San Joaquin Council of Governments

Regional Bicycle, Pedestrian, and Safe Routes to School Master Plan

Adopted September 2012

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PLANNING + DESIGN

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1. Introduction

This Bicycle, Pedestrian and Safe Routes to School (BP-SRtS) Plan provides recommended bicycle and pedestrian projects for San Joaquin County and its seven cities. The San Joaquin Council of Governments (SJCOG) is a Joint Powers Authority comprised of the County of San Joaquin and the cities of Stockton, Lodi, Manteca, Tracy, Ripon, Escalon and Lathrop. SJCOG serves as the regional transportation planning agency and a technical and informational resource for these jurisdictions.

SJCOG, in coordination with member agencies, developed this Plan to identify bikeways and pedestrian projects of regional significance in order to prioritize funding and facilitate project implementation. This plan also helps set Measure K funding priorities. In November 2006, the voters of San Joaquin County approved the use of Measure K funds to expand and enhance pedestrian and bicycle safety and facilities within San Joaquin County. The goal of the Bike, Pedestrian, and Safe Routes to Schools Program Guidelines is to ensure that Measure K funds (Competitive / Non-Competitive) are expeditiously utilized to deliver projects that are valued throughout the region.

One of the important uses of the Plan is to support a local / regional project's value when applying and competing for other local, state, and federal funding opportunities. To clarify, the only compelling condition when a member agency would need to individually adopt the Regional BP-SRtS Master Plan is when the Plan is solely used to support an application during the State Bicycle Transportation Account competitive process. Jurisdictions also have the option of using locally approved bike plans (certified by SJCOG as compliant) when pursuing BTA funding. For any other grant processes, simply referencing that the project is also supported in the regional master Plan will provide additional support for the project to be considered for funding.

The Plan also provides each of the region's jurisdictions with the standard elements of the Bicycle Transportation Account compliant Plan, availing them of important external funding sources for non-motorized transportation planning.

1.1. Vision, Goals, and Objectives

1.1.1. Vision

The following statement articulates the vision for this Plan:

The BP-SRtS Plan builds upon current successes to meet the mobility needs for people of all ages and abilities in San Joaquin County by improving and enhancing the existing bicycle and pedestrian network.

Improving and enhancing the bicycle and pedestrian network is realized through better connectivity, accessibility, and safety measures between specific origins and destinations referred to as Community Activity Centers (CACs).

1.1.2. Goals

The goals listed below are components of the vision that the recommendations in this plan can help to achieve.

- Increase bicycle and pedestrian mobility throughout San Joaquin County
- Improve bicycle, pedestrian, and school access safety
- Increase the number of commute, recreation, and utilitarian bicycle and pedestrian trips
- Increase education and awareness of bicycling and walking in San Joaquin County
- Address congestion near schools and on the regional Congestion Management Program network.

1.1.3. Objectives

Objectives are specific, measurable steps taken that work towards achieving the Plan's goals and help to evaluate the progress of implementation.

- Increase the mileage of bicycle and pedestrian facilities in San Joaquin County by 10 percent in the next five years and 20 percent in the next ten years.
- Increase the competitiveness of local jurisdictions for grant funding for bicycle, pedestrian, and Safe Routes to School improvements.

Specific actions for agencies involved in the implementation of the Plan are listed in **Chapter 7: Implementation and Funding Strategy.**

1.2. Organization of the Plan

This Plan is organized into seven chapters. A brief description of each chapter follows:

Chapter 1 presents the Vision, Goals, and Objectives of the Plan

Chapter 2 assesses existing conditions for bicycle, pedestrian, and Safe Routes to School planning within the region. It includes a description of land use, transit, schools, typical pedestrian and bicycle infrastructure, and maps of existing bicycle facilities for each community.

Chapter 3 describes the general needs of bicyclists, pedestrians, and schools and also presents data on current walking and bicycling behavior in San Joaquin County.

Chapter 4 describes the criteria used for project formation.

Chapter 5 presents recommended bicycle and pedestrian projects for each jurisdiction.

Chapter 6 presents programmatic recommendations for the region, including descriptions of Education, Encouragement, Enforcement, and Evaluation programs.

Chapter 7 presents the implementation and funding strategy for the Bicycle, Pedestrian, and Safe Routes to School Plan. Projects are scored and potential funding sources are identified.

The Plan is also supported by several technical appendices, described below:

Appendix A: Bicycle Design Guidelines

Appendix B: Pedestrian Design Guidelines

Appendix C: Safe Routes to School Toolkit

Appendix D: BTA Compliance Table

Appendix E: Project Tables

Appendix F: Plan and Policy Review

Appendix G: Peer Plan Review

Appendix H: Comments Received

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2. Existing Conditions

2.1. Setting

2.1.1. Overview

San Joaquin County is situated at a key location within the highly productive agricultural area of the San Joaquin Valley. While most of the County is fairly level, the foothills of the Sierra Nevada rise along its eastern boundary. The rich biological and agricultural Sacramento-San Joaquin Delta encompasses nearly 40 percent of the County's 1,426 square-mile area. A mixture of fast-growing cities and sparsely populated rural areas provides a variety of housing types, neighborhoods, commercial centers, and agricultural opportunities for its 685,306 residents.[1] Conveniently located to both Sacramento and the San Francisco Bay Area, San Joaquin County's location has influenced its rapid growth and regional importance. The county added over 120,000 residents between 2000 and 2010,[2] a 21.6 percent increase, posing enormous challenges and opportunities to its transportation network.

The County Seat is the City of Stockton, the largest city with 291,707 residents. Six other cities and towns and numerous unincorporated communities contribute to the vibrancy of San Joaquin County. The populations for each are presented in **Table 2-1**.

Table 2-1: San Joaquin County Jurisdictions and Populations

City	Population
Escalon	7,132
Lathrop	18,023
Lodi	62,134
Manteca	67,096
Ripon	14,297
Stockton	291,707
Tracy	82,922
Unincorporated County	141,995
Total	**685,306**

Source: 2010 Census

Several major highways provide connections to nearby employment centers in Sacramento and the Bay Area, including Interstate 5 (I-5), I-205, and I-580. State Route 99 connects the County to major cities elsewhere in the Central Valley. San Joaquin County is also located near major recreation destinations including Yosemite National Park

The Stockton Metropolitan Airport serves the San Joaquin County community, providing passenger service to Las Vegas as well as cargo service and general aviation. Most commercial airline flights use airports in nearby counties.

[1] 2010 Census
[2] 2000 Census

2.1.2. Land Use

San Joaquin County has a diversity of land uses. The overwhelming majority of its land area is dedicated to agriculture, but several medium-sized cities integrate residential, commercial, and industrial development. Though most cities and towns are characterized by single-family residential development, all also have significant industrial land, somewhat less in Manteca than in other cities. Commercial areas are generally centered on major arterials; within Stockton, these include March Lane, Hammer Lane, and Waterloo Road. Areas on the outskirts of cities and towns are frequently reserved for additional residential development.

2.1.3. Transit

Rail Service

Amtrak and the Altamont Commuter Express (ACE) provide interregional rail service in San Joaquin County. Amtrak's *San Joaquin* route travels between Oakland and Bakersfield and stops at the San Joaquin Street Station in Stockton. *San Joaquin* trains traveling between Sacramento and Bakersfield and ACE trains use the Robert J. Cabral Station.

The Altamont Commuter Express connects Stockton with San Jose through the Altamont Pass. In 2008, ACE carried 3.700 passengers on an average weekday. In addition to the terminus in downtown Stockton, the route serves Lathrop, Manteca, and Tracy.

San Joaquin County Regional Transit District

The San Joaquin County Regional Transit District (RTD) provides bus service within the City of Stockton, with intercity routes throughout the county. Five million trips were recorded on RTD in 2008. Interregional routes connect San Joaquin County with destinations in Sacramento, Livermore, the Dublin/Pleasanton BART Station, Silicon Valley, and San Jose. Local and intercity buses include front-mounted bike racks that hold two bicycles, and interregional buses allow bikes to be stored below in a cargo area. RTD estimates that it carries approximately 600 to 850 bicycles per weekday. Express Bus Rapid Transit (BRT) Route bike racks are filled to capacity on almost every trip.[3]

Local Bus Service

Many smaller communities within San Joaquin County operate local transit service. The largest of these organizations, the Lodi Grape Line, operates fixed-route bus service on five routes on weekdays and three routes on weekends, as well as dial-a-ride service throughout the city. During FY 2008, the Lodi Grape Line carried 241,972 passengers.[4]

Manteca Transit operates provides bus service on two fixed routes, serving the Lathrop/Manteca ACE station. According to the Manteca Transit Short Range Transit Plan, Manteca Transit carried 23,507 passengers on fixed route service and an additional 12,587 passengers with dial-a-ride service during FY 2008.[5]Dial-a-ride service provides a key opportunity for the integration of pedestrian planning with transit systems because it generally serves seniors and persons with disabilities who live too far away for fixed-route service to be practical.

[3] San Joaquin County Bicycle Master Plan, 2011.
[4]http://www.lodi.gov/transit/PDF/TransitPlan_presentation.pdf
[5] Manteca Short Range Transit Plan
(http://www.ci.manteca.ca.us/mantecatransit/Manteca_srtp_REPORT_color.pdf)

The Tracy Tracer operates four routes within Tracy, and connects with the RTD system. In FY 2003, the Tracer served 56,772 passengers. A 2003 ridership survey showed that 53 percent of Tracer Riders were students.[6]

2.1.4. Schools

There are 386 schools in San Joaquin County, including colleges. Of these, 211 are public schools.[7] Schools are located in a variety of different environments, urban, suburban, and rural. **Table 2-2** lists the largest of the County's fourteen public school districts:

Table 2-2: San Joaquin County School Districts and Enrollment

School District	Enrollment
Escalon Unified	3,140
Lammersville Unified	1,825
Lincoln Unified	8,712
Linden Unified	2,758
Lodi Unified	31,266
Manteca Unified	23,643
Ripon Unified	3,014
Stockton Unified	38,617
Tracy Unified	17,375
Total	**121,638**

Source: San Joaquin Office of Education http://www.sjcoe.org/ourschools/

2.2. Existing Conditions

In order to identify projects for inclusion in this Plan, an understanding of the existing bicycle, pedestrian and safe routes to school infrastructure and programs is necessary. This chapter describes the existing bicycle, pedestrian and safe routes to school environment in San Joaquin County.

2.2.1. Bicycle Infrastructure and Support Facilities

Typical Bicycle Infrastructure

Bicycle infrastructure in San Joaquin County is governed by design standards developed by the California Department of Transportation (Caltrans). Local jurisdictions may modify the Caltrans design standards, based on sound engineering judgment, but generally the Caltrans design standards are followed. This plan categorizes bicycle infrastructure based on Caltrans standards. **Figure 2-1** illustrates Caltrans' three types of bikeways as defined by the Highway Design Manual: Class I bike path, Class II bike lane, and Class III bike route.

A bike path (Class I) allows for two-way, off-street bicycle use and may be used by pedestrians, skaters, people in wheelchairs, joggers and other non-motorized users.

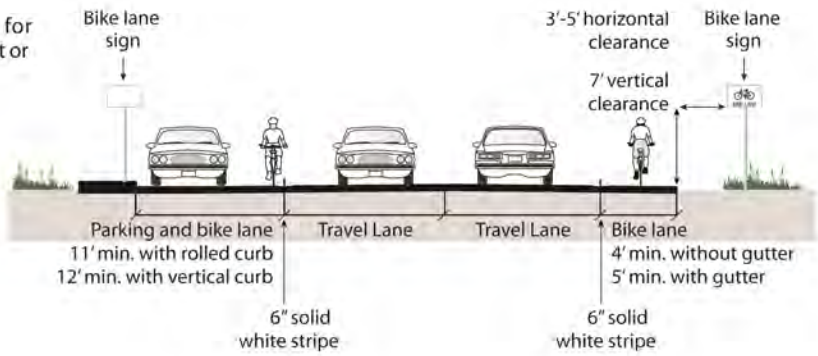
[6] Tracy Transit Action Plan (http://www.ci.tracy.ca.us/departments/parks/transportation/transit_action_plan/#3)
[7] Most recent San Joaquin County GIS Data

CLASS I
Multi-Use Path

Provides a completely separated right of way for the exclusive use of bicycles and pedestrians with crossflow minimized.

CLASS II
Bike Lane

Provides a striped lane for one-way bike travel on a street or highway.



CLASS III
Bike Route
Signed Shared Roadway

Provides for shared use with pedestrian or motor vehicle traffic, typically on lower volume roadways.

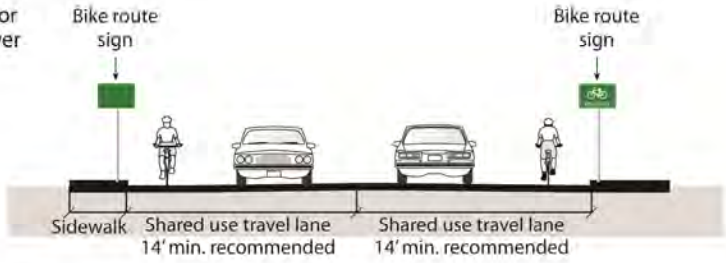


Figure 2-1: Caltrans Design Standards for Bicycle Facilities

Bike lanes (Class II) bicycle facilities are defined as a portion of the roadway that has been designated by striping, signage, and pavement markings for the preferential or exclusive use of bicyclists. They are generally four to six feet wide. In San Joaquin County, bike lanes are generally found on arterial and collector roadways in commercial, retail, and mixed-use districts.

Bike Routes (Class III) are facilities shared with motor vehicles and signed for bicyclists. While typically used on roads with low speeds and traffic volumes, they can be designated on higher volume roads with wide outside lanes or shoulders. In San Joaquin County's cities, bike routes are often found on local or collector streets in residential areas. Many state routes that connect cities have Class III shoulder bikeways.

Shared Lane Marking stencils are included in the California Manual of Uniform Traffic Control Devices (2012) as an additional treatment for bike routes and are currently approved in locations with or without parking. As shown in **Figure 2-2**, the stencil can serve a number of purposes, such as making motorists aware of the need to share the road with bicyclists, showing bicyclists the direction of travel, and, with proper placement, reminding bicyclists to bike further from parked cars to prevent "dooring" collisions.

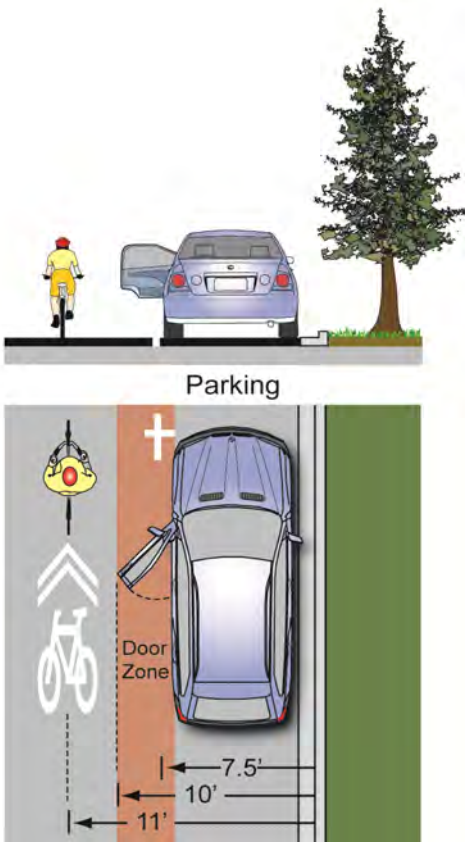


Figure 2-2: Shared Lane Marking

Existing Bicycle Network

A summary of the existing regional bikeway network is presented in **Table 2-3** and shown in **Figure 2-3**.

Class I paths are provided throughout San Joaquin County, cutting through major larger cities such as Stockton and Manteca. The longest path in the County is the California Aqueduct Trail, paralleling the California Aqueduct for over 13 miles near Tracy. Overall, there are 73 miles of existing Class I paths. Class II Bike lanes are concentrated within cities, often on commercial streets. There are 107 miles of bike lanes in San Joaquin County. Signed Class III signed bike routes are often provided on lower traffic streets where separation of roadway users is not necessary or desirable. They may also close gaps in continuous Class II facilities or provide connectivity where bike lanes cannot easily be incorporated into the roadway configuration. There are 86 miles of bike routes in San Joaquin County.

Table 2-3: Existing Bikeways Summary by Jurisdiction

Jurisdiction	Class 1 Miles	Class 2 Miles	Class 3 Miles	Total Miles
Escalon	0.00	2.74	0.83	3.57
Lathrop	0.00	0.00	0.00	0.00
Lodi	0.39	22.05	4.19	26.63
Manteca	7.47	16.79	18.26	42.52
Ripon	8.97	4.30	0.00	13.27
Stockton	32.19	36.13	30.09	98.41
Tracy	23.52*	25.81	16.87	66.20
Unincorporated County	0.00	0.00	16.43	16.43
Total	**72.53**	**107.82**	**86.66**	**267.01**

**Includes the entire length of the California Aqueduct Trail*

Figure 2-3 through **Figure 2-10** present the existing bikeways for each member jurisdiction.

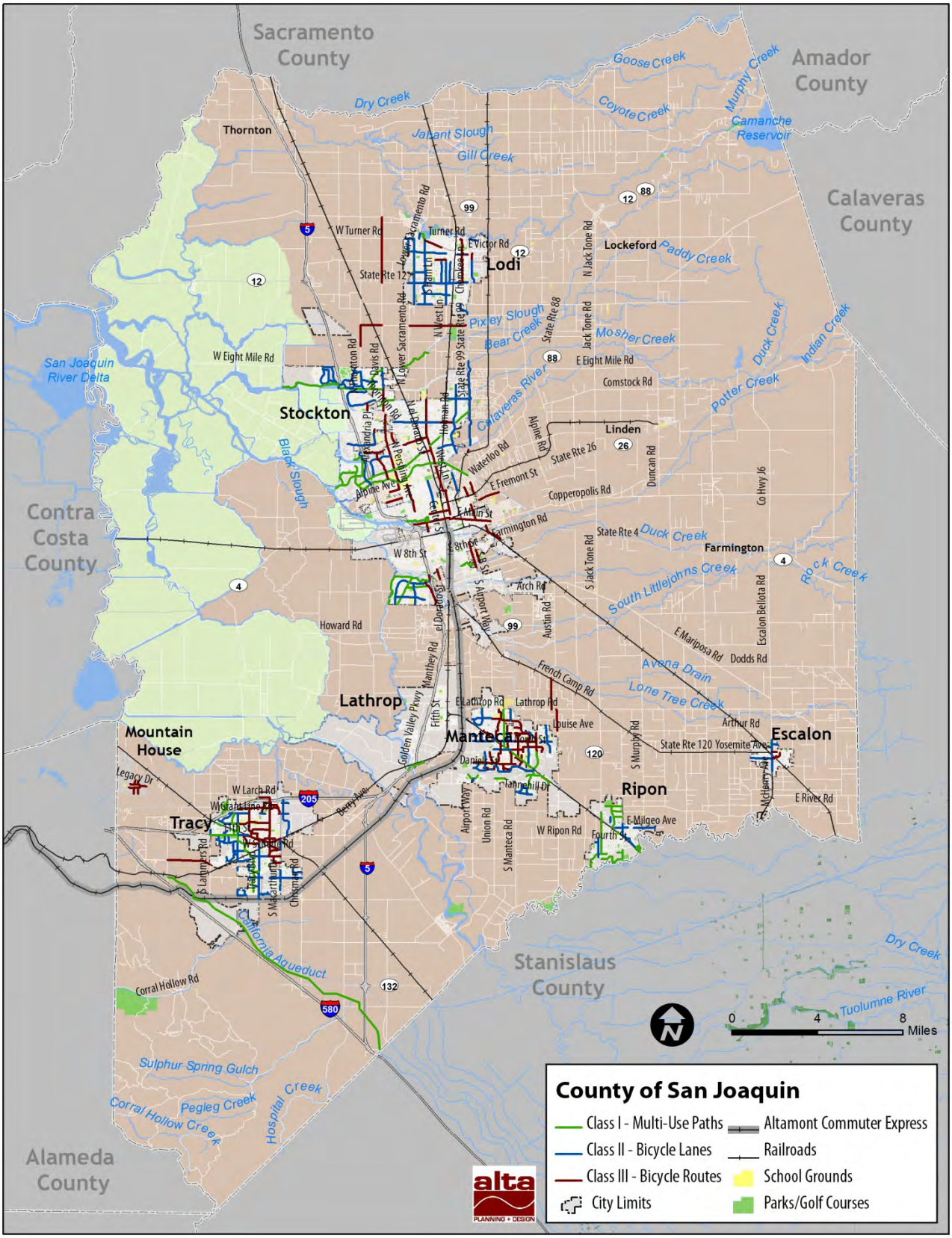


Figure 2-3: Regional Existing Bikeways

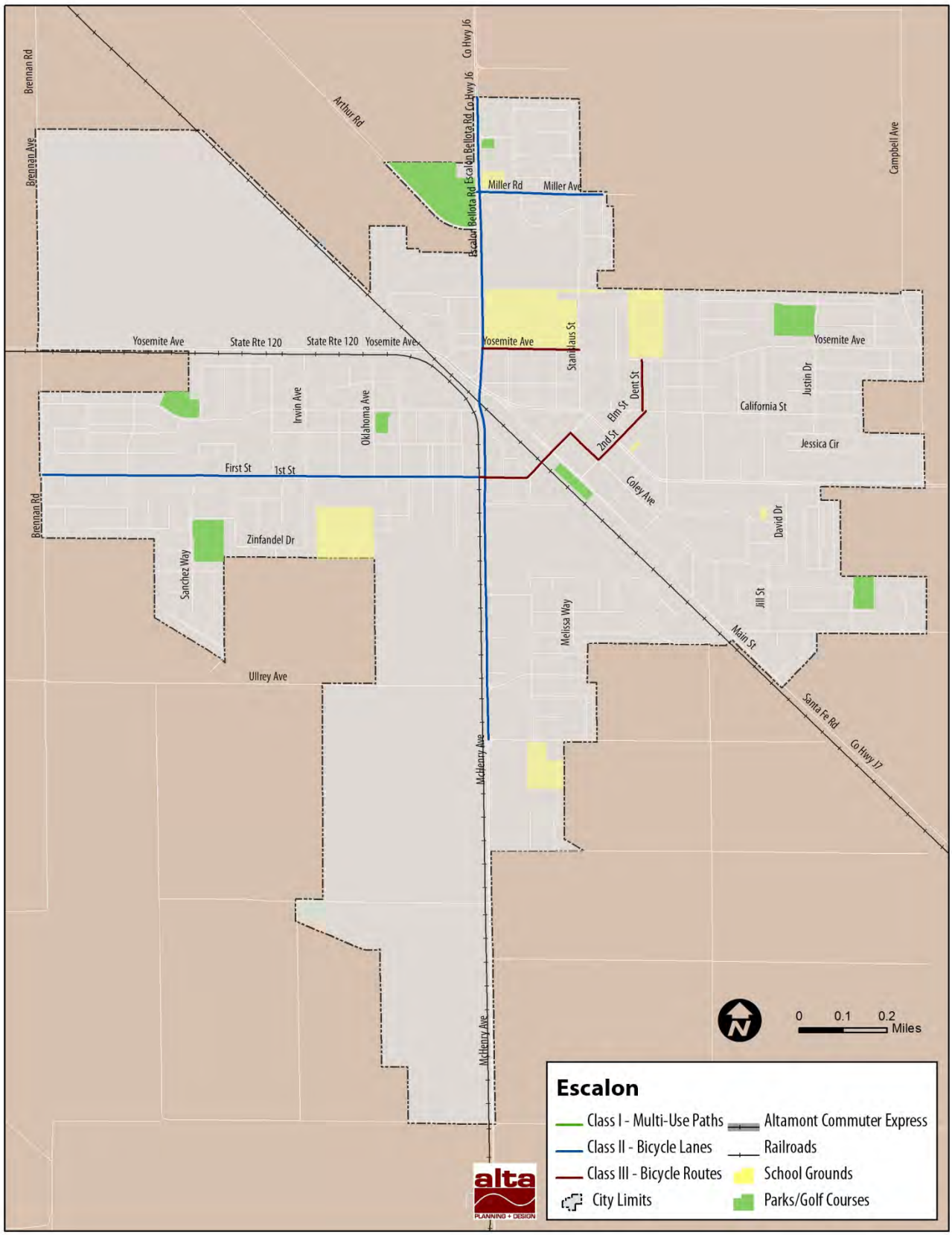


Figure 2-4: Escalon Existing Bikeways

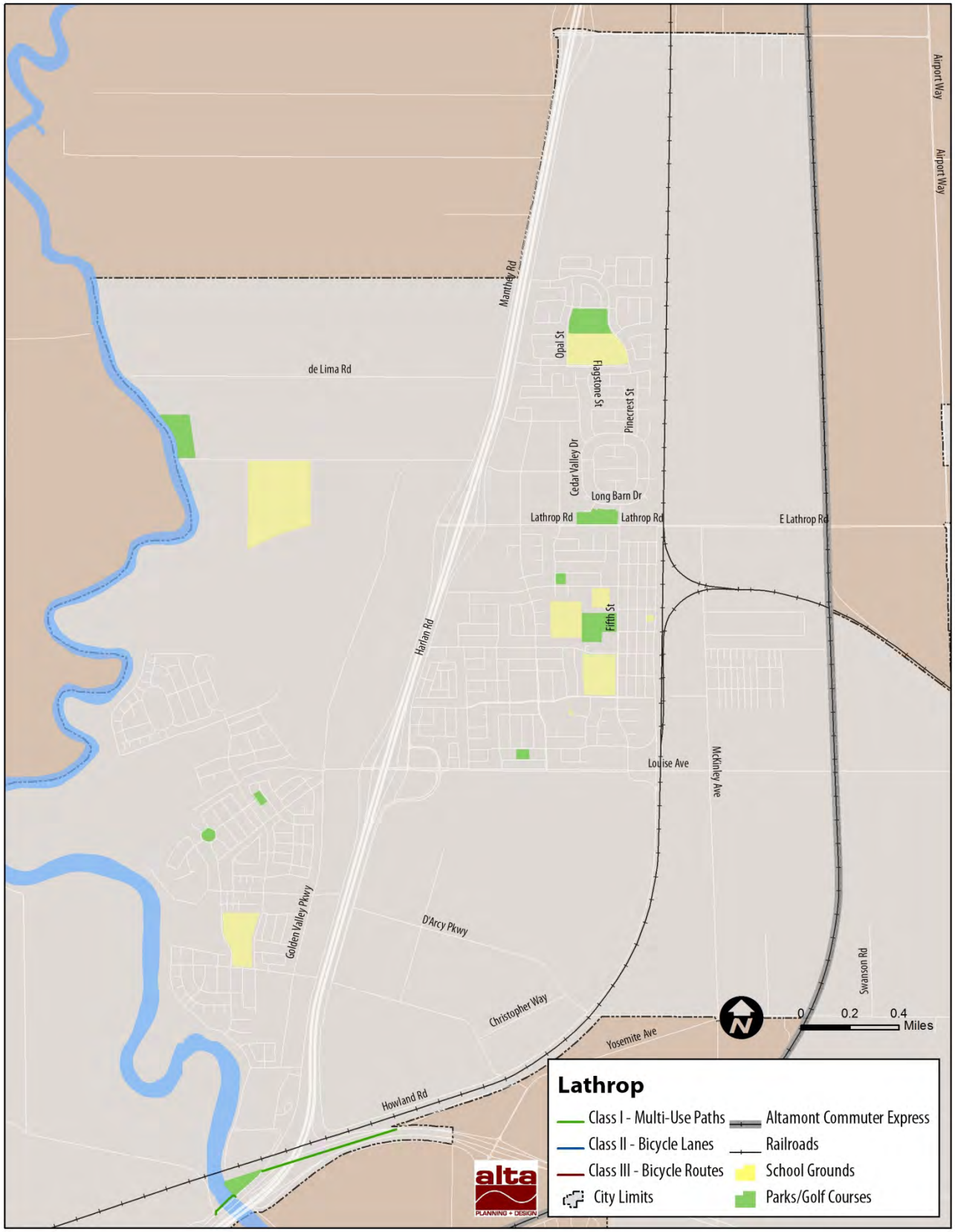


Figure 2-5: Lathrop Existing Bikeways

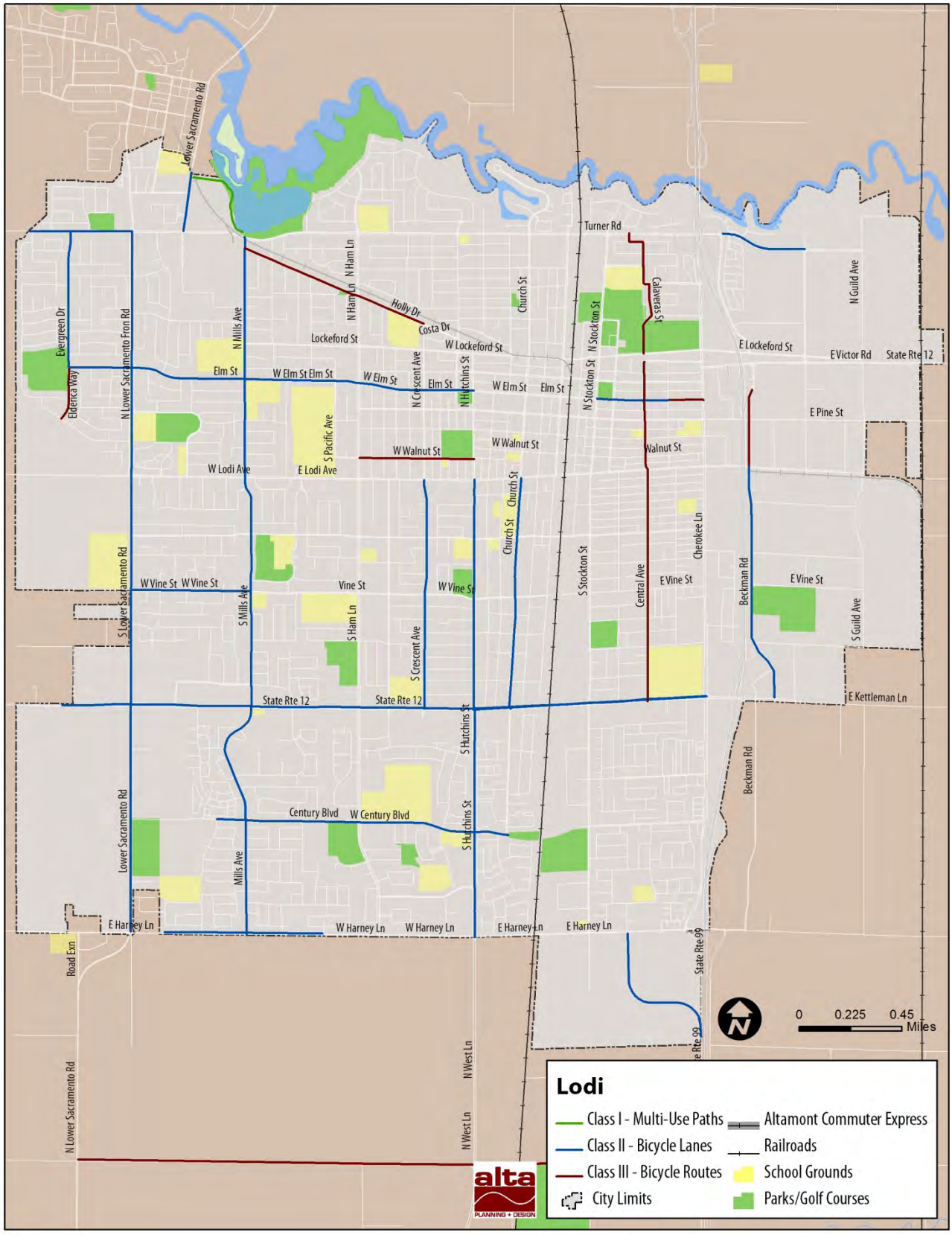


Figure 2-6: Lodi Existing Bikeways

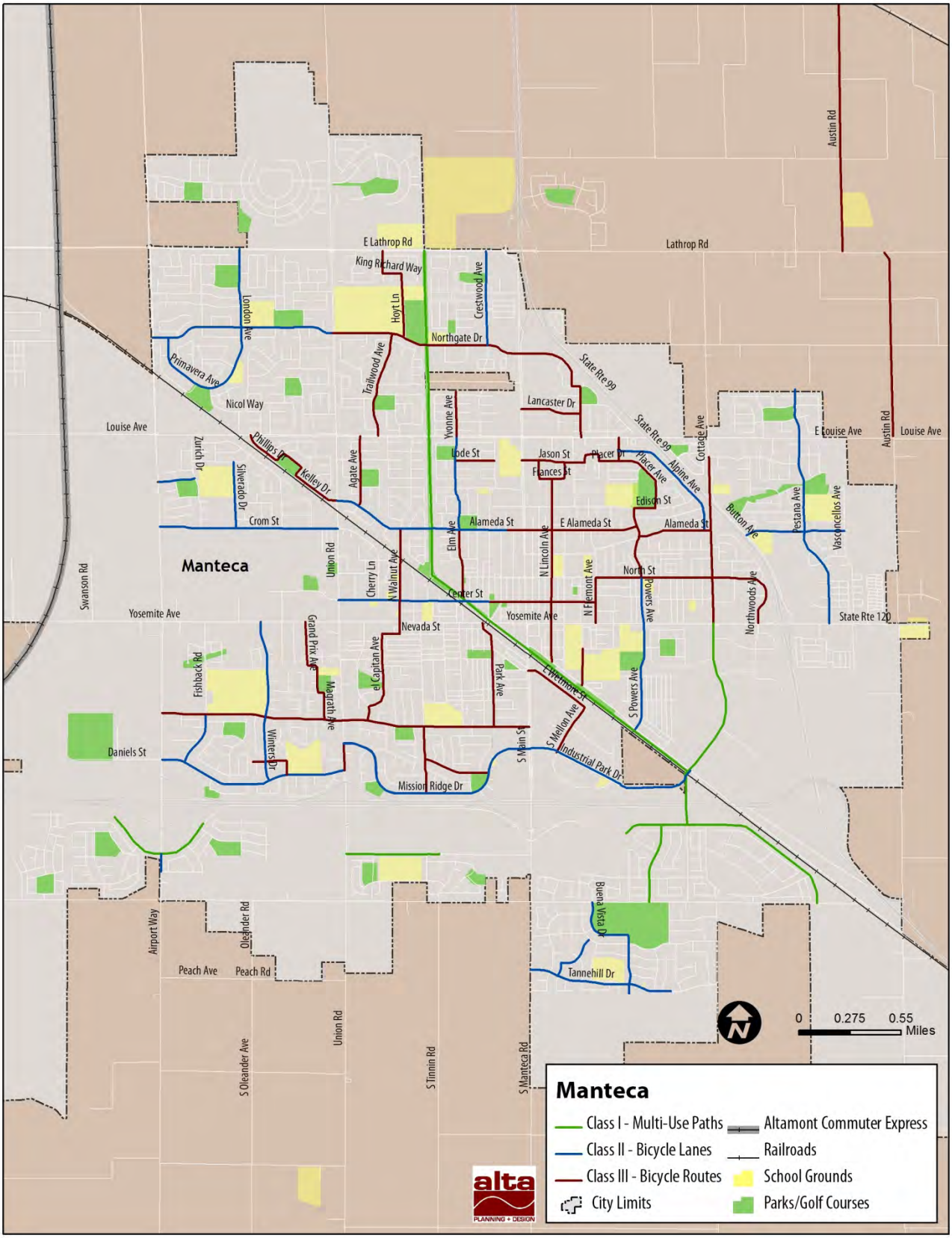


Figure 2-7: Manteca Existing Bikeways

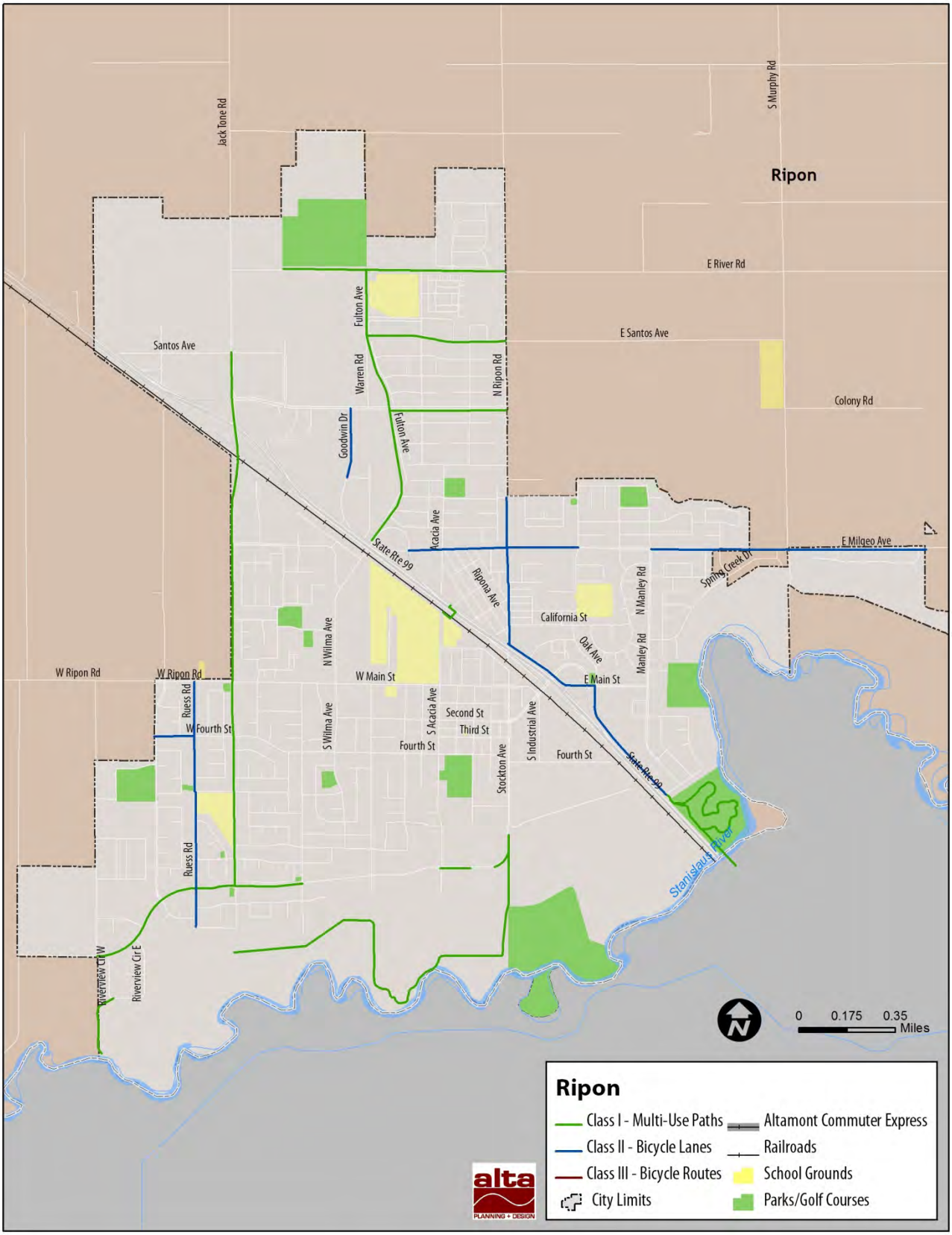


Figure 2-8: Ripon Existing Bikeways

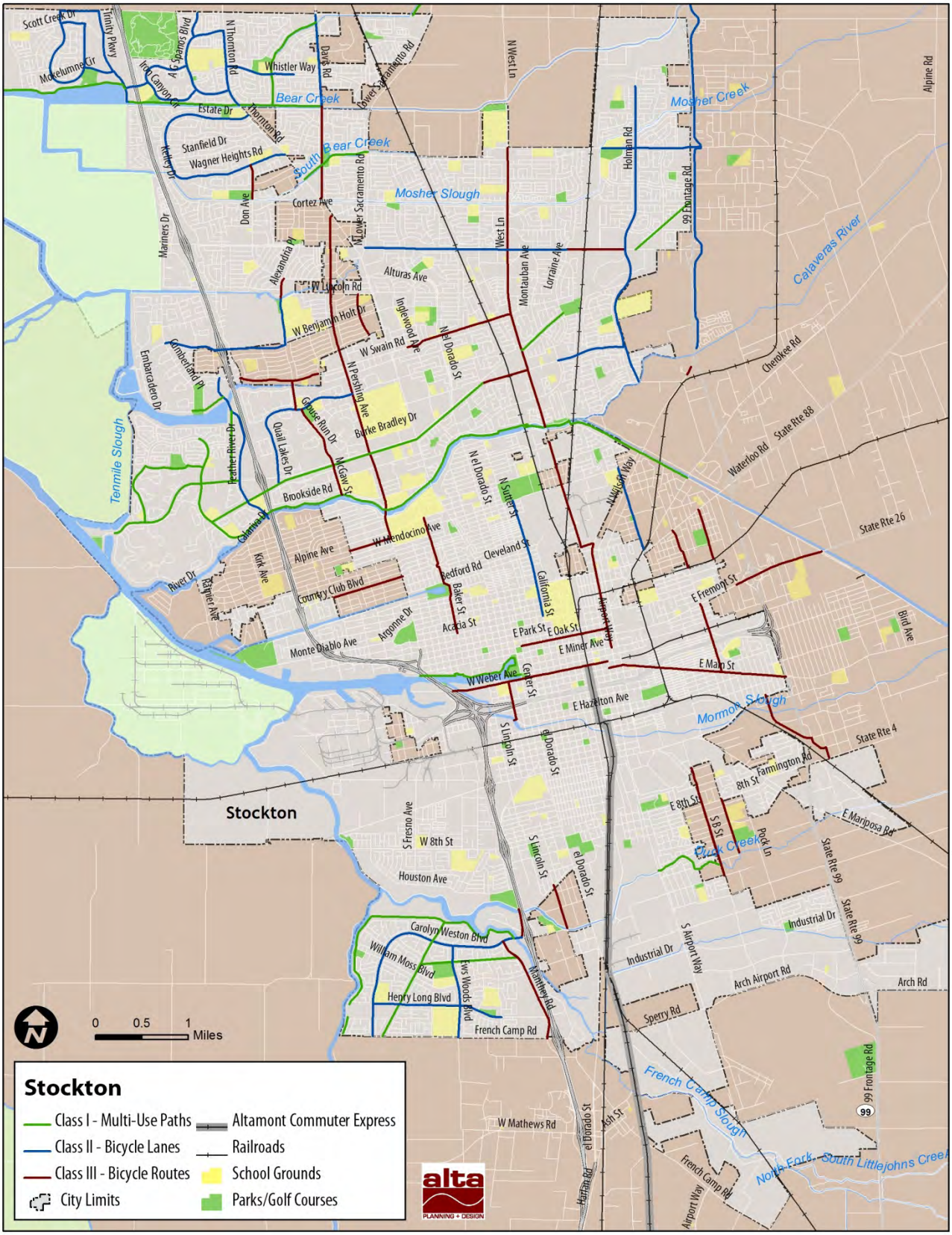


Figure 2-9: Stockton Existing Bikeways

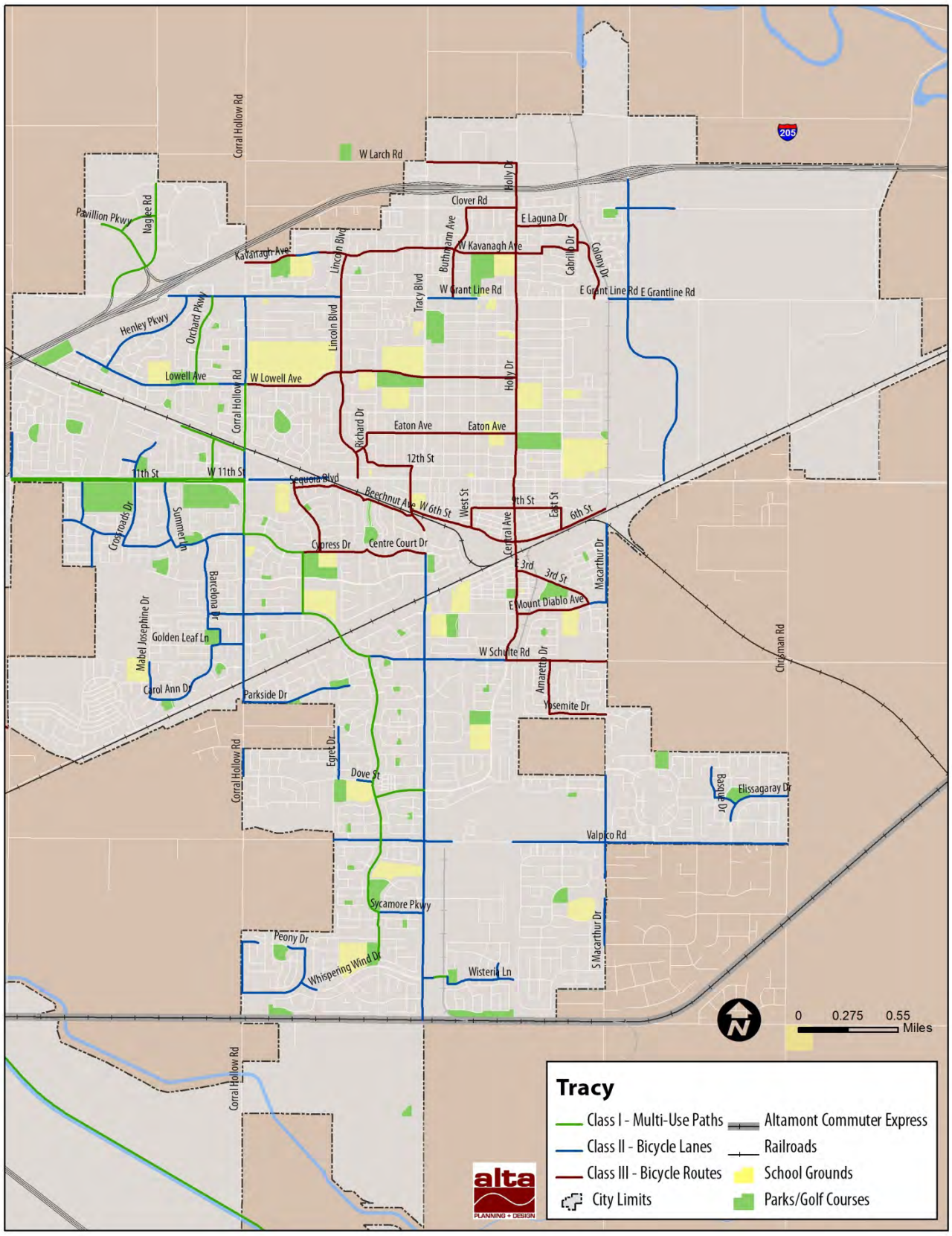


Figure 2-10: Tracy Existing Bikeways

Bicycle Support Facilities and Parking

Bicycle support amenities including bicycle parking, lockers, and showers are a key element of a bicycle network. Every bicycle trip not only includes travel between destinations, it includes parking at the origin and destination. The types of bike parking needed depend on the nature of the trip. Bike racks provide convenient parking for trips of short duration, while bike lockers and bike stations are more secure facilities where bicyclists may safely store their bicycles for longer periods. Shower and locker facilities at large commercial developments encourage bicycling by providing storage space for clothing and an opportunity to freshen up before work. Employees who exercise on their lunch breaks also benefit from shower and locker facilities. Other bicycle support facilities include directional signage, and devices to actuate traffic signals.

The most recent data available for bicycle parking and support facilities come from the bicycle plans for local jurisdiction. In Stockton, there is bicycle parking available at San Joaquin Delta College, University of the Pacific, CSU-Stanislaus, Park-and-Ride locations, and downtown. Field review conducted over the course of the most recent Tracy Bikeways Master Plan revealed a shortage of bicycle parking, especially in its downtown commercial district. The City of Lathrop identified 112 bicycle parking spaces in the city in its 1995 Bicycle Plan, concentrated at schools.

The City of Manteca adopted an ordinance in 1997 that requires up to ten bicycle parking spaces for non-residential developments according to the number of automobile parking spaces required.

2.2.2. Pedestrian Infrastructure and Support Facilities

Pedestrian infrastructure addressed by this Plan includes sidewalks, curb extensions, crosswalks, refuge islands, curb ramps, pathways, signs and traffic signals.

The following sections present a description of typical pedestrian infrastructure and a summary of the San Joaquin County pedestrian environment.

Sidewalks

Sidewalks consist of one or several zones. The zones are named for the primary activity that occurs in the zone. Sidewalk zones in commercial areas **(Figure 2-11)** typically include a planter/furniture zone, a through zone, and a frontage zone. Sidewalks in residential areas **(Figure 2-12)** usually include a through zone and may include a planter/furnishing zone.

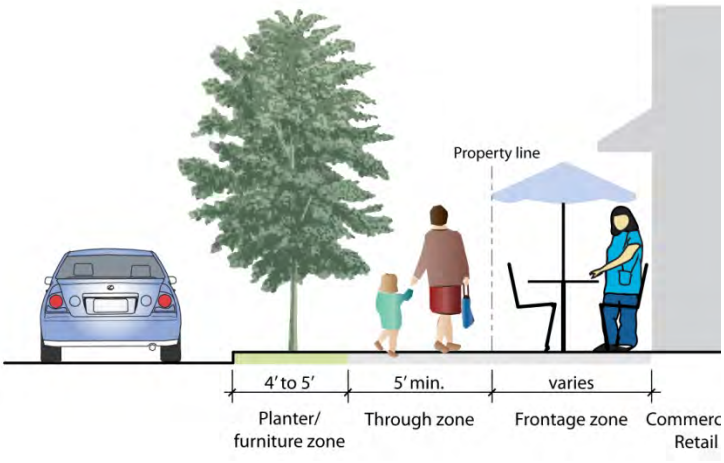


Figure 2-11: Typical Sidewalk Zones in Commercial Areas

The width and condition of sidewalks vary throughout the County. Most sidewalk through zones are between 4 and 5 feet wide; however, widths range from 1 foot to 19.5 feet. The Americans with Disabilities Act requires a minimum 4 foot wide sidewalk. Sidewalks in the downtown areas are often wider and may be 7.5 feet in width.

Sidewalks can include either vertical or rolled curbs. Rolled curbs are mountable, allowing vehicles to encroach onto the sidewalk, which can be advantageous for emergency vehicle maneuverability. However, rolled curbs also make it easy for cars to park atop the curb face, potentially obstructing pedestrian movement along any adjoining sidewalk.

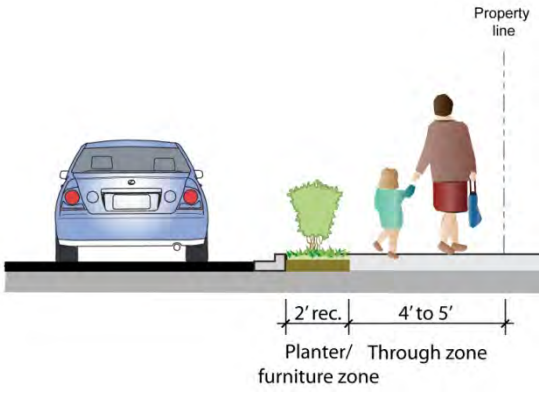


Figure 2-12: Typical Sidewalk Zones in Residential Areas

Curb Extensions

As defined by the Pedestrian and Bicycle Information Center,[8] curb extensions extend the sidewalk or curb line out into the parking lane, reducing the effective street width (**Figure 2-13**). Curb extensions improve pedestrian crossings by reducing the pedestrian crossing distance, visually and physically narrowing the roadway, improving the ability of pedestrians and motorists to see each other, and reducing the time that pedestrians are in the street. Curb extensions placed at an intersection also prevent motorists from parking in or too close to a crosswalk or from blocking a curb ramp or crosswalk. Curb extensions should not extend into travel lanes or bicycle lanes.

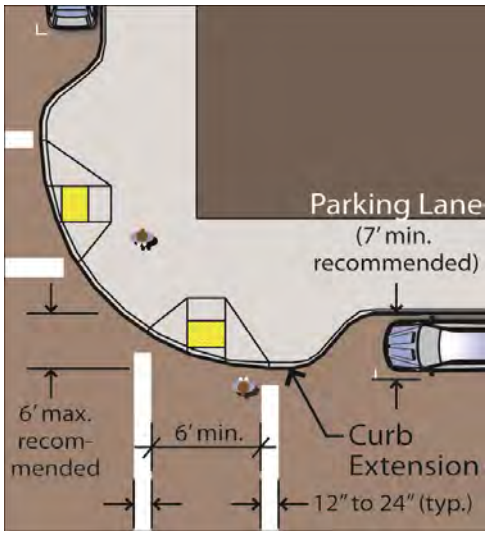


Figure 2-13: Curb Extension

Crosswalks

Crosswalks are a legal extension of the sidewalk and provide guidance for pedestrians who are crossing roadways by defining and delineating their path-of-travel. Crosswalks are not required to be marked. However, crosswalk markings alert motorists of a pedestrian crossing point. Marked crosswalks exist throughout the County, typically at intersections along arterial and collector streets. Most marked crosswalks are standard (also called transverse) crosswalks consisting of two parallel white lines marked on the pavement (see **Figure 2-14**). Others crosswalks styles are ladder, continental, or zebra style.

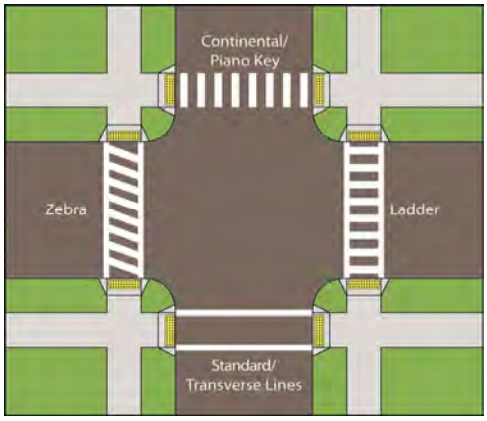


Figure 2-14: Crosswalk Types

At some marked crosswalks additional treatments, such as distinct paving materials and/or in-pavement flashers may be installed. Distinct paving material, such as pavers or colored concrete, further differentiates the crossing zone from the remainder of the street.

In-pavement flashers are a series of amber or white lights embedded in the pavement parallel to a marked crosswalk. The lights are activated either passively by pedestrians passing through or waiting in a detection area, or actively, by push-buttons. The lights alert motorists that a pedestrian is or is planning to cross the street at the crosswalk.

State law requires marked pedestrian crosswalks located in a roadway contiguous to a school building or school grounds to be yellow. Additionally, a marked pedestrian crosswalk located within 600 feet (and in some circumstances up to 2,800 feet) from a school building or school grounds may be yellow.[9]

[8] www.walkinginfo.org/engineering/crossings-enhancements.cfm#curb-extensions
[9] CA MUTCD Part 7, 2010

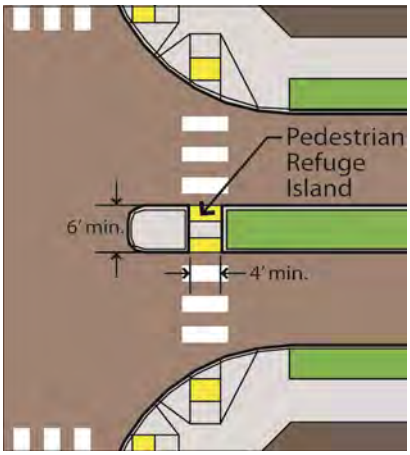


Figure 2-15: Refuge Island

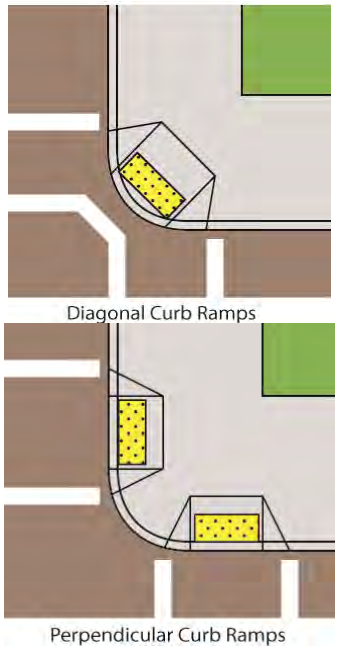


Figure 2-16: Curb Ramp Types

Refuge Islands

Refuge islands (also known as crossing islands, center or median islands, and pedestrian islands) are raised islands placed in the center of the street at intersections or midblock to help protect crossing pedestrians from motor vehicles (see **Figure 2-15**). Refuge islands allow pedestrians to negotiate one direction of traffic at a time, and they enable them to stop partway across the street and wait for an adequate gap in traffic before crossing the second half of the street. Refuge islands have been demonstrated to significantly decrease the percentage of pedestrian involved crashes. The factors contributing to pedestrian safety include reduced conflicts, reduced vehicle speeds approaching the island (the approach can be designed to force a greater slowing of cars, depending on how dramatic the curvature is), greater attention called to the existence of a pedestrian crossing, opportunities for additional signs in the middle of the road, and reduced time in the roadway (referred to as "exposure time") for pedestrians.

Curb Ramps

Curb ramps ease the transition between a sidewalk and street by creating a "bridge" between the curb height and ground level. Curb ramps provide street and sidewalk access to pedestrians using wheelchairs and strollers. The current standards require curb ramps wherever an accessible route crosses a curb.[10] Curb ramp types at street corners in the County include diagonal and perpendicular ramps (see **Figure 2-16**). Perpendicular ramps are preferable because they direct pedestrians to the correct alignment of the crosswalk. Where feasible, curb ramps on opposite sides of the street or road should align. Curb ramps are required to include detectable warnings or raised truncated domes to provide directional and hazard warning information to pedestrians who are visually impaired.

[10] Per ADAAG(Americans with Disabilities Act Accessibility Guidelines), an accessible route is a continuous unobstructed path connecting all accessible elements and spaces of a building or facility, including parking access aisles, curb ramps, crosswalks at vehicular ways, walks, ramps, and lifts.

Signing

Three types of signage that enhance the pedestrian environment are regulatory, warning, and wayfinding signs.

Regulatory and Warning

The California Manual on Uniform Traffic Control Devices (CA MUTCD) outlines the requirements for a variety of sign types, including:

Regulatory (e.g., stop, yield, speed limit, pedestrian crosswalk, no parking, sidewalk closed ahead)

Warning (e.g., pedestrian crossing, school advance warning, school plaque, playground, senior citizen facility, stop ahead)

Regulatory signs inform road users of selected traffic laws or regulations and indicate the applicability of the legal requirements (see **Figure 2-17**). Warning signs alert road users to conditions that might call for a reduction of speed or an action in the interest of safety and efficient traffic operations. Pedestrian facilities, such as crossings and walkways in school areas, are often accompanied by a combination of regulatory and warning signs (see **Figure 2-18**).Multi-use paths require regulatory signs to help manage different user groups.

Wayfinding

Wayfinding signage can help pedestrians locate transit, recreational, commercial and/or other key destinations by posting the distance to the destination and the direction to travel.

Figure 2-17: CA MUTCD Regulatory Signs

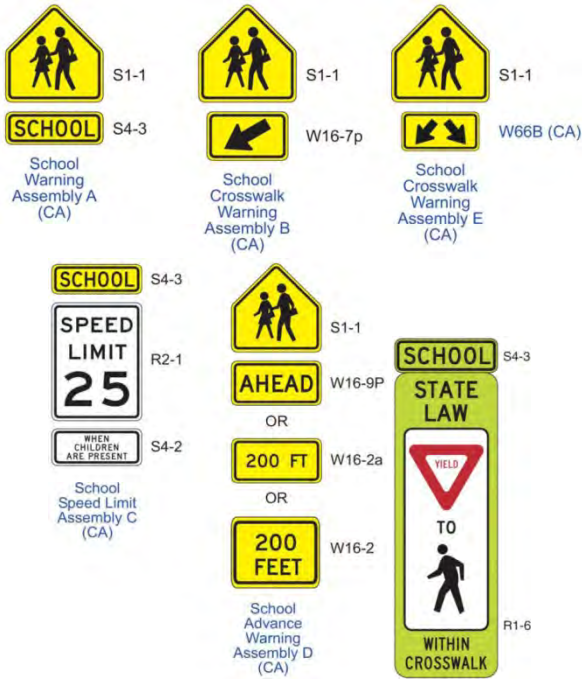


Figure 2-18: CA MUTCD School Area Signs

Traffic Signals

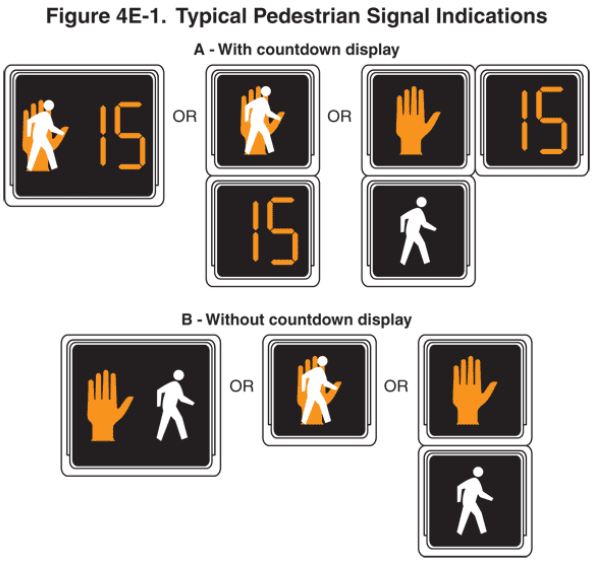
Pedestrian movement at major intersections is controlled by a variety of signal technologies, including pedestrian signal heads.[11] Pedestrian signal heads are typically installed at signalized intersections with high pedestrian crossing volumes and at school crossings. The pedestrian crossing phase of any signal may include pedestrian signal indications as shown in **Figure 2-19** and **Figure 2-20**, or no pedestrian signal indication.

