	19	1	22	3	23	1	\$87,100		

Calaveras County Pedestrian Plan - Murphys

FIGURE 4-6



Murphys

Located on Highway 4 between Arnold and Angels Camp, Murphys is an important crossroads for countywide travel and is a center of pedestrian activity. The historic Main Street has numerous businesses and restaurants and is periodically closed to create a pedestrian mall area. With a bustling downtown area, particularly on warm weekend days, and housing, schools and commercial areas all within walking distance of each other, the area already encourages substantial pedestrian use. Adjacent to Highway 4 is the Albert Michelson Elementary School as well as a large residential area. Nearby Ironstone Vineyards is an important destination for locals as well as visitors from outside the community and the county. In addition to a myriad of other vineyards, other destinations include Feeney Park, the skate park and Mercer Caverns. Currently there are continuous sidewalks along Main Street with a small gap near the bridge and crosswalks striped on each leg of the intersection of Algiers and Main. Discontinuous sidewalks exist on Big Trees and Scott Street, near the transit stop. Existing crosswalks of Highway 4 are located at Tom Bell Road and Pennsylvania Gulch Road, adjacent to Albert Michelson Middle School. There are currently no sidewalks along Highway 4. Potential improvements include:

- Upgrading all existing crosswalks on Main to high visibility. Locations should include advance warning signs, concrete landing areas with curb ramps at either end of each crosswalk and possibly additional street lighting as needed.
- Upgrading existing crosswalk on Highway 4 at Tom Bell Road to high visibility, including concrete landing areas with curb ramps at either end of each crosswalk, addition of pedestrian push-buttons and pedestrian signal heads and additional street lighting as needed.
- Upgrade existing crosswalk of Highway 4 at Albert Michelson Middleschool to span entire roadway. Crosswalk should be striped high-visibility and should include, at a minimum, advance warning signs, concrete landing areas with curb ramps at either end of the crosswalk to connect to proposed sidewalks, additional street lighting (as needed) and a flashing pedestrian crosswalk beacon. Consider installation of a pedestrian crosswalk signal at this location, as County staff have noted significant traffic delays in the morning at this location due to high volumes of children crosswalk to go to school
- Completing sidewalk gaps on Main St. near the bridge
- Installing continuous sidewalks along Big Trees Road from Bret Hart Drive to Scott at Jones Street to access the Transit Stop at Scott and Big Trees from Highway 4, including high visibility crosswalks, concrete landings and curb ramps at all roadway crosswalks and intersection corners.
- Installation of continuous sidewalks along both sides of Highway 4 between Tom Bell Road and Pennsylvania Gulch Road including high visibility crosswalks, concrete landings and curb ramps at all at all roadway crosswalks and intersection corners. Sidewalks on the east side of Highway 4 are part of a proposed Safe Routes to Schools grant
- Installation of a new high visibility school crosswalk at the end of proposed sidewalks on Pennsylvania Gulch Road. Mid-block location should include advance warning signs, concrete landing areas with curb ramps at either end of the crosswalk and possibly additional street lighting and a flashing pedestrian crosswalk beacon.

- Installation of a new high visibility mid-block crosswalk of Highway 4 at Main Street. Mid-block location should include advance warning signs, concrete landing areas with curb ramps at either end of the crosswalk and possibly additional street lighting and a flashing pedestrian crosswalk beacon.
- Murphys-Ironstone Vineyard Pathway: This pathway was requested by the steering committee as one way to reduce congestion in the busy downtown Murphys area and surrounding highways on the weekend. This pathway would allow visitors to the vineyard to park near downtown Murphys, enabling them to patronize local businesses and walk or bike to the Vineyard through a scenic area. Funding for the pathway could be accomplished in partnership with the vineyard, due to the business this facility would generate.

Table 4-9: Murphys Proposed Walkway Segments

Name	From	To	Community	Length (Feet)	Miles	Cost	Priority
Main Street Sidewalk	Jones Street	Big Trees Market	Murphys	705	0.1	\$10,575	A
Big Trees Road Sidewalk	Jones Street	Hwy 4	Murphys	1,370	0.3	\$20,550	B
Highway 4 Sidewalk	Tom Bell	Michelson Elementary	Murphys	1,890	0.4	\$28,350	A
Ironstone Pathway	Main Street	Ironstone Vineyards	Murphys	7,803	1.50	\$962,000	C
Total						\$1,021,475	

Table 4-10: Murphys Proposed Intersection Improvements

Location	Quantity Improvements							Cost Per Location	Priority	
	Restripe Crosswalk	New Crosswalks	Single Curb Ramp/Landing	Double Curb Ramp/Landing	Advance Warning Signs	Pedestrian Crossing Beacon	Pedestrian Push buttons and Signal Heads			Pedestrian Crossing Signal
Murphys										
Highway 4 & Tom Bell	1		1	1			1		\$10,400	A
Highway 4 & Main St		1	2		2	1			\$8,000	A
Highway 4 & Penn Gulch Rd	1	1	4		4			1	\$72,000	A
Main St & Algiers	4			4	4				\$21,200	B
Main St & Jones		1	2		2				\$6,000	B
Main St & Scott/Big Trees	1	2		3	4				\$16,100	B
Total Murphys	7	5	9	8	16	1	1	1	\$133,700	

Arnold

Located along the Highway 4 corridor near the eastern end of the county, the greater Arnold area encompasses White Pines, Hathaway Pines and Blue Lake Springs. Arnold offers many outdoor recreation opportunities for bicycling, is the gateway to Big Trees State Park and provides access to the Stanislaus River and features other destinations such as the Meadowmont Golf Course and the Railroad Museum. The area has a number of important local destinations such as Hazel Fischer School, the Big Trees Market and many other businesses along Highway 4 in downtown and the library/post office area. Arnold is a major destination for visitors from outside the county, with many seasonal and vacation homes in the area.

Despite its relatively high pedestrian use, Arnold has relatively few pedestrian facilities relative to other communities with similar numbers of walkers. Currently there are two existing pedestrian crosswalks in Arnold; both are on Blagen road. One is located at the library and the other is a school crosswalk near Vallecito Community Day School. Transit stops are located at Big Trees Market and the Post Office. There are no existing formal sidewalks or pathways in the commercial and retail areas of the town. Currently many pedestrians walk from property to property adjacent to Highway 4 or cut through onto adjacent parallel back roads to get from one point to another along a network of informal routes familiar to locals. Similar to Murphys, Arnold is a community positioned to encourage walking due to its many natural and commercial attractions. Proposed improvements include:

- Upgrading existing standard and school crosswalks of Blagen Road to high visibility. Mid-block locations should include advance warning signs, concrete landing areas with curb ramps at either end of the crosswalk and possibly additional street lighting. Consider flashing pedestrian crosswalk beacon for school crosswalk location.
- Addition of a high visibility crosswalk of Blagen at the Post Office. Mid-block location should include advance warning signs, concrete landing areas with curb ramps at either end of the crosswalk and possibly additional street lighting and a flashing pedestrian crosswalk beacon.
- Installation of three new crosswalks of Highway 4, including lighting, one located just east of Blagen Road, one at Manuel Road and one at Country Club Road. Locations should include advance warning signs, concrete landing areas with curb ramps at either end of the crosswalk and possibly additional street lighting and a flashing pedestrian crosswalk beacon.
- Completion of the Cowell Creek Pathway and route, connecting the south end to the north end of Arnold, using a system of interconnected Class I and Class III on-street routes on quiet residential streets suitable for walking and bicycling. These short pathway segments connect together longer on-street segments to form a continuous route that connects the Big Trees Shopping Center at the South to Hazel Fischer Elementary School at the North.
- Installation of a sidepath along Highway 4 between Big Trees Market and Blagen Road. This project was a top priority among survey respondents as well as members of the steering committee and provides a dedicated, direct east-west route through the town for pedestrians.

