Stanislaus Council of Governments (StanCOG) Non-Motorized Transportation Master Plan

Prepared for:
StanCOG

October 2013

WC12-2907

FEHR Peers
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1.0 INTRODUCTION

The StanCOG Non-Motorized Transportation Plan (Plan) was updated by Fehr & Peers under contract to the Stanislaus Council of Governments (StanCOG). StanCOG is the Regional Transportation Planning Agency (RTPA) for Stanislaus County. This Plan is a result of the diligent efforts of the Stanislaus Council of Governments, Stanislaus County local governments and agencies, and citizens interested in improving the bicycling and pedestrian environment in the County. The Plan could not have been developed without the committed efforts of these organizations and individuals.

This Plan has been prepared to prioritize investments that serve countywide and local interests, increase accessibility of competitive grant funding sources, and update the 2008 StanCOG Non-Motorized Transportation Plan. The Plan provides a countywide understanding of existing conditions and countywide priority bicycle and pedestrian networks as well as existing conditions analysis and recommended network for the unincorporated County and each of the nine Stanislaus County cities. Each jurisdiction has a specific standalone chapter, which can be adopted by local agencies.

1.1 PLAN OUTLINE AND IMPLEMENTATION

This plan is divided into two introductory chapters that focus on countywide needs and priorities and is followed by ten standalone chapters that treat each of the nine cities and the unincorporated County, respectively. Appendices apply to all cities and the County. The intent of the Plan structure is to allow for individual cities and the County to adopt the jurisdictions’ individual chapter and the Plan appendices. Each chapter includes discussion of countywide priority segments within the jurisdiction. Because the priority bikeways are multi-jurisdictional, cooperation between local jurisdictions, the County, and StanCOG will be necessary to implement the Plan.

This plan is divided into sections:

- **Chapter 1 – Introduction**: Sets the context for the Plan including purpose and structure, provides a countywide overview of land use patterns, demographics, and collision history, and sets the overall goals for the countywide Plan.

- **Chapter 2 – Countywide Priorities**: Explains the countywide priority bicycle network recommendations including potential funding sources; pedestrian planning and design guidance; and education, enforcement, and encouragement activities.
• **Chapters 3-10 – Local Jurisdiction’s Existing & Planned Bicycle & Pedestrian Networks:** The Plan is divided into ten standalone chapters for each of the nine local jurisdictions and unincorporated Stanislaus County. These discrete, city- and county-specific chapters review each jurisdiction’s bicycle and pedestrian activity, commute patterns, demographics, land use and collisions, including recommended priority bikeway network and pedestrian improvements. Each chapter also includes information on countywide priority bicycle facilities, as relevant. Standalone chapters allow for each jurisdiction to adopt their respective chapter in addition to the appendices.

• **Appendix A – Bikeway Design Guidelines**

• **Appendix B – Pedestrian Design Guidelines**

• **Appendix C & D – Pedestrian and Bicycle Demand Modeling Methodology and Bikeway Prioritization Methodology**

• **Appendix E – Countywide Existing and Proposed Bikeways Tables**

• **Appendix F – Countywide Priority Bikeways Cost Estimates and Unit Cost Estimates**

• **Appendix G – Results of BPAC Community Survey**

### 1.2 BTA COMPLIANCE

To qualify for State of California Bicycle Transportation Account (BTA) funding, local bicycle plans must meet the criteria of California Streets and Highways Code Sec 891.2, detailed in Table 1-1 below, and must be updated at least every five years. As of 2012, the amount of funding available to California communities through the BTA is $7.2 million. Most communities will need to seek additional funding to implement the elements of their bicycle and pedestrian plans. There are no specific requirements for most other state and federal funding sources that this Plan must meet. However, having an adopted bicycle and pedestrian plan substantially improves the chances of securing funding for high-priority projects that are part of that planning process.

Each of the ten standalone chapters provides detailed information on where in the plan the item is addressed, including section and page numbers.
TABLE 1-1
STREET AND HIGHWAYS CODE SECTION 891.2 REQUIREMENTS

<table>
<thead>
<tr>
<th>Item</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>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.</td>
</tr>
<tr>
<td>b</td>
<td>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.</td>
</tr>
<tr>
<td>c</td>
<td>A map and description of existing and proposed bikeways.</td>
</tr>
<tr>
<td>d</td>
<td>A map and description of existing and proposed end-of-trip bicycle parking facilities.</td>
</tr>
<tr>
<td>e</td>
<td>A map and description of existing and proposed bicycle transport and parking facilities for connections with and use of other transportation modes.</td>
</tr>
<tr>
<td>f</td>
<td>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.</td>
</tr>
<tr>
<td>g</td>
<td>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 the resulting effect on accidents involving bicyclists.</td>
</tr>
<tr>
<td>h</td>
<td>A description of the extent of citizen and community involvement in development of the plan, including, but not limited to, letters of support.</td>
</tr>
<tr>
<td>i</td>
<td>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.</td>
</tr>
<tr>
<td>j</td>
<td>A description of the projects proposed in the plan and a listing of their priorities for implementation.</td>
</tr>
<tr>
<td>k</td>
<td>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.</td>
</tr>
</tbody>
</table>

1.3 BICYCLE AND PEDESTRIAN FACILITIES

This section provides basic information on bicycle and pedestrian facility types.

BICYCLE FACILITIES

Bicycle facilities can be divided into two types:
• Bikeways—on-street or off-street facilities provided for bicycle travel.

• Support Facilities—facilities used by bicyclists when they reach their destination, such as bicycle parking.

**Bikeways**

Chapter 1000 of the Caltrans Highway Design Manual defines three classes of bicycle facilities and details the minimum requirements for those facility types:

- Class 1 Bicycle Paths—a paved right of way completely separated from any street or highway.
- Class 2 Bicycle Lanes—a striped and stenciled lane for one-way travel on a street or highway.
- Class 3 Bicycle Routes—a typical roadway identified as a preferred bicycle route with signage. They may also include shared use lane markings, “SHARE THE ROAD” signage, or wide shoulders, as described in Appendix A Bicycle Design Guidelines.

In this Plan, a Class 3.5 bicycle route designation is also used. In the context of this plan, Class 3.5 facilities indicate a Class 3 bicycle route, as defined by Caltrans, with wide shoulders, typically four to eight feet in width. Class 3 Share the Lane indicates Class 3 bicycle routes, as defined by Caltrans, with “SHARE THE ROAD” signage, typically on narrow, rural roadways. These treatments are further defined on Figure 1-1 and in Appendix A Bicycle Design Guidelines. Figure 1-1 provides cross-sections and additional descriptions of these facilities, including Caltrans minimum requirements as well as recommended cross-section widths and additional treatments.

**Support Facilities**

Support facilities are critical to bicycle use, especially as a means to encourage bicycle commuting. Support facilities consist primarily of:

- *Bicycle Parking*—bicycle parking supply should vary to accommodate short-term and long-term trips and consist of two basic types:
  - *Short-Term Parking*—bicycle racks for users who need to stop for several hours or less, placed adjacent to key destinations such as shopping areas, schools, and parks.
  - *Long-Term Parking*—lockable bicycle lockers, bicycle cages, or bicycle rooms to which only users are allowed access, placed at major employment areas, schools, and transit centers.
- *Shower and Changing Space*—showers and changing areas provide longer-distance commuters with an area to change and get ready for work or school.
- **Secure Storage Areas**—locker-type storage areas provide room to store a change of clothes or bicycle gear.

**PEDESTRIAN FACILITIES**

Pedestrian facilities can be broken into three basic categories, with implementation and use varying based on geographic location:

- **Walkways**—in urban and suburban contexts, sidewalks with curb ramps at intersections are typical and vary in width depending on land use contexts. In rural contexts, paved or unpaved graded shoulders may be typical, or a walkway may not be provided.

- **Crosswalks**—California Vehicle Code Section 275 defines a crosswalk as either “that portion of a roadway included within the prolongation or connection of the boundary lines of sidewalks at intersections” or “any portion of a roadway distinctly indicated for pedestrian crossing by lines or other markings.” Legal unmarked crossings are those at intersections defined by the prolongation of sidewalk areas.

- **Crosswalk Enhancements**—the most basic crosswalk enhancement is crosswalk markings. More substantial enhancements include devices meant to induce improved motorist yielding or to control vehicles at the crosswalk. Control devices include signals and pedestrian hybrid beacons. Yield devices include a variety of in-pavement and sign-mounted flashing yellow beacons.

**Appendix B Pedestrian Design Guidelines** provides additional definition for these facilities and guidance on their application.
CLASS 1 BIKEWAY (Bike Path)
Provides a completely separated right-of-way for the exclusive use of bicycles and pedestrians with cross flow minimized.

CLASS 2 BIKEWAY (Bike Lane)
Provides a striped lane for one-way bike travel on a street or highway.

CLASS 3 BIKEWAY (Signed Bike Route)
Provides for shared use with motor vehicle traffic. May also include optional sharrow pavement marking, optional "BIKES MAY USE FULL LANE" signs (R4-11) in urban areas, and optional "SHARE THE ROAD" signs on rural roadways.

CLASS 3.5 BIKEWAY (Signed Bike Route with Wide Shoulders)
Provides wide paved shoulders, removing cyclists from the travel lane and provides pedestrian space in rural areas.

Figure 1-1
Caltrans Bikeway Classifications
1.4 SETTING

The study area includes all of Stanislaus County. The County is in the heart of California’s Central Valley and has a land area of nearly 1,500 square miles. The topography and geography of Stanislaus ranges from elevations of about 70 feet above sea level in Salida to over 3,300 feet above sea level at Mount Oso.

LAND USE

The majority of the developed land lies in the center of the County near State Route 99 in the cities of Modesto and Turlock. Most of the western and southern portions of the county are agricultural land with the exception of Patterson, Newman and unincorporated communities. The eastern portion of the County includes some incorporated cities, agricultural land, and grazing land. About 6% of the county is urbanized.

Significant portions of the county are relatively undeveloped and are host to popular recreation destinations that provide opportunities for picnicking, beach areas, boating, water sports, fishing and swimming. To the north above Oakdale is the Woodward Reservoir. Near the eastern area of the county is the Modesto Reservoir. Further south is the Turlock State Recreation Area.

The existing roadway network of Stanislaus County is built around several highways. Travel in the county is primarily by automobile due to the rural nature of the roadway network and limited opportunities for alternative modes of travel. The major north-south routes are Interstate 5 and State Routes 33 and 99. State Routes 108, 120, and 132 provide east-west travel.

DEMOGRAPHICS

There are nine incorporated cities in the County: Ceres, Hughson, Modesto, Newman, Oakdale, Patterson, Riverbank, Turlock, and Waterford. The majority of Stanislaus County’s population resides in Modesto, Turlock, and the unincorporated areas. The County population in the 2010 US Census was 514,453, a 15% increase over the 2000 Census, substantially higher than the state growth rate of 10%. Stanislaus County residents have an average per capita income of $26,810.

Data from the American Community Survey Five-Year Summaries from 2005 to 2009 was analyzed to understand commute patterns in unincorporated Stanislaus County. The American Community Survey is conducted each year to provide ongoing data collection between the Decennial Census and includes questions that are not asked in the Decennial Census. The 2005-2009 summaries were used for this Plan.
because the 2006-2010 summaries aggregated taxicab, motorcycle, and bicycle use into one category, which does not give an accurate picture of bicycle commuting in Stanislaus County. The American Community Survey includes information such as the primary means respondents use to get to work as well as information on age, income, and auto ownership.

The means of transportation to work question specifically focuses on commuting trips and does not record the school, shopping, and recreational trips that occur by various modes of transportation. The mode split information also does not account for commuters who may carpool or bicycle to work some days but drive alone other days, or for trips that include both walking or bicycling and another mode (such as transit or carpooling), as only one response is allowed. As such, walking and bicycling trips tend to be underrepresented in this data set. The countywide bicycle mode share for commuting is 0.5%. With schools trips, recreation trips, and other non-work related trips, the overall bicycle mode split is higher than 0.5%. Table 1-2 shows bicycle commute mode share countywide. According to the Census 2010 data, there are 165,180 households in Stanislaus County. Assuming nine daily person trips per household, approximately 7,066 work trips are made by bicycle each day.

Future bicycle trips will depend on a variety of factors such as the availability of well-connected facilities and the location, density, and type of future land development. With appropriate bicycle facilities in place and implementation of bicycle support facilities, such as bicycle parking, mode share could increase countywide. Doubling the current mode split (0.5% for work trips) would result in approximately 14,130 work trips based on the number of households in 2010.
TABLE 1-2
BICYCLE COMMUTE SHARE AND PROJECTIONS

<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>Single Occupant Vehicle</th>
<th>Carpool</th>
<th>Transit</th>
<th>Other</th>
<th>Walking</th>
<th>Biking</th>
<th>Biking Forecast¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stanislaus County</td>
<td>80%</td>
<td>11%</td>
<td>1%</td>
<td>5.7%</td>
<td>2.1%</td>
<td>0.5%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Unincorporated Stanislaus County</td>
<td>78%</td>
<td>10%</td>
<td>1%</td>
<td>8.0%</td>
<td>3.0%</td>
<td>0.3%</td>
<td>0.7%</td>
</tr>
<tr>
<td>Ceres</td>
<td>78%</td>
<td>15%</td>
<td>0%</td>
<td>4.1%</td>
<td>2.3%</td>
<td>0.4%</td>
<td>0.7%</td>
</tr>
<tr>
<td>Hughson</td>
<td>88%</td>
<td>6%</td>
<td>0%</td>
<td>6.6%</td>
<td>0%</td>
<td>0%</td>
<td>0.4%</td>
</tr>
<tr>
<td>Modesto</td>
<td>82%</td>
<td>9%</td>
<td>1%</td>
<td>5.9%</td>
<td>1.6%</td>
<td>0.5%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Newman</td>
<td>73%</td>
<td>20%</td>
<td>0%</td>
<td>4.8%</td>
<td>1.6%</td>
<td>0.2%</td>
<td>0.4%</td>
</tr>
<tr>
<td>Oakdale</td>
<td>80%</td>
<td>11%</td>
<td>0%</td>
<td>5.4%</td>
<td>2.2%</td>
<td>0.9%</td>
<td>1.9%</td>
</tr>
<tr>
<td>Patterson</td>
<td>69%</td>
<td>26%</td>
<td>0%</td>
<td>2.9%</td>
<td>1.0%</td>
<td>0.3%</td>
<td>0.7%</td>
</tr>
<tr>
<td>Riverbank</td>
<td>81%</td>
<td>12%</td>
<td>0%</td>
<td>3.8%</td>
<td>3.2%</td>
<td>0.1%</td>
<td>0.3%</td>
</tr>
<tr>
<td>Turlock</td>
<td>80%</td>
<td>12%</td>
<td>0%</td>
<td>4.5%</td>
<td>2.4%</td>
<td>0.8%</td>
<td>1.6%</td>
</tr>
<tr>
<td>Waterford</td>
<td>82%</td>
<td>13%</td>
<td>0%</td>
<td>4.4%</td>
<td>1.4%</td>
<td>0.0%</td>
<td>0.4%</td>
</tr>
</tbody>
</table>


¹ Future commute mode share for bicycling assumes a doubling of existing rates of biking to work. For jurisdiction with no bicycle commute trips in 2010, the existing countywide average of 0.5% was used.

COLLISION HISTORY

SWITRS collision reports were collected and analyzed over a three-year period (2008-2010). The database includes collisions reports recorded by both local police officials and the California Highway Patrol. Bicycle and pedestrian collision data can aid in the identification of problematic areas for bicycles and pedestrians; however, a high frequency of collisions in a particular neighborhood may also indicate an abundance of bicyclists and pedestrians using a particular route. Over a three year period, 593 pedestrian-auto collisions and 581 bicyclist-auto collisions were reported in Stanislaus County, as shown in Table 1-3.
TABLE 1-3  
BICYCLE AND PEDESTRIAN COLLISIONS, 2008-2010

<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>Pedestrian-Auto Collisions</th>
<th>Bicycle-Auto Collisions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stanislaus County (Total)</td>
<td>593</td>
<td>581</td>
</tr>
<tr>
<td>Unincorporated Stanislaus County</td>
<td>12</td>
<td>14</td>
</tr>
<tr>
<td>Ceres</td>
<td>39</td>
<td>55</td>
</tr>
<tr>
<td>Hughson</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Modesto</td>
<td>408</td>
<td>396</td>
</tr>
<tr>
<td>Newman</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Oakdale</td>
<td>30</td>
<td>25</td>
</tr>
<tr>
<td>Patterson</td>
<td>17</td>
<td>7</td>
</tr>
<tr>
<td>Riverbank</td>
<td>17</td>
<td>15</td>
</tr>
<tr>
<td>Turlock</td>
<td>65</td>
<td>68</td>
</tr>
<tr>
<td>Waterford</td>
<td>9</td>
<td>4</td>
</tr>
</tbody>
</table>

Source: SWITRS Data, 2008-2010.

Considering the low mode share for biking and walking in Stanislaus County, these collision numbers are high compared to other counties and cities in the state. The California Office of Traffic Safety publishes safety rankings for collisions to help understand how jurisdictions compare on a per capita and per vehicle mile traveled (VMT) basis. 2010 Rankings for Stanislaus County, Stanislaus Communities over 50,000 people, and adjacent counties are presented on Table 1-4.
TABLE 1-4
2010 OTS RANKINGS

<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>Bicyclists or Pedestrian Killed or Severely Injured</th>
<th>Rankings by Average Population&lt;sup&gt;1&lt;/sup&gt;</th>
<th>Rankings by Daily VMT&lt;sup&gt;1&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bicycle Rankings</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>County</td>
<td>159</td>
<td>15/58</td>
<td>24/58</td>
</tr>
<tr>
<td>Ceres</td>
<td>14</td>
<td>38/93</td>
<td>41/93</td>
</tr>
<tr>
<td>Modesto</td>
<td>81</td>
<td>14/53</td>
<td>11/53</td>
</tr>
<tr>
<td>Turlock</td>
<td>19</td>
<td>63/103</td>
<td>52/103</td>
</tr>
<tr>
<td>San Joaquin County</td>
<td>198</td>
<td>20/58</td>
<td>26/58</td>
</tr>
<tr>
<td>Merced County</td>
<td>72</td>
<td>33/58</td>
<td>20/58</td>
</tr>
<tr>
<td><strong>Pedestrian Rankings</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>County</td>
<td>186</td>
<td>4/58</td>
<td>8/58</td>
</tr>
<tr>
<td>Ceres</td>
<td>14</td>
<td>29/93</td>
<td>22/93</td>
</tr>
<tr>
<td>Modesto</td>
<td>88</td>
<td>10/53</td>
<td>6/53</td>
</tr>
<tr>
<td>Turlock</td>
<td>24</td>
<td>48/103</td>
<td>32/103</td>
</tr>
<tr>
<td>San Joaquin County</td>
<td>212</td>
<td>13/58</td>
<td>13/58</td>
</tr>
<tr>
<td>Merced County</td>
<td>72</td>
<td>33/58</td>
<td>20/58</td>
</tr>
</tbody>
</table>

Source: California Office of Traffic Safety (OTS, 2010).

<sup>1</sup> Rankings represent a comparison of number of collisions in a jurisdiction as compared to other California cities of similar size or and all 58 California counties, respectively. Rankings above differentiate between pedestrian and bicycle rankings. OTS organizes California cities into Group A (13 cities, >250,000 population), Group B (53 cities, 100,000-250,000), Group C (103 cities, 50,000-100,000), and Group D (93 cities, 25,000-50,000). For cities less than 50,000 population OTS statistics are not available online.

On a countywide basis, Stanislaus County ranked in the top quartile of all 58 California counties for number of bicyclists killed and severely injured relative to VMT. Adjacent counties ranked lower than Stanislaus County, with fewer injury and fatality bicycle collisions relative to both VMT and population.

For pedestrian collisions, Stanislaus County ranks fourth out of all 58 counties in California for highest number of pedestrians killed and severely injured relative to daily VMT and eighth out of 58 relative to average population. Neighboring counties ranked substantially lower, with fewer fatalities and injuries relative to VMT and average population.
MULTI-MODAL CONNECTIONS

The County is served by Stanislaus Regional Transit (StaRT) which operates buses equipped with front-mounted bicycle racks. Stanislaus Transit serves most of the population, employment and recreation centers in the county and connects to inter-county bus service. The Modesto Area Express (MAX) also serves the area and has routes connecting with Bay Area Rapid Transit (BART) and the Altamont Commuter express rail. Ceres Area Transit (CAT) runs three fixed route lines in Ceres. The Bus Line Service of Turlock (BLAST) runs a four route system complemented by a Dial-A-Ride service. Currently, bicycle parking is not available at most transit stops.

1.5 PLAN PROCESS

Fehr & Peers served as project consultants to update the StanCOG Non-Motorized Transportation Plan. As part of the Plan development process, Fehr & Peers met with each of the incorporated cities as well as Stanislaus County to collect information on existing conditions and needed improvements.

OUTREACH

The public outreach strategy for the Plan included hosting a booth at the Modesto Family Bicycle Day event and hosting a public workshop with the StanCOG Bicycle and Pedestrian Advisory Committee (BPAC). Representatives from the local jurisdictions and the StanCOG BPAC served integral roles in establishing the local input for this plan. Additionally, the BPAC has administrated the Bicycle Survey, the results of which were considered and incorporated into this Plan. Appendix G presents the Bicycle Survey Report and Appendices. Stakeholders identified the following issues and opportunities which have been incorporated into the policy and network recommendations:

- Need for a countywide bicycle route network with widened roadway shoulders.
- Need for additional design guidance on appropriate signage for different Class 3 and non-designated bicycle routes in the County.
- Pedestrian improvements to access neighborhood shopping areas and schools.
- Pedestrian connections across highways that function as a main street in many local communities.
1.6 GOALS, OBJECTIVES, AND POLICY ACTIONS

Goals provide the context for the specific objectives and policy actions discussed and provide the long-term vision for the countywide bicycle and pedestrian network. The following goals establish the broad statements of purpose for the Plan, and policy actions describe actions to achieve those goals.

GOAL 1: INCREASE BICYCLE AND PEDESTRIAN ACCESS AND SAFETY

Expand bicycle and pedestrian facilities and access in and between local destinations such as neighborhoods, employment centers, shopping areas, schools, and recreational sites as well as throughout the region to increase the number of bicycling trips to five percent of all trips by 2030.

Objective 1.A: Implement the StanCOG Countywide Bicycle and Pedestrian Master Plan, which identifies existing conditions and planned networks, and provides specific short-term and long-term recommendations for countywide priority facilities and programs, including near-term (five-to ten-year) priority projects.

Policy Actions:
1) Maximize coordination between all municipalities, schools, and community organizations to review and comment on bicycle and pedestrian issues of mutual concern.
2) Implement the recommendations to regularly monitor bicycle- and pedestrian-related collision levels, and seek a reduction in these collision levels on a per capita basis over the next twenty years.
3) Update the Plan periodically as required by Caltrans to reflect new policies and/or requirements for bicycle and pedestrian funding.
4) Establish a countywide bicycle/pedestrian coordinator who would help implement the county and local bicycle and pedestrian improvements.

Objective 1.B: Complete a continuous network of bikeways and pedestrian facilities that are feasible, fundable, and serve the needs of bicyclists and pedestrians, especially for travel to employment centers, schools, commercial districts, transit stations, and institutions.

Policy Actions:
1) Seek funding for the priority bicycle and pedestrian projects through current local, regional, state, and federal funding programs and encourage multi-jurisdictional funding applications.
2) Complete existing gaps in the pedestrian network, especially in the vicinity of land use attractors such as schools, parks, and neighborhood commercial areas as well as over major barriers such as railroad tracks, highways, and water bodies.

3) Codify the existing practice of providing wide shoulders or bicycle lanes during overlay and widening projects as roadway space allows through the adoption of a “Complete Street” policy to encourage construction of bikeways as a part of any roadway project, where feasible and appropriate.

4) Provide opportunities for bicycling for recreational purposes, especially to access parks and open space.

Objective 1.C: Address immediate and future safety needs for all roadway users, particularly bicyclists and pedestrians, who are the most vulnerable roadway users.

Policy Actions:
1) Secure funding for and implement priority bikeways and priority pedestrian projects identified in the Plan, many of which are located on corridors with high numbers of bicycle and pedestrian collisions.

2) Develop adult and youth bicycle and pedestrian education, encouragement and safety programs aimed at youths, adult cyclists, pedestrians, and motorists.

Objective 1.D: Improve access and integration with transit for bicycling and walking trips.

Policy Actions:
1) Assist transit providers in providing and promoting secure, covered bicycle racks and lockers at transit centers and along key bus routes to facilitate multi-modal trips.

2) Support and promote transit facility enhancements, such as bus stop access improvements, that will encourage increased bicycle and pedestrian access to transit.

3) Require future transit service in Stanislaus County to provide adequate bicycle and pedestrian access, bus mounted bicycle racks, and secure bicycle parking.

4) Conduct bicycle and pedestrian counts at regular intervals and include bicycle and pedestrian counts as part of vehicle traffic counts to evaluate usage and demand, and assist in the prioritization of project funding.

GOAL 2: INCREASE BICYCLE AND PEDESTRIAN TRIPS

Make bicycling and walking a viable option for shopping, school, and work trips in Stanislaus County and other trips of fewer than five miles by implementing and maintaining a bikeway network, providing end-of-trip facilities for bicyclists, improving access and integration with transit, and making walking and biking convenient and safer.
Objective 2.A: Include bikeways and pedestrian facilities in all appropriate future development projects to facilitate on-site circulation and connections to the proposed system.

Policy Actions:
1) Require future development to construct bikeways, sidewalks, and/or other pedestrian facilities included in the proposed system as a condition of development.
2) Encourage future commercial development to provide bicycle and pedestrian access to surrounding residential areas.
3) Require future commercial development to place bicycle racks near entrances for employees and customers.
4) Meet the requirements of the Americans with Disabilities Act when constructing facilities contained in the proposed system, where applicable.
5) Encourage future development to consider schools as important destinations for bicyclists and pedestrians when designing circulation systems within new developments.
6) Work with transit authorities to ensure that pedestrian and bicycle concerns are addressed in the design of transit stops.

Objective 2.B: Provide secure, covered short- and long-term bicycle parking in employment and commercial areas, in multi-family housing, at schools, and at transit facilities.

Policy Actions:
1) Develop a bicycle parking policy, as described in this Plan, to encourage or require the inclusion of bicycle parking in new development projects.
2) Encourage the installation of short- and long-term bicycle parking in the public right-of-way, particularly adjacent to transit stops.
3) Encourage the installation of short- and long-term bicycle parking at local elementary, middle, and high schools to promote bicycle commuting.