Traffic signals in San Joaquin County typically employ standard signal timing of four feet per second;[12] however, it is not known if local jurisdictions adjust signal timing for slower walking rates, such as for young children, disabled, or elderly pedestrians based on need.

Figure 2-19: Traffic Signal Heads

Existing Pedestrian Conditions

Unlike bicycle facilities, the small scale of pedestrian infrastructure does not lend itself to a regional inventory analysis. San Joaquin County has a mixture of urbanized and rural pedestrian environments and needs. As the physical and demographic characteristics within the County continue to evolve, improved pedestrian facilities will play an important function in maintaining the resident mobility the sustainability of the transportation network.



Source: 2012 California MUTCD

Figure 2-20: Pedestrian Signal Indications

[11] A signal head is an assembly of one or more signal faces together with the associated signal housings. A pedestrian signal head is a signal head, which contains the symbols WALKING PERSON (symbolizing WALK) and UPRAISED HAND (symbolizing DONT WALK), that is installed to direct pedestrian traffic at a traffic control signal.

[12] Signal timing refers to the amount of time allocated for the display of a signal indication (CA MUTCD 2010).

2.2.3. Safe Routes to School Programs

Safe Routes to School (SRtS) refers to a variety of multi-disciplinary programs aimed at promoting walking and bicycling to school, and improving traffic safety around school areas through education, incentives, increased law enforcement, and engineering measures. Safe Routes to School programs typically involve partnerships among municipalities, school districts, community and parent volunteers, and law enforcement agencies.

There have been some Safe Routes to School-related efforts in San Joaquin County in recent years. A Pilot Program was initiated in Stockton in August 2010 and is expected to continue through November 2012. It seeks to improve walking and biking conditions in the vicinity of ten elementary schools and was funded through a $500,000 in the most recent grant cycle for Federal Safe Routes to School. The City also received Federal SRtS funding for sidewalk improvements on Alpine Avenue near Harrison Elementary School. The City of Ripon received funding for crosswalks and traffic calming on Fulton Avenue and W. Shasta Avenue and has successfully applied for grants in earlier cycles.

The City of Escalon worked to redesign the streets near its high school to calm traffic and encourage walking and biking, a project funded through Measure K.

2.2.4. Pedestrian and Bicycle Education, Encouragement and Enforcement Programs

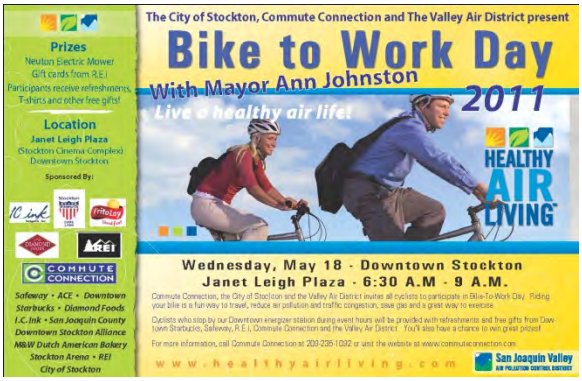
Increasingly, public agencies are realizing the importance of providing programs and activities to support and promote walking and biking. These programs go beyond the typical public agency role of planning, designing, funding, and constructing bicycle and pedestrian infrastructure. Several existing programs within San Joaquin County complement and support walking and bicycling.

Commute Connection

The San Joaquin Council of Governments operates the Commute Connection program, which is designed to help commuters transition from driving alone to alternative modes of transportation such as carpooling, transit, bicycling and walking. Services include a ride match list to encourage carpooling, a Guaranteed Ride Home program, and the provision of bike maps.

Bike to Work Week

Bike to Work Week is an annual event that promotes bicycling to work. It is sponsored by several local businesses and organizations including The San Joaquin Valley Air Pollution Control District and local cities. A poster publicizing the City of Stockton's Bike to Work Day is shown at right.



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3. Needs Analysis

This chapter discusses the general needs and preferences of bicyclists and pedestrians, analyzes bicyclist and pedestrian collision patterns in San Joaquin County between 2004 and 2009, and concludes with a summary of high-level needs of bicyclist and pedestrians and how those needs may be met by this plan.

3.1. Bicyclists' General Needs and Preferences

Bicyclists' needs and preferences vary depending on the skill level of a bicyclist, and whether the bicyclist is traveling for recreation, or to get to work, school, or run other errands.

This Plan seeks to address the needs of all bicyclists and potential bicyclists and therefore it is important to understand the needs and preferences of all types of bicyclists to develop a successful plan. Bicyclists' needs and preferences vary between skill levels and their trip types. In addition, the propensity to bicycle varies from person to person, providing insight into potential increases in bicycling rates. Generally, bicycling propensity levels can be classified into four categories:[13]

- *Strong and Fearless* bicyclists will ride on almost any roadway despite the traffic volume, speed and lack of bikeway designation and are estimated to be less than one percent of the population.
- *Enthused and Confident* bicyclists will ride on most roadways if traffic volumes and speeds are not high. They are confident in positioning themselves to share the roadway with motorists and are estimated to be seven percent of the population.
- *Interested but Concerned* bicyclists will ride if bicycle paths or lanes are provided on roadways with low traffic volumes and speeds. They are typically not confident cycling with motorists. Interested but Concerned bicyclists are estimated to be 60 percent of the bicyclist population and the primary target group that will bicycle more if encouraged to do so.
- *No Way No How* are people that do not consider cycling part of their transportation or recreation options and are estimated to be 33 percent of the population.

Figure 3-1 presents a description of these bicyclist types.

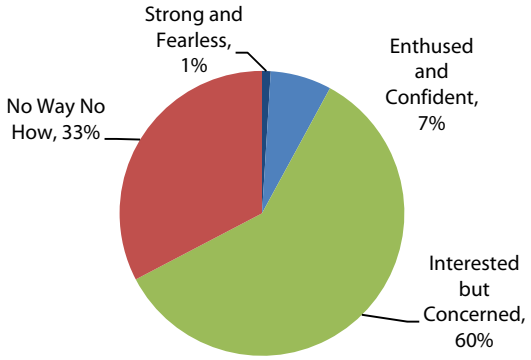


Figure 3-1: Bicyclist Typology Scale

[13]Source: Roger Geller, Bicycle Coordinator, City of Portland, Oregon.

Bicycle trips can be separated into two trip types: recreational and utilitarian (commuting, shopping, running errands). In most communities, the vast majority of bicycle trips tend to be recreational in nature. Increasing the number of people who commute to work and school is a primary focus of Federal and State and Regional transportation policy and funding. Commuter routes should to be direct, continuous, and connected. Bicycle commuters must have secure places to store their bicycles at their destinations.

Regardless of skill level or purpose of trip, all bicyclists appreciate convenient, safe ways to cross major arterials, and a connected network of bicycle facilities.

3.2. Pedestrians' General Needs and Preferences

Pedestrian needs encompass more than walking trips from one place to another. At some point in nearly any journey, a person walks. After disembarking from a bus, train, or parked car, pedestrians should be able to walk comfortably, safely, and quickly to their final destinations.

Regardless of the nature of a pedestrian trip, pedestrian needs include safety, connectivity, and accessibility to destinations. Pedestrian infrastructure should also consider those with special needs, including children, seniors, and people with mobility impairments. The Americans with Disabilities Act (ADA) mandates the provision of reasonable accommodations for people whose accessibility needs require such assistance.

The most critical needs of pedestrians include:

Direct connections: Pedestrians must sometimes walk long distances to access adjacent destinations when the street network is developed in a non-grid street pattern with cul-de-sacs and limited collector streets that connect to the arterial network. Pedestrian cut-throughs between cul-de-sacs and neighborhood trails that create direct connections reduce walking distances and improve pedestrian mobility.

Clearly Indicated Crossings: Crossing facilities, including crosswalks and signage, should alert both motorists and pedestrians to the presence of the facility.

Continuous facilities: Sidewalk gaps, missing sidewalks and worn crosswalks are all barriers to safe pedestrian travel. Continuous facilities allow pedestrians to choose the safest and most efficient path to and from their destination, encouraging them to choose walking as their mode of transportation.

Well-designed walkways: Narrow sidewalks, sidewalks that are directly adjacent to heavy-volume roadways without vegetation or parking buffer, and sidewalks obstructed by utility boxes or lighting poles detract from the walking environment and can make it difficult or impossible for the mobility-impaired to use the sidewalk.

Slow traffic speeds: The likelihood of pedestrian injury or death increases dramatically with increasing motor vehicle speeds. Reducing traffic speeds significantly increases pedestrian safety.

Mixed land uses: Segregated land uses generally increase distances between different destinations, and make it difficult for residents to walk to employment, shopping, schools and recreational facilities from their homes. Mixed land use patterns make it easier to build housing, employment, shopping, schools, and recreational amenities within walking distance of each other.

3.3. General School Needs and Preferences

Safe Routes to School projects improve safety for youth during their journeys to and from school. Critical school needs include both infrastructure enhancements and programmatic improvements.

Pedestrian and Bicycle Facilities: Many pedestrian and bicycle needs also fulfill Safe Routes to School needs by providing safe and efficient travel options in neighborhoods adjacent to school sites.

Orderly passenger pick-up and drop-off: Passenger pick-up and drop-off areas are among the most chaotic and challenging environments for both motorists and pedestrians. Congestion near schools at school arrival and dismissal times causes delays and poses safety concerns to students.

Safety and encouragement curricula: Safe Routes to School programs depend on instruction in and outside of the classroom. Topics can include in-classroom geography and math exercises that incorporate walking to school and out-of-classroom events such as bike rodeos.

Targeted enforcement: The presence of crossing guards and police officers near school sites can help to cultivate a spirit of community between students and neighbors and ensure that pedestrians, bicyclists, and motorists behave with safety and courtesy towards other road users.

Involved Parents: Safe Routes to School programs envision a strong school community supported by parent involvement in education, encouragement, and enforcement programs.

3.4. Bicycle and Pedestrian Travel in San Joaquin County

An understanding of the characteristics of bicycling and walking in San Joaquin County will help guide the development of infrastructure and policy recommendations for this Plan.

3.4.1. Census Journey to Work

Commute trips to and from work in San Joaquin County contribute to traffic congestion. Increasing the percentage of commuters who walk, bike, or take transit to work may reduce peak hour congestion.

Census data provide local information on the number and percent of workers commuting to work by bicycle and on foot, and can be used to compare temporal trends and differences between jurisdictions. The most recent U.S. Census data available for San Joaquin County are from the American Community Survey 5-year estimates (2005-2009). **Table 3-1** reports the means of transportation in San Joaquin County.

Table 3-1: Means of Transportation to Work

Jurisdiction	Drive Alone	Carpool	Transit	Bicycle	Walk	Other
Escalon	85.3%	11.4%	0.9%	**0.5%**	**1.9%**	0.0%
Lathrop	81.0%	15.6%	1.1%	**0.0%**	**1.4%**	0.8%
Lodi	80.8%	13.1%	1.2%	**0.9%**	**2.3%**	1.7%
Manteca	78.5%	17.8%	1.7%	**0.4%**	**1.1%**	0.4%
Ripon	89.6%	8.0%	0.9%	**0.3%**	**1.2%**	0.0%
Stockton	77.6%	17.8%	1.3%	**0.7%**	**1.9%**	0.8%
Tracy	80.1%	15.9%	2.7%	**0.2%**	**0.9%**	0.3%
Unincorporated County	80.4%	14.2%	1.8%	**0.3%**	**2.6%**	0.7%
San Joaquin County Average	79.3%	16.0%	1.6%	**0.5%**	**1.8%**	0.7%

Source: American Community Survey 5-year estimates (2005-2009)

While driving alone is clearly the dominant form of transportation among commuters, significant numbers of people use transit, especially in cities closely connected to the Bay Area, like Tracy. Walking to work is popular in Lodi and in unincorporated San Joaquin County, and bicycle commuting rates are higher than the county average in Stockton and Lodi.

While Census data are generally the best available for jurisdictions, they do not account for commuters who travel to work on multiple modes of transportation, such as those who walk to transit stations. Further, they cannot account for commuters who may occasionally walk or bike to work. The following model addresses some of these limitations by estimating additional walking and biking trips generated by students, transit users, and those who work at home.

3.4.2. Estimated Commuter and Utilitarian Bicyclists

A key goal of this Plan is to maximize the number of bicyclists in order to realize multiple benefits, such as improved health, less traffic congestion, and maintenance of ambient air quality levels. In order to achieve this, a better understanding of the number of bicyclists is needed. The US Census collects only the primary mode of travel to work and it does not consider bicycle use when bicyclists ride to transit or school. Alta Planning + Design has developed a bicycle model that estimates usage based on available empirical data. This model meets Caltrans Bicycle Transportation Account requirements.

This model uses San Joaquin specific data from the US Census American Community Survey; National Safe Routes to School survey information; and Federal Highway Administration college commute survey information. The steps are outlined below.

Bicycle to work mode share:

- Add number of bicycle commuters, derived from the US Census American Community Survey.
- Work at home bicycle mode share:
- Add the number of those who work from home and likely bicycle, derived from assumption that five percent of those who work at home make at least one bicycle trip daily.

Bicycle to school mode share:

- Add the number of students biking to school, derived from multiplying the K-8 student population by the national bike to school average rate of two percent.
- Add the number of college students multiplied by the regional bicycle mode share.
- Number of those who bike to transit:
- Add the number of people who bicycle to transit (estimated to be 1 percent).

As shown on **Table 3-2** there are an estimated 6,339 daily bicycle commuters and utilitarian riders in San Joaquin. It is important to note that this is simply an order-of-magnitude estimate, based on available data and does not include recreational trips.

Table 3-2: Adjusted Bicycle Commuters

Data		Source and Assumptions
Commute Statistics		
Study Area Population	685,306	2005-2009 US Census American Survey
Employed Population	259,604	2005-2009 US Census American Community Survey
Bike-to-work mode share	0.5%	Mode share percentage of Bicycle to Work Commuters 2005-2009 US Census American Community Survey
Bike-to-work commuters	1,298	2005-2009 US Census American Community Survey
Work-at-home mode share	3.67%	2005-2009 US Census American Community Survey
Work-at-home bike commuters	953	Assumes 10% of population working at home makes at least one daily bicycle trip
Estimated number of people who use transit	4,011	2005-2009 US Census American Community Survey
Bike-to-transit mode share	1%	Estimated 1% of boardings
Transit bicycle commuters	40	Estimated 1% of boardings
School children, ages 5-14 (grades K-8)	110,975	2005-2009 US Census American Community Survey
School children bicycling mode share	2%	National Average 2%. National Safe Routes to School Survey (2003)
School children bike commuters	2220	School children population * children bike mode share
College students in study area	36,571	2005-2009 US Census American Community Survey
Estimated college bicycling mode share	5%	National Bicycling & Walking Study, FHWA, Case Study No. 1, 1995 [Review of bicycle commute share in seven university communities (5%)]
College bike commuters	1829	College population * college bike mode share
Total number of bike commuters	6,339	Total of bike-to-work, transit, school, college and utilitarian bicycle commuters (Does not include recreation)
Total daily bicycling trips	12,678	Total bicycle commuters x 2 (for round trips)
Estimated Adjusted Mode Share	0.92%	Estimated bicycle commuters divided by population

3.5. Benefits of Walking and Bicycling

The San Joaquin region has many specific characteristics that make bicycling and walking an important component of the regional transportation system. Bicycling and walking are low-cost forms of transportation available to anyone, key benefits for a region with many lower-income households.

Physical activity such as walking and bicycling are associated with a lower risk of many chronic health problems such as obesity and asthma. The San Joaquin region has higher incidences of these conditions than other regions and active transportation is a key strategy for improving public health.

Air quality is an important issue for the health of people and their environment in the San Joaquin region. Whenever residents of San Joaquin County choose to walk or bike instead of drive, emissions of carbon and air pollutants are reduced. In addition, the use of non-motorized transportation for all or part of a trip can help to reduce traffic congestion. **Table 3-3** below uses the above assessment of bicycling commuting to estimate the reductions in air pollution and carbon emissions from walking and bicycling in San Joaquin County.

Table 3-3: Air Quality Benefits

Data		Source and Assumptions
Vehicle Trips and Miles Reduction		
Reduced Vehicle Trips per Weekday	8,367	Assumes 73% of bicycle trips replace vehicle trips for adults/college students and 53% for school children
Reduced Vehicle Trips per Year	2,183,796	Reduced number of weekday vehicle trips multiplied by 261 (weekdays in a year)
Reduced Vehicle Miles per Weekday	70,350	Assumes average round trip travel length of 8 miles for adults/college students and 1 mile for schoolchildren
Reduced Vehicle Miles per Year	18,361,305	Reduced number of weekday vehicle miles multiplied by 261 (weekdays in a year)
Air Quality Benefits		
Reduced PM10 (pounds/weekday)	1294	Daily mileage reduction multiplied by 0.0184 pounds per reduced mile
Reduced NOX (pounds/weekday)	35,090	Daily mileage reduction multiplied by 0.04988 pounds per reduced mile
Reduced ROG (pounds/weekday)	5,107	Daily mileage reduction multiplied by 0.0726 pounds per reduced mile
Reduced C02 (pounds/weekday)	59,797	Daily mileage reduction multiplied by 0.85 pounds per reduced mile
Reduced PM10 (tons/year)	169	Yearly mileage reduction multiplied by 0.0184 pounds per reduced mile
Reduced NOX (tons/year)	4,579	Yearly mileage reduction multiplied by 0.04988 pounds per reduced mile
Reduced ROG (tons/year)	667	Yearly mileage reduction multiplied by 0.0726 pounds per reduced mile
Reduced C02 (tons/year)	7,804	Yearly mileage reduction multiplied by 0.85 pounds per reduced mile

The priority projects identified in this plan would likely encourage additional bicycle commuters. Dill and Carr (2003) found that each additional mile of bike lanes in a city per square mile could be expected in increase the percentage of workers bicycling by one percent.[14] The seven cities in the region encompass 149 square miles and have proposed 55.7 miles of protected facilities, counting Class I multi-use paths and Class II bicycle lanes. The estimated mode share for commuters, college students, and children biking to school is increased to 1.3 percent, or approximately 8,900 commuters.

[14] http://nexus.umn.edu/Courses/pa8202/Dill.pdf

3.6. Collision Analysis

This section reviews collision data from the Statewide Integrated Traffic Report System (SWITRS) for the years 2004-2009 to identify where collisions frequently occur and where roadway design improvements are needed in San Joaquin County. This analysis of traffic violations will inform the Plan's recommendations.

In general, the number of reported bicycle collisions per year in San Joaquin County shows a slight downward trend, averaging 261 collisions per year. The number of pedestrian collisions per year has remained fairly steady at around 254, with a marked decrease for 2009. **Table 3-4** presents the number of bicycle collisions in San Joaquin County from 2004 to 2009 and **Table 3-5** presents the number of pedestrian collisions.

Table 3-4: Bicycle Related Collisions in San Joaquin County, 2004-2009

Year	Bicycle Collisions	Bicyclists Injured	Bicyclists Killed
2004	284	228	7
2005	255	215	1
2006	258	219	2
2007	259	226	4
2008	274	234	0
2009	236	179	2
Total	**1,566**	**1,301**	**16**

Table 3-5: Pedestrian Related Collisions in San Joaquin County, 2004-2009

Year	Pedestrian Collisions	Pedestrians Injured	Pedestrians Killed
2004	247	240	17
2005	292	258	22
2006	271	261	13
2007	257	541	15
2008	246	222	20
2009	213	206	9
Total	**1,526**	**1,428**	**96**

The data show that although there are similar numbers of bicycle and pedestrian collisions, pedestrian collisions tend to be much more severe, resulting in 96 fatalities over six years compared with 16 for bicycle collisions.

Figure 3-2 and **Figure 3-3** map all bicycle and pedestrian collisions. Bicycle collisions are somewhat more concentrated in cities than pedestrian collisions.

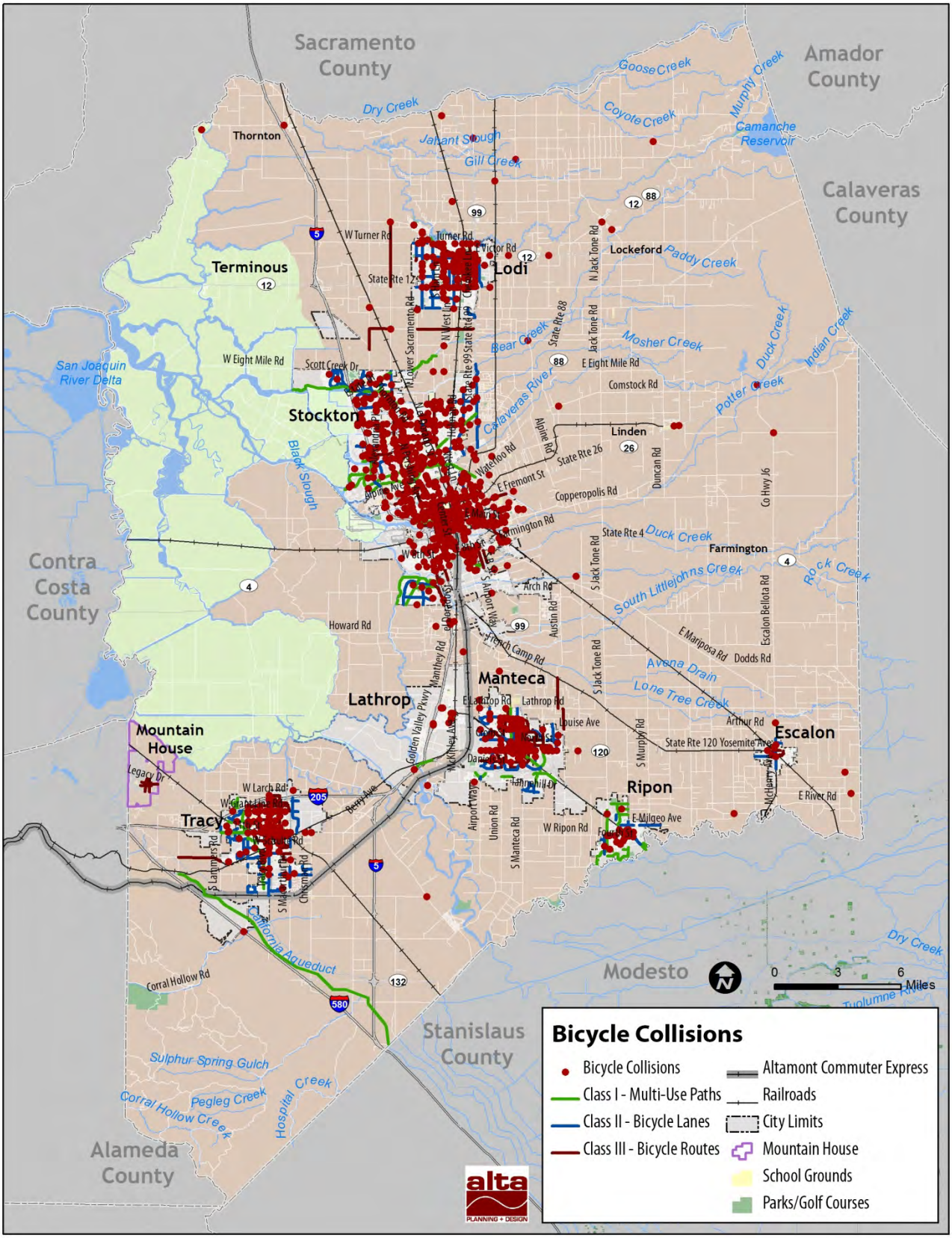


Figure 3-2: Bicycle Related Collisions, San Joaquin County (2004-2009)

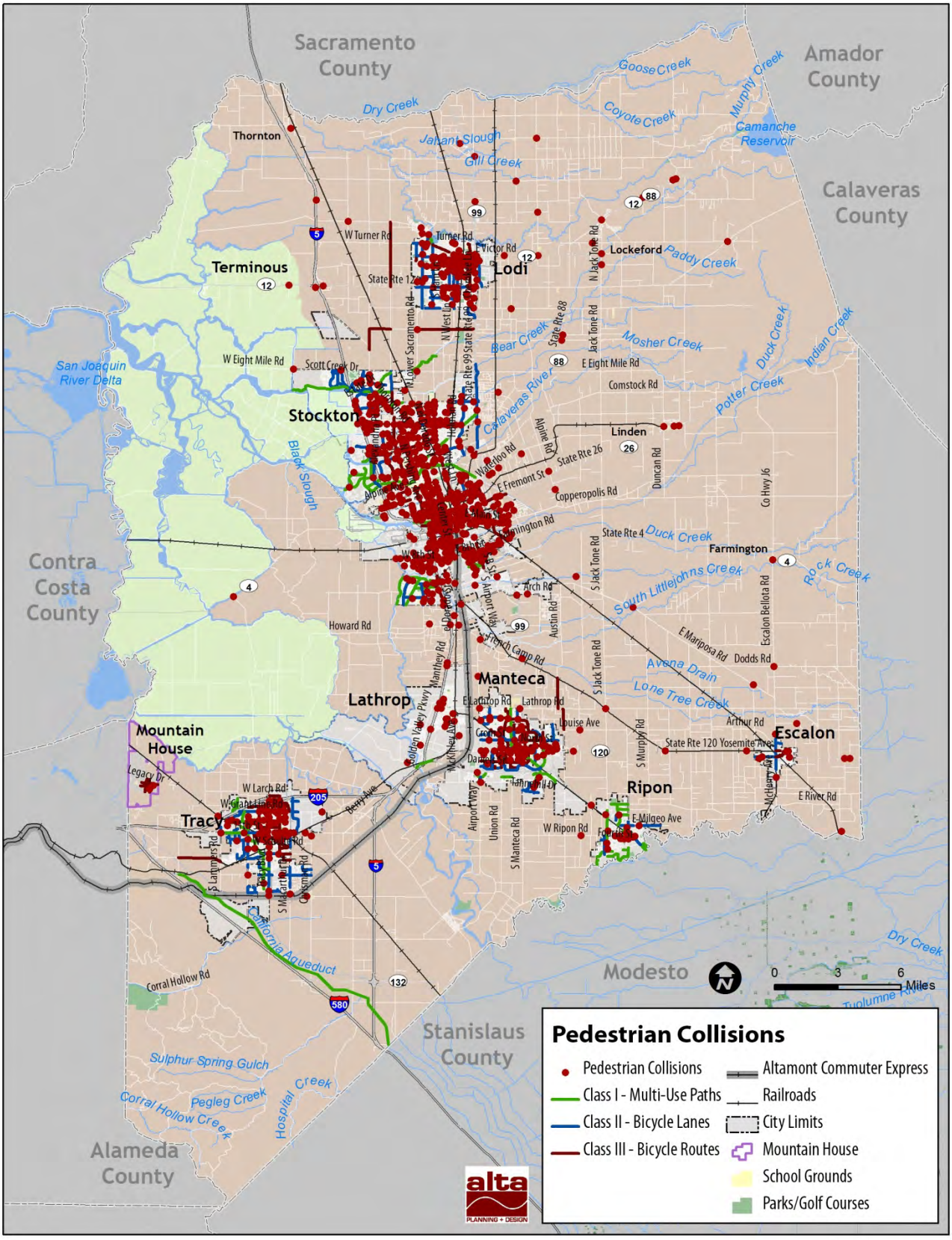


Figure 3-3: Pedestrian Related Collisions, San Joaquin County (2004-2009)

Table 3-6 compares the number of bicycle and pedestrian collisions in each jurisdiction with its population. While a rate based on pedestrian and bicycle count data would be more meaningful, the population of each jurisdiction is a reasonable proxy for determining the relative incidence of crashes. While people may simply be more likely to walk and bike in denser communities like Stockton, such a phenomenon cannot explain the disproportionate rates of collisions in Lodi and Ripon.

Table 3-6: Bicycle and Pedestrian Collisions by Jurisdiction

Jurisdiction	Bicycle Collisions	Pedestrian Collisions	Population	Collisions per 1,000 pop.
Escalon	4	6	7,132	1.40
Lathrop	10	18	18,023	1.55
Lodi	166	143	62,134	4.97
Manteca	135	91	67,096	3.37
Ripon	27	20	14,297	3.29
Stockton	899	904	291,707	6.18
Tracy	161	106	82,922	3.22
Unincorporated County	164	238	141,995	2.83

Table 3-7 and Table 3-8 list the intersections in San Joaquin County where bicycle and pedestrian collisions where most frequently reported. All are located with the City of Stockton, indicating a need to improve Stockton's urban bicycling and walking environments. There is very little overlap between the two lists, suggesting that strategies appropriate to address bicycling safety may not necessarily apply to walking.

Table 3-7: Intersections with the Most Bicycle Related Collisions

City	Intersection	Collisions
Stockton	Hammer Lane and Lower Sacramento Road	13
Stockton	March Lane and Pacific Avenue	10
Stockton	11th Street and Lincoln Boulevard	9
Stockton	Brookside Avenue and Pershing Avenue	9
Stockton	Hammer Lane and West Lane	6
Stockton	Knickerbocker Drive and West Lane	6

Table 3-8: Intersections with the Most Pedestrian Related Collisions

City	Intersection	Collisions
Stockton	Pacific Avenue and Yokuts Avenue	10
Stockton	Charter Way and San Joaquin Street	9
Stockton	Benjamin Holt Drive and Pacific Avenue	8
Stockton	California Street and Miner Road	8
Stockton	El Dorado Street and Washington Street	8
Stockton	Airport Way and Main Street	7
Stockton	Knickerbocker Drive and West Lane	7

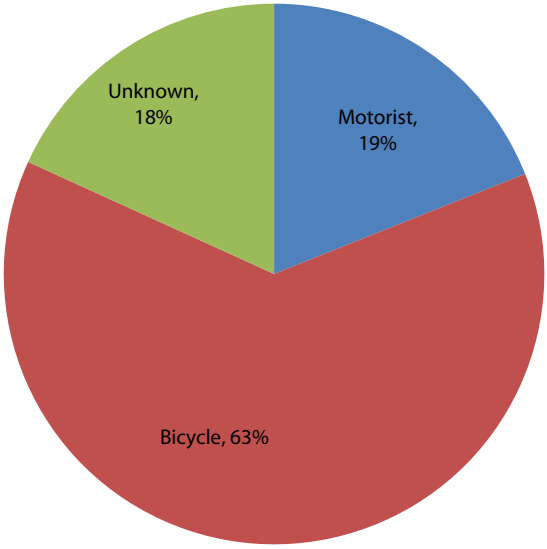


Figure 3-4: Bicycle-Related Collisions, Party at Fault

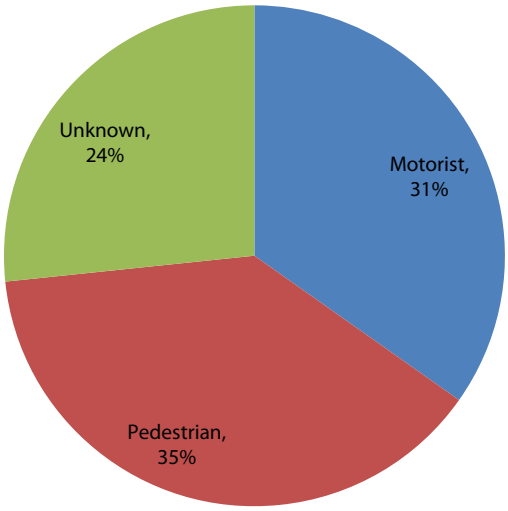


Figure 3-5: Pedestrian-Related Collisions, Party at Fault

Figure 3-4 and **Figure 3-5** show the parties deemed to be responsible for collisions in San Joaquin County. In 63 percent of bicycle collisions, the bicyclist was reported to be at fault. In pedestrian collisions, pedestrians and motorists were deemed responsible at similar rates.

Table 3-9 shows the vehicle code violations most commonly associated with pedestrian- and bicycle-related collisions. The most common violation in pedestrian collisions was an unspecified "pedestrian violation," accounting for 36 percent of collisions. Violation of pedestrian right-of-way usually implies a crosswalk violation and was considered the primary factor in approximately 26 percent of collisions. The frequency of crosswalk violations may suggest a need for higher-visibility crosswalks or traffic calming treatments. Bicycle collisions were most often attributed to wrong-way riding. This suggests a need for additional education and outreach to bicyclists of all types. Alternatively, bicyclists may benefit from additional infrastructure to reach their destinations without wrong-way riding.

Table 3-9: Citations in Pedestrian and Bicycle-Related Collisions

Violation	Percentage of Collisions
Bicycle Collisions	
Wrong Side of Road	38.9%
Automobile Right of Way	15.4%
Traffic Signals and Signs	10.2%
Improper Turning	7.9%
Pedestrian Collisions	
Pedestrian Violation	35.9%
Pedestrian Right of Way	25.7%
Unsafe Speed	7.8%
Improper Turning	3.0%

3.6.1. School Area Collision Analysis

Areas within a quarter mile of schools include approximately 75 percent of bicycle collisions and 73 percent of pedestrian collisions, while accounting for only approximately 61 percent of the County's population. This section analyzes collisions occurring in these areas that involved children aged 18 years and younger.

Table 3-10 and **Table 3-11** present the number of bicycle and pedestrian related collisions involving children within a quarter mile of schools. The data indicates a need for school area improvements.

Table 3-10: Bicycle Related Collisions Involving Children Near Schools

Year	Bicycle Collisions	Bicyclists Injured	Bicyclists Killed
2004	101	83	2
2005	75	69	0
2006	88	82	0
2007	66	59	0
2008	65	60	0
2009	57	50	0
Total	**452**	**403**	**2**

Table 3-11: Pedestrian Related Collisions Involving Children Near Schools

Year	Pedestrian Collisions	Pedestrians Injured	Pedestrians Killed
2004	72	78	2
2005	97	93	2
2006	80	79	2
2007	76	75	0
2008	72	70	1
2009	63	60	1
Total	**460**	**455**	**8**

Similarly to collision reports elsewhere in the County, bicyclists near schools were deemed to be at fault in most bicycle-related collisions. Pedestrians were deemed to be at fault in 45 percent of pedestrian-related collisions, a higher percentage than in the County as a whole. That highlights a need for educational programs. Table 3-12 lists the violations most commonly associated with bicycle and pedestrian-related collisions near schools. Wrong-way riding continues to be the most common violation leading to collisions. Many of these bicyclists are students and focused educational campaigns could help to instill lifelong safer bicycling behaviors.

Table 3-12: Violations Associated With Collisions Near Schools

Violation	Percentage of Collisions
Bicycle Collisions	
Wrong Side of Road	42.7%
Automobile ROW	15.9%
Traffic Signals and Signs	8.2%
Improper Turning	5.8%
Pedestrian Collisions	
Pedestrian Violation	46.5%
Pedestrian ROW	22.0%
Unsafe Speed	5.2%

4. Project Formation

This chapter describes the considerations made to form and evaluate projects for inclusion in this Plan. It also includes a description of cost estimates.

4.1. Project Formation Guidelines

Development of a regional BP-SRtS Plan requires identification and agreement on capital project priorities to support both bicycling, walking and Safe Routes to School projects. Because one of this Plan's primary objectives is to identify projects for near-term Measure K funding, project formation was developed with consideration for projects that local jurisdictions have the ability to implement in the near future.

Capital projects considered for this plan were submitted by local jurisdictions. These submitted projects are considered high priority for a number of reasons including the ability for local jurisdictions to implement the project in the near-term. In order for SCJOG to evaluate the submitted projects for consideration of Measure K funding a method to evaluate the projects was developed.

The first factor considered is whether or not proposed projects are within Community Activity Centers, areas within the county where residents are more likely to walk and bike and that are considered by SJCOG to be regionally significant. The development of the Community Activity Centers is described in **Section 4.1.1**.

The projects were then evaluated on ten criteria developed by SJCOG to determine which projects best meet the goals and objectives of this Plan and Measure K. The evaluation criteria for bicycle projects are described in **Section 4.1.2** Bicycle Formation Guidelines and **Section 4.1.3** Pedestrian Project Formation Guidelines.

4.1.1. Project formation Community Activity Centers

As a regional plan, this BP-SRtS Plan intends to emphasize improvements at key community activity centers, or areas where people are most likely to bicycle and walk. Community Activity Centers (CAC's) can include:

- Major transit and transportation hubs
- Downtowns
- Employment centers
- County and regional recreational facilities, including parks, and trails
- Public facilities, including government buildings, hospitals
- Colleges and universities

Other regional planning documents referenced that provide insight and guidance to define CAC characteristics which lead to greater use of bicycling and walking include:

- The San Joaquin Blueprint sets the preferred urban residential growth minimum at 7.7 dwelling units per acre in San Joaquin County.
- The Measure K Smart Growth Incentive Plan calls for projects located in areas with residential densities of at least 10 dwelling units per acre and mixed use densities of at least 15 units, 50 percent of which residential, per acre.
- The SJCOG Travel Demand Management Plan recommends areas with employment densities of at least 1,500 persons per square mile.

- The SJCOG Regional Transit Systems Plan identifies 31 Transit Oriented Development locations.
- The California High Speed Rail Design Guidelines define the pedestrian influence area around a transit station at one quarter mile and up to one half mile.

This Plan uses CAC's to evaluate project recommendations. **Table 4-1** outlines the criteria used to establish the CAC's.

Table 4-1: Community Activity Center Criteria

Criterion	Measurement
Proximity to Employment Centers	Within a half mile of areas with 1,500 employees per square mile.
Proximity to Transit	Within a half mile of transit stops and within one mile of regional (existing and future) transit stations; e.g. Amtrak or High-Speed Rail.
Proximity to Schools	Within a half mile of a school. A half mile is generally considered the extent most people are willing to walk to reach a destination.
Proximity to Compact Commercial Areas	Within a half mile of areas designated as "Mixed Use" or "Retail" with the exception of "Regional Retail" which describes large shopping centers.
Residential Density	Areas with at least 7.7 dwelling units per acre

These criteria reflect characteristics of the County's land use and transportation patterns that tend to encourage non-motorized transportation trips. Proximity to transit is important because transit greatly increases the range available for pedestrian and bicycle trips. The distances to transit stops and regional transit stations were chosen based on the Regional Transit Systems Plan and California High-Speed Rail Urban Design Guidelines. Children are also more likely to bicycle and walk than adults. Origins and destinations within dense or mixed-use areas are often closer together, and distance is an important factor that governs travel choices.

Data for employment centers, schools, compact commercial areas, and residential density were furnished by the San Joaquin Council of Governments. A standard of 7.7 dwelling units per acre was determined from the regional Blueprint. According to the U.S. Census, the average household size in San Joaquin County is 3.1 and the occupancy rate for dwelling units is 92 percent. Therefore, areas with at least 22 residents per acre meet this criterion.

The result of the analysis determined which areas in the county meet none, some, or all of these criteria. The overwhelming majority of the County's population lives in areas meeting at least one criterion. Any area meeting all five of these criteria is defined as a *Level One Community Activity Center* and presented in pink in **Figure 4-1**. These mixed-use areas demonstrate high levels of both employment and population and include land uses that are amenable to non-motorized travel. A half mile radius around each of the downtown districts in the incorporated cities per the Smart Growth Opportunity planning effort is recognized as Level One Community Activity Centers.

Level Two and Three Community Activity Centers are areas throughout the region that meet either four or three of the five criteria, respectively. These areas are identified in orange and yellow in **Figure 4-1**.

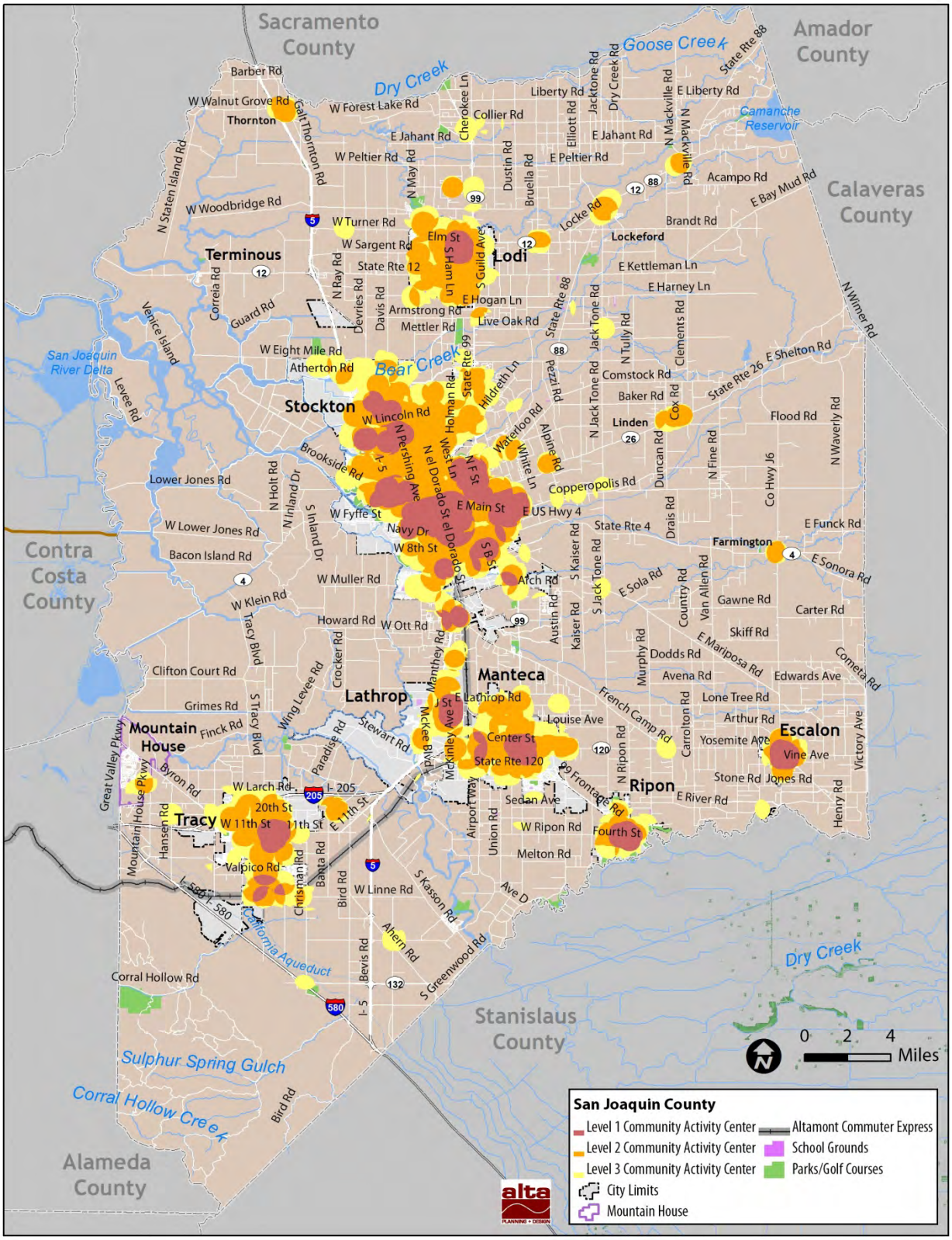


Figure 4-1: Community Activity Centers

The CAC areas one of ten criteria used to evaluate submitted projects as part of the project formation guidelines. The following sections present bicycle and pedestrian project formation guidelines. The project formation guidelines are an evaluation strategy to identify achievable, priority projects for funding and implementation. In order to do so, criteria were developed to measure how strongly a project meets this Plan's goals.

4.1.2. Bicycle Project Formation Guidelines

The priority regional bikeway network projects included in this Plan include bikeways that meet the criteria defined in Table 4-2. The criteria were developed with input from local jurisdictions. Each priority project was evaluated on each of the ten criteria and scored. The maximum potential score for each project is the sum of the maximum potential score of all project criteria, and is 110.

Table 4-2: Bikeway Project Formation Criteria

Criteria	Definition and Scoring	Max. Points
Gap Closure	Project connects or extends existing bikeways and provides for a consistent, continuous through route for bicyclists. Project meeting this criterion = **10** points.	**10**
Collision & Safety	Project rectifies safety concerns based on available data within the last 5-years identifying corridors with high incidents of bicycle related collisions within a 1/8 mile buffer of the proposed improvement. 0-2 Incidents = **05** points 3-4 Incidents = **10** points 5-6 Incidents = **15** points 7 + Incidents = **20** points Project can receive up to **10** points based on alternative information.	**20**
Project Readiness	Sponsoring agency has completed one or more of the following preconstruction phases (**3** points for each phase completed): 1. Feasibility Study / Project Study Report 2. Environmental Clearance 3. Right-of-Way Acquisition 4. Plan, Specification, & Estimates 5. Other pre-construction requirements	**15**
Activity Center Connectivity	Project provides/improves connectivity across a combination of the following key CACs*: • Employment centers • Transit Hubs / Stations • Schools • Compact commercial areas • Residential concentrations or downtown / community cores Project falls within an area meeting 3 of 5 CACs = **05** points. Project falls within an area meeting 4 of 5 CACs = **10** points. Project falls within an area meeting 5 of 5 CACs or is within the ½ area around the downtown/ community core consistent with the MK Smart Smart Growth Infill Opportunity Sites = **15** points	**15**

Criteria	Definition and Scoring	Max. Points
Safe Routes to School Project Proximity	Project clearly provides/improves a direct route and is located, at minimum, within ¾ mile of a public school. Project receives **5** points for meeting this criterion.	**5**
Safe Routes to School Project Support	Project has document support for project based on a specific school site SRtS needs assessment. Project is based on school site assessment = **10** points Alternative support information retained from community based resources (e.g., School administrators, local police) has been obtained. Project can receive up to **5** points based on alternative information.	**10**
Community Support	Based on outcomes of community outreach efforts, consensus has been reached which endorses/supports the project by the community. Level of support is based on documented outreach efforts = **10** points. Alternative support information has been retained from community based resources (e.g., School administrators, local police) reinforcing support for project. Level of support is based on alternative information obtained = **5** points.	**10**
Relationship with CMP Transportation Network	Project parallels (within ¼ mile) and/or intersects with one or more roadways on the Congestion Management Program's transportation network. Project meets this criterion = **5** points	**5**
Matching Funds Potential	Level to which matching funds has been secured (e.g., other local such as BP~SRtS non-competitive, MK Local Street Repair, State TDA, Federal Transportation Enhancement) Matching funds up to 10% of the project cost are identified = **10** points. Matching funds up to 5% of the project cost are identified = **5** points Matching fund sources are identified = **3** points.	**10**
	SUB TOTAL MAXIMUM POINTS	**100**
BONUS POINTS		
Innovation & Design	Project involves innovation & design measures (e.g. dedicated bicycle signal heads, creative ways to separate bike from automobile traffic, queue jumpers, bike box, colored lanes, Bike Boulevard, bike station). Projects possessing innovation & design measures = **10** points.	**10**
	TOTAL MAXIMUM POINTS	**110**

4.1.3. Pedestrian Project Formation Guidelines

The priority pedestrian projects included in this Plan meet the criteria defined in Table 4-3. The criteria were developed with input from local jurisdictions. Each project was evaluated on each of the ten criteria and scored. The maximum potential score for each project is the sum of the maximum potential score of all project criteria, and is 110.

Table 4-3: Pedestrian Project Formation Criteria

Criteria	Definition and Scoring	Max. Points
Bridges Critical Pedestrian Gap	Project connects or extends existing network and provides for a consistent, continuous through route for pedestrians. Project meeting this criterion = **10** points.	10
Pedestrian Incidents & Safety	Project rectifies safety concerns based on available data within the last 5-years identifying number of pedestrian related incidents within a 1/8 mile buffer of the proposed improvement. • 0-2 Incidents = **05** points • 3-4 Incidents = **10** points • 5-6 Incidents = **15** points • 7 + Incidents = **20** points Project can receive up to **10** points based on alternative information.	20
Project Readiness	Sponsoring agency has completed one or more of the following preconstruction phases (**3** points for each phase completed): 1. Feasibility Study / Project Study Report 2. Environmental Clearance 3. Right-of-Way Acquisition 4. Plan, Specification, & Estimates 5. Other preconstruction requirements	15
Activity Center Connectivity	Project provides/improves connectivity across a combination of the following key CACs: • Employment centers • Transit Hubs / Stations • Schools • Compact commercial areas • Residential concentrations or Downtown / community cores Project falls within an area meeting 3 of 5 CACs = **05** points. Project falls within an area meeting 4 of 5 CACs = **10** points. Project falls within an area meeting 5 of 5 CACs or is within the ½ area around the downtown/ community core consistent with the MK Smart Smart Growth Infill Opportunity Sites = **15** points	15
Safe Routes to School Project Proximity	Project clearly provides/improves a direct route and is located, at minimum, within ½ mile of a public school. Project receives **5** points for meeting this criterion.	5
Safe Routes to School Project Support	Project has documented level of community support for project based on a specific school site SRtS needs assessment. Project is based on school site assessment = **10** points Alternative support information retained from community based resources (e.g., School administrators, local police) has been obtained. Project can receive up to **5** points based on alternative information.	10

Criteria	Definition and Scoring	Max. Points
Community Support	Based on outcomes of community outreach efforts, consensus has been reached which endorses/supports the project by the community. Level of support is based on documented outreach efforts = **5** points. Alternative support information has been retained from community based resources (e.g., School administrators, local police) reinforcing support for project. Level of support is based on alternative information obtained = **3** points.	5
Accommodates Vulnerable Pedestrians	Project location and/or features accommodate "vulnerable" pedestrians (e.g., physically impaired persons, seniors, and youth) who require accessible facilities for walking and using mobility assistive devices. Projects meeting this criterion receive **5** points.	5
Relationship with CMP Transportation Network	Project parallels (within ¼ mile) and/or intersects with one or more roadways on the Congestion Management Program's transportation network. Project meeting this criterion = **5** points Congestion Management Program's transportation network	5
Matching Funds Potential	Level to which matching funds has been secured (e.g., other local such as BP~SRtS non-competitive, MK Local Street Repair, State TDA, Federal Transportation Enhancement) Matching funds up to 10% of the project cost are identified = **10** points. Matching funds up to 5% of the project cost are identified = **5** points Matching fund sources are identified = **3** points.	10
	SUB TOTAL MAXIMUM POINTS	**100**
Bonus Points		
Innovation & Design	Project involves innovation & design measures (e.g. use of Intelligent Transportation System strategies, enhanced pedestrian crossings, rapid rectangular flashing beacons, traffic calming strategies). Projects possessing innovation & design measures = **10** points.	10
	TOTAL MAXIMUM POINTS	**110**

4.2. Cost Estimates

While some jurisdictions submitted priority projects with specific cost estimates, others did not, and the following section describes the methodology for estimating those costs. This section may also be used to distinguish the pedestrian and bicycle components where bundled with major roadway widening projects.

Table 4-4 presents per mile bikeway cost estimates based on standard quantities of construction items. Because this is a planning level document, estimated costs do not consider project-specific factors such as intensive grading, landscaping, intersection modifications and right-of-way acquisition.

Table 4-4: Bikeway Cost Assumptions per Mile

Item	Quantity	Units	Unit Cost	Total
Class 3 Bike Route with Shared Lane Markings				
Bike Route Sign/Wayfinding	10	EA	$ 300	$ 3,000
Shared Lane Markings[2]	20	EA	$ 250	$ 5,000
Total Cost Per Mile				**$ 8,000**
Class 2 Bike Lanes				
Bike Lane Sign/Wayfinding	10	EA	$ 300	$ 3,000
Striping Removal	10,560	LF	$ 1.25	$ 13,200
Striping and Stenciling	10,560	LF	$ 2.50	$ 26,400
Total Cost Per Mile				**$ 42,600**
Class 1 Shared Use Path - 10' paved, 2' shoulders				
Wayfinding	4	EA	$ 300	$ 1,200
Clear and Grub	73,920	SF	$ 1.00	$ 73,920
Asphalt Concrete Pavement	52,800	SF	$ 8.00	$ 422,400
Decomposed Granite Shoulders	21,120	SF	$ 5.00	$ 105,600
Striping[3]	15,840	LF	$ 2.50	$ 39,600
Total Cost Per Mile				**$ 642,720**

[1] Assumes five signs per mile in each direction.

[2] Assumes approximately one shared lane marking per 500 feet in each direction.

[3] Includes center stripe and striping along path edges.

5. Projects

This chapter presents recommended bicycle and pedestrian projects, many of which are also Safe Routes to Schools projects. The projects were identified by:

- Projects proposed in adopted County and city bicycle plans
- Projects identified in County and city General Plans
- Projects submitted by local jurisdictions as part of this Plan's inquiry to identify near-term projects.

Because one of this Plan's primary objectives is to identify projects for near-term Measure K funding, project formation was developed with consideration for projects that local jurisdictions have the ability to implement in the near future. As part of the development of this plan, a call for projects was sent to each local jurisdiction. These submitted projects are considered high priority for a number of reasons, including project support, ease of implementation, and project readiness.

In order for SCJOG to evaluate the submitted projects for consideration of Measure K funding a method to evaluate the priority projects was developed. These projects are identified as a priority and were scored using the project formation criteria described in **Chapter 4**.

Many of the priority bicycle and pedestrian projects are also candidates for partnerships between the school district and the local jurisdiction. These projects can be strong applicants for Safe Routes to School funding. Criteria for Safe Routes to School candidate projects include proximity and connectivity to a school site and facility types most likely to encourage children to walk and bike to school. These candidate projects are also described in the following sections.

There are many opportunities for bicycle and pedestrian projects however, not all are ready for near-term implementation. This is due to many factors including available right-of-way, insufficient project readiness, or other factors. These projects, vision projects, are also presented for each jurisdiction.

Cost estimates for each project were either provided by the local jurisdiction or developed using the planning level cost estimates outlined in **Chapter 4**.

This chapter presents projects organized by jurisdiction, as outlined below.

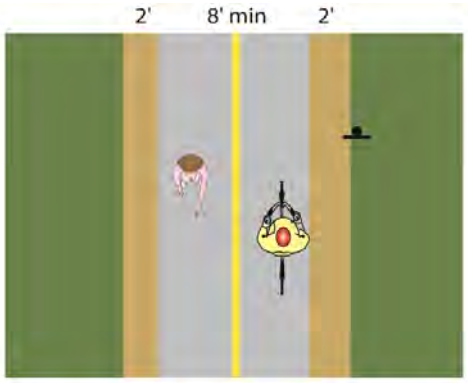
Chapter Organization

This Plan recommends three bikeway types as classified by Caltrans, as described below and presented to the right.

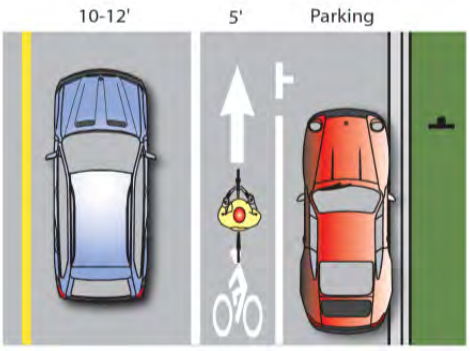
Class 1 multi-use paths provide for bicycle and pedestrian travel on a paved right-or-way completely separated from roadways. These facilities are typically used by recreational and casual bicyclists. Commuting bicyclists will also use Class I facilities that provide access to work or school.

Class 2 bicycle lanes provide a signed, striped and stenciled lane for one-way travel on both sides of a roadway. These facilities are typically used by commuting bicyclists and bicycle enthusiasts. Casual bicyclists will also use Class II facilities if traffic speeds and volumes are relatively low. Class II bicycle lanes are often recommended on roadways with moderate traffic volumes and speeds where separation from motorists can increase the comfort of bicyclists.

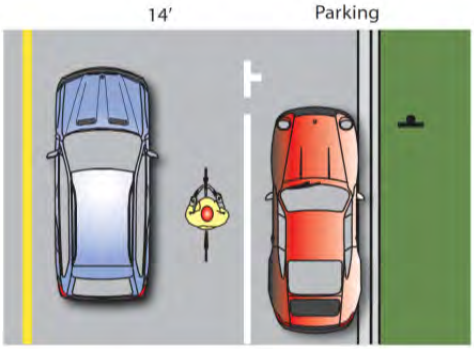
Class 3 bicycle routes provide for shared roadway use and are generally identified only by signs. These facilities may have a wide travel lane or shoulder that allow for parallel travel with motorists.



Class I bikeways are separated from the roadway.



Class II bike lanes provide a striped travel lane on roadways for bicyclists.



Class III bicycle routes are signed roadways indicating a preferred bicycle route.

Table 5-1 presents a summary of the priority bikeway projects identified in this chapter. The projects include nearly 77 miles of bikeways, connecting residents to community destinations as well as providing recreational opportunities. The estimated cost to implement the priority bikeway projects is approximately $22.3 million.

Table 5-1: Summary of Priority Bikeway Projects Countywide

Bikeway Class	Sum of Miles	Sum of Estimated Project Cost
1	18.13	$17,242,300
2	37.59	$3,942,900
3	21.10	$762,900
Citywide		$350,000
Totals	**76.82**	**$22,298,100**

5.1. Bicycle Parking and End-of-Trip Facilities

Bicycle parking is an important and necessary complement to any bicycle network. Without adequate bicycle parking, people may not feel encouraged to bicycle to a destination. In addition, installing the appropriate type of bicycle parking facility is also important. In general, bicycle racks are appropriate for parking durations less than two hours and bicycle lockers are appropriate for longer durations.

End-of-trip facilities also complement the bicycle network and encourage people to bicycle. Showers and changing facilities accommodate bicyclists who need to freshen up after their trip. The Association of Pedestrian and Bicycle Professional's Bicycle Parking Guide is a great resource to help determine the appropriate type of bicycle parking facility, number of parking spaces and how and where to install parking facilities.

Selecting the appropriate type of bicycle parking and identifying end-of-trip facility locations are best completed at the local level. This Plan recommends local jurisdictions and transit agencies identify locations where bicycle parking and end-of-trip facilities are needed, especially at civic buildings, parks, schools and retail outlets.

5.2. City of Escalon

5.2.1. Priority Projects

Table 5-2 and **Figure 5-1** present the priority bikeway projects for the City of Escalon. The projects will add four Class 2 bike lanes totaling nearly two miles.

Table 5-2: Escalon Priority Bikeway Projects

Location	Class	Start	End	Miles	Estimated Project Cost	Project Score
Brennan Rd	2	1st Street	Ullrey Avenue	0.46	$ 19,800	20
Stanislaus St	2	Yosemite Ave	Miller Ave	0.38	$ 16,000	45
Ullrey Avenue	2	Brennan Rd	Main St	1.00	$ 42,600	40
Yosemite Ave	2	Stanislaus Street	Dent Street	0.14	$ 6,000	30
			Totals	**1.98**	**$ 84,400**	

The City of Escalon did not submit any pedestrian or Safe Routes to School projects.

5.2.2. Vision Projects

The Vision Network Projects were developed with guidance from the community's adopted planning documents, including the Escalon Bike Plan (1994) and the General Plan Circulation Element (2005). These projects, listed in **Table 5-3**, include 4 miles of Class 1 paths, 4 miles of Class 2 bike lanes, and 7 miles of Class 3 bike routes. These facilities are shown in **Figure 5-1**.

Table 5-3: Escalon Vision Bikeway Projects

Location	Class	Start	End	Miles	Estimated Project Cost
Arthur Rd	2	Escalon Ballota Rd	Brennan Rd	0.28	$11,800
California St	3	2nd St	Justin St	0.39	$3,200
Campbell Ave	2	Yosemite Ave	Jackson Ave	0.31	$13,200
Cardinal Dr	3	Brennan Rd	Ullrey Ave	1.62	$13,000
Coley Ave	3	1st St	David Dr	0.53	$ 4,300
David Dr - Justin Dr	3	Coley Ave	Yosemite Ave	0.18	$1,500
Irwin Ave	3	Yosemite Ave	Ullrey Ave	0.83	$6,700
Jackson Ave	2	4th St	Campbell Ave - E City Limits	0.58	$24,800
Jill St	3	Vine Ave	Coley Ave	0.15	$1,300
Justin Dr	2	Yosemite Ave	Mission St	0.13	$5,600
Main St	1	1st St	5th St	0.38	$241,100
Main St	2	5th St	S City Limits	0.38	$16,400
Main St	2	Yosemite Ave	Viking St	0.27	$11,400
McHenry Ave	1	Jones Rd - S City Limits	California St	1.63	$1,047,000

Location	Class	Start	End	Miles	Estimated Project Cost
McHenry-Escalon-Escalon Ballota Rd	2	Jones Rd - S City Limits	N City Limits	0.87	$37,200
Multi-Use Path N of La Mesa St	1	Escalon Ave	W City Limits	0.26	$163,900
Multi-Use Trail N of Mission St	1	Stanislaus St	Justin Dr	0.55	$352,200
Oklahoma Ave	3	Yosemite Ave	Ullrey Ave	0.76	$6,100
Sanchez Way	3	1st St	Ullrey Ave	0.48	$3,900
Swanson Dr	3	1st St	Clough Rd	1.22	$9,800
Unnamed Street	2	Vine Ave	Jackson Ave	0.33	$14,200
Yosemite Ave	1	Brennan Rd	1st St	1.26	$806,700
Yosemite Ave	2	Brennan Rd	Escalon Rd	0.93	$39,600
Yosemite Ave	2	Justin Dr	Campbell Ave - E City Limits	0.24	$10,000
Yosemite Ave	3	Dent Street	Justin Dr	0.40	$3,200
			Totals	**14.93**	**$2,848,100**

Table 5-4 presents the priority and vision project summary miles and cost estimates. Implementation of the projects would add nearly 17 miles to the bikeway network at an estimated cost of nearly $3 million dollars.