Table 4-11: Arnold Proposed Walkway Segments

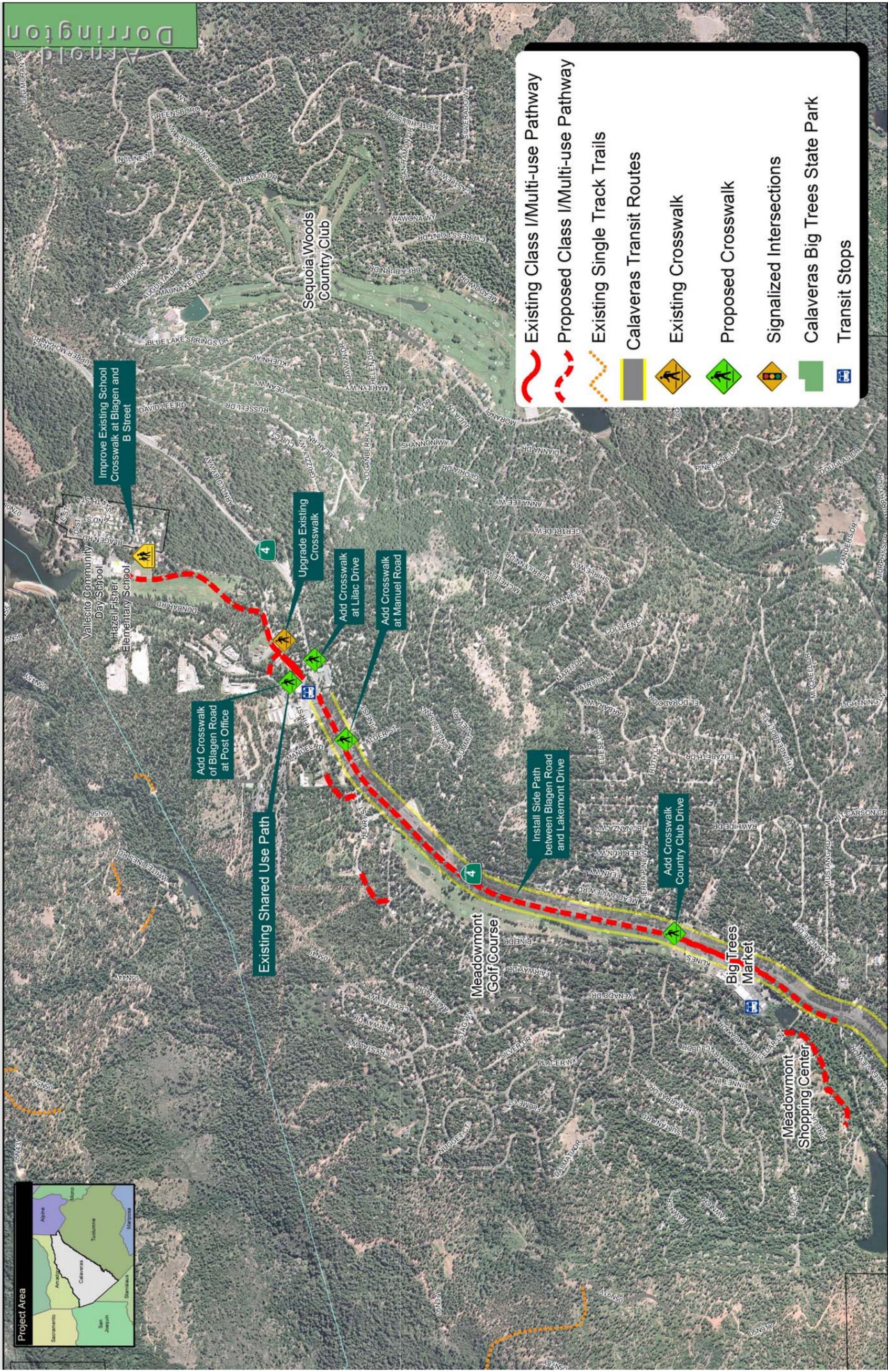
Name	From	To	Community	Length (Feet)	Miles	Cost	Priority
Highway 4 Sidepath	Blagen Road	Country Club Drive	Arnold	6,434	1.20	\$769,600	A
Vallecito Pathway	Henry Street	Vallecito Day School	Arnold	2,928	0.60	\$384,800	B
Cowell Creek Pathway	Green Meadow Court	Cedar Lane	Arnold	1,803	0.30	\$192,400	C
Cowell Creek Pathway	Willow Street	Oak Circle	Arnold	610	0.10	\$64,100	C
Cowell Creek Pathway	Oak Court	Pine Drive	Arnold	630	0.10	\$64,100	C
Total				12,405	2	\$1,475,000	

Table 4-12: Arnold Proposed Intersection Improvements

Location	Quantity Improvements					Cost Per Location	Priority
	Restripe Crosswalk	New Crosswalks	Single Curb Ramp/Landing	Advance Warning Signs	Pedestrian Crossing Beacon		
Arnold							
Highway 4 & Country Club Dr		1	2	2	1	\$8,000	A
Highway 4 & Lilac		1	2	2	1	\$8,000	A
Highway 4 & Manuel		1	2	2	1	\$8,000	A
Blagen Rd & C/D Sts	2		4	2	1	\$13,600	B
Blagen Rd @ Library	1			2		\$1,000	B
Blagen Rd @ Post Office		1	2	2	1	\$8,000	B
Total Arnold	3	4	12	12	5	\$46,600	

Calaveras County Pedestrian Plan - Arnold

FIGURE 4-7



Calaveras County Pedestrian Plan - Avery

FIGURE 4-8



- Existing Class I/Multi-Use Pathway
- Proposed Class I/Multi-use Pathway
- Proposed Sidewalks
- Existing Single Track Trails
- Calaveras Transit Routes
- Existing Crosswalk
- Proposed Crosswalk
- Signalized Intersection
- Transit Stops



Avery

The primary focus of pedestrian improvements for this small community is school access. Existing conditions include a school crosswalk at Highway 4 on the south and east legs of the intersection. No sidewalks or other crosswalks currently exist for school-aged children. Potential improvements include:

- Upgrading existing school crosswalks of Highway 4 to high visibility, including new or repositioned advance warning signs, concrete landing areas with curb ramps at either end of the crosswalks and possibly additional street lighting and a flashing pedestrian crosswalk beacon for the Highway 4 crosswalk.
- Installation of a continuous sidewalk route from Highway 4 to Avery Middle School, along the north side of Avery Hotel Road and the south side of Sanders Lane, as a part of a Safe Routes to Schools project
- Installation of two new high visibility school crosswalks, one at Moran Road and the other on Sanders Lane at the school. Both locations should include advance warning signs, concrete landing areas with curb ramps at either end of the crosswalk and possibly additional street lighting. Mid-block location may need a flashing pedestrian crosswalk beacon.

Table 4-13: Avery Proposed Walkway Segments

Name	From	To	Community	Length (Feet)	Miles	Cost	Priority
Sanders Lane Sidewalk	Moran Road	Avery Middle School	Avery	490	0.1	\$7,350	A
Avery Hotel Road Sidewalk	Highway 4	Moran Road	Avery	643	0.1	\$9,645	A
Total				1,133	0	\$16,995	

Table 4-14: Avery Proposed Intersection Improvements

Location	Quantity Improvements					Cost Per Location	Priority
	Restripe Crosswalk	New Crosswalks	Single Curb Ramp/Landing	Advance Warning Signs	Pedestrian Crossing Beacon		
Avery							
Highway 4 & Avery Hotel Rd	1		2	2	1	\$8,000	A
Avery Hotel Rd & Moran Rd		1	2	2		\$6,000	B
Avery Middle School Rd & Sanders Ln		1	2	2		\$6,000	B
Total Avery	1	2	6	6	1	\$20,000	

West Point

Located along Highway 26 in the northeast section of the County is scenic, coniferous West Point. Downtown West Point serves as host to most of the community and is the site of West Point Elementary School, the Community Town Hall, Library, Veterans Hall and County Clinic. Two forks of the Mokelumne River are also located very near to West Point, the north and middle. Most walking takes the form of hiking on the abundance of trails and logging roads that are used by those who live in the area. Few of these routes are formal, maintained facilities. Most utilitarian walking activity takes place in the roadway or on what narrow shoulders do exist. Proposed improvements include:

- Upgrading existing school crosswalks of Highway 26 to high visibility, including new or repositioned advance warning signs, concrete landing areas with curb ramps at either end of the crosswalks and possibly additional street lighting and a flashing pedestrian crosswalk beacon for the Highway 26 crosswalk.
- Installation of a continuous sidewalk from West Point Elementary School to Main Street along the south side of Bald Mountain Road and Pine Street, as a part of a Safe Routes to Schools project.
- Installation of two new high visibility school crosswalks, one at Bouvard Street and the other at Main Street. Both locations should include advance warning signs, concrete landing areas with curb ramps at either end of the crosswalk and possibly additional street lighting.

Table 4-15: West Point Proposed Walkway Segments

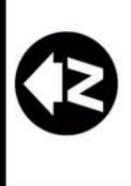
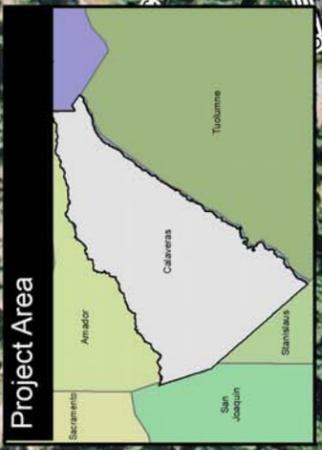
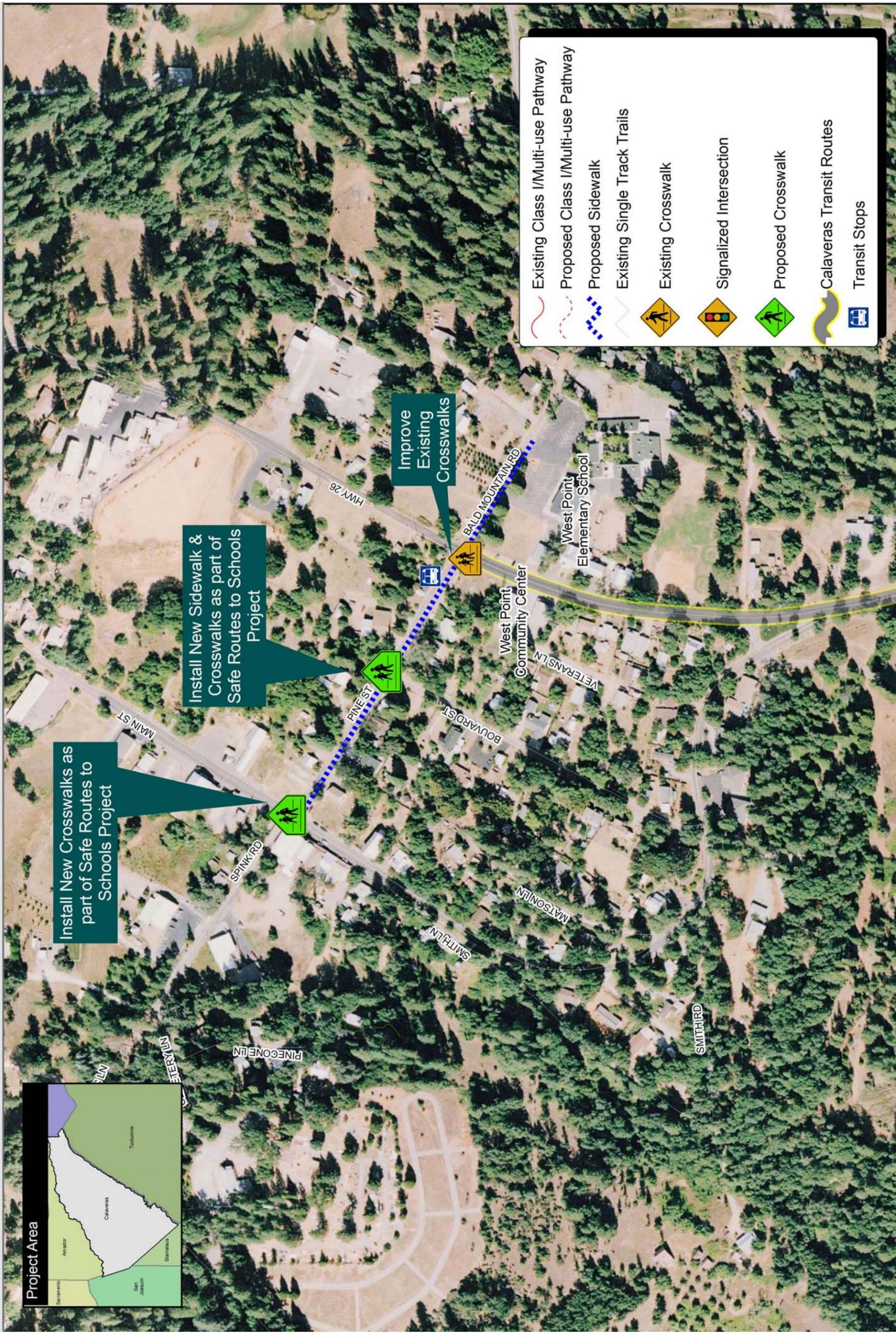
Name	From	To	Community	Length (Feet)	Miles	Cost	Priority
Bald Mountain Road/Pine Street Sidewalk	West Point Elementary School	Main Street	West Point	1,165	0.22	\$17,475	A
Total						\$17,475	