GOAL 3: IMPROVE REGIONAL & LOCAL CONNECTIONS

Increase accessibility within neighborhoods and cities as well between Stanislaus County cities, serving utilitarian, commute, and recreational trips.
Objective 3.A: Complete a network of bikeways that allow for intercity travel between Stanislaus County communities.

Policy Actions
1) Complete countywide priority bikeway network, as detailed in this Plan.
2) Focus on development of Class 3 Bicycle Routes with wide shoulders as a lower-cost solution to regional bicycling needs than Class 1 paths, particularly in the near-term.

Objective 3.B: Align countywide bikeways through Stanislaus County cities such that local needs and destinations are served.

Policy Actions
1) Complete existing gaps in the countywide bicycle network, especially in the vicinity of schools, transit stops, neighborhood commercial centers, and major barriers such as railroad tracks, highways, and water bodies.
2.0 COUNTYWIDE BIKING & WALKING

The following section describes the countywide biking and walking recommendations and proposed networks, focusing on the countywide priority bikeway network and countywide pedestrian recommendations.

2.1 COUNTYWIDE BIKEWAYS

This section treats the establishment of the proposed countywide bicycle network, the prioritization process, and the identified priority bikeways. Highest priority countywide bikeways were identified through a ranking process, with project descriptions developed for bikeways with the highest established need.

EXISTING CONDITIONS

Biking in Stanislaus County is done for utilitarian purposes, such as trips to work or school, as well as longer recreational rides, which often occur in the more rural parts of the County. Several Class 1 paths have recently been built or are in the planning stages, including the Virginia Corridor Trail in Modesto, the Hatch Road Turlock Irrigation District path in Ceres, and the Claribel Road/Kiernan Avenue path in the unincorporated County. However, bicycle access to many destinations remains difficult due to multi-lane roadways with high speeds in urban portions of the County, and narrow county roadways with limited or no shoulders in rural areas of the County. This is often true even where bicycle lanes are provided. Major issues at the countywide level include:

- Large intersections with no guidance on bicyclist/motorist interaction
- Long turn-pockets, with bicycle lanes dropping 100 feet or more prior to the intersection
- Designated bicycle lanes that may not have proper striping and pavement legends
- Limited or no shoulders on rural county roadways that serve intercity travel
- High-speed, multi-lane roadways often provide the most direct routes but may not serve the needs of bicyclists
- Many existing bikeways may be intimidating or uncomfortable to use for less experienced riders
- Limited connectivity between north-south and east-west bikeway connections
- Difficult crossings of highways and railroad tracks
COUNTYWIDE BICYCLE FACILITIES

The countywide bikeway network is a tool that allows the County to identify and plan for future bikeways that will provide the greatest community benefit. Recommended projects within the network consist of signage improvements, bicycle support facilities including bicycle parking and changing facilities, improved transit connections, intersection improvements, and a proposed bicycle network that connects the County’s cities. The bikeway system was developed based on multiple factors:

- Local bikeway networks and proposed networks in approved or proposed planning documents;
- Bikeways that have been included on capital improvement program (CIP) lists or otherwise identified by City staff as roadways that will have overlays or will be widened within the next five years;
- Input received through public workshops, a StanCOG-promoted public survey, the BPAC; and
- Additional proposed bikeway segments, including gap closures or new bikeways that may not have been identified in previous planning efforts that address an established need through collision analysis, public input, and engineering judgment.

As described in Section 1-3 and Appendix A, the bicycle network consists of Class 1 bicycle paths, Class 2 bicycle lanes, and Class 3 bicycle routes. The proposed countywide network also includes two additional categories of Class 3 bicycle routes: Class 3.5 with wide shoulders and Class 3 with “SHARE THE ROAD” signage. Facilities with these designations are shown on Figure 2-2.

The proposed countywide bicycle network employs the following strategies to create a comprehensive bikeway network:

- On intercity bikeways, construct wide shoulders and sign as Class 3 bicycle routes to separate auto and bicycle traffic; where roadways have already been widened, install Class 3 bicycle route signage
- Install “SHARE THE ROAD” signage in locations where shoulder widening in rural areas of the County is infeasible
- Address immediate safety needs for bicyclists by addressing the corridors with the highest need for separating autos and bicyclists
- Improve connections between biking and transit by providing short-term and long-term bicycle parking at transit centers and at bus stops on key corridors
- Install bicycle parking at major destinations such as employment centers, commercial/shopping destinations, schools, parks, and governmental buildings throughout the County
## TABLE 2-1 TOTAL COUNTYWIDE PROPOSED BICYCLE NETWORK

<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>Total Project Cost</th>
<th>Miles of Proposed Bikeways</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unincorporated County</td>
<td>$138,496,562</td>
<td>392.61</td>
</tr>
<tr>
<td>Ceres</td>
<td>$2,795,335</td>
<td>31.36</td>
</tr>
<tr>
<td>Hughson</td>
<td>$3,333,520</td>
<td>15.35</td>
</tr>
<tr>
<td>Modesto</td>
<td>$48,324,770</td>
<td>119.75</td>
</tr>
<tr>
<td>Newman</td>
<td>$1,017,509</td>
<td>11.15</td>
</tr>
<tr>
<td>Oakdale</td>
<td>$10,139,361</td>
<td>35.63</td>
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<tr>
<td>Patterson</td>
<td>$1,795,864</td>
<td>15.13</td>
</tr>
<tr>
<td>Riverbank</td>
<td>$8,621,626</td>
<td>27.15</td>
</tr>
<tr>
<td>Turlock</td>
<td>$13,105,085</td>
<td>65.18</td>
</tr>
<tr>
<td>Waterford</td>
<td>$6,332,172</td>
<td>5.64</td>
</tr>
<tr>
<td><strong>Total Countywide Cost</strong></td>
<td><strong>$233,961,804</strong></td>
<td><strong>718.95</strong></td>
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### COUNTYWIDE PRIORITY BIKEWAY NETWORK

Countywide priority bikeways were identified for Stanislaus County. One of the key elements of a countywide bicycle plan is connecting communities through a network of direct and feasible proposed bikeway improvements. In Stanislaus County, there are a number of opportunities to make these connections. However any proposal must take into account the feasibility of constructing new bikeways over the long distances between cities.

Each proposed bikeway in the County was evaluated based on the methodology described in Appendix A; bikeways that ranked highest based on those methodologies were identified as first-tier or second-tier priority bikeways. In order to prioritize both intercity connections and alignments through cities that access critical local destinations, different prioritization methodologies were used for bikeways in the unincorporated county and Stanislaus cities. Figure 2-2 presents the Countywide Priority Bikeways Network. Appendix E includes a list of all existing and proposed bikeways in Stanislaus County, including priority status.

The high-priority network consists of ten bikeways that run through multiple jurisdictions, including the unincorporated County. From a countywide perspective, these represent the priority bikeways to improve...
connections through Stanislaus County. Coordination between jurisdictions and with Caltrans is critical to implementation. **Figures 2-3 through 2-12** provide initial project descriptions, conceptual cross-section, and funding and construction feasibility. Detailed cost estimates are provided in **Appendix F**. Many of these projects will require inter-jurisdictional coordination, and some will also require coordination with Caltrans. To the extent possible, funding and grant application should be coordinated with adjacent jurisdictions. The ten high priority bikeways are:

1) Patterson Road – SR 108 – F Street
2) Broadway Avenue – Kiernan Avenue – Claribel Road
3) Hatch Road
4) Yosemite Boulevard/SR 132
5) Las Palmas Avenue – Main Street
6) Oakdale-Waterford Highway
7) Geer Road – Albers Road
8) Golden State Boulevard
9) Crows Landing Road
10) Oakdale Road – Mitchell Road – Moore Road

**Table 2-2** presents mileage and cost estimates for first- and second-tier priority bikeways by jurisdiction.
## TABLE 2-2 PROPOSED COUNTYWIDE PRIORITY BICYCLE NETWORK

<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>Miles of First-Tier Priority Bikeways</th>
<th>Cost of First-Tier Priority Bikeways</th>
<th>Miles of Second-Tier Priority Bikeways</th>
<th>Cost of Second-Tier Priority Bikeways</th>
</tr>
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<tbody>
<tr>
<td>Unincorporated County</td>
<td>60.93</td>
<td>$20,915,076</td>
<td>12.68</td>
<td>$3,649,716</td>
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<tr>
<td>Ceres</td>
<td>0.25</td>
<td>$87,500</td>
<td>5.07</td>
<td>$119,280</td>
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<td>Hughson</td>
<td>3.5</td>
<td>$717,695</td>
<td>5.13</td>
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<td>Modesto</td>
<td>13.78</td>
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<td>Newman</td>
<td>0.56</td>
<td>$18,816</td>
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<td>Oakdale</td>
<td>5.06</td>
<td>$1,033,639</td>
<td>0</td>
<td>$0</td>
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<tr>
<td>Patterson</td>
<td>0.52</td>
<td>$17,472</td>
<td>2.54</td>
<td>$889,000</td>
</tr>
<tr>
<td>Riverbank</td>
<td>2.37</td>
<td>$103,785</td>
<td>0</td>
<td>$70,302</td>
</tr>
<tr>
<td>Turlock</td>
<td>10.48</td>
<td>$334,808</td>
<td>1.51</td>
<td>$41,802</td>
</tr>
<tr>
<td>Waterford</td>
<td>2.27</td>
<td>$794,500</td>
<td>0</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Total Countywide Cost</strong></td>
<td><strong>99.72</strong></td>
<td><strong>$ 24,428,609</strong></td>
<td><strong>31.49</strong></td>
<td><strong>$5,045,192</strong></td>
</tr>
</tbody>
</table>

CLASS 1 BIKEWAY (Bike Path)
Provides a completely separated right-of-way for the exclusive use of bicycles and pedestrians with cross flow minimized.

CLASS 2 BIKEWAY (Bike Lane)
Provides a striped lane for one-way bike travel on a street or highway.

CLASS 3 BIKEWAY (Signed Bike Route)
Provides for shared use with motor vehicle traffic. May also include optional sharrows pavement marking, optional "BIKES MAY USE FULL LANE" signs (R4-11) in urban areas, and optional "SHARE THE ROAD" signs on rural roadways.

CLASS 3.5 BIKEWAY (Signed Bike Route with Wide Shoulders)
Provides wide paved shoulders, removing bicyclists from the travel lane and provides pedestrian space in rural areas.

Figure 2-1
Caltrans Bikeway Classifications
Figure 2-2 Countywide Priority Bikeways

Prioritization

First-Tier
Second Tier

Planned

Existing

Class 1 Path
Class 2 - Bicycle Lanes
Class 3 - Bicycle Route

Proposed

Class 1 Path
Class 2 - Bicycle Lanes
Class 3 - Bicycle Route
Class 3.5 - Bicycle Route with Wide Shoulders
Class 3.5 - Bicycle Route with Share The Road signs

1. SR 108 - Patterson Road-Claus Road - Atchison Road - F Street

Jurisdictions: City of Riverbank, Unincorporated Stanislaus County, and City of Oakdale

Description

The SR 108 - Patterson Road - Claus Road - Atchison Road - F Street bikeway travels east-west connecting the Cities of Riverbank and Oakdale through unincorporated Stanislaus County. The bikeway runs from SR 108/Oakdale Road to Patterson Road/1st Street, where there are existing bike lanes between Terminal Avenue and Claus Road. Jogging north-south on Claus Road, the bikeway continues on Atchison Road/SR 108 connecting to F Street/SR 108 through Oakdale. Existing bike lanes are striped on F Street between Crane Road and Willowood Road.

Proposed Improvements

1A. Class 2 Bike Lanes on Patterson Road/SR 108 between Oakdale Road and Terminal Avenue
1B. Class 2 Bike Lanes on Claus Road between Patterson Road and Atchison Road/SR 108
1C. Class 3.5 Bike Route with Wide Shoulders on SR 108 between Claus Road and Crane Road
1D. Class 2 Bike Lanes on SR 108/F Street between Willowood Road and Wood Avenue
1E. Class 3 Bicycle Route on SR 108/F Street between Wood Avenue and Oakdale City Limits

Design Requirements

1A, 1B, 1D Class 2 Bicycle Lanes
• Stripe within existing right-of-way
• Widen roadway between Roselle Avenue and Terminal Avenue (Riverbank)
• Prohibit parking on one-side of street between Callander and 1st Street (Riverbank)

1C Class 3.5 Bicycle Route with Wide Shoulders
• Existing 0-8' shoulders
• Widen shoulder to 4' minimum
• Install Class 3 signs each 1/4 mile

1E Class 3 Bicycle Route
• Install Class 3 signs each 1/4 mile
• Consider striping sharrows 14' from face of curb

Implementation and Funding

• High frequency of both pedestrian and bicycle collisions between 2008-2010
  - 19 auto-pedestrian collisions, 16 auto-bicyclist collisions on corridor
• Striping project may be a strong candidate for HSIP Funding due to collision history
• Possible to stripe within existing curb-to-curb right-of-way with parking removal
• Total project cost, including design, environmental, and contingency, is approximately $1,390,000
2. Broadway Avenue-Kiernan Avenue/SR 219-Claribel Road
Jurisdictions: Unincorporated Stanislaus County

The Broadway Avenue-Kiernan Avenue/SR 219-Claribel Road bikeway provides direct east-west connection between areas in the unincorporated County, Modesto, and the City of Riverbank. Existing Class 2 bicycle lanes exist between the west side of SR 99 and Morrow Road. A Class 1 path and shoulder widening is planned for Claribel Road between Sisk and Oakdale Roads. Project coordination with Caltrans will be needed.

Proposed Improvements

2A. Class 2 between Finney Road and SR 99 SB Ramps
2B. Class 1 between Sisk Road and McHenry Avenue, Mc Henry Avenue to Oakdale Road already Planned

Design Requirements

2A Class 2 Bicycle Lanes
- Stripe within existing wide travel lane within Salida
- Restripe 80 foot travel way with 11.5 foot lanes to accommodate bike lanes over SR 99
- Consider converting existing angled parking to parallel or reverse-angled parking

Existing

Proposed

2B Class 1 Bicycle Path
- Pave 10-foot path on north side of Kiernan Avenue/Claribel Road
- Widen shoulders by 2 feet
- Connect Class 1 path with existing Class 2 lanes on Kiernan Avenue in advance of Sisk Road intersection

Existing

Proposed

Implementation and Funding

- High frequency of both pedestrian and bicycle collisions between 2008-2010
- 10 auto-pedestrian collisions, 4 auto-bicyclist collisions on corridor
- Class 1 project may be a candidate for HSIP or HR3 Funding due to collision history
- Total project cost, including design, environmental, and contingency, is approximately $2,920,000
3. Hatch Road
Jurisdictions: Ceres, Unincorporated Stanislaus County, Hughson

Description

Hatch Road is a two- to four-lane east-west arterial connecting unincorporated Stanislaus County communities, Ceres, Modesto, and Hughson. A continuous segment of Class I bicycle path is existing within the City of Ceres, paralleling an irrigation canal.

Proposed Improvements

3A. Class 2 between Dallas Street and Herndon Road
3B. Class 1 gap closure between Eastgate Road and Gilbert Road in the Ceres and Unincorporated Stanislaus County
3C. Class 3 with wide shoulders between Clinton Road and Geer Road in Unincorporated Stanislaus County

Design Requirements

3A Class 2 Bicycle Lanes
- Stripe within existing right-of-way
- Widen roadway between Crows Landing Road and Pearson Avenue

3B Class 1 Bicycle Path
- Pave 10 foot path (north side between Richland and Central Avenues, south side between Eastgate and Gilbert Roads)

3C Class 3.5 Bicycle Route with Wide Shoulders
- Widen existing 0-5 foot shoulder to 4 feet minimum
- Shoulder widening planned between Gilbert and Clinton Roads

Implementation and Funding

- High frequency of both pedestrian and bicycle collisions between 2008-2010
  - 27 pedestrian collisions, 29 bicycle collisions on Hatch Road corridor between 2008-2010
- Segments 3A and 3B may be strong candidates for HSIP and/or High-Risk Rural Roadway Program (HR3) funding based on collision history
- Total project cost, including design, environmental, and contingency, is approximately $3,500,000
4. Paradise Road - H & G Street - Yosemite Boulevard/SR 132
Jurisdictions: City of Modesto, Unincorporated Stanislaus County, and City of Waterford

Description
This east-west bikeway begins on Paradise Road in the western end of Modesto, and extends east through G and H Streets in Downtown onto Yosemite Boulevard / SR-132. Yosemite Boulevard is an east-west highway that runs through Downtown Modesto and continues east to the County limit. Coordination with Caltrans will be required.

Proposed Improvements

4A. Class 2 on Paradise Road between Carpenter Road and Jefferson Street
4B. Class 3 on H Street between Jefferson Street and 14th Street; Class 3 on G Street between 1st and 14th Streets. Class 3 on 1st Street between H and G Streets; Class 3 on 14th Street between H and Yosemite Boulevard.
4C. Class 3.5 with wide shoulders on Yosemite Boulevard between Claus Road and Skyline Boulevard (Waterford)
4D. Class 2 on Yosemite Boulevard between 14th Street and Riverside Drive

Design Requirements

4A, 4D Class 2 Bicycle Lanes
- Stripe within existing right-of-way
- On Paradise west of Martin Luther King Jr cross section allows for on-street parking with 5-6’ bike lanes
- On Paradise between Martin Luther King Jr and Jefferson, remove on-street parking on north side and stripe with 11’ travel lanes to allow 5’ bike lanes
- On Yosemite, remove on-street parking to accommodate 6’ bike lanes with 2’ buffer

4B Class 3 Bicycle Route with Sharrows
- Install Class 3 bicycle route signage
- Stripe sharrow 14’ from face of curb
- Install Class 3 signs each 1/4 mile

4C Class 3.5 Bicycle Route with Wide Shoulders
- Widen shoulder to 4’ minimum on Yosemite Boulevard between Claus Road and Skyline Boulevard
- Existing shoulders in Waterford are 0-4’
- Install Class 3 signs each 1/4 mile

Implementation and Funding

- High frequency of both pedestrian and bicycle collisions between 2008-2010
  - 33 pedestrian-auto collisions, 38 bicyclists-auto collisions on Hatch Road corridor between 2008-2010
- All segments may be strong candidates for HSIP and/or High-Risk Rural Roadway Program (HR3) funding based on collision history
- Total project cost, including design, environmental, and contingency, is approximately $6,250,000
5. Las Palmas Street - Main Street

**Jurisdictions:** City of Patterson, Unincorporated Stanislaus County, and City of Turlock

### Proposed Improvements

- **5A.** Class 2 on Las Palmas Avenue between Ward Avenue and 9th Street and El Circulo and 1st Street
- **5B.** Class 3.5 with wide shoulders on Las Palmas Avenue/Main Street between Sycamore Avenue and Walnut Road
- **5C.** Class 3 on Main Street between Walnut Road and Golden State Boulevard

### Design Requirements

#### 5A Class 2 Bicycle Lanes
- Widen roadway between Ward Avenue and 9th Street
- Stripe within existing right of way from El Circulo to 1st Street

#### 5B Class 3.5 with Wide Shoulders
- Widen shoulder to 4’ minimum
- Existing shoulders are 0-6’
- Install Class 3 signs each 1/4 mile

#### 5C Class 3.5 Bicycle Route with Sharrows
- Install Class 3 bicycle route signage
- Stripe sharrows 14’ from face of curb
- Install Class 3 signs each 1/4 mile

### Implementation and Funding

- 4 pedestrian-auto collisions, 4 bicyclist-auto collisions on West Las Palmas Avenue/Main Street corridor between 2008-2010
- May be candidates for SJVAQD Remove II, CMAQ competitive funding, and HSIP funding
- Total project cost, including design, environmental, and contingency, is approximately $5,150,000
Priority Regional Bikeways Project Sheets Figure 2-8

6. Oakdale-Waterford Highway
Jurisdictions: City of Oakdale, Unincorporated Stanislaus County, and City of Waterford

Description

The Oakdale-Waterford Highway provides a north-south connection between Albers Road outside of the City of Oakdale and existing Class 2 bicycle lanes on F Street in the City of Waterford. The existing roadway has very narrow or no shoulders.

Proposed Improvements

6A Class 3.5 with wide shoulders between Albers Road and Waterford City Limits

Design Requirements

6A Class 3.5 Bicycle Route with Wide Shoulders
- Existing 0-2’ foot shoulders
- Widen shoulder to 4’ minimum
- Install Class 3 signs each 1/4 mile

Implementation and Funding

- 1 auto-pedestrian collision between 2008-2010
- Requires roadway widening the entire length of the bikeway
- May be eligible for CMAQ Competitive Funds and HR3/HSIP
- Total project cost, including design, environmental, and contingency, is approximately $5,700,000
**7. Geer Road-Albers Road**
*Jurisdictions: City of Oakdale, Unincorporated Stanislaus County, and City of Turlock*

**Description**

Geer Road - Albers Road is a north-south arterial connecting the Cities of Turlock and Oakdale through the unincorporated County. The Geer Road – Albers Road bikeway would connect the proposed Golden State Boulevard Class 3.5 facility with existing Class 2 bicycle lanes on Albers Road in Oakdale, terminating at S. Yosemite Avenue. The north-south bikeway would also connect to a proposed Class 3.5 facility on SR 132-Yosemite Boulevard, which may require coordination with Caltrans.

**Proposed Improvements**

- **7A** Class 2 bicycle lanes on Geer Road between Taylor Road and Golden State Boulevard
- **7B** Class 3.5 wide shoulders on Albers Road–Geer Road between Albers Road/Oakdale-Waterford Highway and Taylor Road
- **7C** Class 2 bicycle lanes on Albers Road/Oakdale-Waterford Highway between Warnerville Road and Yosemite Boulevard

**Design Requirements**

- **7A & 7C Class 2 Bicycle Lanes**
  - Stripe within existing right-of-way
  - Reduce width of outside travel lane and/or two-way left-turn lane

- **7B Class 3.5 Bicycle Route with Wide Shoulders**
  - Existing 6 foot shoulders between Claribel Road and Oakdale-Waterford Highway
  - Widen shoulder to 4’ minimum between Claribel Road and Turlock City Limits
  - Shoulders widening planned between Claribel and Milnes Roads
  - Install Class 3 signs each 1/4 mile

**Implementation and Funding**

- 5 pedestrian-auto collisions and 3 bicyclist-auto collisions between 2008-2010
- May be eligible for CMAQ Competitive Funds and HR3/HSIP
- Total project cost, including design, environmental, and contingency, is approximately $11,700,000
- Through Turlock, Olive Avenue could be considered as an alternative alignment, if preferred
8. Frontage Road - Rohde Road - 7th Street - Golden State Boulevard
Jurisdictions: Unincorporated Stanislaus County and City of Turlock

Description
Golden State Boulevard is a north-south arterial connecting the future Moore Road TID Class 1 path Ceres with the unincorporated community of Keyes, the City of Turlock, and ending south of Turlock at SR 99. Through Keyes, Golden State Boulevard becomes 7th Street and the bikeway turns onto Nunes Road at the south end of Keyes before reconnecting with Golden State Boulevard.

Proposed Improvements
- **8A** Class 2 bicycle lanes on Frontage Road between Moore Road (south of Ceres) and the Keyes limits
- **8B** Class 2 bicycle lanes on Rohde Road, 7th Street, and Nunes Road through Keyes
- **8C** Class 2 bicycle lanes on Golden State Boulevard between Nunes Road and southern Turlock city limit

Design Requirements

### Existing
- **8A, 8C** Class 2 Bicycle Lanes
- • Stripe within existing right-of-way where feasible
- • Widen roadway from existing 0-4’ paved shoulders to 6-8’ and stripe as bicycle lane

### Proposed
- **8B** Class 2 Bicycle Lanes
- • Stripe within existing right-of-way
- • Prohibit parking on one-side of street if necessary

Implementation and Funding
- • 7 pedestrian-auto collisions and 5 bicyclist-auto collisions between 2008-2010
- • May be eligible for CMAQ Competitive Funds, SJVAQD Remove II, and HR3/HSIP
- • Total project cost, including design, environmental, and contingency, is approximately $339,300
9. Crows Landing Road
Jurisdictions: City of Modesto, Unincorporated Stanislaus County, and City of Ceres

Description
Crows Landing Road is a north-south arterial connecting the City of Modesto, the unincorporated communities of Bret Harte and Bystrom, and the western portion of the City of Ceres. South of Ceres, the road continues as a rural county road connecting to the unincorporated town of Crows Landing with SR 33 and I-5.

Proposed Improvements
9A. Class 2 between Hackett Road and Grayson Road
9B. Class 2 between South 7th Street and Hackett Road

Design Requirements

**9A Class 2 Bicycle Lanes**
- Stripe within existing outside travel lane and/or reduce lane widths between South 7th Street and Hackett Road

**9B Class 2 Bicycle Lanes**
- Stripe within existing shoulder and reduce width of center left-turn lane as necessary between Hackett Road and Grayson Road

Implementation and Funding
- High frequency of both pedestrian and bicycle collisions between 2008-2010
  - 34 auto-pedestrian collisions, 22 auto-bicyclist collisions on corridor
- Striping project may be a strong candidate for HSIP Funding due to collision history
- Possible to stripe within existing curb-to-curb right-of-way with parking removal
- Total project cost, including design, environmental, and contingency, is approximately $3,200,000
10. Oakdale Road - Mitchell Road - Moore Road

Jurisdictions: City of Riverbank, Unincorporated Stanislaus County, City of Modesto, and City of Ceres

Description
Oakdale Road/El Vista Avenue/Mitchell Road is a north-south arterial connecting Riverbank, Modesto, and Ceres. Mitchell Road crosses the Tuolumne River to connect to the City of Ceres. The priority bikeway jogs onto the planned and funded Moore Road Class 1 TID path, connecting to the proposed priority bike lanes on Golden State Boulevard (#8). Bicycle lanes are planned for Oakdale Road between Patterson Road and Claribel Road. (Riverbank).

Proposed Improvements
10A. Class 2 between Claribel Road (Riverbank) and Mable Road (Modesto)
10B. Class 2 between Mable Avenue to La Force Drive (Modesto)
10C. Class 2 between La Force Drive (Modesto) and Floyd Avenue (Modesto)
10D. Class 2 between Floyd Avenue (Modesto) and existing Class 2 on Mitchell Road (Ceres)

Design Requirements

10A, 10C Class 2 Bicycle Lanes
- Widen roadway between La Force Drive and Floyd Avenue
- Widen roadway between Claribel Road and Mable Avenue

Existing

Proposed

Optional Class 2 Bicycle Lane Signage

10B, 10D Class 2 Bicycle Lanes
- Stripe within existing right-of-way from Claribel Road to La Force Drive
- Stripe within existing right-of-way from Floyd Avenue to existing Class 2 on Mitchell Road (Ceres)
- May require parking removal for portions of El Vista Avenue

Implementation and Funding
- High frequency of both pedestrian and bicycle collisions between 2008-2010 -28 auto-pedestrian collisions, 26 auto-bicyclist collisions on corridor
- Strong candidate for HSIP/HR3 funds
- Total project cost, including design, environmental, and contingency, is approximately $5,420,000
2.2 PEDESTRIAN COUNTYWIDE PRIORITIES

Most pedestrian activity in Stanislaus County occurs in the developed areas of the county. As a result, most of the County’s existing sidewalks are located in those areas. In the more rural areas of the County, where construction of sidewalks may not be feasible, walking trips still occur and need to be accommodated within the public right-of-way. This section covers an overview of existing conditions for walking, potential demand for walking, and countywide priority pedestrian areas.