Table 5-4: Escalon Project Summary Miles and Costs

Class	Sum of Miles	Sum of Cost Estimate
1	4.06	$2,610,900
2	6.30	$268,600
3	6.55	$53,000
Totals	**16.91**	**$ 2,932,500**

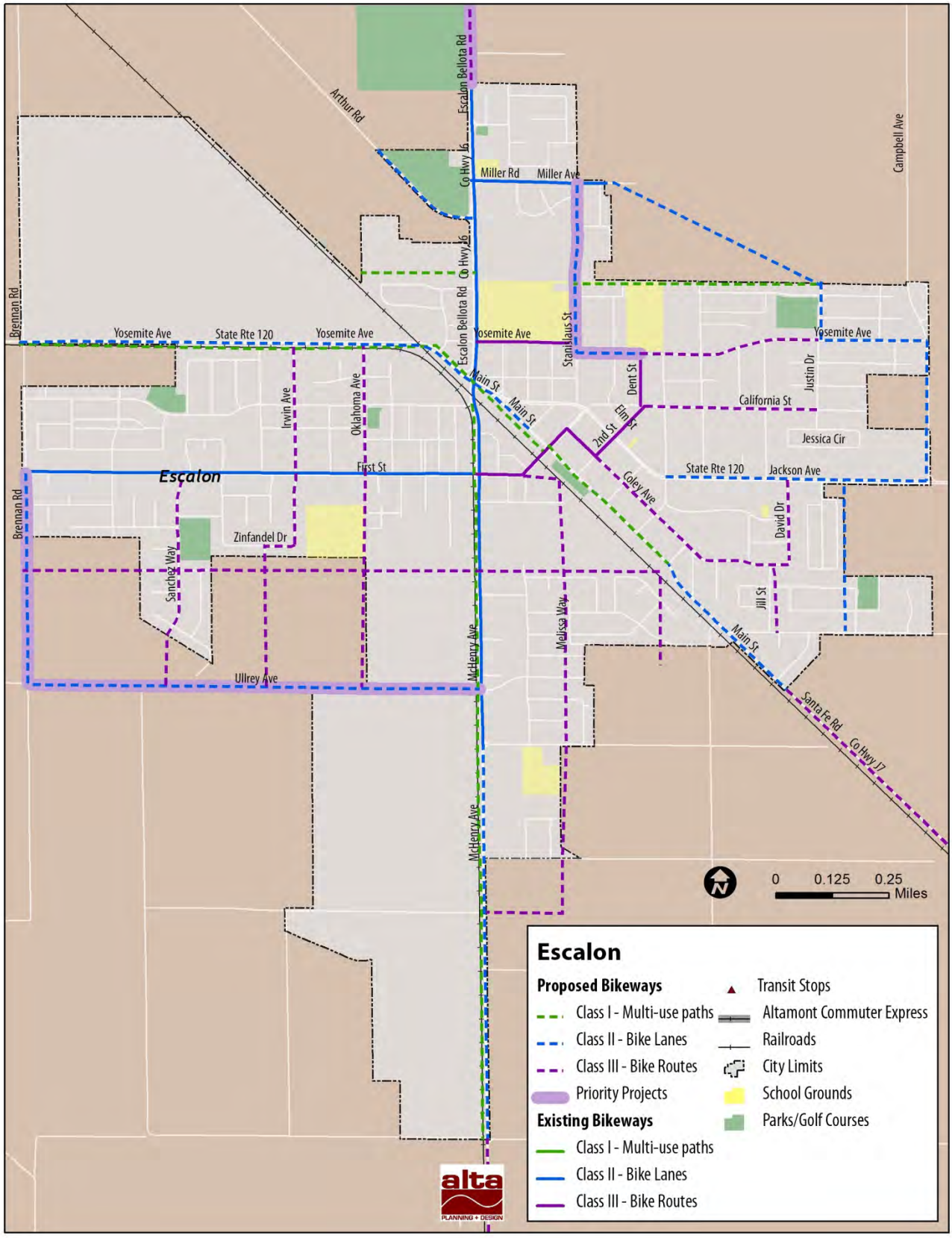


Figure 5-1: Escalon Proposed Bikeways

5.3. City of Lathrop

5.3.1. Priority Projects

Table 5-5 and **Figure 5-2** presents the priority bikeway projects for the City of Lathrop. The projects will add seven Class 2 bike lanes totaling nearly 19 miles.

Table 5-5: Lathrop Priority Bikeway Projects

Location	Class	Start	End	Miles	Estimated Project Cost	Total Score
Golden Valley Parkway	2	Paradise Cut	Roth Rd	6.82	$290,400	48
Guthmiller Road	2	End of Street	Yosemite Avenue	0.57	$24,400	28
Harlan Rd	2	Howland Rd	Roth Rd	4.96	$211,100	53
Lathrop Rd	2	San Joaquin River	Lathrop-Manteca City Limit	2.56	$109,100	53
Louise Avenue	2	Golden Valley Parkway	Lathrop-Manteca City Limit	2.10	$89,400	38
Manthey Road	2	Sadler Oak Drive	San Joaquin River	0.62	$26,200	28
W. Yosemite Ave	2	San Joaquin River	W. City Limits	1.21	$51,600	28
			Totals	**18.83**	**$802,200**	

The City of Lathrop did not submit any pedestrian or Safe Routes to School projects.

5.3.2. Vision Projects

The Vision Network for the City of Lathrop was developed with guidance the community's adopted planning documents, including the Lathrop Bicycle Transportation Plan (2004) and the General Plan Circulation Element (2004). These projects, listed in **Table 5-6** include 28 miles of Class 1 paths, 25 miles of Class 2 bike lanes, and 2 miles of Class 3 bike routes. These facilities are shown in **Figure 5-2**.

Table 5-6: Lathrop Vision Bikeway Projects

Location	Class	Start	End	Miles	Estimated Project Cost
5th St	1	Lathrop Rd	Thomsen Rd	0.52	$333,000
5th St	2	Thomsen Rd	Louise Ave	0.49	$21,000
7th Street Trail	1	D'Arcy Pky	Roth Rd	4.11	$2,640,400
Canal Blvd	2	Paradise Rd	Manthey Rd	3.92	$166,900
Cedar Valley Dr	2	Stonebridge Rd	Woodfield R	1.10	$47,000
Christopher Way	2	Harlan Rd	D'Arcy Pky	1.06	$45,100
D'Arcy Pky	2	Harlan Rd	Howland Rd	1.08	$46,200
De Lima Trail	1	Manthey Rd	San Joaquin River	1.50	$962,800
Howland Rd	2	D'Arcy Pky	Louise Ave	1.06	$45,200
Manthey Road	2	Sadler Oak Drive	San Joaquin River	1.81	$77,100

Location	Class	Start	End	Miles	Estimated Project Cost
McKinley Ave	2	Lathrop Rd	Yosemite Ave	2.02	$86,100
Paradise Cut Bike Lanes	2			10.48	$446,300
Paradise Cut Trail	1	Old River	San Joaquin River	5.76	$3,704,600
Paradise Rd	2	Canal Blvd	Paradise Cut Loop	2.13	$90,700
Rail Trail	1	7th Street Trail	Airport Way	1.27	$814,400
Roth Road	3	San Joaquin River	I-5	2.13	$17,000
San Joaquin River Greenbelt	1	Paradise Cut Trail		10.50	$6,746,600
San Joaquin River Greenbelt	1	Dos Reis Rd	Golden Valley Parkway	0.86	$550,800
San Joaquin River Greenbelt	1	Thomas Paine Slough	Paradise Cut	4.45	$2,858,200
Stonebridge Ln	2	Harlan Rd	Slate St	0.48	$20,300
			Totals	**56.71**	**$19,719,700**

Table 5-7 presents the priority and vision project summary miles and cost estimates. Implementation of the projects would add approximately 75 miles to the bikeway network at an estimated cost of $20.5 million dollars.

Table 5-7: Lathrop Project Summary Miles and Costs

Class	Sum of Miles	Sum of Estimated Project Cost
1	28.96	$18,610,800
2	44.46	$1,894,100
3	2.13	$17,000
Totals	**75.54**	**$20,521,900**

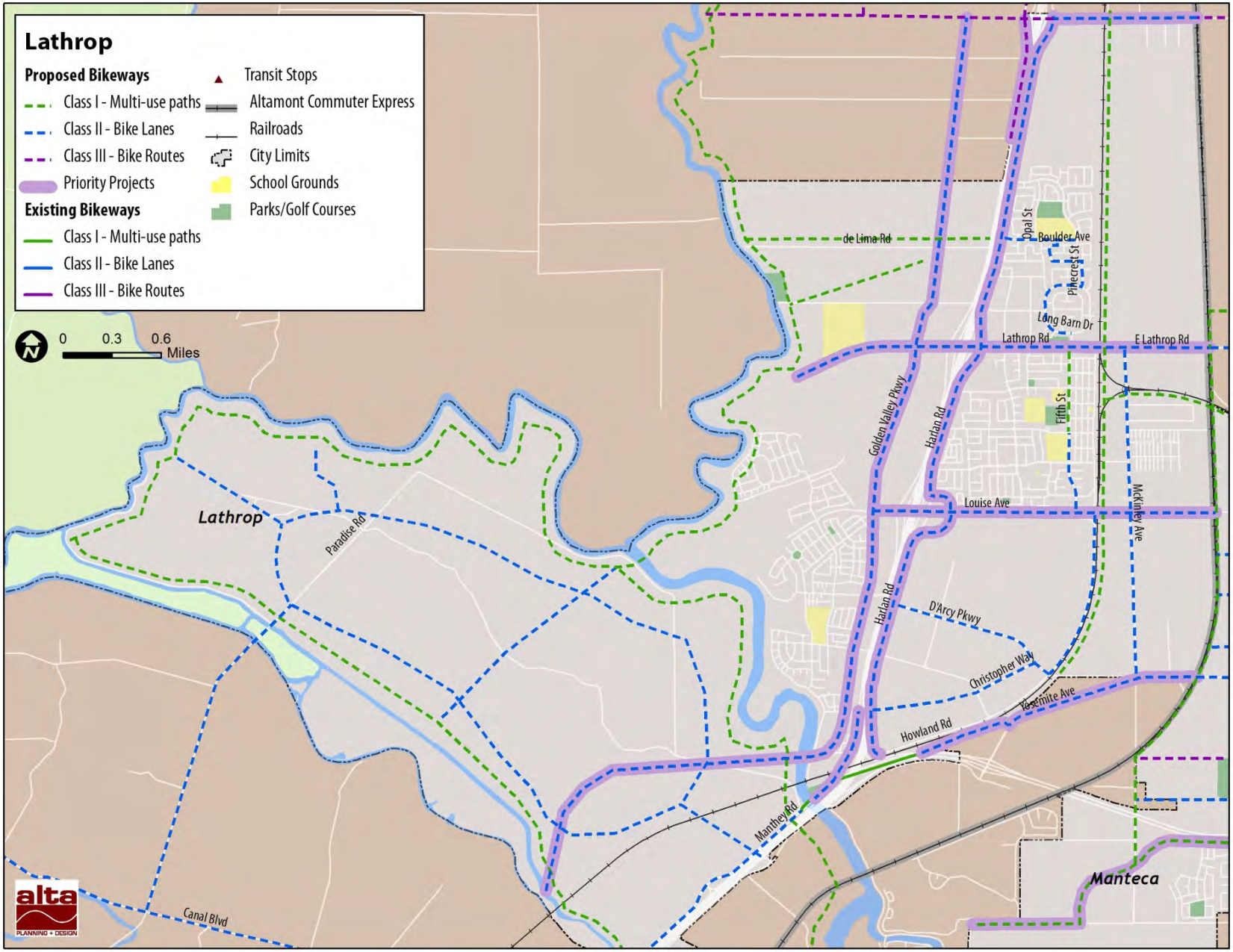


Figure 5-2: Lathrop Proposed Bikeways

5.4. City of Lodi

5.4.1. Priority Projects

Table 5-8, **Table 5-9** and **Figure 5-3** presents the priority projects for the City of Lodi. The projects will add two Class 1 paths and three bike lanes, extending the bikeway network nearly six miles. Additionally, the City of Lodi seeks to implement pedestrian crossing improvements at the Tokay St railroad crossing.

Table 5-8: Lodi Priority Bikeway Projects

Location	Class	Start	End	Miles	Estimated Project Cost	Total Score
Calaveras-Central Path	1	E. Lockeford Street	Railroad Avenue	0.04	$23,100	65
Victor Road	1	Sacramento St	Central California Traction	1.57	$2,500,000	73
Century Blvd	2	Church St	Cherokee Lane	0.89	$1,400,000	66
N. West Lane	2	Harney Lane	E. Eight Mile Road	3.40	$500,000	53
Tokay St	2	Union Pacific Railroad	Union Pacific Railroad	0.01	$220,000	75
			Totals	**5.91**	**$4,643,100**	

Table 5-9: Lodi Pedestrian Projects

Location	Description	Start	End	Estimated Project Cost	Total Score
Calaveras-Central Path	Pedestrian Walkway	E. Lockeford Street	Railroad Avenue	*Included in Bikeway Project Cost*	65
Tokay St	Crossing Improvements	Union Pacific Railroad	Union Pacific Railroad	*Included in Bikeway Project Cost*	70

Many of the bicycle and pedestrian projects are strong candidates for partnerships between the school district and the City. The projects listed in **Table 5-10** would likely be strong applicants for Safe Routes to School funding. Criteria for Safe Routes to School candidate projects include proximity and connectivity to a school site and facility types most likely to encourage children to walk and bike to school.

Table 5-10: Lodi Safe Routes to Schools Projects

Location	Bikeway Class	Pedestrian Improvement	Start	End	Miles	Estimated Project Cost
Calaveras-Central Path	1	Path	E. Lockeford Street	Railroad Avenue	0.04	$23,100
Tokay St	2	Crossing Improvements	Union Pacific Railroad	Union Pacific Railroad	0.01	$220,000
Victor Road	1	Path	Sacramento St	Central California Traction	1.57	$2,500,000

5.4.2. Vision Projects

The Vision Network for the City of Lodi was developed with guidance community's adopted planning documents, including the Lodi Bicycle Transportation Master Plan (2008) and the General Plan Transportation Element (2010). These projects, listed in **Table 5-11** include over eight miles of Class 1 paths, 25 miles of Class 2 bike lanes and 17 miles of Class 2 bike routes. These projects are also shown in **Figure 5-3**.

Table 5-11: Lodi Vision Bikeway Projects

Location	Class	Start	End	Miles	Estimated Project Cost
Beckman Rd	2	Pine St	Harney Ln	0.27	$11,600
Century Blvd	1	Church Street	Cherokee Ln	0.86	$550,200
Century Blvd	2	Lower Sacramento Road	Heavenly Way	0.37	$15,800
Cherokee Ln	2	E. Lodi Avenue	Harney Lane	2.05	$87,200
Cherokee Ln	3	Delores St	Lodi Avenue	1.09	$8,800
Church St	2	Turner Rd	W. Lodi Avenue	1.07	$45,700
Church St	3	Kettleman Ln	Century Blvd	0.55	$4,500
E. Lockeford Street	3	Cherokee Lane	N. Guild Avenue	0.70	$5,700
E. Vine Street	2	Beckman Road	S. Guild Avenue	0.48	$20,400
Elm St	2	Cherokee Ln	Evergreen Dr	0.54	$23,100
Guild Ave	2	Turner Rd	N of Kettleman Ln	1.72	$73,400
Ham Ln	3	Turner Rd	Harney Ln	3.09	$24,900
Harney Lane	2	Lower Sacramento Road ext.	Wells Lane	3.43	$146,100
Holly Dr	3	Hutchins St	Mills Ave	0.27	$2,200
Hutchins St	3	Lockeford Street	Lodi Avenue	0.56	$4,600
Kettleman Ln	2	W City Limits	Wells Ln	0.95	$40,500
Lockeford St	2	Main St	Cherokee Ln	0.53	$22,700
Lockeford St	3	Mills Ave	Main St	1.48	$12,000
Lodi Ave	2	Lower Sacramento Rd	W City Limits	3.81	$162,200
Lodi Ave	2	Hutchins St	Guild Ave	1.71	$73,000
Lodi Ave	3	Lower Sacramento Rd	Hutchins St	1.50	$12,100
Lodi Loop Trail	1	Applewood Dr	Future Unnamed	2.44	$1,565,000

Location	Class	Start	End	Miles	Estimated Project Cost
			Street (N)		
Lodi Loop Trail	1	Future Unnamed Street (S)	Mills Ave	0.73	$466,700
Lower Sacramento Rd	2	Turner Rd	Harney Ln	0.75	$32,200
N. Loma Drive	2	Turner Road	W. Lockeford Street	0.63	$26,900
Pacific Avenue	3	W. Elm Street	W. Walnut Street	0.33	$2,800
Pine St	2	N. Sacramento Street	Guild Ave	1.31	$56,100
Rutledge Drive	2	Turner Road	Elm Street	0.65	$27,700
Stockton St	2	Turner Road	Harney Ln	3.07	$130,700
Turner Rd	2	Cluff Ave	Guild Ave	0.26	$11,000
Turner Rd	3	Lower Sacramento Rd	Cluff Ave	2.59	$20,800
Unnamed Future Street	3	Turner Rd	Harney Ln	2.27	$18,200
Victor Rd	2	Guild Ave	Kennison Ln	0.75	$32,100
Vine Street Trail	1	Lower Sacramento Rd	W City Limits	0.28	$176,800
W. Vine Street	2	S. Lower Sacramento Road	End of Street	0.18	$7,900
W. Vine Street	3	S. Mills Avenue	Cherokee Lane	1.99	$16,000
W. Walnut Street	3	S. Hutchins Street	S. Sacramento Street	0.37	$3,100
W. Walnut Street	3	S. Pacific Avenue	S. Ham Lane	0.11	$900
Walnut Street	2	S. Main Street	Central Avenue	0.31	$13,200
Walnut Street	3	Central Avenue	Cherokee Lane	0.25	$2,200
Walnut Street Crossing	1	S. Sacramento St	S. Main Street	0.08	$51,600
Wells Lane	2	E. Kettleman Lane	E. Harney Lane	1.01	$42,900
West Lodi Canal Path	1	Peterson Park	Harney Lane	3.60	$2,311,300
Westgate Park Trail	1	Evergreen Dr	Applewood Dr	0.20	$131,100
			Totals	**51.17**	**$6,493,900**

Table 5-12 presents the priority and vision project summary miles and cost estimates. Implementation of the projects would add approximately 57 miles to the bikeway network at an estimated cost of $11 million dollars.

Table 5-12: Lodi Project Summary Miles and Costs

Row Labels	Sum of Miles	Sum of Estimated Project Cost
1	9.78	$7,775,800
*2	30.14	$3,222,400
*3	17.16	$138,800
Totals	**57.07**	**$11,137,000**
		**Includes cost of pedestrian improvements*.

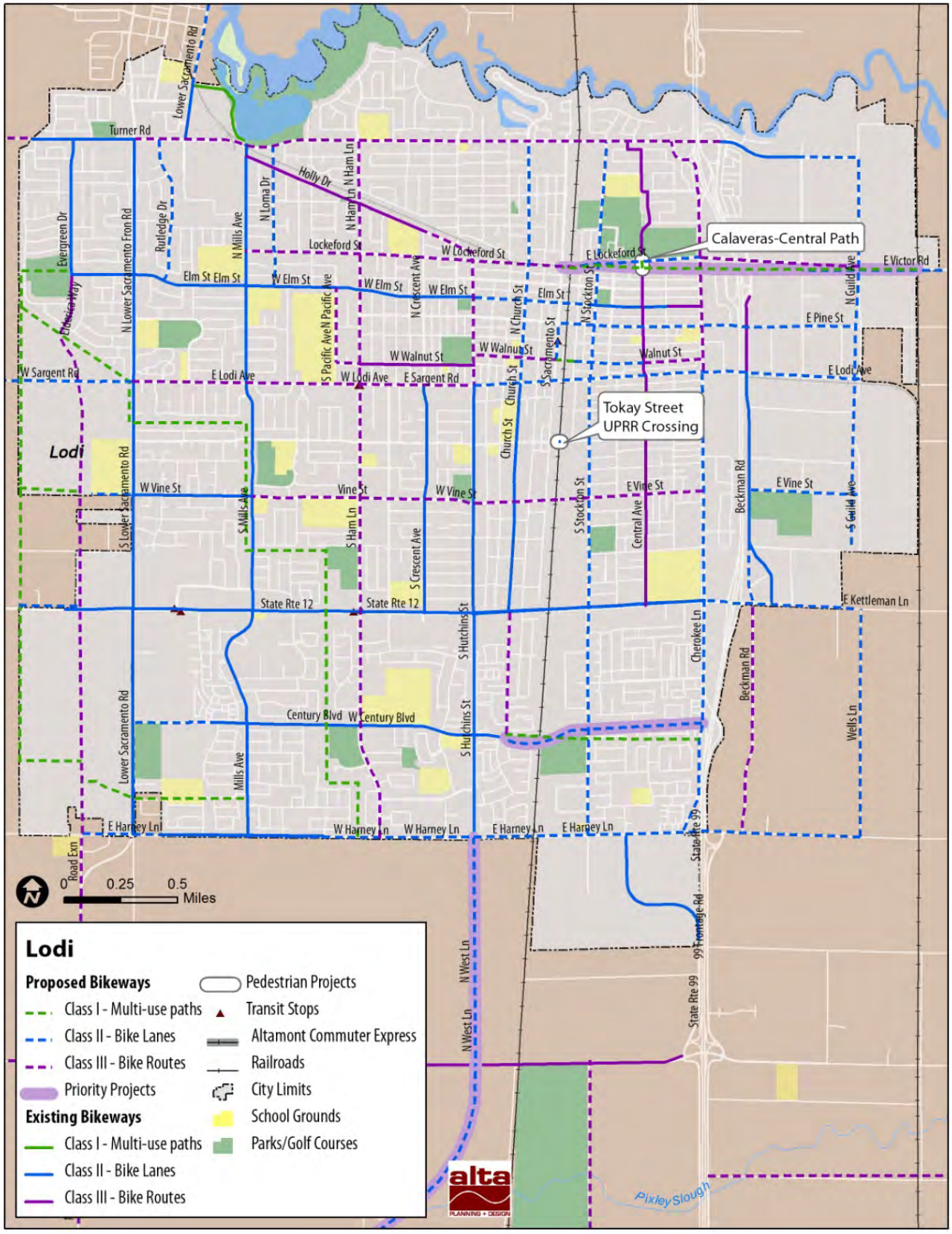


Figure 5-3: Lodi Proposed Bikeways

5.5. City of Manteca

5.5.1. Priority Projects

Table 5-13 and **Figure 5-4** present the priority bikeway projects for the City of Manteca. The projects will add four Class 1 paths totaling approximately six miles.

Table 5-13: Manteca Priority Bikeway Projects

Location	Class	Start	End	Miles	Estimated Project Cost	Total Score
Atherton Drive	1	Union Road	Sparrowhawk Street	0.90	$580,400	40
Atherton Road West Extension	1	End of Existing Class 1	Woodward Ave	2.05	$1,316,300	35
Manteca-Ripon Connector (Manteca)	1	Woodward Road	Planned River Road Bikeway	2.99	$1,919,200	30
Tidewater Bikeway (Lathrop Road)	1	Lathrop Rd	Union Ranch Subdivision	0.24	$152,300	54
			Totals	**6.17**	**$3,968,200**	

The City of Manteca did not submit any pedestrian improvement projects.

Many of the bicycle projects are strong candidates for partnerships between the school district and the City. The projects listed in **Table 5-14** would likely be strong applicants for Safe Routes to School funding. Criteria for Safe Routes to School candidate projects include proximity and connectivity to a school site and facility types most likely to encourage children to walk and bike to school

Table 5-14: Manteca Safe Routes to Schools Projects

Location	Bikeway Class	Pedestrian Improvement	Start	End	Miles	Estimated Project Cost
Atherton Drive	1	Path	Union Road	Sparrowhawk Street	0.90	$580,400
Tidewater Bikeway (Lathrop Road)	1	Path	Lathrop Rd	Union Ranch Subdivision	0.24	$152,300

5.5.2. Vision Projects

The Vision Network for the City of Manteca was developed with guidance the community's adopted planning documents, including the Manteca Bicycle Plan (2003) and the General Plan Transportation Element (2003). These projects, listed in **Table 5-6** include 9 miles of Class 1 paths, 33 miles of Class 2 bike lanes, and 5 miles of Class 3 bike routes. These facilities are shown in **Figure 5-4**.

Table 5-15: Manteca Vision Bikeway Projects

Location	Class	Start	End	Miles	Estimated Project Cost
Airport Way	2	E. Lathrop Rd	Atherton Drive	3.29	$140,300
Airport Way	2	Peregrine Street	E. Woodward Avenue	0.15	$6,400
Atherton Drive	1	End of Street	S. Tinnin Road	1.09	$698,000
Brookdale Way	2	Cottage Ave	N Pestana Ave	0.49	$21,100
Brookdale Way (North ext)	2	Lathrop Rd	Cottage Ave	1.26	$53,600
Cottage Ave	3	Lathrop Rd	Brookdale Way	1.11	$8,900
Cowell School Park	1	Buckhorn Drive	Pestana Avenue	0.42	$270,000
Daniels St (west ext)	2	Airport Way	McKinley Ave	1.01	$42,900
E Louise Ave	2	S Austin Rd	S Jack Tone Rd	2.01	$85,700
E Nehemiah Dr	2	N Vasconcellos Ave	S Austin Rd	0.27	$11,600
Fox Fire Dr	2	Zurich Dr	N Silverado Dr	0.22	$9,500
Garden Gate Dr/Lousie Ave	3	Jason St	Springtime Ave	0.18	$1,500
HWY 120	3	S Austin Rd	S Jack Tone Rd	2.01	$16,100
HWY 99 ramp (West ext)	1	N Main St	Lathrop Rd	0.38	$242,400
HWY 99 ramp (West ext)	3	N Main St	Lathrop Rd	0.29	$2,400
Lathrop Rd	2	Lathrop City Limit	Austin Road	4.46	$189,800
Louise Avenue	2	Souza Boulevard	Brookdale Way	0.29	$12,300
McKinley Ave	1	Union Pacific RR	Atherton Rd	0.67	$431,300
N Austin Rd	2	Union Pacific RR	Lathrop Rd	1.45	$61,800
N Cherry Ln	3	Union Rd	Center St	0.52	$4,200
N Pestana Ave (North ext)	2	Lathrop Rd	City Limit (north)	0.74	$31,400
N Vasconcellos Ave	2	E Nehemiah Dr	HWY 120	0.51	$21,600
Nicol Way - Marguerite Avenue	3	Syracuse Lane	Louise Avenue	0.24	$2,000
Nicol Way - Marguerite Avenue	3	Syracuse Lane	Louise Avenue	0.00	$0
Nicol Way (west ext)	2	London Ave	Syracuse Lane	0.24	$10,200
Oleander Avenue	2	Atherton Road	Peach Avenue	0.91	$38,900
Peach Avenue	2	Union Road	Airport Way	1.06	$44,900
S Austin Rd	2	State Highway 120	Sedan Avenue	3.01	$128,300
S Austin Rd	2	Lathrop Rd	Louise Ave	0.99	$42,100
S Austin Rd	2	E Louise Ave	HWY 120	1.00	$42,600
S Main St	1	HWY 120 south On Ramp	Tannehill Rd	0.19	$124,700
S Main St	1	Mission Ridge Dr	HWY 120 S On Ramp	0.43	$274,500
S Main St	2	HWY 120 south On Ramp	Tannehill Rd	0.56	$24,000
S Union Rd	3	W Crom St	W Center St	0.38	$3,200
S Vasconcellos Ave	2	HWY 120	S Austin Rd	0.77	$32,800

Location	Class	Start	End	Miles	Estimated Project Cost
State Route 120	2	Northwoods Avenue	Pestana Avenue	0.38	$16,400
Swanson Rd & (north ext)	2	Geneva Way	Yosemite Ave	0.74	$31,700
Swanson Rd (south ext)	2	Wawona Street	Daniels Street	0.25	$10,800
Swanson Rd (south ext)	2	Yosemite Ave	Wawona St (east ext)	0.50	$21,300
Tannehill Rd (east ext)	2	Birdwell Ave	Austin Rd	1.25	$53,100
Tannehill Rd (west ext)	2	S Main St.	S Union St	1.00	$42,600
Tidewater Bike Path	1	S Spreckles Rd	HWY 120	0.28	$181,300
Tidewater Bikeway (Lathrop Loop)	1	Lathrop Rd	Tidewater Bike Path	2.19	$1,407,600
Tinnin Road	2	Atherton Road	Tannehill Road	0.62	$26,400
Union Pacific RR ROW	1	E. Lathrop Rd	McKinley Avenue	2.63	$1,689,100
Union Rd	1	Daniels St	Atherton Rd	0.45	$289,900
Union Road	2	Atherton Road	Tannehill Road	0.63	$26,700
W Center St	2	Union Pacific RR ROW	S Union Rd	1.53	$65,000
W Crom St (west ext)	2	Union Pacific RR ROW	Airport Way	0.50	$21,100
W Geneva Way (west ext)	2	Union Pacific RR ROW	Airport Way	0.48	$20,500
Wawona St (west ext)	3	Airport Way	McKinley Ave	1.00	$8,100
Winters Dr (north ext)	2	Yosemite Avenue	Center Street	0.16	$7,000
Woodward Park	1	Woodward Rd	Tannehill Rd	0.57	$365,700
Yosemite Ave	2	Airport Way	UPRR	0.63	$26,900
Zurich Dr	2	Louise Ave	Geneva Way	0.21	$9,100
			Totals	**48.59**	**$7,451,300**

Table 5-16 presents the priority and vision project summary miles and cost estimates. Implementation of the projects would add nearly 55 miles to the bikeway network at an estimated cost of $11.5 million dollars.

Table 5-16: Manteca Project Summary Miles and Costs

Class	Sum of Miles	Sum of Estimated Project Cost
1	15.47	$9,942,700
2	33.55	$1,430,400
3	5.74	$46,400
Totals	**54.76**	**$11,419,500**

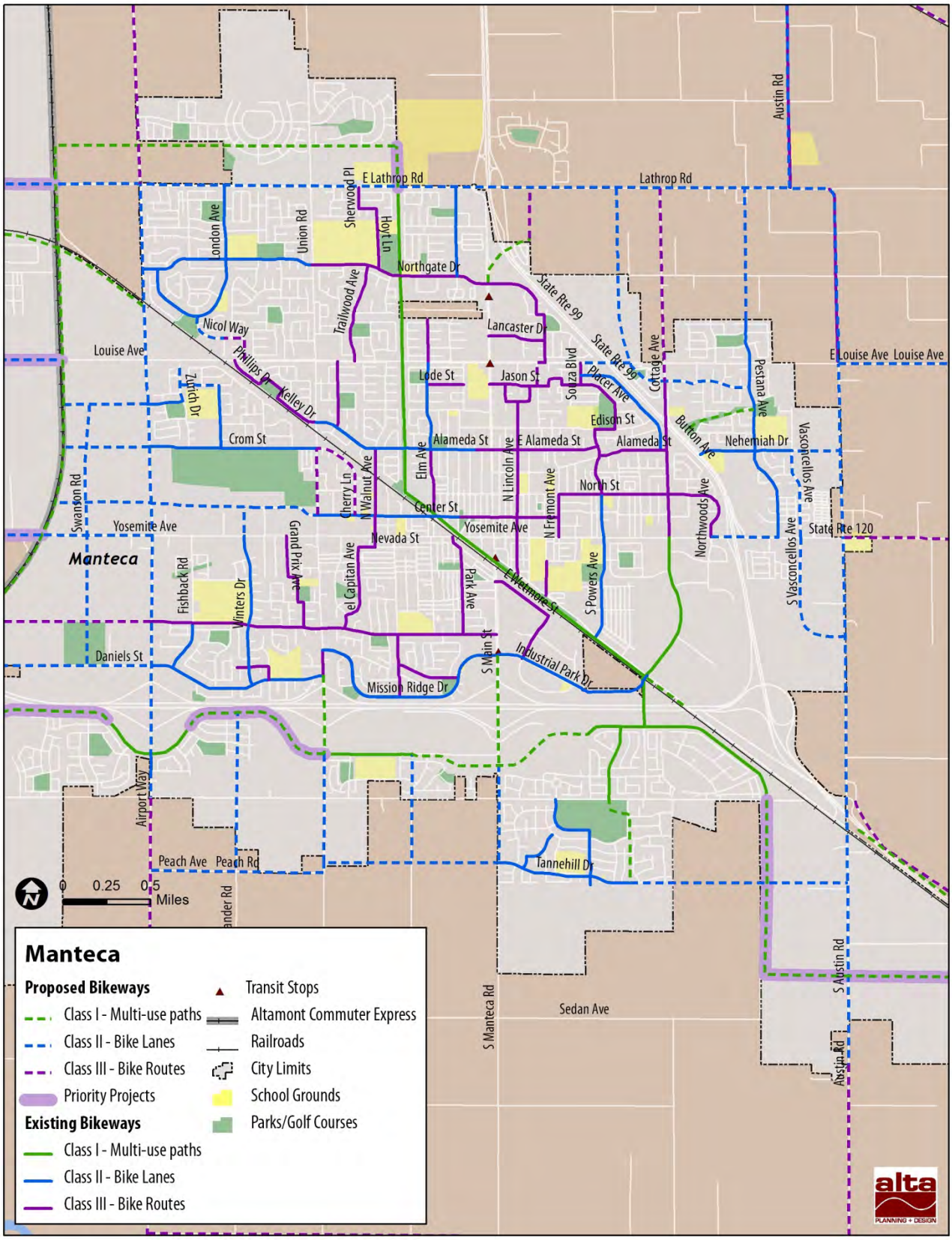


Figure 5-4: Manteca Proposed Bikeways

5.6. City of Ripon

5.6.1. Priority Projects

Table 5-17 and **Figure 5-5** present the priority bikeway projects for the City of Ripon. The projects will add four Class 1 paths totaling nearly 7 miles.

Table 5-17: Ripon Priority Bikeways

Location	Class	Start	End	Miles	Estimated Project Cost	Total Score
East Stanislaus River Trail	1	Laurelwood Lane	Proposed Spring Creek Path	1.01	$800,000	45
Jack Tone Road	1	Yosemite Avenue	Santos Avenue	2.81	$1,807,300	25
Manteca-Ripon Connector (Ripon)	1	River Road	Kamps Way	1.26	$1,800,000	65
West Stanislaus River Trail	1	Jack Tone Driving Range	Austin Road	1.68	$1,600,000	35
			Totals	**6.77**	**$6,007,300**	

The City of Ripon did not submit any pedestrian improvement projects.

Many of the bicycle projects are strong candidates for partnerships between the school district and the City. The projects listed in **Table 5-18** would likely be strong applicants for Safe Routes to School funding. Criteria for Safe Routes to School candidate projects include proximity and connectivity to a school site and facility types most likely to encourage children to walk and bike to school

Table 5-18: Ripon Safe Routes to Schools Projects

Location	Bikeway Class	Pedestrian Improvement	Start	End	Miles	Estimated Project Cost
East Stanislaus River Trail	1	Path	Laurelwood Lane	Proposed Spring Creek Path	1.01	$800,000
Manteca-Ripon Connector	1	Path	River Road	Kamps Way	1.26	$1,800,000

5.6.2. Vision Projects

The Vision Network for the City of Ripon was developed with guidance from the community's adopted planning documents, including the Ripon Bicycle Plan (2005) and the General Plan Transportation Element (2006). These projects, listed in **Table 5-19**, will add approximately 23 miles of Class 1 paths, 18 miles of Class 2 bike lanes, and 9 miles of Class 3 bike routes. These facilities are shown in **Figure 5-5**.

Table 5-19: Ripon Vision Bikeway Projects

Location	Class	Start	End	Miles	Estimated Project Cost
Acacia Avenue	3	Highway 99	Doak Boulevard	0.91	$7,400
Arc Way	2	Fulton Avenue	W. Milgeo Avenue	0.14	$6,200
California/Mulholland/ Montana	3	N. Stockton Avenue	N. Manley Road	0.59	$4,800
Canal Drive Path	1	S. Highland Avenue	N. Wilma Avenue	0.62	$397,200
Clinton South Avenue	2	Jack Tone Road	N. Ripon Road	0.99	$42,300
Colony Road	1	N. Jack Tone Road	Hoff Drive	0.19	$123,500
Colony Road	2	S. Murphy Road	Proposed Street	0.50	$21,500
Colony Road Path	1	Hoff Drive	Fulton Avenue	0.38	$246,800
Doak Boulevard	1	Robert Avenue	S. Acacia Avenue	0.50	$324,000
Doak Boulevard Extension	1	S. Mohler Road (E)	S. Mohler Road (W)	0.28	$182,500
Doak Boulevard Path Gap	1	S. Stockton Avenue	550' E of Acacia Avenue	0.09	$57,200
E. Main Street	3	Oak Avenue	Manley Road	0.19	$1,600
E. Moncure	2	Austin Road	S. Mohler Road	1.32	$56,200
E. River Road	1	N. Ripon Road	0.7M East of Wagner Road	2.71	$1,741,800
E. Santos Avenue	1	N. Ripon Road	Wagner Road	2.01	$1,294,400
Fourth Street	2	Ruess Road	S. Jack Tone Road	0.15	$6,200
Fourth Street	3	S. Jack Tone Road	Stockton Avenue	1.01	$8,200
Fourth Street	3	S. Stockton Avenue	Railroad Tracks	0.37	$3,000
Frontage Road	2	Fulton Avenue	Arc Way	0.14	$6,000
Fulton Avenue	2	N. Wilma Avenue	Arc Way	0.30	$12,900
Goodwin Drive	2	Dexter Way	Fulton Avenue	0.29	$12,200
Highland Avenue	1	Highway 99	Doak Boulevard	1.80	$1,158,800
Highway 99 Frontage Road	2	Acacia Avenue	N. Stockton Avenue	0.30	$12,700
Highway 99 Frontage Road	3	S. Austin Road	Santos Avenue	2.06	$16,500
Highway 99 Parallel Path	1	Kamps Road	Main Street	1.24	$797,700
Hoff Drive Extension	1	W. River Road	Colony Road	0.49	$316,200
Hutchinson Road Extension	2	S. Frederick Avenue	S. Mohler Road	1.23	$52,200
Jack Tone Golf Course Path	1	Riverview Circle	Jack Tone Road Ext.	0.33	$213,400
Main Street	1	Stockton Avenue	E. Main Street	0.43	$275,800
Manley Road	2	N. City Limits	Reynolds Avenue	1.16	$49,400
Manley Road Extension	2	Eugenia Avenue	N. City Limits	1.00	$42,500
Milgeo Avenue	2	John Roos Avenue	Manley Road	0.27	$11,300
Milgeo Avenue Extension	2	End of Street	Wagner Road	0.49	$20,700
N. Acacia Avenue	3	W. Milgeo Avenue	Highway 99 Frontage Road	0.17	$1,400
N. Ripon Road	1	S Murphy Road		1.01	$650,400
N. Ripon Road	2	Shasta Avenue	Boesch Drive	0.06	$2,700

Location	Class	Start	End	Miles	Estimated Project Cost
N. Ripon Road Path	1	Yosemite Avenue	E. Boesch Drive	3.28	$2,108,100
N. Wilma Avenue	2	Garrison Way	W. Main Street	0.54	$23,200
Oak Avenue	3	California Street	E. Main Street	0.25	$2,100
Oak Grove Park Path (N)	1	S. Stockton Avenue	Stanislaus River Path	0.65	$418,400
Oak Grove Park Path (South)	1	Stanislaus River Path	Oak Grove Park Path (N)	0.58	$374,700
Proposed Street	2	State Route 120	Clinton South Avenue	2.01	$85,800
Proposed Street	2	Jack Tone Road	N. Ripon Road	0.99	$42,200
Proposed Street	2	Veritas Avenue	E. Milgeo Road	1.27	$54,000
Proposed Street	2	Manley Road	Murphy Road	0.50	$21,300
Prospect Avenue	3	Ripona Avenue	Highway 99 Frontage Road	0.12	$1,000
Ripona Avenue	2	W. Milgeo Avenue	California Street	0.35	$14,800
River Road Extension	1	Hoff Drive	Stanislaus River	4.01	$2,579,900
Riverview Circle	3	Doak Boulevard (W)	Doak Boulevard (E)	0.49	$3,900
S, Locust Avenue	3	Second Street	Fourth Street	0.13	$1,100
S. Industrial Avenue	3	Main Street	Fourth Street	0.20	$1,700
S. Industrial Avenue Path	1	E. Main Street	250' S of Main Street	0.09	$59,300
S. Murphy Road	2	Eugenia Avenue	E. Milgeo Road	1.26	$53,600
S. Stockton Avenue	3	Main Street	Fifth Street	0.31	$2,600
S. Wagner Road	2	E. River Road	Eugenia Road	0.25	$10,700
S. Wilma Avenue	3	W. Main Street	Seventh Street	0.70	$5,700
Santos Avenue	1	State Route 99	Fulton Avenue	0.90	$576,500
Second Street	3	S. Wilma Avenue	Stockton Avenue	0.62	$5,000
Shasta Avenue	2	Fulton Avenue	N. Ripon Road	0.39	$16,700
Shasta Avenue Extension	2	N. Ripon Road	Manley Road	0.51	$21,700
Spring Creek Country Club Path	1	E. Milgeo Avenue	Stanislaus River	0.79	$506,500
Spring Creek Drive	3	E. Milgeo Avenue	N. Manley Road	0.63	$5,000
Stanislaus River Path	1	Army Corps Park	Oak Grove Path	0.64	$408,100
Stockton Avenue	1	5th Street	Doak Boulevard Path	0.13	$83,600
Stouffer Street	3	N. Manley Road	Stanislaus River	0.17	$1,400
Vera Avenue	3	Second Street	Fourth Street	0.13	$1,100
W. Main Street	2	Jack Tone Road	Wilma Avenue	0.37	$16,000
W. Ripon Road	2	Olive Avenue	Jack Tone Road	0.75	$32,000
Wagner Road Extension	2	E. River Road	E. Milgeo Avenue	1.00	$42,700
			Totals	**50.76**	**$15,758,000**

Table 5-20 presents the priority and vision project summary miles and cost estimates. Implementation of the projects would add approximately 57 miles to the bikeway network at an estimated cost of $21.7 million dollars.

Table 5-20: Ripon Project Summary Miles and Costs

Class	Sum of Miles	Sum of Estimated Project Cost
1	29.94	$20,902,100
2	18.52	$789,700
3	9.06	$73,500
Totals	**57.52**	**$21,765,300**

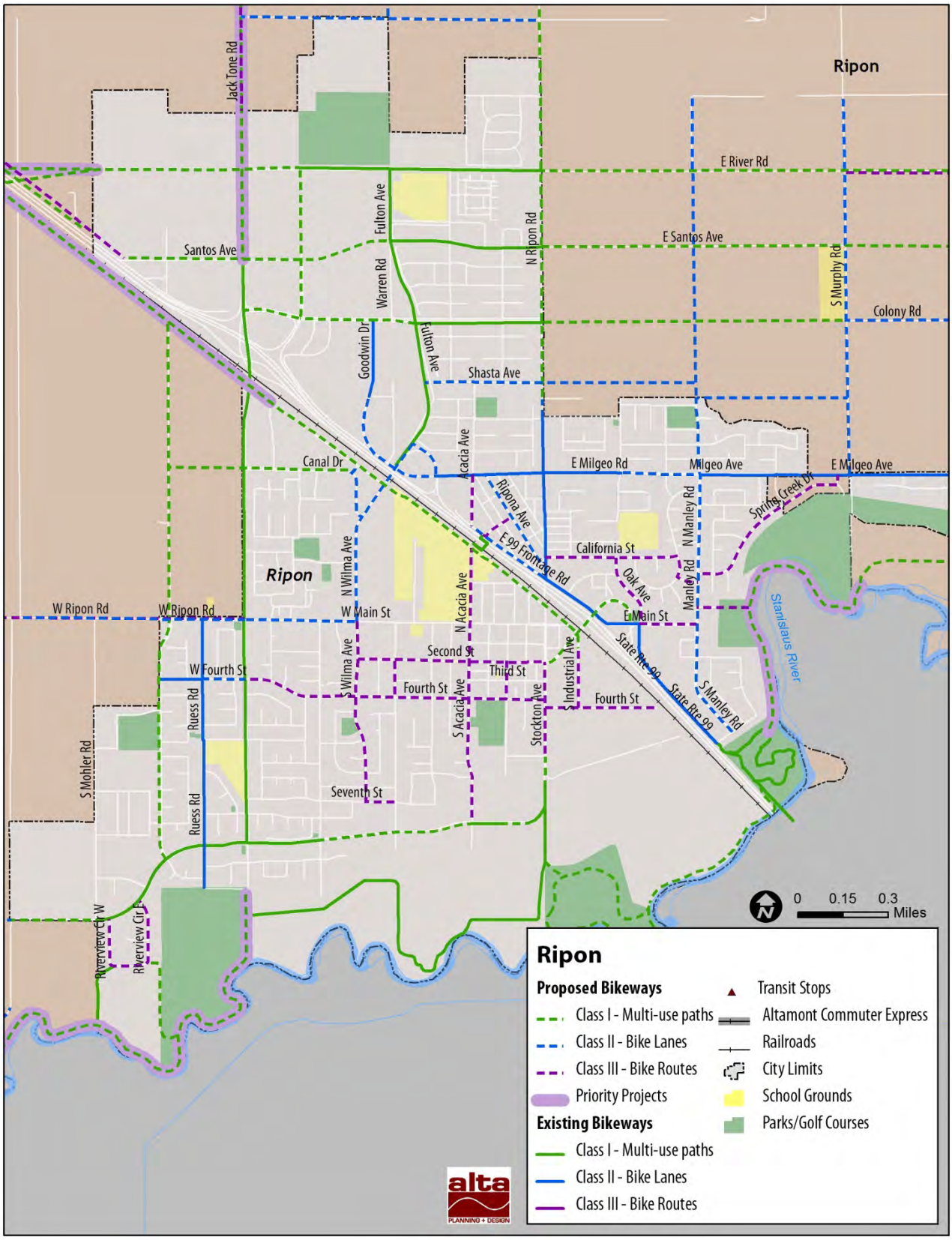


Figure 5-5: Ripon Proposed Bikeways

5.7. County of San Joaquin

5.7.1. Priority Projects

Table 5-21 and **Figure 5-6** present the priority bikeway projects for the County of San Joaquin. The projects will add one Class 2 bike lanes and 11 Class 3 bike routes, totaling over 16 miles of bikeways.

Table 5-21: County of San Joaquin Priority Bikeways

Location	Class	Start	End	Miles	Estimated Project Cost
Copperopolis Rd	3	Hewitt Rd	Escalon-Bellota Rd	2.28	$610,000
Durham Ferry Rd	3	S. Kasson Rd	New Jerusalem Airport	1.82	$14,500
Escalon-Bellota Rd	3	E. Mariposa Road	Escalon City Limits	1.93	$15,400
Grant Line Rd	3	Eleventh St	Tracy City Limits	1.83	$14,600
Lower Sacramento Rd	3	Acampo Road	Woodbridge Road	1.40	$11,200
Lower Sacramento Rd	3	Jahant Road	Acampo Road	2.00	$16,000
Manthey Road	3	Roth Road	Klo Road	0.74	$5,900
N. Sutter Street	3	E. Ingram Street	E. Fulton Street	0.49	$3,900
Ray Rd	3	W. Peltier Road	Kile Rd	1.00	$8,000
Roth Road	2	Harlan Rd	Lathrop-Manteca City Limit	0.88	$37,600
Thornton Road	3	DeVries Road	W. Eight Mile Road	1.01	$8,100
Woodbridge Rd	3	N. Ray Road	DeVries Road	1.00	$8,000
			Totals	**16.37**	**$753,200**

The County of San Joaquin did not submit any pedestrian or Safe Routes to School projects.

5.7.2. Vision Projects

The Vision Network Projects were developed with guidance from adopted planning documents, including San Joaquin County Bicycle Master Plan (2010). These projects, listed in **Table 5-22**, include two miles of Class 1 paths, nearly seven miles of Class 2 bike lanes, and 236 miles of Class 3 bike routes. These facilities are shown in **Figure 5-6**.

Table 5-22: County of San Joaquin Vision Bikeway Projects

Location	Class	Start	End	Miles	Estimated Project Cost
Airport Way	3	Manteca City Limits	Stockton City Limits	4.48	$35,800
Airport Way	3	Kasson Rd	Manteca City Limits	8.20	$65,600
Alpine Avenue	3	Rainer Ave	Mission Ave	1.68	$13,500
Ash St	3	El Dorado St	French Camp Rd	0.38	$3,100
Beckman Rd	3	Kettleman Ln	Harney Ln	1.02	$8,200
Berry Rd	3	Canal Blvd	Grant Line Rd	1.05	$8,400
Blossom Rd	3	Walnut Grove Rd	Peltier Rd	2.46	$19,700

Location	Class	Start	End	Miles	Estimated Project Cost
Brandt Rd	3	Tully Rd	SR 12	1.40	$11,200
Canal Blvd	3	Toleri Rd	Berry Rd	0.30	$2,400
Chrisman Rd	3	California Aqueduct Path	Eleventh St	6.61	$52,900
Comstock Rd	3	Duncan Rd	Waterloo Rd/Hwy 88	4.97	$39,800
Copperopolis Rd	3	Alpine Rd	Hewitt Rd	8.12	$65,000
Corral Hollow Rd	3	Lammers Rd	Tracy City Limits	2.49	$19,900
Corral Hollow Rd	3	Tracy City Limits	County Line	6.28	$50,200
Davis Rd	3	Hwy 12	Eight Mile Rd	4.00	$32,000
Dodds Rd	3	Escalon-Bellota Rd	County Line	3.98	$31,800
Duncan Rd	3	Comstock Rd	Copperopolis Road	4.99	$40,000
Durham Ferry Rd	3	Kasson Rd	Chrisman Rd	5.35	$42,800
E. Eight Mile Road	3	State Route 99	N. Jack Tone Road	5.81	$46,500
E. Fremont Street	3	Main St	SPRR	1.40	$11,200
Eighth St	3	B St	D St	0.21	$1,700
Escalon-Bellota Rd	3	Copperopolis Road	E. Mariposa Road	9.56	$76,500
French Camp Rd	3	El Dorado Street	Hwy 120	12.00	$96,100
Frontage Rd Rail Trail	1	Austin Rd	Ripon City Limits	1.76	$1,132,500
Hammond St	3	Jack Tone Rd	Tully Rd	0.10	$900
Hansen Rd	3	Schulte Rd	End of County Maintained Road	0.80	$6,400
Howard Rd	3	Tracy Blvd	Mathews Rd	10.03	$80,300
Jack Tone Rd	3	Jack Tone Bypass Rd	Hammond St	0.48	$3,900
Jack Tone Rd	3	Ripon City Limits	Jack Tone Bypass	26.96	$215,700
Kasson Rd	3	Linne Rd	Critchett Rd	0.57	$4,600
Kasson Rd	3	Durham Ferry Rd	Linne Rd	2.18	$17,400
Kasson Rd	3	Critchett Rd	Eleventh St	4.39	$35,200
Kile Rd	3	Ray Rd	Thornton Rd	2.17	$17,400
Lammers Rd	3	Tracy City Limits (Schulte Rd)		1.59	$12,700
Live Oak Rd	3	N 99 Frontage Rd E	Hwy 88	4.08	$32,600
Live Oak Rd	3	Hwy 88	Jack Tone Rd	1.85	$14,900
Locke Rd	3	Tretheway Rd	Hwy 12/88	1.67	$13,400
Lower Sacramento Rd	2	Mokelumne St	Lodi City Limits	0.46	$19,700
Lower Sacramento Rd	3	County Line	E. Jahant Road	2.54	$20,300
Lower Sacramento Rd	3	Harney Ln	Stockton City Limits	3.00	$24,000
Main St	3	Stockton City Limits	Alpine Rd	2.90	$23,300
Manthey Rd	3	Briggs Rd	Roth Road	1.92	$15,400
Mariposa Rd	3	Escalon-Bellota Rd	Austin Road	11.70	$93,600
McHenry Ave	3	County Line	Escalon City Limits	0.89	$7,100
Micke Grove Rd	3	Eight Mile Rd	Armstrong Rd	2.02	$16,200

Location	Class	Start	End	Miles	Estimated Project Cost
Miller Rd	2	Escalon Ballota Rd	N of Mission St	0.54	$23,100
Mokelumne St	2	Chestnut St	Lower Sacramento Rd	0.33	$13,900
Mountain House Pky	2	Interstate 205	Interstate 580	1.65	$70,100
New Hope Rd	3	Thornton Rd	County Line	0.79	$6,300
Patterson Pass Rd	3	Mountain House Pky	County Line	1.50	$12,000
Peltier Rd	3	Blossom Rd	Rond Rd	2.10	$16,800
Ray Rd	3	Turner Rd	W. Peltier Road	3.00	$24,000
River Rd	3	Murphy Rd	Santa Fe Rd	8.66	$69,300
S. Austin Road	3	Manteca SOI	Caswell State Park	3.23	$25,800
Santa Fe Rd	3	County Line	Escalon City Limits	4.09	$32,800
Schulte Rd	2	Hansen Rd	Mountain House Pkwy	1.03	$43,900
Thornton Rd	3	County Line	Turner Rd	8.64	$69,200
Toleri Rd	3	Canal Blvd	East End	0.29	$2,300
Toleri/Manthey Multi-Use Conn*	1	Toleri Rd	Manthey Rd	0.67	$428,700
Tracy Blvd	3	Lammers Rd	Howard Rd	4.36	$34,900
Tretheway Rd	3	Locke Rd	Hwy 12	0.53	$4,200
Tully Rd	3	Brandt Rd	Main St	1.45	$11,600
Turner Rd	3	Thornton Rd	Lodi City Limits	4.50	$36,000
Von Sosten Rd	3	Byron Rd	Mountain House Parkway	2.87	$23,000
Walnut Grove Rd	3	Thornton Rd	County Line	4.40	$35,300
West Ripon Rd	3	Airport Way	Manteca Rd	2.00	$16,000
West Ripon Rd	3	Manteca Rd	Ripon City Limits	4.02	$32,200
Wilson Way	2	Stockton City Limits	N 99 Frontage Rd	2.02	$86,300
Wilson Way Path	1	N 99 Frontage Rd	Hwy 99	0.19	$121,500
Woodbridge Rd	3	Devries Road	Windwood Dr	1.95	$15,600
Woodbridge Rd	2	Windwood Dr	Chestnut St	0.66	$28,200
			Totals	**246.26**	**$3,864,800**

Table 5-23 presents the priority and vision project summary miles and cost estimates. Implementation of the projects would add approximately 262 miles to the bikeway network at an estimated cost of $4.6 million dollars.

Table 5-23: County of San Joaquin Project Summary Miles and Costs

Class	Sum of Miles	Sum of Estimated Project Cost
1	2.62	$1,682,700
2	7.57	$322,800
3	252.44	$2,612,500
Totals	**262.63**	**$4,618,000**

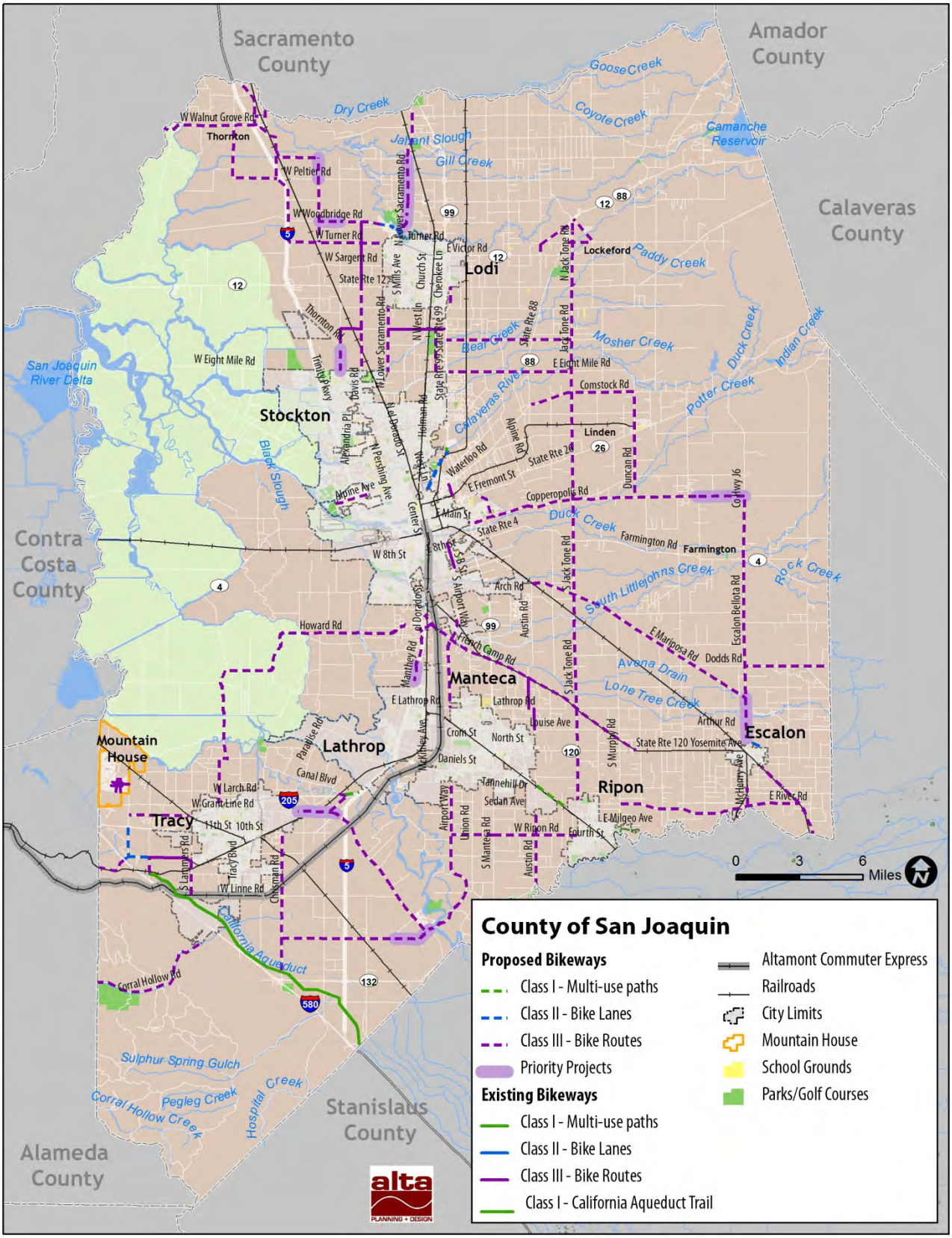


Figure 5-6: County of San Joaquin Proposed Bikeways

5.8. City of Stockton

5.8.1. Priority Projects

Table 5-24 and Figure 5-7 present the priority bikeway projects for the City of Stockton. The projects will add over 18 miles of bikeways in the City.

Table 5-24: Stockton Priority Bikeway Projects

Location	Class	Start	End	Miles	Estimated Project Cost	Total Score
Airport Way	2	Carpenter Road	Stockton Municipal Airport	1.13	$309,000	50
Airport Way Phase 5	1	750' South of 12th Street	Carpenter Road	0.45	$900,000	63
Alexandria Place	3	W. Hammer Lane	Meadow Avenue	0.40	$3,200	55
Brookside Road	3	Brookside Elementary School	N. Pershing Avenue	1.69	$13,500	60
Calaveras South Levee Path	1	N. El Dorado Street	N. Sutter Street	0.43	$1,100,000	76
Center Street	2	Church Street	S. El Dorado Street	0.99	$42,300	40
Cortez Ave - Balboa Ave	3	Thornton Road	Alexandria Place	0.70	$6,000	65
Don Avenue	3	Mosher Slough Path	W. Hammer Lane	0.51	$5,300	60
Duck Creek Path	1	Pock Lane	Stagecoach Road	1.04	$665,900	30
Duck Creek Path	1	S. B Street	Pock Lane	0.57	$800,000	45
Feasible Class III Bike Routes					$200,000	10
Mathews Rd	3	Howard Rd	Manthey Road	0.76	$6,000	40
Meadow Avenue	3	W. Hammer Lane	Alexandria Place	0.55	$5,300	55
N. Pershing Avenue	2	Alpine Avenue	W. Mendocino Avenue	0.09	$3,700	65
N. Sutter Street	2	E. Fulton Street	E. Wyandotte Street	0.85	$108,000	55
N. West Lane	2	E. Eight Mile Road	E. Morada Lane	1.42	$60,400	55
Oak Park Bike Path	1	N. Sutter Street	California Street	0.12	$77,800	76
S. El Dorado Street	2	Hazelton Avenue	4th Street	0.90	$90,000	55
S. El Dorado Street	2	4th Street	W. Mathews Road	3.67	$156,300	45
Signage Program					$150,000	10
W. Mendocino Avenue	2	N. Pershing Avenue	N. Kensington Way	0.41	$37,500	65
W. Swain Road	3	N. Harrisburg Place	Inglewood Avenue	1.01	$8,000	65
Walker Slough Path	1	Houston Avenue	O'Dell Avenue	0.99	$1,200,000	45
			Totals	**18.63**	**$5,948,200**	

Table 5-25 presents priority pedestrian related projects the City of Stockton is ready to implement in the short-term. Cost estimates were provided by the City.