Table 4-16: West Point Proposed Intersection Improvements

Location	Quantity Improvements						Cost Per Location	Priority
	Restripe Crosswalk	New Crosswalks	Single Curb Ramp/Landing	Double Curb Ramp/Landing	Advance Warning Signs	Pedestrian Crossing Beacon		
Highway 26 and Bald Mountain Rd	3		1	1	4	1	\$11,600	A
Bouvard Street and Pine St		1	2		3		\$6,200	B
Main Street and Pine Street		1	2		3		\$6,200	B
Total	3	2	5		10	1	\$19,500	

Calaveras County Pedestrian Plan - West Point

FIGURE 4-9



5.0 Pedestrian Programs

This chapter addresses current and future efforts to educate pedestrians and motorists, and efforts to increase the use of walking as a transportation alternative.

5.1 Safe Routes to Schools

Safe Routes to Schools (SR2S) is a program designed to reduce local congestion around schools by increasing the number of children walking and biking to school. A SR2S program can integrate health, fitness, traffic relief, environmental awareness and safety under one program. It is an opportunity for parents to work closely with their children's school, the community and the local government to create a healthy lifestyle for children and a safer and cleaner environment for all residents. A typical program has five components:

- Encouragement - Events, contests and promotional materials are incentives that encourage children and parents to try walking and biking.
- Education - Classroom lessons teach children the skills necessary to navigate through busy streets and persuade them to be active participants in the program. Safe Routes Instructors have developed curriculum which includes an on the bike instruction, walking instruction and lessons on health and the environment
- Engineering - A Certified Traffic Engineer typically assists schools in developing a plan to provide a safer environment for children to walk and bike to school. This plan includes engineering improvements, enforcement enhancements and outreach to drivers.
- Enforcement – Working with local law enforcement, the program increases police presence around the schools while developing public education efforts that increase drivers' awareness of the behaviors that endanger children.

Walking or biking to school gives children a taste of freedom and responsibility, allows them to enjoy the fresh air and the opportunity to get to know their neighborhood, while arriving at school alert, refreshed and ready to start their day. However, only 13% of America's children walk or bike to school (US Centers for Disease Control and Prevention). A successful Safe Routes to Schools program improves the health and safety of pupils and the surrounding neighborhood. Students increase their physical activity, potentially improving their alertness and behavior. California studies have shown that children who are physically active perform better academically (California Department of Education, December 2002)

Communities elsewhere in California have experienced reduced traffic congestion, reduced collision in and around schools, and decreased speed in residential neighborhoods. Children learn valuable traffic safety skills and responsibility and more people of all ages are able to walk and bike in the neighborhood as a result of improved access.

Calaveras County should continue participating in the State and Federal Safe Routes to Schools infrastructure grant program and expand SR2S activities by seeking funding to implement classroom and other safety education programs.

5.2 Promotional Programs

5.2.1 Annual Events

Calaveras County could produce an annual “Calaveras Walks!” expo to promote the use of alternative modes of transportation, including shuttle services, buses, electric cars, bicycling, and carpooling. Other aspects of walking could also be showcased, including health benefits, the active lifestyle of those who walk, the equipment, the financial benefits, and the environmental benefits. The event could include:

- Exhibits from law enforcement
- Exhibits from vendors
- Exhibits from transit providers
- Exhibits from alternative modes of transportation providers
- Exhibits on pedestrian facilities
- Entertainment
- Sidewalk Stroll, a recreational walk for all ages

5.2.2 Monthly or Bimonthly Events

Sidewalk Strolls

Organized walks could be implemented for seniors at local centers. The goal of these events could be to generate interest in recreational walking for health reasons with the ultimate goal of promoting walking as a form of transportation.

Walking Tours

Organized walks could be organized for the general public in order to (1) showcase the destinations reachable by walking, (2) educate participants on walking as a mode of transportation and (3) promote walking as a healthy activity (4) experience the history of Calaveras County in a unique way, especially the downtown areas.

5.2.3 Retail Involvement

Partnerships with local retailers could be established to promote walking. These partnerships could involve the campaign theme being promoted on bag stuffers and pre-printed bags. The costs of the bag stuffers and pre-printed bags could be born by retailers and could act as a donation by them. Calaveras County could provide suggested artwork for the printed material. Retailers could, if possible, agree to provide counter space for guides and window space for promotional posters. This program could be implemented with an “adopt a sidewalk” program similar to the adoption of segments of the Interstate Highway system. Small signs located along the sidewalk could identify supporters, acknowledging their contribution. Support would be in the form of an annual commitment to pay for the routine maintenance of the sidewalk.

5.2.4 Employer Incentives

Employer incentives to encourage employees to try walking to work include sponsoring informational workplace events, providing incentives or vouchers for transit use and offering incentives to employees whose commute involves walking by allowing for more flexible arrival and departure times. The County may offer incentives to employers to institute these improvements through air quality credits, lowered parking requirements, reduced traffic mitigation fees, or other means.

5.2.5 Walk-to-Work and Walk-to-School Days

The County, possibly in conjunction with local volunteers could help promote a local walk-to-work day. Walk-to-school days could be jointly sponsored with the schools, possibly in conjunction with pedestrian education programs and Safe Routes to Schools activities.

6.0 Funding

There are a variety of potential funding sources including local, state, regional, and federal funding programs as well as private sector funding that can be used to construct the proposed pedestrian improvements. Most of the federal, state, and regional programs are competitive and involve the completion of extensive applications with clear documentation of the project need, costs, and benefits. Local funding for pedestrian projects typically comes from Transportation Development Act (TDA) funding, which is prorated to each County based on the return of gasoline taxes, population and roadway miles.

6.1 Federal Funds

The primary federal source of surface transportation funding—including pedestrian facilities—is SAFETEA-LU, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users. SAFETEA-LU is the fourth appropriation in a series of Federal transportation funding bills. The \$286.5 billion SAFETEA-LU bill, passed in 2005, authorizes federal surface transportation programs for the five-year period between 2005 and 2009. SAFETEA-LU information can be found at: www.fhwa.dot.gov/safetealu/index.htm

Federal funding is administered through the California Department of Transportation (Caltrans) and the Regional Transportation Planning Agency (RTPA). Most, but not all, of the funding programs are transportation (versus recreation) oriented, with an emphasis on (a) reducing auto trips and (b) providing inter-modal connections. Funding criteria often requires quantification of the costs and benefits of the system (such as saved vehicle trips and reduced air pollution), proof of public involvement and support, California Environmental Quality Act (CEQA) compliance, and commitment of some local resources. In most cases, SAFETEA-LU provides matching grants of 80 to 90 percent – but prefers to leverage other funds at a lower rate.

Specific federal funding programs under SAFETEA-LU include:

Congestion Mitigation and Air Quality (CMAQ) — Funds projects that are likely to contribute to the attainment of national ambient air quality standards. Funds are available for projects and programs in areas that have been designated in non-attainment or maintenance for ozone, carbon monoxide or particulate matter.

Recreational Trails Program — \$370 million nationally through 2009 for non-motorized trail projects, administered by the California Department of Conservation.

Safe Routes to School Program — \$612 million nationally through 2009, administered by the State of California.

Transportation, Community and System Preservation Program — \$270 million nationally over five years (2006-2011) reserved for transit oriented development, traffic calming and other projects that improve the efficiency of the transportation system, reduce the impact on the environment, and provide efficient access to jobs, services and trade centers.

Federal Lands Highway Funds — Federal Lands Highway funds may be used to build pedestrian facilities in conjunction with roads and parkways at the discretion of the agency charged with administration of the funds. The projects must be transportation-related and tied to a plan adopted by the State and MPO. Approximately \$1 billion dollars are available nationally for Federal Lands Highway Projects through 2009.

The following FHWA funding sources can also be used for pedestrian activities:

Surface Transportation Program (STP) (23 USC 133) — Construction, reconstruction, rehabilitation, resurfacing, restoration, and operational improvements for highways and bridges including construction or reconstruction necessary to accommodate other transportation modes. Construction of pedestrian walkways; nonconstruction projects for safe pedestrian use; modify public sidewalks to comply with the Americans with Disabilities Act. Projects do not have to be within the right-of-way of a Federal-aid highway.

Surface Transportation Program Transportation Enhancements Set-aside (TE) (23 USC 133(d)(2)) — 12 specific activities included in the definition of Transportation Enhancement Activities in 23 USC 101(a)(35). 3 of the 12 eligible categories are pedestrian facilities, safety and education for pedestrians and bicyclists, and rail-trails.