PEDESTRIAN FACILITIES

Pedestrian facilities can be broken down into three basic categories, with implementation and use varying based on geographic location:

- **Walkways**—in urban and suburban contexts, sidewalks with curb ramps at intersections are typical and vary in width depending on land use contexts. In rural contexts, paved or unpaved graded shoulders may be typical, or a walkway may not be provided.

- **Crosswalks**—California Vehicle Code Section 275 defines a crosswalk as either “that portion of a roadway included within the prolongation or connection of the boundary lines of sidewalks at intersections” or “any portion of a roadway distinctly indicated for pedestrian crossing by lines or other markings.” Legal unmarked crossings are those at intersections defined by the prolongation of sidewalk areas.

- **Crosswalk Enhancements**—the most basic crosswalk enhancement is crosswalk markings. More substantial enhancements include devices meant to induce improved motorist yielding or to control vehicles at the crosswalk. Control devices include signals and pedestrian hybrid beacons. Yield devices include a variety of in-pavement and sign-mounted flashing yellow beacons.

Appendix B Pedestrian Design Guidelines provides additional definition for these facilities and guidance on their application.

EXISTING CONDITIONS

Limited pedestrian walkway infrastructure and crossing facilities are major issues throughout the County. In urban areas with sidewalks, long crossing distances and wide curb radii increase pedestrian exposure. In rural contexts, lack of sidewalks and limited shoulder areas on state routes are also a potential safety concern. This section details the major issues for walking in Stanislaus County.
Nonexistent or Inadequate Walkways

There are numerous places where sidewalks do not exist or end abruptly. The majority of the County’s sidewalks are in the developed areas of the County or in school zones where pedestrian activity is higher. Most rural roads do not have sidewalks. Some may have widened paved shoulders; however most roadways have dirt shoulders.

Difficult Crossings

Multi-lane roadways, state highways, and railroads create barriers within the core of many Stanislaus County communities. Main streets are often state highways, and even where signalized intersections are provided, long crossing distances, wide curb radii, and traffic signals timed to maximize auto throughput are typical. Provision of sidewalks in these areas would increase safety, as would improved crossings. Improved crossings could include upgrading existing crosswalks to ladder-style high-visibility crosswalks, installing new crosswalks with proper signage where appropriate, and additional enhancements such as advanced yield markings and rectangular rapid flashing beacons (RRFBs), as described in Appendix B.

Limited Connectivity

Among the problems created by nonexistent sidewalks or those that are discontinuous is that pedestrians cannot rely on paths to connect them to their desired destinations. This issue exists on both small and large scales in Stanislaus County. There are areas in the commercial and employment areas of the developed county where crossings of state highways are lacking even though adjacent to critical destinations such as schools and employment centers. In addition, most rural roads do not have sidewalks, adjacent pathways, or trails for walking. This contributes to a countywide problem of connectivity between neighboring communities or between neighborhoods and destinations such as local schools or shopping areas.

Limited Accessibility

Although there are several locations where wheelchair ramps exist, there are many places where they do not exist, or if they do exist, their benefit is thwarted by discontinuous sidewalks. Paved shoulders alongside rural roads used for walking do not meet ADA requirements.

Access to Transit

Pedestrian access to transit is a key component of a successful local pedestrian network and enables walking as a regional mode of transportation. Typical access to transit improvements includes:
- Bus stop signs
- Information kiosks
- Shelters
- Sidewalks or pathways accessing the transit stop within a 0.5 to 0.75 mile radius
- Benches
- Accessibility for disabled users in the form of paved bus stop areas and curb ramps that meet Americans with Disabilities (ADA) Act design requirements.

As described in the previous section under bicycle to transit access, Stanislaus Regional Transit (StaRT) operates fixed-route service through the County while Bus Line Service of Turlock (BLAST), Ceres Area Transit (CAT), and Modesto Area Express (MAX) provide local service. Currently all transit stops are marked with signs. Though most StaRT stops are ADA compliant, not all stops are compliant or have sidewalks or pathways for pedestrian access. No specific policies are in place to ensure sidewalk or pathway construction within the catchment area of the bus stop.

BICYCLE & PEDESTRIAN DEMAND MODELING

In order to highlight areas with the highest potential for walking and biking demand a Geographic Information Systems (GIS) model based on land use factors, demographics, and roadway infrastructure was developed for this Plan. The model results are illustrated in a “heat map” for the entire county roadway network to show relative amounts of pedestrian and bicycle demand, and are based on weighing these different walking-related variables.

Methodology

The GIS model measured pedestrian and bicycle demand based on surrounding land use development, and time and proximity to key destinations. Based on those inputs, the model can help identify areas that may be the most desirable locations for walking trips and would therefore be target areas for investment.

The variables used in this model are based on US Environmental Protection Agency (US EPA) research on the relationship between the built environment and travel patterns. The variables shown to have the greatest effect on the number of people walking in a given area were used and broadly fall into four categories: built environment, proximity to walking destinations, demographics, and street network and connectivity. The methodology is detailed in Appendix C and D.
Analysis

The pedestrian and bicycle demand map can provide a guide to prioritization of pedestrian and bicycle safety and improvement projects in Stanislaus County. Areas with high potential for demand are shown in green on Figure 2-12, with areas of low demand shown in red. The map shows the high level of potential demand within existing urbanized areas, with high population density near schools, neighborhood commercial areas, and employment centers. Investing in these areas by closing sidewalk gaps, providing adequate crossings, and improving accessibility may be the best strategy for improving walking throughout the County. These areas are primarily shown in green on Figure 2-12.

Priority Areas

Based on this countywide analysis, priority pedestrian areas were identified throughout the County. These areas are shown on Figure 2-12. These identified priority areas are provided to establish a policy framework for investing in pedestrian improvements at these locations. Potential identified projects related to priority pedestrian areas are described further in Chapters 3 – 12.
Figure 2: 13 Countywide Potential Pedestrian Demand and Priority Pedestrian Networks Index

- Low Demand
- High Demand

Priority Pedestrian Areas
Schools
Employment Centers

Source: StanCOG, Fehr & Peers, 2012
2.3 FUNDING

Countywide priority bikeways and projects within the pedestrian priority areas can be funded through a variety of sources. Because the countywide priority bikeways are multi-jurisdictional, coordination between agencies will be critical.

**Recommended Funding Sources**

Bicycle and pedestrian infrastructure and programs can be funded either directly through city/county capital funds or through various competitive grant programs. Available funding sources are summarized in Table 2-3. The most applicable funding sources for the improvements recommended by this plan are:

- CMAQ Formula and Competitive Funding
- Highway Safety Improvement Program (HSIP)
- Safe Routes to School Grants (SR2S)
- Remove II Bicycle Infrastructure Component Grants
- Bicycle Transportation Account

*Congestion Mitigation and Air Quality Improvement Program (CMAQ)*

Congestion Mitigation and Air Quality Improvement Program (CMAQ) grants are administered on a per-population and competitive basis by StanCOG. The program is jointly administered by the Federal Highway Administration and Federal Transit Administration to increase attainment of the National Ambient Air Quality Standards (NAAQS). Based on population, StanCOG received $7,441,852 in CMAQ funding for FY2010-2011. For FY 2014 through FY 2016, $7,129,539 was available for CMAQ Competitive Funds. The cost-effectiveness calculation, based on the Air Resource Board (ARB) methodology, was the sole criteria for selected competitive funds. For FY2014-2015 and FY 2015-2016, all projects with a cost-effectiveness calculation of $64.45 were selected.

Stanislaus County communities routinely use formula-based funding for the construction of bicycle and pedestrian projects. Seeking competitive grant funding for bicycle and pedestrian projects may be another opportunity to secure funding for the build-out and improvement of bicycle and pedestrian networks.
Highway Safety Improvement Program (HSIP)

Caltrans administers two funding programs for roadway safety improvements: the Highway Safety Improvement Program (HSIP) and the Highway Rural Roads Program (HR3). These programs use cost-benefit ratios as a primary factor in the awarding of applications. Because both of these programs focus on roadway safety, projects with documented collision history – through frequency of collision but particularly collision severity – are typically ranked higher. Roadways with documented bicycle and pedestrian collision history, as discussed in Section 9-3 of this Plan, may be well-qualified for HSIP and HR3 applications, particularly since many of the proposed projects would improve bicyclist and pedestrian safety at a lower cost than many of the highway projects also eligible under this funding source.

For FY 2013, Caltrans estimates that $100 million in Highway Safety Improvement Program (HSIP) funding will be available. While this funding source is often used for major roadway improvement projects, installation of traffic signals, and most other cost-intensive projects, funding has routinely been awarded to bicycle and pedestrian projects. Successful projects have included:

- Median refuges and curb extensions
- Curb, gutter, and sidewalk
- Paved shoulders
- Upgraded traffic signals with pedestrian countdown signals and pedestrian-scale lighting
- Bicycle lane striping
- Crosswalk striping
- In-pavement flashers and rectangular rapid flashing beacon (RRFB) at crossings

Many of these projects were applied for as standalone bicycle and pedestrian improvement projects; some bicycle and pedestrian improvements were included with a broader package of roadway improvement projects. The average programmed federal funding amount was $400,000.

An additional $15 million is dedicated for the Highway Rural Road Improvement Program (HR3), for which many Stanislaus County communities are eligible. To be eligible for HR3, roadway improvements must occur on a roadway with a functional classification of:

- Rural major collector
- Rural minor collector
- Rural local road
Programmed federal funds for HR3 projects averaged $580,000 in the third funding cycle (2011), and most projects funded the widening or improvement of shoulders. Most of the priority bikeway projects included in this Plan consist of Class 3 bicycle routes with widened shoulders.

**Safe Routes to School (SR2S)**

Prior to 2012, the state and federal Safe Routes to School programs were potential funding sources for both bicycle and pedestrian planning and infrastructure projects that improve access to schools. Caltrans administered two Safe Routes to School programs: the state-legislated program (SR2S), authorized by California Streets and Highways Code Section 2330-2334, and the federal program (SRTS), authorized by the SAFETEA-LU federal funding bill. The SR2S and SRTS programs provided $24.25 million and $21 million, respectively, in annual funding. As of March 2013, the future of Safe Routes to School funding is improbable. Neither MAP-21, the federal funding bill for transportation spending, or the proposed California’s Governor’s Budget 2013-14, include set-aside funds for Safe Routes to School projects.

There are California state assembly bills currently under consideration that propose state funding for Safe Routes to School. Should Safe Routes to School funding continue beyond 2013, several of the proposed bikeways can be funded by Safe Routes to School programs. Successful applications are typically oriented toward pedestrian infrastructure projects; though bicycle projects may also be included in project packages.

**Remove II Bicycle Infrastructure Component Grants**

The San Joaquin Valley Air Pollution Control District (SJVAPCD) offers grant and incentive programs to help reduce air pollutants in the eight-county San Joaquin Valley, which currently does not meet the required National Ambient Air Quality Standards for ozone and particulate matter. The SJVAPCD Remove II Program includes the Bicycle Infrastructure Component, which provides incentives for the construction of Class 1 bicycle paths or Class 2 bicycle lanes that directly benefit commuters in the San Joaquin Valley. Up to $150,000 is available for Class 1 bicycle paths and $100,000 for Class 2 bicycle lanes per application. Applications must be for either a Class 1 or Class 2 facility, not both; however, multiple applications may be submitted. Grants are accepted on a first-come, first-served basis and the following criteria should be considered:

- Project must contribute to an increase in bicycle commuting and a reduction in auto emissions
- Proposed bikeways that close gaps in the network are highly encouraged
- Project should improve bicycle-transit connections
- Project should benefit disadvantaged communities
- Projects should target areas of high demand such as schools, parks, shopping areas, and commercial areas
- Co-funding from other sources is encouraged

Additional information can be found at: http://www.valleyair.org/transportation/removeII/BI.htm.

California Bicycle Transportation Account (BTA)

Bicycle facilities can be funded through the California Bicycle Transportation Account (BTA). Annually, $7.2 million is available for projects through the BTA.

Additional Funding Sources

The majority of public funds for bicycle and pedestrian projects are derived through a core group of federal and state programs. Federal funds from the Surface Transportation Program (STP), Transportation Alternatives (TA), and Congestion Mitigation Air Quality (CMAQ) programs are allocated to the County and distributed accordingly.

Limited amounts from the Local Transportation Fund (LTF), which is derived from a ¼ cent of the general sales tax collected statewide, can be used for bicycle and pedestrian facilities.

The Federal Safe Routes to School (SRTS) program was previously authorized under SAFETEA-LU; when MAP-21 superseded SAFETEA-LU, the SRTS program was discontinued. Instead, SRTS programs and infrastructure are eligible to compete for funding as a part of a new program called Transportation Alternatives (TA). As of December 2012, it is unknown whether California will dedicate a specific portion of TA funds for Safe Routes to School projects.

The California State Parks Recreational Trails Program provides funds annually for recreational trails and trail-related projects. Cities are eligible applicants for the approximately $2.3 million available annually. The program requires an applicant match of 12 percent of the total project cost.

In 2010, the California Strategic Growth Council (SGC) awarded $20 million through the Proposition 84 Sustainable Communities Planning Grant and Incentives Program. Sustainable Community Planning Grant awards totaled $24.6 million in 2012; the SGC plans to award another cycle of grants in 2013. Eligible projects include plans that support greenhouse gas emission reduction and sustainable communities. Twenty percent of the grant funds are set aside for Economically Disadvantaged Communities (EDC), which describes some areas of Stanislaus County.
Caltrans Transportation Planning Grants are available to jurisdictions and can be used for planning or feasibility studies. The maximum funding available per project is $300,000.

The California Office of Traffic Safety (OTS) administers the General OTS Grant opportunities. Pedestrian safety is a priority area for grant funding. Funding can be used for certain police equipment, for signage (vehicle speed feedback signs), and for outreach materials and campaigns.

The Land and Water Conservation Program offers funds to states and through states to local governments for trails acquisition and development.
### TABLE 2-3
**FUNDING SOURCE APPLICABILITY MATRIX**

<table>
<thead>
<tr>
<th>Funding Source</th>
<th>Bicycle Projects</th>
<th>Pedestrian Projects</th>
<th>Other Projects&lt;sup&gt;1&lt;/sup&gt;</th>
<th>Planning and Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Class 1 Bicycle Path</td>
<td>Class 2 Bicycle Lane</td>
<td>Class 3 Bicycle Route</td>
<td>Class 3.5 Bicycle Route</td>
</tr>
<tr>
<td>Surface Transportation Program (STP)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Transportation Alternatives (TAs)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Congestion Mitigation Air Quality (CMAQ)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Local Transportation Fund (LTF)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>California Safe Routes to School (SR2S)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>California Bicycle Transportation Account (BTA)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Highway Safety Improvement Program (HSIP) Grants</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>California State Parks Recreational Trails Program</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Proposition 84 Sustainable Communities Planning Grant and Incentives Program</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Caltrans Transportation Planning Grants</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>California Office of Traffic Safety (OTS) Grants</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Land and Water Conservation Program</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
</tbody>
</table>

**Notes:**
1. Includes non-pavement elements such as signal equipment, vehicle speed feedback signs, police equipment, or crossing guard equipment

● Funding source is applicable  ● Funding source is potentially applicable  ○ Funding source is not applicable

Source: Fehr & Peers, 2012
3.0 UNINCORPORATED STANISLAUS COUNTY

3.1 Introduction .................................................................................................................................................. 3-2
3.2 Setting and Context ......................................................................................................................................... 3-4
3.3 Bicycle Network ........................................................................................................................................... 3-14
3.4 Pedestrian Facilities ..................................................................................................................................... 3-36
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3.6 Bicycle and Pedestrian Project Implementation ....................................................................................... 3-41
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3.1 INTRODUCTION

PURPOSE OF THE PLAN

The Stanislaus County Existing and Planned Bicycle and Pedestrian Facilities chapter is intended to be both a chapter of the Stanislaus County of Government (StanCOG) 2012 Bicycle and Pedestrian Master Plan and a standalone document that can be used as a guide for prioritizing bicycle and pedestrian projects in unincorporated areas of the county. The StanCOG Bicycle and Pedestrian Master Plan is a unifying document that coordinates the development and maintenance of the existing and planned bicycle and pedestrian networks of Stanislaus County communities to serve local and regional needs. This document meets the Bicycle Transportation Account (BTA) requirements for a Bicycle Transportation Plan (BTP), which, once adopted by the Stanislaus County Board of Supervisors and approved by StanCOG, will make Stanislaus County eligible for BTA funding and improve local competitiveness for other funding sources to implement this plan.

CALTRANS COMPLIANCE

The Bicycle Transportation Account (BTA) is a Caltrans program that provides grant funding to cities and counties in support of bicycle projects benefitting bicycle commuters. In order to apply for these funds, local jurisdictions must prepare and adopt a Bicycle Transportation Plan that meets the requirements described in Section 891.2 of the Streets and Highways Code. Table 3-1 presents the required elements of a Bicycle Transportation Plan and indicates where they are located in this plan.

Local agencies without a standalone bicycle or bicycle and pedestrian master plan can use the 2012 StanCOG Bicycle and Pedestrian Master Plan to establish eligibility for BTA Funding until 2017, as long as items “a” through “k” are addressed for that city and the unincorporated areas of the county.
### TABLE 3-1
**STREET AND HIGHWAYS CODE SECTION 891.2 REQUIREMENTS ADDRESSED IN THIS PLAN**

<table>
<thead>
<tr>
<th>Item</th>
<th>Requirement</th>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>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.</td>
<td>Section 3-2 Demographics</td>
</tr>
<tr>
<td>b</td>
<td>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.</td>
<td>Section 3-2, Figure 3-1</td>
</tr>
<tr>
<td>c</td>
<td>A map and description of existing and proposed bikeways.</td>
<td>Section 3-3, Figure 3-4 &amp; 3-5</td>
</tr>
<tr>
<td>d</td>
<td>A map and description of existing and proposed end-of-trip bicycle parking facilities.</td>
<td>Section 3-3 Bicycle Parking</td>
</tr>
<tr>
<td>e</td>
<td>A map and description of existing and proposed bicycle transport and parking facilities for connections with and use of other transportation modes.</td>
<td>Section 3-3 Multi-Modal Connections, Figure 3-17</td>
</tr>
<tr>
<td>f</td>
<td>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.</td>
<td>Section 3-3 Bicycle Parking, Figure 3-2</td>
</tr>
<tr>
<td>g</td>
<td>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 the resulting effect on accidents involving bicyclists.</td>
<td>Section 3-7 Safety &amp; Education</td>
</tr>
<tr>
<td>h</td>
<td>A description of the extent of citizen and community involvement in development of the plan, including, but not limited to, letters of support.</td>
<td>Sections 3-3</td>
</tr>
<tr>
<td>i</td>
<td>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.</td>
<td>Section 3-2 Planning &amp; Policy Context</td>
</tr>
<tr>
<td>j</td>
<td>A description of the projects proposed in the plan and a listing of their priorities for implementation.</td>
<td>Sections 3-3 &amp; 3-4</td>
</tr>
<tr>
<td>k</td>
<td>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.</td>
<td>Section 3-6</td>
</tr>
</tbody>
</table>
3.2 SETTING AND CONTEXT

JURISDICTION OVERVIEW

Stanislaus County is located south of San Joaquin County and north of Merced County in the Central Valley. I 5 serves interregional traffic along the western edge of the county, and SR 99 serves many cities and unincorporated Stanislaus County communities in the center of the county. Most of the urbanized areas in the County are located along SR 99, taking advantage of the resources of larger cities such as Modesto and Turlock. The western and eastern portions of the county are more rural, with small residential communities often located 15 miles or more from neighboring communities. The unincorporated county remains largely agricultural with industry supporting those uses.

LAND USE ATTRACTORS AND GENERATORS

Land use in unincorporated Stanislaus County primarily consists of residential areas with some commercial and industrial uses close to SR 99 or neighboring cities. Larger unincorporated communities such as Keyes and Salida have more of these uses than smaller, more remote communities such as Westley or Crows Landing. Communities adjacent to incorporated communities, such as Bret Harte and Shackelford, have residential development that is largely contiguous and laid out on the same grid network as adjacent Modesto and Ceres. Figure 3-1 presents existing land use patterns in unincorporated Stanislaus County.

SCHOOLS AND SCHOOL ACCESS/SAFE ROUTES

Elementary schools are often located within the residential areas of unincorporated Stanislaus County communities. The grid street network of many of those communities facilitate opportunities for walking and biking to area schools though sidewalk coverage on those routes to school is often limited. Schools are shown on Figure 3-2.

PARKS

Parks and community facilities are typically co-located with area schools. Many communities are adjacent to the regional network of open space and include park space along the area’s various rivers. Parks are also shown on Figure 3-2.
Figure 3-1
Stanislaus County Existing Land Uses
December 2012

GENERAL PLAN

Stanislaus County Existing Land Uses

For illustrative purposes only. Check with Planning Department to verify zoning.

CREATED: SEPTEMBER 26, 2007

Fehr & Peers
Figure 3-2 Stanislaus County Schools and Parks

Existing

- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders
- Class 3.5 - Bicycle Route with Share The Road signs

Planned

- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route

Proposed

- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders
- Class 3.5 - Bicycle Route with Share The Road signs

DEMOGRAPHICS AND EXISTING TRANSPORTATION PATTERNS

Data from the American Community Survey 5-Year Summaries from 2005 to 2009 was analyzed to understand commute patterns in unincorporated Stanislaus County. The American Community Survey is conducted each year to provide ongoing data collection between the Decennial Census and includes questions that are not asked in the Decennial Census. The 2005-2009 summaries were used for this Plan because the 2006-2010 summaries aggregated taxicab, motorcycle, and bicycle use into one category, which does not give an accurate picture of bicycle commuting in Stanislaus County. The American Community Survey includes information such as the primary means respondents use to get to work as well as information on age, income, and auto ownership. The means of transportation to work question specifically focuses on commuting trips and does not record the school, shopping, and recreational trips that occur by various modes of transportation. The mode split information also does not account for commuters who may carpool or bicycle to work some days but drive alone other days or for trips that include both walking or bicycling and another mode (such as transit or carpooling), as only one response is allowed. As such, walking and bicycling trips tend to be underrepresented in this data set.

Single occupancy vehicle (SOV) trips account for the largest commuter mode share in unincorporated Stanislaus County at 78%, slightly lower than the countywide average (including incorporated communities). However, unincorporated Stanislaus County has a slightly higher share of walking trips than the county as a whole, at 3%. Bicycling trips account for 0.3% of all commute trips, slightly lower than the countywide average. Public transit accounts for 0.7% of work trips, and 6% of county residents work from home. Only 16% of unincorporated Stanislaus County residents have one or no vehicle available for their commute, while 84% of county residents have two or more cars available.

Accounting for schools trips, recreation trips, and other non-work related trips, the overall bicycle mode split is likely higher than 0.4%. According to the Census 2010 data, there are 12,692 households in the unincorporated County. Assuming nine daily person trips per household, at least 426 work trips are made by bicycle each day in unincorporated County.

Future bicycle trips will depend on a variety of factors such as the availability of well-connected facilities and the location, density, and type of future land development. With appropriate bicycle facilities in place and implementation of bicycle support facilities, such as bicycle parking, mode share could increase countywide. Doubling the current mode split (0.4% for work trips) would result in approximately 850 work trips based on the number of households in 2010.
COLLISION DATA

SWITRS collision reports were collected and analyzed over a three-year period (2008-2010). The database includes collisions reports recorded by both local police officials and the California Highway Patrol. Bicycle and pedestrian collision data can aid in the identification of problematic areas for bicycles and pedestrians; however, a high frequency of collisions in a particular neighborhood may also indicate an abundance of bicyclists and pedestrians using a particular route.

From 2008-2010, 150 collisions involving bicyclists and pedestrians were reported in unincorporated Stanislaus County. Of the collisions, 77 involved bicyclists and 73 involved pedestrians, as shown on Figure 3-3. The majority of these collisions were reported in more urbanized areas near Modesto. The most pedestrian collisions occurred along Crows Landing Road at Amador Avenue, with four pedestrian-auto collisions during the study period. East Hackett Road, Winmoore Way, and School Avenue also had multiple reported pedestrian-auto collisions. Many of the pedestrian collisions are located in or near Bret Harte. Bicycle collisions also were located disproportionately on Crows Landing Road, particularly near the intersections with Hatch Road and Winmoore Way. Multiple bicycle collisions were also reported near the intersections of Service Road/Moffett Road and Hatch Road/Church Lane. The high frequency of collisions at these locations indicates these areas may have higher pedestrian and bicyclist activity, contributing to the higher number of collisions.
Stanislaus County Bicycle & Pedestrian Collisions, 2008-2011
Figure 3-3

- 1 collision
- 2 collisions
- 3 collisions
- 4 collisions
- 5+ collisions

LOCAL OPPORTUNITIES AND CONSTRAINTS

The following opportunities and constraints for improving pedestrian and bicycle facilities in the unincorporated County include considerations such as existing distribution of urbanized areas throughout the county, roadway infrastructure and connectivity, sidewalk coverage, and existing policies and agreements with local agencies.

**Opportunities**

- Some unincorporated communities are located adjacent to incorporated cities, facilitating regional connections
- Natural resources such as major rivers and critical infrastructure such as irrigation canals provide opportunities for regional connections across the whole county and into adjacent San Joaquin and Merced Counties

**Constraints**

- Many unincorporated communities are located 15 miles or more from the closest community, exceeding the distance for most pedestrian and bicycle trips
- Constrained County funding must be distributed over a wide geographic area

PLANNING AND POLICY CONTEXT

The following section summarizes past related planning efforts and establishes a policy framework to guide future transportation decisions and capital improvement programming. This information helps to ensure infrastructure improvements are closely coordinated with past and ongoing planning efforts.

**StanCOG Non-Motorized Transportation Master Plan (2008)**

The StanCOG Non-Motorized Transportation Master Plan provides a countywide overview of existing bicycle facilities, proposed facilities, and design guidelines to support bicycle transportation. The Plan's overall goals are to increase bicycle and pedestrian mode share to 20% of all trips by 2020 through improved bicycle and pedestrian access and infrastructure. Recommendations include a 20-year vision for a countywide bicycle network that relies on Class 1 bicycle paths paralleling the canals and laterals throughout the county. Short- and near-term recommendations include focusing on rural roadways with opportunities for wayfinding, bicycle routes, and “SHARE THE ROAD” signage; shoulder widening as feasible; travel lane restriping; and speed limit reduction.