Table 5-25: Stockton Priority Pedestrian Projects

Location	Description	Start	End	Estimated Project Cost	Total Score
Weber Ave	Beautification	Stanislaus Street	Union Street	$3,300,000	50
S. Lincoln Street	ADA Accessibility Improvements	Weber Avenue	Martin Luther King Blvd	$250,000	50
Fremont Street	ADA Accessibility Improvements	Pershing Avenue	El Dorado Street	$150,000	45
West Lane at Morada Lane	Transit Access Improvements	NE and SW Corners		$100,000	40
San Joaquin Trail	Landscaping	William Moss Boulevard	Ishi Goto	$1,300,000	35
			Totals	**$5,100,000**	

Many of the pedestrian projects are strong candidates for partnerships between the school district and the City. The projects listed in **Table 5-26** would likely be strong applicants for Safe Routes to School funding. Criteria for Safe Routes to School candidate projects include proximity and connectivity to a school site and facility types most likely to encourage children to walk and bike to school

Table 5-26: Stockton Safe Routes to Schools Projects

Location	Improvement	Start	End	Estimated Project Cost
S. Lincoln Street	ADA Accessibility Improvements	Weber Avenue	Martin Luther King Blvd	$250,000
Fremont Street	ADA Accessibility Improvements	Pershing Avenue	El Dorado Street	$150,000
West Lane at Morada Lane	Transit Access Improvements	NE and SW Corners		$100,000

5.8.2. Vision Projects

The Vision Network for the City of Stockton was developed with guidance from the community's adopted planning documents, including the Stockton Bike Plan (2007) and the General Plan Circulation Element (2007). These projects, listed in **Table 5-27** and in **Figure 5-7**, will help complete the network and are intended for longer-term implementation. The vision bikeway projects include nearly 250 miles of bikeways.

Table 5-27: Stockton Vision Bikeway Projects

Location	Class	Start	End	Miles	Estimated Project Cost
8th Street	3	S. D Street	S. Olive Avenue	1.29	$10,400
Acacia Street	3	N. Pershing Avenue	Center Street	1.02	$8,300
Airport Way	2	E. Miner Avenue	Carpenter Road	2.99	$127,600
Airport Way	3	Sperry Road	Stockton Municipal Airport	0.86	$6,900
Alexandria Place	3	W. Benjamin Holt Drive	W. Swain Road	0.40	$3,300
Alpine Avenue	3	N. Kensington Way	N. Wilson Way	2.40	$19,300
Alpine Road	3	E. Eight Mile Road	Cherokee Road	2.24	$18,000
Alturas Avenue	2	W. Lincoln Road	W. Swain Road	0.66	$28,000
Arch Road	3	Highway 99 Frontage Road	Austin Road	2.22	$17,800
Argonne Drive	3	Monte Diablo Avenue	N. Pershing Avenue	0.33	$2,800
Armstrong Road	3	Davis Road	N. Lower Sacramento Road	1.26	$10,100
Atlas Tract Path	1	Deep Water Lane	Otto Drive Ext.	1.19	$766,800
Atlas Tract Path	1	Otto Drive Ext.	Mosher Slough Bridge	0.22	$138,200
Austin Road	3	E. Marsh Street	French Camp Road	8.20	$65,600
Bear Creek Path	1	Davis Road	Live Oak Road	8.01	$5,150,200
Bishop Cut Path	1	Atherton Road	Interstate 5	5.31	$3,410,300
Brookside Road Ext	3	W. Hammer Lane Ext	W. March Lane	3.30	$26,500
Brookside/Rindge Road	1	Tenmile Slough (N)	Tenmile Slough (S)	5.59	$3,593,500
Budisellich Road Path	1	Palmer Avenue	Stockton Diverting Canal	2.68	$1,723,800
Burgundy Drive	2	Cherbourg Way	Lorraine Avenue	0.25	$10,500
Burke Bradley Drive	3	N. Pershing Avenue	Frontage Road	0.51	$4,200
Calaveras River Path	1	N. Wilson Way	N. Ijams Road	1.47	$942,900
Callriva /Kirk/Telegraph	3	N. Ryde Avenue (N)	N. Ryde Avenue (S)	0.78	$6,300
Camanche Lane Path	1	West Lane	E. March Lane	0.55	$354,900
Center Street	2	Church Street	4th Street	1.68	$71,700
Cherbourg Way	2	E. Morada Lane	Burgundy Drive	0.85	$36,200
Cherokee Road	3	Alpine Road	State Route 99	3.14	$25,100
Claremont Avenue	2	W. Swain Road	Calaveras River	1.15	$49,100
Commerce Street Bridge	1	Weber Point Park	W. Weber Avenue	0.05	$33,700

Location	Class	Start	End	Miles	Estimated Project Cost
Country Club Boulevard	3	N. Virginia Lane	Franklin Avenue	1.43	$11,500
Cumberland Place	2	W. Benjamin Holt Drive	Fourteen Mile Drive	0.83	$35,300
Deep Water Lane Path	1	Bear Creek	W. Hammer Lane	1.53	$983,400
Duck Creek Path	1	O'Dell Avenue	S. Airport Way	1.35	$865,800
E. 8th Street	3	S. Airport Way	Bieghie Street	0.44	$3,700
E. Bianchi Road	2	March Lane	Calaveras River Path	1.47	$62,500
E. Fremont Street	3	N. Sierra Nevada Street	Broadway Avenue	1.50	$12,100
E. Hammer Lane	2	Holman Road	State Highway 99	0.83	$35,300
E. Hazelton Avenue	2	Center Street	Delta Street	1.24	$52,800
E. Linden Road	2	Stockton Diverting Canal	Jack Tone Road	4.94	$210,300
E. March Lane	2	West Lane	Montauban Avenue	0.34	$14,800
E. Mariposa Road	3	Duck Creek Trail	Austin Road	2.98	$23,800
E. Morada Lane	2	Highway 99	Plum Avenue	0.61	$25,800
E. Morada Lane	3	West Lane	Mosher Creek	1.02	$8,200
E. Park Street	3	N. El Dorado Street	N. Sierra Nevada Street	0.95	$7,800
E. San Joaquin River Path	1	W. Charter Way	W. 8th Street Extension	0.21	$136,300
E. Wyandotte Street	2	N. Center Street	N. Sutter Street	0.27	$11,500
El Dorado Street	2	Wyandotte Street	E. Hazelton Avenue	1.77	$75,600
Embarcadero Dr - Fourteen Mile Dr	3	Cumberland Place (N)	Cumberland Place (S)	1.27	$10,200
Fairway/River/Rainier/N. Virginia	3	Stockton Golf & Country Club	Stockton Golf & Country Club	1.24	$9,900
Farmington Road	2	S. Olive Avenue	Proposed Street	1.51	$64,200
Farmington Road	2	S. Gillis Road	S. Jack Tone Road	8.79	$374,500
French Camp Road	3	Carolyn Weston Boulevard	Manthey Road	1.89	$15,200
Fulton Street	3	Pacific Avenue	Alpine Avenue	1.21	$9,800
Georgia Avenue	3	W. 8th Street	Houston Avenue	0.59	$4,800
Henry Long Boulevard	2	McDougald Boulevard	Manthey Road	0.50	$21,300
Highway 99 Frontage Road	2	Industrial Drive	Regional Sports Complex	1.72	$73,300
Highway 99 Frontage Road	2	Inspiration Drive	800' S. of Inspiration Drive	0.14	$6,200
Holman Road	3	E. Eight Mile Road	Hendrix Lane	0.74	$6,000
Horton Avenue	3	S. Lincoln Street	Odell Avenue	0.16	$1,300
Houston Avenue	3	W. 8th Street	S. Manthey Road	1.79	$14,400
Industrial Drive	2	S. Airport Way	Highway 99	1.73	$73,900
Industrial Drive	3	S. McKinley Avenue	S. Airport Way	1.22	$9,800

Location	Class	Start	End	Miles	Estimated Project Cost
Inglewood Avenue	3	W. Lincoln Road	W. Swain Road	0.63	$5,100
Inspiration Drive	2	Holman Road	Highway 99 Frontage Road	0.60	$25,400
Kelley Drive	3	Stanfield Drive	W. Hammer Lane	1.09	$8,900
Lorraine Avenue	2	Burgundy Drive	Montauban Avenue	1.25	$53,300
Lower Sacramento Road	3	Armstrong Road	W. Hammer Lane	2.72	$21,900
Manthey Road	3	French Camp Road	W. Mathews Road	1.10	$8,900
Manthey Road	3	W. 8th Street	Houston Avenue	0.48	$3,900
Maranatha Drive	2	Christian Life Way	N. Wilson Way	1.75	$74,500
Maranatha Drive	2	Inspiration Drive	Christian Life Way	0.43	$18,200
Mariners Drive	2	Otto Drive	W. Benjamin Holt Drive	2.37	$101,200
Mathews Rd	3	Manthey Road	El Dorado St	0.23	$1,900
McLeod Lake Bridge	1	North Seawall Park	Weber Point Park	0.05	$34,700
Montauban Avenue	2	E. Hammer Lane	E. March Lane	1.32	$56,200
Monte Diablo Avenue	3	Louis Park	Pershing Avenue	1.82	$14,700
Morada Lane Extension	2	Bike Path	N. West Lane	0.52	$22,100
Mormon Slough Trail	1	S. Lincoln Street	S. Jack Tone Road	8.72	$5,601,400
Mosher Slough Bridge	1	Atlas Tract	Shima Tract	0.11	$68,800
Mosher Slough Path	1	Estate Drive	Thornton Road	1.66	$1,068,900
N. California Street	2	Acacia Street	E. Oak Street	0.28	$12,000
N. el Dorado Street	2	Morada Lane	E. Lincoln Road	1.44	$61,300
N. Filbert Street	3	Belle Avenue	Waterloo Road	0.48	$4,000
N. Filbert Street	3	E. Roosevelt Street	E. Fremont Street	0.42	$3,400
N. Fourteen Mile Slough Path	1	Disappointment Slough	Shima Tract	0.74	$472,400
N. Gettysburg Place	3	Douglas Road	W. Swain Road	0.27	$2,200
N. Ijams Road	2	E. Bianchi Road	Calaveras River Path	0.40	$16,900
N. Mosher Slough Path	1	Otto Drive Ext	Mosher Slough Bridge	0.60	$385,000
N. Mosher Slough Path	1	El Dorado Street	Tam O Shanter Drive	0.86	$549,600
N. Sacramento Street	2	W. Pine Street	W. Walnut Street	0.17	$7,200
N. Wilson Way	2	E. Orwood St	E. Harding Way	0.47	$20,000
NE/SW Bike Path	1	Highway 99	E. Live Oak Road	5.99	$3,846,700
Otto Drive	2	Deep Water Lane Path	Estate Drive	0.41	$17,600
Otto Drive Ext.	3	Deep Water Lane	Regatta Lane Ext.	1.14	$9,100
Panella Park Path	1	Lorraine Avenue	E. Hammer Lane	1.05	$673,000
Pock Lane	2	Charter Way	Arch Airport Road	2.52	$107,400
Proposed Street	2	Holman Road	N. Wilson Way	0.77	$33,000
Proposed Street	3	W. Eight Mile Road	Highway 99	8.48	$67,900
Proposed Street	3	W. Eight Mile Road	Regatta Lane	1.40	$11,200

Location	Class	Start	End	Miles	Estimated Project Cost
Proposed Street	3	S. Airport Way	Austin Road	3.64	$29,200
Proposed Street	3	E. Mariposa Road	State Route 99	1.39	$11,100
Railroad Bike Path	1	N. Wilson Way	Cherokee Road	1.63	$1,048,400
Ralph Avenue	3	S. Airport Way	S. B Street	0.65	$5,200
Regatta Lane	3	W. Eight Mile Road	Twin Brooks Lane	2.88	$23,000
Roth Road	3	Lathrop City Limit	French Camp Road	2.33	$18,600
S. Fresno Avenue	2	W. Charter Way	W. 8th Street	0.43	$18,400
S. Fresno Avenue	3	W. 8th Street	Houston Avenue	0.40	$3,200
S. Golden Gate Avenue	3	E. Main Street	Charter Way	0.23	$2,000
S. Lincoln Street	3	W. Weber Avenue	Horton Avenue	2.37	$19,100
S. Wolfe Road	3	French Camp Road	Roth Road	2.89	$23,100
San Joaquin River Path	1	W. 8th Street	Stein Place	0.92	$588,700
San Joaquin River Path	1	French Camp Road	Roth Road	3.46	$2,220,600
San Joaquin River Path	1	Squall Way	Abruzzi Court	0.14	$90,000
Sanguinetti Lane	2	Stockton Diverting Canal	Alpine Avenue	0.38	$16,300
Shima Tract Road	3	Mosher Slough	Five Mile Slough	1.19	$9,500
South Bear Creek Path	1	Santa Maria Way	Bear Creek	1.53	$980,900
Spanos Park Loop	3	Telephone Cut	W. Eight Mile Road	1.83	$14,600
Sperry Road Path	1	Interstate 5	State Route 99 Frontage Road	3.54	$2,274,000
Stagecoach Road	3	State Highway 4	Duck Creek Path	0.61	$4,900
State Route 88	3	Mosher Creek Path	Comstock Road	2.44	$19,600
Stockton Channel Path	1	Louis Park	Interstate 5	2.06	$1,326,000
Stockton Diverting Canal Path	1	Cherokee Road	Mormon Slough	3.54	$2,274,000
Stockton Golf & CC Path	1	Fairway Drive	N. Virginia Lane	0.60	$384,300
Tam O Shanter Drive	2	E. Morada Lane	Carrington Circle	2.32	$99,100
Telephone Cut Path	1	Bishop Cut	Rio Blanco Area	1.71	$1,101,600
Tenmile Slough Road	3	W. March Lane	2000' South	0.39	$3,100
Thornton Road	2	Bear Creek Levee Road	Cortez Avenue	1.47	$62,900
Thornton Road	2	W. Eight Mile Road	A.G. Spanos Boulevard	0.19	$8,300
Thornton Road	3	Armstrong Road	Devries Road	1.45	$11,600
Thornton Road	3	Cortez Avenue	MacDuff Avenue	0.09	$800
Unnamed Street	3		W. Eight Mile Road	1.49	$11,900
Unnamed Street	3			0.82	$6,500
Unnamed Street	3	Highway 99 Frontage Road	Palmer Avenue	0.76	$6,100
W. 8th Street	3	San Joaquin River	Center Street	2.32	$18,600
W. Benjamin Holt Drive	3	Alexandria Place	N. El Dorado Street	1.71	$13,800

Location	Class	Start	End	Miles	Estimated Project Cost
W. Eight Mile Road	2	Trinity Parkway	Highway 99 Frontage Road	6.48	$276,300
W. Eight Mile Road	3	Bishop Cut	Mokelumne Circle	1.85	$14,800
W. Hammer Lane	2	Bike Path	Lower Sacramento Road	2.56	$109,400
W. Lincoln Road	3	Alexandria Place	N. El Dorado Street	1.59	$12,800
W. Mosher Slough Path	1	Regatta Lane Ext.	Shima Tract	1.80	$1,156,900
W. Rindge Road Path	1	Bear Creek	Fourteen Mile Slough	3.74	$2,400,600
W. Swain Road	3	Cumberland Place	Plymouth Road	0.58	$4,800
Waterloo Road	3	Comstock Road	State Route 99	5.14	$41,200
William Moss Boulevard	1	Crestmore Circle	Carolyn Weston Boulevard	0.31	$196,700
			Totals	**243.29**	**$50,385,700**

Table 5-20 presents the priority and vision project summary miles and cost estimates. Implementation of the bikeway projects would add approximately 57 miles to the bikeway network at an estimated cost of $21.7 million dollars.

Table 5-28: Stockton Bikeway Projects Summary Miles and Costs

Class	Sum of Miles	Sum of Estimated Project Cost
1	76.47	$51,586,700
2	72.20	$3,484,600
3	113.26	$912,600
Pedestrian Improvements	--	$5,100,000
Totals	**261.93**	**$61,083,900**

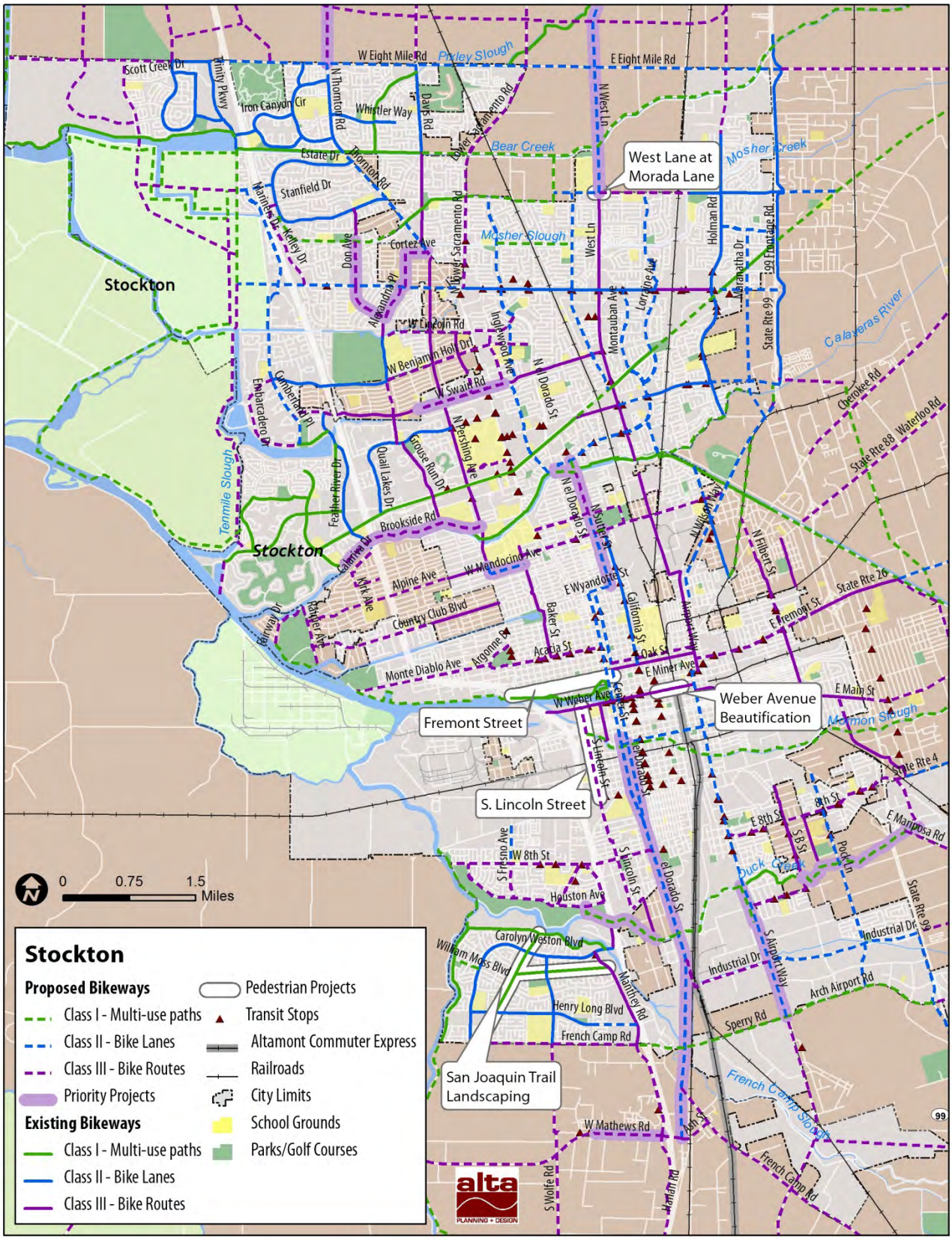


Figure 5-7: Stockton Proposed Bikeways

5.9. City of Tracy

5.9.1. Priority Projects

Table 5-29, **Table 5-30** and **Figure 5-8** present the priority projects for the City of Tracy. The projects will add three Class 2 bike lanes in the City.

Table 5-29: Tracy Priority Bikeway Projects

Location	Class	Start	End	Miles	Estimated Project Cost	Total Score
Central Ave	2	Tracy Blvd	Schulte Rd	1.03	$43,700	55
Lowell Ave	2	Lincoln Blvd	Tracy Blvd	0.47	$20,000	65
MacArthur Dr	2	W Schulte Rd	Valpico Rd	0.65	$27,800	43
			Totals	**2.15**	**$91,500**	

Table 5-30: Tracy Pedestrian Projects

Location	Description	Start	End	Estimated Project Cost	Total Score
Lowell Ave	Sidewalk Improvements	Lincoln Blvd	Tracy Blvd	*Included in Bikeway Project Cost*	65
Mac Arthur Dr	Widening and Sidewalk Installation	W Schulte Rd	Valpico Rd	*Included in Bikeway Project Cost*	40

The City of Tracy did not submit any Safe Routes to School related projects.

5.9.2. Vision Projects

The Vision Network for the City of Tracy was generated from the community's adopted planning documents, including the Tracy Bicycle Plan (2005) and the General Plan Transportation Element (2005). These sources proposed 16.1 miles of Class I paths, 9.4 miles of Class II bike lanes, and 2.9 miles of Class III bike routes.

These projects, listed in **Table 5-31** and in **Figure 5-8**, will help complete the network and are intended for longer-term implementation. The vision bikeway projects include over 28 miles of bikeways

Table 5-31: Tracy Vision Bikeway Projects

Location	Class	Start	End	Miles	Estimated Project Cost
10th Street - 9th Street	3	11th Street	West Street	0.57	$4,700
6th Street Path	1	Central Avenue	N. MacArthur Drive	0.88	$567,600
9th Street - 10th Street	3	East Street	E. 11th Street	0.35	$2,900
Byron Road Path	1	UPRR Trail	UPRR Trail	0.66	$422,900
Byron Road Trail	1	S. Lammers Road	Lankershire Road	0.28	$177,400

Location	Class	Start	End	Miles	Estimated Project Cost
Canal Trail	1	S. Lammers Road	Chrisman Road	4.86	$3,123,000
Central Avenue Path	1	W. 6th Street	Canal Trail	1.21	$775,200
Corral Hollow Path	1	UPRR Trail	W. 11th Street	0.17	$111,900
Corral Hollow Path	1	Cypress Drive	California Aqueduct	3.77	$2,424,400
Corral Hollow Road	2	Parkside Drive	W. Linne Road	1.77	$75,400
Corral Hollow Road	2	Tracy City Limits	W. Grant Line Road	0.38	$16,300
Grant Line Road	2	Lincoln Boulevard	Tracy Boulevard	0.48	$20,300
Grant Line Road	2	Parker Avenue	Railroad Crossing	0.73	$31,000
Linne Road	2	Corral Hollow Road	S. Macarthur Drive	2.00	$85,100
Macarthur Drive	2	Mount Diablo Avenue	W. Schulte Road	0.32	$13,800
Macarthur Drive Ext.	2	11th Street	Macarthur Drive	0.72	$30,600
S. MacArthur Drive	2	Fairoaks Road	Linne Road	0.44	$18,700
Schulte Road	2	S. Lammers Road	Barcelona Drive	1.10	$46,700
Tracy Boulevard	3	Clover Road	12th Street	1.45	$11,800
UPRR Rail Trail	1	Central Avenue	Canal Path	2.71	$1,743,800
UPRR Trail	1	Corral Hollow Road	Holly Drive	1.60	$1,025,900
Valpico Road	2	800' E of Tracy Blvd	2600' E of Tracy Blvd	0.34	$14,500
Valpico Road	2	S. Corral Hollow Road	Canal Trail	0.50	$21,300
W. 11th Street	2	Proposed Path	10th Street	0.36	$15,400
W. Grant Line Road	2	Naglee Road	Toste Road	0.33	$14,000
W. Mount Diablo Avenue	3	Tracy Boulevard	N. Central Avenue	0.51	$4,100
			Totals	**28.47**	**$10,798,700**

Table 5-32 presents the priority and vision project summary miles and cost estimates. Implementation of the bikeway projects would add over 30 miles to the bikeway network at an estimated cost of $10.9 million dollars.

Table 5-32: Tracy Bikeway Projects Summary Miles and Costs

Class	Sum of Miles	Sum of Estimated Project Cost
1	16.14	$10,372,100
*2	11.60	$494,600
3	2.88	$23,500
Totals	**30.62**	**$10,890,200**
		**Includes cost of pedestrian improvements.*

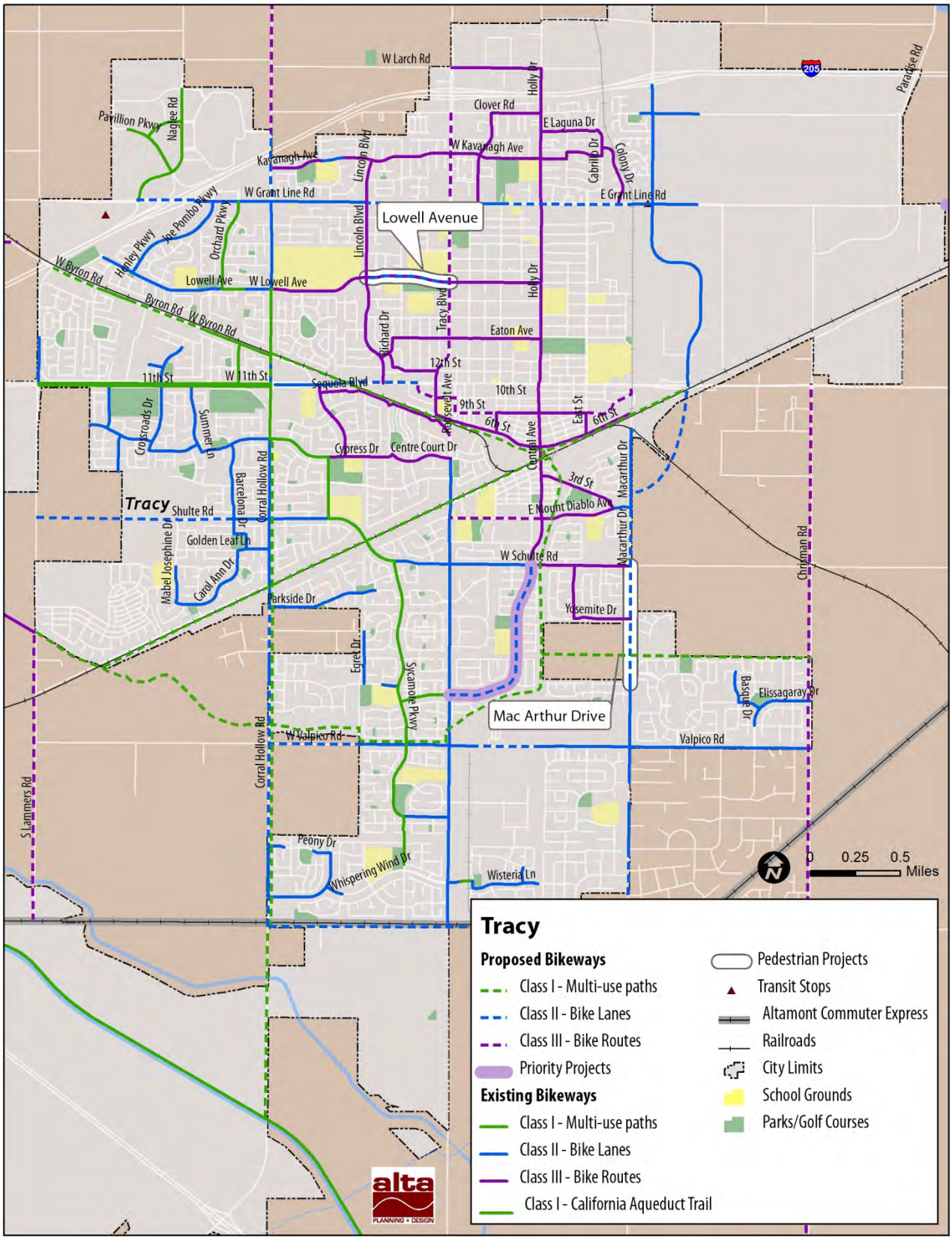


Figure 5-8: Tracy Proposed Bikeways

6. Program Recommendations

Pedestrian and bicycle programs, such as education and enforcement programs, are essential in increasing the desirability and safety of walking and biking. Programs support a pedestrian and bicycle friendly culture, and encourage more people to walk or bike. Many programs can be categorized according to the "Four E's":

Adult bicycle skills courses can help bicyclists have the information and skills they need to avoid hazards and follow the law.

- **Encouragement** programs provide incentives and support to help people leave their car at home and try walking or bicycling instead. Bicycle encouragement programs, in particular, target "interested but concerned" bicyclists who would like to ride a bike but who may not be confident in their skills or in their interactions with motorists.
- **Enforcement** programs enforce legal and respectful walking, bicycling, and driving. They include a variety of tactics, ranging from police enforcement to neighborhood signage campaigns.
- **Education** programs are designed to improve safety and awareness. They can include in-classroom or after school programs that teach students how to safely cross the street or bicycle in the road. They may also include brochures, posters, or other information that targets pedestrians, bicyclists, or drivers.
- **Evaluation** programs are an important component of any engineering or programmatic investment. They help the City to measure its success at meeting the goals of this plan and to identify adjustments that may be necessary.

Some programs specifically apply to helping students safely walk and bicycle to school. **Appendix C** describes these Safe Routes to School programs in detail.

6.1. Education

6.1.1. Pedestrian and Bicycle Safety Campaign

A well-produced safety campaign will memorably and effectively highlight walking and bicycling as viable forms of transportation and reinforce safety for all road users. One good example is Sonoma County Transit Agency's "You've got a friend who bikes!" campaign. It combines compelling ads with an easy-to-use website focused at motorists, pedestrians, and bicyclists. Safety and awareness messages should be displayed near high-traffic corridors, printed in local publications, broadcast as radio and/or television ads and be available in Spanish and other languages.

The City of San Jose created a pedestrian and bicycle safety campaign called Street Smarts. The program emphasizes the shared responsibilities of all road users, incorporating a website, flyers, and billboards that remind pedestrians, bicyclists, and motorists of safe travel behaviors. The Council and its member jurisdictions should consider developing a pedestrian and bicycle safety campaign.

The campaign could be based on the successful Street Smarts program, or other local efforts.

6.1.2. Adult Bicycling Skills Classes

Adult bicycling skills classes enable community members to learn safe bicycling skills. The most common program is the League of American Bicyclists courses, taught by League Certified Instructors. Courses cover bicycle safety checks, fixing a flat, on-bike skills, crash avoidance techniques, and traffic negotiation.[15]

San Joaquin County 4H conducts an annual Tractor, Vegetable, & Bicycle Field Day in Manteca. Cities and local school districts should continue to establish such partnerships. While there are no League Certified Instructors registered in San Joaquin County, there are many based in the nearby Sacramento and East Bay areas.[16]

6.1.3. Citation Diversion Program

A diversion class can be provided to motorists in lieu of a citation and/or fine. Individuals would have the option of taking a onetime, free or inexpensive class instead. In Marin County, interested citizens can take the class even if they did not receive a ticket. This program is a good way to educate road users about bicycle and pedestrian rights and responsibilities, and can also increase public acceptance of enforcement actions. Communities in San Joaquin County should pursue establishing a Citation Diversion Program to educate drivers who drive unsafely about safe driving around pedestrians and bicyclists.

6.2. Encouragement

6.2.1. Light and Helmet Giveaways

Bicycling provides a low-cost means for transportation for many low-income residents in San Joaquin County. To encourage safe bicycling behavior, communities in San Joaquin County should consider helmet and bicycle light giveaways. These inexpensive pieces of equipment can significantly improve safety among the region's residents. The Office of Traffic Safety offers financial and other support for these programs: http://www.ots.ca.gov/

6.2.2. Walk and Bike to Work Programs

Walking and biking to work has many benefits, including reducing the stress associated with driving in rush-hour traffic, reducing health costs by improving worker health, and helping businesses market their environmental sustainability.

Many local jurisdictions participate in Bike to Work Day: San Joaquin County annually proclaims Bike to Work Day by Council vote and Downtown Stockton held a Bike to Work Day and Mayor's Ride in May, 2012. The Council has helped to promote these events in the past and should continue to do so. Municipalities should continue to support Bike to Work Day and explore additional policies and programs that can encourage walking and biking to work.[17]

Local jurisdictions may consider policies that require bicycle parking and implement other transportation demand management measures such as shared parking or flexible parking requirements.

[15] Information about this program is available here: http://www.ebbc.org/safety
[16] This database may be queried to find local bicycling resources: http://findit.bikeleague.org/search/?c=stockton&s=CA&z=95202&r=50
[17] Information about the commuter choice program can be found here: http://ntl.bts.gov/lib/jpodocs/repts_pr/13669/section10.htm

6.2.3. Bicycle Friendly Community

The League of American Bicyclists has a well-respected Bicycle-Friendly Communities award program. Communities fill out a detailed application that covers bike-related facilities, plans, education efforts, promotion initiatives, and evaluation work that has been completed by the jurisdiction. The award is designed to recognize progress that has been made, as well as assist communities in identifying priority projects to improve bicycling conditions. Receiving the award is a media-worthy event, and may give elected officials the opportunity to receive media coverage for the positive work they are doing. Awards are granted for Bronze, Silver, Gold and Platinum bicycle-friendly communities.

Receiving a Bicycle Friendly Community designation affirms a city's support for bicycling

6.2.4. Bicycle Parking Ordinance

Local jurisdictions may be interested in adopting bicycle parking ordinances that require new developments to provide bicycle parking facilities for customers. General guidance for bicycle parking requirements is provided in **Appendix A**. Cities could model their bicycle parking ordinances after this sample adopted by the City of Emeryville:

http://ca-emeryville.civicplus.com/DocumentView.aspx?DID=1006

6.3. Enforcement

6.3.1. Community-Based Traffic Program

Community-based traffic programs are focused on developing relationships between a local Public Works and Police Departments and residents. Residents work with City and County staff to identify problem areas to target for police enforcement, community policing, and potential infrastructure priorities. For example, in response to mounting complaints about speeding and commute traffic, the City of Sacramento implemented a Neighborhood Traffic Management Program.[18] The program also informs the community about how Public Works operates to encourage community members to be proactive about the problems they see in their community.

One possible outcome of the community-based process is the deployment of mobile speed feedback signs or yard signs in response to concerns about traffic speed. Speed feedback signs display the speed of passing motor vehicles, with the intent that motorists will slow down if they are aware of their speed. These can either be permanent signs or trailers that can be periodically moved to new locations.

6.3.2. Targeted Enforcement

Targeted enforcement refers to focused efforts of law enforcement officers. For example, local police departments may conduct pedestrian stings at locations where there is a history of pedestrian-motorist conflicts. Similar strategies may be applied to areas with bicycle traffic, perhaps focusing on citations for issues deemed to cause most collisions. As shown in the Needs Analysis, the most dangerous violation for bicyclists is wrong-way riding and for motorists, improper turning and crosswalk violations.

[18] Information about the Neighborhood Traffic Management Program is available at: http://www.ite.org/traffic/documents/CCA96B62.pdf

6.4. Evaluation

Evaluation programs measure and evaluate the effectiveness of projects, policies and programs. They may include comparing travel mode data over time, collecting bicycle and pedestrian counts, and administering community surveys.

6.4.1. Bicycle and Pedestrian Counts

Pedestrian and bicycle counts and community surveys act as methods to evaluate not only the effectiveness of specific pedestrian and bicycle improvement projects but can also function as way to measure progress towards the region's goals. Communities should consider having pedestrian and bicycle counts conducted as a condition of new development and should expand their traffic counting efforts by:

- Conducting before and after pedestrian, bicycle, and vehicle counts on all roadway projects.
- Conducting annual pedestrian and bicycle counts at count locations included in this Plan.
- Exploring the possibility of using automatic counters to collect data on key pedestrian and bicycle corridors. Automatic count technologies can be useful for bicycle count efforts. In-pavement loop detectors accurately count bicycle activity on-street and infrared counters can count pedestrian and bicycle activities on paths.[19]

6.4.2. Pedestrian and Bicycle Report Card

Cities around the world have begun monitoring their bicycle and pedestrian programs in order to track the number of non-motorized users, gauge user perceptions of the bicycle and pedestrian networks and identify trends in safety. Results are often published in a periodic bicycle and pedestrian account or report card, which can be distributed to the public as a means of publicizing the city's commitment to improving walking and bicycling conditions. An annual or semi-annual pedestrian and bicycle report card would help to track progress toward meeting the goals and policies presented in this Plan. Data collection may include a community and workforce survey, pedestrian and bicycle counts, and summary of collision and hospital records.

[19] The National Bicycle and Pedestrian Documentation Project provides a methodology for conducting counts. Nationwide, most pedestrian and bicycle counts occur in May and cities in San Joaquin County may consider adopting the same month to allow comparisons between jurisdictions. Resources from National Bicycle and Pedestrian Documentation Project: www.bikepeddocumentation.org

7. Implementation and Funding Strategy

This Plan is intended to develop priorities for implementation of projects in the near-term and set guidance for long-term projects.

This chapter presents priority projects identified in this Plan and a funding strategy for implementation. A complete list of proposed projects, including priority and vision projects, is presented in **Appendix E**. The chapter also describes considerations for bicycle and pedestrian project funding, including an overview of regional, state and federal funding sources.

7.1. Priority Projects

This section provides a complete list of priority bikeway and pedestrian projects. **Table 7-1** lists priority bikeway projects and **Table 7-2** presents priority pedestrian improvement projects. Each table is organized by the project formation score, as described in **Chapter 4**.

Table 7-1: Priority Bikeway Projects Scores

Jurisdiction	Location	Start	End	Bikeway Class	Gap Closure	Collision & Safety	Project Readiness	Activity Center	School Proximity	SRtS Support	Community Support	CMP	Matching Funds	Innovation	Total Score	Estimated Project Cost
Stockton	Oak Park Bike Path	N. Sutter Street	California Street	1	10	20	6	15	5	0	10	0	10	0	76	$77,800
Stockton	Calaveras South Levee Path	N. El Dorado Street	N. Sutter Street	1	10	5	6	15	5	0	10	5	10	10	76	$1,100,000
Lodi	Tokay St	Union Pacific Railroad	Union Pacific Railroad	2	10	10	0	15	5	10	0	5	10	10	75	$220,000
Lodi	Victor Road	Sacramento St	Central California Traction	1	10	20	3	15	5	5	0	5	10	0	73	$2,500,000
Lodi	Century Blvd	Church St	Cherokee Lane	2	10	15	6	10	5	5	0	5	10	0	66	$1,400,000
Ripon	Manteca-Ripon Connector (Ripon)	River Road	Kamps Way	1	10	20	0	15	5	0	0	5	10	0	65	$1,800,000
Stockton	W. Swain Road	N. Harrisburg Place	Inglewood Avenue	3	10	20	0	15	5	0	0	5	10	0	65	$8,000
Stockton	N. Pershing Avenue	Alpine Avenue	W. Mendocino Avenue	2	10	20	0	15	5	0	0	5	10	0	65	$3,700
Tracy	Lowell Ave	Lincoln Blvd	Tracy Blvd	2	10	20	0	10	5	5	0	5	10	0	65	$20,000
Stockton	Cortez Ave - Balboa Ave	Thornton Road	Alexandria Place	3	10	20	0	15	5	0	0	5	10	0	65	$6,000
Lodi	Calaveras-Central Path	E. Lockeford Street	Railroad Avenue	1	10	10	0	15	5	10	0	5	10	0	65	$23,100
Stockton	W. Mendocino Avenue	N. Pershing Avenue	N. Kensington Way	2	10	20	0	15	5	0	0	5	10	0	65	$37,500
Stockton	Airport Way Phase 5	750' South of 12th Street	Carpenter Road	1	10	5	3	15	5	0	10	5	10	0	63	$900,000
Stockton	Don Avenue	Mosher Slough Path	W. Hammer Lane	3	10	20	0	15	5	0	0	0	10	0	60	$5,300
Stockton	Brookside Road	Brookside Elementary School	N. Pershing Avenue	3	10	20	0	15	5	0	0	0	10	0	60	$13,500
Stockton	N. Sutter Street	E. Fulton Street	E. Wyandotte Street	2	0	20	0	15	5	0	0	5	10	0	55	$108,000
Stockton	S. El Dorado Street	Hazelton Avenue	4th Street	2	0	20	0	15	5	0	0	5	10	0	55	$90,000

Jurisdiction	Location	Start	End	Bikeway Class	Gap Closure	Collision & Safety	Project Readiness	Activity Center	School Proximity	SRtS Support	Community Support	CMP	Matching Funds	Innovation	Total Score	Estimated Project Cost
Stockton	N. West Lane	E. Eight Mile Road	E. Morada Lane	2	10	15	0	10	5	0	0	5	10	0	55	$60,400
Stockton	Meadow Avenue	W. Hammer Lane	Alexandria Place	3	0	20	0	15	5	0	0	5	10	0	55	$5,300
Stockton	Alexandria Place	W. Hammer Lane	Meadow Avenue	3	10	20	0	15	5	0	0	5	0	0	55	$3,200
Tracy	Central Ave	Tracy Blvd	Schulte Rd	2	10	10	0	10	5	5	0	5	10	0	55	$43,700
Manteca	Tidewater Bikeway (Lathrop Road)	Lathrop Rd	Union Ranch Subdivision	1	10	0	9	10	5	0	10	0	10	0	54	$152,300
Lathrop	Harlan Rd	Howland Rd	Roth Rd	2	10	20	3	10	5	0	0	5	0	0	53	$211,100
Lathrop	Lathrop Rd	San Joaquin River	Lathrop-Manteca City Limit	2	10	15	3	15	5	0	0	5	0	0	53	$109,100
Lodi	N. West Lane	Harney Lane	E. Eight Mile Road	2	10	5	3	10	5	5	0	5	10	0	53	$500,000
Stockton	Airport Way	Carpenter Road	Stockton Municipal Airport	2	10	5	0	15	5	0	0	5	10	0	50	$309,000
Lathrop	Golden Valley Parkway	Paradise Cut	Roth Rd	2	10	5	3	10	5	0	0	5	10	0	48	$290,400
Escalon	Stanislaus St	Yosemite Ave	Miller Ave	2	10	0	0	15	5	0	0	5	10	0	45	$16,000
Stockton	Duck Creek Path	S. B Street	Pock Lane	1	10	0	0	15	5	0	0	5	10	0	45	$800,000
San Joaquin County	Escalon-Bellota Rd	E. Mariposa Road	Escalon City Limits	3	10	5	0	10	5	0	0	5	10	0	45	$15,400
Stockton	Walker Slough Path	Houston Avenue	O'Dell Avenue	1	10	5	0	15	5	0	0	0	10	0	45	$1,200,000
Ripon	East Stanislaus River Trail	Laurelwood Lane	Proposed Spring Creek Path	1	10	0	0	10	5	0	10	0	10	0	45	$800,000
Stockton	S. El Dorado Street	4th Street	W. Mathews Road	2	0	20	0	15	5	0	0	5	0	0	45	$156,300
Tracy	MacArthur Dr	W Schulte Rd	Valpico Rd	2	10	5	3	10	5	0	0	0	10	0	43	$27,800
Manteca	Atherton Drive	Union Road	Sparrowhawk Street	1	10	0	0	10	5	0	0	5	10	0	40	$580,400

Jurisdiction	Location	Start	End	Bikeway Class	Gap Closure	Collision & Safety	Project Readiness	Activity Center	School Proximity	SRtS Support	Community Support	CMP	Matching Funds	Innovation	Total Score	Estimated Project Cost
Stockton	Center Street	Church Street	S. El Dorado Street	2	0	20	0	15	5	0	0	0	0	0	40	$42,300
Stockton	Mathews Rd	Howard Rd	Manthey Road	3	0	10	0	15	5	0	0	0	10	0	40	$6,000
Escalon	Ullrey Avenue	Brennan Rd	Main St	2	10	0	0	15	5	0	0	0	10	0	40	$42,600
Lathrop	Louise Avenue	Golden Valley Parkway	Lathrop-Manteca City Limit	2	10	5	3	15	5	0	0	0	0	0	38	$89,400
Ripon	West Stanislaus River Trail	Jack Tone Driving Range	Austin Road	1	10	0	0	5	0	0	10	0	10	0	35	$1,600,000
Manteca	Atherton Road West Extension	End of Existing Class 1	Woodward Ave	1	10	5	0	5	0	0	0	5	10	0	35	$1,316,300
San Joaquin County	Thornton Road	DeVries Road	W. Eight Mile Road	3	10	0	0	5	5	0	0	5	10	0	35	$8,100
Escalon	Yosemite Ave	Stanislaus Street	Dent Street	2	10	0	0	10	5	0	0	5	0	0	30	$6,000
Stockton	Duck Creek Path	Pock Lane	Stagecoach Road	1	10	0	0	15	5	0	0	0	0	0	30	$665,900
San Joaquin County	Grant Line Rd	Eleventh St	Tracy City Limits	3	0	0	0	10	5	0	0	5	10	0	30	$14,600
Manteca	Manteca-Ripon Connector (Manteca)	Woodward Road	Planned River Road Bikeway	1	10	5	0	0	0	0	0	5	10	0	30	$1,919,200
Lathrop	W. Yosemite Ave	San Joaquin River	W. City Limits	2	10	0	3	10	0	0	0	5	0	0	28	$51,600
Lathrop	Guthmiller Road	End of Street	Yosemite Avenue	2	10	0	3	0	0	0	0	5	0	10	28	$24,400
Lathrop	Manthey Road	Sadler Oak Drive	San Joaquin River	2	10	0	3	5	5	0	0	5	0	0	28	$26,200
Ripon	Jack Tone Road	Yosemite Avenue	Santos Avenue	1	10	0	0	0	0	0	0	5	10	0	25	$1,807,300
San Joaquin County	Lower Sacramento Rd	Jahant Road	Acampo Road	3	0	0	0	10	5	0	0	0	10	0	25	$16,000
San	Lower Sacramento	Acampo Road	Woodbridge	3	0	0	0	10	5	0	0	0	10	0	25	$11,200

Jurisdiction	Location	Start	End	Bikeway Class	Gap Closure	Collision & Safety	Project Readiness	Activity Center	School Proximity	SRtS Support	Community Support	CMP	Matching Funds	Innovation	Total Score	Estimated Project Cost
Joaquin County	Rd		Road													
San Joaquin County	Manthey Road	Roth Road	Klo Road	3	0	5	0	5	0	0	0	5	10	0	25	$5,900
San Joaquin County	N. Sutter Street	E. Ingram Street	E. Fulton Street	3	0	0	0	15	5	0	0	5	0	0	25	$3,900
San Joaquin County	Ray Rd	W. Peltier Road	Kile Rd	3	0	0	0	5	5	0	0	5	10	0	25	$8,000
Escalon	Brennan Rd	1st Street	Ullrey Avenue	2	10	0	0	0	0	0	0	0	10	0	20	$19,800
San Joaquin County	Durham Ferry Rd	S. Kasson Rd	New Jerusalem Airport	3	0	0	0	5	5	0	0	0	10	0	20	$14,500
San Joaquin County	Roth Road	Harlan Rd	Lathrop-Manteca City Limit	2	10	5	0	5	0	0	0	0	0	0	20	$37,600
San Joaquin County	Woodbridge Rd	N. Ray Road	DeVries Road	3	0	5	0	0	0	0	0	0	10	0	15	$8,000
San Joaquin County	Copperopolis Rd	Hewitt Rd	Escalon-Bellota Rd	3	0	0	3	0	0	0	0	0	10	0	13	$610,000
Stockton	Signage Program				0	0	0	0	0	0	0	0	10	0	10	$150,000
Stockton	Feasible Class III Bike Routes				0	0	0	0	0	0	0	0	10	0	10	$200,000

In addition, several cities submitted pedestrian projects, listed below:

Table 7-2: Priority Pedestrian Projects

Jurisdiction	Location	Description	Start	End	Gap Closure	Safety	Readiness	CAC	SR2S Proximity	SR2S Support	Community Support	Vulnerable	CMP	Matching Funds	Innovative	Score	Estimated Project Cost
Lodi	Tokay St	Railroad Crossing Improvements	Union Pacific Railroad	Union Pacific Railroad	10	10	0	15	5	0	0	5	5	10	10	70	--
Tracy	Lowell Ave	Sidewalk Improvements	Lincoln Blvd	Tracy Blvd	10	20	0	10	5	0	0	5	5	10	0	65	--
Lodi	Calaveras-Central Path	Pedestrian Walkway	E. Lockeford Street	Railroad Avenue	0	10	0	15	5	0	0	0	0	0	0	65	--
Stockton	S. Lincoln Street	ADA Accessibility Improvements	Weber Avenue	Martin Luther King Blvd	0	20	0	15	5	0	0	5	5	0	0	50	$250,000
Stockton	Weber Ave	Beautification	Stanislaus Street	Union Street	0	15	0	15	5	0	0	0	5	10	0	50	$3,300,000
Stockton	Fremont Street	ADA Accessibility Improvements	Pershing Avenue	El Dorado Street	0	20	0	15	5	0	0	5	0	0	0	45	$150,000
Tracy	Mac Arthur Dr	Widening and Sidewalk Installation	W Schulte Rd	Valpico Rd	10	5	0	10	5	0	0	0	0	10	0	40	--
Stockton	West Lane at Morada Lane	Transit Access Improvements	NE and SW Corners		0	15	0	10	5	0	0	5	5	0	0	40	$100,000
Stockton	San Joaquin Trail	Landscaping	William Moss Boulevard	Ishi Goto	0	5	0	15	5	0	0	0	0	10	0	35	$1,300,000

-- Project costs either included in bikeway project cost estimate or not available.

7.2. Implementation

Implementation of the priority projects described in this plan would cost approximately $27.4 million dollars as described in Table 7-3 and Table 7-4.

Table 7-3: Priority Bikeway Cost by Jurisdiction

Jurisdiction Class	Sum of Miles	Sum of Estimated Project Cost
Escalon (totals)	**1.98**	**$84,400**
2	1.98	$84,400
Lathrop (totals)	**18.83**	**$802,200**
2	18.83	$802,200
Lodi (totals)	**5.91**	**$4,643,100**
1	1.60	$2,523,100
2	4.30	$2,120,000
Manteca (totals)	**6.17**	**$3,968,200**
1	6.17	$3,968,200
Ripon (totals)	**6.77**	**$6,007,300**
1	6.77	$6,007,300
San Joaquin County (totals)	**16.37**	**$753,200**
2	0.88	$37,600
3	15.49	$715,600
Stockton (totals)	**18.63**	**$5,948,200**
1	3.59	$4,743,700
2	9.44	$807,200
3	5.61	$47,300
Citywide		$350,000
Tracy (totals)	**2.15**	**$91,500**
2	2.15	$91,500
Totals	**76.82**	**$22,298,100**

Table 7-4: Priority Pedestrian Improvement Cost by Jurisdiction

Jurisdiction Description	Estimated Project Cost
Lodi	
Pedestrian Walkway	NA
Railroad Crossing Improvements	NA
Stockton (totals)	**$5,100,000**
ADA Accessibility Improvements	$400,000
Beautification	$3,300,000
Landscaping	1$,300,000
Transit Access Improvements	$100,000
Tracy	
Sidewalk Improvements	NA
Widening and Sidewalk Installation	NA
Totals	**$5,100,000**

7.3. Funding Projects through Measure K

One of the key objectives of this BP-SRtS Plan is to identify projects for consideration of Measure K funding. In November 2006, the voters of San Joaquin County approved the use of Measure K funds to expand and enhance pedestrian and bicycle safety and facilities within San Joaquin County. The goal of the Bike, Pedestrian, and Safe Routes to Schools (BP-SRtS) Program Guidelines is to ensure that Measure K funds (Competitive / Non-Competitive) are expeditiously utilized to deliver projects that are valued throughout the region.

Measure K funding for the BP-SRtS program is derived from 7% of the total Transit Category Funding which represents 30% of the entire Measure K program. Of the funds available, 60% will be programmed through a competitive process and the remaining non-competitive 40% of funds will be made available for project delivery per a population based formula by individual jurisdiction.

Projects identified under the Plan include pre-construction (e.g., planning, design, and environmental clearance) and construction activities (e.g., construction management and construction) required for delivering capital projects. These capital projects are expected to command the majority of available funding under the BP-SRtS program and must improve safety and the ability to walk and bike to identifiable CACs.

Funds may be used for right-of-way acquisition upon approval by the SJCOG Board of Directors on a case-by-case basis with consideration of both legal and financing constraints. BP-SRtS funds cannot be used for on-going maintenance and operation of existing and/or future facilities. All competitive funds expended for preconstruction activities that do not result to the delivery of a capital project must be reimbursed back to the BP-SRtS program by the sponsoring agency.

A Strategic Project Programming (SPP) process will be implemented to determine the amount of competitive funding available for project delivery. As a "Pay Go" program, this will establish the ceiling of funding commitments that can be made on an annual basis.

The SPP process would be based on the amount of funds projected to be realized within the 5-year window relative to the total annual amount available for use in any given year. In addition to the competitive funds, a jurisdiction can advance up to five (5) years of non-competitive funds to be coupled with competitive funds to accelerate project delivery. The amount of non-competitive funding that can be advanced will be dependent on available capacity within the year(s) the project is intended to be delivered.

Ability to match the funding request up to a minimum of 10% is desired. Use of Measure K BP-SRtS 40% funds could be used to meet the matching fund requirement. However, the application must be accompanied by a letter of support from the jurisdiction where the need to located agreeing to use these funds to meet the matching requirement. Other non-Measure K funds used to meet the matching fund requirement can include private or public funds that are at the discretion of the applicant agency. Applications will be processed and scored by SJCOG along with input from the BP-SRtS Advisory Group. Results will be reported to the SJCOG Board of Directors.

A preliminary analysis of expected available BP-SRtS Measure K funding over the next ten years is approximately $8.9 million dollars and this amount is not sufficient to fund the priority projects identified in this Plan. Measure K funds are not intended to be the sole source of revenue used for project delivery.

Leveraging other funding sources to maximize project delivery is imperative. Each BP-SRtS project sponsor will be required to apply to alternative grant funding sources when available. BP-SRtS funds can be used to meet any required matching fund requirements associated with the outside funding application processes. Examples of federal, state, and private grant funding sources are described in the following section.

7.4. Funding Opportunities

Bicycle, pedestrian and Safe Routes to School funding is administered at all levels of government. This chapter begins with an explanation of the current state of federally-administered funding and the new 2012 transportation bill, which influences State, regional and local funding and is followed by a description of funding sources that may be pursued to implement facilities and programs in this Plan. **Table 7-5** lists the funding sources described in this chapter and summarizes important funding source components, such as funding amount available, application deadlines and eligible applicants.

7.4.1. Federally-Administered Funding

The passage of the Intermodal Surface Transportation Efficiency Act (ISTEA) in 1991 signaled a major change to allocation of federal funding for transportation projects. As the first federal legislation after the completion of the Interstate Highway System, ISTEA presented an intermodal approach to transportation planning and funding, giving additional control to the country's Metropolitan Planning Organizations. ISTEA and subsequent transportation legislation, the Transportation Equity Act for the 21st Century (TEA-21) (1998) and the Safe, Accountable, Flexible, Efficient Transportation Equity Act, a Legacy for Users (SAFETEA-LU) (2005), have allocated dedicated funding for transit, bicycle and pedestrian projects and programs. Bicycle and pedestrian projects are funded at a very small percentage compared to highway projects, but SAFETEA-LU provided broader eligibility requirements than previous acts that allow bicycle and pedestrian projects to qualify for traditional "highway" funding.

On June 29, 2012 a new transportation bill (MAP-21) was passed that has many changes to the funding of Complete Streets elements. SAFETEA-LU, the previous legislation contained dedicated programs including - Transportation Enhancements, Safe Routes to School, and Recreational Trails - which were all commonly tapped sources of funding to make non-motorized improvements nationwide. MAP-21 combines these programs into a single source called 'Transportation Alternatives.' Overall levels of funding for these programs were reduced from $1.2 billion annually to approximately $800 million – a reduction of one third. Additionally, states may 'opt-out' of up to 50 percent of the funding and use it for other projects. If Montana decides to opt-out, this will result in a reduction in funding for Complete Street related improvements by up to two-thirds when compared to 2011 levels.

At the time of publication of this Plan, these funding mechanisms are new, implications of MAP-21 are not yet fully clear.

7.4.2. State-Administered Funding

The State of California uses both federal sources and its own budget to fund the following bicycle projects and programs.

Bicycle Transportation Account

The Bicycle Transportation Account (BTA) provides state funding for local projects that improve the safety and convenience of bicycling for transportation. Because of its focus on transportation, BTA projects must serve a transportation purpose. Funds are available for both planning and construction. Caltrans administers BTA funds, and requires eligible cities and counties to have adopted a Bicycle Transportation Plan. This Bicycle Master Plan meets BTA requirements for state funding. City Bicycle Transportation Plans must be approved by the Metropolitan Transportation Commission (local MPO) prior to Caltrans approval. Out of $7.2 million available statewide, the maximum amount available for individual projects is $1.2 million.

Online resource: www.dot.ca.gov/hq/LocalPrograms/bta/btawebPage.htm

Federal Safe Routes to School (SRTS) and California Safe Routes to School (SR2S)

Caltrans administers funding for Safe Routes to School projects through two separate and distinct programs: the state-legislated Program (SR2S) and the federally-legislated Program (SRTS). Both programs competitively award reimbursement grants with the goal of increasing the number of children who walk or bicycle to school.

California Safe Routes to School Program requires a 10 percent local match and is eligible to cities and counties, and targets children in grades K-12. The fund is primarily for construction, but applicants may use up to 10 percent of the program funds for education, encouragement, enforcement and evaluation activities. Cycle 9 provided $24.25 million for FY 10/11.

The Federal Safe Routes to School Program is now incorporated in to MAP-21 and the specific implications to this program are unclear at the time of this publication.

Online resource: http://www.dot.ca.gov/hq/LocalPrograms/saferoutes/saferoutes.htm

California Conservation Corps

The California Conservation Corps (CCC) is a public service program that occasionally provides assistance on construction projects. The CCC may be written into grant applications as a project partner. In order to utilize CCC labor, project sites must be public land or publicly-accessible. CCC labor will not perform regular maintenance, but will perform annual maintenance, such as the opening of trails in the spring.

Online resource: http://www.ccc.ca.gov/

Transportation Planning Grant Program

The Transportation Planning Grant Program, administered by Caltrans, provides two grants for bicycle project planning and construction.

The Community-Based Transportation Planning Grant funds projects that exemplify livable community concepts, including bicycle improvement projects. Eligible applicants include local governments, MPOs, and RPTAs. A 20 percent local match is required and projects must demonstrate a transportation component or objective. There is $3 million available annually statewide. The maximum grant award is $300,000.

The Environmental Justice: Context Sensitive Planning Grants promote context sensitive planning in diverse communities and funds planning activities that assist low-income, minority, and Native American communities to become 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. The maximum grant award is $300,000.

Online resource: www.dot.ca.gov/hq/tpp/grants.html

Highway Safety Improvement Program

The Highway Safety Improvement Program funds are allocated to States as part of MAP-21. The goal of HSIP funds is to achieve a significant reduction in traffic fatalities and serious injuries on all public roads. As required under the Highway Safety Improvement Program (HSIP) California Department of Transportation has developed and is in the process of implementing a Strategic Highway Safety Plan (SHSP). A portion of the HSIP funds allocated to each state is set aside for construction and operational improvements on high-risk rural roads. If the state has a Strategic Highway Safety Plan, the remainder of the funds may be allocated to other programs, including projects on bicycle pathways or trails and education and enforcement. The local match varies between 0 and 10 percent. The maximum grant award is $900,000.

Caltrans issues an annual call for projects for HSIP funding. Projects must meet the goals of the Strategic Highway Safety Plan.

Federal HSIP online resource: http://www.fhwa.dot.gov/safetealu/factsheets/hsip.htm

Caltrans HSIP online resource: http://www.dot.ca.gov/hq/LocalPrograms/hsip.htm

Land and Water Conservation Fund

Land and Water Conservation Fund (LWCF) is a federally funded program, run through the National Park Service that provides grants for planning and acquiring outdoor recreation areas and facilities, including trails. The fund is administered by the California Department of Parks and Recreation. The fund 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.

On June 3, 2009, Secretary of the Interior Ken Salazar signed the LWCF 2009 Certificate of Apportionment, which distributes over $27 million to the States, Territories, and the District of Columbia. Approximately $2.3 million is available for projects in California.

National Park Service website: http://www.nps.gov/lwcf/

California LWCF website: http://www.parks.ca.gov/default.asp?page_id=21360

Wildlife Conservation Board Public Access Program

The Wildlife Conservation Board (WCB) is a California State board that provides grants to public agencies and non-profit groups and organizations. The focus of the Board's grant funding program is the acquisition of lands or improvements that preserve wildlife habitat or provide recreational access for hunting, fishing, or other wildlife-oriented activities. Up to $250,000 dollars are available per project. Applications are accepted quarterly. Projects eligible for funding include interpretive trails, river access, and trailhead parking areas.

The State of California must have a proprietary interest in the project. Local agencies are generally responsible for the planning and engineering phases of each project.

Wildlife Conservation Board online resource: http://www.wcb.ca.gov/

Environmental Enhancement and Mitigation Funds

The Environmental Enhancement Mitigation Program (EEMP) provides grant opportunities for projects that indirectly mitigate environmental impacts of new transportation facilities. Projects should fall into one of the following three categories: highway landscaping and urban forestry, resource lands projects, or roadside recreation facilities. Funds are available for land acquisition and construction. The local Caltrans District must support the project. The average award amount is $250,000.