Highway Safety Improvement Program (HSIP) (23 USC 148) — To achieve a significant reduction in traffic fatalities and serious injuries on public roads. Improvements for pedestrian or bicyclist safety. Construction and yellow-green signs at pedestrian crossings and in school zones. Identification of and correction of hazardous locations, sections, and elements (including roadside obstacles, railway-highway crossing needs, and unmarked or poorly marked roads) that constitute a danger to bicyclists and pedestrians. Highway safety improvement projects on publicly owned pedestrian pathways or trails.

Transportation, Community, and System Preservation Program (TCSP) (S-LU Sec. 1117, formerly TEA-21 Sec. 1221) — Provides funding for a comprehensive program including planning grants, implementation grants, and research to investigate and address the relationships among transportation and community and system preservation plans and practices and examine private sector based initiatives. Pedestrian projects meet several TCSP goals, are generally eligible for the TCSP program and are included in many TCSP projects.

6.2 Statewide Funding Sources

The State of California uses both federal sources (such as the Recreational Trails Program) and its own budget to fund projects and programs. In some cases, such as Safe Routes to School, Office of Traffic Safety, and Environmental Justice grants, project sponsors apply directly to the State for funding. In others, sponsors apply to a regional agency.

6.2.1 Bicycle Transportation Account

<http://www.dot.ca.gov/hq/LocalPrograms/bta/btaweb%20page.htm>

While not strictly a pedestrian funding source, BTA funds can be used for multi-use pedestrian and bicycle pathway facilities. The State Bicycle Transportation Account (BTA) is an annual statewide

discretionary program that is available through the Caltrans Bicycle Facilities Unit for funding bicycle projects. Available as grants to local jurisdictions, the emphasis is on projects that benefit bicycling for commuting purposes. Due to the passage of AB1772 in the year 2000, the BTA had \$7.2 million available between 2000 and 2005. Following the year 2005, the fund dropped to \$5 million per year. In funding cycle 2007/2008, there are \$5 million in statewide BTA funds available. The local match must be a minimum of 10% of the total project cost.

6.2.2 Recreational Trails Program (RTP)

www.fhwa.dot.gov/environment/rectrails/index.htm

<http://www.parks.ca.gov/pages/1008/files/rtpguide.pdf>

In California, RTP funds are administered by the California State Parks Department. Recreational Trails Program funds may be used for the following:

- Maintenance and restoration of existing trails;
- Purchase and lease of trail construction and maintenance equipment;
- Construction of new trails;
- Acquisition of easements or property for trails; and
- Operation of educational programs to promote safety and environmental protection related to trails (limited to five percent of a State's funds).

\$3.3 million statewide was available in fiscal year 2006.

6.2.3 Land and Water Conservation Fund

www.parks.ca.gov/?page_id=21360

The Land and Water Conservation Fund is a federal program that provides grants for planning and acquiring outdoor recreation areas and facilities, including trails. The Fund is administered by the California State Parks Department and has been reauthorized until 2015. Cities, counties and districts authorized to acquire, develop, operate and maintain park and recreation facilities are eligible to apply. Applicants must fund the entire project, and will be reimbursed for 50 percent of costs. Property acquired or developed under the program must be retained in perpetuity for public recreational use.

6.2.4 Safe Routes to School (SR2S)

www.dot.ca.gov/hq/LocalPrograms/saferoute2.htm

This program is meant to improve the safety of walking and cycling to school and encourage students to walk and bicycle to school through identification of existing and new routes to school and construction of bicycle safety and traffic calming projects. Caltrans will be discontinuing California's SR2S program, in light of the new federal SR2S program. The last funding cycle for

State-sponsored SR2S programs will be in 2007. After 2007, the SR2S program will be federally funded.

6.2.5 Environmental Justice: Context Sensitive Planning Grants

www.dot.ca.gov/hq/tpp/offices/opar/titleVIand%20EJ.htm

The Caltrans-administered Environmental Justice: Context Sensitive Planning Grants Program funds planning activities that assist low-income, minority, and Native American communities in becoming active participants in transportation planning and project development. Grants are available to transit districts, cities, counties, and tribal governments. This grant is funded by the State Highway Account at \$1.5 million annually statewide. Grants are capped at \$250,000.

6.2.6 Office of Traffic Safety (OTS) Grants

www.ots.ca.gov/grants/default.asp

The California Office of Traffic Safety distributes federal funding apportioned to California under the National Highway Safety Act and SAFETEA-LU. Grants are used to establish new traffic safety programs, expand ongoing programs to address deficiencies in current programs. Pedestrian safety is included in the list of traffic safety priority areas. Eligible grantees include governmental agencies, state colleges and universities, local city and County government agencies, school districts, fire departments, and public emergency services providers. Grant funding cannot replace existing program expenditures, nor can traffic safety funds be used for program maintenance, research, rehabilitation, or construction. Grants are awarded on a competitive basis, and priority is given to agencies with the greatest need. Evaluation criteria to assess these needs include potential traffic safety impact, collision statistics and rankings, seriousness of problems, and performance on previous OTS grants. OTS expects to have \$56 million in funding available statewide for FY 2006/07.

6.2.7 California Center for Physical Activity Grant Program

www.caphysicalactivity.org/our_projects.html

The California Center for Physical Activity runs several programs related to walking and offers small grants to public health departments. Grants are in the amount of \$4,999 dollars or less and are offered intermittently.

6.3 Regional Funding Sources

Regional pedestrian grant programs come from a variety of sources, including SAFETEA-LU, the State budget, and sales taxes. Regional funds are administered by the local MPO or RTPA.

6.3.1 TDA Article 3

www.mtc.ca.gov/funding/STA-TDA/index.htm

Transportation Development Act (TDA) Article 3 funds are available for transit and pedestrian projects in California. According to the Act, pedestrian projects are allocated two percent of the revenue from a ¼ cent of the general state sales tax, which is dedicated to local transportation. These funds are collected by the State, returned to each County based on sales tax revenues, and typically apportioned to areas within the County based on population. Eligible pedestrian projects include construction and engineering for capital projects; maintenance; pedestrian safety education programs; and development of comprehensive pedestrian facilities plans. These funds may be used to meet local match requirements for federal funding sources.

In Calaveras County the amount of these Local Transportation Funds (LTF) varies but is usually between \$700,000-\$900,000 per year with the primary expenditure for these funds being the Public Transit system. The funds are used on an annual basis, but can be rolled over or applied to various projects according to TDA guidelines. Calaveras County has had an informal policy based on direction from the Board of Supervisors that once transit needs are funded unused LTF monies can be directed toward pedestrian projects. Chapter 2 includes a recommendation to formalize this practice into an adopted policy.

6.4 Non-Traditional Funding Sources

6.4.1 Integration into Larger Projects

http://www.dot.ca.gov/hq/tpp/offices/bike/guidelines_manuals_policies.htm

California State's "routine accommodation" policy, Deputy Directive 64, requires Caltrans to design, construct, operate, and maintain transportation facilities using best practices for pedestrians. Local jurisdictions can begin to expect that some portion of pedestrian project costs, when they are built as part of larger transportation projects, will be covered in project construction budgets. This applies to Caltrans and other transportation facilities funded through Caltrans.

6.4.2 Community Development Block Grants

www.hud.gov/offices/cpd/communitydevelopment/programs/index.cfm

The CDBG program provides money for streetscape revitalization, which may be largely comprised of pedestrian improvements. Federal Community Development Block Grant Grantees may use CDBG funds for activities that include (but are not limited to) acquiring real property; building public facilities and improvements, such as streets, sidewalks, and recreational facilities; and planning and administrative expenses, such as costs related to developing a consolidated Plan and managing CDBG funds. For example, in Oakland, CDBG funds have also been used to fund crossing guards, called "Safe Walk to School Monitors." CDBG funds totaling \$526 million were distributed statewide in 2004/05.

6.4.3 Requirements for New Development

With the increasing support for “routine accommodation” and “complete streets,” requirements for new development, road widening, and new commercial development provide opportunities to construct facilities more efficiently. Specific policies for this are provided in Chapter 2.

6.4.4 Impact Fees

One potential local source of funding is developer impact fees, typically tied to trip generation rates and traffic impacts produced by a proposed project. Bridge and thoroughfare fees and transit impact fees from developers are strategies to provide necessary infrastructure and transit-related improvements.

6.4.5 Mello-Roos Community Facilities Act

<http://mello-roos.com/pdf/mrpdf.pdf>

The Mello-Roos Community Facilities Act was passed by the Legislature in 1982 in response to reduced funding opportunities brought about by the passage of Proposition 13. The Mello-Roos Act allows any county, city, special district, school district, or joint powers of authority to establish a Community Facility Districts (CFD) for the purpose of selling tax-exempt bonds to fund public improvements within that district. CFDs must be approved by a two-thirds margin of qualified voters in the district. Property owners within the district are responsible for paying back the bonds

Appendix A: Supplemental Pedestrian Facility Design Guidelines

State and Federal Guidelines

The design of many streetscape elements is regulated by state and federal law. Traffic control devices must follow the procedures set forth in the Manual of Uniform Traffic Control Devices (MUTCD), while elements such as sidewalks and curb cuts must comply with guidelines implementing the Americans with Disabilities Act (ADA).

Manual of Uniform Traffic Control Devices

Calaveras County follows the procedures and policies set out in the MUTCD. Traffic control devices include traffic signals, traffic signs, and street markings. The manual covers the placement, construction, and maintenance of devices. The MUTCD emphasizes uniformity of traffic control devices to protect the clarity of their message. A uniform device conforms to regulations for dimensions, color, wording, and graphics. Uniformity also means treating similar situations in the same way.

Principles for Pedestrian Design

The following design principles represent a set of ideals which should be incorporated, to some degree, into every pedestrian improvement. They are ordered roughly in terms of relative importance.