The plan includes design guidelines that correspond to a wide range of bicycle infrastructure as well sample bicycle parking ordinances and sample irrigation district agreements.
The 2012 Non-Motorized Transportation Master Plan updates the 2008 Plan.

**Stanislaus County General Plan (2007)**

The purpose of this plan is to assist decision makers in coordinating land use and infrastructure decisions and to meet state planning requirements. Both the Circulation and Open Space elements contain policies relevant to the Non-Motorized Transportation Plan goals. The General Plan also contains maps showing land use designations in the County. **Figure 3-1** shows the Stanislaus General Plan Map.

**Federal Transportation Improvement Plan (2013)**

The Federal Transportation Improvement Plan (FTIP) describes funding sources for active mode projects and lists funded projects. The 2013 FTIP reflects the current projects selected for funding; however, future amendments may occur, as the projects are subject to implementation at the discretion of local agencies. Relevant bicycle and pedestrian projects funded under the 2013 FTIP are presented in **Table 3-2**.
TABLE 3-2  
2013 FEDERAL TRANSPORTATION IMPROVEMENT PLAN GROUPED PROJECTS

<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>Project(s)</th>
</tr>
</thead>
</table>
| Ceres             | • Install LED in-pavement crosswalk lights, speed feedback signs, upgrade crosswalks; striping  
                    • Recruit SRTS Taskforce members; develop maps; provide pedestrian, cyclist, and drive safety forum; conduct walking school bus assemblies, pedestrian and bicycle safety assemblies, and bike rodeo demonstrations  
                    • Class 1 Path on Mitchell Road/TID Main between Hatch Road and southern City Limits                                                                                   |
| County            | • Widen shoulders and realign roadway on Central Avenue, within 1,500 feet of W. Taylor Road  
                    • Widen and pave shoulders on Lake Road between Lampley and Denton Roads  
                    • Widen and pave shoulders on River Road between Sawyer and Cleveland Avenues  
                    • Widen and pave shoulders on West Main Street from the San Joaquin River to approximately 0.8 miles west of Carpenter Road                                             |
| Hughson           | • Sidewalk, curb, and gutter on Fifth Street between Hughson Avenue and Fox Road                                                                                                                        |
| Modesto           | • Virginia Corridor Class 1 Path (Phase VI and VII)                                                                                                                                                       |
| Newman            | • Sidewalk, curb, and gutter on Inyo Avenue  
                    • Signal at SR 33/Inyo Avenue                                                                                                                                                                           |
| Oakdale           | • Various bicycle, pedestrian, and ADA access improvements                                                                                                                                              |
| Patterson         | -                                                                                                                                                                                                       |
| Riverbank         | • Class 2 Bicycle Lanes on Claus Road  
                    • Signal at Patterson Road/Roselle Avenue and pedestrian railroad safety crossing, including sidewalks                                                                                   |
| Turlock           | -                                                                                                                                                                                                       |
| Waterford         | • Class 1 Path on E Street                                                                                                                                                                               |

Source: StanCOG, 2013 FTIP.

Additionally, the following roadway segments are included under grouped projects for the Pavement Resurfacing and/or Rehabilitation Program and may provide an opportunity to include bicycle and pedestrian facilities, such as wider shoulders, as a part of the resurfacing or road reconstruction on County roadways:

- Howard Road (Ingram Creek Road to 2,100 feet south)
- McCraken Road (Ingram Creek Road to 1,700 feet north)
- Ingram Creek Road (Howard Road/Mccraken Road to 800 feet west)
- Keyes Road (Hickman Road to Merced County Line)
- Rogers Road (City of Patterson Limits to State Highway 33)
- Morgan Road (Hatch Road to Ceres City Limits)
- Sperry Road (East side of California Aqueduct to City of Patterson Limits)
- Emerald Avenue (Kansas Avenue to Woodland Avenue)
- Woodland Avenue (City of Modesto Limits to Carpenter Road)
- Rosemore Avenue (SR 132 to Kansas Avenue)
- Hickman Road (Whitmore Avenue to Keyes Road)
- Geer Road (SR 132 to Tuolumne River)
- Crows Landing Road (City of Modesto Limits to SR 99)
- Finch Road (City of Modesto Limits to Garner Road)
- Morgan Road (Hatch Road to Ceres City Limits)
- Sperry Road (I-5 to City of Patterson Limits)

**Department of Public Works Standards and Specifications (2007)**

The Stanislaus County Department of Public Works *Standards*, last updated in 2007, details information about provision of bicycle facilities as well as information on roadway classifications and construction. Section 3.38 Bicycle Lanes dictates that developers are responsible for striping and paving new roadways such that bicycle travel is accommodated whenever a new roadway is constructed, widened, or where adequate right-of-way (ROW) exists. This is true of all roadways except for those classified as Minor or Local roads. The document further indicates that any markings or signage for bicycle facilities shall be in accordance with the *Regional Bicycle Action Plan* (1996).

The document also defines roadway classifications, which include:

- Major roadways (110-foot ROW);
- Collectors (60 to 80-foot ROWs); and
- Local roadways (60-foot ROW).

The document indicates that ADA curb ramps should be constructed at all intersections regardless of sidewalk coverage in the area.
3.3 BICYCLE NETWORK

BICYCLE FACILITIES

Bicycle facilities can be divided into two types:

- Bikeways—on-street or off-street facilities provided for bicycle travel
- Support Facilities—facilities used by bicyclists when they reach their destination, such as bicycle parking

Bikeways

Chapter 1000 of the Caltrans Highway Design Manual defines three classes of bicycle facilities and details the minimum requirements for those facility types:

- Class 1 Bicycle Paths—a paved right of way completely separated from any street or highway.
- Class 2 Bicycle Lanes—a striped and stenciled lane for one-way travel on a street or highway.
- Class 3 Bicycle Routes—a typical roadway identified as a preferred bicycle route with signage. They may also include shared use lane markings, "SHARE THE ROAD" signage, or wide shoulders, as described in Appendix A Bicycle Design Guidelines.

In this Plan, a Class 3.5 bicycle route designation is also used. In the context of this plan, Class 3.5 facilities indicate a Class 3 bicycle route, as defined by Caltrans, with wide shoulders, typically four to eight feet in width. Class 3 Share the Lane indicates Class 3 bicycle routes, as defined by Caltrans, with "SHARE THE ROAD" signage, typically on narrow, rural roadways. These treatments are further defined on Figure A-1 in Appendix A Bicycle Design Guidelines. Figure A-1 provides cross-sections and additional description of these facilities, including Caltrans minimum requirements as well as recommended cross-section widths and additional treatments.

Support Facilities

Support facilities are critical to bicycle use, especially as a means to encourage bicycle commuting. Support facilities consist primarily of:

- Bicycle Parking—bicycle parking supply should vary to accommodate short-term and long-term trips and consist of two basic types:
o Short-Term Parking—bicycle racks for users who need to stop for several hours or less, placed adjacent to key destinations such as shopping areas, schools, and parks.

o Long-Term Parking—lockable bicycle lockers, bicycle cages, or bicycle rooms that only users are allowed access to, placed at major employment areas, schools, and transit centers.

- Shower and Changing Space—showers and changing areas provide longer-distance commuters with an area to change and get ready for work or school.

- Secure Storage Areas—locker-type storage areas provide room to store a change of clothes or bicycle gear.

EXISTING BIKEWAYS

Unincorporated Stanislaus County currently has 2.6 mile of bikeways. Figure 3-4 shows the existing bicycle network in Stanislaus County. The network primarily consists of short segments of Class 1 pathways that either connect to bicycle facilities in incorporated cities or are more isolated from the larger regional network. Some of these more isolated paths serve a particular local purpose, such as providing a local route to a school on county land. The County recently constructed two short segments of Class 1 path, both of which improve routes to school. In the community of Westley, the County constructed an eight-foot wide two-way path on Howard Road between the Grayson School and the area just east of SR 33. On the unincorporated edge of Ceres, the County constructed a Class 1 path adjacent to Central Valley High School, connecting to an existing Class 1 facility in front of the high school in Ceres. Though a large number of natural waterways and irrigation canals throughout the County create opportunities for dedicated off-street bicycle facilities, the County does not have agreements in place with the local irrigation districts to facilitate bicycle path construction.

Appendix E lists existing and proposed bikeways in unincorporated Stanislaus County. Appendix F presents the results of the StanCOG BPAC’s community survey (2011), which includes information on identified needs and opportunity areas throughout the County.

PROPOSED IMPROVEMENTS

The proposed bikeway network was developed to increase utilitarian and recreational bicycling in the unincorporated County by all types of bicyclists. The proposed bikeway network was established based on input from the StanCOG BPAC and recommendations made in the 2008 StanCOG Non-Motorized Transportation Master Plan. The proposed bikeway network includes Class 1 bicycle paths, Class 2 bicycle lanes, and Class 3 bicycle routes that connect to destinations likely to generate or attract bicycle travel. Many of the proposed bikeways in the unincorporated County are proposed as Class 3.5 with wide
shoulders. As shown in Appendix A, these facilities allow for bicyclists to be separated from vehicle traffic while maintaining the rural character of County roads. As the County improves and maintains its roadways through routine overlays or widening projects, many roadways have been widened with four- to eight-feet wide shoulders. The Plan proposes that these roadways should be designated as Class 3 with bicycle route signage each \( \frac{1}{4} \) mile. In more rural areas of the County, Class 3 bicycle routes with “SHARE THE ROAD” signage is proposed. On narrow county roads or areas with limited sightlines, these signs may be used to remind motorists and bicyclists that they need to share roadway space.

The first tier priority network consists of 60 miles of bikeways, and the long-term vision network totals 393 miles. Figure 3-5 shows the proposed countywide bikeway network. Segments listed as “planned” are proposed segments that are anticipated to be implemented within five years based on information provided by local officials.
Figure 3-4 Stanislaus County Existing Bikeways

Existing

- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders
- Class 3.5 - Bicycle Route with Share The Road signs

PROJECT PRIORITIZATION

Facilities within Stanislaus County were prioritized to address the need for regional and local connections. Because the geographic area of the county is spread out, it is important to prioritize these projects because of the long length of each proposed bikeway and the limited financial resources to implement and maintain facilities.

Prioritization Methodology

The project prioritization methodology is distinct and separate for regional priority bikeways located in unincorporated Stanislaus County and projects within incorporated jurisdictions, and is outlined below. Each methodology is presented in Appendix C and D.

Each proposed bikeway project in the unincorporated county was scored on the follow criteria, which were given equal weight:

- Closure of a critical gap
- Immediate safety need
- Access to key destinations
- Feasibility

Within the unincorporated County, selected facilities were prioritized in order to establish significant regional routes through incorporated urban areas. Priority bikeways through the unincorporated County were selected using a bicycle and pedestrian demand model developed for Stanislaus County and through the feedback of the StanCOG Bicycle and Pedestrian Advisory Committee (BPAC). Using the demand map as a base, priority bikeway alignments through incorporated areas were selected to:

- Connect local areas of highest biking and walking demand with the most direct route possible;
- Connect cities and/or neighboring unincorporated communities along the most direct route; and
- Create continuous countywide bikeways.
Figure 3-5 Stanislaus County Existing and Proposed Bikeways

- **Planned**
  - Class 1 Path
  - Class 2 - Bicycle Lanes
  - Class 3 - Bicycle Route
  - Class 3.5 - Bicycle Route with Wide Shoulders
  - Class 3.5 - Bicycle Route with Share The Road signs

- **Existing**
  - Class 1 Path
  - Class 2 - Bicycle Lanes
  - Class 3 - Bicycle Route

- **Proposed**
  - Class 1 Path
  - Class 2 - Bicycle Lanes
  - Class 3 - Bicycle Route
  - Class 3.5 - Bicycle Route with Wide Shoulders
  - Class 3.5 - Bicycle Route with Share The Road signs

Priority Network

The countywide bicycle network is presented on Figure 3-6. The following countywide priority bikeways have segments in the unincorporated County:

1) Patterson Road – SR 108 – F Street
2) Broadway Avenue – Kiernan Avenue – Claribel Road
3) Hatch Road
4) Yosemite Boulevard/SR 132
5) Las Palmas Avenue – Main Street
6) Oakdale-Waterford Highway
7) Geer Road – Albers Road
8) Golden State Boulevard
9) Crows Landing Road
10) Oakdale Road – Mitchell Road – Moore Road

These prioritized regional routes through cities should be incorporated into overlay schedules and/or prioritized for competitive grant funding as appropriate. Detailed project descriptions for the two countywide priority bikeways are presented on Figure 3-7 through 3-16. Detailed cost estimates are provided in Appendix F. Many of these projects will require inter-jurisdictional coordination, and some will also require coordination with Caltrans. To the extent possible, funding and grant application should be coordinated with adjacent jurisdictions.

The County has completed roadway overlays that include substantial shoulder widening and are typically eight-foot shoulders on each side. Wide shoulders provide room for walking and biking in the rural context of the unincorporated areas of the county. The County has also built four-foot shoulders on Hatch Road between Gilbert and Clinton Streets, to the east of Ceres. Though this facility is not currently designated as a Class 3 route, this project and all overlay projects with four-foot wide shoulders should be signed as Class 3 bicycle routes, consistent with the Countywide Priority Network.
Figure 3-6 Stanislaus County Priority Bikeways

Prioritization
- First-Tier
- Second Tier

Existing
- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route

Proposed
- Class 3.5 - Bicycle Route with Wide Shoulders
- Class 3.5 - Bicycle Route with Share The Road signs

Planned
- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route

1. SR 108 - Patterson Road-Claus Road - Atchison Road - F Street
Jurisdictions: City of Riverbank, Unincorporated Stanislaus County, and City of Oakdale

Description
The SR 108 - Patterson Road - Claus Road - Atchison Road - F Street bikeway travels east-west connecting the Cities of Riverbank and Oakdale through unincorporated Stanislaus County. The bikeway runs from SR 108/Oakdale Road to Patterson Road/1st Street, where there are existing bike lanes between Terminal Avenue and Claus Road. Jogging north-south on Claus Road, the bikeway continues on Atchison Road/SR 108 connecting to F Street/SR 108 through Oakdale. Existing bike lanes are striped on F Street between Crane Road and Willowood Road.

Proposed Improvements
1A. Class 2 Bike Lanes on Patterson Road/SR 108 between Oakdale Road and Terminal Avenue
1B. Class 2 Bike Lanes on Claus Road between Patterson Road and Atchison Road/SR 108
1C. Class 3.5 Bike Route with Wide Shoulders on SR 108 between Claus Road and Crane Road
1D. Class 2 Bike Lanes on SR 108/F Street between Willowood Road and Wood Avenue
1E. Class 3 Bicycle Route on SR 108/F Street between Wood Avenue and Oakdale City Limits

Design Requirements

1A, 1B, 1D Class 2 Bicycle Lanes
- Stripe within existing right-of-way
- Widen roadway between Roselle Avenue and Terminal Avenue (Riverbank)
- Prohibit parking on one-side of street between Callander and 1st Street (Riverbank)

1C Class 3.5 Bicycle Route with Wide Shoulders
- Existing 0'-8' shoulders
- Widen shoulder to 4'- minimum
- Install Class 3 signs each 1/4 mile

1E Class 3 Bicycle Route
- Install Class 3 signs each 1/4 mile
- Consider striping sharrows 14' from face of curb

Implementation and Funding
- High frequency of both pedestrian and bicycle collisions between 2008-2010
  - 19 auto-pedestrian collisions, 16 auto-bicyclist collisions on corridor
- Striping project may be a strong candidate for HSIP Funding due to collision history
- Possible to stripe within existing curb-to-curb right-of-way with parking removal
- Total project cost, including design, environmental, and contingency, is approximately $1,390,000
2. Broadway Avenue-Kiernan Avenue/SR 219-Claribel Road
Jurisdictions: Unincorporated Stanislaus County

Description

The Broadway Avenue-Kiernan Avenue/SR 219-Claribel Road bikeway provides direct east-west connection between areas in the unincorporated County, Modesto, and the City of Riverbank. Existing Class 2 bicycle lanes exist between the west side of SR 99 and Morrow Road. A Class 1 path and shoulder widening is planned for Claribel Road between Sisk and Oakdale Roads. Project coordination with Caltrans will be needed.

Proposed Improvements

2A. Class 2 between Finney Road and SR 99 SB Ramps
2B. Class 1 between Sisk Road and McHenry Avenue, Mc Henry Avenue to Oakdale Road already Planned

Design Requirements

2A Class 2 Bicycle Lanes
- Stripe within existing wide travel lane within Salida
- Restripe 80 foot travel way with 11.5 foot lanes to accommodate bike lanes over SR 99
- Consider converting existing angled parking to parallel or reverse-angled parking

Existing

Proposed

2B Class 1 Bicycle Path
- Pave 10-foot path on north side of Kiernan Avenue/Claribel Road
- Widen shoulders by 2 feet
- Connect Class 1 path with existing Class 2 lanes on Kiernan Avenue in advance of Sisk Road intersection

Existing

Proposed

Implementation and Funding

- High frequency of both pedestrian and bicycle collisions between 2008-2010
  - 10 auto-pedestrian collisions, 4 auto-bicyclist collisions on corridor
- Class 1 project may be a candidate for HSIP or HR3 Funding due to collision history
- Total project cost, including design, environmental, and contingency, is approximately $2,920,000
3. Hatch Road
Jurisdictions: Ceres, Unincorporated Stanislaus County, Hughson

Hatch Road is a two- to four-lane east-west arterial connecting unincorporated Stanislaus County communities, Ceres, Modesto, and Hughson. A continuous segment of Class 1 bicycle path is existing within the City of Ceres, paralleling an irrigation canal.

Proposed Improvements

3A. Class 2 between Dallas Street and Herndon Road
3B. Class 1 gap closure between Eastgate Road and Gilbert Road in the Ceres and Unincorporated Stanislaus County
3C. Class 3 with wide shoulders between Clinton Road and Geer Road in Unincorporated Stanislaus County

Design Requirements

3A Class 2 Bicycle Lanes
• Stripe within existing right-of-way
• Widen roadway between Crows Landing Road and Pearson Avenue

Existing

<table>
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<th>Proposed</th>
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</thead>
<tbody>
<tr>
<td>0-6' PAVED SHOULDER</td>
<td>Option Class 2 signage</td>
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<td>TRAVEL LANE</td>
<td>0-6' PAVED SHOULDER</td>
</tr>
<tr>
<td>TRAVEL LANE</td>
<td>0-6' PAVED SHOULDER</td>
</tr>
</tbody>
</table>

3B Class 1 Bicycle Path
• Pave 10 foot path (north side between Richland and Central Avenues, south side between Eastgate and Gilbert Roads)

Existing

<table>
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<tr>
<td>IRIGATION CANAL</td>
<td>MIN. 8' TWO-WAY BIKE PATH</td>
</tr>
<tr>
<td>TRAVEL LANE</td>
<td>4-6' PAVED SHOULDER</td>
</tr>
<tr>
<td>CENTER LEFT TURN LANE</td>
<td>TRAVEL LANE</td>
</tr>
<tr>
<td>CENTER LEFT TURN LANE</td>
<td>TRAVEL LANE</td>
</tr>
<tr>
<td>3-6' PAVED SHOULDER</td>
<td></td>
</tr>
</tbody>
</table>

Proposed

3C Class 3.5 Bicycle Route with Wide Shoulders
• Widen existing 0-5 foot shoulder to 4 feet minimum
• Shoulder widening planned between Gilbert and Clinton Roads

Existing

<table>
<thead>
<tr>
<th>Existing</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-6' TRAVEL LANE</td>
<td>Class 3 Bicycle Route Signage</td>
</tr>
<tr>
<td>0-6' TRAVEL LANE</td>
<td>4-8' TRAVEL LANE</td>
</tr>
<tr>
<td>4-8' TRAVEL LANE</td>
<td>4-8' TRAVEL LANE</td>
</tr>
<tr>
<td>0-6' TRAVEL LANE</td>
<td></td>
</tr>
</tbody>
</table>

Implementation and Funding

• High frequency of both pedestrian and bicycle collisions between 2008-2010
  - 27 pedestrian collisions, 29 bicycle collisions on Hatch Road corridor between 2008-2010
• Segments 3A and 3B may be strong candidates for HSIP and/or High-Risk Rural Roadway Program (HR3) funding based on collision history
• Total project cost, including design, environmental, and contingency, is approximately $3,500,000
4. Paradise Road - H & G Street - Yosemite Boulevard/SR 132
Jurisdictions: City of Modesto, Unincorporated Stanislaus County, and City of Waterford

Description
This east-west bikeway begins on Paradise Road in the western end of Modesto, and extends east through G and H Streets in Downtown onto Yosemite Boulevard / SR-132. Yosemite Boulevard is an east-west highway that runs through Downtown Modesto and continues east to the County limit. Coordination with Caltrans will be required.

Proposed Improvements
4A. Class 2 on Paradise Road between Carpenter Road and Jefferson Street
4B. Class 3 on H Street between Jefferson Street and 14th Street; Class 3 on G Street between 1st and 14th Streets. Class 3 on 1st Street between H and G Streets; Class 3 on 14th Street between H and Yosemite Boulevard.
4C. Class 3.5 with wide shoulders on Yosemite Boulevard between Claus Road and Skyline Boulevard (Waterford)
4D. Class 2 on Yosemite Boulevard between 14th Street and Riverside Drive

Design Requirements

4A, 4D Class 2 Bicycle Lanes
- Stripe within existing right-of-way
- On Paradise west of Martin Luther King Jr cross section allows for on-street parking with 5-6’ bike lanes
- On Paradise between Martin Luther King Jr and Jefferson, remove on-street parking on north side and stripe with 11’ travel lanes to allow 5’ bike lanes
- On Yosemite, remove on-street parking to accommodate 6’ bike lanes with 2’ buffer

4B Class 3 Bicycle Route with Sharrows
- Install Class 3 bicycle route signage
- Stripe sharrows 14’ from face of curb
- Install Class 3 signs each 1/4 mile

4C Class 3.5 Bicycle Route with Wide Shoulders
- Widen shoulder to 4’ minimum on Yosemite Boulevard between Claus Road and Skyline Boulevard
- Existing shoulders in Waterford are 0-4’
- Install Class 3 signs each 1/4 mile

Implementation and Funding
- High frequency of both pedestrian and bicycle collisions between 2008-2010
  - 33 pedestrian-auto collisions, 38 bicyclists-auto collisions on Hatch Road corridor between 2008-2010
- All segments may be strong candidates for HSIP and/or High-Risk Rural Roadway Program (HR3) funding based on collision history
- Total project cost, including design, environmental, and contingency, is approximately $6,250,000
5. Las Palmas Street - Main Street  
Jurisdictions: City of Patterson, Unincorporated Stanislaus County, and City of Turlock

Description
This east-west bikeway connects Las Palmas Avenue in Patterson through the unincorporated County to Main Street in the City or Turlock, connecting to Downtown Turlock and the priority bikeway on Golden State Boulevard (#8).

Proposed Improvements
5A. Class 2 on Las Palmas Avenue between Ward Avenue and 9th Street and El Circulo and 1st Street
5B. Class 3.5 with wide shoulders on Las Palmas Avenue/Main Street between Sycamore Avenue and Walnut Road
5C. Class 3 on Main Street between Walnut Road and Golden State Boulevard

Design Requirements

5A Class 2 Bicycle Lanes  
- Widen roadway between Ward Avenue and 9th Street  
- Stripe within existing right of way from El Circulo to 1st Street

5B Class 3.5 with Wide Shoulders  
- Widen shoulder to 4’ minimum  
- Existing shoulders are 0-6’  
- Install Class 3 signs each 1/4 mile

5C Class 3.5 Bicycle Route with Sharrows  
- Install Class 3 bicycle route signage  
- Stripe sharrows 14’ from face of curb  
- Install Class 3 signs each 1/4 mile

Implementation and Funding
- 4 pedestrian-auto collisions, 4 bicyclist-auto collisions on West Las Palmas Avenue/Main Street corridor between 2008-2010
- May be candidates for SJVAQD Remove II, CMAQ competitive funding, and HSIP funding
- Total project cost, including design, environmental, and contingency, is approximately $5,150,000
6. Oakdale-Waterford Highway
Jurisdictions: City of Oakdale, Unincorporated Stanislaus County, and City of Waterford

Description
The Oakdale-Waterford Highway provides a north-south connection between Albers Road outside of the City of Oakdale and existing Class 2 bicycle lanes on F Street in the City of Waterford. The existing roadway has very narrow or no shoulders.

Proposed Improvements
6A Class 3.5 with wide shoulders between Albers Road and Waterford City Limits

Design Requirements
6A Class 3.5 Bicycle Route with Wide Shoulders
- Existing 0-2' foot shoulders
- Widen shoulder to 4' minimum
- Install Class 3 signs each 1/4 mile

Existing

Proposed

Implementation and Funding
- 1 auto-pedestrian collision between 2008-2010
- Requires roadway widening the entire length of the bikeway
- May be eligible for CMAQ Competitive Funds and HR3/HSIP
- Total project cost, including design, environmental, and contingency, is approximately $5,700,000
7. Geer Road-Albers Road

Jurisdictions: City of Oakdale, Unincorporated Stanislaus County, and City of Turlock

Description

Geer Road - Albers Road is a north-south arterial connecting the Cities of Turlock and Oakdale through the unincorporated County. The Geer Road – Albers Road bikeway would connect the proposed Golden State Boulevard Class 3.5 facility with existing Class 2 bicycle lanes on Albers Road in Oakdale, terminating at S. Yosemite Avenue. The north-south bikeway would also connect to a proposed Class 3.5 facility on SR 132-Yosemite Boulevard, which may require coordination with Caltrans.

Proposed Improvements

7A Class 2 bicycle lanes on Geer Road between Taylor Road and Golden State Boulevard
7B Class 3.5 wide shoulders on Albers Road-Geer Road between Albers Road/ Oakdale-Waterford Highway and Taylor Road
7C Class 2 bicycle lanes on Albers Road/Oakdale-Waterford Highway between Warnerville Road and Yosemite Boulevard

Design Requirements

7A & 7C Class 2 Bicycle Lanes

- Stripe within existing right-of-way
- Reduce width of outside travel lane and/or two-way left-turn lane

Existing

Proposed

*Class 3 Bicycle Route may be necessary at certain locations where on-street parking is currently allowed.