Online resource: http://resources.ca.gov/eem/

State Highway Operations & Protection Program

The State Highway Operations and Protection Program (SHOPP) is a Caltrans funding source with the purpose of purpose of maintaining and preserving the investment in the State Highway System and supporting infrastructure. Projects typically fall into the following categories: collision reduction, major damage restoration, bridge preservation, roadway preservation, roadside preservation, mobility enhancement, and preservation of other transportation facilities related to the state highway system. In the past, SHOPP funds have been used to construct bicycle projects, including curb ramps, overcrossings, bike paths, sidewalks, and signal upgrades to meet ADA requirements. Jurisdictions work with Caltrans' districts to have projects placed on the SHOPP list.

The total amount available for the four-year SHOPP period between 2010/11 and 2013/14 fiscal years is $6.75 billion, which is a reduction in funding from prior SHOPP programs. Past project awards have ranged from approximately $140,000 to $4.68 million.

The American Recovery and Reinvestment Act (ARRA) granted funding to this program in California.

Online resource: http://www.dot.ca.gov/hq/transprog/shopp.htm

Petroleum Violation Escrow Account (PVEA)

In the late 1970s, a series of Federal court decisions against selected United States oil companies ordered refunds to the States for price overcharges on crude oil and refined petroleum products during a period of price control regulations. To qualify for PVEA funding, a project must save or reduce energy and provide a direct public benefit within a reasonable time frame. In the past, the PVEA has been used to fund programs based on public transportation, computerized bus routing and ride sharing, home weatherization, energy assistance and building energy audits, highway and bridge maintenance, and reducing airport user fees. In California, Caltrans administers funds for transportation-related PVEA projects. PVEA funds do not require a match and can be used as match for additional Federal funds.

Online resource: http://www.dot.ca.gov/hq/LocalPrograms/lam/prog_g/g22state.pdf

Office of Traffic Safety (OTS) Grants

The Office of Traffic Safety Grants are supported by Federal funding under the National Highway Safety Act and MAP-21. In California, the grants are administered by the Office of Traffic Safety.

Grants are used to establish new traffic safety programs, expand ongoing programs or address deficiencies in current programs. Bicycle safety is included in the list of traffic safety priority areas. Eligible grantees are

governmental agencies, state colleges, state 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 need include potential traffic safety impact, collision statistics and rankings, seriousness of problems, and performance on previous OTS grants.

The California application deadline is January of each year. There is no maximum cap to the amount requested, but all items in the proposal must be justified to meet the objectives of the proposal.

California OTS online resource: http://www.ots.ca.gov/Grants/default.asp

Community Development Block Grants

The CDBG program funds projects and programs that develop viable urban communities by providing decent housing and a suitable living environment and by expanding economic opportunities, principally for persons of low and moderate income. 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. The state makes funds available to eligible agencies (cities and counties) through a variety of different grant types. Grantees enter into a contract with the state. Eligible agencies are determined based on a formula, and are listed on the HUD website.

California received a $42.8 million allocation for all CDBG programs in FY 2010. The maximum grant amount is $800,000 for up to two eligible projects or $400,000 for a public service program.

Online resource: http://www.hud.gov/offices/cpd/communitydevelopment/programs/index.cfm

Eligible CDBG Agencies in California: http://www.hud.gov/local/ca/community/cdbg/#state

7.4.3. Locally-Administered Funding

Local funding sources are generally administered by Metropolitan Planning Organizations, Congestion Management Agencies, Transportation Improvement Authorities, or other regional agencies. Counties or cities may administer some funding sources. These funding sources are supported by federal, state, or local revenue streams.

Regional Surface Transportation Program

The Regional Surface Transportation Program (RSTP) is a block grant program that provides funding for bicycle projects, among many other transportation projects. Under the RSTP, Metropolitan planning organizations, such as the SCJOG, prioritize and approve projects that will receive RSTP funds. Metropolitan planning organizations can transfer funding from other federal transportation sources to the RSTP program in order to gain more flexibility in the way the monies are allocated. In California, 76 percent of RSTP funds are allocated to urban areas with populations of at least 200,000. The remaining funds are available statewide.

7.4.4. General Funds

One of the local revenue sources of cities, towns, and counties available for use on bicycle improvements are general funds resulting from sales taxes, property taxes, and other miscellaneous taxes and fees. There are generally few restrictions on the use of these funds, which are utilized for a large variety of local budget needs.

As such, there is typically high demand for these funds for numerous government services. Design and construction of pathways through use of this funding source usually receives limited support from local governments unless their constituents lobby effectively for such use.

In some cases, a component of local general funds can be dedicated to transportation improvements including the construction and repair of pathways.

7.4.5. Special Improvement Districts

Cities may establish special improvement districts to provide funding for specified public improvement projects within the designated district. Property owners in the district are assessed for the improvements and can pay the amount immediately or over a span of 10 to 20 years. Street pavement, curb and gutter, and streetlights are some of the common improvements funded by Special Improvement Districts. Business Improvement Districts and Special Assessment Districts are example of special improvement districts.

7.4.6. Mello-Roos Community Facilities Act

In 1982, California Legislature passed the Mello-Roos Community Facilities Act in response to reduced funding opportunities resulting from 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. Construction and maintenance of bicycle facilities are eligible for funding under CFD bonds.

Online resource: http://mello-roos.com/pdf/mrpdf.pdf

7.4.7. Parks and Recreation Funds

Local parks and recreation funds are generally derived from property and sales taxes and some fee revenues, and they are sometimes used directly for pathway or pathway-related facilities, including bathrooms, pocket parks, lighting, parking, and landscaping. Parks and recreation funds are also utilized to cover pathway maintenance costs incurred by these departments. Assessed funds may be used for projects within only the district from which they were assessed.

7.4.8. Integration into Larger Projects

"Routine accommodation" policies at Caltrans and MTC require agencies to design, construct, operate, and maintain transportation facilities using best practices for bicyclists. Local jurisdictions can begin to expect that some portion of a bicycle project costs, when they are built as part of larger transportation projects, will be covered in project construction budgets.

7.5. Other Sources

7.5.1. Community Action for a Renewed Environment (CARE)

CARE is a competitive grant program that offers an innovative way for a community to organize and take action to reduce toxic pollution in its local environment. Through CARE, a community creates a partnership that implements solutions to reduce releases of toxic pollutants and minimize people's exposure to them. By providing financial and technical assistance, EPA helps CARE communities get on the path to a renewed environment. Transportation and "smart-growth" types of projects are eligible. Grants range between $75,000 and $300,000.

Online resource: http://www.epa.gov/care/

7.5.2. Bikes Belong Grant

Bikes Belong is an organization sponsored by bicycle manufacturers with the intent to increase bicycle riding in the United States. Bikes Belong provides grant opportunities up to $10,000 with a minimum 50 percent match to organizations and agencies seeking to support facility and advocacy efforts. Eligible projects include bike paths, trails, and bridges, mountain bike facilities, bike parks, and BMX facilities.

Online resource: http://www.bikesbelong.org/grants

7.5.3. Volunteer and Public-Private Partnerships

Local schools or community groups may use the bikeway projects as a project for the year, possibly working with a local designer or engineer. Work parties may be formed to help clear the right-of-way where needed. A local construction company may donate or discount services. A challenge grant program with local businesses may be a good source of local funding, where corporations 'adopt' a bikeway and help construct and maintain the facility.

Table 7-5: Funding Sources

Grant Source	Due Date	Administering Agency	Annual Total	Matching Requirement	Eligible Applicants	Planning	Construction	Other	Comments
State-Administered Funding									
Bicycle Transportation Account	December	Caltrans	$7.2 m	min. 10% local match on construction	city, county	X	X		State-funded. Projects that improve safety and convenience of bicycle commuters. Contact Penny Gray, Caltrans, (916) 653-2750. Maximum project award is $500,000.
Federal Safe Routes to School	Mid-July	Caltrans	$46 m	none	state, city, county, MPOs, RTPAs and other organizations that partner with one of the above.		X	X	Construction, education, encouragement and enforcement program to encourage walking and bicycling to school.
California Safe Routes to School	Late May/ Early June	Caltrans	$24.5 m	10%	city, county		X	X	Primarily construction program to enhance safety of bicycle facilities.
Recreational Trails Program	Oct. 1	CA Dept. of Parks and Recreation	$1.3 m in 2010	12%	Agencies and organizations that manage public lands	X	X	X	Funds can be used for acquisition of easements for trails from a willing seller.

Grant Source	Due Date	Administering Agency	Annual Total	Matching Requirement	Eligible Applicants	Planning	Construction	Other	Comments
California Conservation Corps	On-going	California Conservation Corps	CCC donates labor hours	None	Federal and state agencies, city, county, school district, NPO, private industry		X	X	CCC provides labor assistance on construction projects and annual maintenance. Contact the Corps at (916) 341-3100.
Community Based Transportation Planning Demonstration Grant Program	November	Caltrans	$3 m	20% local	MPO, RPTA, city, county		X		Projects that exemplify livable community concepts. Contact Leigh Levine, Caltrans, (916) 651-6012.
Highway Safety Improvement Program	Oct in CA	Caltrans, NDOT	$50m in 2009	Varies between 0% and 10%	Local or regional governments	X	X	X	Projects must address safety issue. Education and enforcement programs are eligible.
Land and Water Conservation Fund	March	NPS, CA Dept. of Parks and Recreation	$2.3 m in CA in 2009	50%	Cities, counties and districts authorized to operate, acquire, develop and maintain park and recreation facilities	X		X	Lands acquired through program must be retained in perpetuity for public recreational use. Individual project awards are not available.

Grant Source	Due Date	Administering Agency	Annual Total	Matching Requirement	Eligible Applicants	Planning	Construction	Other	Comments
Wildlife Conservation Board Public Access Program	Quarterly	Wildlife Conservation Board	Grants can be up to $250,000	Up to 50%	Public agencies and nonprofits		X		State of California must have a proprietary interest in the project. Project awards are not available.
Environmental Enhancement and Mitigation Program	November	California Natural Resources Agency	$10 m	None	Federal, State, local agencies and NPO		X	X	EEMP funds projects in California, at an annual project average of $250,000. Funds may be used for land acquisition.
State Highway Operations and Protection Program (SHOPP)	Not Available	Caltrans	$1.69 m statewide annually through FY 2013/14	Not Available	Local and regional agencies		X	X	Capital improvements and maintenance projects that relate to maintenance, safety and rehabilitation of state highways and bridges.
Petroleum Violation Escrow Account	Not Applicable	Caltrans	Varies annually	None	Local and regional agencies		X	X	Funds programs based on public transportation, computerized bus routing and ride sharing, home weatherization, energy assistance and building energy audits, highway and bridge maintenance, and reducing airport user fees.

Grant Source	Due Date	Administering Agency	Annual Total	Matching Requirement	Eligible Applicants	Planning	Construction	Other	Comments
Office of Traffic Safety (OTS) Grants	January	Caltrans	Varies annually	None	Government agencies, state colleges, state universities, city, county, school district, fire department, public emergency service provider			X	Contact OTS at (916) 509-3030.
Community Development Block Grants	Varies between grants	U.S. Dept. of Housing and Urban Development (HUD)	$42.8 m	Varies between grants	City, county	X	X	X	Funds local community development activities such as affordable housing, anti-poverty programs, and infrastructure development. Can be used to build sidewalks, recreational facilities.
Locally-Administered Funding									
Regional Surface Transportation Program	Varies	Caltrans, RTPAs	Varies annually	Not applicable	Regional, local agencies	X	X		
New Construction	Not applicable	City, county, joint powers authority	Varies	Not Applicable	City, county, joint powers authority		X		Fees related to new construction to provide bicycle amenities that mitigate transportation effects of new development.
General Funds	Not Applicable	City, county	Varies	Not Applicable	City, county	X	X	X	

Grant Source	Due Date	Administering Agency	Annual Total	Matching Requirement	Eligible Applicants	Planning	Construction	Other	Comments
Special Improvement Districts	Not Applicable	City, county, joint powers authority	Varies	Not Applicable	Neighborhoods, communities		X		Only those who benefit from the improvement may be taxed. Taxes should be tied to the amount of benefit received.
Mello-Roos Community Facilities Act	Not Applicable	City, county, special district, school district, joint powers authority	Varies	Not Applicable	city, county, special district, school district, joint powers of authority		X	X	Property owners within the district are responsible for paying back the bonds. May include maintenance.
Parks and Recreation Funds	Not applicable	City, county	Varies	Not Applicable	City, county	X	X	X	
Integration into Larger Projects	Not applicable	City, county, state, tribal agencies, non-profits	Varies	Not Applicable	City, county, state, tribal agencies, non-profits	X	X	X	Bicycle projects can be integrated into larger construction projects.
Other Sources									
Community Action for a Renewed Environment	March	US EPA	Varies	Not Available	applicant must fall within the statutory terms of EPA's research and demonstration grant authorities	X		X	Grant program to help community organize and take action to reduce toxic pollution in its local environment

Grant Source	Due Date	Administering Agency	Annual Total	Matching Requirement	Eligible Applicants	Planning	Construction	Other	Comments
Bikes Belong Grant	Multiple dates throughout year.	Bikes Belong	Not Available	50% minimum	organizations and agencies		X	X	
Volunteer and Public-Private Partnerships	Not Applicable	City, county, joint powers authority	Varies	Not Applicable	Public agency, private industry, schools, community groups		X	X	Requires community-based initiative to implement improvements.

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Appendix A. Bicycle Design Guidelines

The design guidelines presented in this appendix are a combination of minimum standards outlined by the California Highway Design Manual's Chapter 1000, recommended standards prescribed by the American Association of State Highway and Transportation Officials (AASHTO) Guide for the Development of Bicycle Facilities, the CA MUTCD, and design recommendations developed specifically for San Joaquin County. The minimum standards and guidelines presented by Chapter 1000 and AASHTO provide basic information about the design of bicycle network infrastructure, such as bicycle lane dimensions, striping requirements and recommended signage and pavement markings. .

The minimum standards for bicycle facilities used in combination with the design recommendations for issues specific to San Joaquin County's jurisdictions should provide the foundation for a safe, functional and inviting bicycle network.

This Appendix includes the following guidelines:

A.1. Caltrans Bikeway Classification Overview

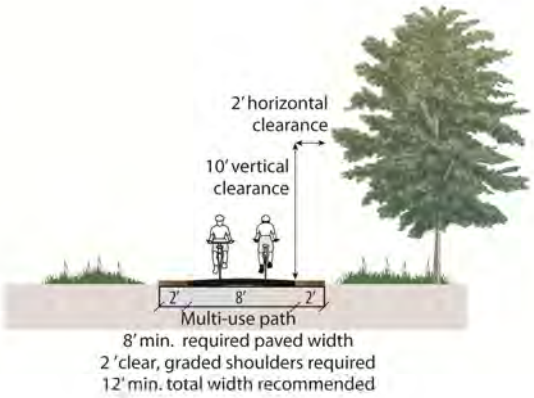
Description

Caltrans has defined three types of bikeways in Chapter 1000 of the Highway Design Manual: Class I, Class II, and Class III. Minimum standards for each of these bikeway classifications are shown below.

Graphic

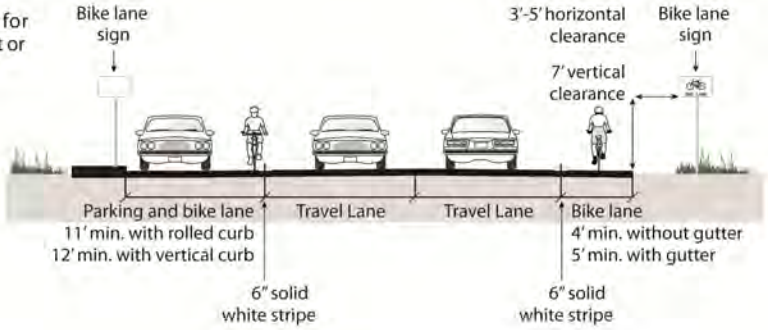
CLASS I
Multi-Use Path

Provides a completely separated right of way for the exclusive use of bicycles and pedestrians with crossflow minimized.



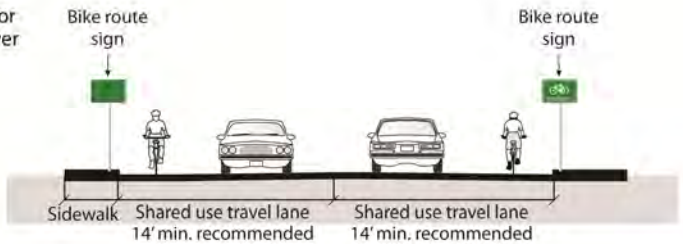
CLASS II
Bike Lane

Provides a striped lane for one-way bike travel on a street or highway.



CLASS III
Bike Route
Signed Shared Roadway

Provides for shared use with pedestrian or motor vehicle traffic, typically on lower volume roadways.

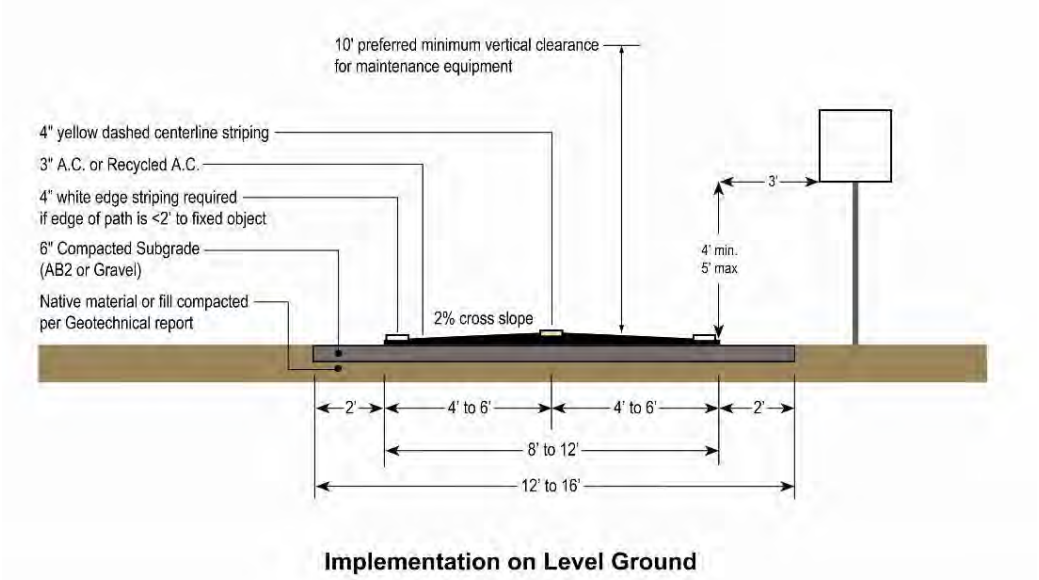


A.2. Class I Bike Path Minimum Standards

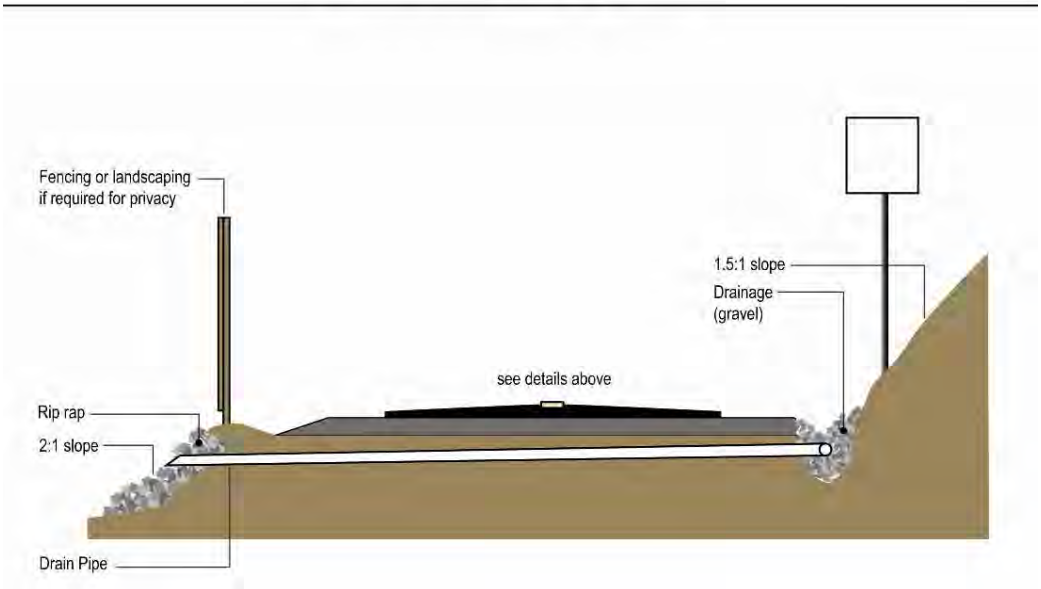
Description

In order to accommodate both bicyclists and pedestrians, Class I paths should be designed to the minimum Caltrans standards shown below. In locations with high use, or on curves with limited sight distance, a yellow centerline should be used to separate travel in opposite directions. High use areas of the pathway should also provide additional width (up to 12 feet) as recommended below. Lighting should be provided in locations where evening use is anticipated, or where paths cross below structures.

Graphic



Implementation on Level Ground



Summary of Standards

- Eight feet (2.4 meters) is the minimum width for Class I facilities.
- Eight feet (2.4 meters) may be used for short neighborhood connector paths (generally less than one mile in length) due to low anticipated volumes of use.
- Ten feet (3.0 meters) is the recommended minimum width for a typical two-way bicycle path.
- Twelve feet (3.6 meters) 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-foot (0.6 meter) wide graded area must be provided adjacent to the path to provide clearance from trees, poles, walls, guardrails, etc. A 2% cross slope is optimum. On facilities with expected heavy use, a yellow centerline stripe is recommended to separate travel in opposite directions.
- Paths should be constructed with adequate subgrade compaction to minimize cracking and sinking, and should be designed to accommodate appropriate loadings, including emergency vehicles.
- A 2% cross slope shall be provided to ensure proper drainage.
- Stopping sight distance should conform to the California Highway Design Manual.

Additional Considerations

Multi-use path 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 multi-use pathway intersects with a street, roadway, or railway, standard traffic controls should always be used.

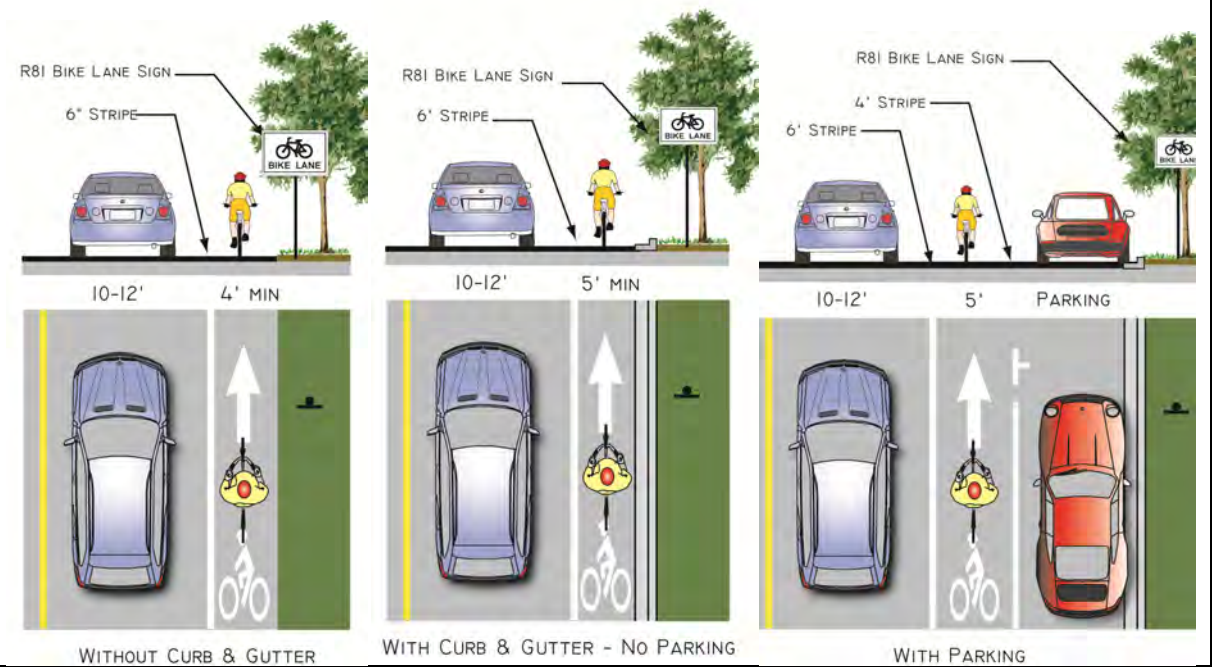
- Class I bike path crossings of roadways require preliminary design review. Generally, bike paths that cross roadways with average daily trips (ADTs) over 20,000 vehicles will require signalization or grade separation. Consider using bicycle signal heads at locations where paths meet signalized intersections.
- Landscaping should generally be low-water-consuming native vegetation and should have minimum debris.
- Lighting should be provided where commuters will use the bike path during hours of darkness. Illumination should be no less than 0.17-foot candle average maintained. Lighting should be spaced at a maximum of every 100 feet.
- Barriers at pathway entrances should be clearly marked with reflectors and ADA accessible (minimum five feet clearance).
- Bike path construction should take into account impacts of maintenance and emergency vehicles on shoulders, as well as vertical and structural requirements. Paths should be constructed with adequate subgrade compaction to minimize cracking and sinking.
- The width of structures should be the same as the approaching pathway width, plus minimum two-foot wide clear areas.
- Where feasible, provide two-foot wide unpaved shoulders for pedestrians/runners, or a separate treadway.
- Direct pedestrians to the right side of the pathway with signing and/or stenciling.

A.3. Class II Bike Lane Minimum Standards

Description

Chapter 1000 of the Caltrans Highway Design Manual provides standards for bicycle facilities planning and design. These standards outline minimum dimensions, proper pavement markings, signage and other design treatments for bicycle facilities.

Graphic



Summary of Standards

- Bicycle lanes shall be one-way facilities, running with the direction of traffic.
- Where on-street parking is allowed, bicycle lanes must be striped between the parking area and the travel lanes.
- Width of bicycle lane:
    1. Without an existing gutter, bicycle lanes must be a minimum of four feet wide.
    2. With an existing gutter, bicycle lanes must be a minimum of five feet wide measured from the curb face (within the bike lane, a minimum width of three feet must be provided outside the gutter).
    3. Where on-street parking stalls are marked and bicycle lanes are striped adjacent to on-street parking, bicycle lanes must be a minimum of five-feet wide.
    4. Where on-street parking is allowed but stalls are not striped, bicycle lanes must be a minimum of 12-feet wide measured from the curb face. Depending on the type and frequency of traffic, wider bicycle lanes may be recommended.
- Bicycle lane striping standards:
    1. Bicycle lanes shall be comprised of a six-inch solid white stripe on the outside of the lane, and a four-inch solid white stripe on the inside of the lane.

2. Bicycle lanes must never be delineated with raised barriers.
3. The inside four-inch stripe of the bicycle lane should be dropped 200 feet prior to any intersection where right turns are permitted, and the outside six-inch stripe should be dashed in this location. Bicycle lanes are generally not marked through intersections.
4. Bicycle lanes shall never be striped to the right of a right-hand turn lane

- Bicycle lane signage standards:
  1. The R81 (CA) bicycle lane (shown on page A-12) sign shall be placed at the beginning of all bicycle lanes, on the far side of arterial street intersections, at all changes in direction and at a maximum of 0.6-mile intervals.
  2. Standard signage is shown in Chapter 9 of the 2012 California MUTCD.

Additional Considerations

Class II Bikeway - Additional Design Recommendations:

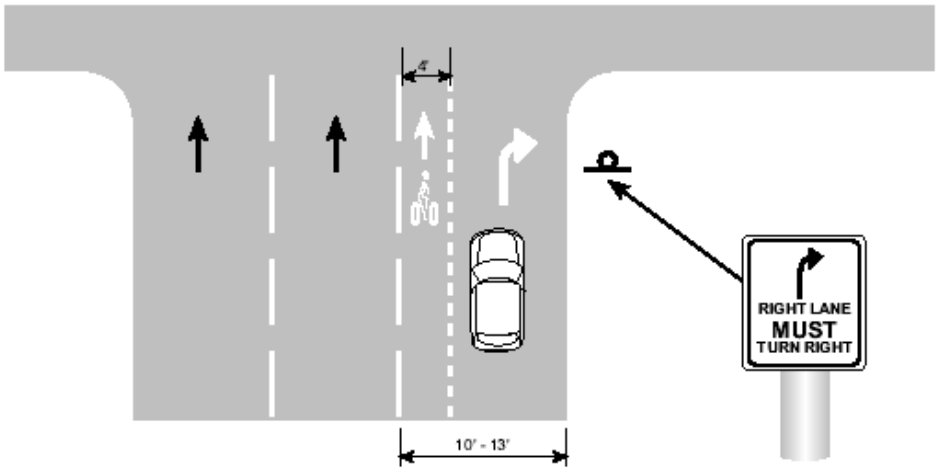
- Intersection and interchange treatment – Caltrans provides recommended intersection treatments in Chapter 1000 including bike lane "pockets" and signal loop detectors. The County should develop a protocol for the application of these recommendations, so that improvements can be funded and made as part of regular improvement projects.
- Bike lane pockets (min. four-feet wide) between right turn lanes and through lanes should be provided wherever available width allows, and right turn volumes exceed 150 motor vehicles/hour.
- Word and symbol pavement stencils should be used to identify bicycle lanes, as per Caltrans and MUTCD specifications.
- Bicycle lanes constructed on roadway shoulders that share use with slow moving agricultural equipment should be constructed with three-inch asphalt concrete over six-inches of aggregate base rock.

A.4. Shared Bicycle Right Turn Pocket

Description

This treatment places standard-width bicycle lane striping within left side of a dedicated right-hand turn lane when there is not enough room for both to be placed side-by-side. A dashed stripe delineates the space for bicyclists and motorists within the right-hand turn lane. Signs should be installed to instruct bicyclists and motorists of the usage of this facility. This is an experimental treatment not specified in Chapter 1000 of the Caltrans Highway Design Manual.

Graphic



Potential Applications

- At intersections along bicycle network streets where there is not enough space to implement a standard-width bicycle lane and a standard-width dedicated right-turn lane.
- At intersections along bicycle network streets with low speeds, low volumes of truck traffic (or other vehicles requiring large turning radii), and dedicated right-turn lanes.

Guidelines

1. Dashed striping on the inside of the bicycle lane should be initiated 90-180 feet before the intersection, in accordance with the requirements of Chapter 1000.
2. Appropriate signage should be used to warn bicyclists and motorists of the shared lane treatment.

A.5. Class III Bike Route Minimum Standards

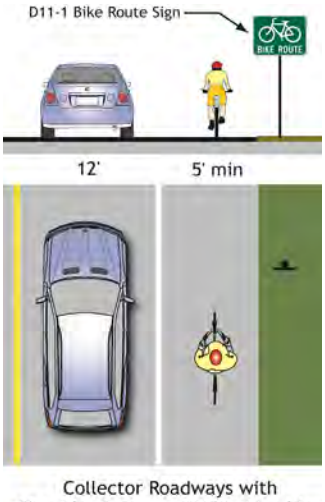
Description

Chapter 1000 of the Caltrans Highway Design Manual provides standards for bicycle facilities planning and design. These standards outline minimum dimensions, proper pavement markings, signage and other design treatments for bicycle facilities. The following standards are guided by and meet Caltrans minimum requirements, however these standards are designed specifically for San Joaquin County.

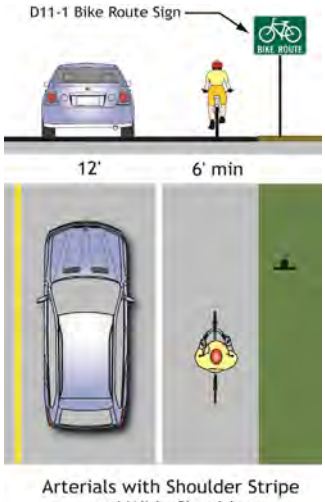
Graphic

Local Roadways with Wide Outside Lane
(14' min. recommended)

Local Roadways with Shoulder Stripe
(4' min. recommended)



Collector Roadways with Shoulder Stripe and Wide Shoulder
(5' min. recommended)



Arterials with Shoulder Stripe and Wide Shoulder
(6' min. recommended)

Summary of Standards

- Class III bikeways provide routes through areas not served by Class I or II facilities or provide connections between discontinuous segments of Class I or II bikeways.
- Class III facilities can be shared with either motorists on roadways or pedestrians on a sidewalk (not advisable).
- Width of roadway:
    1. Although it is not a requirement, a wide outside traffic lane (14-feet) is typically preferable to enable cars to safely pass bicyclists without crossing the centerline.
    2. When encouraging bicyclists to travel along selected routes, traffic speed and volume, parking, traffic control devices, and surface quality should be acceptable for bicycle travel
- Width of shoulder:
    1. A minimum four-foot clear shoulder width is recommended for the following roadway classifications:
        - Urban Local
        - Rural Local
    2. A minimum five-foot shoulder width is preferable for all collectors, especially for new roadways or when an existing roadway is rehabilitated. Four-foot shoulder widths are acceptable for collectors, especially where the existing roadway is 32-feet wide. Collectors include the following roadway classifications:
        - Urban Major Collector
        - Rural Major Collector
        - Rural Minor Collector
    3. A minimum six-foot shoulder width is recommended for the following roadway classifications:
        - Urban Principal Arterial – Interstate
        - Urban Principal Arterial – Other Freeways or Expressways
        - Urban Other Principal Arterial
        - Urban Minor Arterial
        - Rural Principal Arterial – Interstate
        - Rural Other Principal Arterial
        - Rural Minor Arterial

        Four-foot shoulder widths are acceptable for arterials, especially where the existing roadway is 32-feet wide.
- Bicycle route signage standards:
    1. The D11-1 (CA) bicycle route sign shall be placed along the roadways at decision points, where users can turn onto or off the bikeway.
    2. Standard signage is shown in Chapter 9 of the 2012 California MUTCD.

Additional Considerations

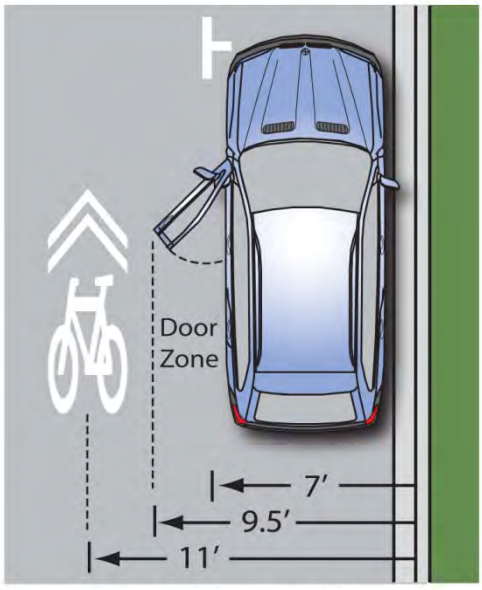
Bicycle routes on roadway shoulders that share use with slow moving agricultural equipment should be constructed with three-inch asphalt concrete over six-inches of aggregate base rock.

A.6. Shared Lane Marking

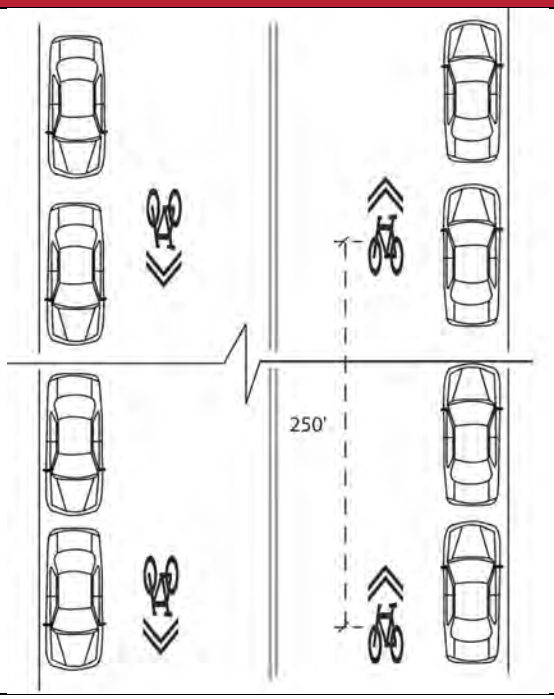
Description

The primary purpose of this shared use arrow is to provide positional guidance to bicyclists on roadways that are too narrow to be striped with bicycle lanes. Markings may be placed on the street to inform motorists about the presence of cyclists and also to inform cyclists how to position themselves relative to parked cars and the travel lane. The 2012 California MUTCD has approved the Shared Lane Marking for use in California jurisdictions on streets with or without on-street parallel parking.

Graphic



Shared Lane Marking should be placed 11 feet minimum from curb.



Potential Applications

- Bicycle network streets that are too narrow for standard striped bicycle lanes.
- Bicycle network streets that have moderate to high parking turnover.
- Areas that experience a high level of "wrong-way" riding

Guidelines

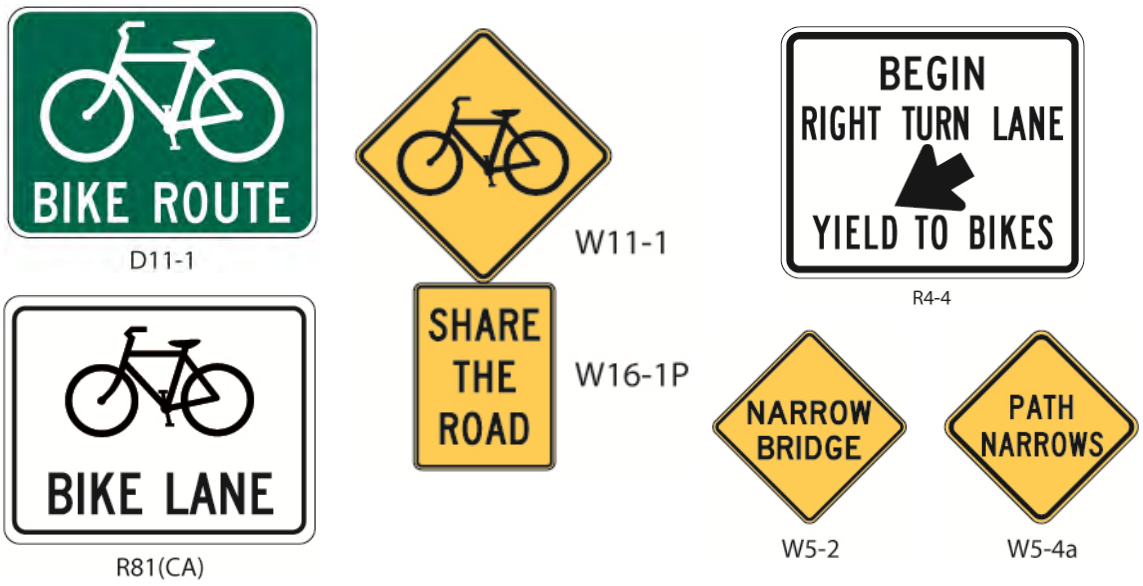
1. Shared lane markings should be installed in conjunction with “share the road” signs
2. Shared lane markings should be spaced approximately 250 feet center to center, with the first arrow on each block or roadway segment placed no further than 100 feet from the nearest intersection.

A.7. On-Street Bikeway Regulatory & Warning Signage

Description

Signage for on-street bikeways includes standard BIKE LANE and BIKE ROUTE signage, as well as supplemental signage such as SHARE THE ROAD and warning signage for constrained bike lane conditions. The CA MUTCD provides further guidance on bikeway signage.

Graphic



Figures are from Chapter 9 of the 2010 MUTCD, California Supplement.

Potential Applications

- Various situations, specific to each site.
- The County should install SHARE THE ROAD signs along all Class III Bike Routes in addition to standard BIKE ROUTE signage.
- SHARE THE ROAD signs may be installed at one-half mile intervals along the designated route.

Guidelines

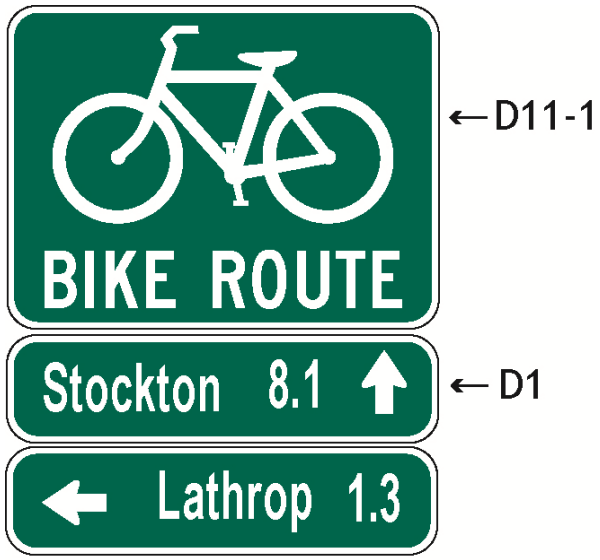
1. Signage should be installed on existing signposts if possible, reducing visual clutter along the path or roadway.
2. Bike route and bike lane signs should be placed at decision points.
3. Where there is significant distance between decision points, bike route and bike lane signs should be repeated at regular intervals to confirm the route.

A.8. Wayfinding Signage

Description

Wayfinding signage acts as a "map on the street" for bicyclists and is an important component of a bikeway network. Caltrans D11-1 and D-1 signage should be used on all designated bikeways at decision points, where users can turn onto or off the bikeway such as at an intersection.

Graphic



Potential Applications

- On all bikeways at decision points to inform bicyclists of route direction.

Guidelines

1. Wayfinding signage should be place at all intersections on the bikeway network, at minimum.
2. Signage should be installed on existing signposts if possible, reducing visual clutter along the path or roadway.
3. Where there is significant distance between decision points, wayfinding signage should be located at intervals of one-mile
4. Each sign should have a maximum of three destinations.
5. Signage should be focused on major destinations such as cities and counties; transit stations; and community centers such as parks, schools and recreation centers.

A.9. Bicycle Detection at Actuated Traffic Signals

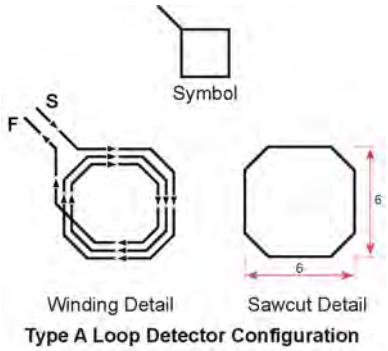
Description

Bicycle loop detectors activate traffic signals at intersections, similar to standard loop detectors used for auto traffic. Where bicycle loop detectors are not present, bicyclists are forced to wait for a motor vehicle to trigger a signal; where motor vehicle traffic is infrequent, they may cross against a red signal. Type A, C, or D loop detectors best detect bicyclists. Bicycle loop detectors should be identified with pavement markings that show cyclists where to position themselves to trigger the traffic signal.

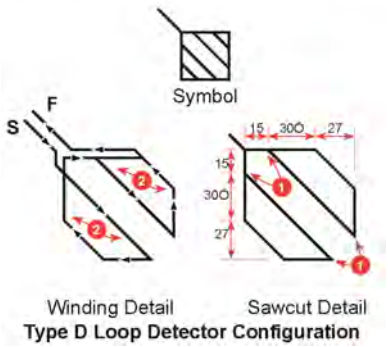
Traffic Operations Policy Directive 09-06, issued August 27, 2009 modified MUTCD 4D.105 (CA) to require bicyclists to be detected at all traffic-actuated signals on public and private roads and driveways. The Policy Directive requires a limit line detection zone in which a bicycle rider must be detected with 95% accuracy. If more than 50% of the limit line detectors need to be replaced at a signalized intersection, then the entire intersection should be upgraded so that every line has a limit line detection zone.

Bicycle detection must be confirmed when a new detection system is installed or when the detection system is modified. Where limit line detection zones are provided, minimum bicycle timing should be 14.7 feet per second, plus a 6-second start-up time. Table 4D-109(CA) provides the minimum bicyclist phase length for intersections of different lengths.

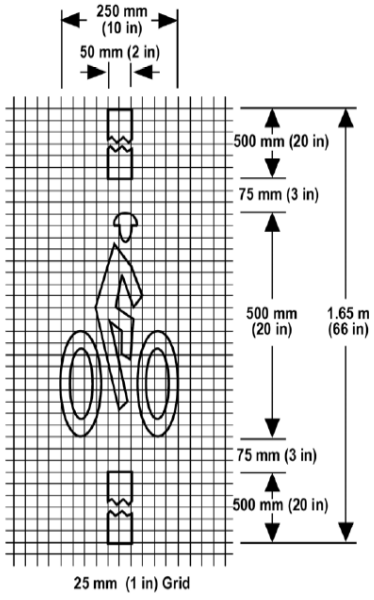
Graphic



Type A Loop Detector Configuration



Type D Loop Detector Configuration



BICYCLE DETECTOR SYMBOL

Potential Applications

- At actuated signalized intersections along bicycle network streets.

Guidelines

1. Type A, C, or D loop detectors should be used.
2. Pavement markings should identify proper cyclist position above the loop detector.
3. Loop detectors should provide adequate time for cyclists to cross the intersection, keeping in mind the slower travel speed (10-15 mph) of bicyclists.
4. Bicycles must be detected with 95% accuracy within the 6-foot by 6-foot Limit Line Detection Zone.
5. Where Limit Line Detection Zones are provided, minimum bicycle timing should be 14.7 feet per second, plus a 6-second start-up time

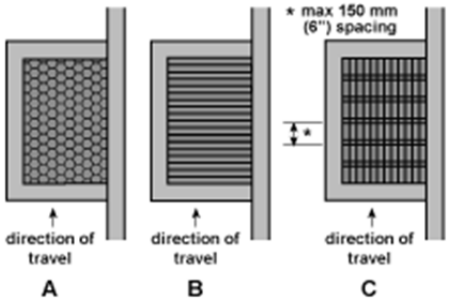
A.10. Drainage Grates and Utility Covers

Description

Improper drainage grates, slot drains, and utility covers can catch bicycle tires and cause bicyclists to lose control. Because of this, cyclists may veer into traffic lanes to avoid them. Properly designed slot drains, grates and utility covers allow cyclists to maintain their direction of travel without catching tires or being forced into travel lanes.

Graphic

Bicycle unfriendly slot drain



Bicycle friendly drainage grates

Potential Applications

- Wherever slot drains, drainage grates or utility covers are located along bicycle network streets.
- Construction or street maintenance zones along bicycle network streets.

Guidelines

1. Grates must feature crossbars or a grid that prevents bicycle tires from catching or slipping through, as shown above.
2. Metal covers used in construction zones must have a non-slip coating.
3. The transition between the pavement and drainage grates or utility covers should be smooth.
4. Slot drains should be covered or oriented so they are perpendicular to all bicycle traffic.

A.11. Railroad Tracks

Description

Railroad crossings should be designed to ensure the safety of all users is protected. Wherever possible, the crossing should be straight and at a right angle to the rails. Where a skew is unavoidable, the shoulder or bikeway should be widened to permit bicyclists to cross the rail lines at a right angle.

The crossing surface should be designed so the rails are as flush as possible to the surrounding area and pavement should be maintained to ensure buildup does not occur.

Graphic

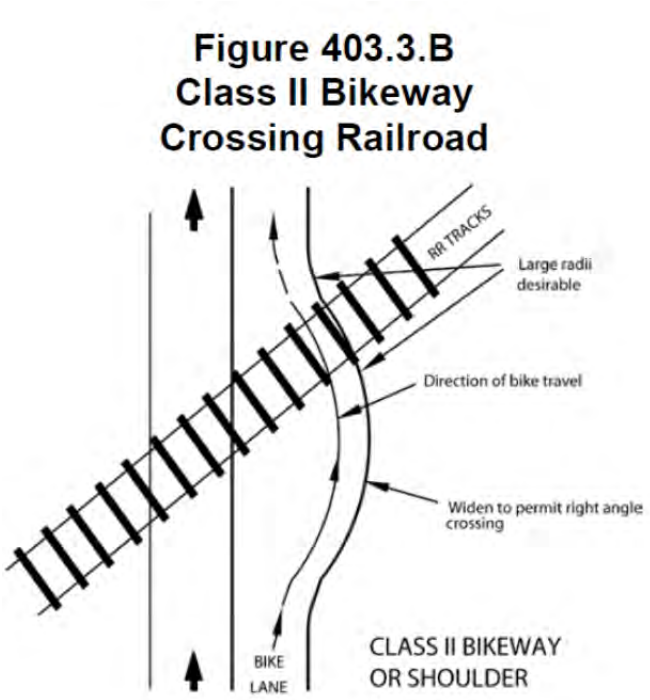


Figure 403.3B of the Caltrans Highway Design Manual (2012)

A.13. Bicycle Parking

Description

Secure bicycle parking is an essential element of a functional bicycle network. Bicycle racks are a common form of short-term secure bicycle parking and can be installed in various locations, including sites adjacent to retail such as parking lots, as well as in the public right of way in the furnishings zone of the sidewalk. Racks are appropriate for locations where there is demand for short-term bicycle storage. Bicycle lockers provide secure and sheltered bicycle parking and are recommended in locations where long-term bicycle storage is needed, such as transit stations.

Graphic

Example of Inverted U-Rack

Example of Bicycle Lockers

Potential Applications

- Bicycle parking should be installed throughout San Joaquin County, with priority given to significant destinations such as parks, schools, shopping centers, transit hubs and job centers.

Guidelines

1. Bicycle parking should be a design that is intuitive and easy to use.
2. Bicycle parking should be securely anchored to a surface or structure.
3. Bicycle parking spaces should be at least six feet long and two-and-a-half feet wide. Overhead clearance should be at least seven feet.
4. The rack element (part of the rack that supports the bicycle) should keep the bicycle upright by supporting the frame in two places without the bicycle frame touching the rack. The rack should allow one or both wheels to be secured.
5. A standard inverted-U style rack (shown above) is a simple and functional design that takes up minimal space on the sidewalk and is easily understood buy users. Avoid use of multiple-capacity "wave" style racks. Users commonly misunderstand how to correctly park at wave racks, placing their bikes parallel to the rack and limiting capacity to one or two bikes.
6. Position racks so there is enough room between parked bicycles. If it becomes too difficult for a bicyclist to easily lock their bicycle, they may park it elsewhere. Racks should be situated on 36-inch minimum centers.
7. A five-foot aisle for bicycle maneuvering should be provided and maintained beside or between each row of bicycle parking

8. Empty racks should not pose a tripping hazard for visually impaired pedestrians. Position racks out of the walkway's clear zone.
9. Racks should be located close to a main building entrance, in a lighted, high-visibility, covered area protected from the elements. Long-term parking should always be protected.

Additional Considerations

All bicycle parking should be in a safe, secure area visible to passersby. Commuter locations should provide secure indoor parking, covered bicycle corrals, or bicycle lockers. Short term bicycle parking facilities, such as bicycle racks, are best used to accommodate visitors, customers, messengers and others expected to depart within two hours. They are usually located at schools, commercial locations, and activity centers such as parks, libraries, retail locations, and civic centers. Bicycle parking on sidewalks in commercial areas should be provided according to specific design criteria, reviewed by merchants and the public, and installed as demand warrants. The table below provides recommended guidelines for bicycle parking locations and quantities.

Recommended Guidelines for Bicycle Parking Location and Quantities

Land Use or Location	Physical Location	Quantity
Park	Adjacent to restrooms, picnic areas, fields, and other attractions	8 bicycle parking spaces per acre
Schools	Near office and main entrance with good visibility	8 bicycle parking spaces per 40 students
Public Facilities (libraries, community centers)	Near main entrance with good visibility	8 bicycle parking spaces per location
Commercial, retail and industrial developments over 10,000 square feet	Near main entrance with good visibility	1 bicycle parking space per 15 employees or 8 bicycles per 10,000 square feet
Shopping Centers over 10,000 square feet	Near main entrance with good visibility	8 bicycle parking spaces per 10,000 square feet
Transit Stations	Near platform, security or ticket booth	1 bicycle parking space or locker per 30 automobile parking spaces

A.14. Bike Racks on Buses

Description

California Assembly Bill 652 amended California Vehicle Code Section 35400 to allow bicycle racks on buses to extend up to 40 inches from the front of a bus, allowing for bike racks that can hold three bicycles.

Graphic

Image from AC Transit.org

Three bike capacity rack on front of an AC Transit bus.

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Appendix B. Pedestrian Design Guidelines

The following pedestrian design guidelines provide design requirements for compliance with Americans with Disabilities Act (ADA), as well as design recommendations intended to create inviting, walkable environments for pedestrians. In addition to recommendations for better pedestrian design, implementation of the ADA design requirements outlined in this appendix will provide a foundation for everyone who walks.

The pedestrian enhancements described throughout these guidelines provide street design best practice guidance, which can enhance the safety, convenience, and mobility for pedestrians. In particular, they provide guidance on appropriate treatments for the various "areas of focus" in San Joaquin County, including downtown districts, barrier crossings, school zones, regional trails, and Blueprint priority areas. Potential treatment types for each of these areas include different design options for streets/sidewalks, pedestrian crossings, multimodal connections and community vitality.

This Appendix includes the following guidelines:

B.1. Sidewalk Widths

Discussion

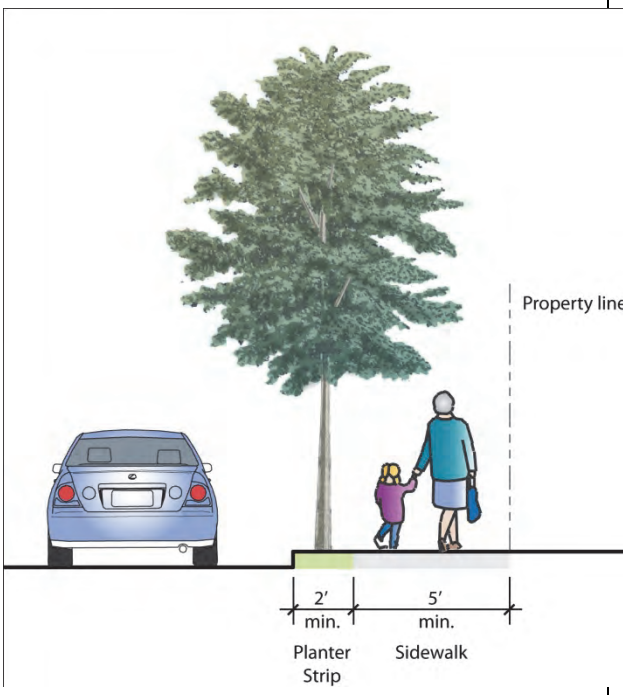
Medium to high-density pedestrian zones located in areas with commercial or retail activity provide excellent opportunities to develop an inviting pedestrian environment. The frontage zone in retail and commercial areas may feature seating for cafés and restaurants, or extensions of other retail establishments, like florists shops. The furnishings zone may feature seating, as well as newspaper racks, water fountains, utility boxes, lampposts, street trees and other landscaping. The medium to high-density pedestrian zone should provide an interesting and inviting environment for walking as well as window shopping.

Design Summary

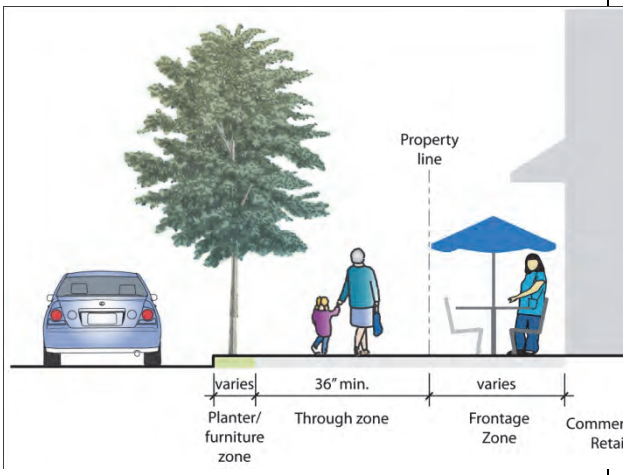
Walkway width recommendations in current transportation industry guidelines generally exceed the 36-inch minimum needed for accessible travel under the Americans with Disabilities Act. The Institute of Transportation Engineers (ITE), in its 1998 recommended practice publication, "Design and Safety of Pedestrian Facilities," recommends planning sidewalks that are a minimum of 5 feet wide with a planting strip of 2 feet on local streets and in residential and commercial areas.

The Plan recommends all new development provide sidewalks that are at least five feet wide with planter strips that are at least six feet wide with vertical curbs along arterials and major collectors.

Design Example



Typical Residential Sidewalk



Typical Commercial Area Sidewalk

B.2. Sidewalk Grade and Cross Slope

Discussion

Sidewalk grade and cross slope affect user control, stability and endurance. Gentle grades are preferred to steep grades,

Design Summary

Grade

The grade of a sidewalk affects the issues of control, stability and endurance. Gentle grades are preferred to steep grades, allowing more people to go uphill, providing more control on the downhill, and minimizing loss of footing. The maximum grade of a sidewalk should be no more than 14 percent in any 2-foot section, while the running grade for a sidewalk should not exceed 5 percent.

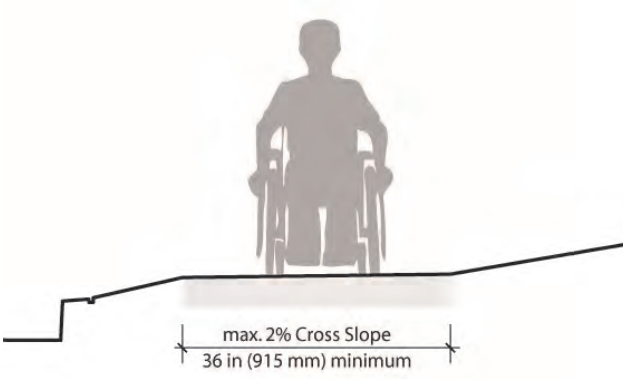
The following terms apply to standards for grades:

- Grade is the slope parallel to the direction of travel.
- Running grade is the average grade along an entire continuous path.
- Maximum grade covers a section of the sidewalk that is larger than the running grade. It is measured over a two-foot section.
- Rate of change is the change of the grade over a distance of two feet.
- Counter slope is the grade running opposite to the running grade.

Cross Slope

- Cross-slope describes the angle of the sidewalk from the building line to the street, perpendicular to the direction of travel. All sidewalks require some cross-slope for drainage, but a cross-slope that is too great will present problems for people who use wheelchairs, walking aids, or who have difficulty walking but do not use aids. The maximum cross-slope should be no more than 2 percent (1:50) for compliance with ADA.
- If a greater slope is anticipated because of unusual topographic or existing conditions, the designer should maintain the preferred slope of 1:50 within the entire Through Passage Zone, if possible. This can be accomplished either by raising the curb so that the cross-slope of the entire sidewalk can be 1:50, or by placing the more steeply angled slope within the Furnishings Zone and/or the Frontage Zone, as shown in Figure 21.
- If the above measures are not sufficient and additional slope is required to match grades, the cross slope within the Through Passage Zone may be as much as 1:25, provided that a 3-ft wide portion within the Through Passage Zone remains at 1:50 cross slope.

Design Graphic



Sidewalk cross slope should not exceed 2% to comply with ADA accessibility standards.

B.3. Sidewalk Material

Discussion

Sidewalks should be firm and stable, and resistant to slipping. Sidewalks are normally constructed out of Portland cement concrete. Although multi-use pathways may be constructed out of asphalt, asphalt is not suitable for sidewalk construction due to its shorter lifespan and higher maintenance costs.

Concrete is the most common surfaces for sidewalks; however, some sidewalks are designed using decorative materials, such as brick or cobblestone. Although these surfaces may improve the aesthetic quality of the sidewalk, they may also present challenges to people with mobility impairments. For example, tiles that are not spaced tightly together can create grooves that catch wheelchair casters.

Design Summary

Concrete

- Preferred material for use on standard sidewalks.
- Maintenance life: 75 years plus (with no tree root damage)

Concrete Pavers

- Acceptable material for use where aesthetic treatment is desired. May be best suited for the Furnishings Zone as streetscape accent where pedestrian through travel is not expected. Not recommended for use on sidewalk through-zone.
- Maintenance life: 20 years plus

Design Example

Concrete Sidewalk

Concrete Pavers

B.4. SidewalkFurnishings

Discussion

The furnishings zone is the area between the curb zone and the through passage zone, where pedestrians pass. The furnishings zone creates an important buffer between pedestrians and vehicle travel lanes by providing horizontal separation.

Design Summary

Width

A minimum width of 24 in (48 in if planting trees) is recommended (FHWA). On sidewalks of ten feet or greater, the furnishings zone width should be a minimum of four feet. A wider zone should be provided in areas with large planters and/or seating areas.

Transit Stop/Shelter Placement

To discourage midblock crossings by pedestrians, bus stops at or near intersections are generally preferred to midblock crossings. An 8 foot by 5 foot landing pad must be provided. A continuous 8 foot pad or sidewalk the length of the bus stop, or at least from the front to rear bus doors, is recommended. At stops in areas without curbs, an 8 foot shoulder should be provided as a landing pad. Bus shelters should be provided where possible to provide visible, comfortable seating and waiting areas for pedestrians. Bus shelters must have a clear floor area of 2.5 feet by 4 feet, entirely within the perimeter of the shelter, connected by a pedestrian access route to the boarding area (AASHTO).