1. The pedestrian environment should be safe. Sidewalks, walkways, and crossings should be designed and built to be free of hazards and to minimize conflicts with external factors such as noise, vehicular traffic, and protruding architectural elements.
2. The pedestrian network should be accessible to all. Sidewalks, walkways, and crosswalks should ensure the mobility of all users by accommodating the needs of people regardless of age or ability.
3. The pedestrian network should connect to places people want to go. The pedestrian network should provide continuous direct routes and convenient connections between destinations, including homes, schools, shopping areas, public services, recreational opportunities and transit.
4. The pedestrian environment should be easy to use. Sidewalks, walkways, and crossings should be designed so people can easily find a direct route to a destination and will experience minimal delay.
5. The pedestrian environment should provide good places. Good design should enhance the look and feel of the pedestrian environment. The pedestrian environment includes open spaces such as plazas, courtyards, and squares, as

well as the building facades that give shape to the space of the street. Amenities such as seating, street furniture, banners, art, plantings, shading, and special paving, along with historical elements and cultural references, should promote a sense of place.

6. The pedestrian environment should be used for many things. The pedestrian environment should be a place where public activities are encouraged. Commercial activities such as dining, vending, and advertising may be permitted when they do not interfere with safety and accessibility.
7. Pedestrian improvements should preserve or enhance the historical qualities of a place and the City. Calaveras County’s history must be preserved in the public space. Where applicable, pedestrian improvements should restore and accentuate historical elements of the public right-of-way. Good design will create a sense of time that underscores the history of Calaveras County.
8. Pedestrian improvements should be economical. Pedestrian improvements should be designed to achieve the maximum benefit for their cost, including initial cost and maintenance cost as well as reduced reliance on more expensive modes of transportation. Where possible, improvements in the right-of-way should stimulate, reinforce, and connect with adjacent private improvements.

Sidewalk Corridor Guidelines

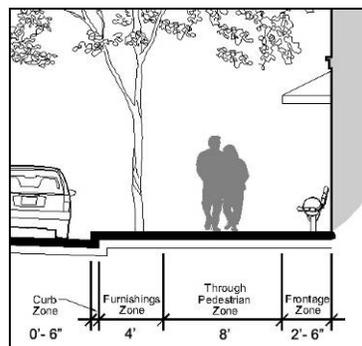
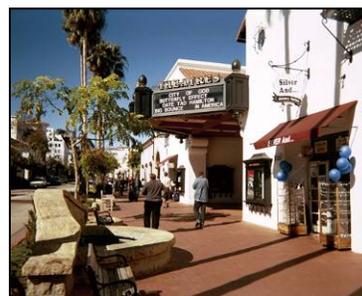
The width and zone guidelines presented in this sidewalk section would apply to sidewalks in new development areas, redevelopment areas, and in areas where street reconstruction is planned. For the entire above listed project types, sufficient right of way must exist for implementation of the appropriate sidewalk width guideline.

Sidewalk Corridor Width

Proposed sidewalk guidelines apply to new development and depend on available street width, motor vehicle volumes, surrounding land uses, and pedestrian activity levels. Standardizing sidewalk guidelines for different areas of the City, dependent on the above listed factors, ensure a minimum level of quality for all sidewalks.

Calaveras County currently requires 5-foot wide sidewalks. These dimensions conform to the Americans with Disabilities Act Accessibility Guidelines (ADAAG) that call for minimum 4-foot wide sidewalks for passage, not sidewalk width recommendations.

The Institute of Transportation Engineers (ITE) recommends planning all sidewalks to include a minimum width of 5 feet (60 inches) with a planting strip of 2 feet (24 inches) in both residential and commercial areas.



Sidewalk Zones

Sidewalks are the most important component of Calaveras County's pedestrian circulation network. Sidewalks provide pedestrian access to virtually every activity and provide critical connections between other modes of travel, including the automobile, public transit, and bicycles. The Sidewalk Corridor is typically located within the public right-of-way between the curb or roadway edge and the property line. The Sidewalk Corridor contains four distinct zones: the Curb Zone, the Furnishings Zone, the Through Pedestrian Zone, and the Frontage Zone.

Curb Zone

Curbs prevent water in the street gutters from entering the pedestrian space, discourage vehicles from driving over the pedestrian area, and make it easy to sweep the streets. In addition, the curb helps to define the pedestrian environment within the streetscape, although other designs can be effective for this purpose. At the corner, the curb is an important tactile element for pedestrians who are finding their way with the use of a cane. Strait curbs rather than rolled curbs are strongly recommended because it eliminates the potential for cars to park on the sidewalk or partially obstructing the sidewalk.

Furnishings Zone

All streets require a utility zone to accommodate above ground public infrastructure, signage, and street trees. Locating this infrastructure in the furnishings zone prevents it from encroaching on the through passage zone, where it is likely to cause accessibility issues. The furnishings zone also creates an important buffer between pedestrians and vehicle travel lanes by providing horizontal separation. Elements like utility poles, sign posts, and street trees improve pedestrian safety and comfort by further separating the sidewalk from moving vehicles. Guidelines for furnishings zone widths are presented below in Table A-1.

Through Passage Zone

Most residential areas in Calaveras County are low to medium density and therefore have low pedestrian volumes, compared to more urban areas. A five foot through passage zone is recommended for these conditions. Some commercial areas, school zones, and other public areas generate greater pedestrian volumes and should have a wider through zone. Table A-1 presents recommended standards for the through zone width for each of the predominant land uses in Calaveras County.

Frontage Zone

The frontage zone is the space between the pedestrian through zone and the adjacent property line. Pedestrians tend to avoid walking close to barriers at the property line, such as buildings, storefronts, walls or fences, in the same way that they tend to avoid walking close to the roadway. In most cases the frontage zone should be at least 12 inches. However, if the sidewalk is adjacent to a wide open or landscaped space, such as in residential areas where fences are not typically found or not allowed, the frontage zone can be eliminated. Guidelines for frontage zone widths are presented below in Table A-1. As shown in the table, a frontage zone may not be required in many residential areas of

Calaveras County due to presence of deep front yard setbacks and the prevailing development standard that does not include front yard fencing.

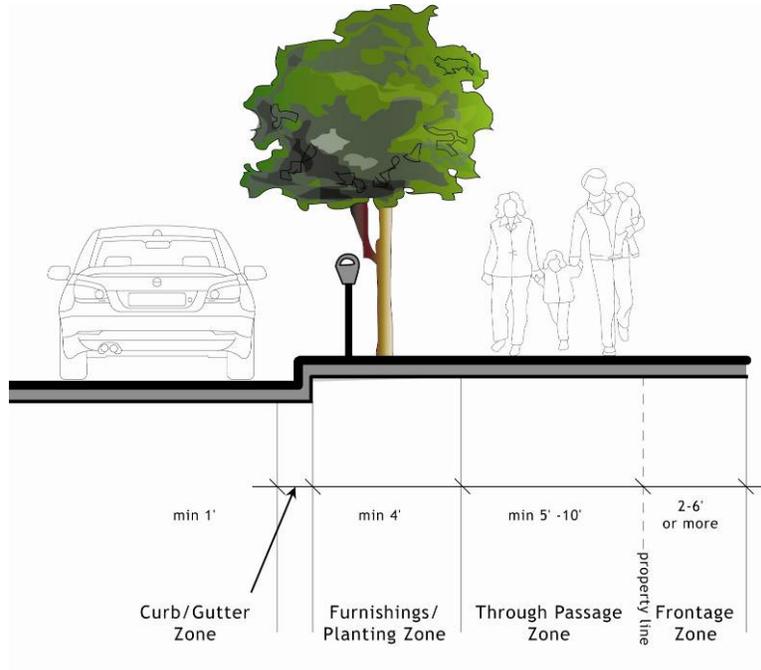


Figure A-1: Sidewalk Zones

Table A-1: Recommended Minimum Zone Widths By Street Type

Street Type	Curb Zone	Utility Zone (Buffer Zone)	Through Passage Zone	Frontage Zone	Total Sidewalk Width
Arterial (City) and Collector Street	1 ft.	4 ft.	10 ft.	2 ft.	15 ft.
Local Neighborhood Street	1 ft.	4 ft.	5 ft.	none	10 ft.
Commercial Walkways**	1 ft.	4 ft.	10 ft.	2 ft.	15 ft.
Multi-Use Trail*	NA	NA	10 ft.	NA	10 ft.

Sidewalk Cross Section Examples

Basic sidewalk cross-section examples are presented on the following pages. These recommendations consist of both prototype and site-specific types and are intended to complement existing local and Caltrans roadway standards and the design guidelines provided above.