7B Class 3.5 Bicycle Route with Wide Shoulders

- Existing 6 foot shoulders between Claribel Road and Oakdale-Waterford Highway
- Widen shoulder to 4’ minimum between Claribel Road and Turlock City Limits
- Shoulders widening planned between Claribel and Milnes Roads
- Install Class 3 signs each 1/4 mile

Existing

Proposed

*Class 3 Bicycle Route Signage

Implementation and Funding

- 5 pedestrian-auto collisions and 3 bicyclist-auto collisions between 2008-2010
- May be eligible for CMAQ Competitive Funds and HR3/HSSIP
- Total project cost, including design, environmental, and contingency, is approximately $11,700,000
- Through Turlock, Olive Avenue could be considered as an alternative alignment, if preferred
8. Frontage Road - Rohde Road - 7th Street - Golden State Boulevard
Jurisdictions: Unincorporated Stanislaus County and City of Turlock

Description

Golden State Boulevard is a north-south arterial connecting the future Moore Road TID Class 1 path Ceres with the unincorporated community of Keyes, the City of Turlock, and ending south of Turlock at SR 99. Through Keyes, Golden State Boulevard becomes 7th Street and the bikeway turns onto Nunes Road at the south end of Keyes before reconnecting with Golden State Boulevard.

Proposed Improvements

8A Class 2 bicycle lanes on Frontage Road between Moore Road (south of Ceres) and the Keyes limits
8B Class 2 bicycle lanes on Rohde Road, 7th Street, and Nunes Road through Keyes
8C Class 2 bicycle lanes on Golden State Boulevard between Nunes Road and southern Turlock city limit

Design Requirements

8A, 8C Class 2 Bicycle Lanes
- Stripe within existing right-of-way where feasible
- Widen roadway from existing 0-4’ paved shoulders to 6-8’ and stripe as bicycle lane

8B Class 2 Bicycle Lanes
- Stripe within existing right-of-way
- Prohibit parking on one-side of street if necessary

Implementation and Funding

- 7 pedestrian-auto collisions and 5 bicyclist-auto collisions between 2008-2010
- May be eligible for CMAQ Competitive Funds, SJVAQD Remove II, and HR3/HSIP
- Total project cost, including design, environmental, and contingency, is approximately $339,300
9. Crows Landing Road
Jurisdictions: City of Modesto, Unincorporated Stanislaus County, and City of Ceres

Description
Crows Landing Road is a north-south arterial connecting the City of Modesto, the unincorporated communities of Bret Harte and Bystrom, and the western portion of the City of Ceres. South of Ceres, the road continues as a rural county road connecting to the unincorporated town of Crows Landing with SR 33 and I-5.

Proposed Improvements
9A. Class 2 between Hackett Road and Grayson Road
9B. Class 2 between South 7th Street and Hackett Road

Design Requirements

9A Class 2 Bicycle Lanes
- Stripe within existing outside travel lane and/or reduce lane widths between South 7th Street and Hackett Road

Existing

Proposed

9B Class 2 Bicycle Lanes
- Stripe within existing shoulder and reduce width of center left-turn lane as necessary between Hackett Road and Grayson Road

Existing

Proposed

Implementation and Funding
- High frequency of both pedestrian and bicycle collisions between 2008-2010
- 34 auto-pedestrian collisions, 22 auto-bicyclist collisions on corridor
- Striping project may be a strong candidate for HSIP Funding due to collision history
- Possible to stripe within existing curb-to-curb right-of-way with parking removal
- Total project cost, including design, environmental, and contingency, is approximately $3,200,000
10. Oakdale Road - Mitchell Road - Moore Road
Jurisdictions: City of Riverbank, Unincorporated Stanislaus County, City of Modesto, and City of Ceres

Description
Oakdale Road/El Vista Avenue/Mitchell Road is a north-south arterial connecting Riverbank, Modesto, and Ceres. Mitchell Road crosses the Tuolumne River to connect to the City of Ceres. The priority bikeway jogs onto the planned and funded Moore Road Class 1 TID path, connecting to the proposed priority bike lanes on Golden State Boulevard (#8). Bicycle lanes are planned for Oakdale Road between Patterson Road and Claribel Road. (Riverbank).

Proposed Improvements
10A. Class 2 between Claribel Road (Riverbank) and Mable Road (Modesto)
10B. Class 2 between Mable Avenue to La Force Drive (Modesto)
10C. Class 2 between La Force Drive (Modesto) and Floyd Avenue (Modesto)
10D. Class 2 between Floyd Avenue (Modesto) and existing Class 2 on Mitchell Road (Ceres)

Design Requirements

10A, 10C Class 2 Bicycle Lanes
- Widen roadway between La Force Drive and Floyd Avenue
- Widen roadway between Claribel Road and Mable Avenue

Existing

Proposed

Optional Class 2 Bicycle Lane Signage

10B, 10D Class 2 Bicycle Lanes
- Stripe within existing right-of-way from Claribel Road to La Force Drive
- Stripe within existing right-of-way from Floyd Avenue to existing Class 2 on Mitchell Road (Ceres)
- May require parking removal for portions of El Vista Avenue

Implementation and Funding

- High frequency of both pedestrian and bicycle collisions between 2008-2010 -28 auto-pedestrian collisions, 26 auto-bicyclist collisions on corridor
- Strong candidate for HSIP/HR3 funds
- Total project cost, including design, environmental, and contingency, is approximately $5,420,000
BICYCLE PARKING AND SUPPORT FACILITIES

Bicycle support facilities such as changing rooms, showers, lockers, and short-term and long-term bicycle parking are important end-of-trip facilities for those who commute by bicycle or who may be thinking of commuting by bicycle. As such, it can be an important factor in encouraging bicycle use and bicycling to work. In addition to providing appropriate storage space to park bicycles, support facilities such as showers and lockers are important for commuters who may travel long distances or are subject to formal dress requirements in their workplace. Short-term bicycle parking typically consists of racks, which are useful for visitors to an office or short retail trips, while long-term bicycle parking typically consists of bicycle lockers or secure areas, which are more appropriate for longer stays at work places.

Existing Bicycle Parking

In general, very little bicycle parking is available in Stanislaus County. Places of employment in Stanislaus County do not typically provide showers, changing space, or long-term storage for bicycle gear. However, certain places of employment such as fire departments, roadway maintenance facilities, or some manufacturing facilities are likely to have showers and changing space that employees could use for bicycle commuting purposes. It is likely that some employers allow employees to store bicycles in their workspace.

Based on an interview with County staff and field observations, unincorporated areas of the county generally lack bicycle parking. Though bicycle parking may exist, particularly near schools or other civic uses, Stanislaus County does not have a bicycle parking ordinance for new development or a program to install bicycle parking in the public right-of-way.

Proposed Bicycle Parking

Three strategies for encouraging bicycling for commuting and utilitarian purposes are proposed:

- Adopt a bicycle parking ordinance for new development
- Organize a bicycle rack request program
- Encourage construction of support facilities at major employers through the permitting process

Bicycle Rack Request Program

The County should begin a bicycle rack request program, whereby residents and businesses can request a bicycle rack at specific locations throughout the County. In general, racks should be installed at neighborhood shopping centers, schools, and parks.
Bicycle Parking Ordinance

At minimum, the County should update their zoning code to include short-term and long-term bicycle parking requirements. Model ordinances are included in the Association of Pedestrian and Bicycle Professionals’ Bicycle Parking Guidelines, 2nd Edition. Such a bicycle parking ordinance should include:

**Short-term bicycle parking.** If the project is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 50 feet of the visitors’ entrance, readily visible to passers-by, for five percent of visitor motorized vehicle parking capacity, with a minimum of one two-bicycle capacity rack. Specifications for short-term bicycle parking:

- Bicycle parking space size (eight feet long, three feet wide).
- Bicycle rack type (should be U-lock compatible).
- Bicycle racks should be securely anchored to the surface or structure with fixtures that cannot be removed using common tools.

**Long-term bicycle parking.** For buildings with over ten tenant-occupants, provide secure bicycle parking for five percent of motorized vehicle parking capacity, with a minimum of one space. Acceptable parking facilities shall be convenient from the street and may include:

- Covered, lockable enclosures with permanently anchored racks for bicycles
- Lockable bicycle rooms with permanently anchored racks; and
- Lockable, permanently anchored bicycle lockers.

Bicycle parking placement guidelines should include discussion of safe, visible, and convenient locations, spaced far enough from walls or other objects so that it is usable by bicyclists. Design guidelines for bicycle parking and siting bicycle parking are included in Appendix A.

Shower/Locker Facilities at Employment Centers

Showers and clothes lockers are important for bicycle commuters with a rigorous commute or whose job requires formal office attire. Academic studies show shower and locker facilities at places of employment can be a factor in encouraging commuting to work by bicycle. Employees who exercise on their lunch breaks can also benefit from these facilities. While simpler end-of-trip facilities may be more feasible, consideration should be given to requiring shower and locker facilities in all developments with 100 or more employees.
The design of shower and locker facilities should accommodate both male and female employees and tenants. Small employment centers can provide a unisex restroom/shower room with a locking door. Larger employment centers that require more than one shower can add a separate shower and locker room to both the men’s and women’s restrooms. Maintenance of shower and locker facilities should be provided by the building management. Whenever possible, shower facilities should be located near bicycle parking facilities.

The Unincorporated County should encourage bicycle parking and shower/locker facilities with new development at major employment centers. This can be done through the permitting process.

**MULTI-MODAL CONNECTIONS**

Easy, convenient connections between transit and walking and biking trips are important aspects of the bicycle and pedestrian network. With the large distances between cities and the large gaps in the bicycle network in Stanislaus County, integrating walking and biking trips with transit allows people to travel further without traveling by private automobile. Stanislaus Regional Transit (StaRT) serves unincorporated Stanislaus County and has bike-rack equipped bus fleets, on a first-come, first-served basis. Figure 3-17 shows existing transit routes.

**Stanislaus Regional Transit (StaRT)**

Fixed Routes 10, 15, 40, 45, 60, 70 make up a countywide transit network that connects the cities and unincorporated areas of Stanislaus County. StaRT provides daily shuttle, runabout, and Dial-A-Ride service to select areas throughout the county. StaRT does not operate on Sundays and major holidays.

- Riders can transfer at no cost between StaRT and the following transit agencies and Dial-A-Ride providers:
  - Modesto Area Express (MAX)
  - Ceres Area Transit (CAT)
  - Bus Line Service of Turlock (BLST)
  - Ceres Dial-A-Ride (CDAR)
  - Riverbank/Oakdale Transit Authority (ROTA) Dial-A-Ride,
  - Escalon Transit (eTrans)
  - Dial-A-Ride Turlock (DART)
- All buses are equipped with two exterior bicycle racks. If bicycle racks are full, bike storage may be allowed in the wheelchair designated seat area of the bus, depending on the type of bus.
3.4 PEDESTRIAN FACILITIES

PEDESTRIAN FACILITIES

Pedestrian facilities can be broken into three basic categories, with implementation and use varying based on geographic location:

- **Walkways**—in urban and suburban contexts, sidewalks with curb ramps at intersections are typical and vary in width depending on land use contexts. In rural contexts, paved or unpaved graded shoulders may be typical, or a walkway may not be provided.

- **Crosswalks**—California Vehicle Code Section 275 defines a crosswalk as either “that portion of a roadway included within the prolongation or connection of the boundary lines of sidewalks at intersections” or “any portion of a roadway distinctly indicated for pedestrian crossing by lines or other markings.” So, legal unmarked crossings are those at intersections defined by the prolongation of sidewalk areas.

- **Crosswalk Enhancements**—the most basic crosswalk enhancement is crosswalk markings. More substantial enhancements include devices meant to induce improved motorist yielding or to control vehicles at the crosswalk. Control devices include signals and pedestrian hybrid beacons. Yield devices include a variety of in-pavement and sign-mounted flashing yellow beacons.

**Appendix B Pedestrian Design Guidelines** provides additional description for these facilities and guidance on their application.

EXISTING CONDITIONS

Although unincorporated Stanislaus County covers a large area, many of the unincorporated communities are organized around a grid system, which can support walking trips. In the western and eastern portions of the County, communities are largely isolated from one another, but the grid system of most of the communities provides internal connectivity and access to area schools. Unincorporated communities located along SR 99 are typically adjacent to incorporated municipalities, such as Modesto and Ceres, and are on the same grid system, allowing for additional connections.

Sidewalk coverage is limited in the unincorporated communities; however, Stanislaus County has recently constructed ADA curb ramps throughout communities such as Keyes and Salida. Walking trips in many unincorporated areas take place in the roadway, relying on low-volume streets or roadways with wide
shoulders. Where sidewalks exist, they are typically located in short segments adjacent to commercial areas or along the frontage of schools.

Stanislaus County has focused recent pedestrian expenditures on replacing ADA curb ramps within urbanized communities, with some funds going toward closing sidewalk gaps. The rural character of much of the County means that construction of sidewalk, ramps, crosswalks, and other pedestrian amenities must be strategically located to maximize benefit to the most users. As a result, roadways lined with commercial uses or those adjacent to schools have received priority. The following projects were constructed in the unincorporated areas of the county since 2008:

**TABLE 3-3**

**STANISLAUS COUNTY BUILT BICYCLE & PEDESTRIAN IMPROVEMENTS, 2008-2011**

<table>
<thead>
<tr>
<th>Community</th>
<th>Location</th>
<th>Improvements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bret Harte</td>
<td>Glenn Avenue</td>
<td>Sidewalk, Curb Ramps</td>
</tr>
<tr>
<td>Denair</td>
<td>Lester Road</td>
<td>Sidewalk, Curb Ramps</td>
</tr>
<tr>
<td>Empire</td>
<td>E, F, G, H, and I Streets</td>
<td>Curb, Curb Ramps</td>
</tr>
<tr>
<td>Empire</td>
<td>Abbie and South Streets</td>
<td>Sidewalk, Curb Ramps</td>
</tr>
<tr>
<td>Keyes</td>
<td>Downtown Area</td>
<td>Curb Ramps</td>
</tr>
<tr>
<td>Keyes</td>
<td>Maude Avenue</td>
<td>Sidewalk, Curb Extensions, Curb Ramps</td>
</tr>
<tr>
<td>Salida</td>
<td>Downtown Area</td>
<td>Curb Ramps</td>
</tr>
<tr>
<td>Shackelford</td>
<td>Broadway</td>
<td>Sidewalk, Curb Ramps</td>
</tr>
</tbody>
</table>

Source: Fehr & Peers, Interview with Stanislaus County Public Works Department, 2012.

**BICYCLE & PEDESTRIAN DEMAND MODELING**

In order to highlight areas with the highest potential for walking and biking demand a Geographic Information Systems (GIS) model based on land use factors, demographics, and roadway infrastructure was developed for this Plan. The model results are illustrated in a “heat map” for the entire county roadway network to show relative amounts of pedestrian and bicycle demand, and are based on weighing these different walking-related variables.
Methodology

The GIS model measured pedestrian and bicycle demand based on surrounding land use development, and time and proximity to key destinations. Based on those inputs, the model can help identify areas that may be the most desirable locations for walking trips and would therefore be target areas for investment.

The variables used in this model are based on US Environmental Protection Agency (US EPA) research on the relationship between the built environment and travel patterns. The variables shown to have the greatest effects on the number of people walking in a given area were used and broadly fall into four categories: built environment, proximity to walking destinations, demographics, and street network and connectivity. The methodology is detailed in Appendix C and D.

Analysis

The pedestrian and bicycle demand map can provide a guide to prioritization of pedestrian and bicycle improvement projects in the County. Areas with high potential for pedestrian demand are shown in green and yellow on Figure 3-18, with areas of low demand shown in red. Given the large scale of the County, the areas between these unincorporated communities score low and are not strategic locations for pedestrian improvements. The unincorporated communities throughout Stanislaus County have relatively high pedestrian and bicycle demand and largely connective street networks, with many schools located in denser residential neighborhoods. However, pedestrian improvements along Kansas Avenue or Carpenter Road in Salida, for example, would provide connectivity between residential areas and the retail and employment centers. Likewise, pedestrian improvements along Church Street in Empire, such as where 2nd Street crosses the railroad tracks or along Yosemite Boulevard/SR 132, would improve connections in the community and support safe routes to school. With potential for pedestrian demand adjacent to large arterial and collector streets, improvements might focus on installing sidewalks, reducing roadway crossing distances, and providing adequate pedestrian crossings at such locations.
Priority Areas

Multiple pedestrian priority areas are identified in unincorporated communities throughout Stanislaus County. Priority areas include:

- Main Street in Denair
- Kiernan Avenue (near Salida Middle School) in Salida
- Broadway Avenue/Finney Road in Salida
- Crows Landing Road in Bret Harte and Shackelford
- Glenn Avenue in Bret Harte
- Maude Avenue, 7th, and 9th Street area in Keyes
- Yosemite Boulevard/SR 132 in Empire

Each identified area should be prioritized for pedestrian improvements and investments. Potential pedestrian improvement projects along Crows Landing Road are included in this Plan to illustrate the range of possible pedestrian improvement projects.

Potential Pedestrian Improvement Projects

Potential projects are shown conceptually on Figure 3-19. The conceptual drawings present a range of solutions for the Crows Landing Road corridor, and feasibility analyses should be completed before moving forward with these conceptual design or any other designs that address the needs of pedestrians on the corridor.

Potential projects on Crows Landing Road focus on improving crossing conditions for pedestrians at signalized and uncontrolled crosswalks. In all cases, crossing distances are long and median refuges are not provided. Small medians currently exist at several intersections—these could be widened to six feet to provide protection for bicyclists or pedestrians with strollers, with median tips added to provide a full refuge. Additional treatments include the use of:

- High-visibility ladder-style crosswalks, advanced yield markings, and signalized devices, such as rectangular rapid flashing beacon at uncontrolled, multi-lane crosswalks.
- Yellow crosswalk markings within school zones.
- Directional ADA curb ramps whenever feasible.
Bicycle lanes are also shown on Crows Landing Road, consistent with the Crows Landing Road (#3) priority bikeway presented on Figure 3-15.

With the high number of collisions in the vicinity of Crows Landing Road, the range of projects indicated on Figure 3-19 may be eligible for Caltrans HSIP funding; however, additional funding sources should also be explored. Further information on funding is presented in Section 9.7.

Additional information on the proposed treatments and other pedestrian infrastructure are discussed further in Appendix B.

3.5 ADA INFORMATION

Stanislaus County does not currently have an ADA Transition Plan in place. However, Stanislaus County has been constructing curb ramps as sidewalks are constructed throughout the county. These have primarily been located in more urbanized communities and adjacent to elementary and civic uses.

The County Planning and Public Works departments should pursue universal access in Stanislaus County through a variety of means:

- Enforce ADA requirements as part of the permitting and entitlement process, using the draft Proposed Guidelines for Access Right-of-Way Guidelines (PROWAG) to ensure universal accessibility.
- Adopt citywide policy of constructing ADA curb ramps and any other accessibility measures, as described in PROWAG, routine practice in any new construction or improvement project within the public right-of-way.
- Prepare and implement a citywide ADA Transition Plan.

3.6 BICYCLE AND PEDESTRIAN PROJECT IMPLEMENTATION

FUNDING

Bicycle and pedestrian infrastructure and programs can be funded either directly through the County or through various competitive grant programs.
Past Expenditures

In the past five years, Stanislaus County has invested approximately $5.2 million in bicycle and pedestrian improvements, specifically targeting curb ramp construction and Class 1 bikeways. Table 3-4 shows pedestrian and bicycle improvements in Stanislaus County since 2008.
HSIP PEDESTRIAN PROJECTS
Crows Landing Road Crosswalk Improvement and Priority Bikeway Projects

Widen existing medians and construction median tips to provide pedestrian refuges

Construct curb extensions to reduce excess roadway width in conjunction with future roadway widening. Curb radii will need to take into account truck traffic in the area.

Install rectangular rapid flashing beacons, advanced yield markings, and “YIELD HERE TO PEDESTRIANS” signage at existing uncontrolled crosswalk.

*Not a candidate for a marked crosswalk without enhancements. Either remove or enhance with candidate treatments such as RRFB and HAWK pedestrian beacons. Requires further study.

Widen existing medians and construction median tips to provide pedestrian refuges, Construct new medians on Hatch Road

Widen existing medians and construction median tips to provide pedestrian refuges, Refresh existing yellow school crosswalk markings (may be standard crosswalk as intersection is signalized). Project may require coordinating with the City of Modesto.

3,700 feet (almost 3/4 mile) between signalized crosswalks

Existing narrow median with no pedestrian refuge/median tips

Existing narrow median with no pedestrian refuge/median tips

Faded yellow school markings, narrow medians
### TABLE 3-4
STANISLAUS COUNTY RECENT PEDESTRIAN IMPROVEMENTS

<table>
<thead>
<tr>
<th>ID</th>
<th>Area</th>
<th>Roadway</th>
<th>From</th>
<th>To</th>
<th>Class/Type</th>
<th>Mileage</th>
<th>Approximate Cost</th>
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<tbody>
<tr>
<td>1</td>
<td>Salida</td>
<td>Broadway</td>
<td>-</td>
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<td>Sidewalk, Curb Ramps</td>
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<td>2</td>
<td>Shackelford</td>
<td>Downtown Area</td>
<td>-</td>
<td>-</td>
<td>Curb Ramps</td>
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<td>$500,000</td>
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<tr>
<td>3</td>
<td>Keyes</td>
<td>Downtown Area</td>
<td>-</td>
<td>-</td>
<td>Curb Ramps</td>
<td></td>
<td>-</td>
</tr>
<tr>
<td>4</td>
<td>Keyes</td>
<td>Maude Avenue</td>
<td>7th Street</td>
<td>9th Street</td>
<td>Sidewalk, Curb Extensions, Curb Ramps</td>
<td></td>
<td>-</td>
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<tr>
<td>5</td>
<td>Bret Harte</td>
<td>Glenn Avenue</td>
<td>Ustick Road</td>
<td>Dallas Street</td>
<td>Sidewalk, Curb Ramps</td>
<td></td>
<td>$1,800,000</td>
</tr>
<tr>
<td>6</td>
<td>Denair</td>
<td>Lester Road</td>
<td>Main Street</td>
<td>North of High School</td>
<td>Sidewalk, Curb Ramps</td>
<td></td>
<td>$1,800,000</td>
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<tr>
<td>7</td>
<td>Empire</td>
<td>E, F, G, H, &amp; I Streets</td>
<td>2nd Street</td>
<td>Yosemite Boulevards</td>
<td>Curbs, Curb Ramps</td>
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<tr>
<td>8</td>
<td>Empire</td>
<td>Abbie Street, South Street</td>
<td>-</td>
<td>-</td>
<td>Sidewalk, Curb Ramps</td>
<td></td>
<td>-</td>
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<tr>
<td>8</td>
<td>County (west of Ceres)</td>
<td>Hatch Road</td>
<td>Gilbert Street</td>
<td>Clinton Street</td>
<td>Wide Shoulders</td>
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<td>-</td>
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<tr>
<td>9</td>
<td>County (near Ceres)</td>
<td>Service Road</td>
<td>Blaker Street</td>
<td>Central Avenue</td>
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<td>10</td>
<td>County (Westley)</td>
<td>Howard Road</td>
<td>Grayson Community Center</td>
<td>East of SR 33</td>
<td>Class 1 Path</td>
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</tr>
</tbody>
</table>


**Funding Need**

The total future funding need for new bicycle infrastructure in Stanislaus County is $118,555,153, based on planning-level cost estimates. The total funding need for first tier priority projects is approximately $19,297,958.
Countywide priority bikeways and projects within the pedestrian priority areas can be funded through a variety of sources. Because the countywide priority bikeways are multi-jurisdictional, coordination between agencies will be critical.

**Recommended Funding Sources**

Bicycle and pedestrian infrastructure and programs can be funded either directly through County capital funds or through various competitive grant programs. Available funding sources are summarized in Table 3-5. The most applicable funding sources for the improvements recommended by this plan are:

- CMAQ Formula and Competitive Funding
- Highway Safety Improvement Program (HSIP)
- Safe Routes to School Grants (SR2S)
- Remove II Bicycle Infrastructure Component Grants
- Bicycle Transportation Account

**Congestion Mitigation and Air Quality Improvement Program (CMAQ)**

Congestion Mitigation and Air Quality Improvement Program (CMAQ) grants are administered on a per-population and competitive basis by StanCOG. The program is jointly administered by the Federal Highway Administration and Federal Transit Administration to increase attainment of the National Ambient Air Quality Standards (NAAQS). Based on population, StanCOG received $7,441,852 in CMAQ funding for FY2010-2011. For FY 2014 through FY 2016, $7,129,539 was available for CMAQ Competitive Funds. The cost-effectiveness calculation, based on the Air Resource Board (ARB) methodology, was the sole criteria for selected competitive funds. For FY2014-2015 and FY 2015-2016, all projects with a cost-effectiveness calculation of $64.45 were selected.

Stanislaus County communities routinely use the formula-based funding for the construction of bicycle and pedestrian projects. Seeking competitive grant funding for bicycle and pedestrian projects may be another opportunity to secure funding for the build-out and improvement of bicycle and pedestrian networks.

**Highway Safety Improvement Program (HSIP)**

Caltrans administers two funding programs for roadway safety improvements: the Highway Safety Improvement Program (HSIP) and the Highway Rural Roads Program (HR3). These programs use cost-benefit ratios as a primary factor in the awarding of applications. Because both of these programs focus
on roadway safety, projects with a high-frequency of documented collision history, particularly severe collisions, are typically ranked higher. Roadways with documented bicycle and pedestrian collision history, as discussed in Section 9-3 of this Plan, may be well-qualified for HSIP and HR3 applications, particularly since many of the proposed projects would improve bicyclist and pedestrian safety at a lower cost than many of the highway projects also eligible under this funding source.

For FY 2013, Caltrans estimates that $100 million in Highway Safety Improvement Program (HSIP) funding will be available. While this funding source is often used for major roadway improvement projects, installation of traffic signals, and most other cost-intensive projects, funding has routinely been awarded to bicycle and pedestrian projects. Successful projects have included:

- Median refuges and curb extensions
- Curb, gutter, and sidewalk
- Paved shoulders
- Upgraded traffic signals with pedestrian countdown signals and pedestrian-scale lighting
- Bicycle lane striping
- Crosswalk striping
- In-pavement flashers and rectangular rapid flashing beacon (RRFB) at crossings

Many of these projects were applied for as standalone bicycle and pedestrian improvement projects; some bicycle and pedestrian improvements were included with a broader package of roadway improvement projects. The average programmed federal funding amount was $400,000.