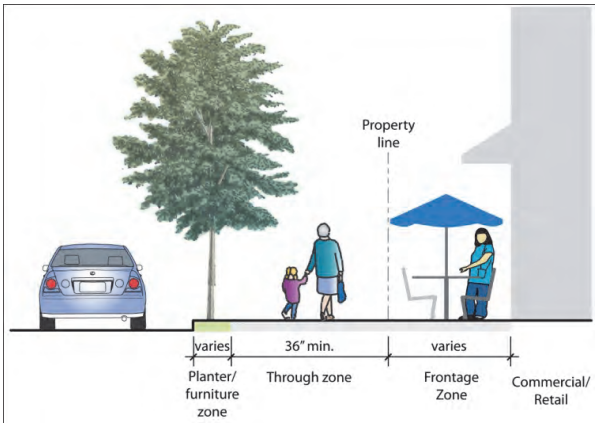
Street Trees and Plantings

Wherever the sidewalk is wide enough, the furnishings zone should include street trees. In order to maintain line of sight to stop signs or other traffic control devices at intersections, when planning for new trees, care should be taken not to plant street trees within 25 feet of corners of any intersection.

Street Furniture and Amenities

Street furniture should be placed in the furnishings zone to maintain through passage zones for pedestrians and to provide a buffer between the sidewalk and the street.

Design Example



Recommended Design

Design Example

B.5. Curb Ramps

Discussion

Curb ramps are necessary for people who use wheelchairs to access sidewalks and crosswalks. ADA requires the installation of curb ramps in new sidewalks, as well as retrofitting existing sidewalks. Curb ramps may be placed at each end of the crosswalk (perpendicular curb ramps), or between crosswalks (diagonal curb ramps). The ramp may be formed by drawing the sidewalk down to meet the street level, or alternately building up a ramp to meet the sidewalk.

Design Summary

Orientation and Alignment

Perpendicular curb ramps should be used at large intersections. Curb ramps should be aligned with crosswalks, unless they are installed in a retrofitting effort and are located in an area with low vehicular traffic.

Width

The minimum width of a curb ramp should be 36 inches, in accordance with ADAAG Guidelines. Curb ramps should be designed to accommodate the level of use anticipated at specific locations, with sufficient width for the expected level of peak hour pedestrian volumes and other potential users.

Drainage

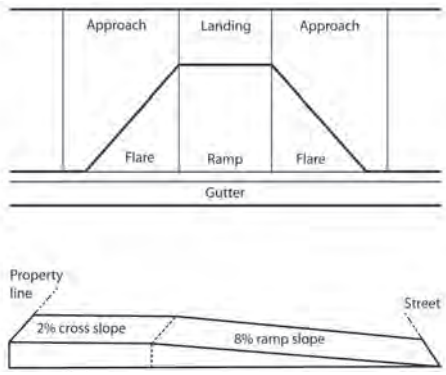
Adequate drainage should be provided to prevent flooding of curb ramps.

Detectable Warnings

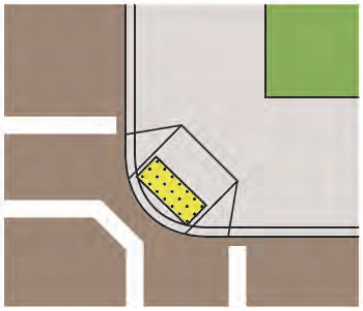
Tactile strips must be used to assist sight-impaired pedestrians in locating the curb ramp. Certain exemptions apply (see ADAAG Section 4.29 and the ADA Access Board Guidelines on Accessible Public Rights of Way).

Detectable warnings shall consist of raised truncated domes with a diameter of nominal 0.9 inches, a height of nominal 0.2 inches and a center-to-center spacing of nominal 2.35 inches and shall contrast visually with adjoining surfaces, either light-on-dark, or dark-on-light (ADAAG)

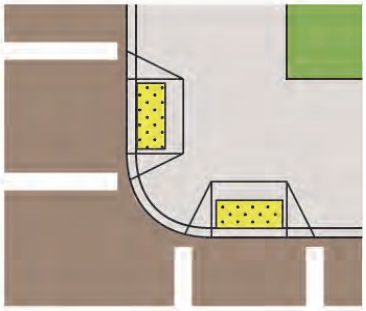
Design Example



Curb Ramp Elements



Diagonal Curb Ramp



Perpendicular Curb Ramp

Parallel Curb Ramp

B.6. Curb Extensions

Discussion

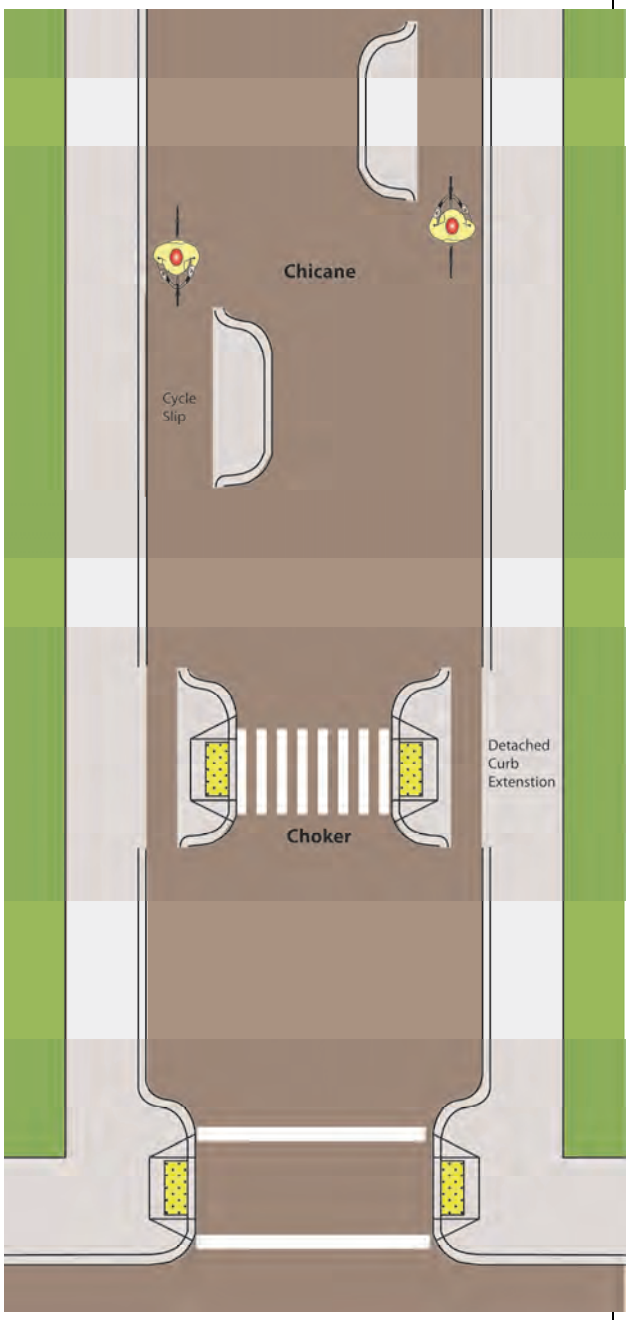
Curb extensions are a traffic calming device used to narrow roadway widths and shorten pedestrian crossing distances. Curb extensions may be installed on one side of a roadway or on both sides of the roadway to create additional traffic calming affects. Curb extensions installed at alternating frequencies on both sides of a roadway creates a "chicane" or S curve. Curb extensions installed on both sides of a roadway in the same location creates a "choker" or extra narrow roadway section.

Curb extension design should facilitate roadway drainage. Such designs may include detaching the curb extension from the curb. Detaching curb extensions provides the opportunity for "cycle" slips, which allow bicyclists to travel straight through the curb extension. Conversely, the channel of the detached curb extension may be covered with a grate to bridge the curb extension and sidewalk, allowing water to drain along the gutter.

Design Summary

- Emergency vehicle operators should be consulted to ensure curb extensions do not negatively affect emergency response times.
- Mid-block installation with where pedestrians cross should consider raised crosswalks.
- Detaching curb extensions facilitates drainage and provides the opportunity for cycle slips.
- Installed at alternating frequencies on both sides of a roadway prevents motorists from "straight line racing", especially if curbs are extended into one full travel lane.
- Installed in a series of three effectively slows motorists.

Design Example



Curb extensions can be used in a variety of locations to calm traffic speeds.

B.7. Crosswalks

Discussion

Crosswalks should be used:

- At signalized intersections, all crosswalks should be marked.
- At unsignalized intersections, crosswalks should be marked when they
  - help orient pedestrians in finding their way across a complex intersection, or
  - help show pedestrians the shortest route across traffic with the least exposure to vehicular traffic and traffic conflicts, or
  - help position pedestrians where they can best be seen by oncoming traffic.
- At mid-block locations, crosswalks are marked where
  - there is a demand for crossing, and
  - there are no nearby marked crosswalks

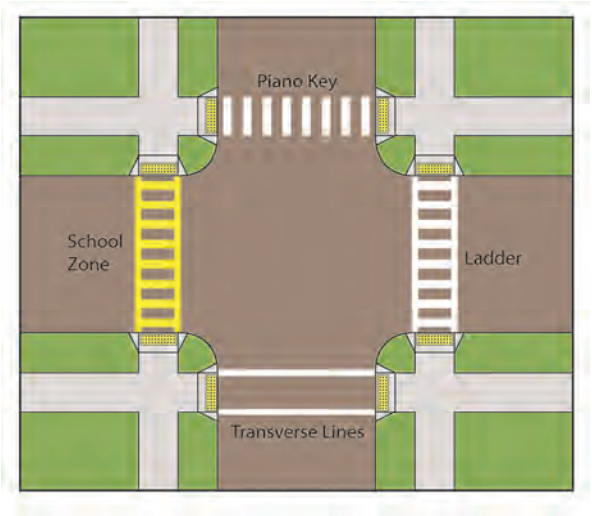
Advance yield lines should be considered at crosswalks where additional space between crosswalks and stopped motorists is desired. Advance yield lines should not place motorists in a position where sight lines are obstructed.

Design Summary

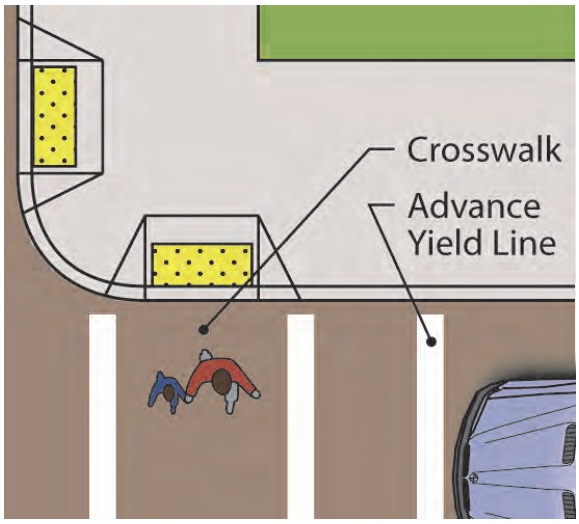
Ladder or piano key crosswalk markings are recommended for high-volume crosswalks in San Joaquin County including school crossings, across arterial streets for pedestrian-only signals, at mid-block crosswalks, and where the crosswalk crosses a street not controlled by signals or stop signs.

- A piano key pavement marking consists of two foot wide bars spaced 2 ft apart and should be located such that the wheels of vehicles pass between the white stripes.
- A ladder pavement marking consists of two foot wide bars spaced 2 feet apart and located between one foot wide parallel stripes that are 10 ft apart. In California, school zone crossings can be painted yellow in color.
- Transverse lines consist of one foot wide bars spaces not less than 6 ft apart.
- Advance yield lines, if used, should be installed at least four feet in advance of crosswalks.

Design Example



Latitudinal striping should be used in uncontrolled crosswalks.



Advance yield lines should be installed at least four feet in advance of a crosswalk.

B.8. Crosswalks at Mid Block and Uncontrolled Crossing Placement

Discussion

Yield lines are not required by the CA MUTCD.

The table on the following page is a summary for implementing at-grade roadway crossings. The number one (1) indicates a ladder style crosswalk with appropriate signage is warranted. (1/1+) indicates the crossing warrants enhanced treatments such as flashing beacons, or in-pavement flashers. (1+/3) indicates Pedestrian Light Control Activated (Pelican), Puffin signal, or Hybrid Beacon (HAWK) should be considered.

Design Summary

Placement
Mid-block crosswalks should be installed where there is a significant demand for crossing and no nearby existing crosswalks.

Yield Lines
If yield lines are used for vehicles, they shall be placed 20 to 50 feet in advance of the nearest crosswalk line to indicate the point at which the yield is intended or required to be made and 'Yield Here to Pedestrians' signs shall be placed adjacent to the yield line. Where traffic is not heavy, stop or yield signs for pedestrians and bicyclists may suffice.

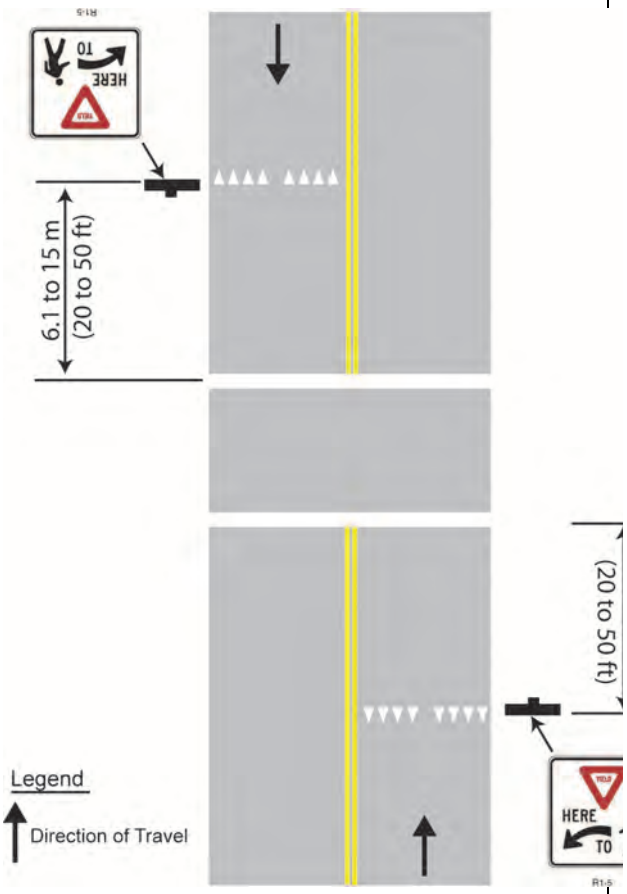
Warning Signs
The Pedestrian Warning (R1-5) sign alerts the road user to unexpected entries into the roadway by bicyclists, and other crossing activities that might cause conflicts.

Pavement Markings
A ladder crosswalk should be used. Warning markings on the path and roadway should be installed.

Other Treatments

See table on the following page to determine if treatments such as raised median refuges, flashing beacons should be used.

Design Example



Source: California MUTCD, Figure 3B-15

Yield Here to Pedestrian Sign

Design Example	Recommended Design (continued)
	 **National MUTCD**

Guidance

- Caltrans Highway Design Manual (Chapter 1000)
- MUTCD – California Supplement, Parts 2 and 9
- AASHTO Guide for the Development of Bicycle Facilities

Roadway Type (Number of Travel Lanes and Median Type)	Vehicle ADT ≤ 9,000			Vehicle ADT > 9,000 to 12,000			Vehicle ADT > 12,000 to 15,000			Vehicle ADT > 15,000		
	Speed Limit**											
	≤ 30 mi/h	35 mi/h	40 mi/h	≤ 30 mi/h	35 mi/h	40 mi/h	≤ 30 mi/h	35 mi/h	40 mi/h	≤ 30 mi/h	35 mi/h	40 mi/h
2 Lanes	1	1	1/1+	1	1	1/1+	1	1	1+/3	1	1/1+	1+/3
3 Lanes	1	1	1/1+	1	1/1+	1/1+	1/1+	1/1+	1+/3	1/1+	1+/3	1+/3
Multi-Lane (4 or more lanes) with raised median***	1	1	1/1+	1	1/1+	1+/3	1/1+	1/1+	1+/3	1+/3	1+/3	1+/3
Multi-Lane (4 or more lanes) without raised median	1	1/1+	1+/3	1/1+	1/1+	1+/3	1+/3	1+/3	1+/3	1+/3	1+/3	1+/3

*General Notes: Crosswalks should not be installed at locations that could present an increased risk to pedestrians, such as where there is poor sight distance, complex or confusing designs, a substantial volume of heavy trucks, or other dangers, without first providing adequate design features and/or traffic control devices. Adding crosswalks alone will not make crossings safer, nor will they necessarily result in more vehicles stopping for pedestrians. Whether or not marked crosswalks are installed, it is important to consider other pedestrian facility enhancements (e.g., raised median, traffic signal, roadway narrowing, enhanced overhead lighting, traffic-calming measures, curb extensions), as needed, to improve the safety of the crossing. These are general recomendations; good engineering judgment should be used in individual cases for deciding which treatment to use.

For each trail-roadway crossing, an engineering study is needed to determine the proper location. For each engineering study, a site review may be sufficient at some locations, while a more in-depth study of pedestrian volume, vehicle speed, sight distance, vehicle mix, etc. may be needed at other sites.

**Where the speed limit exceeds 40 mi/h (64.4 km/h), marked crosswalks alone should not be used at unsignalized locations.

***The raised median or crossing island must be at least 4 ft (1.2 m) wide and 6 ft (1.8 m) long to adequately serve as a refuge area for pedestrians in accordance with MUTCD and AASHTO guidelines. A two-way center turn lane is not considered a median.

1= Type 1 Crossings. Ladder-style crosswalks with appropriate signage should be used.

1/1+ = With the higher volumes and speeds, enhanced treatments should be used, including marked ladder style crosswalks, median refuge, flashing beacons, and/or in-pavement flashers. Ensure there are sufficient gaps through signal timing, as well as sight distance.

1+/3 = Carefully analyze signal warrants using a combination of Warrant 2 or 5 (depending on school presence) and EAU factoring. Make sure to project usage based on future potential demand. Consider Pelican, Puffin, or Hawk signals in lieu of full signals. For those intersections not meeting warrants or where engineering judgment or cost recommends against signalization, implement Type 1 enhanced crosswalk markings with marked ladder style crosswalks, median refuge, flashing beacons, and/or in-pavement flashers. Ensure there are sufficient gaps through signal timing, as well as sight distance.

B.9. Pedestrian Refuge Island

Discussion

Median "noses" and "porkchops" provide additional protection for pedestrians crossing at intersections. Median noses can also prevent vehicles from encroaching into the refuge area when making left turns. However, median noses may not be feasible to install due potential to turning movement restrictions. Neither the MUTCD nor the ADA Access Board Guidelines have any requirement for median noses to be installed at intersection refuge islands. Porkchops, or triangular islands that channel dedicated right turn lanes, provide refuges for pedestrians. Pedestrian warning signs should be installed in advance of the crosswalk.

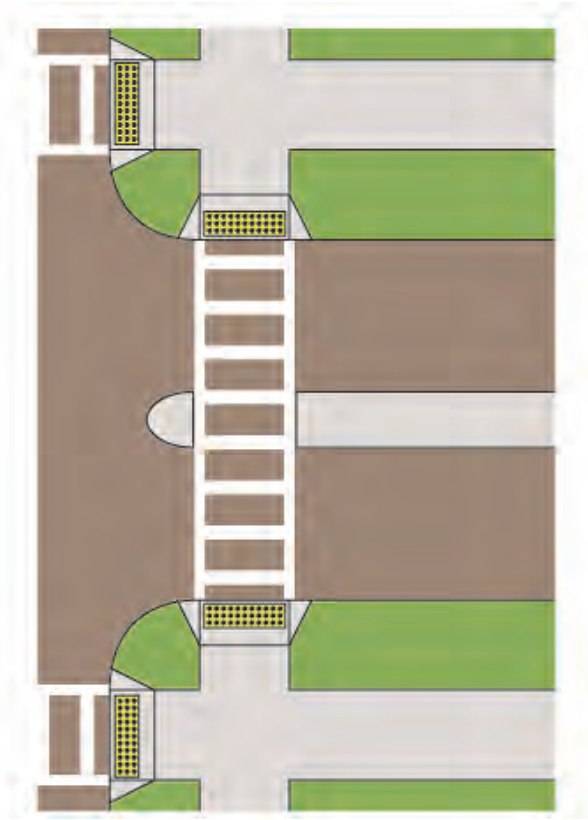
Design Summary

Pedestrian refuge islands should be placed at wide multi-lane roadways. Depending on the signal timing, median islands should be considered when the crossing distance exceeds 60 feet, but can be used at intersections with shorter crossing distances where a need has been recognized.

ADA Access Board Guidelines on Accessible Public Rights of Way has a section on median islands. The following guidelines are applicable:

- Medians and pedestrian refuge islands in crosswalks shall contain a pedestrian access route, including passing space connecting to each crosswalk.
- Medians and pedestrian refuge islands shall be 6.0 ft minimum in length in the direction of pedestrian travel.
- Ramped up and cut-through refuge islands should be permitted. Factors to consider include slope, drainage and width of the island. Median curb ramps can add difficulty to crossing for some users.
- Medians and refuge islands should have detectable warnings, with detectable warnings at cut-through islands separated by a 2-foot minimum length of walkway without detectable warnings.

Design Example



g

Pedestrian Refuge Islands

Median "nose"

B.10.Guidelines for Signage

Discussion

Caltrans categorizes signs into warning and regulatory. Pedestrian warning signs should be fluorescent yellow green to call the attention from motorists. Pedestrian regulatory signs govern pedestrian and motorist movements, such as "Yield Here to Pedestrians." The signs to the right provide examples of regulatory and warning signs.

Design Summary

- Pedestrian warning signs should accompany all non-controlled crosswalks.
- Yield Here to Pedestrians signs should be installed at yield lines or "teeth."
- In-street Yield to Pedestrian signs should be considered at non-controlled crosswalks where motorists frequently violate pedestrian right of way.

Design Example

B.11.Guidelines for Signalized Pedestrian Crossing

Discussion

Pedestrian pushbuttons should be used at any signalized intersection without a dedicated pedestrian phase. Push buttons allow pedestrians to actuate a walk phase.

All new and modified traffic signals should include accessible pushbuttons that are large and vibrate during a walk phase for visually impaired pedestrians.

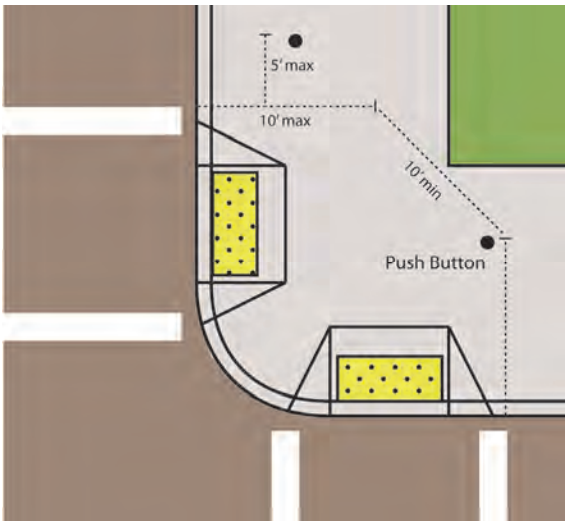
Design Summary

Signal Timing

- CA MUTCD requires a walk signal phase to accommodate a 4.0 feet/second pace or slower
- CA MUTCD provides the option of a walk signal phase to accommodate a 2.8 feet/second pace.
- Push buttons should be located within five feet outside of the transverse crosswalk line extended.
- Push button location should be adjacent to an all weather surface to facilitate accessibility.
- Push buttons should be installed within 10 feet of the curb unless impractical.

Design Example

Pedestrian Push Button



Push button placement

B.12.Pedestrian Amenities

Discussion

Pedestrian amenities include wayfinding signage, street furniture, human scale lighting and textured walking surfaces. These amenities create a welcoming atmosphere where pedestrians feel comfortable.

Design Summary

- Wayfinding signage should be considered in locations with a concentration of community destinations and moderate pedestrian activity.
- Street furniture should be used to create a welcoming streetscape but should not block or constrict pedestrian movement.
- Tree species should be selected based on low maintenance characteristics including root structures that will not disrupt utilities and displace walking surfaces. Planting should be spaces to provide a continuous canopy.
- Human scale lighting should be 12- 20 feet tall. The level of lighting should reflect the location and level of pedestrian activity.

Design Example

Wayfinding and Signage

Pavers, trash receptacles, human scale lighting, and shademake the Gas Lamp District of San Diego attractive to pedestrians.

B.13.Crossing Beacons

Discussion

Beacons enhance uncontrolled crosswalks by using devices that call attention to pedestrians. Beacons may be actuated by pedestrians wishing to cross at a crosswalk or may flash on a continuous basis to warn motorists of potential pedestrian activity ahead.

The standard beacon uses a yellow round light that flashes at regular intervals. Over time, motorists have become complacent with this type of beacon, resulting in a lower yielding compliance. New beacon designs incorporate high-visibility elements to increase compliance. The 2012 California MUTCD approved hybrid beacons for use in California.

- High intensity actuated crosswalk (HAWK) beacons utilize yellow warning and red stop lights similar to a traffic signal. After pedestrian actuation, the yellow light will flash and then turn solid to warn motorists to slow for a cued pedestrian. A red light follows to stop motorists the yellow and flashes red after the pedestrian crossing phase expires.
- Rectangular Rapid Flash beacons (RRFBs) utilize a LED light that flashes in a stutter pattern similar to that of an emergency vehicle.

While hybrid beacons are authorized in California, the application of experimental treatments within California should follow the California Traffic Control Devices Committee's (CTCDC) approval process (http://www.dot.ca.gov/hq/traffops/signtech/newtech/). Jurisdictions within California can apply to the CTCDC for permission to use experimental treatments.

Recommended Design

Pedestrian Hybrid Beacon

Design Summary

- Crosswalk warning beacons should be actuated to maximize yield to pedestrian compliance.
- Hybrid beacons should be considered in place of traditional circular yellow beacons.

Guidance

CA MUTCD Chapter 4.

ITE – Alternative Treatments for At-Grade Pedestrian Crossings

B.14.Signal Phasing

Discussion

Signalized intersection can be daunting to pedestrians if motor vehicle movement is prioritized. Traffic signal phasing can be modified to better accommodate pedestrians and prioritize pedestrian movement at signalized intersection.

The following signal phasing strategies avoid motorist/pedestrian conflict.

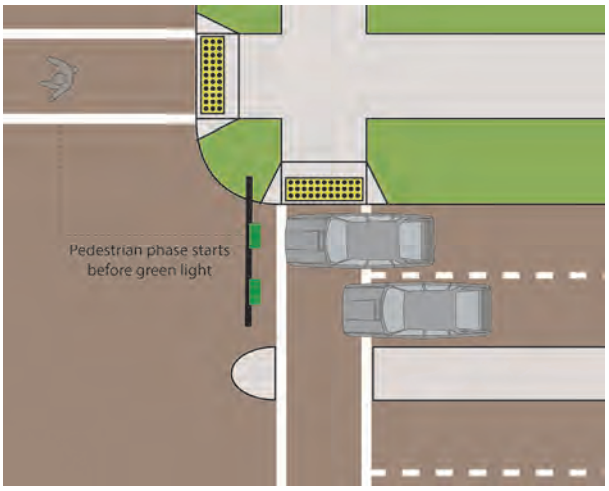
- Protected left turns provide motorists with an exclusive left turn phase, eliminating simultaneous movements of pedestrians and motorists.
- Split phasing provides a dedicated phase for each intersection approach, including a dedicated pedestrian phase.

Leading pedestrian intervals provide a pedestrian phase two to four seconds in advance of a green light in the same direction. LPIs increase pedestrian visibility by permitting pedestrians to enter the crosswalk and motorist sight lines before motorists enter the intersection. Without LPIs, pedestrians are at greater risk of motor vehicle collision because they may enter the intersection at the same time as motorists and assume turning motorists can see them.

Design Summary

- Urban settings are most appropriate for permitted phasing that permits simultaneous pedestrian and motorist movements and increase intersection capacity but increase risk of conflict.
- Rural settings are most appropriate for protected phasing that provides exclusive turning and pedestrian phases but decreases intersection capacity.
- LPIs should provide two to four seconds of pedestrian phasing before a green light for parallel traffic.
- LPIs should be considered where improved motorist visibility of pedestrians is needed.

Design Example



Leading Pedestrian Interval

B.15.Pedestrian Friendly Signal Timing

Discussion

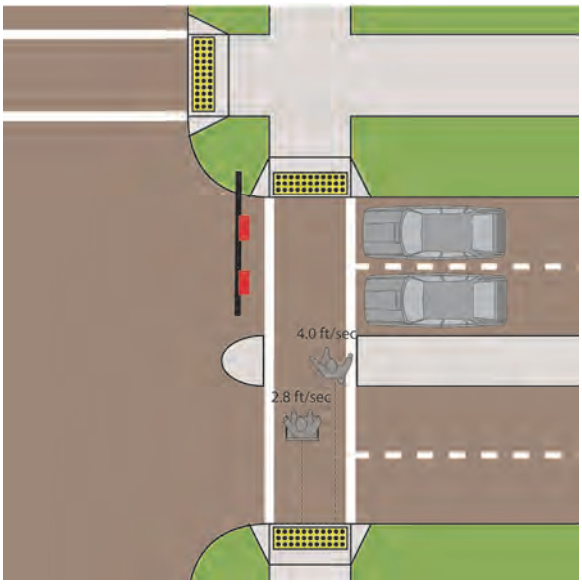
Pedestrian speed determines the duration of a pedestrian phase. CAMUTCD standard pedestrian speed for calculating pedestrian phasing is 4.0 feet per second. This speed does not accommodate slow moving pedestrians such as children, seniors and people with disabilities. CAMUTCD provides the option of using 2.8 feet per second as a pedestrian speed to accommodate slow moving pedestrians.

Countdown pedestrian heads display the remaining time of a pedestrian phase, informing crossing pedestrians. Countdown heads are most applicable at multi-lane arterial roadways where pedestrians have a long distance to cross. If a median is provided, pedestrians may rest and wait for the next pedestrian phase to cross the remaining roadway.

Design Summary

- A pedestrian speed of 2.8 feet per second should be considered at locations used by slow moving pedestrians, i.e. children, seniors and people with disabilities.
- Countdown heads should be installed at multi-lane arterial roadway intersections.
- Countdown head should incorporate audible instructions.

Design Example



Pedestrian timing should be derived from 2.4 feet per second pedestrian speed in areas with children, seniors and people with disabilities.

Countdown Signal

Appendix C. Safe Routes to School Toolkit

Students enjoy the walk to school

C.1. Introduction

C.1.1. What is Safe Routes to School?

Safe Routes to School (SRtS) is a program in San Joaquin County that seeks to help more children to walk and bike safely to school. It envisions active kids using safe streets, helped by engaged teachers, parents, and police officers, and surrounded by responsible drivers.

Safe Routes to School programs use a variety of strategies to make it easy, fun and safe for children to walk and bike to school. These strategies are often called the "Five Es."

- **Education**: programs designed to teach children about traffic safety, bicycle and pedestrian skills, and traffic decision-making.
- **Encouragement:** programs that make it fun for kids to walk and bike. These programs may be challenges, incentive programs, regular events (e.g. "Walk and Bike Wednesdays") or classroom activities.
- **Engineering:** physical projects that are built to improve walking and bicycling conditions.
- **Enforcement**: law enforcement strategies to improve driver behavior near schools.
- **Evaluation**: Evaluation strategies seek to understand and document the effects of Safe Routes to School programs on travel behavior, parent and student attitudes, and a school's physical surroundings.

C.1.2. Who is This Toolkit For?

This Toolkit serves as a resource for any adult who wishes to improve traffic safety and air quality near schools in San Joaquin County, help children be more physically active and "ready to learn" and strengthen the community.

This Safe Routes to School Toolkit is for anyone involved with schools in San Joaquin County.

Whether you are a parent, a teacher, a school administrator, a neighbor, a public health professional, City staff, or a City official, this Toolbox will provide you with facts and figures, as well as ideas, inspiration and proven techniques.

C.1.3. History of the Safe Routes to School Movement

Based on the success of programs in New York, Marin and Florida, Safe Routes to School became a nationwide effort in 2005, when Congress included a national SR2S program in the reauthorization of Federal highway legislation. The program distributed $612 million in dedicated SR2S funds

around the nation. As a result, every state has a SR2S coordinator and a grant program.

The movement developed from a staggering decline over time in the proportion of schoolchildren walking and bicycling to school. In 1969, over 40% of schoolchildren walked or bicycled to school. Today, that number has dropped to 13%, and it continues to decline[1]. As fewer kids biked and walked, more were bused and, increasingly, driven to school. As a result, children suffer from a variety of problems related to physical inactivity, and over 25% of morning rush-hour traffic is parents driving children to school. Traffic safety and air quality have declined near schools.

In the 1970s and 1980s, numerous European and British communities began to notice that children were no longer walking and bicycling to school. The first Safe Routes to School programs in Europe inspired similar programs in Australia, Canada and the United States. In the US, the first SR2S programs were implemented in New York City, Florida state, Marin County (CA) and Arlington (MA).

C.1.4. Benefits of Walking and Bicycling to School

Active kids are healthy kids, and walking or bicycling to school is an easy way to make sure that children get daily physical activity. Benefits to children include:

- Increased physical fitness and cardiovascular health
- Increased ability to focus on school
- A sense of independence and confidence about their transportation and their neighborhood

SR2S also benefits neighborhoods:

- Improved air quality as fewer children are driven to school
- Fewer crashes and decreased congestion as fewer children are driven to school
- More community involvement as parents, teachers and neighbors get involved and put "eyes on the street"

Students in Seattle learn about pedestrian safety

Schools also benefit:

- Fewer discipline problems because children arrive "ready to learn"
- Fewer private cars arriving to drop off and pick up children
- Opportunities to integrate walking, bicycling and transportation topics into curriculum (e.g. "Walk & Bike Across America," mapping lessons, graphs and charts of distance walked or biked)

C.1.5. Traveling to School in San Joaquin County

Families in San Joaquin County enjoy certain advantages in walking and bicycling to school as compared to other places. However, at the same time, they face numerous challenges that can make walking or bicycling difficult.

[1] McDonald, N. (2007). Active Transportation to School: Trends Among U.S. Schoolchildren, 1969-2001. American Journal of Preventative Medicine. 32(6) 509-516.

Opportunities

Many parts of San Joaquin County have good walking and bicycling facilities with sidewalks or sidepaths and other off-street paths existing or planned in many parts of the county. These facilities help to minimize conflict between children and automobiles

Some urbanized areas in the region have a gridded street network with many different routes for students to choose from when walking and bicycling to school. During the school year, weather is often amenable to walking and bicycling. The jurisdictions in the County have demonstrated a commitment to Safe Routes to School by adopting or updating their Pedestrian, Bicycle, and Safe Routes to School plans this year.

Challenges

The street network in many parts of San Joaquin County is not well-connected, with cul-de-sacs and busy arterials presenting barriers to walking and biking.

Many schools in serve populations of students who travel long distances to commute to school. It is impractical for many of these students to walk or bike to school, but Safe Routes to School programs can help to address conditions for transit and drop-off areas.

Teachers and parents may have limited time for volunteering, or busy schedules that make it more difficult to walk and bicycle with their children to school.

Customizing the Approach

Because each school differs based on characteristics such as terrain, the amount of nearby traffic and the presence of sidewalks or trails, a solution that works at one school may not be appropriate at another school in the County. In partnership with parents, schools and neighbors, each jurisdiction will design programs that reflect the unique opportunities and challenges faced by each school's population.

San Joaquin County has a range of urban conditions that make some strategies more effective than others. To ensure that the right tools are being used at each school, symbols will appear throughout the toolkit specifying whether the strategy is appropriate for urban schools, suburban schools, rural schools, or some combination of the three:

C.2. Education

Safe Routes to School refers to a variety of multi-disciplinary programs aimed at increasing the number of students walking and bicycling to school. Education programs are an essential component of a Safe Routes to School program. Education programs generally include outreach to students, parents and guardians, and motorists. Students are taught bicycle, pedestrian and traffic safety skills. Parents and motorists receive information on transportation options and driving safely near schools.

C.2.1. Safety Education

Pedestrian and bicycle safety education makes sure that each child understands basic traffic laws and safety rules. Pedestrian safety education teaches children basic traffic safety rules, sign identification and decision-making tools. Pedestrian training is typically recommended for first- and second-graders, and teaches basic lessons such as "look left, right, and left again," "walk with your approved walking buddy," "stop, look, and listen," and "lean and peek around obstacles before crossing the street." Trained safety professionals can administer pedestrian safety in the classroom or gym class.

Bicycle safety education in Portland, Oregon includes guided rides

Bicycle safety training is normally appropriate beginning in or after the third grade and helps children understand that they have the same responsibilities as motorists to obey traffic laws. The League of American Bicyclists offers an extensive bicycle safety curriculum called Kids II. This seven-hour class is aimed at 5th and 6th grade students and teaches necessary bicycle riding skills and how to pick safe bicycling routes. The curriculum is designed to have a League Certified Instructor (LCI) teach the class. While there are no LCIs in San Joaquin County, there are many in the nearby Sacramento area (https://members.bikeleague.org/members_online/members/findit.asp). This program or a similar program can be used to teach children where and how to ride a bicycle.

C.2.2. Bicycle Rodeos

Bicycle Rodeos are family-friendly events that incorporate a bicycle safety check, helmet fitting, instruction about the rules of the road and an obstacle course. Adult volunteers can administer rodeos, or they may be offered through the local Police or Fire Department. Bicycles rodeos can be incorporated into health fairs, back to school events and Walk and Bike to School days. Rodeos also provide an opportunity to check children's bikes and instruct them on proper helmet use.

Traffic safety education, shown here in a Chicago classroom, can teach students important life-long skills

Bus Safety Campaign in Chicago

C.2.3. Classroom Lessons and Activities

A variety of existing lessons and classroom activities are available to help teach students about walking, bicycling, health and traffic safety. These can include lessons given by law enforcement officers or other trained professionals, or as a lesson plan developed by teachers. Example topic lessons are: Safe Street Crossing; Helmet Safety; Rules of the Road for Bicycles; and Health and Environmental Benefits of Walking and Biking.

The lessons should be grade-appropriate and can be incorporated into the subjects of health, environment, social science, math and physics.

C.2.4. Bus Safety Campaign

Many schools use buses to transport students who are too far away to walk to school. School buses are large and restrict sight lines for drivers and pedestrians. It is difficult for drivers and students to see each other around school buses. Schools can implement a bus safety campaign that reminds students to walk and ride cautiously around buses and to wave and communicate to the bus driver.

C.2.5. School Zone Traffic Safety Campaign

A School Zone Traffic Safety Campaign creates awareness of students walking and bicycling to school. A safety campaign is an effective way to reach the general public and encourage drivers to slow down and look for students walking and biking to school.

A School Zone Traffic Safety Campaign uses signs and banners located near schools (for example, in windows of businesses, yards of people's homes and print publications) to remind drivers to slow down and be careful in school zones. This campaign can be kicked off at the start of each school year or in conjunction with special events, such as Walk and Bike to School Month, which takes place in October.

Banners and signs can be effective tools to remind motorists about traffic safety in school zones. Large banners can be hung over or along roadways near schools with readable letters cautioning traffic to slow down, stop at stop signs or watch for students in crosswalks with catch phrases such as: "Drive 25, Keep Kids Alive" or "Give Our Kids a Brake"

C.3. Encouragement

Encouragement programs focus on the bringing the fun back to walking and bicyling while increasing public awareness of the benefits of walking and biking to school. Encouragment events and activities help increase the number of students walking and biking to school. The activities often include a variety of special events and contests, outreach campaigns and presentations to school and community groups. Encouragement programs can be used to educate parents, school personnel, students and the community about the health and safety benefits of a successful Safe Routes to School program.

Encouragment programs do not need much funding, but their success depends on a school champion or group of volunteers for sustained support.

C.3.1. Walk and Bike to School Day/Week/Month

Walk and Bike to School Day/Week/Month are special events encouraging students to try walking or bicycle to school. The most well-known of these is International Walk to School Day, a major annual event that attracts millions of participants in over 30 countries in October.

Chicago students celebrate Walk and Bike to School Day!

Walk and bike to school days can be held yearly, monthly, or even weekly, depending on the level of support and participation from students, parents and school and local officials. Some schools organize more frequent days – such as weekly Walking/Wheeling Wednesdays or Walk and Roll Fridays – to give people an opportunity to enjoy the event on a regular basis. Parents and other volunteers accompany the students and staging areas can be designated along the route to school where groups can gather and walk or bike together. These events can be promoted through press releases, articles in school newsletters and posters and flyers for students to take home and circulate around the community.

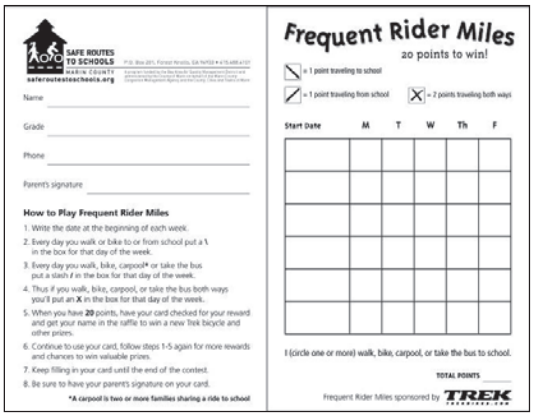
International Walk to School Day Website - http://www.walktoschool-usa.org/.

C.3.2. Suggested Route to School Maps

Suggested Route to School maps show stop signs, signals, crosswalks, sidewalks, trails, overcrossings, and crossing guard locations around a school. These can be used by families to identify the best way to walk or bike to school.

Liability concerns are sometimes cited by cities or school districts as reasons not to publish walking route maps. While no walking route will ever be completely free of pedestrian safety concerns, a well-defined walking route should provide the greatest physical separation between walking students and traffic, expose students to the lowest traffic speeds and have the fewest roadway crossings.

C.3.3. Friendly Walking/Biking Competitions



Example of a Frequent Rider Miles sheet

Example of a Pollution Punchcard from Portland, Oregon

In Chicago, physical activities before school are part of the friendly competitions

Contests and incentive programs reward students by tracking the number of times they walk, bike, carpool or take transit to school. Contests can be individual, classroom competition or interschool competitions. Local businesses may be willing to provide incentive prizes for these activities. Students and classrooms with the highest percentage of students walking, biking or carpooling compete for prizes and "bragging rights." Small incentives, such as shoelaces, stickers and bike helmets, can be used to increase participation. It can also be effective to allow different grades and schools (high school vs. grade school vs. middle school) to compete against each other in a mobility challenge.

Each of the examples of programs below can be modified for students who live too far away from school to walk or bike. Modification can include walking or biking at lunch time or gym class. Also, students can count the miles walked or biked with parents and guardians outside of the school day.

Examples of Walking and Biking Competitions include:

- **On-campus walking clubs (mileage clubs)** - Children are issued tally cards to keep track of "points" for the each time they walk, bike, bus or carpool to or from school. When they earn a specified number of points they get a small prize and are entered in a raffle for a larger prize. At the end of the school year, there is a drawing for major prizes.

- **Pollution Punchcard** - This year-round program is designed to encourage school children and their families to consider other options for getting to school, such as biking, walking, carpooling and public transportation. Every time a student walks, bikes or carpools to school, a parent volunteer or school representative stamps the card. Then students receive a reward when the punch card is complete.

- **Walk and Bike Challenge Week/Month** - This month-long encouragement event is generally held in conjunction with National Bike Month in May. Students are asked to record the number of times they walk and bike during the program. The results are tallied and competing school or classrooms compare results.

Students who are unable to walk or bike to school can participate by either walking during a lunch or gym period or getting dropped off further away from the school and walking with their parents the last several blocks.

- **Golden Sneaker Award** - Each class keeps track of the number of times the students walk, bike, carpool or take the bus to school and compiles these figures monthly. The class that has the most participation gets the Golden Sneaker Award. (The award can be created by taking a sneaker, mounting it to a board like a trophy, and spray painting it gold.)

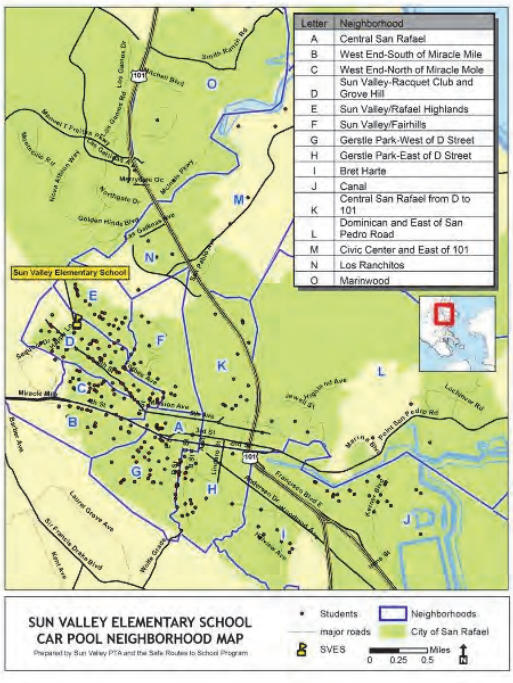
Bicycles around a school campus in Los Angeles

- **Walk Across America/California/Pacific Crest Trail/to Yosemite** - This is a year-round program and is designed to encourage school children to track the number of miles they walk throughout the year. Students will be taught how to track their own mileage through learning about how many steps or blocks are in a mile and will also learn about places in the United States on their way. Some students in San Joaquin County may discover that they could have walked to Yosemite in one semester! Teacher or volunteer support is required.

Each of these programs can use incentives to increase participation and reward the students for their efforts. Examples of incentives include:

- Shoelaces
- Dog tags
- Pedometers
- Reflective zipper pulls
- Bicycle helmets
- Raffle tickets for a bicycle from a local bike shop
- Early dismissal
- Extra recess time
- Pizza parties

C.3.4. Back to School Blitz



A schoolpool map from Marin County shows area neighborhoods and student household locations

Students show their coloring job of a street

Families set transportation habits during the first few weeks of the school year and many families are not aware of the many transportation options available to them. Because of this, most families will develop the habit of driving to school. A "Back to School Blitz" can be used at the beginning of the school year to promote bus, carpool, walking and bicycling as school transportation options.

The "Back to School Blitz" includes many of the other programs in this Toolkit, including Suggested Route Maps, articles in school newsletters and enforcement activity. Additional elements include:

A packet given to each family containing information about school transportation options, including:

- Cover letter signed by the principal encouraging parents to create transportation habits with students that promote physical activity, reduce congestion, increase school safety and improve air quality
- School transportation maps or suggested routes to school maps that include bicycling and walking routes, transit and school bus stops, drop-off and parking areas and bike parking locations
- Transit schedules
- Pledge forms about reducing the number of times that families drive to school; entries go in raffle for a prize donated by local businesses

In addition to the packet, the following strategies can be included:

- Table at back-to-school night with materials and trained volunteers who can answer questions about transportation issues
- Post "schoolpool map" showing all student households as dots; parents then check the corresponding school directory listing to see families located in their neighborhood who are interested in walking, biking and carpooling to school together. Only families who opt into the directory are listed.
- Article in first school newsletter about transportation options and resources
- Enforcement activities, such as school zone speed and crosswalk enforcement
- Strict enforcement of parking policies during first month of school (and throughout the year if possible)

C.3.5. Walking School Buses

Parents and guardians often cite distrust of strangers and the dangers of traffic as reasons why they do not allow their students to walk to school. Walking School Buses are a way to make sure that children have adult supervision as they walk to school. Walking School Buses are formed when a group of children walk together to school and are accompanied by one or two adults (usually parents or guardians of the children on the "bus"). As the walking school bus continues on the route to school they pick up students at designated meeting locations.

Students in Orinda, California, walk to school after being let out a couple of blocks away

Walking school buses can be informal arrangements between neighbors with children attending the same school or official school-wide endeavours with trained volunteers and structured meeting points with a pick-up timetable. A Walking School Bus "how to" guide can be found in the appendix.

C.3.6. Stop and Walk

This year-round campaign is designed to encourage parents to stop several blocks from school and walk the rest of the way to school. Not all students are able to walk or bike to school. They may live too far away from school to walk or their route to school may include hazardous traffic situations, such as a major arterial road. This type of campaign is used to allow students who are unable to walk or bike to school a chance to participate in school walking programs. It also helps reduce traffic congestion at the school.

The program can be included as a part of other encouragment activities, such as the Golden Sneaker Award, Walk Across California and the Mileage Clubs. An additional benefit to implementing a "Stop and Walk" program is reduced traffic volume directly surrounding a school. Reducing the number of motor vehicles in the school environment increases traffic safety and encourages walking and biking to school.

C.3.7. Bike Trains

A bicycle train is very similar to a walking school bus; groups of students accompanied by adults bicycle together on a pre-planned route to school. Routes can originate from a particular neighborhood or, in order to include children who live too far to bicycle, begin from a park, parking lot or other meeting place. They may operate daily, weekly or monthly. Bike trains help address parents' concerns about traffic and personal safety while providing a chance for parents and children to socialize and be active.

Bike trains are best suited for older students that have undergone bicycle safety training. Also, helmets and parent waivers should be required before participating in a bike train.

Students in Durham, North Carolina participate in a bike train

C.3.8. Locally-Sponsored Bicycle and Walking Events

Cities and towns within San Joaquin County host events that encourage citizens to get outside and be active. Such events include half marathons in Stockton and Tracy. Schools may structure their encouragement activities around such special events. For example, over the course of a week, students could walk the distance a half marathon as part of Walking Across California program.

C.4. Engineering Tools

The environment near the school is often a deciding factor when a parent or guardian decides whether or not to let their child walk or bicycle to school. There are many engineering improvements that help improve pedestrian and bicyclist safety and comfort near schools. The engineering improvements help slow cars, increase the visibility of students walking and biking and make it easier for students to cross the street. While some engineering efforts can be costly, many (such as posting signs and striping crosswalks or bike lanes) are relatively inexpensive. The City of Santa Clarita's Public Works Department is responsible for constructing engineering improvements.

C.4.1. Traffic Calming

Traffic calming measures are intended to enhance pedestrian safety and encourage safe driving by slowing vehicles and reducing cut-through traffic on local neighborhood streets. Types of traffic calming include:

Medians and Pedestrian Refuge Islands

Medians and pedestrian refuge islands are located at an intersection or in the middle of a block. Medians are curbed areas in the center of the roadway that reduce the roadway width and reduce the speed of traffic. Pedestrian refuge islands are medians with a cut-out ("refuge") for pedestrians. Pedestrian refuge islands are often used with a marked crosswalk and are a minimum of four feet wide. They improve the safety of the pedestrian by creating a curb-protected location in the middle of the street. This allows the student to cross one lane of traffic at a time. These are best used on higher volume streets with high visibility crosswalks and signs.

Example of a Pedestrian Refuge Island

Chicanes

Chicanes are two curb extensions or roadside islands that create a serpentine path for autos. Street traffic must slow down in order to effectively maneuver around the in-street barriers. Chicanes are mainly used on local streets near a school site.

Pinch Points US

Pinch points are very similar to chicanes. Chicanes are offset curb extensions, while pinch points are paired curb extensions or roadside islands used create a single auto lane. Pinch points slow traffic by reducing the width of the street. Pinch points are used on neighborhood streets.

Traffic Circles US

Traffic circles are in-street speed reduction devices found at residential intersections. They slow traffic because straight-through vehicle traffic must slow down to go around them, while turning vehicles must slow to make a sharper turn. Traffic circles can be used to visually enhance the street using plants or public art.

Single Lane Roundabouts SR

Roundabouts can be used at intersections instead of using a traffic signal. They reduce the speed of traffic while maintaining traffic flow through an intersection. They can be used on low and high traffic volume roads. Pedestrian safety is improved due to decreased auto speed.

Example of a Single Lane Roundabout

Speed Tables and Speed Cushions US

Speed tables and cushions slow vehicles by forcing them to go over a raised surface (they are also known as "vertical deflection"). Speed tables are longer and wider than jarring speed bumps found in locations like parking lots. They are generally used on lower volume streets and may not be permitted or advised on larger or higher-volume streets.

Reduced Corner/Turning Radius US

Reducing the turning radius for right-hand turns means creating a tighter turning angle for the motorist. This reduces the speed at which a motorist can make a right turn. It also improves the visibility of the pedestrian to the motorists and increases the sight distance of the pedestrian.

Example of a reduced corner/turning radius

C.4.2. Pedestrian and Bicycle Safety

High visibility school signs in Santa Clarita

Although it may be appropriate for younger children to bicycle on the sidewalk, and is legal in Santa Clarita, designated on-street bicycle facilities can provide a space for older or more experienced children to bicycle on-street. As older children become more confident in their cycling skills and ride at faster speeds, designated on-street facilities may help to reduce bicycle/pedestrian conflicts on congested walkways near schools and increase visibility for students arriving by bike. Use of on-street facilities is more appropriate for children with better bike handling skills, as they need to know how to stay within the bike lane (if striped) or to the right of traffic (on signed routes), obey stop signs and other traffic signals, and watch for traffic pulling out of side streets or driveways. Bike lanes provide a striped and stenciled lane for one-way travel on the roadway. Bike routes provide for shared use of the roadway lane with motor vehicle traffic and are identified only by signing.

Types of improvements for pedestrian and bicycle safety include:

School Area Signage (Includes High-Visibility Signs) U S R

Signs inform street users about what to expect from the street surroundings. School Zone signs notify motorists that they are entering an environment where there are vulnerable road users. The City is required to follow guidelines listed in the California Manual on Uniform Traffic Control Devices when installing signs. Key signs include the School Warning, School Crosswalk Warning, School Speed Limit and School Advance Warning. One way of increasing the visibility of school area signage is through the use of fluorescent yellow-green signs.

Sidewalks U S R

Sidewalks create a designated space for pedestrians, as well as bicyclists, who are legally allowed to ride on sidewalks in Santa Clarita. A complete sidewalk network is an important component of the transportation system for students. An incomplete sidewalk network or sidewalks in disrepair create a hazard for students walking and biking and may force students to walk in the roadway.

Trails U S R

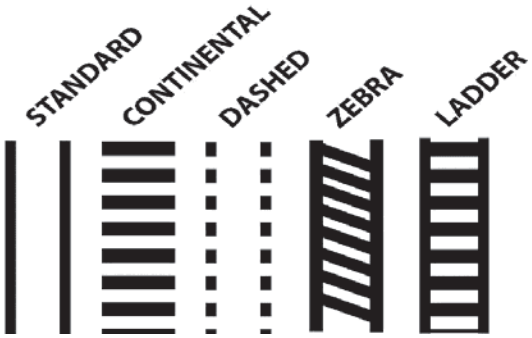
Trails, can also serve an important function as a walking and bicycling corridor to school. Wider than a standard sidewalk, multi-use pathways serve both bicyclists and pedestrians. Pathways may be constructed adjacent to roads, through parks or open space areas, along creeks, or along linear corridors, such as abandoned railroad lines. The physical design of trails is discussed in the Pedestrian Design Criteria.

Curb Extensions

Curb extensions have many benefits for pedestrians. They shorten the street crossing distance, provide additional space at corners, allow pedestrians to see and be seen before entering the crosswalk, and simplify the placement of curb ramps.

High-Visibility Crosswalk Striping

High-visibility striping makes crosswalks more noticable to motorists. Crosswalks located on roads within a certain distance of a school may be painted yellow. Several different crosswalk striping patterns can be used – the most common types of crosswalk striping patterns are shown in the diagram on this page. The standard crosswalk striping pattern consists of two parallel lines, called the "transverse" pattern. A number of "high-visibility" patterns are also in use, such as the ladder, zebra and continental patterns, which add bars for increased visibility.



Crosswalk striping

High-visibility markings should be considered for high-volume crossings near schools, and where conditions warrant an increased visibility marking (e.g. a mid-block location).

Pedestrian Countdown Signals

Pedestrian countdown signals give pedestrians information about how much time left they have to cross the street. Young pedestrians are still learning the skills needed to be a safe pedestrian. Without proper information, a flashing hand can confuse some child pedestrians and lead to running in the crosswalk in order to complete the crossing before the signal changes. Countdown signals help children make good decisions about whether or not to enter the crosswalk by telling them how much time they left have to cross the street.

Leading Pedestrian Interval

A Leading Pedestrian Interval (LPI) is an option that can be added to a traffic signal. An LPI gives pedestrians a walk signal before the motorists get a green light, which makes pedestrians more visible to motorists and therefore makes motorists more likely to yield to them.

Pedestrian-Only Signals

One type of pedestrian-only signal is called a Hybrid Beacon, formerly known as a HAWK signal. It can be used at mid-block crossings with high pedestrian volumes or at intersections that do not already have a traffic signal. Pedestrians use a push button to activate the warning signal and motorists receive a flashing red light and then a solid red light. When the motorists have a solid red light, pedestrians then see a white "walk" light, letting them know they are allowed to cross the street. After pedestrians have finished crossing the street, motorists then receive a blinking red light that lets them know that they may proceed when safe.

Advance Stop and Yield Lines

Advance Stop Lines

In-Street Yield to Pedestrian signs are flexible plastic signs installed in the median to enhance a crosswalk at crossing locations that do not have a signal. These signs usually say 'State Law: Yield to Pedestrians'. At school crosswalks, 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 invisible 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.

Loop Detectors/Video Detectors for Bikes

When a minor road crosses a major road at a signalized intersection, sometimes the light on the minor road turns green only when a car is detected. Often, the devices that detect cars (loop detectors or video detectors) don't detect smaller objects, like bicycles. These devices can be calibrated to detect bicyclists as well as cars.

Loop detectors are used at intersections that are actuated by the presence of a vehicle in the roadway and allow for a bicycle to "trip" the signal and receive a green light. They are in-pavement devices that turn the light green when a bicyclist is detected. When a bicyclist stops over a loop detector, the detector uses a magnetic field to detect the metal in a bicycle.

Video detectors are mounted on a traffic signal and detect bicycles over a larger area. Video detectors also turn the light green for a bicyclist.

Bike Lanes

Bicycle Lanes

Bicycle lanes are a striped portion of the road that forms an area specifically for bicycles. Bicycle lanes increase the visibility of bicycles to motorists by giving them designated space on the road. Bicycle lanes are better suited for older and more experienced children who have learned the skills needed for bicycle handling, avoiding road hazards and following the rules of the road. Bike lanes can be striped on any street that meets the width requirements and has the characteristics of a good bicycle route.

Secure Bicycle Parking U S R

Providing a secure and convenient location for bicycle parking is one way to help encourage more children to bicycle to school. Good bike parking is located conveniently (near the school entrance, for example), and protects bicycles from vandalism/theft, damage and weather.

Grade-Separated Crossings U S R

Occasionally, it may be necessary to raise or lower a pedestrian crossing above or below the existing street level, using a pedestrian bridge or underpass. Due to their high cost, grade-separated crossings should only be considered when there are no safe and convenient alternative routes, such as at a freeway, major highway, rail line or waterway. Even in these cases, pedestrian-only grade-separated crossings should be built only after careful consideration. People may not use a bridge if it requires people to travel very far out of their way. Grade-separated crossings may also feel unsafe because pedestrians are isolated from others. For this reason, pedestrian facilities should be incorporated into existing and new vehicle crossings where feasible.

Crossing over an interstate in Davis, California

Human-Scale Lighting U S R

Safe sidewalks are essential components of good pedestrian environments, and well-lit environments convey a feeling of comfort and safety, particularly at night. Lighting should illuminate the sidewalk and roadway crossings to increase pedestrian visibility. Lighting is also an important element for multi-use pathways, at underpasses and at other isolated locations. Lights should be low enough to the street to scaled for pedestrians increase pedestrian visiblity to road users and light their walking path.

C.5. Enforcement Tools

Enforcement tools are aimed at ensuring compliance with traffic and parking laws in school zones. Enforcement activities help to reduce common poor driving behavior, such as speeding, failing to yield to pedestrians, turning illegally, parking illegally and other violations. Enforcement strategies, in conjunction with education efforts, are intended to clearly demonstrate what is expected of drivers of motor vehicles and to hold them accountable for the consequences of their actions. While most enforcement is the responsibility of police and other law enforcement, there are numerous complementary strategies that can be undertaken by school officials, crossing guards, parents and volunteers.

Students help with a Share the Road campaign in Portland, Oregon

C.5.1. School Safety Patrols and Crossing Guards

Crossing guards in Santa Clarita help students navigate busy roads near schools

School safety patrols are trained student volunteers responsible for enforcing drop-off and pick-up procedures. Student safety patrols may also assist with street crossing; they do not stop vehicular traffic, but rather look for openings and then direct students to cross. According to the National Safe Routes Clearinghouse, "student safety patrols... [increase] safety for students and traffic flow efficiency for parents. Having a student safety patrol program at a school requires approval by the school and a committed teacher or parent volunteer to coordinate the student trainings and patrols."

Crossing guards are trained adults, paid or volunteer, who are legally empowered to stop traffic to assist students with crossing the street.

Some communities in San Joaquin County have crossing guards working at intersections near schools. There is no official County crossing guard program.

C.5.2. Crosswalk Sting

In a crosswalk sting operation, the local police department targets motorists who fail to yield to pedestrians in school crosswalk. A plain-clothes "decoy" police officer ventures into a crosswalk or crossing guard-monitored location, and motorists who do not yield are given a citation by a second officer stationed nearby. The police department or school district may alert the media to crosswalk stings to increase public awareness of the issue of crosswalk safety, and news cameras may accompany the police officers to report on the sting.