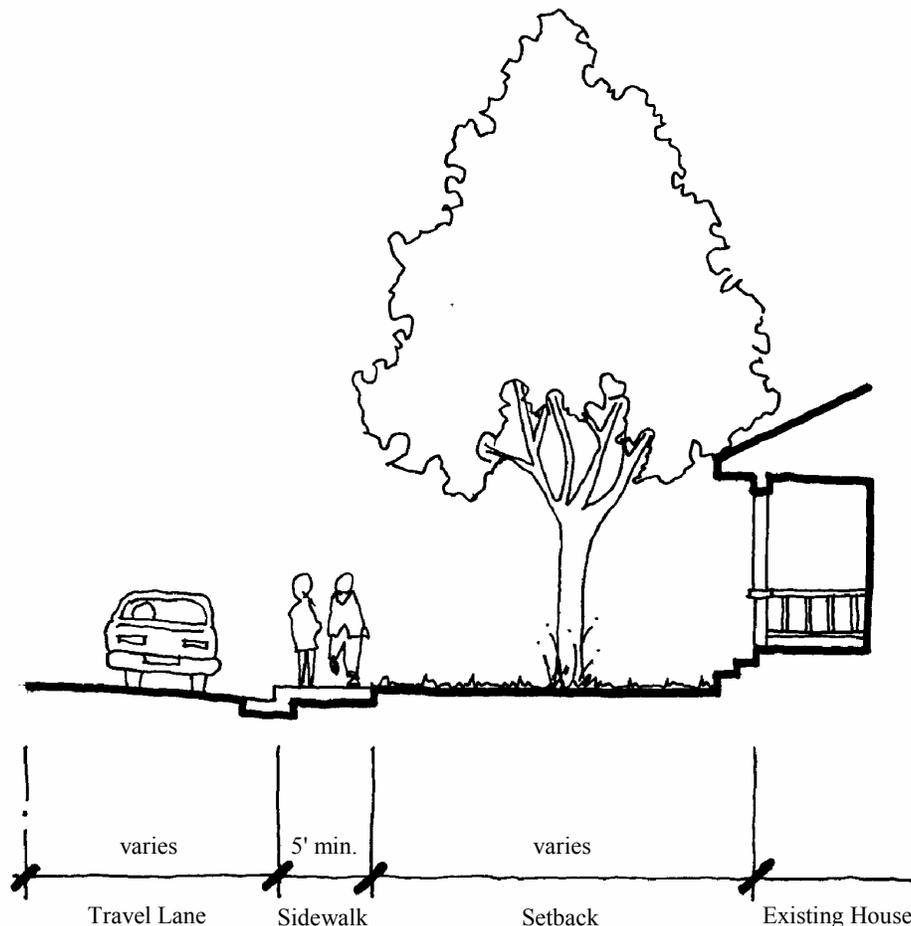
New Sidewalks in Residential Neighborhoods

Although not every neighborhood may desire sidewalks, there will be places that could benefit from their installation. Safer trips by schoolchildren, shopping trips and recreation are just some of the reasons that a community may wish to see sidewalks built in one of their existing neighborhoods.

Sidewalks on Narrow Streets

Figure A-2 shows the minimal solution for new sidewalks in existing neighborhoods. It shows a site constrained by a small setback to the existing house or significant landscaping and a narrow street condition that does not allow for a parking lane between the pedestrians on the sidewalk and the vehicular travel lane.

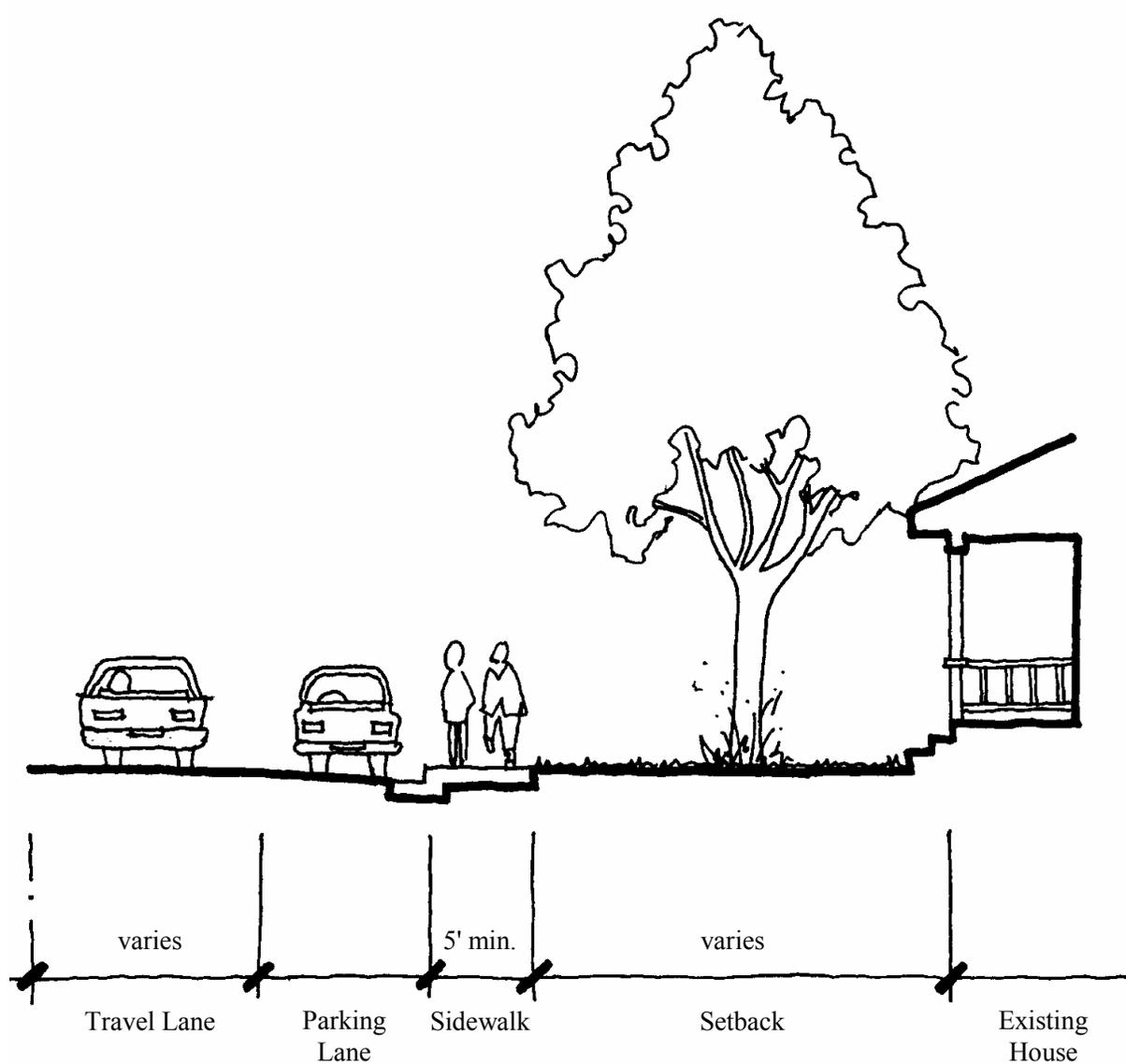
Figure A-2: Sidewalks on Narrow Streets



Sidewalks on Wider Streets

Figure A-3 demonstrates the preferred design where a lane of parking between the pedestrian way and the traffic lane. A parking lane is generally preferred for pedestrian safety since it separates pedestrians from moving cars. If the street is not wide enough to install this improvement, and the existing house or landscaping is set back far enough, the possibility of acquiring land to widen the right-of-way should be investigated.

Figure A-3: Sidewalks on Wider Streets

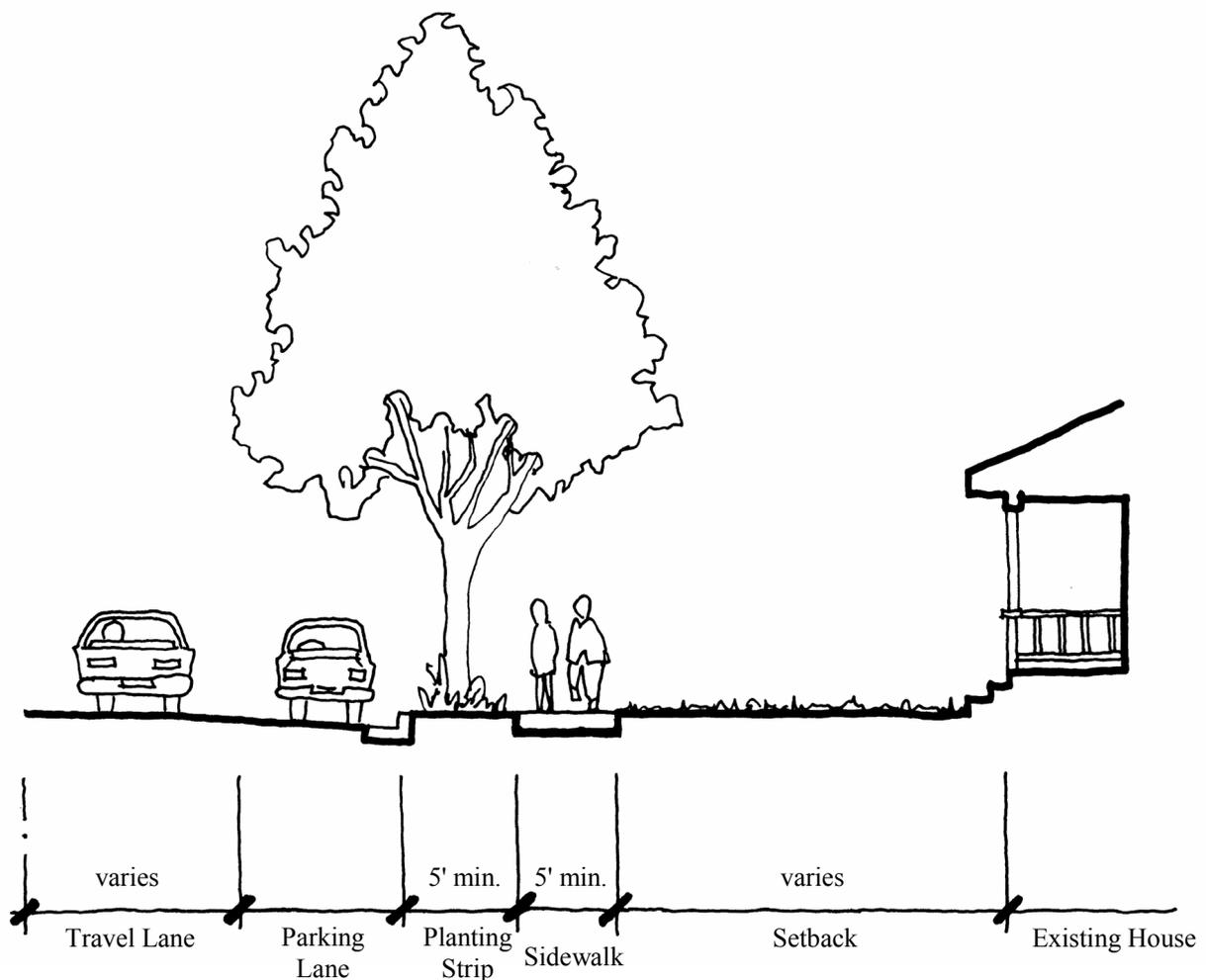


Sidewalk with Planting Strip

The most desirable condition, as illustrated here, is for the pedestrian to be buffered from vehicular traffic by both a parking lane and a planting strip. This is particularly important on streets with higher traffic volumes. Ideally, the planting strip should contain street trees at an interval of 20 to 50 feet on center. The trees help to create a more amenable pedestrian corridor and give better spatial definition to the street. This can make the street appear narrower, which helps to slow vehicular traffic.