An additional $15 million is dedicated for the Highway Rural Road Improvement Program (HR3), for which many Stanislaus County communities are eligible. To be eligible for HR3, roadway improvements must occur on a roadway with a functional classification of:

- Rural major collector
- Rural minor collector
- Rural local road

Programmed federal funds for HR3 projects averaged $580,000 in the third funding cycle (2011), and most projects funded the widening or improvement of shoulders. Most of the priority bikeway projects included in this Plan consist of Class 3 bicycle routes with widened shoulders.
Safe Routes to School (SR2S)

Prior to 2012, the state and federal Safe Routes to School programs were potential funding sources for both bicycle and pedestrian planning and infrastructure projects that improve access to schools. Caltrans administered two Safe Routes to School programs: the state-legislated program (SR2S), authorized by California Streets and Highways Code Section 2330-2334, and the federal program (SRTS), authorized by the SAFETEA-LU federal funding bill. The SR2S and SRTS programs provided $24.25 million and $21 million, respectively, in annual funding. As of March 2013, the future of Safe Routes to School funding is improbable. Neither MAP-21, the federal funding bill for transportation spending, or the proposed California’s Governor’s Budget 2013-14, include set-aside funds for Safe Routes to School projects.

There are California state assembly bills currently under consideration that propose state funding for Safe Routes to School. Should Safe Routes to School funding continue beyond 2013, several of the proposed bikeways can be funded by Safe Routes to School programs. Successful applications are typically oriented toward pedestrian infrastructure projects; though bicycle projects may also be included in project packages.

Remove II Bicycle Infrastructure Component Grants

The San Joaquin Valley Air Pollution Control District (SJVAPCD) offers grant and incentive programs to help reduce air pollutants in the eight-county San Joaquin Valley, which currently does not meet the required National Ambient Air Quality Standards for ozone and particulate matter. The SJVAPCD Remove II Program includes the Bicycle Infrastructure Component, which provides incentives for the construction of Class 1 bicycle paths or Class 2 bicycle lanes that directly benefit commuters in the San Joaquin Valley. Up to $150,000 is available for Class 1 bicycle paths and $100,000 for Class 2 bicycle lanes per application. Applications must be for either a Class 1 or Class 2 facility, not both; however, multiple applications may be submitted. Grants are accepted on a first-come, first-served basis and the following criteria should be considered:

- Project must contribute to an increase in bicycle commuting and a reduction in auto emissions
- Proposed bikeways that close gaps in the network are highly encouraged
- Project should improve bicycle-transit connections
- Project should benefit disadvantaged communities
- Projects should target areas of high demand such as schools, parks, shopping areas, and commercial areas
- Co-funding from other sources is encouraged
Additional information can be found at: [http://www.valleyair.org/transportation/removeII/B1.htm](http://www.valleyair.org/transportation/removeII/B1.htm).

*California Bicycle Transportation Account (BTA)*

Bicycle facilities can be funded through the California Bicycle Transportation Account (BTA). Annually, $7.2 million is available for projects through the BTA.

**Additional Funding Sources**

The majority of public funds for bicycle and pedestrian projects are derived through a core group of federal and state programs. Federal funds from the Surface Transportation Program (STP), Transportation Alternatives (TA), and Congestion Mitigation Air Quality (CMAQ) programs are allocated to the County and distributed accordingly.

Limited amounts from the Local Transportation Fund (LTF), which is derived from a ¼ cent of the general sales tax collected statewide, can be used for bicycle and pedestrian facilities.

The Federal Safe Routes to School (SRTS) program was previously authorized under SAFETEA-LU; when MAP-21 superseded SAFETEA-LU, the SRTS program was discontinued. Instead, SRTS programs and infrastructure are eligible to compete for funding as a part of a new program called Transportation Alternatives (TA). As of December 2012, it is unknown whether California will dedicate a specific portion of TA funds for Safe Routes to School projects.

The California State Parks Recreational Trails Program provides funds annually for recreational trails and trail-related projects. Cities are eligible applicants for the approximately $2.3 million available annually. The program requires an applicant match of 12 percent of the total project cost.

In 2010, the California Strategic Growth Council (SGC) awarded $20 million through the Proposition 84 Sustainable Communities Planning Grant and Incentives Program. Sustainable Community Planning Grant awards totaled $24.6 million in 2012; the SGC plans to award another cycle of grants in 2013. Eligible projects include plans that support greenhouse gas emission reduction and sustainable communities. Twenty percent of the grant funds are set aside for Economically Disadvantaged Communities (EDC), which describes some areas of Stanislaus County.

Caltrans Transportation Planning Grants are available to jurisdictions and can be used for planning or feasibility studies. The maximum funding available per project is $300,000.
The California Office of Traffic Safety (OTS) administers the General OTS Grant opportunities. Pedestrian safety is a priority area for grant funding. Funding can be used for certain police equipment, for signage (vehicle speed feedback signs), and for outreach materials and campaigns.

The Land and Water Conservation Program offers funds to states and through states to local governments for trails acquisition and development.

Private donations may be an additional source of funding.

**FUNDING STRATEGY**

Although every community is unique, in our experience the following elements are important factors in successfully obtaining grant funding for projects:

- Identify local staff who can support the grant applications and oversee project implementation
- Develop a community vision
- Involve multiple stakeholders in the process
- Identify projects that:
  - Connect communities
  - Address safety issues
  - Support economic development
  - Improve access to schools
- Prioritize projects
- Identify projects that are most likely to successfully compete for grants
- Identify project champions
- Identify multiple parties to be co-applicants
- Identify local match opportunities
## TABLE 3-5
### FUNDING SOURCE APPLICABILITY MATRIX

<table>
<thead>
<tr>
<th>Funding Source</th>
<th>Bicycle Projects</th>
<th>Pedestrian Projects</th>
<th>Other Projects</th>
<th>Planning and Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Class 1 Bicycle Path</td>
<td>Class 2 Bicycle Lane</td>
<td>Class 3 Bicycle Route</td>
<td>Class 3.5 Bicycle Route</td>
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<td>Proposition 84 Sustainable Communities Planning Grant and Incentives Program</td>
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<td>California Office of Traffic Safety (OTS) Grants</td>
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<td>Land and Water Conservation Program</td>
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### Notes:
1. Includes non-pavement elements such as vehicle speed feedback signs and signal, police, or crossing guard equipment.
2. ● Funding source is applicable ○ Funding source is potentially applicable ● Funding source is not applicable

Source: Fehr & Peers, 2013
POLICY RECOMMENDATIONS

In addition to the proposed bicycle and pedestrian projects, policy changes that support walking and biking can help establish a policy rationale for the creation of these facilities. The following policies are recommended:

- Adopt bicycle parking requirements in the Zoning Code based on Section 9-4 of this Plan.
- Consider relaxing the automobile Level of Service (LOS) C standard set forth in the Stanislaus County General Plan to limit continued roadway widening throughout the County, especially where pedestrian demand is high.
- Consider updating Table 3-6 Recommended Approach Lanes of the Stanislaus County Standard Plans (2007) to limit continued roadway widening, especially where pedestrian demand is high, and add turn pockets based on transportation impact studies.
- Consider updating Street Classification tables and plates of Standard Plans to allow for six-foot bicycle lanes with striped buffer (Class 2 Buffered Bicycle Lane), as right-of-way allows, as standard practice on collectors and arterials.
- Update Median plates in the Standard Plans to include detail of median tips, to create pedestrian refuges as standard practice when medians are constructed.
- Continue the current practice of widening roadway shoulders when overlays are completed and adopt a policy of signing those roadways with Class 3 Bicycle Route signage, as detailed in this Plan.
- Construct, stripe, and sign all bicycle facilities to, at minimum, Caltrans standards, as described in Appendix A of this Plan.
- Coordinate with incorporated jurisdictions on phasing, grant funding, and construction of priority bikeways to create continuous bicycle facilities.
- Adopt a “Complete Streets” policy or “Routine Accommodation” type of policy to encourage accommodation of bicyclists and pedestrians of all ages and experience levels with new construction or improvements to the public right-of-way, and update the General Plan to reflect these policy goals.
- Adopt and implement the ADA Implementation Plan to guide inventory accessibility needs and future improvements.
- Adopt a policy of making the construction of ADA curb ramps and any other accessibility measures, as described in PROWAG, routine practice in any new construction or improvement project within the public right-of-way.
• When competing transportation impact analyses, collect bicycle and pedestrian volumes at each study location to address safety and circulation issues for those modes.

### 3.7 SAFETY AND EDUCATION

In addition to implementing bicycle and pedestrian facilities, programs focused on education, encouragement, and enforcement can increase the number of people who bicycle and walk in the County.

#### EXISTING PROGRAMS

Through the Commute Connection program, StanCOG currently provides several venues for education and encouragement programs. The Commute Connection program hosts the Modesto Family Bicycle Day Event each year during Bicycle to Work Month in May. The day-long event takes includes bicycle rodeo events to teach bicycle skills and safety and includes free helmet giveaways for local youth.

- Multiple programs and events currently exist in Stanislaus County to encourage biking and walking. These programs include: Stanislaus County’s Center for Human Services’ “On the Safe Side” program, funded through Children and Families Commission.
  - Pedestrian and bicycle safety education programs for children 0-5 years old.
- Annual Cheese and Wine Century Festival Ride, sponsored by Stanislaus County Bicycle Club
  - Offers clinics on effective cycling, maintenance, and safety.
- Annual International Walk to School Day, promoted throughout the month of October by Stanislaus County Safe Communities Coalition.
  - Promotional and informational assemblies on pedestrian and bicycle safety.
- Annual Bicycle to Work Week in May, sponsored by the Commute Connection Program
- Walk to School Safety Event and Bicycle Rodeo at Empire Elementary, sponsored by Memorial Hospital (2009)
  - Helmets and safety pads giveaway
  - Sponsored by Memorial Hospital of Modesto
  - Walking school bus
PROPOSED EDUCATION AND ENCOURAGEMENT PROGRAMS

Education programs seek to reduce collisions and help people feel safe and comfortable while biking or walking. These programs include elements that help motorists understand the rights of bicyclists and pedestrians. Simultaneously, education campaigns should target the general public and specific groups that have unique education needs or play a greater role in perpetuating collisions and other dangerous situations. Key target audiences include students, children and families, senior citizens, and drivers.

School Programs

Basic bicycling and walking skills and safety courses can be incorporated into school curricula. Often, these programs are facilitated by a local volunteer or by a member of local police, the Sheriff’s Department, or the California Highway Patrol. Anecdotally, many students may be walking to school. With local schools and residential areas located near state highways, the need for safety education related to walking and biking is important. Additional resources and information are available at the Safe Routes to School National Partnership website: http://www.saferoutespartnership.org/local. Programs could include:

- Walk and Roll to School days
- Pedestrian and bicycle safety curricula in the classroom or assemblies

Adult Education

Many less-experienced adult bicyclists are unsure how to negotiate intersections and how to ride with traffic on streets and roads. Adult education efforts which are sponsored by government agencies, major employers, local bicycle enthusiasts or other volunteer groups can help address this need. An annual or semi-annual class could be offered free of charge to provide information on how to avoid collisions and citations, how to ride safely and improve visibility, and understand the legal rights of cyclists. Instructors from elsewhere in the state or qualified local instructors or volunteers could teach this class to cyclists, tailored to local needs and issues. Future expansion ideas could include adding on-the-bicycle training.

Online Bicycle Maps

The County should provide existing bicycle network maps on their Web page for residents to use as a trip-planning resource, including the countywide maps developed in this Plan. The maps could be used by local residents and visitors to plan their bicycle trips or alternatively could be used as a marketing piece to attract tourist bicycling in the County and surrounding area. The website could also include educational information, including hand signals, bicycle lighting, and safety.
ENFORCEMENT PROGRAMS

The County should work with the local Police Department, Sheriff, and California Highway Patrol (CHP) to conduct enforcement campaigns intended to improve bicyclist and pedestrian safety. Sample enforcement programs include the following.

Targeted Moving Violations

Decreasing moving violations committed by motorists, bicyclists, and pedestrians alike is critical to improving safety and encouraging all roadway users to share the road. The County should work with the Sheriff and CHP to develop targeted enforcement efforts or sting operations. Advertising campaigns help the targeted violation efforts reach a wider audience.

Moving violations by motorists that affect bicyclists and pedestrians include:

- Speeding
- Passing without sufficient clearance
- Driving in the bicycle lane
- Right-turning in front of bicyclists
- Failing to signal
- Double parking
- Failing to yield to pedestrians at a crosswalk

Moving violations by bicyclists and pedestrians include:

- Failing to stop at a stop sign
- Failing to signal
- Wrong-way riding
- Riding without lights at night
- Failing to wear a helmet (if under 18 years of age)
- Jaywalking

Radar Speed Signs

Radar speed signs feature a changeable message sign linked to a radar unit; the signs display the vehicle's actual speed as the vehicle approaches the sign. Radar speed signs can be mounted permanently to a pole (where they are powered by hard wire or a solar unit) or alternatively they can be mounted to a trailer (also known as a "speed trailer") and deployed on a temporary basis. Studies in the United States have shown that radar speed signs are an effective way to slow traffic. The County should consider installing additional radar speed signs within school zones in partnership with the school district, and on state highways such as F Street and Yosemite Boulevard. Speed trailers should be deployed to different parts of the County regularly to remind drivers countywide to obey the speed limit.
4.0 CITY OF CERES

4.1 Introduction ........................................................................................................................................4-2

4.2 Setting and Context ..........................................................................................................................4-4

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4.1 INTRODUCTION

PURPOSE OF THE PLAN

The City of Ceres Existing and Planned Bicycle and Pedestrian Facilities chapter is intended to be both a chapter of the Stanislaus County of Government (StanCOG) 2012 Bicycle and Pedestrian Master Plan and a standalone document that can be used as a guide for prioritizing bicycle and pedestrian projects within the City of Ceres. The StanCOG Bicycle and Pedestrian Master Plan is a unifying document that coordinates the existing and planned bicycle and pedestrian networks of Stanislaus County communities to serve local and regional needs. This document meets the Bicycle Transportation Account (BTA) requirements for a Bicycle Transportation Plan (BTP), which, once adopted by City Council and approved by StanCOG, will make the City of Ceres eligible for BTA funding and improve local competitiveness for other funding sources to implement this plan.

CALTRANS COMPLIANCE

The Bicycle Transportation Account (BTA) is a Caltrans program that provides grant funding to cities and counties in support of bicycle projects benefitting bicycle commuters. In order to apply for these funds, local jurisdictions must prepare and adopt a Bicycle Transportation Plan that meets the requirements described in Section 891.2 of the Streets and Highways Code. Table 4-1 presents the required elements of a Bicycle Transportation Plan and indicates where they are located in this plan.

Local agencies without a municipal bicycle, pedestrian, or bicycle and pedestrian master plan can use the 2012 StanCOG Bicycle and Pedestrian Master Plan to establish eligibility for BTA Funding until 2017, as long as items “a” through “k” are addressed for that city and the unincorporated areas of the county.
### TABLE 4-1

**STREET AND HIGHWAYS CODE SECTION 891.2 REQUIREMENTS ADDRESSED IN THIS PLAN**

<table>
<thead>
<tr>
<th>Item</th>
<th>Requirement</th>
<th>Section</th>
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<tbody>
<tr>
<td>a</td>
<td>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.</td>
<td>Section 4-2 Demographics</td>
</tr>
<tr>
<td>b</td>
<td>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.</td>
<td>Section 4-2, Figure 4-1</td>
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<td>c</td>
<td>A map and description of existing and proposed bikeways.</td>
<td>Section 4-3, Figures 4-4 &amp; 4-5</td>
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<td>d</td>
<td>A map and description of existing and proposed end-of-trip bicycle parking facilities.</td>
<td>Section 4-3 Bicycle Parking, Figure 4-2</td>
</tr>
<tr>
<td>e</td>
<td>A map and description of existing and proposed bicycle transport and parking facilities for connections with and use of other transportation modes.</td>
<td>Section 4-3 Multi-Modal Connections, Figure 4-9</td>
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<td>f</td>
<td>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.</td>
<td>Section 4-3 Bicycle Parking, Figure 4-2</td>
</tr>
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<td>g</td>
<td>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 the resulting effect on accidents involving bicyclists.</td>
<td>Section 4-7 Safety &amp; Education</td>
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<td>h</td>
<td>A description of the extent of citizen and community involvement in development of the plan, including, but not limited to, letters of support.</td>
<td>Section 4-3, 4-4</td>
</tr>
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<td>i</td>
<td>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.</td>
<td>Section 4-2 Planning &amp; Policy Context</td>
</tr>
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<td>j</td>
<td>A description of the projects proposed in the plan and a listing of their priorities for implementation.</td>
<td>Sections 4-3 &amp; 4-4, Figures 4-6, 4-7, &amp; 4-8</td>
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<td>k</td>
<td>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.</td>
<td>Section 4-6</td>
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</tbody>
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4.2 SETTING AND CONTEXT

JURISDICTION OVERVIEW

Located along Highway 99, Ceres is home to over 45,000 people. The City is approximately 9.35 square miles of flat terrain. Ceres is located adjacent to Modesto, unincorporated Stanislaus County, Hughson, and Keyes. Together, these communities form a continuous stretch of urbanized development along SR 99 and abutting the Tuolumne River. Though Ceres shares a grid with the other three communities, connections north to Modesto are limited to Mitchell Road, which has sidewalk facilities on the bridge but not along Mitchell Road in Modesto. SR 99 and the railroad tracks bisect the city, and the Tuolumne River bounds the City to the north.

LAND USE ATTRACTORS AND GENERATORS

Figure 4-1 presents existing land use patterns in Ceres. Land use attractors are primarily located around the downtown area, between East Whitmore Avenue and Park Street, and along major arterials in the newer portions of the city, such as East Hatch Road and Mitchell Road. Major shopping and retail destinations are located along major arterials and are surrounded by residential neighborhoods. Retail destinations are located along East Hatch Road, just east of SR 99, and along Mitchell Road between East Hatch Road and East Whitmore Avenue. Though auto-oriented, the large shopping centers in Ceres typically abut residential neighborhoods. Many light industrial uses are co-located west of SR 99 along the highway from Pine Street to the area north of east Whitmore Avenue. Additional industrial and manufacturing uses are located south of East Service Road on the west side of SR 99.

SCHOOLS AND SCHOOL ACCESS/SAFE ROUTES

Most schools in Ceres are located in residential neighborhoods. Several schools are located adjacent to the downtown area, with Ceres High School, Walter White Elementary School, and Argus High School all situated within a few blocks of commercial development and government buildings. Many schools are located along the same major arterials, including Moffett Road/9th Street and Central Avenue. Schools are shown on Figure 4-2.

PARKS AND COMMUNITY FACILITIES

Parks are located throughout Ceres. The Tuolumne River on the north border of Ceres provides regional recreation opportunities on the Modesto side of the river. Parks are also shown on Figure 4-2.
Figure 4-1
Ceres Existing Land Uses

June 2013
Figure 4-2 City of Ceres Schools and Parks

Existing

- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders
- Class 3.5 - Bicycle Route with Share The Road signs

Proposed

- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders
- Class 3.5 - Bicycle Route with Share The Road signs

DEMOGRAPHICS AND EXISTING TRANSPORTATION PATTERNS

Data from the American Community Survey 5-Year Summaries from 2005 to 2009 was analyzed to understand commute patterns in unincorporated Stanislaus County. The American Community Survey is conducted each year to provide ongoing data collection between the Decennial Census and includes questions that are not asked in the Decennial Census. The 2005-2009 summaries are used for this Plan, because the 2006-2010 summaries aggregated taxicab, motorcycle, and bicycle use into one category, which does not give an accurate picture of bicycle commuting in the City of Ceres. The American Community Survey includes information such as the primary means respondents use to get to work as well as information on age, income, and auto ownership. The means of transportation to work question specifically focuses on commuting trips and does not record the school, shopping, and recreational trips that occur by various modes of transportation. The mode split information also does not account for commuters who may carpool or bicycle to work some days but drive alone other days, or for trips that include both walking or bicycling and another mode (such as transit or carpooling), as only one response is allowed. As such, walking and bicycling trips tend to be underrepresented in this data set.

Ceres has one of the lower single occupancy vehicle (SOV) commuter trip rates in Stanislaus County, at 78%. This is primarily due to the large share of carpool trips (15%) that are made in the city during commute times. Walking trips represent 2.1% of all commute trips in Ceres, and bicycling also accounts for 0.4% of all work trips. Public transit makes up 0.4% of work trips.

Accounting for schools trips, recreation trips, and other non-work related trips, the overall bicycle mode split is likely higher than 0.4%. According to the Census 2010 data, there are 12,692 households in Ceres. Assuming nine daily person trips per household, approximately 425 work trips are made by bicycle each day in Ceres.

Future bicycle trips will depend on a variety of factors such as the availability of well-connected facilities and the location, density, and type of future land development. With appropriate bicycle facilities in place and implementation of bicycle support facilities, such as bicycle parking, mode share could increase countywide. Doubling the current mode split (0.4% for work trips) would result in approximately 850 work trips based on the number of households in 2010.

COLLISION DATA

SWITRS collision reports were collected and analyzed over a three-year period (2008-2010). The database includes collisions reports recorded by both local police officials and the California Highway Patrol. Bicycle and pedestrian collision data can aid in the identification of problematic areas for bicycles and
pedestrians; however, a high frequency of collisions in a particular neighborhood may also indicate an abundance of bicyclists and pedestrians using a particular route.

From 2008 to 2010, Ceres recorded 94 bicycle and pedestrian collisions. Of those collisions, 39 involved pedestrians and 55 involved bicyclists, shown on Figure 4-3. By way of comparison, in 2010, Ceres had 14 bicycle and 14 pedestrian fatalities and injuries, ranking Ceres 22nd and 41st out of 93 California cities between 25,001 and 50,000 people for highest pedestrian and bicycle fatalities and injuries, respectively, according to the California Office of Traffic Safety. Approximately 50% of the collisions occurred at a mid-block location. The highest numbers of pedestrian collisions were recorded at or near Herndon Road/East Hatch Road, Mitchell Road/East Hatch Road, and Garrison Street/Moffett Road. Multiple bicycle collisions were recorded at Herndon Road/East Hatch Road, Moffett Road/East Hatch Road, Central Avenue/East Whitmore Avenue, and Fowler Road/Mitchell Road. The high frequency of collisions at these locations indicates that these areas have higher pedestrian and bicyclist activity, which may contribute to the higher number of collisions. These areas should be considered high priority for future bicycle and pedestrian investments.

LOCAL OPPORTUNITIES AND CONSTRAINTS

The following opportunities and constraints for improving pedestrian and bicycle facilities in Ceres include considerations such as existing distribution of urbanized areas throughout the county, road infrastructure and connectivity, sidewalk coverage, and existing policies and agreements with local agencies.

Opportunities

- Existing canal agreement with Turlock Irrigation District (TID) and built Class 1 bicycle paths paralleling canal on East Hatch Road.
- Grid of existing canals that could be developed in the future, depending on funding.
- Close proximity to the employment centers, shopping, and other amenities in Modesto to the north.
- Close proximity and street grid connectivity to the neighboring communities of Bret Harte and Bystrom.
Figure 4-3 City of Ceres Bicycle & Pedestrian Collisions, 2008-2011

- **Pedestrian/Auto Collision**
- **Bicycle/Pedestrian Collision**

**Existing**
- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders
- Class 3.5 - Bicycle Route with Share The Road signs

**Planned**
- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route

**Proposed**
- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders
- Class 3.5 - Bicycle Route with Share The Road signs

Constraints

- SR 99 and active railroad tracks divide the eastern and western portions of Ceres.
- County islands are located north of the East Hatch Road portion of the city and provide discontinuous development that may not meet the City of Ceres’ standards.
- Limited access across the Tuolumne River into Modesto that is compounded by industrial and aviation uses on the north side of the river.

PLANNING AND POLICY CONTEXT

The following section summarizes past related planning efforts and establishes a policy framework to guide future transportation decisions and capital improvement programming. This information helps to ensure infrastructure improvements are closely coordinated with past and ongoing planning efforts.

Ceres General Plan (1997)

The General Plan devotes significant attention to Non-Motorized transportation in the Land Use and Community Design and Transportation and Circulation elements. A bicycle circulation map is included as Figure 2-2 in the Plan. The Plan states that “Improving the ability for Ceres residents and workers to walk or bicycle not only reduces automobile trips, with benefits for air quality, but it also promotes greater community interaction. This is one of the small-town qualities that the General Plan seeks to preserve and enhance.”

Several Land Use and Community Design policies apply to designing new residential and commercial development to promote bicycling and walking. Transportation and Circulation policies promote connectivity and walking and bicycling on residential streets, bicycle parking, and development of a comprehensive bicycle network. Additionally, the Public Facilities and Services element includes a policy to encourage siting schools in areas with safe and convenient pedestrian and bicycle access. Similarly, the Recreational and Cultural Resources element encourages the use of alternative modes by requiring new development to provide adequate pedestrian and bicycle facilities.

Proposed implementation programs include development of residential design guidelines to promote pedestrian- and bicycle-friendly development; review of local street width requirements to identify opportunities for narrower, more pedestrian-friendly streets; revision of the Zoning Ordinance and development standards to incorporate bicycle parking standards; negotiating with the Turlock Irrigation
District to use canal rights-of-way for pedestrian pathways and Class 1 bicycle paths; and including provisions for funding non-automotive transportation in capital improvement planning.

**Mitchell Road Specific Plan (1995)**

The Mitchell Road Specific Plan includes limited provisions for non-motorized transportation. As stated in the Appendix, "Specific Plan Design Guidelines provide for pedestrian walkways along major streets and connector streets, which connect developments through natural open space areas," and "The Design Guidelines encourage bicycle lanes along secondary roadways and canals, in addition to the development of courtyards, atriums, and other outdoor gathering and eating areas."

### 4.3 BICYCLE FACILITIES

#### BICYCLE FACILITIES

Bicycle facilities can be divided into two types:

- **Bikeways**—on-street or off-street facilities provided for bicycle travel
- **Support Facilities**—facilities used by bicyclists when they reach their destination, such as bicycle parking

#### Bikeways

Chapter 1000 of the Caltrans *Highway Design Manual* defines three classes of bicycle facilities and details the minimum requirements for those facility types:

- **Class 1 Bicycle Paths**—a paved right of way completely separated from any street or highway
- **Class 2 Bicycle Lanes**—a striped and stenciled lane for one-way travel on a street or highway
- **Class 3 Bicycle Routes**—a typical roadway identified as a preferred bicycle route with signage. They may also include shared use lane markings, "SHARE THE ROAD" signage, or wide shoulders, as described in *Appendix A Bicycle Design Guidelines*.

In this Plan, a Class 3.5 bicycle route designation is also used. In the context of this plan, Class 3.5 facilities indicate a Class 3 bicycle route, as defined by Caltrans, with wide shoulders, typically four to eight feet in width. Class 3 Share the Lane indicates Class 3 bicycle routes, as defined by Caltrans, with "SHARE THE ROAD" signage, typically on narrow, rural roadways. These treatments are further defined on Figure 1-1 and in *Appendix A Bicycle Design Guidelines*. Figure 1-1 provides cross-sections and additional
description of these facilities, including Caltrans minimum requirements as well as recommended cross-section widths and additional treatments.