C.5.3. School Parking Lot "Citations"

If on-site parking problems exist at a school, such as parents leaving vehicles unattended in loading zones, school staff may issue parking lot "citations" to educate parents about appropriate parking locations. These "citations" are actually warnings designed to look like actual police tickets, intended to educate parents about how parking in improper zones can create safety hazards or disrupt traffic flow for other parents during the pick-up/drop-off period.

Other informal enforcement programs include posting "cell free zone" signs in the school parking lot during drop-off and pick-up, and sending drop-off and pick-up procedures home with students at the beginning of the year and after returning from school vacations.

C.5.4. Neighborhood Speed Watch

In areas where speeding problems have been identified by residents, a Neighborhood Speed Watch can be used to warn motorists that they are exceeding the speed limit. A radar unit is loaned out to a designated neighborhood representative to record speed information about vehicles. The person operating the radar unit must record information, such as make, model and license number of offending vehicles. This information is

sent to the local law enforcement agency, which then sends a letter to the registered vehicle owner, informing them that the vehicle was seen on a specific street exceeding the legal speed limit. Letters are typically sent out to those driving at least 5 mph over the speed limit. Although not a formal citation, the letter explains that local residents are concerned about safety for their families and encourages the motorist to drive within the speed limit.

Yard signs can also be incorporated into the speed watch program. Participating neighbors post signs stating that children live in the neighborhood and it is necessary to slow down for their safety.

C.5.5. Radar Trailer

Speed Radar Trailers can be used to reduce speeds and enforce speed limit violations in known speeding problem areas. In areas with speeding problems, police set up an unmanned trailer that displays the speed of approaching motorists along with a speed limit sign.

Speed radar trailers can be used as both an educational and enforcement tool. By itself, the unmanned trailer serves as effective education to motorists about their current speed compared to the speed limit. As an alternative enforcement measure, the police department may choose to station an officer near the trailer to issue citations to motorists exceeding the speed limit. Because they can be easily moved, radar trailers are often deployed on streets where local residents have complained about speeding problems. If frequently left in the same location without officer presence, motorists may learn that speeding in that location will not result in a citation and the strategy can lose its benefits. For that reason, radar trailers should be moved frequently.

Example of a radar trailer in Marin

C.5.6. Speed Feedback Sign

A permanent speed radar sign can be used to display approaching vehicle speeds and speed limits on roadways approaching the school site. The unit is a fixed speed limit sign with built-in radar display unit that operates similar to a radar trailer. In order to maximize effectiveness for school settings, the radar display unit should be set to only activate during school commute hours.

Roadways approaching the school site are the most appropriate location to display speeds, instead of streets along the school frontage that will likely have lower speeds due to pick-up/drop-off traffic.

Example of a Speed feedback sign in Marin County

C.6. Evaluation

Evaluation of the Safe Routes to School program is important to understand the effectiveness of the program, identify improvements that are needed and ensure that the program can continue in the long-term. Evaluation can measure shift in travel behavior, changes in attitudes toward biking and walking, awareness of the Safe Routes to School program, grant money received and projects completed.

C.6.1. School Site Audit

A school site audit, sometimes called a walking audit or walkabout, is an evaluation of the pedestrian and bicycling conditions around the school environment. Typically school site audits are conducted by the local school group or task force on foot by walking the routes that the students use to get to school. A site audit may also be conducted on bicycle in order to better evaluate bicycling conditions.

The goal of a site audit is to document conditions that may discourage walking and bicycling to school, and to identify solutions to improve those conditions. The audit should involve an assessment of the built environment around a school (for example, streets, sidewalks, pathways, crosswalks and intersections, bike routes, traffic controls), drop-off and pick-up operations (e.g. presence of designated loading areas), as well as behaviors of students, parents, and motorists that could contribute to unsafe conditions for bicyclists or pedestrians (e.g. speeding, jaywalking, failure to yield to pedestrians).

A School Site Audit checklist form has been provided at the end of this Toolkit that asks for detailed information related to: 1) Student Drop-Off and Pick-Up Areas; 2) Bus Loading Zones; 3) Sidewalks and Bicycle Routes; 4) Intersections Near the School Property; 5) Sight Distance; and 6) Traffic Signs, Speed Controls and Pavement Markings. The local school task force can use the School Site Audit checklist as a basis for conducting their walkabout.

Along with the checklist, an aerial map of the school area is helpful for the site audit. Aerial photos can be marked up with identified issues and suggested improvements.

C.6.2. Program Evaluation

There are many different education, encouragement, and enforcement programs that can be implemented in a school environment to help increase the number of students walking and biking to school. Not every program is the correct fit for every school. It is important to evaluate programs in the context of the school environment prior to deciding what would be a good choice for your school. Once the programs have been implemented it is necessary determine whether or not it was a good choice for your school and what about the program worked and what did not work quite as well. Below are some suggested steps for proceeding with the program evaluation process.

Program evaluation can be administered by following these steps:

1. Survey local traffic conditions and issues (much of this information can be found from the school site audit)
2. Determine the goals of the program
3. Identify methods to implement programs
4. Determine success benchmarks to evaluate the effectiveness of the program efforts
5. Interview program administrators (teachers, volunteers) and participants (students) to discuss what worked and what did not

C.6.3. Perform Annual Hand Tally and Parent Surveys

Since 2005, the federal Safe Routes to School program has set aside federal funding to help states, cities, towns and schools increase the number of students walking and biking to school. One requirement of receiving this money is that schools must perform annual hand tally and parent surveys so that the national program can track the effectiveness of the various programs across the country.

The National Center for Safe Routes to School has developed a recommended methodology, survey and count forms and reporting forms. A teacher administers the hand tally survey to the students in their classroom. The parent surveys are either mailed or sent home to parents or guardians. If you receive a parent survey, please fill it out and help your school district comply with current and future funding requirements.

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Appendix D. BTA Compliance Table

Caltrans Bicycle Transportation Account is a significant source of funding for bicycle facilities. To be eligible for BTA funding, applicants must have an adopted Bicycle Master Plan that is approved by Caltrans. Table D-1 demonstrates how this Plan complies with BTA requirements and is provided for the convenience of Caltrans reviewers.

Table D-1: BTA Compliance Table

BTA 891.2	Required Plan Elements	Compliant Elements in Plan	Page
(a)	The estimated number of existing bicycle commuters in the plan area and the estimated increase in the number of bicycle commuters resulting from implementation of the plan.		
	Existing Bicycle Commuters	Needs Analysis	3-5
	Future Bicycle Commuters	Forthcoming	
(b)	A map and description of existing and proposed land use and settlement patterns which shall include, but not be limited to, locations of residential neighborhoods, schools, shopping centers, public buildings, and major employment centers.		
	Map and description of existing and proposed land use.	Working Paper 2, Appendix A: Land Use Maps	A-2
(c)	A map and description of existing and proposed bikeways.		
	Existing	Existing Bicycle Network	2-5
	Proposed	Proposed Bikeways	5-4
(d)	A map and description of existing and proposed end-of-trip bicycle parking facilities. These shall include, but not be limited to, parking at schools, shopping centers, public buildings, and major employment centers.		
	Map and description of existing and proposed end of trip bicycle parking facilities.	Bicycle Parking and End-of-Trip Facilities	5-3

BTA 891.2	Required Plan Elements	Compliant Elements in Plan	Page
(e)	A map and description of existing and proposed bicycle transport and parking facilities for connections with and use of other transportation modes. These shall include, but not be limited to, parking facilities at transit stops, rail and transit terminals, ferry docks and landings, park and ride lots, and provisions for transporting bicyclists and bicycles on transit or rail vehicles or ferry vessels.		
	Map and description of existing and proposed bicycle transport and parking facilities for connection with use of other transportation modes	Proposed Bikeway Project Maps	5-18
(f)	A map and description of existing and proposed facilities for changing and storing clothes and equipment. These shall include, but not be limited to, locker, restroom, and shower facilities near bicycle parking facilities.		
	Map and description of existing and proposed facilities for changing and storing clothes and equipment	Bicycle Parking and End-of-Trip Facilities	5-3
(g)	A description of bicycle safety and education programs conducted in the area included within the plan, efforts by the law enforcement agency having primary traffic law enforcement responsibility in the area to enforce provisions of the Vehicle Code pertaining to bicycle operation, and compile existing data on the resulting effect on accidents involving bicyclists.		
	Description of bicycle safety and education programs	Existing Conditions	2-21
(h)	A description of the extent of citizen and community involvement in development of the plan.		
	Description of the extent of citizen and community involvement	Comments Received	H-1
(i)	A description of how the bicycle transportation plan has been coordinated and is consistent with other local or regional transportation, air quality, or energy conservation plans, including, but not limited to, programs that provide incentives for bicycle commuting.		
	Description of coordination and consistency with other local or regional plans.	Plan and Policy Review	F-1
(j)	A description of the projects proposed in the plan and a listing of their priorities for implementation.		

BTA 891.2	Required Plan Elements	Compliant Elements in Plan	Page
	Description of the project prioritization.	Project Tables	E-1
(k)	A description of past expenditures for bicycle facilities and future financial needs for projects that improve safety and convenience for bicycle commuters in the plan area.		
	Description of past expenditures on bicycle facilities and future financial needs.	Funding projects through Measure K	7-8

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Appendix E. Project Tables

This Appendix lists all recommended projects included in this Plan.

Table E-1: Priority Bikeway Projects by Jurisdiction

Jurisdiction	Location	Start	End	Class	Gap Closure	Safety	Project Readiness	CAC	School Proximity	SRtS Need	Community Support	CMP	Matching Funds	Innovative	Total Score	Estimated Project Cost
Escalon	Brennan Rd	1st Street	Ullrey Avenue	2	10	0	0	0	0	0	0	0	10	0	20	$19,800
Escalon	Stanislaus St	Yosemite Ave	Miller Ave	2	10	0	0	15	5	0	0	5	10	0	45	$16,000
Escalon	Ullrey Avenue	Brennan Rd	Main St	2	10	0	0	15	5	0	0	0	10	0	40	$42,600
Escalon	Yosemite Ave	Stanislaus Street	Dent Street	2	10	0	0	10	5	0	0	5	0	0	30	$6,000
Lathrop	Golden Valley Parkway	Paradise Cut	Roth Rd	2	10	5	3	10	5	0	0	5	10	0	48	$290,400
Lathrop	Guthmiller Road	End of Street	Yosemite Avenue	2	10	0	3	0	0	0	0	5	0	10	28	$24,400
Lathrop	Harlan Rd	Howland Rd	Roth Rd	2	10	20	3	10	5	0	0	5	0	0	53	$211,100
Lathrop	Lathrop Rd	San Joaquin River	Lathrop-Manteca City Limit	2	10	15	3	15	5	0	0	5	0	0	53	$109,100
Lathrop	Louise Avenue	Golden Valley Parkway	Lathrop-Manteca City LImit	2	10	5	3	15	5	0	0	0	0	0	38	$89,400
Lathrop	Manthey Road	Sadler Oak Drive	San Joaquin River	2	10	0	3	5	5	0	0	5	0	0	28	$26,200
Lathrop	W. Yosemite Ave	San Joaquin River	W. City Limits	2	10	0	3	10	0	0	0	5	0	0	28	$51,600
Lodi	Calaveras-Central Path	E. Lockeford Street	Railroad Avenue	1	10	10	0	15	5	10	0	5	10	0	65	$23,100
Lodi	Century Blvd	Church St	Cherokee Lane	2	10	15	6	10	5	5	0	5	10	0	66	$1,400,000
Lodi	N. West Lane	Harney Lane	E. Eight Mile Road	2	10	5	3	10	5	5	0	5	10	0	53	$500,000
Lodi	Tokay St	Union Pacific Railroad	Union Pacific Railroad	2	10	10	0	15	5	10	0	5	10	10	75	$220,000
Lodi	Victor Road	Sacramento St	Central California Traction	1	10	20	3	15	5	5	0	5	10	0	73	$2,500,000
Manteca	Atherton Drive	Union Road	Sparrowhawk Street	1	10	0	0	10	5	0	0	5	10	0	40	$580,400

Jurisdiction	Location	Start	End	Class	Gap Closure	Safety	Project Readiness	CAC	School Proximity	SRtS Need	Community Support	CMP	Matching Funds	Innovative	Total Score	Estimated Project Cost
Manteca	Atherton Road West Extension	End of Existing Class 1	Woodward Ave	1	10	5	0	5	0	0	0	5	10	0	35	$1,316,300
Manteca	Manteca-Ripon Connector (Manteca)	Woodward Road	Planned River Road Bikeway	1	10	5	0	0	0	0	0	5	10	0	30	$1,919,200
Manteca	Tidewater Bikeway (Lathrop Road)	Lathrop Rd	Union Ranch Subdivision	1	10	0	9	10	5	0	10	0	10	0	54	$152,300
Ripon	East Stanislaus River Trail	Laurelwood Lane	Proposed Spring Creek Path	1	10	0	0	10	5	0	10	0	10	0	45	$800,000
Ripon	Jack Tone Road	Yosemite Avenue	Santos Avenue	1	10	0	0	0	0	0	0	5	10	0	25	$1,807,300
Ripon	Manteca-Ripon Connector (Ripon)	River Road	Kamps Way	1	10	20	0	15	5	0	0	5	10	0	65	$1,800,000
Ripon	West Stanislaus River Trail	Jack Tone Driving Range	Austin Road	1	10	0	0	5	0	0	10	0	10	0	35	$1,600,000
San Joaquin County	Copperopolis Rd	Hewitt Rd	Escalon-Bellota Rd	3	0	0	3	0	0	0	0	0	10	0	13	$610,000
San Joaquin County	Durham Ferry Rd	S. Kasson Rd	New Jerusalem Airport	3	0	0	0	5	5	0	0	0	10	0	20	$14,500
San Joaquin County	Escalon-Bellota Rd	E. Mariposa Road	Escalon City Limits	3	10	5	0	10	5	0	0	5	10	0	45	$15,400
San Joaquin County	Grant Line Rd	Eleventh St	Tracy City Limits	3	0	0	0	10	5	0	0	5	10	0	30	$14,600
San Joaquin County	Lower Sacramento Rd	Jahant Road	Acampo Road	3	0	0	0	10	5	0	0	0	10	0	25	$16,000
San Joaquin County	Lower Sacramento Rd	Acampo Road	Woodbridge Road	3	0	0	0	10	5	0	0	0	10	0	25	$11,200

Jurisdiction	Location	Start	End	Class	Gap Closure	Safety	Project Readiness	CAC	School Proximity	SRtS Need	Community Support	CMP	Matching Funds	Innovative	Total Score	Estimated Project Cost
San Joaquin County	Manthey Road	Roth Road	Klo Road	3	0	5	0	5	0	0	0	5	10	0	25	$5,900
San Joaquin County	N. Sutter Street	E. Ingram Street	E. Fulton Street	3	0	0	0	15	5	0	0	5	0	0	25	$3,900
San Joaquin County	Ray Rd	W. Peltier Road	Kile Rd	3	0	0	0	5	5	0	0	5	10	0	25	$8,000
San Joaquin County	Roth Road	Harlan Rd	Lathrop-Manteca City LImit	2	10	5	0	5	0	0	0	0	0	0	20	$37,600
San Joaquin County	Thornton Road	DeVries Road	W. Eight Mile Road	3	10	0	0	5	5	0	0	5	10	0	35	$8,100
San Joaquin County	Woodbridge Rd	N. Ray Road	DeVries Road	3	0	5	0	0	0	0	0	0	10	0	15	$8,000
Stockton	Airport Way	Carpenter Road	Stockton Municipal Airport	2	10	5	0	15	5	0	0	5	10	0	50	$309,000
Stockton	Airport Way Phase 5	750' South of 12th Street	Carpenter Road	1	10	5	3	15	5	0	10	5	10	0	63	$900,000
Stockton	Alexandria Place	W. Hammer Lane	Meadow Avenue	3	10	20	0	15	5	0	0	5	0	0	55	$3,200
Stockton	Brookside Road	Brookside Elementary School	N. Pershing Avenue	3	10	20	0	15	5	0	0	0	10	0	60	$13,500
Stockton	Calaveras South Levee Path	N. El Dorado Street	N. Sutter Street	1	10	5	6	15	5	0	10	5	10	10	76	$1,100,000
Stockton	Center Street	Church Street	S. El Dorado Street	2	0	20	0	15	5	0	0	0	0	0	40	$42,300
Stockton	Cortez Ave - Balboa Ave	Thornton Road	Alexandria Place	3	10	20	0	15	5	0	0	5	10	0	65	$6,000

Jurisdiction	Location	Start	End	Class	Gap Closure	Safety	Project Readiness	CAC	School Proximity	SRtS Need	Community Support	CMP	Matching Funds	Innovative	Total Score	Estimated Project Cost
Stockton	Don Avenue	Mosher Slough Path	W. Hammer Lane	3	10	20	0	15	5	0	0	0	10	0	60	$5,300
Stockton	Duck Creek Path	S. B Street	Pock Lane	1	10	0	0	15	5	0	0	5	10	0	45	$800,000
Stockton	Duck Creek Path	Pock Lane	Stagecoach Road	1	10	0	0	15	5	0	0	0	0	0	30	$665,900
Stockton	Feasible Class III Bike Routes				0	0	0	0	0	0	0	0	10	0	10	$200,000
Stockton	Mathews Rd	Howard Rd	Manthey Road	3	0	10	0	15	5	0	0	0	10	0	40	$6,000
Stockton	Meadow Avenue	W. Hammer Lane	Alexandria Place	3	0	20	0	15	5	0	0	5	10	0	55	$5,300
Stockton	N. Pershing Avenue	Alpine Avenue	W. Mendocino Avenue	2	10	20	0	15	5	0	0	5	10	0	65	$3,700
Stockton	N. Sutter Street	E. Fulton Street	E. Wyandotte Street	2	0	20	0	15	5	0	0	5	10	0	55	$108,000
Stockton	N. West Lane	E. Eight Mile Road	E. Morada Lane	2	10	15	0	10	5	0	0	5	10	0	55	$60,400
Stockton	Oak Park Bike Path	N. Sutter Street	California Street	1	10	20	6	15	5	0	10	0	10	0	76	$77,800
Stockton	S. El Dorado Street	Hazelton Avenue	4th Street	2	0	20	0	15	5	0	0	5	10	0	55	$90,000
Stockton	S. El Dorado Street	4th Street	W. Mathews Road	2	0	20	0	15	5	0	0	5	0	0	45	$156,300
Stockton	Signage Program				0	0	0	0	0	0	0	0	10	0	10	$150,000
Stockton	W. Mendocino Avenue	N. Pershing Avenue	N. Kensington Way	2	10	20	0	15	5	0	0	5	10	0	65	$37,500
Stockton	W. Swain Road	N. Harrisburg Place	Inglewood Avenue	3	10	20	0	15	5	0	0	5	10	0	65	$8,000
Stockton	Walker Slough Path	Houston Avenue	O'Dell Avenue	1	10	5	0	15	5	0	0	0	10	0	45	$1,200,000
Tracy	Central Ave	Tracy Blvd	Schulte Rd	2	10	10	0	10	5	5	0	5	10	0	55	$43,700
Tracy	Lowell Ave	Lincoln Blvd	Tracy Blvd	2	10	20	0	10	5	5	0	5	10	0	65	$20,000
Tracy	MacArthur Dr	W Schulte Rd	Valpico Rd	2	10	5	3	10	5	0	0	0	10	0	43	$27,800

Table E-2: Vision Bikeways by Jurisdiction

Jurisdiction	Location	Class	Start	End	Miles	Estimated Project Cost
Escalon	Arthur Rd	2	Escalon Ballota Rd	Brennan Rd	0.28	$11,800
Escalon	California St	3	2nd St	Justin St	0.39	$3,200
Escalon	Campbell Ave	2	Yosemite Ave	Jackson Ave	0.31	$13,200
Escalon	Cardinal Dr	3	Brennan Rd	Ullrey Ave	1.62	$13,000
Escalon	Coley Ave	3	1st St	David Dr	0.53	$4,300
Escalon	David Dr - Justin Dr	3	Coley Ave	Yosemite Ave	0.18	$1,500
Escalon	Irwin Ave	3	Yosemite Ave	Ullrey Ave	0.83	$6,700
Escalon	Jackson Ave	2	4th St	Campbell Ave - E City Limits	0.58	$24,800
Escalon	Jill St	3	Vine Ave	Coley Ave	0.15	$1,300
Escalon	Justin Dr	2	Yosemite Ave	Mission St	0.13	$5,600
Escalon	Main St	1	1st St	5th St	0.38	$241,100
Escalon	Main St	2	Yosemtie Ave	Viking St	0.27	$11,400
Escalon	Main St	2	5th St	S City Limits	0.38	$16,400
Escalon	McHenry Ave	1	Jones Rd - S City Limits	California St	1.63	$1,047,000
Escalon	McHenry-Escalon-Escalon Ballota Rd	2	Jones Rd - S City Limits	N City Limits	0.87	$37,200
Escalon	Multi-Use Path N of La Mesa St	1	Escalon Ave	W City Limits	0.26	$163,900
Escalon	Multi-Use Trail N of Mission St	1	Stanislaus St	Justin Dr	0.55	$352,200
Escalon	Oklahoma Ave	3	Yosemite Ave	Ullrey Ave	0.76	$6,100
Escalon	Sanchez Way	3	1st St	Ullrey Ave	0.48	$3,900
Escalon	Swanson Dr	3	1st St	Clough Rd	1.22	$9,800
Escalon	Unnamed Street	2	Vine Ave	Jackson Ave	0.33	$14,200
Escalon	Yosemite Ave	1	Brennan Rd	1st St	1.26	$806,700
Escalon	Yosemite Ave	2	Brennan Rd	Escalon Rd	0.93	$39,600
Escalon	Yosemite Ave	3	Dent Street	Justin Dr	0.40	$3,200
Escalon	Yosemite Ave	2	Justin Dr	Campbell Ave - E City Limits	0.24	$10,000
Lathrop	5th St	1	Lathrop Rd	Thomsen Rd	0.52	$333,000

Jurisdiction	Location	Class	Start	End	Miles	Estimated Project Cost
Lathrop	5th St	2	Thomsen Rd	Louise Ave	0.49	$21,000
Lathrop	7th Street Trail	1	D'Arcy Pky	Roth Rd	4.11	$2,640,400
Lathrop	Canal Blvd	2	Paradise Rd	Manthey Rd	3.92	$166,900
Lathrop	Cedar Valley Dr	2	Stonebridge Rd	Woodfield R	1.10	$47,000
Lathrop	Christopher Way	2	Harlan Rd	D'Arcy Pky	1.06	$45,100
Lathrop	D'Arcy Pky	2	Harlan Rd	Howland Rd	1.08	$46,200
Lathrop	De Lima Trail	1	Manthey Rd	San Joaquin River	1.50	$962,800
Lathrop	Howland Rd	2	D'Arcy Pky	Louise Ave	1.06	$45,200
Lathrop	Manthey Road	2	Sadler Oak Drive	San Joaqin River	1.81	$77,100
Lathrop	McKinley Ave	2	Lathrop Rd	Yosemite Ave	2.02	$86,100
Lathrop	Paradise Cut Bike Lanes	2			10.48	$446,300
Lathrop	Paradise Cut Trail	1	Old River	San Joaquin River	5.76	$3,704,600
Lathrop	Paradise Rd	2	Canal Blvd	Paradise Cut Loop	2.13	$90,700
Lathrop	Rail Trail	1	7th Street Trail	Airport Way	1.27	$814,400
Lathrop	Roth Road	3	San Joaquin River	I-5	2.13	$17,000
Lathrop	San Joaquin River Greenbelt	1	Dos Reis Rd	Golden Valley Parkway	0.86	$550,800
Lathrop	San Joaquin River Greenbelt	1	Thomas Paine Slough	Paradise Cut	4.45	$2,858,200
Lathrop	San Joaquin River Greenbelt	1	Paradise Cut Trail		10.50	$6,746,600
Lathrop	Stonebridge Ln	2	Harlan Rd	Slate St	0.48	$20,300
Lodi	Beckman Rd	2	Pine St	Harney Ln	0.27	$11,600
Lodi	Century Blvd	2	Lower Sacramento Road	Heavenly Way	0.37	$15,800
Lodi	Century Blvd	1	Church Street	Cherokee Ln	0.86	$550,200
Lodi	Cherokee Ln	2	E. Lodi Avenue	Harney Lane	2.05	$87,200
Lodi	Cherokee Ln	3	Delores St	Lodi Avenue	1.09	$8,800
Lodi	Church St	3	Kettleman Ln	Century Blvd	0.55	$4,500
Lodi	Church St	2	Turner Rd	W. Lodi Avenue	1.07	$45,700
Lodi	E. Lockeford Street	3	Cherokee Lane	N. Guild Avenue	0.70	$5,700
Lodi	E. Vine Street	2	Beckman Road	S. Guild Avenue	0.48	$20,400
Lodi	Elm St	2	Cherokee Ln	Evergreen Dr	0.54	$23,100

Jurisdiction	Location	Class	Start	End	Miles	Estimated Project Cost
Lodi	Guild Ave	2	Turner Rd	N of Kettleman Ln	1.72	$73,400
Lodi	Ham Ln	3	Turner Rd	Harney Ln	3.09	$24,900
Lodi	Harney Lane	2	Lower Sacramento Road ext.	Wells Lane	3.43	$146,100
Lodi	Holly Dr	3	Hutchins St	Mills Ave	0.27	$2,200
Lodi	Hutchins St	3	Lockeford Street	Lodi Avenue	0.56	$4,600
Lodi	Kettleman Ln	2	W City Limits	Wells Ln	0.95	$40,500
Lodi	Lockeford St	2	Main St	Cherokee Ln	0.53	$22,700
Lodi	Lockeford St	3	Mills Ave	Main St	1.48	$12,000
Lodi	Lodi Ave	2	Hutchins St	Guild Ave	1.71	$73,000
Lodi	Lodi Ave	3	Lower Sacramento Rd	Hutchins St	1.50	$12,100
Lodi	Lodi Ave	2	Lower Sacramento Rd	W City Limits	3.81	$162,200
Lodi	Lodi Loop Trail	1	Future Unnamed Street (S)	Mills Ave	0.73	$466,700
Lodi	Lodi Loop Trail	1	Applewood Dr	Future Unnamed Street (N)	2.44	$1,565,000
Lodi	Lower Sacramento Rd	2	Turner Rd	Harney Ln	0.75	$32,200
Lodi	N. Loma Drive	2	Turner Road	W. Lockeford Street	0.63	$26,900
Lodi	Pacific Avenue	3	W. Elm Street	W. Walnut Street	0.33	$2,800
Lodi	Pine St	2	N. Sacramento Street	Guild Ave	1.31	$56,100
Lodi	Rutledge Drive	2	Turner Road	Elm Street	0.65	$27,700
Lodi	Stockton St	2	Turner Road	Harney Ln	3.07	$130,700
Lodi	Turner Rd	3	Lower Sacramento Rd	Cluff Ave	2.59	$20,800
Lodi	Turner Rd	2	Cluff Ave	Guild Ave	0.26	$11,000
Lodi	Unnamed Future Street	3	Turner Rd	Harney Ln	2.27	$18,200
Lodi	Victor Rd	2	Guild Ave	Kennison Ln	0.75	$32,100
Lodi	Vine Street Trail	1	Lower Sacramento Rd	W City Limits	0.28	$176,800
Lodi	W. Vine Street	2	S. Lower Sacramento Road	End of Street	0.18	$7,900
Lodi	W. Vine Street	3	S. Mills Avenue	Cherokee Lane	1.99	$16,000
Lodi	W. Walnut Street	3	S. Hutchins Street	S. Sacramento Street	0.37	$3,100
Lodi	W. Walnut Street	3	S. Pacific Avenue	S. Ham Lane	0.11	$900
Lodi	Walnut Street	2	S. Main Street	Central Avenue	0.31	$13,200

Jurisdiction	Location	Class	Start	End	Miles	Estimated Project Cost
Lodi	Walnut Street	3	Central Avenue	Cherokee Lane	0.25	$2,200
Lodi	Walnut Street Crossing	1	S. Sacramento St	S. Main Street	0.08	$51,600
Lodi	Wells Lane	2	E. Kettleman Lane	E. Harney Lane	1.01	$42,900
Lodi	West Lodi Canal Path	1	Peterson Park	Harney Lane	3.60	$2,311,300
Lodi	Westgate Park Trail	1	Evergreen Dr	Applewood Dr	0.20	$131,100
Manteca	Airport Way	2	E. Lathrop Rd	Atherton Drive	3.29	$140,300
Manteca	Airport Way	2	Peregrine Street	E. Woodward Avenue	0.15	$6,400
Manteca	Atherton Drive	1	End of Street	S. Tinnin Road	1.09	$698,000
Manteca	Brookdale Way	2	Cottage Ave	N Pestana Ave	0.49	$21,100
Manteca	Brookdale Way (North ext)	2	Lathrop Rd	Cottage Ave	1.26	$53,600
Manteca	Cottage Ave	3	Lathrop Rd	Brookdale Way	1.11	$8,900
Manteca	Cowell School Park	1	Buckhorn Drive	Pestana Avenue	0.42	$270,000
Manteca	Daniels St (west ext)	2	Airport Way	McKinley Ave	1.01	$42,900
Manteca	E Louise Ave	2	S Austin Rd	S Jack Tone Rd	2.01	$85,700
Manteca	E Nehemiah Dr	2	N Vasconcellos Ave	S Austin Rd	0.27	$11,600
Manteca	Fox Fire Dr	2	Zurich Dr	N Silverado Dr	0.22	$9,500
Manteca	Garden Gate Dr/Lousie Ave	3	Jason St	Springtime Ave	0.18	$1,500
Manteca	HWY 120	3	S Austin Rd	S Jack Tone Rd	2.01	$16,100
Manteca	HWY 99 ramp (West ext)	1	N Main St	Lathrop Rd	0.38	$242,400
Manteca	HWY 99 ramp (West ext)	3	N Main St	Lathrop Rd	0.29	$2,400
Manteca	Lathrop Rd	2	Lathrop City Limit	Austin Road	4.46	$189,800
Manteca	Louise Avenue	2	Souza Boulevard	Brookdale Way	0.29	$12,300
Manteca	McKinley Ave	1	Union Pacific RR	Atherton Rd	0.67	$431,300
Manteca	N Austin Rd	2	Union Pacific RR	Lathrop Rd	1.45	$61,800
Manteca	N Cherry Ln	3	Union Rd	Center St	0.52	$4,200
Manteca	N Pestana Ave (North ext)	2	Lathrop Rd	City Limit (north)	0.74	$31,400
Manteca	N Vasconcellos Ave	2	E Nehemiah Dr	HWY 120	0.51	$21,600
Manteca	Nicol Way (west ext)	2	London Ave	Syracuse Lane	0.24	$10,200
Manteca	Nicol Way - Marguerite Avenue	3	Syracuse Lane	Louise Avenue	0.24	$2,000

Jurisdiction	Location	Class	Start	End	Miles	Estimated Project Cost
Manteca	Nicol Way - Marguerite Avenue	3	Syracuse Lane	Louise Avenue	0.00	$0
Manteca	Oleander Avenue	2	Atherton Road	Peach Avenue	0.91	$38,900
Manteca	Peach Avenue	2	Union Road	Airport Way	1.06	$44,900
Manteca	S Austin Rd	2	E Louise Ave	HWY 120	1.00	$42,600
Manteca	S Austin Rd	2	Lathrop Rd	Louise Ave	0.99	$42,100
Manteca	S Austin Rd	2	State Highway 120	Sedan Avenue	3.01	$128,300
Manteca	S Main St	1	Mission Ridge Dr	HWY 120 S On Ramp	0.43	$274,500
Manteca	S Main St	2	HWY 120 south On Ramp	Tannehill Rd	0.56	$24,000
Manteca	S Main St	1	HWY 120 south On Ramp	Tannehill Rd	0.19	$124,700
Manteca	S Union Rd	3	W Crom St	W Center St	0.38	$3,200
Manteca	S Vasconcellos Ave	2	HWY 120	S Austin Rd	0.77	$32,800
Manteca	State Route 120	2	Northwoods Avenue	Pestana Avenue	0.38	$16,400
Manteca	Swanson Rd & (north ext)	2	Geneva Way	Yosemite Ave	0.74	$31,700
Manteca	Swanson Rd (south ext)	2	Wawona Street	Daniels Street	0.25	$10,800
Manteca	Swanson Rd (south ext)	2	Yosemite Ave	Wawona St (east ext)	0.50	$21,300
Manteca	Tannehill Rd (east ext)	2	Birdwell Ave	Austin Rd	1.25	$53,100
Manteca	Tannehill Rd (west ext)	2	S Main St.	S Union St	1.00	$42,600
Manteca	Tidewater Bike Path	1	S Spreckles Rd	HWY 120	0.28	$181,300
Manteca	Tidewater Bikeway (Lathrop Loop)	1	Lathrop Rd	Tidewater Bike Path	2.19	$1,407,600
Manteca	Tinnin Road	2	Atherton Road	Tannehill Road	0.62	$26,400
Manteca	Union Pacific RR ROW	1	E. Lathrop Rd	McKinley Avenue	2.63	$1,689,100
Manteca	Union Rd	1	Daniels St	Atherton Rd	0.45	$289,900
Manteca	Union Road	2	Atherton Road	Tannehill Road	0.63	$26,700
Manteca	W Center St	2	Union Pacific RR ROW	S Union Rd	1.53	$65,000
Manteca	W Crom St (west ext)	2	Union Pacific RR ROW	Airport Way	0.50	$21,100
Manteca	W Geneva Way (west ext)	2	Union Pacific RR ROW	Airport Way	0.48	$20,500
Manteca	Wawona St (west ext)	3	Airport Way	McKinley Ave	1.00	$8,100
Manteca	Winters Dr (north ext)	2	Yosemite Avenue	Center Street	0.16	$7,000
Manteca	Woodward Park	1	Woodward Rd	Tannehill Rd	0.57	$365,700

Jurisdiction	Location	Class	Start	End	Miles	Estimated Project Cost
Manteca	Yosemite Ave	2	Airport Way	UPRR	0.63	$26,900
Manteca	Zurich Dr	2	Louise Ave	Geneva Way	0.21	$9,100
Ripon	Acacia Avenue	3	Highway 99	Doak Boulevard	0.91	$7,400
Ripon	Arc Way	2	Fulton Avenue	W. Milgeo Avenue	0.14	$6,200
Ripon	California/Mulholland/Montana	3	N. Stockton Avenue	N. Manley Road	0.59	$4,800
Ripon	Canal Drive Path	1	S. Highland Avenue	N. Wilma Avenue	0.62	$397,200
Ripon	Clinton South Avenue	2	Jack Tone Road	N. Ripon Road	0.99	$42,300
Ripon	Colony Road	2	S. Murphy Road	Proposed Street	0.50	$21,500
Ripon	Colony Road	1	N. Jack Tone Road	Hoff Drive	0.19	$123,500
Ripon	Colony Road Path	1	Hoff Drive	Fulton Avenue	0.38	$246,800
Ripon	Doak Boulevard	1	Robert Avenue	S. Acacia Avenue	0.50	$324,000
Ripon	Doak Boulevard Extension	1	S. Mohler Road (E)	S. Mohler Road (W)	0.28	$182,500
Ripon	Doak Boulevard Path Gap	1	S. Stockton Avenue	550' E of Acacia Avenue	0.09	$57,200
Ripon	E. Main Street	3	Oak Avenue	Manley Road	0.19	$1,600
Ripon	E. Moncure	2	Austin Road	S. Mohler Road	1.32	$56,200
Ripon	E. River Road	1	N. Ripon Road	0.7M East of Wagner Road	2.71	$1,741,800
Ripon	E. Santos Avenue	1	N. Ripon Road	Wagner Road	2.01	$1,294,400
Ripon	Fourth Street	3	S. Stockton Avenue	Railroad Tracks	0.37	$3,000
Ripon	Fourth Street	3	S. Jack Tone Road	Stockton Avenue	1.01	$8,200
Ripon	Fourth Street	2	Ruess Road	S. Jack Tone Road	0.15	$6,200
Ripon	Frontage Road	2	Fulton Avenue	Arc Way	0.14	$6,000
Ripon	Fulton Avenue	2	N. WIlma Avenue	Arc Way	0.30	$12,900
Ripon	Goodwin Drive	2	Dexter Way	Fulton Avenue	0.29	$12,200
Ripon	Highland Avenue	1	Highway 99	Doak Boulevard	1.80	$1,158,800
Ripon	Highway 99 Frontage Road	3	S. Austin Road	Santos Avenue	2.06	$16,500
Ripon	Highway 99 Frontage Road	2	Acacia Avenue	N. Stockton Avenue	0.30	$12,700
Ripon	Highway 99 Parallel Path	1	Kamps Road	Main Street	1.24	$797,700
Ripon	Hoff Drive Extension	1	W. River Road	Colony Road	0.49	$316,200
Ripon	Hutchinson Road Extension	2	S. Frederick Avenue	S. Mohler Road	1.23	$52,200

Jurisdiction	Location	Class	Start	End	Miles	Estimated Project Cost
Ripon	Jack Tone Golf Course Path	1	Riverview Circle	Jack Tone Road Ext.	0.33	$213,400
Ripon	Main Street	1	Stockton Avenue	E. Main Street	0.43	$275,800
Ripon	Manley Road	2	N. City Limits	Reynolds Avenue	1.16	$49,400
Ripon	Manley Road Extension	2	Eugenia Avenue	N. City Limits	1.00	$42,500
Ripon	Milgeo Avenue	2	John Roos Avenue	Manley Road	0.27	$11,300
Ripon	Milgeo Avenue Extension	2	End of Street	Wagner Road	0.49	$20,700
Ripon	N. Acacia Avenue	3	W. Milgeo Avenue	Highway 99 Frontage Road	0.17	$1,400
Ripon	N. Ripon Road	1	S Murphy Road		1.01	$650,400
Ripon	N. Ripon Road	2	Shasta Avenue	Boesch Drive	0.06	$2,700
Ripon	N. Ripon Road Path	1	Yosemite Avenue	E. Boesch Drive	3.28	$2,108,100
Ripon	N. Wilma Avenue	2	Garrison Way	W. Main Street	0.54	$23,200
Ripon	Oak Avenue	3	California Street	E. Main Street	0.25	$2,100
Ripon	Oak Grove Park Path (N)	1	S. Stockton Avenue	Stanislaus River Path	0.65	$418,400
Ripon	Oak Grove Park Path (South)	1	Stanislaus River Path	Oak Grove Park Path (N)	0.58	$374,700
Ripon	Proposed Street	2	Manley Road	Murphy Road	0.50	$21,300
Ripon	Proposed Street	2	Jack Tone Road	N. Ripon Road	0.99	$42,200
Ripon	Proposed Street	2	State Route 120	Clinton South Avenue	2.01	$85,800
Ripon	Proposed Street	2	Veritas Avenue	E. Milgeo Road	1.27	$54,000
Ripon	Prospect Avenue	3	Ripona Avenue	Highway 99 Frontage Road	0.12	$1,000
Ripon	Ripona Avenue	2	W. Milgeo Avenue	California Street	0.35	$14,800
Ripon	River Road Extension	1	Hoff Drive	Stanislaus River	4.01	$2,579,900
Ripon	Riverview Circle	3	Doak Boulevard (W)	Doak Boulevard (E)	0.49	$3,900
Ripon	S, Locust Avenue	3	Second Street	Fourth Street	0.13	$1,100
Ripon	S. Industrial Avenue	3	Main Street	Fourth Street	0.20	$1,700
Ripon	S. Industrial Avenue Path	1	E. Main Street	250' S of Main Street	0.09	$59,300
Ripon	S. Murphy Road	2	Eugenia Avenue	E. Milgeo Road	1.26	$53,600
Ripon	S. Stockton Avenue	3	Main Street	Fifth Street	0.31	$2,600
Ripon	S. Wagner Road	2	E. River Road	Eugenia Road	0.25	$10,700
Ripon	S. Wilma Avenue	3	W. Main Street	Seventh Street	0.70	$5,700

Jurisdiction	Location	Class	Start	End	Miles	Estimated Project Cost
Ripon	Santos Avenue	1	State Route 99	Fulton Avenue	0.90	$576,500
Ripon	Second Street	3	S. Wilma Avenue	Stockton Avenue	0.62	$5,000
Ripon	Shasta Avenue	2	Fulton Avenue	N. Ripon Road	0.39	$16,700
Ripon	Shasta Avenue Extension	2	N. Ripon Road	Manley Road	0.51	$21,700
Ripon	Spring Creek Country Club Path	1	E. Milgeo Avenue	Stanislaus River	0.79	$506,500
Ripon	Spring Creek Drive	3	E. Milgeo Avenue	N. Manley Road	0.63	$5,000
Ripon	Stanislaus River Path	1	Army Corps Park	Oak Grove Path	0.64	$408,100
Ripon	Stockton Avenue	1	5th Street	Doak Boulevard Path	0.13	$83,600
Ripon	Stouffer Street	3	N. Manley Road	Stanislaus River	0.17	$1,400
Ripon	Vera Avenue	3	Second Street	Fourth Street	0.13	$1,100
Ripon	W. Main Street	2	Jack Tone Road	Wilma Avenue	0.37	$16,000
Ripon	W. Ripon Road	2	Olive Avenue	Jack Tone Road	0.75	$32,000
Ripon	Wagner Road Extension	2	E. River Road	E. Milgeo Avenue	1.00	$42,700
San Joaquin County	Airport Way	3	Kasson Rd	Manteca City Llimits	8.20	$65,600
San Joaquin County	Airport Way	3	Manteca City Limits	Stockton City Limits	4.48	$35,800
San Joaquin County	Alpine Avenue	3	Rainer Ave	Mission Ave	1.68	$13,500
San Joaquin County	Ash St	3	El Dorado St	French Camp Rd	0.38	$3,100
San Joaquin County	Beckman Rd	3	Kettleman Ln	Harney Ln	1.02	$8,200
San Joaquin County	Berry Rd	3	Canal Blvd	Grant Line Rd	1.05	$8,400
San Joaquin County	Blossom Rd	3	Walnut Grove Rd	Peltier Rd	2.46	$19,700
San Joaquin County	Brandt Rd	3	Tully Rd	SR 12	1.40	$11,200
San Joaquin County	Canal Blvd	3	Toleri Rd	Berry Rd	0.30	$2,400
San Joaquin County	Chrisman Rd	3	California Aqueduct Path	Eleventh St	6.61	$52,900
San Joaquin County	Comstock Rd	3	Duncan Rd	Waterloo Rd/Hwy 88	4.97	$39,800
San Joaquin County	Copperopolis Rd	3	Alpine Rd	Hewitt Rd	8.12	$65,000
San Joaquin County	Corral Hollow Rd	3	Tracy City Limits	County Line	6.28	$50,200
San Joaquin County	Corral Hollow Rd	3	Lammers Rd	Tracy City Limits	2.49	$19,900
San Joaquin County	Davis Rd	3	Hwy 12	Eight Mile Rd	4.00	$32,000
San Joaquin County	Dodds Rd	3	Escalon-Bellota Rd	County Line	3.98	$31,800

Jurisdiction	Location	Class	Start	End	Miles	Estimated Project Cost
San Joaquin County	Duncan Rd	3	Comstock Rd	Copperopolis Road	4.99	$40,000
San Joaquin County	Durham Ferry Rd	3	Kasson Rd	Chrisman Rd	5.35	$42,800
San Joaquin County	E. Eight Mile Road	3	State Route 99	N. Jack Tone Road	5.81	$46,500
San Joaquin County	E. Fremont Street	3	Main St	SPRR	1.40	$11,200
San Joaquin County	Eighth St	3	B St	D St	0.21	$1,700
San Joaquin County	Escalon-Bellota Rd	3	Copperopolis Road	E. Mariposa Road	9.56	$76,500
San Joaquin County	French Camp Rd	3	El Dorado Street	Hwy 120	12.00	$96,100
San Joaquin County	Frontage Rd Rail Trail	1	Austin Rd	Ripon City Limits	1.76	$1,132,500
San Joaquin County	Hammond St	3	Jack Tone Rd	Tully Rd	0.10	$900
San Joaquin County	Hansen Rd	3	Schulte Rd	End of County Maintained Road	0.80	$6,400
San Joaquin County	Howard Rd	3	Tracy Blvd	Mathews Rd	10.03	$80,300
San Joaquin County	Jack Tone Rd	3	Jack Tone Bypass Rd	Hammond St	0.48	$3,900
San Joaquin County	Jack Tone Rd	3	Ripon City Limits	Jack Tone Bypass	26.96	$215,700
San Joaquin County	Kasson Rd	3	Critchett Rd	Eleventh St	4.39	$35,200
San Joaquin County	Kasson Rd	3	Durham Ferry Rd	Linne Rd	2.18	$17,400
San Joaquin County	Kasson Rd	3	Linne Rd	Critchett Rd	0.57	$4,600
San Joaquin County	Kile Rd	3	Ray Rd	Thornton Rd	2.17	$17,400
San Joaquin County	Lammers Rd	3	Tracy City Limits (Schulte Rd)		1.59	$12,700
San Joaquin County	Live Oak Rd	3	N 99 Frontage Rd E	Hwy 88	4.08	$32,600
San Joaquin County	Live Oak Rd	3	Hwy 88	Jack Tone Rd	1.85	$14,900
San Joaquin County	Locke Rd	3	Tretheway Rd	Hwy 12/88	1.67	$13,400
San Joaquin County	Lower Sacramento Rd	2	Mokelumne St	Lodi City Limits	0.46	$19,700
San Joaquin County	Lower Sacramento Rd	3	Harney Ln	Stockton City Limits	3.00	$24,000
San Joaquin County	Lower Sacramento Rd	3	County Line	E. Jahant Road	2.54	$20,300
San Joaquin County	Main St	3	Stockton City Limits	Alpine Rd	2.90	$23,300
San Joaquin County	Manthey Rd	3	Briggs Rd	Roth Road	1.92	$15,400
San Joaquin County	Mariposa Rd	3	Escalon-Bellota Rd	Austin Road	11.70	$93,600
San Joaquin County	McHenry Ave	3	County Line	Escalon City Limits	0.89	$7,100

Jurisdiction	Location	Class	Start	End	Miles	Estimated Project Cost
San Joaquin County	Micke Grove Rd	3	Eight Mile Rd	Armstrong Rd	2.02	$16,200
San Joaquin County	Miller Rd	2	Escalon Ballota Rd	N of Mission St	0.54	$23,100
San Joaquin County	Mokelumne St	2	Chestnut St	Lower Sacramento Rd	0.33	$13,900
San Joaquin County	Mountain House Pky	2	Interstate 205	Interstate 580	1.65	$70,100
San Joaquin County	New Hope Rd	3	Thornton Rd	County Line	0.79	$6,300
San Joaquin County	Patterson Pass Rd	3	Mountain House Pky	County Line	1.50	$12,000
San Joaquin County	Peltier Rd	3	Blossom Rd	Rond Rd	2.10	$16,800
San Joaquin County	Ray Rd	3	Turner Rd	W. Peltier Road	3.00	$24,000
San Joaquin County	River Rd	3	Murphy Rd	Santa Fe Rd	8.66	$69,300
San Joaquin County	S. Austin Road	3	Manteca Sphere of Influence	Caswell State Park	3.23	$25,800
San Joaquin County	Santa Fe Rd	3	County Line	Escalon City Limits	4.09	$32,800
San Joaquin County	Schulte Rd	2	Hansen Rd	Mountain House Pkwy	1.03	$43,900
San Joaquin County	Thornton Rd	3	County Line	Turner Rd	8.64	$69,200
San Joaquin County	Toleri Rd	3	Canal Blvd	East End	0.29	$2,300
San Joaquin County	Toleri/Manthey Multi-Use Conn*	1	Toleri Rd	Manthey Rd	0.67	$428,700
San Joaquin County	Tracy Blvd	3	Lammers Rd	Howard Rd	4.36	$34,900
San Joaquin County	Tretheway Rd	3	Locke Rd	Hwy 12	0.53	$4,200
San Joaquin County	Tully Rd	3	Brandt Rd	Main St	1.45	$11,600
San Joaquin County	Turner Rd	3	Thornton Rd	Lodi City Limits	4.50	$36,000
San Joaquin County	Von Sosten Rd	3	Byron Rd	Mountain House Parkway	2.87	$23,000
San Joaquin County	Walnut Grove Rd	3	Thornton Rd	County Line	4.40	$35,300
San Joaquin County	West Ripon Rd	3	Manteca Rd	Ripon City Limits	4.02	$32,200
San Joaquin County	West Ripon Rd	3	Airport Way	Manteca Rd	2.00	$16,000
San Joaquin County	Wilson Way	2	Stockton City Limits	N 99 Frontage Rd	2.02	$86,300
San Joaquin County	Wilson Way Path	1	N 99 Frontage Rd	Hwy 99	0.19	$121,500
San Joaquin County	Woodbridge Rd	2	Windwood Dr	Chestnut St	0.66	$28,200
San Joaquin County	Woodbridge Rd	3	Devries Road	Windwood Dr	1.95	$15,600
Stockton	8th Street	3	S. D Street	S. Olive Avenue	1.29	$10,400
Stockton	Acacia Street	3	N. Pershing Avenue	Center Street	1.02	$8,300

Jurisdiction	Location	Class	Start	End	Miles	Estimated Project Cost
Stockton	Airport Way	3	Sperry Road	Stockton Municipal Airport	0.86	$6,900
Stockton	Airport Way	2	E. Miner Avenue	Carpenter Road	2.99	$127,600
Stockton	Alexandria Place	3	W. Benjamin Holt Drive	W. Swain Road	0.40	$3,300
Stockton	Alpine Avenue	3	N. Kensington Way	N. Wilson Way	2.40	$19,300
Stockton	Alpine Road	3	E. Eight Mile Road	Cherokee Road	2.24	$18,000
Stockton	Alturas Avenue	2	W. Lincoln Road	W. Swain Road	0.66	$28,000
Stockton	Arch Road	3	Highway 99 Frontage Road	Austin Road	2.22	$17,800
Stockton	Argonne Drive	3	Monte Diablo Avenue	N. Pershing Avenue	0.33	$2,800
Stockton	Armstrong Road	3	Davis Road	N. Lower Sacramento Road	1.26	$10,100
Stockton	Atlas Tract Path	1	Deep Water Lane	Otto Drive Ext.	1.19	$766,800
Stockton	Atlas Tract Path	1	Otto Drive Ext.	Mosher Slough Bridge	0.22	$138,200
Stockton	Austin Road	3	E. Marsh Street	French Camp Road	8.20	$65,600
Stockton	Bear Creek Path	1	Davis Road	Live Oak Road	8.01	$5,150,200
Stockton	Bishop Cut Path	1	Atherton Road	Interstate 5	5.31	$3,410,300
Stockton	Brookside Road Ext	3	W. Hammer Lane Ext	W. March Lane	3.30	$26,500
Stockton	Brookside/Rindge Road	1	Tenmile Slough (N)	Tenmile Slough (S)	5.59	$3,593,500
Stockton	Budisellich Road Path	1	Palmer Avenue	Stockton Diverting Canal	2.68	$1,723,800
Stockton	Burgundy Drive	2	Cherbourg Way	Lorraine Avenue	0.25	$10,500
Stockton	Burke Bradley Drive	3	N. Pershing Avenue	Frontage Road	0.51	$4,200
Stockton	Calaveras River Path	1	N. Wilson Way	N. Ijams Road	1.47	$942,900
Stockton	Callriva /Kirk/Telegraph	3	N. Ryde Avenue (N)	N. Ryde Avenue (S)	0.78	$6,300
Stockton	Camanche Lane Path	1	West Lane	E. March Lane	0.55	$354,900
Stockton	Center Street	2	Church Street	4th Street	1.68	$71,700
Stockton	Cherbourg Way	2	E. Morada Lane	Burgundy Drive	0.85	$36,200
Stockton	Cherokee Road	3	Alpine Road	State Route 99	3.14	$25,100
Stockton	Claremont Avenue	2	W. Swain Road	Calaveras River	1.15	$49,100
Stockton	Commerce Street Bridge	1	Weber Point Park	W. Weber Avenue	0.05	$33,700
Stockton	Country Club Boulevard	3	N. Virginia Lane	Franklin Avnue	1.43	$11,500
Stockton	Cumberland Place	2	W. Benjamin Holt Drive	Fourteen Mile Drive	0.83	$35,300

Jurisdiction	Location	Class	Start	End	Miles	Estimated Project Cost
Stockton	Deep Water Lane Path	1	Bear Creek	W. Hammer Lane	1.53	$983,400
Stockton	Duck Creek Path	1	O'Dell Avenue	S. Airport Way	1.35	$865,800
Stockton	E. 8th Street	3	S. Airport Way	Bieghie Street	0.44	$3,700
Stockton	E. Bianchi Road	2	March Lane	Calaveras River Path	1.47	$62,500
Stockton	E. Fremont Street	3	N. Sierra Nevada Street	Broadway Avenue	1.50	$12,100
Stockton	E. Hammer Lane	2	Holman Road	State Highway 99	0.83	$35,300
Stockton	E. Hazelton Avenue	2	Center Street	Delta Street	1.24	$52,800
Stockton	E. Linden Road	2	Stockton Diverting Canal	Jack Tone Road	4.94	$210,300
Stockton	E. March Lane	2	West Lane	Montauban Avenue	0.34	$14,800
Stockton	E. Mariposa Road	3	Duck Creek Trail	Austin Road	2.98	$23,800
Stockton	E. Morada Lane	2	Highway 99	Plum Avenue	0.61	$25,800
Stockton	E. Morada Lane	3	West Lane	Mosher Creek	1.02	$8,200
Stockton	E. Park Street	3	N. El Dorado Street	N. Sierra Nevada Street	0.95	$7,800
Stockton	E. San Joaquin River Path	1	W. Charter Way	W. 8th Street Extension	0.21	$136,300
Stockton	E. Wyandotte Street	2	N. Center Street	N. Sutter Street	0.27	$11,500
Stockton	El Dorado Street	2	Wyandotte Street	E. Hazelton Avenue	1.77	$75,600
Stockton	Embarcadero Dr - Fourteen Mile Dr	3	Cumberland Place (N)	Cumberland Place (S)	1.27	$10,200
Stockton	Fairway/River/Rainier/N. Virginia	3	Stockton Golf & Country Club	Stockton Golf & Country Club	1.24	$9,900
Stockton	Farmington Road	2	S. Olive Avenue	Proposed Street	1.51	$64,200
Stockton	Farmington Road	2	S. Gillis Road	S. Jack Tone Road	8.79	$374,500
Stockton	French Camp Road	3	Carolyn Weston Boulevard	Manthey Road	1.89	$15,200
Stockton	Fulton Street	3	Pacific Avenue	Alpine Avenue	1.21	$9,800
Stockton	Georgia Avenue	3	W. 8th Street	Houston Avenue	0.59	$4,800
Stockton	Henry Long Boulevard	2	McDougald Boulevard	Manthey Road	0.50	$21,300
Stockton	Highway 99 Frontage Road	2	Inspiration Drive	800' S. of Inspiration Drive	0.14	$6,200
Stockton	Highway 99 Frontage Road	2	Industrial Drive	Regional Sports Complex	1.72	$73,300
Stockton	Holman Road	3	E. Eight Mile Road	Hendrix Lane	0.74	$6,000
Stockton	Horton Avenue	3	S. Lincoln Street	Odell Avenue	0.16	$1,300

Jurisdiction	Location	Class	Start	End	Miles	Estimated Project Cost
Stockton	Houston Avenue	3	W. 8th Street	S. Manthey Road	1.79	$14,400
Stockton	Industrial Drive	2	S. Airport Way	Highway 99	1.73	$73,900
Stockton	Industrial Drive	3	S. McKinley Avenue	S. Airport Way	1.22	$9,800
Stockton	Inglewood Avenue	3	W. Lincoln Road	W. Swain Road	0.63	$5,100
Stockton	Inspiration Drive	2	Holman Road	Highway 99 Frontage Road	0.60	$25,400
Stockton	Kelley Drive	3	Stanfield Drive	W. Hammer Lane	1.09	$8,900
Stockton	Lorraine Avenue	2	Burgundy Drive	Montauban Avenue	1.25	$53,300
Stockton	Lower Sacramento Road	3	Armstrong Road	W. Hammer Lane	2.72	$21,900
Stockton	Manthey Road	3	W. 8th Street	Houston Avenue	0.48	$3,900
Stockton	Manthey Road	3	French Camp Road	W. Mathews Road	1.10	$8,900
Stockton	Maranatha Drive	2	Christian Life Way	N. Wilson Way	1.75	$74,500
Stockton	Maranatha Drive	2	Inspiration Drive	Christian Life Way	0.43	$18,200
Stockton	Mariners Drive	2	Otto Drive	W. Benjamin Holt Drive	2.37	$101,200
Stockton	Mathews Rd	3	Manthey Road	El Dorado St	0.23	$1,900
Stockton	McLeod Lake Bridge	1	North Seawall Park	Weber Point Park	0.05	$34,700
Stockton	Montauban Avenue	2	E. Hammer Lane	E. March Lane	1.32	$56,200
Stockton	Monte Diablo Avenue	3	Louis Park	Pershing Avenue	1.82	$14,700
Stockton	Morada Lane Extension	2	Bike Path	N. West Lane	0.52	$22,100
Stockton	Mormon Slough Trail	1	S. Lincoln Street	S. Jack Tone Road	8.72	$5,601,400
Stockton	Mosher Slough Bridge	1	Atlas Tract	Shima Tract	0.11	$68,800
Stockton	Mosher Slough Path	1	Estate Drive	Thornton Road	1.66	$1,068,900
Stockton	N. California Street	2	Acacia Street	E. Oak Street	0.28	$12,000
Stockton	N. Filbert Street	3	E. Roosevelt Street	E. Fremont Street	0.42	$3,400
Stockton	N. Filbert Street	3	Belle Avenue	Waterloo Road	0.48	$4,000
Stockton	N. Fourteen Mile Slough Path	1	Disappointment Slough	Shima Tract	0.74	$472,400
Stockton	N. Gettysburg Place	3	Douglas Road	W. Swain Road	0.27	$2,200
Stockton	N. Ijams Road	2	E. Bianchi Road	Calaveras River Path	0.40	$16,900
Stockton	N. Mosher Slough Path	1	El Dorado Street	Tam O Shanter Drive	0.86	$549,600
Stockton	N. Mosher Slough Path	1	Otto Drive Ext	Mosher Slough Bridge	0.60	$385,000

Jurisdiction	Location	Class	Start	End	Miles	Estimated Project Cost
Stockton	N. Sacramento Street	2	W. Pine Street	W. Walnut Street	0.17	$7,200
Stockton	N. Wilson Way	2	E. Orwood St	E. Harding Way	0.47	$20,000
Stockton	N. el Dorado Street	2	Morada Lane	E. Lincoln Road	1.44	$61,300
Stockton	NE/SW Bike Path	1	Highway 99	E. Live Oak Road	5.99	$3,846,700
Stockton	Otto Drive	2	Deep Water Lane Path	Estate Drive	0.41	$17,600
Stockton	Otto Drive Ext.	3	Deep Water Lane	Regatta Lane Ext.	1.14	$9,100
Stockton	Panella Park Path	1	Lorraine Avenue	E. Hammer Lane	1.05	$673,000
Stockton	Pock Lane	2	Charter Way	Arch Airport Road	2.52	$107,400
Stockton	Proposed Street	2	Holman Road	N. Wilson Way	0.77	$33,000
Stockton	Proposed Street	3	S. Airport Way	Austin Road	3.64	$29,200
Stockton	Proposed Street	3	W. Eight Mile Road	Highway 99	8.48	$67,900
Stockton	Proposed Street	3	W. Eight Mile Road	Regatta Lane	1.40	$11,200
Stockton	Proposed Street	3	E. Mariposa Road	State Route 99	1.39	$11,100
Stockton	Railroad Bike Path	1	N. Wilson Way	Cherokee Road	1.63	$1,048,400
Stockton	Ralph Avenue	3	S. Airport Way	S. B Street	0.65	$5,200
Stockton	Regatta Lane	3	W. Eight Mile Road	Twin Brooks Lane	2.88	$23,000
Stockton	Roth Road	3	Lathrop City Limit	French Camp Road	2.33	$18,600
Stockton	S. Fresno Avenue	2	W. Charter Way	W. 8th Street	0.43	$18,400
Stockton	S. Fresno Avenue	3	W. 8th Street	Houston Avenue	0.40	$3,200
Stockton	S. Golden Gate Avenue	3	E. Main Street	Charter Way	0.23	$2,000
Stockton	S. Lincoln Street	3	W. Weber Avenue	Horton Avenue	2.37	$19,100
Stockton	S. Wolfe Road	3	French Camp Road	Roth Road	2.89	$23,100
Stockton	San Joaquin River Path	1	W. 8th Street	Stein Place	0.92	$588,700
Stockton	San Joaquin River Path	1	Squall Way	Abruzzi Court	0.14	$90,000
Stockton	San Joaquin River Path	1	French Camp Road	Roth Road	3.46	$2,220,600
Stockton	Sanguinetti Lane	2	Stockton Diverting Canal	Alpine Avenue	0.38	$16,300
Stockton	Shima Tract Road	3	Mosher Slough	Five Mile Slough	1.19	$9,500
Stockton	South Bear Creek Path	1	Santa Maria Way	Bear Creek	1.53	$980,900
Stockton	Spanos Park Loop	3	Telephone Cut	W. Eight Mile Road	1.83	$14,600

Jurisdiction	Location	Class	Start	End	Miles	Estimated Project Cost
Stockton	Sperry Road Path	1	Interstage 5	State Route 99 Frontage Road	3.54	$2,274,000
Stockton	Stagecoach Road	3	State Highway 4	Duck Creek Path	0.61	$4,900
Stockton	State Route 88	3	Mosher Creek Path	Comstock Road	2.44	$19,600
Stockton	Stockton Channel Path	1	Louis Park	Interstate 5	2.06	$1,326,000
Stockton	Stockton Diverting Canal Path	1	Cherokee Road	Mormon Slough	3.54	$2,274,000
Stockton	Stockton Golf & CC Path	1	Fairway Drive	N. Virginia Lane	0.60	$384,300
Stockton	Tam O Shanter Drive	2	E. Morada Lane	Carrington Circle	2.32	$99,100
Stockton	Telephone Cut Path	1	Bishop Cut	Rio Blanco Area	1.71	$1,101,600
Stockton	Tenmile Slough Road	3	W. March Lane	2000' South	0.39	$3,100
Stockton	Thornton Road	3	Cortez Avenue	MacDuff Avenue	0.09	$800
Stockton	Thornton Road	3	Armstrong Road	Devries Road	1.45	$11,600
Stockton	Thornton Road	2	Bear Creek Levee Road	Cortez Avenue	1.47	$62,900
Stockton	Thornton Road	2	W. Eight Mile Road	A.G. Spanos Boulevard	0.19	$8,300
Stockton	Unnamed Street	3	Highway 99 Frontage Road	Palmer Avenue	0.76	$6,100
Stockton	Unnamed Street	3		W. Eight Mile Road	1.49	$11,900
Stockton	Unnamed Street	3			0.82	$6,500
Stockton	W. 8th Street	3	San Joaquin River	Center Street	2.32	$18,600
Stockton	W. Benjamin Holt Drive	3	Alexandria Place	N. El Dorado Street	1.71	$13,800
Stockton	W. Eight Mile Road	3	Bishop Cut	Mokelumne Circle	1.85	$14,800
Stockton	W. Eight Mile Road	2	Trinity Parkway	Highway 99 Frontage Road	6.48	$276,300
Stockton	W. Hammer Lane	2	Bike Path	Lower Sacramento Road	2.56	$109,400
Stockton	W. Lincoln Road	3	Alexandria Place	N. El Dorado Street	1.59	$12,800
Stockton	W. Mosher Slough Path	1	Regatta Lane Ext.	Shima Tract	1.80	$1,156,900
Stockton	W. Rindge Road Path	1	Bear Creek	Fourteen Mile Slough	3.74	$2,400,600
Stockton	W. Swain Road	3	Cumberland Place	Plymouth Road	0.58	$4,800
Stockton	Waterloo Road	3	Comstock Road	State Route 99	5.14	$41,200
Stockton	William Moss Boulevard	1	Crestmore Circle	Carolyn Weston Boulevard	0.31	$196,700
Tracy	10th Street - 9th Street	3	11th Street	West Street	0.57	$4,700
Tracy	6th Street Path	1	Central Avenue	N. MacArthur Drive	0.88	$567,600

Jurisdiction	Location	Class	Start	End	Miles	Estimated Project Cost
Tracy	9th Street - 10th Street	3	East Street	E. 11th Street	0.35	$2,900
Tracy	Byron Road Path	1	UPRR Trail	UPRR Trail	0.66	$422,900
Tracy	Byron Road Trail	1	S. Lammers Road	Lankershire Road	0.28	$177,400
Tracy	Canal Trail	1	S. Lammers Road	Chrisnan Road	4.86	$3,123,000
Tracy	Central Avenue Path	1	W. 6th Street	Canal Trail	1.21	$775,200
Tracy	Corral Hollow Path	1	UPRR Trail	W. 11th Street	0.17	$111,900
Tracy	Corral Hollow Path	1	Cypress Drive	California Aqueduct	3.77	$2,424,400
Tracy	Corral Hollow Road	2	Tracy City Limits	W. Grant Line Road	0.38	$16,300
Tracy	Corral Hollow Road	2	Parkside Drive	W. Linne Road	1.77	$75,400
Tracy	Grant Line Road	2	Lincoln Boulevard	Tracy Boulevard	0.48	$20,300
Tracy	Grant Line Road	2	Parker Avenue	Railroad Crossing	0.73	$31,000
Tracy	Linne Road	2	Corral Hollow Road	S. Macarthur Drive	2.00	$85,100
Tracy	Macarthur Drive	2	Mount Diablo Avenue	W. Schulte Road	0.32	$13,800
Tracy	Macarthur Drive Ext.	2	11th Street	Macarthur Drive	0.72	$30,600
Tracy	S. MacArthur Drive	2	Fairoaks Road	Linne Road	0.44	$18,700
Tracy	Schulte Road	2	S. Lammers Road	Barcelona Drive	1.10	$46,700
Tracy	Tracy Boulevard	3	Clover Road	12th Street	1.45	$11,800
Tracy	UPRR Rail Trail	1	Central Avenue	Canal Path	2.71	$1,743,800
Tracy	UPRR Trail	1	Corral Hollow Road	Holly Drive	1.60	$1,025,900
Tracy	Valpico Road	2	800' E of Tracy Blvd	2600' E of Tracy Blvd	0.34	$14,500
Tracy	Valpico Road	2	S. Corral Hollow Road	Canal Trail	0.50	$21,300
Tracy	W. 11th Street	2	Proposed Path	10th Street	0.36	$15,400
Tracy	W. Grant Line Road	2	Naglee Road	Toste Road	0.33	$14,000
Tracy	W. Mount Diablo Avenue	3	Tracy Boulevard	N. Central Avenue	0.51	$4,100

Table E-3: Priority Pedestrian Projects by Jurisdiction

Jurisdiction	Location	Description	Start	End	Gap Closure	Safety	Readiness	CAC	SR2S	Proximity SR2S	Support Community Support	Vulnerable	CMP	Matching Funds	Innovative	Score	Estimated Project Cost
Lodi	Calaveras-Central Path	Pedestrian Walkway	E. Lockeford Street	Railroad Avenue	0	10	0	15	5	0	0	0	0	0	0	65	--
Lodi	Tokay St	Railroad Crossing Improvements	Union Pacific Railroad	Union Pacific Railroad	10	10	0	15	5	0	0	5	5	10	10	70	--
Stockton	Fremont Street	ADA Accessibility Improvements	Pershing Avenue	El Dorado Street	0	20	0	15	5	0	0	5	0	0	0	45	$150,000
Stockton	S. Lincoln Street	ADA Accessibility Improvements	Weber Avenue	Martin Luther King Blvd	0	20	0	15	5	0	0	5	5	0	0	50	$250,000
Stockton	San Joaquin Trail	Landscaping	William Moss Boulevard	Ishi Goto	0	5	0	15	5	0	0	0	0	10	0	35	$1,300,000
Stockton	Weber Ave	Beautification	Stanislaus Street	Union Street	0	15	0	15	5	0	0	0	5	10	0	50	$3,300,000
Stockton	West Lane at Morada Lane	Transit Access Improvements	NE and SW Corners		0	15	0	10	5	0	0	5	5	0	0	40	$100,000
Tracy	Lowell Ave	Sidewalk Improvements	Lincoln Blvd	Tracy Blvd	10	20	0	10	5	0	0	5	5	10	0	65	--
Tracy	Mac Arthur Dr	Widening and Sidewalk Installation	W Schulte Rd	Valpico Rd	10	5	0	10	5	0	0	0	0	10	0	40	--

-- Project costs either included in bikeway project cost estimate or not available.