If the street is not wide enough to install this improvement, and the existing house or landscaping is set back far enough, the possibility of acquiring land to widen the right-of-way should be investigated.

Figure A-4: Sidewalk with Planting Strip



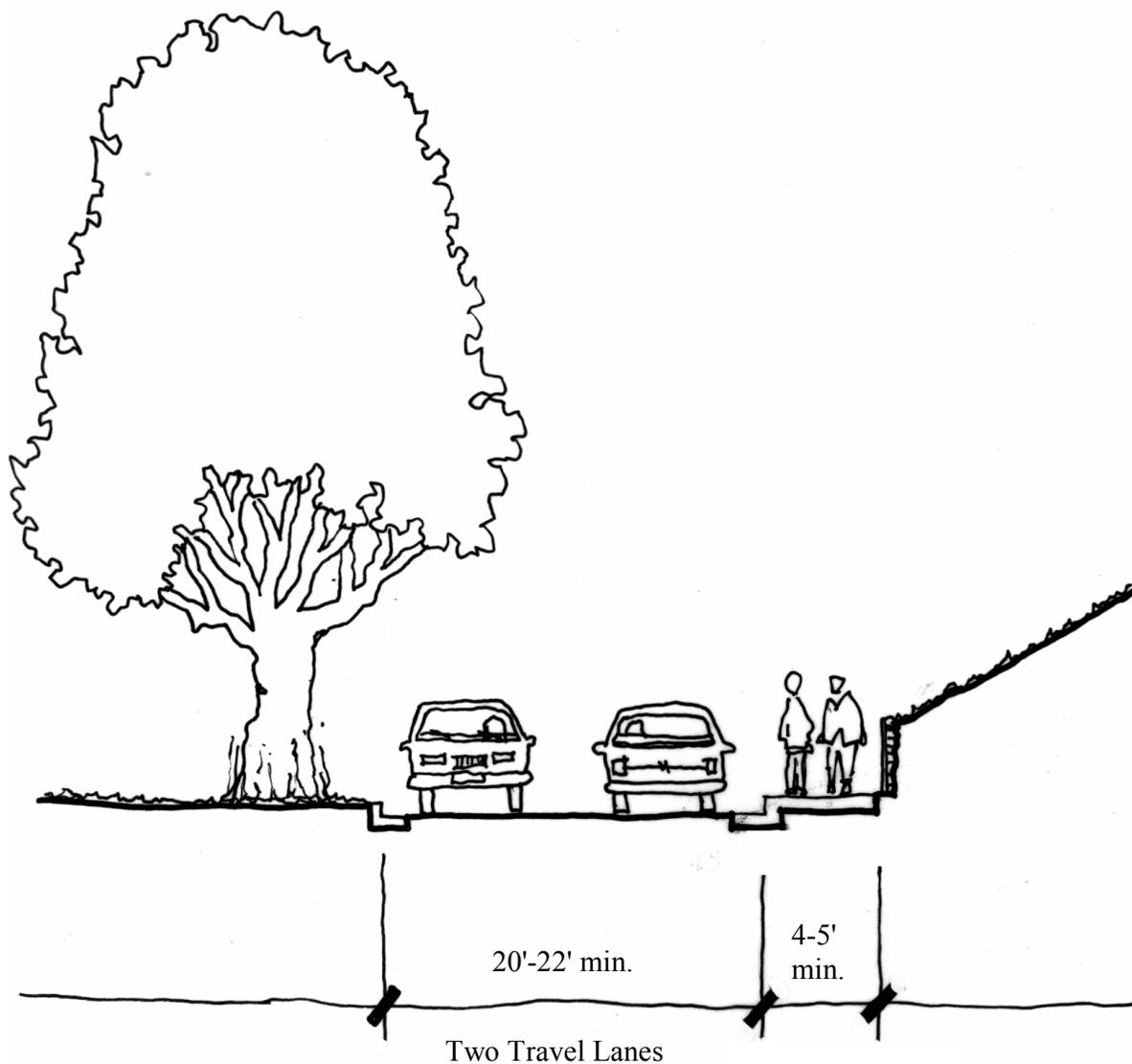
Pedestrian Facilities on Constrained Residential Streets

Some communities in Calaveras County have severe constraints that prevent the installation of sidewalks. Such constraints would include the topography immediately adjacent to one or both sides of the street, significant trees or landscape features, small front yard setbacks and/or right-of-way limitations. This section shows various options for addressing pedestrian safety on these streets.

Sidewalk in Cut Slope Area

One option, as shown below, is to install a retaining wall along a hillside in order to provide preferably five feet, but minimally four feet for sidewalk access. Other topographical barriers could be overcome using similar soil retaining methods.

Figure A-5: Sidewalk in Cut Slope Area



Crosswalks

Definition

The California Vehicle Code Section 275 defines a crosswalk as either:

That portion of a roadway included within the prolongation or connection of the boundary lines of sidewalks at intersections where the intersecting roadways meet at approximately right angles, except the prolongation of such lines from an alley across a street.

Any portion of a roadway distinctly indicated for pedestrian crossing by lines or other markings on the surface.

Notwithstanding the foregoing provisions of this section, there shall not be a crosswalk where local authorities have placed signs indicating no crossing.

At intersections, a crosswalk is effectively a legal extension of the sidewalk across the roadway. Crosswalks are present at all intersections, whether marked or unmarked, unless the pedestrian crossing is specifically prohibited by the local jurisdiction. At mid-block locations, crosswalks only exist if they are marked.

According to the California MUTCD, crosswalk markings provide guidance for pedestrians who are crossing roadways by defining and delineating paths on approaches to and within signalized intersections, and on approaches to other intersections where traffic stops. Crosswalk markings also serve to alert road users of a pedestrian crossing point across roadways not controlled by highway traffic signals or STOP signs. At non-intersection locations, crosswalk markings legally establish the crosswalk.

As noted in the FHWA report “Safety Effects of Marked Versus Unmarked Crosswalks at Uncontrolled Locations,” the California MUTCD does not provide specific guidance relative to the site condition (e.g., traffic volume, pedestrian volume, number of lanes, presence or type of median) where marked crosswalks should or should not be used at uncontrolled locations. Nor does the MUTCD give specific guidance on the application of crosswalk enhancement features such as high-visibility striping, advanced warning signage, or flashing beacons. While the California MUTCD allows the use of these devices, decisions on their specific applicability to a given location have historically been left to the judgment of the local traffic engineers. This section summarizes the various types of crosswalk-related markings, signage and enhancement treatments available for use in Calaveras County, discusses policies and procedures already in use for implementation of some of these devices, and provides more specific guidance and recommendations to assist city traffic engineers with future implementation.

Crosswalk Markings

Marked crosswalks serve to alert road users to expect crossing pedestrians and to direct pedestrians to desirable crossing locations. Calaveras County utilizes two different marking styles for pedestrian crosswalks: the standard “transverse” style, consisting of two parallel lines; and the “ladder” style consisting of the two parallel lines with perpendicular ladder bars striped across the width of the crosswalk.

Crosswalks should extend across the full width of intersections, or to the edge of the intersecting crosswalk, to encourage pedestrians to cross perpendicular to the flow of traffic. Crosswalk markings can be applied with paint, thermoplastic, or reflective thermoplastic tape. At controlled crosswalk locations (STOP signs or traffic signals), crosswalk markings by themselves are considered sufficient treatment, given the presence of a traffic control to stop vehicles. At uncontrolled crosswalk locations (either uncontrolled intersections or mid-block locations), marked crosswalks can be enhanced with crosswalk signage, advance warning signage, in-pavement flashers, or flashing beacons -- these additional crosswalk enhancements are discussed in more detail below.

Table A-2: Crosswalk Markings Used in Calaveras County

Style	Sample
<p>Standard – Two solid white lines, 12 to 24 inches wide, spaced at least 6 feet apart (refer to CA MUTCD Sec. 3B.17). Also called “transverse.”</p>	
<p>Ladder – Adds cross bar “rungs” to the standard crosswalk marking described above. Width of ladder lines should be 1 foot, with minimum spacing of ladder lines 1-5 feet.</p>	
<p>School Crosswalks. Crosswalks within the designated school zone must be painted yellow, per California MUTCD. Can be marked either standard or ladder. The school zone can be set a distance up to 500 feet from the school boundary.</p>	

The decision on whether to install standard or ladder crosswalk markings depends upon a variety of factors such as the number of pedestrians crossing, traffic speeds/volumes, number of lanes to cross, presence of nearby schools or senior centers, and history of collisions. In general, standard transverse markings are considered appropriate at controlled intersections, minor uncontrolled intersections, and other crossing locations with low traffic volumes/speeds, short crossing distance, and good visibility. High visibility ladder markings are generally applied at uncontrolled or mid-block locations, especially on major streets with high pedestrian volumes, heavy traffic volumes and speeds, and more than one lane each direction.

Pedestrian Warning Signage for Signalized Intersections

As noted under the discussion of crosswalk signs and markings, crosswalk warning signs are not permitted at crosswalks controlled by a traffic signal, as the traffic control itself serves to regulate vehicles at the intersection. At signalized intersections, particularly where right turn on red is permitted, installing stop lines as described above may be one way of reducing encroachment of vehicles into the pedestrian crosswalk. Another solution to remind drivers who are making turns to yield to pedestrians is installation of a “TURNING TRAFFIC MUST YIELD TO PEDESTRIANS” (R10-15) sign.