**Support Facilities**

Support facilities are critical to bicycle use, especially as a means to encourage bicycle commuting. Support facilities consist primarily of:

- **Bicycle Parking**—bicycle parking supply should vary to accommodate short-term and long-term trips and consist of two basic types:
  - **Short-Term Parking**—bicycle racks for users who need to stop for several hours or less, placed adjacent to key destinations such as shopping areas, schools, and parks
  - **Long-Term Parking**—lockable bicycle lockers, bicycle cages, or bicycle rooms that only users are allowed access to, placed at major employment areas, schools, and transit centers.

- **Shower and Changing Space**—showers and changing areas provide longer-distance commuters with an area to change and get ready for work or school

- **Secure Storage Areas**—locker-type storage areas provide room to store a change of clothes or bicycle gear.

**EXISTING BIKEWAYS**

As shown in Figure 4-4, Ceres has over 12 miles of existing bikeways. The majority of Ceres' bikeways are Class 1 and Class 2 facilities, with two segments of Class 3 bicycle routes west of SR 99. In 2011-2012, the City of Ceres completed a major east-west Class 1 connection along East Hatch Road, from Herndon Road to Eastgate Boulevard. This new path is a regionally significant east-west connection connecting unincorporated neighborhoods and Modesto to the west with Hughson to the east.

Whitmore Avenue and East Hatch Road are the two major east-west auto connections, and they also form the east-west backbone of the bicycle network. Facilities along Whitmore Avenue have gaps in between them, with gaps between Moore Road and Boothe Road and the railroad tracks east of Nickerson Drive to Blaker Road. East Hatch Road provides a continuous Class 1 bicycle path from Herndon Road to Eastgate Boulevard. Segments of north-south bikeways exist in the eastern portion of the city on Mitchell Road and Boothe Road. Bicycle facilities are very limited west of SR 99, and north-south connections are needed to connect the Class 1 bicycle paths on Hatch Road with the Class 2 bicycle lanes on Whitmore Avenue.
Figure 4-4 City of Ceres Existing Bikeways

Existing
- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders
- Class 3.5 - Bicycle Route with Share The Road signs

Appendix E lists existing and proposed bikeways in Ceres. Appendix F presents the results of the StanCOG BPAC’s community survey (2011), which includes information on identified needs and opportunity areas throughout the County.

PROPOSED IMPROVEMENTS

The proposed bikeway network was developed to increase utilitarian and recreational bicycling in the City of Ceres by all levels of bicyclists. The proposed bikeway network was established based on input from the StanCOG BPAC, City of Ceres staff input and policy documents, and recommendations made in the 2008 StanCOG Non-Motorized Transportation Master Plan. The proposed bikeway network includes Class 1 bicycle paths, Class 2 bicycle lanes, and Class 3 bicycle routes that connect to destinations likely to generate or attract bicycle travel. Figure 4-5 shows the proposed City of Ceres bikeway network. Segments listed as “planned” are proposed segments that are anticipated to be implemented within five years based on information provided by local officials.

PROJECT PRIORITIZATION

Facilities within the City of Ceres were prioritized to address the need for local and regional connections. Because the geographic area of the county is spread out, it is important to prioritize these projects because of the long length of each proposed bikeway and the limited financial resources to implement and maintain facilities.

Prioritization Methodology

The project prioritization methodology is distinct and separate for projects within incorporated jurisdictions and regional priority bikeways located in unincorporated Stanislaus County, and is outlined below. Each methodology is presented in Appendix C and D. Within the City of Ceres, selected facilities were prioritized in order to establish significant regional routes through incorporated urban areas. Priority bikeways through Ceres were selected using a bicycle and pedestrian demand model developed for Stanislaus County and through the feedback of the StanCOG Bicycle and Pedestrian Advisory Committee (BPAC). Using the demand map as a base, priority bikeway alignments through incorporated areas were selected to:

- Connect local areas of highest biking and walking demand with the most direct route possible;
- Connect cities and/or neighboring unincorporated communities along the most direct route; and
- Create continuous countywide bikeways.
Figure 4-5 City of Ceres Proposed Bikeways

Existing

- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders
- Class 3.5 - Bicycle Route with Share The Road signs

Planned

- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route

Proposed

- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders
- Class 3.5 - Bicycle Route with Share The Road signs

Each proposed bikeway project in the unincorporated county was scored on the follow criteria, which were given equal weight:

- Closure of a critical gap
- Immediate safety need
- Access to key destinations
- Feasibility

**Priority Network**

The countywide bicycle network is presented on Figure 4-6. The following countywide priority bikeways have segments in Ceres:

- Hatch Road (#3), connecting Ceres, unincorporated County, and Hughson.
- Oakdale Road-Mitchell Road-Moore Road (#10), connecting Riverbank, unincorporated County, Modesto, and Ceres.

These prioritized regional routes through cities should be incorporated into overlay schedules and/or prioritized for competitive grant funding as appropriate. Detailed project descriptions for the two countywide priority bikeways are presented on Figure 4-7 and 4-8.

**BICYCLE PARKING AND SUPPORT FACILITIES**

Bicycle support facilities such as changing rooms, showers, lockers, and short-term and long-term bicycle parking are important end-of-trip facilities for those who commute by bicycle or who may be thinking of commuting by bicycle. As such, it can be an important factor in encouraging bicycle use and bicycling to work. In addition to providing appropriate storage space to park bicycles, support facilities such as showers and lockers are important for commuters who may travel long distances or are subject to formal dress requirements in their workplace. Short-term bicycle parking typically consists of racks, which are useful for visitors to an office or short retail trips, while long-term bicycle parking typically consists of bicycle lockers or secure areas, which are more appropriate for longer stays at work places.

**Existing Bicycle Parking**

In general, very little bicycle parking is available in Ceres. Places of employment in Ceres do not typically provide showers, changing space, or long-term storage for bicycle gear. However, certain places of employment such as fire departments, roadway maintenance facilities, or some manufacturing facilities...
3. Hatch Road
Jurisdictions: Ceres, Unincorporated Stanislaus County, Hughson

Description
Hatch Road is a two- to four-lane east-west arterial connecting unincorporated Stanislaus County communities, Ceres, Modesto, and Hughson. A continuous segment of Class 1 bicycle path is existing within the City of Ceres, paralleling an irrigation canal.

Proposed Improvements
3A. Class 2 between Dallas Street and Herndon Road
3B. Class 1 gap closure between Eastgate Road and Gilbert Road in the Ceres and Unincorporated Stanislaus County
3C. Class 3 with wide shoulders between Clinton Road and Geer Road in Unincorporated Stanislaus County

Design Requirements

3A Class 2 Bicycle Lanes
• Stripe within existing right-of-way
• Widen roadway between Crows Landing Road and Pearson Avenue

Existing

Proposed

Option Class 2 signage

3B Class 1 Bicycle Path
• Pave 10 foot path (north side between Richland and Central Avenues, south side between Eastgate and Gilbert Roads)

Existing

 Proposed

3C Class 3.5 Bicycle Route with Wide Shoulders
• Widen existing 0-5 foot shoulder to 4 feet minimum
• Shoulder widening planned between Gilbert and Clinton Roads

Existing

Proposed

Option Class 2 signage

Implementation and Funding
• High frequency of both pedestrian and bicycle collisions between 2008-2010
  - 27 pedestrian collisions, 29 bicycle collisions on Hatch Road corridor between 2008-2010
• Segments 3A and 3B may be strong candidates for HSIP and/or High-Risk Rural Roadway Program (HR3) funding based on collision history
• Total project cost, including design, environmental, and contingency, is approximately $3,500,000
10. Oakdale Road - Mitchell Road - Moore Road
Jurisdictions: City of Riverbank, Unincorporated Stanislaus County, City of Modesto, and City of Ceres

**Description**
Oakdale Road/El Vista Avenue/Mitchell Road is a north–south arterial connecting Riverbank, Modesto, and Ceres. Mitchell Road crosses the Tuolumne River to connect to the City of Ceres. The priority bikeway jogs onto the planned and funded Moore Road Class 1 TID path, connecting to the proposed priority bike lanes on Golden State Boulevard (#8). Bicycle lanes are planned for Oakdale Road between Patterson Road and Claribel Road. (Riverbank).

**Proposed Improvements**

10A. Class 2 between Claribel Road (Riverbank) and Mable Road (Modesto)
10B. Class 2 between Mable Avenue to La Force Drive (Modesto)
10C. Class 2 between La Force Drive (Modesto) and Floyd Avenue (Modesto)
10D. Class 2 between Floyd Avenue (Modesto) and existing Class 2 on Mitchell Road (Ceres)

**Design Requirements**

10A, 10C **Class 2 Bicycle Lanes**
- Widen roadway between La Force Drive and Floyd Avenue
- Widen roadway between Claribel Road and Mable Avenue

10B, 10D **Class 2 Bicycle Lanes**
- Stripe within existing right-of-way from Claribel Road to La Force Drive
- Stripe within existing right-of-way from Floyd Avenue to existing Class 2 on Mitchell Road (Ceres)
- May require parking removal for portions of El Vista Avenue

**Implementation and Funding**

- High frequency of both pedestrian and bicycle collisions between 2008–2010
  - 28 auto-pedestrian collisions, 26 auto-bicyclist collisions on corridor
- Strong candidate for HSIP/HR3 funds
- Total project cost, including design, environmental, and contingency, is approximately $5,420,000
are likely to have showers and changing space that employees could use for bicycle commuting purposes. It is likely that some employers allow employees to store bicycles in their workspace.

Based on an interview with City staff and field observations, unincorporated areas of the county generally lack bicycle parking. Though bicycle parking may exist, particularly near schools or other civic uses, Ceres does not have a bicycle parking ordinance for new development or a program to install bicycle parking in the public right-of-way.

**Proposed Bicycle Parking**

Three strategies for encouraging bicycling for commuting and utilitarian purposes are proposed:

- Organize a bicycle rack request program
- Adopt a bicycle parking ordinance for new development
- Encourage construction of support facilities at major employers through the permitting process

**Bicycle Rack Request Program**

The City should begin a bicycle rack request program, whereby residents and businesses can request a bicycle rack at specific locations throughout the City. In general, racks should be installed at neighborhood shopping centers, schools, and parks.

**Bicycle Parking Ordinance**

At minimum, the City of Ceres should update their zoning code to include short-term and long-term bicycle parking requirements. Model ordinances are included in the Association of Pedestrian and Bicycle Professionals’ *Bicycle Parking Guidelines, 2nd Edition*. Such a bicycle parking ordinance should include:

**Short-term bicycle parking.** If the project is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 50 feet of the visitors’ entrance, readily visible to passers-by, for five percent of visitor motorized vehicle parking capacity, with a minimum of one two-bicycle capacity rack. Specifications for short-term bicycle parking:

- Bicycle parking space size (eight feet long, three feet wide)
- Bicycle rack type (should be U-lock compatible)
- Bicycle racks should be securely anchored to the surface or structure with fixtures that cannot be removed using common tools
Long-term bicycle parking. For buildings with over ten tenant-occupants, provide secure bicycle parking for five percent of motorized vehicle parking capacity, with a minimum of one space. Acceptable parking facilities shall be convenient from the street and may include:

- Covered, lockable enclosures with permanently anchored racks for bicycles
- Lockable bicycle rooms with permanently anchored racks; and
- Lockable, permanently anchored bicycle lockers

Bicycle parking placement guidelines should include discussion of safe, visible, and convenient locations, spaced far enough from walls or other objects so it is usable by bicyclists. Design guidelines for bicycle parking and siting bicycle parking are included in Appendix A.

Shower/Locker Facilities at Employment Centers

Showers and clothes lockers are important for bicycle commuters with a rigorous commute or whose job requires formal office attire. Academic studies show shower and locker facilities at places of employment can be a factor in encouraging commuting to work by bicycle. Employees who exercise on their lunch breaks can also benefit from these facilities. While simpler end-of-trip facilities may be more feasible, consideration should be given to requiring shower and locker facilities in all developments with 100 or more employees.

The design of shower and locker facilities should accommodate both male and female employees and tenants. Small employment centers can provide a unisex restroom/shower room with a locking door. Larger employment centers that require more than one shower can add a separate shower and locker room to both the men’s and women’s restrooms. Maintenance of shower and locker facilities should be provided by the building management. Whenever possible, shower facilities should be located near bicycle parking facilities.

The City of Ceres should encourage bicycle parking and shower/locker facilities with new development at major employment centers. This can be done through the permitting process.

MULTI-MODAL CONNECTIONS

Stanislaus Regional Transit (StaRT), Ceres Dial-A-Ride (CDAR), Ceres Area Transit (CAT), and Modesto Area Express (MAX) provide bus service in Ceres. The agencies have bike-rack equipped bus fleets. Dial-A-Ride services are provided on a first-come, first-served basis. Figure 4-9 shows existing transit routes.
Ceres Dial-A-Ride (CDAR) and Ceres Area Transit (CAT)

CAT routes A, B, C, D, and CDAR serve the City of Ceres.

- CAT Routes A, B, and D (limited service) operate Monday through Friday, Route C operates on weekends, and CDAR operates daily.
- Service is not available on major holidays.
- Buses are equipped with exterior bicycle racks on CDAR and CAT.
- CDAR is available on a first-come, first-served basis.

Modesto Area Express (MAX)

MAX Routes 29, and 42 serve the City of Ceres, providing access to downtown Modesto.

Stanislaus Regional Transit (StaRT)

StaRT Routes 15 and 40 serve the City of Ceres and surrounding area, providing connections to Modesto and Turlock. All buses are bicycle rack equipped.

Turlock/Modesto Shuttle Service provides curb-to-curb transportation between Modesto and Turlock, including Ceres and Keyes.

PEDESTRIAN FACILITIES

Pedestrian facilities can be broken into three basic categories, with implementation and use varying based on geographic location:

- **Walkways**—in urban and suburban contexts, sidewalks with curb ramps at intersections are typical and vary in width depending on land use contexts. In rural contexts, paved or unpaved graded shoulders may be typical, or a walkway may not be provided.

- **Crosswalks**—California Vehicle Code Section 275 defines a crosswalk as either “that portion of a roadway included within the prolongation or connection of the boundary lines of sidewalks at intersections” or “any portion of a roadway distinctly indicated for pedestrian crossing by lines or other markings.” So, legal unmarked crossings are those at intersections defined by the prolongation of sidewalk areas.
Figure 4-9 City of Ceres Existing Transit

Bikeways

Existing
- Class 1 - Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders

Proposed
- Class 1 - Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders

Transit
- CAT
- MAX
- StaRT
- Turlock Transit
- Escalon Transit (eTrans)
- Limited Bus Service

Paratransit Service Areas
- StaRT Dial-A-Ride Service Areas

• **Crosswalk Enhancements**—the most basic crosswalk enhancement is crosswalk markings. More substantial enhancements include devices meant to induce improved motorist yielding or to control vehicles at the crosswalk. Control devices include signals and pedestrian hybrid beacons. Yield devices include a variety of in-pavement and sign-mounted flashing yellow beacons.

**Appendix B Pedestrian Design Guidelines** provides additional definition for these facilities and guidance on their application.

**EXISTING CONDITIONS**

Ceres has a large grid-system with less continuous residential streets that fill in arterial grid, with a largely built out sidewalk network. SR 99 and the active freight railroad tracks bisect the city, with only a few opportunities to cross this major infrastructure.

Improving pedestrian access between land use attractors, bus stops, and existing pedestrian infrastructure may be an important step to making walking more convenient for those who rely on it and could encourage new walking trips.

**BICYCLE & PEDESTRIAN DEMAND MODELING**

In order to highlight areas with the highest potential for walking and biking demand a Geographic Information Systems (GIS) model based on land use factors, demographics, and roadway infrastructure was developed for this Plan. The model results are illustrated in a “heat map” for the entire county roadway network to show relative amounts of pedestrian and bicycle demand, and are based on weighing these different walking-related variables.

**Bicycle & Pedestrian Demand Modeling**

In order to highlight areas with the highest potential for walking and biking demand a Geographic Information Systems (GIS) model based on land use factors, demographics, and roadway infrastructure was developed for this Plan. The model results are illustrated in a “heat map” for the entire county roadway network to show relative amounts of pedestrian and bicycle demand, and are based on weighing these different walking-related variables.

**Methodology**

The GIS model measured pedestrian and bicycle demand based on surrounding land use development, and time and proximity to key destinations. Based on those inputs, the model can help identify areas that may be the most desirable locations for walking trips and would therefore be target areas for investment.
The variables used in this model are based on US Environmental Protection Agency (US EPA) research on the relationship between the built environment and travel patterns. The variables shown to have the greatest effects on the number of people walking in a given area were used and broadly fall into four categories: built environment, proximity to walking destinations, demographics, and street network and connectivity. The methodology is detailed in Appendix C and D.

Analysis

The pedestrian and bicycle demand map can provide a guide to prioritization of pedestrian and bicycle safety and improvement projects in Ceres. Areas with high potential for demand are shown in green on Figure 4-10, with areas of low demand shown in red. Compared to other Stanislaus County communities, Ceres has a higher walking and bicycling latent demand. Ceres has a variety of employment centers and retail areas located close to residential neighborhoods. Based on those uses and the many schools located in residential neighborhoods, much of central part of Ceres has a high degree of pedestrian and bicycle demand. These land use activities are relatively connected to one another. Newer residential neighborhoods in the eastern portion of the city have a more connected street network, but there are very limited connections over the canal paralleling Moore Road.

However, due to limited data availability, the index does not account for sidewalk coverage and crossing treatments. For example, though East Whitmore Avenue largely has complete sidewalks on both sides of the street, pedestrians crossings have long distances in between them, creating a barrier to pedestrian activity despite dense residential neighborhoods located in proximity to local schools and shopping centers. Improvements might focus on decreasing distances between crosswalks, installing crossing enhancements, reducing crossing distances with curb extensions, and addressing pedestrian access at key destinations, such as schools, parks, and employment centers.
Figure 4-10 City of Ceres
Bicycle & Pedestrian Demand Analysis
Demand Index

Schools
Employment Centers
Priority Areas

Priority Areas

Multiple pedestrian priority areas are identified in Ceres. Priority areas include:

1) Hatch Road area
2) Whitmore Avenue/Moffett Road area
3) Mitchell Road commercial area
4) Service Road/Central Avenue (County/Ceres)

Each identified area should be prioritized for pedestrian improvements and investments. Potential pedestrian improvement projects along Central Avenue are included in this Plan to illustrate possible pedestrian improvement projects. These priority areas are show on Figure 4-10.

Additional information on pedestrian infrastructure are discussed further in Appendix B Design Guidelines.

4.4 ADA INFORMATION

Ceres has an ADA Transition Plan in place that was last updated in April, 2011. For the current fiscal year 2011-2012, the budget includes $150,000 for ADA improvements, which typically include curb ramp updates and other specific ADA projects identified in the Transition Plan. The focus of 2011-2012 is bringing the area surrounding City Hall into ADA compliance. The next set of expenditures will focus ADA accessibility at schools and parks. As the Transition Plan is implemented, the City of Ceres should use the draft Proposed Guidelines for Access Right-of-Way Guidelines (PROWAG) to ensure universal accessibility at new and improved facilities.

Additionally, the City of Ceres currently updates curb ramps to current ADA standards as roadway overlays are completed. Overlays are expected to be completed on Service Road, Herndon Road, and Mitchell Road in the near future, which bring all existing curb ramps up-to-date. The Herndon Road overlay will focus on connections to the adjacent shopping center.
4.5 BICYCLE AND PEDESTRIAN PROJECT IMPLEMENTATION

FUNDING

Bicycle and pedestrian infrastructure and programs can be funded either directly through the City or through various competitive grant programs.

Past Expenditures

In the past five years, the City of Ceres has invested approximately $2.5 million in bicycle and pedestrian improvements, specifically targeting significant Class 1 connections. These funds were used to construct the recent Hatch Road Class 1 bicycle path from Herndon Road to Eastgate Road. Table 4-2 shows recent bicycle and pedestrian improvements in the City of Ceres.

<table>
<thead>
<tr>
<th>ID</th>
<th>Segment</th>
<th>From</th>
<th>To</th>
<th>Class/Type</th>
<th>Mileage</th>
<th>Approximate Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>East Hatch Road/TID Lateral #1</td>
<td>Mitchell Road</td>
<td>Boothe Road</td>
<td>Class 1</td>
<td>0.66</td>
<td>$310,612.00</td>
</tr>
<tr>
<td>2</td>
<td>East Hatch Road/TID Lateral #2 (Phase III)</td>
<td>Central Avenue</td>
<td>Mitchell Road</td>
<td>Class 1</td>
<td>1.00</td>
<td>$763,788.00</td>
</tr>
<tr>
<td>3</td>
<td>East Hatch Road/TID Lateral #3 (Phase IV)</td>
<td>Boothe Road</td>
<td>Eastgate Road</td>
<td>Class 1</td>
<td>0.52</td>
<td>$1,000,000.00</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
<td></td>
<td></td>
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<td>$2,074,400</td>
</tr>
</tbody>
</table>

Source: City of Ceres Planning and Public Works Departments, Fehr & Peers, 2013.

Funding Need

Based on City calculation, the total future funding need for new pedestrian and bicycle infrastructure in Ceres is $2,989,495. Ceres has applied both population-based CMAQ funding to bicycle and pedestrian facility construction and has recently secured both competitive CMAQ funding and Caltrans Safe Routes to School funding for active mode infrastructure.
The City recently received Caltrans Safe Routes to School Cycle 10 funding for $405,000 to support safe routes on Moffett Road between Mauna Kea and Garrison Streets; Rose Avenue between Garrison Street and Fowler Road; and Garrison Street between Moffett Road and Rose Avenue and at the intersection of Fowler Road/Darwin Avenue. The project will support installation of in-pavement flashers at select crosswalks, speed feedback signs, and ADA improvements in the vicinity of Carroll Fowler Elementary and Mae Hensley Junior High Schools.

Additionally, the City has received $603,244 total in CMAQ Competitive Funding for the construction of the Class 1 Mitchel Road TID path for FY 2014/15 and FY 2015/16. The City has applied $1,661,589 in CMAQ “Formula” funding to additional work on the Class 1 Hatch Road TID path and the proposed Class 1 Mitchell Road TID path.

Countywide priority bikeways and projects within the pedestrian priority areas can be funded through a variety of sources. Because the countywide priority bikeways are multi-jurisdictional, coordination between agencies will be critical.

**Recommended Funding Sources**

Bicycle and pedestrian infrastructure and programs can be funded either directly through city/county capital funds or through various competitive grant programs. Available funding sources are summarized in Table 4-4. The most applicable funding sources for the improvements recommended by this plan are:

- CMAQ Formula and Competitive Funding
- Highway Safety Improvement Program (HSIP)
- Safe Routes to School Grants (SR2S)
- Remove II Bicycle Infrastructure Component Grants
- Bicycle Transportation Account
- Public Facilities Fee (PFF)

**Congestion Mitigation and Air Quality Improvement Program (CMAQ)**

Congestion Mitigation and Air Quality Improvement Program (CMAQ) grants are administered on a per-population and competitive basis by StanCOG. The program is jointly administered by the Federal Highway Administration and Federal Transit Administration to increase attainment of the National Ambient Air Quality Standards (NAAQS). Based on population, StanCOG received $7,441,852 in CMAQ funding for FY2010-2011. For FY 2014 through FY 2016, $7,129,539 was available for CMAQ Competitive
Funds. The cost-effectiveness calculation, based on the Air Resource Board (ARB) methodology, was the sole criteria for selected competitive funds. For FY2014-2015 and FY 2015-2016, all projects with a cost-effectiveness calculation of $64.45 were selected.

Stanislaus County communities routinely use the formula-based funding for the construction of bicycle and pedestrian projects. Seeking competitive grant funding for bicycle and pedestrian projects may be another opportunity to secure funding for the build-out and improvement of bicycle and pedestrian networks.

**Highway Safety Improvement Program (HSIP)**

Caltrans administers two funding programs for roadway safety improvements: the Highway Safety Improvement Program (HSIP) and the Highway Rural Roads Program (HR3). These programs use cost-benefit ratios as a primary factor in the awarding of applications. Because both of these programs focus on roadway safety, projects with a high-frequency of documented collision history, particularly severe collisions, are typically ranked higher. Roadways with documented bicycle and pedestrian collision history, as discussed in Section 4-3 of this Plan, may be well-qualified for HSIP and HR3 applications, particularly since many of the proposed projects would improve bicyclist and pedestrian safety at a lower cost than many of the highway projects also eligible under this funding source.

For FY 2013, Caltrans estimates that $100 million in Highway Safety Improvement Program (HSIP) funding will be available. While this funding source is often used for major roadway improvement projects, installation of traffic signals, and most other cost-intensive projects, funding has routinely been awarded to bicycle and pedestrian projects. Successful projects have included:

- Median refuges and curb extensions
- Curb, gutter, and sidewalk
- Paved shoulders
- Upgraded traffic signals with pedestrian countdown signals and pedestrian-scale lighting
- Bicycle lane striping
- Crosswalk striping
- In-pavement flashers and rectangular rapid flashing beacon (RRFB) at crossings
Many of these projects were applied for as standalone bicycle and pedestrian improvement projects; some bicycle and pedestrian improvements were included with a broader package of roadway improvement projects. The average programmed federal funding amount was $400,000.

An additional $15 million is dedicated for the Highway Rural Road Improvement Program (HR3), for which many Stanislaus County communities are eligible. To be eligible for HR3, roadway improvements must occur on a roadway with a functional classification of:

- Rural major collector
- Rural minor collector
- Rural local road

Programmed federal funds for HR3 projects averaged $580,000 in the third funding cycle (2011), and most projects funded the widening or improvement of shoulders. Most of the priority bikeway projects included in this Plan consist of Class 3 bicycle routes with widened shoulders.

**Safe Routes to School (SR2S)**

Prior to 2012, the state and federal Safe Routes to School programs were potential funding sources for both bicycle and pedestrian planning and infrastructure projects that improve access to schools. Caltrans administered two Safe Routes to School programs: the state-legislated program (SR2S), authorized by California Streets and Highways Code Section 2330-2334, and the federal program (SRTS), authorized by the SAFETEA-LU federal funding bill. The SR2S and SRTS programs provided $24.25 million and $21 million, respectively, in annual funding. As of March 2013, the future of Safe Routes to School funding is improbable. Neither MAP-21, the federal funding bill for transportation spending, or the proposed California’s Governor’s Budget 2013-14, include set-aside funds for Safe Routes to School projects.

There are California state assembly bills currently under consideration that propose state funding for Safe Routes to School. Should Safe Routes to School funding continue beyond 2013, several of the proposed bikeways can be funded by Safe Routes to School programs. Successful applications are typically oriented toward pedestrian infrastructure projects; though bicycle projects may also be included in project packages.