Appendix F. Plan and Policy Review

This Bicycle, Pedestrian, and Safe Routes to School Plan is built on and consistent with local and regional goals, policies and adopted plans. The following is a review of planning and policy documents relevant to this Plan. The review is organized by local, county-wide, regional, state, and federal documents and policies. This review is strategic and focuses on those sections and specific policies most relevant to this Plan.

The bikeway projects described in the following sections are presented in Caltrans design standard terminology:

Class I: Dedicated bicycle/pedestrian path

Class II: Striped and signed bicycle lane

Class III: Signed bike route without lanes

F.1. Local Plans

One goal of this Plan is to incorporate city plan recommendations. The following section reviews local General Plans and, where applicable, Bicycle Master Plans. Six of the seven cities in San Joaquin County have bicycle plans that prioritize the construction of future bikeways. No city has a Pedestrian or Safe Routes to School Plan. Where the jurisdiction included priority bikeways project, each are listed in a table following the description of the bicycle plan.

F.1.1. Escalon

City of Escalon General Plan (2005)

The Escalon General Plan establishes goals that support this Plan in both its air quality and circulation elements. One goal of the Air Quality Element is to protect the health and welfare of Escalon residents by promoting development that is compatible with air quality standards; the improvement of pedestrian and bicycle infrastructure is one strategy identified to implement this goal. The goal of the circulation element is to design and maintain a fully integrated local network that provides for safe and convenient circulation using a variety of transportation modes.

City of Escalon Bicycle Plan (1994)

The City of Escalon adopted a bicycle plan in November 1994. The purpose of the plan is to "maximize the number of bicycle commuters and recreational riders in the City of Escalon." The plan process included three public workshops and a bicyclist questionnaire. The questionnaire found that downtown Escalon was the major destination and that the purpose of most bicycle trips was to run errands or for recreation. The questionnaire also identified problem areas, including the intersections of McHenry Avenue/State Route 120, McHenry Avenue and the railroad tracks, 1st Street/Main Street, and 1st Street and the railroad tracks.

F.1.2. Lathrop

City of Lathrop General Plan (2004)

The Lathrop General Plan calls for school sites to be interconnected by recreation corridors that encourage pedestrian and bicycle use with a minimum of conflict with the street system. Pedestrian and bicycle pathways should link neighborhoods to village centers, parks, and schools. These recreation corridors are expected to accommodate most pedestrian and bicycle circulation in the City, and the design guidelines for different roadway classifications do not make special accommodations for pedestrian and bicycle use,. Bike lanes are recommended on Roth Road, Lathrop Road, Louise Avenue, Harlan Road, and Seventh Street.

City of Lathrop Bicycle Transportation Plan (2004)

The City of Lathrop adopted a Bicycle Transportation Plan in 1995. This plan was subsequently amended later that year to account for the Central Lathrop Specific Plan, and to update the collision rates and selected policies and facilities. Updates to the plan in 2003 and 2004 were made to include the River Islands and Mossdale Landing projects. The purpose of the Lathrop Bicycle Transportation Plan is to "improve and expand bicycling opportunities in Lathrop." The plan's development process included one community workshop and a bicyclist questionnaire. Of the 43 respondents to the survey, 23 percent commute to work and 69 percent bicycle for recreation on a daily or weekly basis. Lathrop Road and Louise Avenue were repeatedly cited as crossing hazards. Proposed bikeways include facilities that make connections to the unincorporated county areas, such as along the Southern Pacific Railroad right-of-way to Stockton and on East Louise Avenue to Manteca. **Table F-1** lists Lathrop's high priority projects.

Table F-1: High Priority Projects in the Lathrop Bicycle Plan

Location	Project Limits	Class
Louise Avenue Path	S. Harland Road to S. Howland Road	I
Southern Pacific RR Path	D'Arcy Parkway to N. City Limits	I
SPRR Manteca Connection	Southern Pacific RR to Manteca	I
5th Street	Lathrop Road to Louise Avenue	II
Harlan Road	Roth Road to Yosemite Avenue	II
Howland Road	D'Arcy Parkway to Louise Avenue	II
Lathrop Road	W. City Limits to E. City Limits	II
Louise Avenue	Golden Valley Parkway to E. City Limits	II
McKinley Avenue	N. City Limits to S. City Limits	II
Nestle Way	S. Harlan Road to S. Howland Road	II
Roth Road	S. Harland Road to S. Airport Way	II
Thomsen Street	S. Harland Road to 7th Street	II
Woodfield Drive - Jasper Street	Lathrop Road to Stonebridge Lane	II

F.1.3. Lodi

City of Lodi General Plan (2010)

The vision statement for the Circulation Element of the Lodi General Plan includes enhancing the circulation network to enable convenient use of alternative travel modes such as biking, walking, and transit. Policy T-G2 states that the City should design, construct, operate, and maintain City streets according to a "complete streets" concept. Policy T-G4 states that the City should provide for safe and convenient pedestrian, bicycle, and transit circulation.

Specific projects supported in the General Plan include multi-use paths along the Woodbridge Irrigation Canal right-of-way and along the Victor Road/Lockeford Street railroad right of way extending from downtown to the city limits. A proposed bicycle lane along Kettleman Lane is planned to extend to Davis Road and extend as a signed bike route to the boundary of San Joaquin County.

City of Lodi Bicycle Routes Plan (2008)

The City of Lodi provides an interactive map with existing and proposed bikeways on its website.[1] Bikeways are proposed on Holly Drive (east of Mills Avenue), Lodi Avenue, Vine Street, and Cherokee Lane.

F.1.4. Manteca

City of Manteca General Plan (2003)

Several goals of the Circulation Element are relevant to this Bicycle, Pedestrian and Safe Routes to School Plan. Goal C-3 of the General Plan states the City should expand transportation alternatives within the City, including public transit, walking, and bicycling. Goal C-6 states they City should provide a safe and secure bicycle route system. Goal C-8 calls for safe and convenient pedestrian circulation. Additionally, coordination between the Land Use Element and Circulation Element will encourage walking and bicycle trips. The design guidelines for arterial streets require the accommodation of both bicycle and pedestrian facilities on both sides of the street where space is available. Collector streets are expected to have bike lanes and sidewalks.

City of Manteca Bicycle Master Plan (2003)

The City of Manteca prepared their Bicycle Master Plan in 2003. The plan's development process included two community workshops and a bicyclist survey. The survey found that the Tidewater Bicycle Path and Lathrop Road were the most popular destinations, while the State Route 120 and 99 crossings presented the most barriers. Proposed regionally connecting bikeways include a bike lane on Airport Way. **Table F-2** lists Manteca's priority bikeways.

Table F-2: High Priority Projects in the Manteca Bicycle Plan

Location	Project Limits	Class
Atherton Road	Main Street to Spreckles Road	I
Airport Way	Lathrop Road to Woodward Avenue	II
Center Street	Union Road to Winters Drive	II
Center Street	Winters Drive to Airport Way	II
Nicol Way	Syracuse Lane to London Avenue	II
Winters Drive	Yosemite Avenue to Center Street	II

[1] City of Lodi online bikeways map can be found at: http://mapguide.lodi.gov/lodiinternet.htm

Location	Project Limits	Class
Garden Gate Drive/Louise Avenue	Edison Street to Springtime Avenue	III
State Route 99 Crossing at Yosemite Avenue		Crossing
State Route 120 Crossing at Main Street		Crossing

F.1.5. Ripon

City of Ripon General Plan 2040 (2006)

The expansion of opportunities for non-automobile trips within the Ripon area is identified as a key issue and concern of the Circulation Element. Goal E supports encouraging safe bicycling at the local and regional levels and is facilitated by the City of Ripon Bicycle Route Master Plan. The plan identifies proposed Regional Linkages at the pedestrian and bicycle bridge crossing the Stanislaus River, the north end of Jack Tone Road, West Ripon Road, and the east end of River Road.

City of Ripon Bicycle Route Master Plan (2005)

The City of Ripon's Bicycle Route Master Plan that was initially adopted in 1994. Its 2005 update responds to land use and circulation conditions documented in the 2040 General Plan. The Plan conducted field work and public outreach, analyzed traffic volumes, and performed a survey of schools to develop a project list that addresses the needs of commuters, recreational riders, and children. The planned 53 miles of proposed bikeways are estimated to cost approximately $2 million. The project list contains more projects near school sites, but does not prioritize projects.

F.1.6. Stockton

Stockton General Plan (2007)

The Stockton General Plan sets forth a vision for the City of Stockton for the year 2035. The City's Bicycle Master Plan is considered an integral part of the document. The Transportation and Circulation Element identifies improving opportunities to bicycle and walk as a key challenge for the City and the accommodation and encouragement of non-motorized transportation is written into many of its goals. The General Plan has adopted Complete Streets and Travel Demand Management policies that support bicycle and pedestrian infrastructure and programs. Goal TC-5 promotes development of pedestrian and bikeway facilities for transportation and recreation.

City of Stockton Bicycle Plan (2007) and Safe Routes to School Grants (2008)

The City of Stockton first adopted a Bikeway Plan in 1994, with subsequent revisions and amendments. The most recent update of the plan was completed in 2007. Two major goals are identified in the Bicycle Plan: To provide a safe, comfortable, and convenient bicycling environment in the City of Stockton and to double the number of bicycle commuters by 2021. The update focused on connecting Stockton's existing discontinuous bikeways systems; its recommended improvements include 70 miles of bike paths, 67 miles of bike lanes, and 167 miles of bike routes. High priority projects are listed below in **Table F-3**.

Table F-3: High Priority Projects in the Stockton Bicycle Plan

Location	Project Limits	Class
Duck Creek/Walker Slough	Houston Avenue/ Colorado Avenue to Stagecoach Road	I
EBMUD Corridor	March Lane to West Lane	I
EBMUD Corridor	Lorraine Avenue to Holman Road	I
Stockton Diverting Canal	Cherokee Road to Mormon Slough	I
Airport Way	Miner Avenue to Sperry Road/ Arch Airport Road	II
Center Street	Cleveland Street to El Dorado Street	II
El Dorado Street	Cleveland Street to Hazelton Avenue	II
Pershing/Mendocino	Alpine Avenue to Kensington Way	II
Eight Mile Road	I-5 to Jack Tone Road	III

The City of Stockton received two grants for Safe Routes to School programs in 2008. One grant was designated to construct sidewalk gap closures near Montezuma Elementary School. The other grant allowed the City to hire a Safe Routes to School Program Coordinator to organize and implement a Safe Routes to School Program.

F.1.7. Tracy

Tracy General Plan (2005)

Several goals and objectives within the Tracy General Plan support this Plan. Goal CIR-3 calls for safe and convenient bicycle and pedestrian travel as alternative modes of transportation in and around the city. Bicycle and pedestrian trips are envisioned on a comprehensive citywide network with facilities provided on all constructed roadways. Identified key gaps in the bicycle network include Tracy Boulevard or any continuous north-south or east-west route through the city. Objective CIR-1.6 seeks to maximize traffic safety of automobile, transit, bicyclists, and pedestrians and calls for context-sensitive roadway design.

City of Tracy Bikeways Master Plan (2005) and Design Supplement (2009)

The City of Tracy's 2005 Bikeways Master Plan built upon their 1992 Bikeways Master Plan. The goals of the plan are to improve the safety of bicyclists, bicycle access, the quality of life of the residents of Tracy, and to support the implementation of bicycle facilities. The plan identifies access points into the city at Eleventh Street, Byron Road, UPRR right-of-way, Corral Hollow Road and MacArthur Drive. **Table F-4** lists Tracy's high priority bikeways.

Table F-4: High Priority Projects in the Tracy Bicycle Plan

Location	Project Limits	Class
RP-1 West Valley Mall Connection	Robertson Road to Corral Hollow Road	I/II
RP-13 Grant Line Road Connection	Lincoln Boulevard to N. MacArthur Drive	I/II
RP-2 West Grant Line Road Connection	Highway 205 to Orchard Parkway	I/II
RP-3 West Lowell Avenue Connection	Joseph Menusa Lane to Fieldview Drive	I/II
RP-5 West Eleventh and Corral Hollow Road Connection	Byron Road to W. 11th Street	I/II

Location	Project Limits	Class
RP-9 South Tracy Boulevard Connection	Sycamore Parkway to Tracy Boulevard	I/II
RWT-1 Tracy Transit Station Crossing	6th Street at Tracy Transit Center	Crossing
RWT-3 1NW Crossing	Tracy Boulevard at 6th Street	Crossing
RWT-6 3NW Crossing	Corral Hollow Road at Byron Road	Crossing
RWT-8 1SW Crossing	Tracy Boulevard at 4th Street	Crossing
RWT-12 3SW Crossing	Corral Hollow Road at Schulte Road	Crossing
IROW-2 Section Type Open Canal	Tracy Boulevard to Debord Drive	Crossing

The Bikeways Master Plan Design Supplement works to implement the vision by identifying specific projects that the City can prioritize over the next several years to establish key linkages and complete the development of a citywide bicycle network. The project types are listed below and design standards are indicated for each:

- Roadside Bikeways, which can be further classified as Class I, II, or III. These projects generally fill key gaps on major corridors, especially Coral Hollow Road and Grant Line Road.
- Rail-with-trail facilities, built along the city's two existing UPRR corridors. One corridor runs southwest to northeast through the city and the other travels from the northwest corner of the city to Central Street. Intersections with the roadway network are identified as project areas.
- Irrigation right-of-way bikeways, two of which may be of countywide significance: The corridor along the irrigation corridor north of Valpico Road west of Sycamore Parkway, and another following Eaton Avenue and East 11th Street.

F.2. County and Countywide Plans

F.2.1. San Joaquin County General Plan 2010 (1992)

A General Plan guides the future development of a jurisdiction with the goal of maintaining orderly growth and the health of its residents. The San Joaquin County General Plan is made up of seven elements, one of which provides adopted polices directly relevant to this plan. The Community Development chapter seeks the orderly development of land and communities. The element refers to bicyclist accommodation as a means to achieve goals. **Table F-5** outlines the policies of the Community Development chapter that contain provisions that consider bicycle accommodation as it relates to land use and development.

Table F-5: Relevant San Joaquin County General Plan Policies

Element	Policy
Community Development: Community Organization and Development Pattern	
(Volume I, IV-30)	12. Commercial uses should be designed for bicycle access and parking.
Community Development: Mixed Use Development	
(Volume I, IV-38)	2.d. Transit and bicycle access to the Airport East Property shall be provided.
Community Development: Public Facilities	
(Volume I, IV-115)	Bicycle access is required for regional and local parks.

Element	Policy
Community Development: Transportation System Design and Management	
(Volume I, IV-126)	5. The County shall support the reduction of dependency on the automobile and the reduction of automobile trips. 6. To reduce peak-hour traffic congestion, the County shall support alternative forms of commuting, such as transit, car and vanpooling, the use of High Occupancy Vehicle (HOV) lanes, bicycling, and walking.
Community Development: Transportation	
(Volume I, IV-151)	Objective 1: To provide a countywide system of bicycle facilities for safe and convenient transportation and recreation. 1. The bike route system shall: a. Provide for inter- and intra-county bicycle circulation; b. Connect residential areas with commercial areas, employment centers, educational facilities, local and regional recreational facilities, and other major attractions; c. Interface with city bicycle routes; d. Be constructed to acceptable standards; e. Be physically separated from automobile traffic when warranted because of traffic or safety concerns. 2. New development shall include appropriate bicycle facilities: a. Adequate bicycle access shall be provided; b. Off-street shared pedestrian/bicycle paths shall be considered in large developments; c. Bicycle parking and/or storage facilities shall be provided in the following areas: convenience, neighborhood, and community commercial; employment centers; educational facilities; recreation facilities; and park and ride lots. 3. Bicycle use shall be included in a trail system. 4. Roads planned as part of the bicycle route system shall: a. Be constructed with bicycle safety considered; b. Have bridges with adequate widths and rail height for bicycles; c. Have adequate width to accommodate bicycle travel without the necessity of traveling in a gutter or on unimproved shoulder; and d. Have traffic sensors that respond to bicycles.

The Transportation Element of the San Joaquin County General Plan does not include specific policies, but does reference bicyclist accommodation and the County transportation system. As discussed in the Transportation Element, the Transportation System Management (TSM) Program suggests that employers provide bicycle storage and that developers construct paths for bicycle access to encourage more people to bicycle. The Transportation Element also refers to the 2002 Unincorporated San Joaquin County Bikeway Plan, which is summarized later in this chapter.

F.2.2. Regional Transportation Plan (2011)

The San Joaquin Council of Governments (SJCOG) adopted their latest Regional Transportation Plan (RTP) in 2011, which provides a transportation vision through the year 2035. The RTP notes the county's "ideal terrain" for using bicycles as an alternative transportation mode and identifies their use as an element in the region's multi-modal transportation system that could lead to a more efficient transportation network. The RTP allocates about $400,000 of Measure K funds per year to local bicycle plans.

The RTP notes specific issues that directly affect this Plan. First, the RTP includes a variation of the Caltrans Highway Design Manual Standard Class III Bicycle Route (refer to **Error! Reference source not found.** on page **Error! Bookmark not defined.**for details). The RTP standard provides a four-foot, delineated shoulder and bicycle route signage to denote a Class III Bicycle Route. In contrast, the Caltrans Standard does not require, nor suggest, the use of a shoulder. Second, the SJCOG modified policies as part of the Measure K extension to reward bicycle capital projects over bicycle planning projects. Third, SJCOG members are encouraged to develop their local bicycle plan. **Table F-6** lists the priority bicycle and pedestrian projects identified in the 2011 Regional Transportation Plan.

Table F-6: San Joaquin RTP Tier I Bicycle and Pedestrian Projects

Jurisdiction	Facility Name	Description	Project Limits	Total Cost
Lathrop	Lathrop Road	Unspecified Bicycle Facilities	City of Lathrop	$175,000
Ripon	Jack Tone Road	Class I	Jack Tone Road	$3,000,000
Ripon	Stanislaus River Road	Class I	Corps Park to Jack Tone Golf Course	$1,500,000
San Joaquin County	Airport Way	Class III	Durham Ferry Road to Trahem Road	$148,000
San Joaquin County	Airport Way	Class III	West Ripon Road to Trahern Road	$108,000
San Joaquin County	Armstrong Road	Class III	Micke Grove Road to Frontage Road	$210,000
San Joaquin County	Armstrong Road	Class III	West Lane to Micke Grove Road	$90,000
San Joaquin County	Armstrong Road	Class III	Davis Road to West Lane	$900,000
San Joaquin County	Armstrong Road	Widen Roadway, Class III	Davis Road to Lower Sacramento Road	$1,690,000
San Joaquin County	Austin Road	Class III	French Camp Road to Louise Avenue	$1,884,000
San Joaquin County	South Stockton Sidewalks	Curb, gutter, and sidewalk installation	8th Street, 9th Street, 11th Street, D Street, Pock Lane	$3,304,000
Stockton	Airport Way	Class II	Miner Avenue to Sperry Road	$309,000
Stockton	Brookside Road	Class II	Along Calaveras Avenue to Pershing Avenue	$8,450
Stockton	Calaveras River	Class I	Ijams Road to Maranatha Drive	$876,000
Stockton	Center Street	Class II	Cleveland Street to El Dorado Street	$137,250
Stockton	Claremont Avenue	Class II	Swain Road to the Calaveras River	$86,250
Stockton	Duck Creek/Walker Slough	Class I	Colorado Avenue to Stagecoach Road	$4,588,166
Stockton	EBMUD Corridor	Class I	March Lane to West Lane	$330,000
Stockton	EBMUD Corridor	Class I	Lorraine Avenue to Holman Road	$552,000
Stockton	EBMUD Corridor	Class I	SR 99 to northern city limits	$3,600,000
Stockton	Eight Mile Road	Class II	I-5 to Jack Tone Road	$60,400
Stockton	Eight Mile Road	Class II	Trinity Parkway to I-5	$120,000
Stockton	El Dorado Street	Class II	South Bear Creek to Lincoln Road	$108,000
Stockton	Hammer Lane	Class II	Alexandria Place to Lower Sacramento Road	$53,250
Stockton	Lower Sacramento Road	Class II	Armstrong Road to Hammer Lane	$23,600
Stockton	Mosher Slough	Class I	Estate Drove to Thornton Road	$1,002,000
Stockton	Pershing/Mendocino	Class II	Alpine Avenue to Kensington Way	$37,500

Jurisdiction	Facility Name	Description	Project Limits	Total Cost
Stockton	South Bear Creek	Class I	Lower Sacramento Road to Bear Creek	$762,000
Stockton	Sperry Road/Arch Road	Class II	French Camp Road to Auston Road	$28,800
Stockton	Stockton Diverting Canal	Class I	Cherokee Road to Mormon Slough	$2,010,000
Stockton	Sutter Street	Class II	Calaveras River to Cleveland Street	$1,660,423
Stockton	Swain Road	Class II	Harrisburg Place to Inglewood Avenue	$5,000
Stockton	Tam O'Shanter Drive	Class II	Morada Lane to EBMUD Corridor	$174,750
Stockton	Thornton Road	Class II	Bear Creek to Pershing Avenue	$110,250
Stockton	West Lane	Class II	Armstrong Road to East Morada Lane	$18,900
Stockton	West Lincoln Road	Class II	Alexandria Place to El Dorado Street	$7,950
Various	Miscellaneous Ped/Bike	Listed in local plans	Throughout San Joaquin County	$128.7M

F.2.3. Unincorporated San Joaquin County Bicycle Plan (2011)

The Unincorporated San Joaquin County Bicycle Plan established a vision and goals for bicycle planning in unincorporated parts of San Joaquin County. The goals of the plan are listed below:

Goal 1: Provide safe and efficient bikeways in San Joaquin County.

Goal 2: Ensure that the transportation network within future development areas is accessible by bicycles and connects to routes identified in the proposed system.

Goal 3: Improve the safety of bicyclists and promote bicycling skills through education and encouragement programs.

Goal 4: Avoid adverse environmental impacts associated with the implementation of the bicycle system.

Goal 5: Ensure the timely funding and construction of the bicycle improvements described in this Plan.

The plan recommends 4.1 miles of new multi-use paths, 5.9 miles of bike lanes, and 270 miles of bike routes throughout the County and prescribes design guidelines for each type of facility. Many bicycle facilities in the unincorporated County are of particular importance in the development of a countywide bicycle network. Recommended bicycle routes emphasize connections between cities and with adjacent counties. Table F-7 lists the highest-ranked bicycle projects in the Unincorporated County Plan.

Table F-7: High Priority Projects in the Unincorporated County Bicycle Plan

Name	From	To	Class	Miles	Cost Estimate
Chrisman Road	California Aqueduct Path	Eleventh St	III	6.02	$649,600
Corral Hollow Road	Tracy City Limits	County Line	III	6.28	$1,455,600
Eight Mile Road	SR 99	Jack Tone Rd	III	5.91	$369,900
Escalon-BellotaRoad	SR 4	Escalon City Limits	III	8.44	$670,800
Mariposa Road	Escalon-Bellota Road	Stockton City Limits	III	12.07	$351,900
Mathews Road	Howard Road	El Dorado St	III	1.03	$90,800
Patterson Pass Road	Mountain House Pky	County Line	III	1.7	$267,900
River Road	Murphy Road	Santa Fe Rd	III	8.44	$625,000
Santa Fe Road	County Line	Escalon City Limits	III	4.08	$553,900
Walnut Grove Road	Thornton Road	County Line	III	4.45	$329,500

The plan also recommends implementing a Safe Routes to School program that emphasizes bicycle and pedestrian safety education, encouragement, engineering improvements, and enforcement of traffic laws.

F.2.4. San Joaquin Council of Governments Air Quality Conformity Analysis (2007)

Federal and State regulatory statutes require SJCOG to submit an air quality conformity analysis of its Regional Transportation Plan and Transportation Improvement Plan. Bicycle facilities, including on- and off-street facilities and parking, are referenced as accepted measures in mitigating poor air quality.

F.2.5. Regional Congestion Management Plan (2007)

This plan is a revision of the region's 1992 plan, which sought to decrease congestion through the building of roadways. The 2007 revision mitigates congestion through the promotion of alternative modes of transport. The plan provides a comprehensive network of bicycle facilities and travel demand management strategies that encourage bicycling and walking.

F.2.6. San Joaquin Council of Governments Regional Transit Systems Plan (2009)

The Regional Transit Systems Plan examines opportunities to better coordinate transit systems serving the County. The plan recommends coordination with schools to improve walking conditions near campuses and increase the opportunities for students to take transit to school, suggesting a particular need for Safe Routes to School programs focused on transit users. The plan also identifies 31 opportunity sites for transit-oriented development. The plan calls for the provision of pedestrian and bicycle facilities adjacent to transit routes whenever possible. Recommended enhancements to intermodal facilities include bicycle storage facilities.

F.2.7. Regional Transportation Improvement Program (2008)

The Regional Transportation Improvement Program identifies several projects that can improve walking and bicycling conditions in the County. Its projects include widened sidewalks and bicycle facilities on 10th Street in Tracy, the construction of a bicycle and pedestrian multi-use path along Airport Way in Stockton, rehabilitating the downtown area of the City of Ripon, the widening of McHenry Avenue to include a five-foot shoulder,

F.3. Regional Plans

F.3.1. San Joaquin Valley Express Transit Study (2009)

The San Joaquin Valley Express Transit Study seeks to identify markets that can support inter-county commuter express transportation services within the San Joaquin Valley Region. The northern Highway 99 corridor and the Altamont Pass are seen as two potential corridors where express transit might succeed. The plan mentions that the provision of bicycle racks on regional transit can make it a more attractive choice for commuters and identifies pedestrian-oriented design as an important component of station area planning.

F.3.2. San Joaquin Valley Blueprint (2010)

The San Joaquin Valley Blueprint was a collaborative effort by eight Valley Councils of Government. It provides a framework for the growth and development of the San Joaquin Valley region until the year 2030. Along with the other Councils of Governments, The SJCOG held numerous workshops and developed growth scenarios that ultimately added up to the Valley Blueprint. The Regional Blueprint adopts 12 Smart Growth Principles, including the creation of walkable neighborhoods, mixed land uses, and a variety of transportation choices.

F.3.3. Other Regional Plans

Just as maintaining a well-connected bicycle network within San Joaquin County is important for increasing bicycle access, the same is true for connecting bikeways to other regions. The following plans were consulted, and their bikeways considered, in the development of this plan.

- Alameda Countywide Bicycle Master Plan (2006)
- Draft Sacramento County Bicycle Master Plan (2009)
- Stanislaus Non-Motorized Transportation Plan (2008)
- Calaveras County Bicycle Master Plan (2007)
- Contra Costa Countywide Bicycle and Pedestrian Plan (2003)
- East Bay Regional Parks District Master Plan Map (2009)

F.4. State Plans and Policies

F.4.1. California AB 32 – Global Warming Solutions (2006)

California Assembly Bill (AB) 32, the Global Warming Solutions Act, establishes a comprehensive program to reduce greenhouse gas emissions using regulatory and market mechanisms. The California Air Resources Board is responsible for monitoring and reducing greenhouse gas emissions. The bill established a statewide target of reducing greenhouse gas emissions to 1990 levels by 2020.

F.4.2. California AB 1358 – Complete Streets (2008)

California Assembly Bill (AB) 1358 is known as the Complete Streets Bill. Effective in 2011, the bill requires revisions to a city or county's Circulation Element to include provisions for the accommodation of all roadway users including bicyclists and pedestrians. Accommodations include bikeways, sidewalks, crosswalks, and curb extensions.

F.4.3. California SB 375 – Sustainable Communities (2009)

California Senate Bill (SB) 375 requires Metropolitan Planning Organizations, including the San Joaquin Council of Governments, to create a Sustainable Communities Strategy (SCS) as part of the Regional Transportation Plan. The SCS must identify the ways in which the region will meet the greenhouse gas emissions targets outlined by the California Air Resources Board. One strategy to meet the greenhouse gas emissions targets is to increase the mode share of alternative transportation. Enhancing San Joaquin County's pedestrian and bicycle infrastructure can increase pedestrian, bicycle and transit mode share and reduce San Joaquin County's greenhouse gas emissions.

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Appendix G. Peer Plan Review

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G.1. Peer Agency Bicycle, Pedestrian, and Safe Routes to School Plan Review

The purpose of this Appendix is to provide a summary of best practices followed in countywide bicycle, pedestrian, and safe routes to school plans to inform the project selection and project ranking methodology for the San Joaquin Council of Governments' (SJCOG) Bicycle, Pedestrian and Safe Routes to School (BP-SRtS) Master Plan. Project selection and prioritization for funding for San Joaquin County, a region with numerous jurisdictions, environments, and communities can be challenging. The best practices and experiences of other county- and region-wide plans can inform the development of the San Joaquin Council of Governments' (SJCOG) Bicycle, Pedestrian and Safe Routes to School (BP-SRtS) Master Plan.

It is important this peer review be from counties similar to San Joaquin County, those that include urbanized, suburban, and rural areas. The selection of peer plans was based on similarities to the planning area as well as the extent of their planning efforts. This memorandum0 incorporates a review of the following countywide plans:

1. Contra Costa Transportation Authority Countywide Bicycle and Pedestrian Plan (2009)
2. Sacramento Area Council of Governments Countywide Bicycle/Pedestrian Master Plan (2009)
3. Solano Transportation Authority
    a. Bicycle Master Plan (2004)
    b. Pedestrian Master Plan (2005)
    c. Safe Routes to School Plan (2008)
4. Tahoe Regional Planning Authority Bicycle Plan (2010)

G.2. Summary of Peer Review

This peer review serves several related purposes. SJCOG is seeking best practices including:

1. Strategies for defining a countywide priority network of bicycle facilities,
2. Strategies for defining zones or corridors of countywide significance for pedestrians and walkability
3. Capital project prioritization strategies applicable to bicycle and pedestrian projects
4. Program (education, encouragement, enforcement, evaluation) prioritization strategies
5. Administrative practices used by other transportation improvement authorities (self-help county agencies) responsible for distribution of transportation sales tax to member agencies

Useful findings related to each of these best practice categories are highlighted below under the discussions of the specific plans reviewed in this memorandum.

In summary, the following key strategies are supported by the findings below and are recommended for SJCOG:

Table G-1: Plan Review Findings

Agency	Plan Type	Countywide Bikeway Network Definition	Bikeway Network Project Prioritization	Countywide Pedestrian Network Definition	Pedestrian Project Prioritization
CCTA	Countywide Bicycle and Pedestrian Plan (2009)	Key corridors informed by existing travel patterns, roadway conditions, connectivity, topography, destinations served, and integration into regional system, presence of reasonable alternatives, and collision and safety data	• Safety concerns • Range of users • Destinations served • Estimated latent demand (population and employment density, land use, demographics) • Connectivity • Feasibility • Integration with other local planning efforts • Matching funds • Public support	*Pedestrian focus areas rather than specific projects. There are four zones:* 1. *Downtown areas and pedestrian-oriented districts* 2. *Facilities that access local and regional transit* 3. *Facilities that access activity centers*	None. Priority projects are determined by local agencies.
SACOG	Countywide Bicycle and Pedestrian Master Plan (2009)	Key segments and support facilities submitted by member agencies and vetted through advisory committee.	• Links to activity centers • Connections to transit systems • Elimination of barriers • Connections to other jurisdictions • Desirability base on traffic speed and volume • Ease of implementation • Equity • Documented demand	Key projects submitted by member agencies and vetted though advisory committee.	• Links to activity centers • Connections to transit systems • Elimination of barriers • Connections to other jurisdictions • Desirability base on traffic speed and volume • Ease of implementation • Equity • Documented demand

Agency	Plan Type	Countywide Bikeway Network Definition	Bikeway Network Project Prioritization	Countywide Pedestrian Network Definition	Pedestrian Project Prioritization
STA	Bicycle Master Plan (2004)	Skeletal network developed from existing and proposed facilities.	• Access to activity centers • Population base served • Connections to cities • Public support		
STA	Pedestrian Master Plan (2005)			Pedestrian focus areas rather than specific projects. There are four types of projects: • Pedestrian district and main street projects • Pedestrian corridor projects • Pedestrian access to transit • Crossing improvements • Pedestrian connection projects	None. Priority projects are determined by local agencies.
STA	Safe Routes to School Plan (2008)	Safe Routes to School Projects were developed with extensive community input and community task forces.	Projects are not ranked countywide but each jurisdiction has priority projects determined by the local task force.		

Agency	Plan Type	Countywide Bikeway Network Definition	Bikeway Network Project Prioritization	Countywide Pedestrian Network Definition	Pedestrian Project Prioritization
TRPA	Bicycle and Pedestrian Transportation Plan (2010)	Skeletal network developed from existing and proposed facilities.	• Closing gaps • Estimated use and cost/benefit • Network improvement • Multimodal connectivity • Safety • Connectivity • Minor environmental impact • Regional equality • Timeline for implementation	Key sidewalk repair and installation projects submitted by member agencies.	• Closing gaps • Estimated use and cost/benefit • Network improvement • Multimodal connectivity • Safety • Connectivity • Minor environmental impact • Regional equality • Timeline for implementation

G.3. Contra Costa Transportation Authority Countywide Bicycle and Pedestrian Plan (2009)

The Contra Costa Transportation Authority updated its Countywide Bicycle and Pedestrian Plan (CBPP) in 2009. The purpose of the update was to address changes that had taken place since adoption in 2003, including the extension of Measure J sales tax funding. The Contra Costa Transportation Authority's (CCTA) main role with respect to implementation of the CBPP is to provide funding to local jurisdictions, special districts, and other agencies to plan, design, and construct pedestrian and bicycle improvements.

> *Vision: More people who live, work, shop, and go to school in Contra Costa will walk and bicycle, thereby improving health, reducing emissions of greenhouse gases and making our transportation system more sustainable. To support walking and bicycling, Contra Costa will have an integrated system of safe, convenient and comfortable pedestrian and bicycle facilities that provide access to schools, jobs, transit, shopping, neighborhoods, community facilities, parks and regional trails. Agencies within Contra Costa will collaborate on creating such facilities across jurisdictions and will accommodate the needs of pedestrians and bicyclists when planning, designing, building and maintaining all development and transportation projects.*

G.3.1. Bikeways

Network

The Contra Costa Transportation Authority countywide bikeway network is based on a few key corridors. These corridors include the Bay Trail, the San Pablo Avenue Corridor, Central County-Alameda County connections, West County-Central County Connections, the San Ramon Valley Corridor, and Regional Trails.

To develop the countywide bikeway network, the CCTA examined the existing and proposed bicycle facilities for jurisdictions throughout the county. The selection of corridors from these facilities for the countywide bikeway network was informed by existing travel patterns, roadway conditions, connectivity, topography, destinations served, and integration into regional system, presence of reasonable alternatives, and collision and safety data. Recommended corridors are not intended to be definitive; local jurisdictions are responsible for specifying the precise alignment and bikeway type.

Prioritization

The Contra Costa Transportation Authority plan does not directly prioritize bicycle projects for funding; that occurs later in the process after a call for projects. The implementation chapter identifies the criteria that the CCTA will use to select projects for funding. Inclusion in the countywide bikeway network is one of many criteria that include:

- Safety concerns
- Range of users
- Destinations served
- Estimated latent demand (population and employment density, land use, demographics)
- Connectivity
- Feasibility,
- Integration with other local planning efforts,
- Matching funds
- Public support.

Based on these criteria, local projects that, for instance, address high-priority safety issues or that enjoy especially high levels of public support could out-compete countywide bikeway network projects for Contra Costa County Measure J funding.

The Plan includes a list of implementation actions for both the Authority and partnering agencies. In conversations with authority staff, this was seen as an effective aid to implementation of the Plan and the Authority and other agencies have designated funding to work through these actions. Future pedestrian and bicycle plans are likely to be more specific.

G.3.2. Pedestrian

Network

The Contra Costa Transportation Authority CBPP does not identify specific pedestrian projects and instead establishes three types of pedestrian priority zones, or locations:

- Downtown areas and pedestrian-oriented districts
- Facilities that access local and regional transit
- Facilities that access activity centers

Local jurisdictions may define these zones, but the Authority's grant evaluators coordinate with the CCTA Bicycle and Pedestrian Advisory Committee to ultimately evaluate their countywide significance. Although Contra Costa County consist of primarily suburban and rural development patterns, all jurisdictions, including the unincorporated County, have projects that meet the pedestrian priority criteria.

Prioritization

Without identified projects, the CCTA Plan cannot prioritize funding and reserves, that step for when projects are submitted. The implementation chapter identifies the criteria that the CCTA will use to select projects for funding including:

- Safety concerns
- Range of users
- Destinations served
- Estimated latent demand (population and employment density, land use, demographics)
- Connectivity
- Feasibility
- Integration with other local planning efforts
- Matching funds
- Public support

G.4. Sacramento Area Council of Governments Countywide Bicycle/Pedestrian Master Plan (2009)

The Sacramento Area Council of Governments Bicycle/Pedestrian Master Plan was mandated by the Regional Bicycle, Pedestrian, and Trails Master Plan. The plan envisions a transportation system where:

- People can walk and bicycle throughout the region on a network of multi-use paths and lanes that connect across jurisdictional lines.
- Multi-use paths throughout the region are developed and maintained for walking and bicycling to provide attractive, natural, and safe transportation corridors.
- People throughout the region can walk and bicycle safely and conveniently to all destinations, especially schools and employment centers, within reasonable walking and bicycling distance.
- People can safely walk and bicycle to transit stations and stops and have a comfortable, safe place to wait or transfer.
- Sidewalk, streets, and roads are designed and laid out according to complete streets principles to encourage walking and bicycling.
- All transportation projects are designed to safely integrate walking and bicycling, or provide alternatives to automobiles.
- All commercial and residential developments are designed to make walking and bicycling the most attractive and convenient modes of transportation.
- All transportation facilities will be made accessible based on the guidelines of the Americans with Disabilities Act (ADA) and California Code of Regulations Title 24 (CCR Title 24).
- Adequate, functional, secure and conveniently located bicycle parking facilities are provided at all regional destinations.

The plan is intended to address the local focus of most bicycle and pedestrian planning efforts; to share best practices, improve coordination and connectivity between jurisdictions; and guide the long-term decisions for the Council's bicycle and pedestrian funding program.

G.4.1. Bikeways

Network

Numerous local cities and counties, recreation and park districts, air quality management districts, and advocacy groups submitted the projects included in the SACOG plan. The plan does not include a continuous connected bikeway network but instead consists of projects identified by local jurisdictions as high priority and evaluated by committee. The countywide network is oriented toward utilitarian trips, regional connectivity and access to transit. Eligible project types included not only linear bikeways and overcrossings but bicycle support facilities such as parking and on-board storage for transit. While a majority of projects had been proposed previously in the bicycle and pedestrian plans of member jurisdictions, advocacy groups recommended visionary new projects to complete connections in the countywide network.

Prioritization

The Advisory Committee initially classified projects as high, medium, or low priority. The Advisory Committee then evaluated those projects identified as medium and high priority based on the following criteria:

- Links to activity centers, including schools, parks, employment centers, and areas of high residential density
- Connections to transit systems
- Elimination of barriers, a criterion that assigned scores based on the reduced distance that a bicyclist would need to travel.
- Connections to other jurisdictions
- Desirability, based on traffic speeds and volumes: Class I facilities received points for having fewer road crossings. Class II facilities received more points if placed on roads with high traffic volumes and traffic speeds, characteristics that denied points to Class III facilities.
- Ease of implementation, determined by the possession of right-of-way and the extent of environmental review required.
- Equity, measured by the distance from a parallel route
- Documentation of demand for the facility.

Each project could score up to 100 points based on these criteria, with the largest scoring categories being connections to activity centers and transit and barrier elimination. Projects competed against other projects of the same type. The total scores are not reported with the project list, but projects scoring above the median were finally designated "High Priority", those scoring below the median were designated "Medium Priority". The "Low Priority" category was reserved for projects lacking scoring data or specified as being low priorities earlier in the planning process.

G.4.2. Pedestrian

Network

One unusual feature of the Plan was the breadth of projects eligible for funding under the Bicycle and Pedestrian Funding Program. The Plan identifies specific countywide pedestrian projects that were submitted by local jurisdictions. Many of which were identified in General Plans, Pedestrian Plans, mobility studies and capital improvement plans of the member agencies. The eligible project types include not only sidewalk construction and traffic calming, but other pedestrian-serving amenities such as lighting, and landscaped shading for pedestrian and bicycle facilities. The development of the countywide pedestrian network emphasizes utilitarian trips and transit connections.

Prioritization

The prioritization of pedestrian projects relied on the same criteria as bikeway projects. However, desirability was measured according to the roadway type, with more points available to projects traveling along or crossing busier roadways. Projects that scored above the median for both pedestrian and bicycle projects were classified as "High Priority" and those below the median score were classified as "Medium Priority." The "Low Priority" category was reserved for projects lacking scoring data or specified by jurisdictions as being low priorities.

While the list of eligible project types includes a number of pedestrian serving amenities like lighting and landscaped shading, project types other than sidewalks, overcrossings, cut-throughs, and linear paths do not naturally fit into the prioritization framework developed for the plan. To truly capitalize on the benefits of a diversity of pedestrian and bicycle projects, the prioritization process was designed to be flexible to allow different project types to be competitive.

G.5. Solano Transportation Authority

G.5.1. Bicycle Master Plan (2004)

Network

The objective of the Countywide Bicycle Plan is to encourage the development of a unified bicycle system throughout Solano County. The plan envisions a bikeway network that will provide connections between all origins and destinations in Solano County and in surrounding counties.

The network is comprised a 'skeletal' network of both existing and proposed bikeways that connect to and through the County's cities. The proposed bikeways are categorized as either "Primary Routes" that connect regional destinations and emphasize utilitarian bicycling and "Secondary Routes." that emphasize recreational bicycling. There are 13 primary routes and 15 secondary routes.

The creation of 28 independent groups of projects was an effective organization of the countywide network. By grouping several projects together, regardless of whether they may be Class I or Class II, the plan ensures simultaneous implementation of co-dependent routes. It is also conveys that a consolidated, connected route helps to address the plan's goals; for instance, connections between cities is a stated goal of the project and one of the projects is a route from Vacaville to Fairfield.

Prioritization

The phasing of bicycle infrastructure projects communicates the level of priority for each project. Each of the 28 primary and secondary routes were evaluated and scored based on the following criteria:

- Access to major regional activity centers including parks, employment centers, and schools
- Population base served by each bikeway segment
- Connectivity within the system, regardless of activity centers or population served. Connections to Davis and connections between Fairfield and Vacaville, Benicia and Vallejo were deemed especially important
- Public Support, measured by the frequency that routes were suggested at BAC meetings and public workshops

The routes were then grouped into Phase 1 and Phase 2 generally based on their total score. Primary routes generally received higher priority under these criteria; nine of the thirteen primary routes were included in the first phase.

G.5.2. Pedestrian Master Plan (2005)

The goal of the Solano Transportation Authority Pedestrian Plan is to encourage and support walking as a means of transportation in Solano County. The plan is closely related to the Authority's Transportation for Livable Communities (TLC) Program and is intended to provide a framework for more detailed city pedestrian plans and encourage consistency and coordination between communities on pedestrian projects. The plan includes a categorized and prioritized list of current projects of member agencies, including pedestrian focus areas for each community.

Network

The pedestrian network and recommendations are includes a description of focus areas as well as possible infrastructure projects. An inventory of pedestrian features forms the basis for identifying countywide pedestrian projects. These features include pedestrian-oriented land uses, such as civic buildings, commercial

areas, higher-density residential areas, and regional destinations, other pedestrian attractors and generators, and major pedestrian routes. The plan also includes an extensive design guidelines section, detailing different types of pedestrian amenities and how they might be applied within pedestrian zones. The Plan identifies four types of projects:

- Pedestrian District Project and Main Street Pedestrian Design Projects, located within areas that are expected to have intense pedestrian use and may include a variety of improvements including widened sidewalks, curb extensions, street lighting, and signing.
- Pedestrian Corridor Projects, which plan and construct improvements along a street corridor, often to fill gaps in the pedestrian network. These projects may also include improvements for transit, bicycle, and motorized traffic
- Pedestrian Access to Transit Projects, which enhance access to transit with sidewalks, crossing improvements, and amenities at stations.
- Crossing improvement projects, which target specific intersections to improve crossing conditions for pedestrians.
- Pedestrian Connection Projects, which make new connections for pedestrians to access schools, transit, and shopping, especially where street connectivity is low.

Prioritization

While the plan provides guidance about important issues to consider when developing and prioritizing the pedestrian network, it does not prioritize projects. Instead, its member jurisdictions identify the pedestrian projects they consider to be their highest priorities for submission for funding. Among the peer plans reviewed, this is the most decentralized method used to prioritize projects.

G.5.3. Safe Routes to School Plan (2008)

The STA SR2S Program was developed to identify a list of engineering projects near schools to make walking and bicycling easier and safer for students. The program was also developed to formulate a list of programs to encourage and educate students about walking and bicycling, and to enforce students and parents to abide by traffic safety laws near schools. The goals of the plan were to increase healthy and safe alternatives to driving alone or chauffeured school trips, a decrease in the number of driving alone trips, and to maximize interagency cooperation in all Safe Routes to School efforts.

Projects

Safe Routes to School projects presented in this Plan were developed with extensive community outreach. Public input drove the development of the Safe Routes to School Plan. The Authority appointed Steering Committee drafted the goals and objectives of the Plan. The Authority also worked with school boards and city councils to develop Community Task Forces, which consisted of members from a variety of disciplines. These community task forces worked to identify specific SR2S projects in each jurisdiction. The steering committee then reviewed these projects and programs. The selection of individual projects was developed locally with extensive community meetings and outreach.

Prioritization

While the Countywide Priority Programs and Projects are described in the document, and the projects chosen for inclusion on each jurisdiction's list were determined by a coalition of outreach groups. The Safe Routes to School Plan does not rank projects countywide, or categorize them according to specified criteria. However, each jurisdiction within Solano County has a section detailing and prioritizing the improvements that are recommended for each jurisdiction based on local input.

G.6. Lake Tahoe Bicycle and Pedestrian Plan (2010)

The Lake Tahoe Plan, developed by the Tahoe Regional Planning Agency (TRPA), is a guiding document for planning, constructing and maintaining a regional bicycle network in the Lake Tahoe Basin. The basin includes the City of Lake Tahoe, portions of El Dorado and Placer Counties, CA, portions of Douglas and Washoe Counties, NV and the rural area of Carson City, NV. TRPA is the regional planning agency and administers related funding sources including Transportation Development Act Article 3.

Vision: Lake Tahoe communities have identified biking and walking opportunities as critical components of a well-rounded transportation system. A strong bicycle and pedestrian network draws people out of their cars, boosting the economy, improving air quality, and creating attractive, healthy communities. Connected bicycle paths, sidewalks, and transit can provide the backbone of a people-oriented transportation system that supports neighborhoods, commercial districts, and recreation areas. This connected transportation system that centers on non-motorized travel will also help Lake Tahoe meet Tahoe Regional Planning Authority (TRPA) environmental thresholds and greenhouse gas reduction targets.

G.6.1. Bikeways

Network

The bicycle network was developed with local agency and public input. It is a 'spine' network that connects communities and connects to regional destinations. In order for projects to be included in the proposed project list, there must be reasonable belief that right-of-way acquisition is possible, environmental impacts must be able to be mitigated, and the design must be able to meet federal, state, and/or Tahoe-specific design standards. In addition, there must be some need for the project in the context of the countywide network; this need is broadly defined and includes projects whose planning or design has already started or where high predicted use is expected.

Prioritization

The plan makes clear that the primary responsibility for construction and maintenance of the network lies with local jurisdictions. The Authority's role in the implementation of the plan is to carry out the Goals and Policies, which include a complete bicycle and pedestrian network, raised awareness of the bicycle and pedestrian network, and the provision of environmental, economic, and social benefits to the Region through biking and walking. The prioritization criteria are integrated into the goals and include:

- Closing gaps
- High estimated use and Benefit/Cost ratio
- Improving the network
- Multimodal connectivity
- Safety
- Connectivity
- Minor environmental impact
- Regional Equality
- Timeline for implementation

The Plan includes a prioritized project list, intended to serve as a general guide for local jurisdictions, TRPA and TMPO staff, granting agencies, and advocacy groups. The prioritized list is not intended to preclude the construction of other projects when the opportunity arises.

G.6.2. Pedestrian

Network

The pedestrian improvements were also developed with local agency and public input and includes specific sidewalk repair and installation projects. As with TRPA's bicycle network, in order for projects to be included in the proposed project list, there must be reasonable belief that right-of-way acquisition is possible, environmental impacts must be able to be mitigated, and the design must be able to meet federal, state, and/or Tahoe-specific design standards. In addition, there must be some need for the project in the context of the countywide network; this need is broadly defined and includes projects whose planning or design has already started or where high predicted use is expected.

Prioritization

The pedestrian projects were evaluated with the same criteria as the bicycle network, including:

- Closing gaps
- High estimated use and Benefit/Cost ratio
- Improving the network
- Multimodal connectivity
- Safety
- Connectivity
- Minor environmental impact
- Regional Equality
- Timeline for implementation

The Plan includes a prioritized project list, intended to serve as a general guide for local jurisdictions, TRPA and TMPO staff, granting agencies, and advocacy groups. The prioritized list is not intended to preclude the construction of other projects when the opportunity arises.

G.7. Findings

A successful countywide plan provides resources to its member jurisdictions to encourage the planning and implementation of effective bicycle, pedestrian, and Safe Routes to School facilities and programs. This is especially important in areas with rural communities such as San Joaquin County whose cities may not have the resources or staffing to develop detailed pedestrian and bicycle plans.

There are two typical strategies for developing county and region-wide bicycle and pedestrian networks:

Encouraging local jurisdictions to submit projects and evaluating their submissions
Surveying the local bicycle and pedestrian plans and evaluating the projects according to countywide criteria
While this Plan will not propose any new bikeways, a survey of pedestrian and bicycle plans within the County may identify significant gaps that are not addressed by existing pedestrian and bicycle plans. Peer plans have in these cases identified additional facilities or corridors that would close these gaps. An alternative to adding specific bikeways to close these gaps might be to identify for member jurisdictions particular geographic areas in which proposed bicycle and pedestrian projects would likely score highly under the prioritization criteria.

The breadth of projects eligible for funding under the Sacramento Area Council of Governments Bicycle and Pedestrian Plan is a unique feature of the plan. It was especially valuable because the region is so large that there could be extreme differences in the level of pedestrian and bicycle infrastructure and planning among its member jurisdictions. The inclusion of projects to shade pedestrian and bicycle paths can be beneficial in a region where high summer temperatures can decrease the comfort of biking and walking.

The most applicable example for the San Joaquin Council of Governments is likely the Contra Costa Transportation Authority's (CCTA) pedestrian and bicycle plan. The CCTA has a similar role as the SJCOG in that its plan provides a framework for the disbursement of Measure J funding.

The *Defining Projects of Countywide Significant for Measure K Fund Programming Memorandum* discusses the recommended framework for SJCOG bicycle, pedestrian and Safe Routes to School project types and project selection informed by this peer review.

Appendix H. Comments Received

Comment ID	Source	Comment	Staff Response	Location
1	TAC	Due to Plan being BTA Compliant, clarify the need for local jurisdiction to adopt the Plan?	The document was modified with a section explaining the choices a jurisdiction has regarding adoption of the Plan	Introduction Chapter in the Draft Document
2	Board	This is a good start to a regional plan. A regional plan should connect communities.	Comment noted (no change requested).	N/A
3	Board	There are no connections to Mountain House. Reach out to them.	SJCOG staff will follow-up with San Joaquin County Staff regarding connectivity and its relationship to the unincorporated areas existing Bike Plan.	N/A
4	Board	The Lake Tahoe and Monterey trail systems are great.	Comment noted, no change requested.	N/A
5	Board	This Master Plan needs to look at how the facilities connect communities and cities.	Closing network caps and connecting to community activity centers are a part of the project formation criteria. Comment noted (no change made).	N/A
6	Board	Encourage agencies to work together for grant applications.	Comment noted (no change made).	N/A
7	Public Workshop	Stanislaus and Yosemite are good connections	Comment noted (no change made).	Escalon
8	Public Workshop	Check near Harlan Road - there are existing bike lanes somewhere	In response to this comment we found a few existing bike lanes in Lathrop, often one-way facilities. Will be included in updated maps as appropriate	Lathrop
9	Public Workshop	Riding southwest on Manthey is a nice ride.	Comment noted (no change made).	Lathrop
10	Public Workshop	Proposed Class I route along river would be a great recreational facility	It would be a nice route, though the plan generally emphasizes utilitarian routes.	Lathrop
11	Public Workshop	Railroad crossings in Lodi are generally challenging.	Plan will be revised to reflect best design practices for railroad crossings..	Lodi
12	Public Workshop	Lodi has a good existing network	Comment noted (no change made).	Lodi
13	Public Workshop	N. West Lane is a commuter route	Comment noted (no change made).	Lodi

Comment ID	Source	Comment	Staff Response	Location
14	Public Workshop	Check for water feature along existing Class I route in Lodi	Canal does exist, but is not in the GIS data. No change made.	Lodi
15	Public Workshop	Airport Way would be a nice connection (Stockton has major plans for Airport Way)	Connection is proposed, but not in priority network.	Manteca
16	Public Workshop	Would like to see more in-town connections rather than priorities on outskirts. Perhaps connection to the high school?	Comment noted and will be forwarded to City of Ripon.	Ripon
17	Public Workshop	Stockton is amid a grade separation project on S. Airport	Plan reflects the bicycle and pedestrian projects involved in the grade separation.	Stockton
18	Public Workshop	South Stockton communities use bicycles the most	Comment noted (no change made).	Stockton
19	Public Workshop	Can RTD be outfitted with three-bike racks instead of two?	Plan will be revised to include design standards for three-bike racks on buses.	Stockton
20	Public Workshop	Stockton proposed network generally looks very good, though it should include more Class II facilities instead of Class III	Comment noted and will be forwarded to City of Stockton.	Stockton
21	Public Workshop	Highest concentration of bikes is on Pacific Avenue from March Lane to Swain. There should be a facility there	Comment noted and will be forwarded to City of Stockton.	Stockton
22	Public Workshop	Pershing is not a real bike lane, south of Delta College	Comment noted (staff will review and revised as necessary).	Stockton
23	Public Workshop	Sutter Street is the most important connection recommended	Comment noted and will be forwarded to the City of Stockton.	Stockton
24	Public Workshop	Pacific Avenue needs bike facilities between March and Swain	Comment noted and will be forwarded to City of Stockton.	Stockton
25	Public Workshop	Good recommended projects, especially Holly Drive	Comment noted (no change made).	Tracy

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