In-Street Yield to Pedestrian Signs

In-Street Yield to Pedestrian Signs are flexible plastic signs installed in the median to enhance a crosswalk at uncontrolled crossing locations. These signs communicate variations of the basic message ‘State Law: Yield to Pedestrians’. The signs can be supplemented with a “SCHOOL” plate at the top for use at school crosswalks. If used near schools, these signs are sometimes installed on a portable base and brought out in the morning and back in at the end of each day by school staff, which may reduce the chance that the sign will become less visible to motorists by being left out all the time. For permanently installed signs, maintenance can be an issue as the signs may be run over by vehicles and need to be replaced occasionally. Installing the signs in a raised median can help extend their lifetime.



Flashing Beacons

Where the visibility of a crosswalk is poor, or where warranted by safety considerations, yellow flashing beacons can be installed to alert motorists to expect crossing pedestrians. Beacons can either be mounted on posts on the side of the roadway, or installed on mast arms over the roadway. Beacons can be installed in conjunction with any crosswalk warning sign, and can be set to operate at all times where the level of pedestrian activity along a corridor warrants. When installed at a specific crosswalk location, beacons can be set to be activated by pedestrians to only flash during the crossing time.

When used to make motorists aware of school zones, flashing beacons should be timed to flash only during the morning and afternoon school commute hours when children are present.

Special Crosswalk Pavement Treatments

For aesthetic reasons, crosswalks are sometimes constructed with distinctive paving materials such as colored pavement or special decorative pavers meant to look like brick. Brick should never be used in crosswalks, as it tends to wear down quickly, becoming uneven and slippery and causing difficulties for pedestrians, especially persons with disabilities. Any use of unique materials or colored pavement should use concrete pavers or asphalt, and textures should maintain a smooth travel surface and good traction. It is important to note that these decorative pavement treatments do not enhance the visibility of the crosswalk location, in many cases make the crossing more difficult for persons with disabilities to navigate, make the crosswalk less visible to motorists at

night, and for these reasons are not recommended. Regardless of any colored or unique pavement treatment used, marked crosswalk locations should always be marked with parallel transverse lines.

In-Roadway Warning Lights

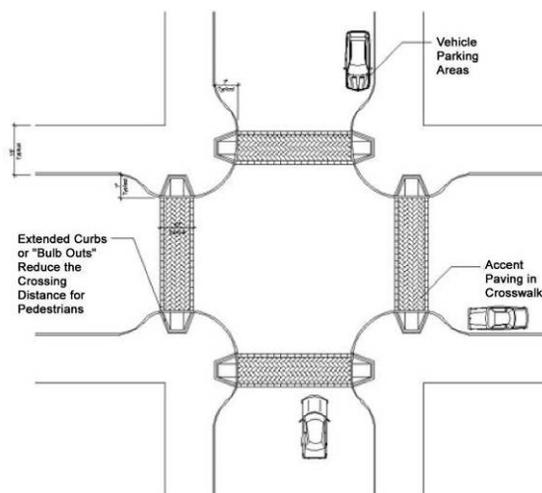
The California MUTCD has approved the use of in-roadway warning lights at uncontrolled marked crosswalks. Also known as in-pavement flashing crosswalks, illuminated crosswalks, or “Santa Rosa lights,” these yellow lights embedded just above the roadway surface and flash when activated (either by a pushbutton or by passive detection) by a crossing pedestrian. The California MUTCD Sec. 4L.02 provides guidance on evaluating the need for in-roadway warning lights and offers standards for their placement. Calaveras County currently has no in-roadway warning lights installed.



Engineering Treatments for Crosswalks

Curb Extensions

Curb extensions, also called “bulbouts” to describe their shape, are engineering improvements intended to reduce pedestrian crossing distance and increase visibility. Curb extensions can either be placed at corners or at mid-block crosswalk locations, and generally extend out about 6 feet to align with the edge of the parking lane. In addition to shortening the crosswalk distance, curb extensions serve to increase pedestrian visibility by allowing pedestrians to safely step out to the edge of the parking lane where they can see into the street, also making them more visible to oncoming drivers. At corners, curb extensions serve to reduce the turning radius, and provide space for perpendicularly-aligned curb ramps. Where bus stops are located, bulbouts can provide additional space for passenger queuing and loading.



Despite their advantages, curb extensions can require major re-engineering of the street and are not appropriate for all situations. Installing curb extensions where there are existing storm drain catch basins can require costly drainage modifications. Curb extensions may not be possible in some locations due to existing driveways or bus pull-out areas. Curb extensions need to be designed to avoid conflict with bicycle facilities, and should never extend into a bicycle lane.

Given their relatively high cost and challenges of implementation, curb extensions are not recommended as a tool for widespread implementation along every street in the city. Each potential curb extension location must be evaluated on a case-by-case basis, taking into account factors such

as crossing volumes, parking lane widths, infrastructure challenges such as drainage or driveways, and locations of bus stops.

Traffic Signal Enhancements

This section discusses specific pedestrian enhancements for use at signalized intersection locations.

Pedestrian Pushbutton Detectors

Pedestrian pushbutton detectors allow for actuation of pedestrian signals, and should be located at all intersection corners where pedestrian actuation is used. As required by the California MUTCD, pedestrian pushbutton detectors must be accompanied by signs explaining their use. Pedestrian pushbutton detectors should be easily accessible for those in wheelchairs and for the sight-impaired, located approximately 3.5 ft. off the ground on a level surface. Pedestrian pushbuttons should not be used in locations where the pedestrian phase is set on a fixed cycle and cannot be actuated. One exception to this is the use of pushbuttons to activate audible pedestrian signals at non-actuated locations. More details on push button requirements are discussed in Section 12 on Accessibility.

PEDESTRIAN SIGNAL ACTUATION



There are several simple design considerations that greatly enhance the safety and comfort of pedestrians at signalized intersections:

- In areas with high pedestrian use (over 100 persons per hour), incorporate a pedestrian phase into the signal sequence instead of an on-demand signal phase,
- Alternatively, install countdown pedestrian signals instead of the traditional “flashing hand” signal. This communicates to the pedestrian exactly how much time they have to cross the road safely.
- Place pedestrian push-buttons in locations that are easy to reach and ADA compliant, facing the sidewalk and clearly inline with the direction of travel (this will improve operations, as many pedestrians push all buttons to ensure that they hit the right one);
- Place additional actuators prior to the intersection so that pedestrians may activate the signal before they reach the corner of the intersection, to decrease pedestrian waiting time;
- Adjust the signal timing to accommodate the average walking speeds of intersection users (longer crossing times for intersections near schools and community centers, etc.), or to limit the time a pedestrian has to wait.

ACCESSIBLE PEDESTRIAN SIGNALS – VERBAL/VIBROTACTILE TONE



- When verbal messages are used to communicate the pedestrian interval, they shall provide a clear message that the walk interval is in effect, as well as to which crossing it applies.
- The verbal message that is provided at regular intervals throughout the timing of the walk interval shall be the term "walk sign," which may be followed by the name of the street to be crossed.
- A verbal message is not required at times when the walk interval is not timing, but, if provided:
 1. It shall be the term "wait."
 2. It need not be repeated for the entire time that the walk interval

Accessible pedestrian signals that provide verbal messages may provide similar messages in languages other than English, if needed, except for the terms "walk sign" and "wait." A vibrotactile pedestrian device communicates information about pedestrian timing through a vibrating surface by touch.

- Vibrotactile pedestrian devices, where used, shall indicate that the walk interval is in effect, and for which direction it applies, through the use of a vibrating directional arrow or some other means.

Multi-Use Pathway - Design Requirements

Also called a “Caltrans Class I Bikeway” or “bike path” a Multi-use Pathway provides pedestrian and bicycle travel on a paved right-of-way completely separated from any street or highway. The recommended width of a shared use path is dependent upon anticipated usage:

8’ (2.4 m) is the minimum width for Class I facilities

8’ (2.4 m) may be used for short neighborhood connector paths (generally less than one mile in length) due to low anticipated volumes of use

10’ (3.0 m) is the recommended minimum width for a typical two-way multi-use path

12’ (3.6 m) is the preferred minimum width if more than 300 users per peak hour are anticipated, and/or if there is heavy mixed bicycle and pedestrian use

A minimum 2’ (0.6 m) wide graded area must be provided adjacent to the path to provide clearance from trees, poles, walls, guardrails, etc. On facilities with expected heavy use, a yellow centerline stripe is recommended to separate travel in opposite directions. Figure A-6 illustrates a typical cross-section of a Class I multi-use path.

Multi-Use Pathway - Additional Design Recommendations:

1. Shared use trails and unpaved facilities that serve primarily a recreation rather than a transportation function and will not be funded with federal transportation dollars may not be required to be designed to Caltrans standards. However, state and national guidelines have been created with user safety in mind and should be followed. Wherever any trail facility intersects with a street, roadway, or railway, standard traffic controls should always be used.
2. Class I pathway crossings of roadways require preliminary design review. Generally speaking, paths that cross roadways with average daily trips (ADTs) over 20,000 vehicles will require signalization or grade separation.
3. Landscaping should generally be low water consuming native vegetation and should have the least amount of debris.
4. Lighting should be provided where commuters will use the path during hours of darkness.
5. Barriers at pathway entrances should be clearly marked with reflectors and be ADA accessible (minimum five feet clearance).
6. Path construction should take into account impacts of maintenance and emergency vehicles on shoulders and vertical and structural requirements. Paths should be constructed with adequate sub grade compaction to minimize cracking and sinking.

7. All structures should be designed to accommodate appropriate loadings. The width of structures should be the same as the approaching trail width, plus minimum two-foot wide clear areas.
8. Where feasible, provide two-foot wide unpaved shoulders for pedestrians/runners, or a separate tread way.
9. Direct pedestrians to the right side of pathway with signing and/or stenciling.
10. Provide adequate trailhead parking and other facilities such as restrooms and drinking fountains at appropriate locations.

Figure A-6: Class 1 Facility Cross-Section