**Remove II Bicycle Infrastructure Component Grants**

The San Joaquin Valley Air Pollution Control District (SJVAPCD) offers grant and incentive programs to help reduce air pollutants in the eight-county San Joaquin Valley, which currently does not meet the
required National Ambient Air Quality Standards for ozone and particulate matter. The SJVAPCD Remove II Program includes the Bicycle Infrastructure Component, which provides incentives for the construction of Class 1 bicycle paths or Class 2 bicycle lanes that directly benefit commuters in the San Joaquin Valley. Up to $150,000 is available for Class 1 bicycle paths and $100,000 for Class 2 bicycle lanes per application. Applications must be for either a Class 1 or Class 2 facility, not both; however, multiple applications may be submitted. Grants are accepted on a first-come, first-served basis and the following criteria should be considered:

- Project must contribute to an increase in bicycle commuting and a reduction in auto emissions
- Proposed bikeways that close gaps in the network are highly encouraged
- Project should improve bicycle-transit connections
- Project should benefit disadvantaged communities
- Projects should target areas of high demand such as schools, parks, shopping areas, and commercial areas
- Co-funding from other sources is encouraged

Additional information can be found at: http://www.valleyair.org/transportation/removeII/BI.htm.

**California Bicycle Transportation Account (BTA)**

Bicycle facilities can be funded through the California Bicycle Transportation Account (BTA). Annually, $7.2 million is available for projects through the BTA.

**Additional Funding Sources**

The majority of public funds for bicycle and pedestrian projects are derived through a core group of federal and state programs. Federal funds from the Surface Transportation Program (STP), Transportation Alternatives (TA), and Congestion Mitigation Air Quality (CMAQ) programs are allocated to the County and distributed accordingly.

Limited amounts from the Local Transportation Fund (LTF), which is derived from a ¼ cent of the general sales tax collected statewide, can be used for bicycle and pedestrian facilities.

The Federal Safe Routes to School (SRTS) program was previously authorized under SAFETEA-LU; when MAP-21 superseded SAFETEA-LU, the SRTS program was discontinued. Instead, SRTS programs and infrastructure are eligible to compete for funding as a part of a new program called Transportation
Alternatives (TA). As of December 2012, it is unknown whether California will dedicate a specific portion of TA funds for Safe Routes to School projects.

The California State Parks Recreational Trails Program provides funds annually for recreational trails and trail-related projects. Cities are eligible applicants for the approximately $2.3 million available annually. The program requires an applicant match of 12 percent of the total project cost.

In 2010, the California Strategic Growth Council (SGC) awarded $20 million through the Proposition 84 Sustainable Communities Planning Grant and Incentives Program. Sustainable Community Planning Grant awards totaled $24.6 million in 2012; the SGC plans to award another cycle of grants in 2013. Eligible projects include plans that support greenhouse gas emission reduction and sustainable communities. Twenty percent of the grant funds are set aside for Economically Disadvantaged Communities (EDC), which describes some areas of Stanislaus County.

Caltrans Transportation Planning Grants are available to jurisdictions and can be used for planning or feasibility studies. The maximum funding available per project is $300,000.

The California Office of Traffic Safety (OTS) administers the General OTS Grant opportunities. Pedestrian safety is a priority area for grant funding. Funding can be used for certain police equipment, for signage (vehicle speed feedback signs), and for outreach materials and campaigns.

The Land and Water Conservation Program offers funds to states and through states to local governments for trails acquisition and development.
# TABLE 4-3

## FUNDING SOURCE APPLICABILITY MATRIX

<table>
<thead>
<tr>
<th>Funding Source</th>
<th>Bicycle Projects</th>
<th>Pedestrian Projects</th>
<th>Other Projects</th>
<th>Planning and Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Class 1 Bicycle Path</td>
<td>Class 2 Bicycle Lane</td>
<td>Class 3 Bicycle Route</td>
<td>Class 3.5 Bicycle Route</td>
</tr>
<tr>
<td>Surface Transportation Program (STP)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Transportation Alternatives (TAs)</td>
<td>●</td>
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<td>●</td>
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<tr>
<td>Congestion Mitigation Air Quality (CMAQ)</td>
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<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Local Transportation Fund (LTF)</td>
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<td>●</td>
<td>●</td>
</tr>
<tr>
<td>California Safe Routes to School (SR2S)</td>
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<td>○</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>California Bicycle Transportation Account (BTA)</td>
<td>●</td>
<td>●</td>
<td>●</td>
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<tr>
<td>Highway Safety Improvement Program (HSIP)</td>
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<td>●</td>
<td>●</td>
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<tr>
<td>California State Parks Recreational Trails Program</td>
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<tr>
<td>Proposition 84 Sustainable Communities Planning Grant and Incentives Program</td>
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<tr>
<td>Caltrans Transportation Planning Grants</td>
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<td>Land and Water Conservation Program</td>
<td>●</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

### Notes:

1. Includes non-pavement elements such as signal equipment, vehicle speed feedback signs, police equipment, or crossing guard equipment

[Symbol] Funding source is applicable
[Symbol] Funding source is potentially applicable
[Symbol] Funding source is not applicable

FUNDING STRATEGY

Although every community is unique, in our experience the following elements are important factors in successfully obtaining grant funding for projects:

- Identify local staff who can support the grant applications and oversee project implementation
- Develop a community vision
- Involve multiple stakeholders in the process
- Identify projects that:
  - Connect communities
  - Address safety issues
  - Support economic development
  - Improve access to schools
- Prioritize projects
- Identify projects that are most likely to successfully compete for grants
- Identify project champions
- Identify multiple parties to be co-applicants
- Identify local match opportunities

POLICY RECOMMENDATIONS

In addition to the proposed bicycle and pedestrian projects, policy changes that support walking and biking can help establish a policy rationale for the creation of these facilities. The following policies are recommended:

- Adopt bicycle parking requirements in Zoning Code based on Section 9-4 of this Plan
- Implement, clarify, and codify in municipal code policies established in the City of Ceres General Plan (1997) related to the requirement of new development providing for bikeway (2.F.5); revising the zoning code to require bicycle parking (2.10); and requiring new multi-family residential, commercial, and industrial developed to include bicycle facilities (2.F.7)
- Consider adoption of a "Complete Streets" policy or “Routine Accommodation” type of policy to encourage accommodation of bicyclists and pedestrians of all ages and experience levels with new construction or improvements to the public right-of-way
- Continue to implement the ADA Implementation Plan to guide inventory accessibility needs and future improvements
• Adopt citywide policy of constructing ADA curb ramps and any other accessibility measures, as described in PROWAG, routine practice in any new construction or improvement project within the public right-of-way

• When competing traffic analysis, collect bicycle and pedestrian volumes at each study location to address safety and circulation issues for those modes

4.6 SAFETY AND EDUCATION

In addition to implementing bicycle and pedestrian facilities, programs focused on education, encouragement, and enforcement can increase the number of people who bicycle and walk in Ceres.

EXISTING PROGRAMS

The City of Ceres has been successful in securing federal Safe Routes to School funding and has continued to apply for both state and federal funding to support education and enforcement opportunities as well as engineered solutions. In Cycle 9 (2008-2009), the City received a Cycle 3 Federal Safe Routes to School (SRTS) grant to recruit SRTS Taskforce members at five area schools. This effort includes money to plan and develop a Safe Routes to School map; pedestrian, cyclists and driver safety forum; walking-school-bus and pedestrian and bicycle safety assemblies; and bicycle rodeo demonstrations. The City received $203,000 for these education and encouragement efforts in 2011, which will go toward activities at Caswell Elementary School, Don Pedro Elementary School, M Robert Adkison Elementary School, Sinclear Elementary School, and La Rosa Elementary School. Additionally, a Walking School Bus Program is sponsored by Ceres Partnership for Healthy Children and the Central California Regional Obesity Presentation Program (CCROPP).

EDUCATION AND ENCOURAGEMENT PROGRAMS

Education programs seek to reduce collisions and help people feel safe and comfortable while biking or walking. These programs include elements that help motorists understand the rights of bicyclists and pedestrians. Simultaneously, education campaigns should target the general public and specific groups that have unique education needs or play a greater role in perpetuating collisions and other dangerous situations. Key target audiences include students, children and families, senior citizens, and drivers.
School Programs

Basic bicycling and walking skills and safety courses can be incorporated into school curricula. Often, these programs are facilitated by a local volunteer or by a member of local police, the Sheriff’s Department, or the California Highway Patrol. Anecdotally, many students may be walking to school. With local schools and residential areas located near state highways, the need for safety education related to walking and biking is important. Additional resources and information are available at the Safe Routes to School National Partnership website: http://www.saferoutespartnership.org/local. Programs could include:

- Walk and Roll to School days
- Pedestrian and bicycle safety curricula in the classroom or assemblies

Adult Education

Many less-experienced adult bicyclists are unsure how to negotiate intersections and how to ride with traffic on streets and roads. Adult education efforts which are sponsored by government agencies, major employers, local bicycle enthusiasts or other volunteer groups can help address this need. An annual or semi-annual class could be offered free of charge to provide information on how to avoid collisions and citations, how to ride safely and improve visibility, and understand the legal rights of cyclists. Instructors from elsewhere in the state or qualified local instructors or volunteers could teach this class to cyclists, tailored to local needs and issues. Future expansion ideas could include adding on-the-bicycle training.

Online Bicycle Maps

The City should provide existing bicycle network maps on their Web page for residents to use as a trip-planning resource, including the countywide maps developed in this Plan. The maps could be used by local residents and visitors to plan their bicycle trips or alternatively could be used as a marketing piece to attract tourist bicycling in the City and surrounding area. The website could also include educational information, including hand signals, bicycle lighting, and safety.

ENFORCEMENT PROGRAMS

The City should work with the local Police Department, Sheriff, and California Highway Patrol (CHP) to conduct enforcement campaigns intended to improve bicyclist and pedestrian safety. Sample enforcement programs include the following.
Targeted Moving Violations

Decreasing moving violations committed by motorists, bicyclists, and pedestrians alike is critical to improving safety and encouraging all roadway users to share the road. The City should work with the Sheriff and CHP to develop targeted enforcement efforts or sting operations. Advertising campaigns help the targeted violation efforts reach a wider audience.

Moving violations by motorists that affect bicyclists and pedestrians include:

- Speeding
- Passing without sufficient clearance
- Driving in the bicycle lane
- Right-turning in front of bicyclists
- Failing to signal
- Double parking
- Failing to yield to pedestrians at a crosswalk

Moving violations by bicyclists and pedestrians include:

- Failing to stop at a stop sign
- Failing to signal
- Wrong-way riding
- Riding without lights at night
- Failing to wear a helmet (if under 18 years of age)
- Jaywalking

Radar Speed Signs

Radar speed signs feature a changeable message sign linked to a radar unit; the signs display the vehicle’s actual speed as the vehicle approaches the sign. Radar speed signs can be mounted permanently to a pole (where they are powered by hard wire or a solar unit) or alternatively they can be mounted to a trailer (also known as a "speed trailer") and deployed on a temporary basis. Studies in the United States have shown that radar speed signs are an effective way to slow traffic. The City should consider installing additional radar speed signs within school zones in partnership with the school district and Caltrans. Speed trailers should be deployed to different parts of the City regularly to remind drivers citywide to obey the speed limit.
5.0 CITY OF HUGHSON

5.1 Introduction ................................................................................................................5-2

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5.1 INTRODUCTION

PURPOSE OF THE PLAN

The City of Hughson Existing and Planned Bicycle and Pedestrian Facilities chapter is intended to be both a chapter of the Stanislaus County of Government (StanCOG) 2012 Bicycle and Pedestrian Master Plan and a standalone document that can be used as a guide for prioritizing bicycle and pedestrian projects in unincorporated areas of the county. The StanCOG Bicycle and Pedestrian Master Plan is a unifying document that coordinates the existing and planned bicycle and pedestrian networks of Stanislaus County communities to serve local and regional needs. This document meets the Bicycle Transportation Account (BTA) requirements for a Bicycle Transportation Plan (BTP), which, once adopted by StanCOG, will make the City of Hughson eligible for BTA funding and improve local competitiveness for other funding sources to implement this plan.

CALTRANS COMPLIANCE

The Bicycle Transportation Account (BTA) is a Caltrans program that provides grant funding to cities and counties in support of bicycle projects benefitting bicycle commuters. In order to apply for these funds, local jurisdictions must prepare and adopt a Bicycle Transportation Plan that meets the requirements described in Section 891.2 of the Streets and Highways Code. Table 6-1 presents the required elements of a Bicycle Transportation Plan and indicates where they are located in this plan.

Local agencies without a standalone bicycle or bicycle and pedestrian master plan can use the 2012 StanCOG Bicycle and Pedestrian Master Plan to establish eligibility for BTA Funding until 2017, as long as items “a” through “k” are addressed for that city and the unincorporated areas of the county.
### TABLE 5-1
**STREET AND HIGHWAYS CODE SECTION 891.2 REQUIREMENTS ADDRESSED IN THIS PLAN**

<table>
<thead>
<tr>
<th>Item</th>
<th>Requirement</th>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>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.</td>
<td>Section 5-2 Demographics</td>
</tr>
<tr>
<td>b</td>
<td>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.</td>
<td>Section 5-2, Figure 5-1</td>
</tr>
<tr>
<td>c</td>
<td>A map and description of existing and proposed bikeways.</td>
<td>Section 5-3, Figures 5-4 &amp; 5-5</td>
</tr>
<tr>
<td>d</td>
<td>A map and description of existing and proposed end-of-trip bicycle parking facilities.</td>
<td>Section 5-3 Bicycle Parking, Figure 5-2</td>
</tr>
<tr>
<td>e</td>
<td>A map and description of existing and proposed bicycle transport and parking facilities for connections with and use of other transportation modes.</td>
<td>Section 5-3 Multi-Modal Connections, Figure 5-9</td>
</tr>
<tr>
<td>f</td>
<td>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.</td>
<td>Section 5-3 Bicycle Parking, Figure 5-2</td>
</tr>
<tr>
<td>g</td>
<td>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 the resulting effect on accidents involving bicyclists.</td>
<td>Section 5-7 Safety &amp; Education</td>
</tr>
<tr>
<td>h</td>
<td>A description of the extent of citizen and community involvement in development of the plan, including, but not limited to, letters of support.</td>
<td>Sections 5-3 &amp; 5-4</td>
</tr>
<tr>
<td>i</td>
<td>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.</td>
<td>Section 5-2 Planning &amp; Policy Context</td>
</tr>
<tr>
<td>j</td>
<td>A description of the projects proposed in the plan and a listing of their priorities for implementation.</td>
<td>Sections 5-3 &amp; 5-4, Figures 5-6, 5-7, &amp; 5-8</td>
</tr>
<tr>
<td>k</td>
<td>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.</td>
<td>Section 5-6</td>
</tr>
</tbody>
</table>
5.2 SETTING AND CONTEXT

JURISDICTION OVERVIEW

Located East of Santa Fe Avenue, Hughson is a city just over one square mile housing 6,640 people. Hughson is located two miles southeast of the community of Empire and three miles west of Ceres. Hughson is situated between Santa Fe Avenue to the west and south of East Hatch Road and the canal to the north. The area between Locust Street and East Whitmore Avenue is highly connected with its small grid system; however, as development spreads north and south of that area, the block lengths become longer and many of the streets are cul-de-sacs and do not connect. Residential development to the north and east is discontinuous in areas, with streets laid out with no housing yet built, such as along Metcalf Way and Thomas Taylor Drive. However, newly developed areas have completed sidewalks.

LAND USE/ATTRACTORS AND GENERATORS

The major land use attractors are located in the vicinity of Hughson Avenue between 2nd Street and 7th street, such as the Post Office, City Hall, and office and shopping destinations. In addition to the shops and offices in the downtown area, a shopping center and industrial uses are located on East Whitmore Avenue and along Tully Road. Land uses are shown on Figure 5-1.

LAND USE ATTRACTION AND GENERATORS

Hughson Elementary School and Hughson High School are located in proximity to the shopping, office, and governmental uses along Hughson Avenue and Pine Street. Emilie J. Ross Middle School is located north of the primary and secondary schools on Fox Road and is surrounded by residential uses. Schools are shown on Figure 5-2.

PARKS AND COMMUNITY FACILITIES

Parks and community facilities are located primarily in residential developments, such as along Tully and Fox Roads as well as Thomas Taylor Drive. Each of the three schools also has substantial grassy open spaces. Parks are shown on Figure 5-2.
Figure 5-1
Hughson Existing Land Uses

December 2012

Legend

Residential Designations
- Low Density Residential
- Medium Density Residential
- High Density Residential

Agriculture Designations
- Agriculture

Commercial Designations
- Downtown Commercial
- Neighborhood Commercial
- General Commercial
- Service Commercial

Industrial Designations
- Industrial

Public/Quasi-Public Designations
- Park/Open Space
- Public Facility
- Sphere Of Influence

City Limits

Data Source: Stanislaus County GIS; City of Hughson
Figure 5-2 City of Hughson Schools and Parks

Existing
- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Share The Road signs

Planned
- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders

Proposed
- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Share The Road signs

DEMOGRAPHICS AND EXISTING TRANSPORTATION PATTERNS

Data from the American Community Survey Five-Year Summaries from 2005 to 2009 was analyzed to understand commute patterns in unincorporated Stanislaus County. The American Community Survey is conducted each year to provide ongoing data collection between the Decennial Census and includes questions that are not asked in the Decennial Census. The 2005-2009 summaries were used for this Plan because the 2006-2010 summaries aggregated taxicab, motorcycle, and bicycle use into one category, which does not give an accurate picture of bicycle commuting in Stanislaus County. The American Community Survey includes information such as the primary means respondents use to get to work as well as information on age, income, and auto ownership. The means of transportation to work question specifically focuses on commuting trips and does not record the school, shopping, and recreational trips that occur by various modes of transportation. The mode split information also does not account for commuters who may carpool or bicycle to work some days but drive alone other days, or for trips that include both walking or bicycling and another mode (such as transit or carpooling), as only one response is allowed. As such, walking and bicycling trips tend to be underrepresented in this data set.

Hughson has the highest single occupancy vehicle trip rate in Stanislaus County, at 88% of all commute trips. Hughson has significantly less carpooling for work purposes, with only 6% of workers carpooling to their jobs. An additional 6% worked at home, and 1% uses other means to get to work. No walking, biking, or public transit trips were reported in Hughson for commute purposes.

Accounting for non-commute trips such as schools trips, recreation trips, and other non-work related trips, the overall bicycle mode split is likely higher than 0%.

Future bicycle trips will depend on a variety of factors such as the availability of well-connected facilities and the location, density, and type of future land development. With appropriate bicycle facilities in place and implementation of bicycle support facilities, such as bicycle parking, mode share could increase countywide. According to the Census 2010 data, there are 2,069 households in Hughson. Using the existing countywide average bicycle mode share (0.4% for work trips) and assuming nine daily person trips per household, future bicycle commute trips would result in approximately 70 work trips based on the number of households in 2010.

COLLISION DATA

SWITRS collision reports were collected and analyzed over a three-year period (2008-2010). The database includes collisions reports recorded by both local police officials and the California Highway Patrol. Bicycle and pedestrian collision data can aid in the identification of problematic areas for bicycles and
pedestrians; however, a high frequency of collisions in a particular neighborhood may also indicate an abundance of bicyclists and pedestrians using a particular route. Between 2008 and 2010, Hughson recorded six crashes involving bicyclists or pedestrians, as shown on Figure 5-3. Three of the collisions involved pedestrians, and three involved bicyclists. Most of these occurred along Hughson Avenue and East Whitmore Avenue. The frequency of collisions at these locations may indicate that they have higher pedestrian and bicyclist activity.
Figure 5-3 City of Hughson Bicycle & Pedestrian Collisions, 2008-2011

- **Pedestrian/Auto Collision**
- **Bicycle/Pedestrian Collision**
- **Existing**
  - 1 collision
  - 2 collisions
  - 3 collisions
  - 4 collisions
  - 5 + collisions
- **Planned**
  - Class 1 Path
  - Class 2 - Bicycle Lanes
  - Class 3 - Bicycle Route
  - Class 3.5 - Bicycle Route with Wide Shoulders
  - Class 3.5 - Bicycle Route with Share The Road signs
- **Proposed**
  - Class 1 Path
  - Class 2 - Bicycle Lanes
  - Class 3 - Bicycle Route
  - Class 3.5 - Bicycle Route with Wide Shoulders
  - Class 3.5 - Bicycle Route with Share The Road signs

LOCAL OPPORTUNITIES AND CONSTRAINTS

The following opportunities and constraints for improving pedestrian and bicycle facilities in Hughson include considerations such as existing distribution of urbanized areas throughout the county, road infrastructure and connectivity, sidewalk coverage, and existing policies and agreements with local agencies.

**Opportunities**
- Compact grid system of the downtown area
- Downtown area with shops, government services, and offices is also close to schools and residential neighborhoods
- Canal paralleling East Hatch Road could provide a Class 1 connection to Ceres, where Class 1 path has already been built
- Hughson has a recent bicycle and pedestrian plan, which helps to prioritize and direct investments in non-motorized infrastructure

**Constraints**
- Discontinuous residential development presents barriers to biking and walking
- Long block length in residential neighborhoods may increase the length of walking and biking trips

PLANNING AND POLICY CONTEXT

The following section summarizes past related planning efforts and establishes a policy framework to guide future transportation decisions and capital improvement programming. This information helps to ensure infrastructure improvements are closely coordinated with past and ongoing planning efforts.

*Hughson Non-Motorized Master Plan (2008)*

The Hughson Non-Motorized Master Plan outlines recommendations for specific pedestrian and bicycle improvements within the City. Pedestrian improvements in the Plan include ten sidewalk projects to address sidewalk gaps and railroad crossing improvements. Other pedestrian elements include recommendations for pedestrian-friendly design as well as decision flow charts for uncontrolled crosswalk design. Bicycle improvements proposed in the plan include extending the network from 0.85 miles to over 25 miles of bikeways. The proposed network connects destinations such as Hughson’s neighborhoods with downtown, other commercial centers, industrial areas, and parks. The majority of the
proposed bikeways are Class 2 facilities. The Non-Motorized Transportation plan also proposes recommended steps for bicycle and pedestrian education programs for City residents.

**Hughson Streets Master Plan (2007)**

The Streets Master Plan includes Street Design Guidelines outlining a five-foot minimum sidewalk and five-foot landscape strip for all street types, with the exception of local residential streets, which may not have a landscape strip. Other exceptions include Downtown Collectors, which are required to have 12-foot sidewalks, and some expressways, which are required to have a seven-foot minimum sidewalk.

**Hughson General Plan (2005)**

The General Plan’s Land Use, Circulation, and Conservation Elements include goals and policies to provide pedestrian and bicycle facilities. Policies in the Land Use Element require that new development provide pedestrian and bicycle connections. The Circulation element states there is a need in the City for additional bicycle facilities and planning. The Circulation element also includes policies promoting a connected street pattern with multiple route options for bicycles and pedestrians, promoting narrow local streets, discouraging dead-end cul-de-sacs, and connecting local bicycle and pedestrian routes to larger regional systems. The Conservation Element notes that the City is currently working to develop a recreational corridor in and around Hughson that would include linear parks and bicycle and pedestrian trails.


The Hughson Traffic Impact Analysis Guidelines outline the procedures and standards to be used for Traffic Impact Studies in the City of Hughson. The components of a Traffic Impact Study include a summary of existing or planned bicycle and pedestrian facilities that may be affected by the project, discussion of bicycle and pedestrian access requirements and the adequacy of on-site bicycle and pedestrian circulation, as well as a description of the project’s potential effect on bicycle and pedestrian facilities, safety, and demand.

**Hughson Design Expectations**

The Design Expectations include principles to encourage pedestrian activity and provide a pedestrian-scale streetscape. These include pedestrian-oriented residential neighborhoods with mixed uses and open space, and interconnected street systems with pedestrian and bicycle facilities. Specific policies and design guidance is provided to meet the expectations. Expectations include avoiding dead-end cul-de-sacs lacking pedestrian and/or bicycle access to adjoining streets or public areas, providing Class 3
Bikeways on all collector streets, and providing pedestrian sidewalks or pathways on both sides of all streets (local residential, collector and arterial).

5.3 BICYCLE NETWORK

BICYCLE FACILITIES

Bicycle facilities can be divided into two types:

- Bikeways—on-street or off-street facilities provided for bicycle travel
- Support Facilities—facilities used by bicyclists when they reach their destination, such as bicycle parking

Bikeways

Chapter 1000 of the Caltrans Highway Design Manual defines three classes of bicycle facilities and details the minimum requirements for those facility types:

- Class 1 Bicycle Paths—a paved right of way completely separated from any street or highway
- Class 2 Bicycle Lanes—a striped and stenciled lane for one-way travel on a street or highway
- Class 3 Bicycle Routes—a typical roadway identified as a preferred bicycle route with signage. They may also include shared use lane markings, “SHARE THE ROAD” signage, or wide shoulders, as described in Appendix A Bicycle Design Guidelines.

In this Plan, a Class 3.5 bicycle route designation is also used. In the context of this plan, Class 3.5 facilities indicate a Class 3 bicycle route, as defined by Caltrans, with wide shoulders, typically four to eight feet in width. Class 3 Share the Lane indicates Class 3 bicycle routes, as defined by Caltrans, with “SHARE THE ROAD” signage, typically on narrow, rural roadways. These treatments are further defined on Figure A-1 in Appendix A Bicycle Design Guidelines. Figure A-1 provides cross-sections and additional description of these facilities, including Caltrans minimum requirements as well as recommended cross-section widths and additional treatments.

Support Facilities

Support facilities are critical to bicycle use, especially as a means to encourage bicycle commuting. Support facilities consist primarily of:
• **Bicycle Parking**—bicycle parking supply should vary to accommodate short-term and long-term trips and consist of two basic types:
  
  o **Short-Term Parking**—bicycle racks for users who need to stop for several hours or less, placed adjacent to key destinations such as shopping areas, schools, and parks

  o **Long-Term Parking**—lockable bicycle lockers, bicycle cages, or bicycle rooms that only users are allowed access to, placed at major employment areas, schools, and transit centers.

• **Shower and Changing Space**—showers and changing areas provide longer-distance commuters with an area to change and get ready for work or school

• **Secure Storage Areas**—locker-type storage areas provide room to store a change of clothes or bicycle gear.

**EXISTING BIKEWAYS**

Hughson has 0.86 miles of existing bikeways. **Figure 5-4** shows the existing bicycle network in Hughson. Hughson has very limited bikeway network, with two segments of Class 3 bicycle lanes on Charles Street and 6th Street. The Charles Street bicycle lanes run in both directions between Hughson Avenue and Fox Road. The 6th Street lanes run between Fox Road and Whitmore Avenue. Both facilities connect local schools with residential neighborhoods. Hughson does not have any east-west bikeways.

**Appendix E** lists existing and proposed bikeways in Hughson. **Appendix F** presents the results of the StanCOG BPAC’s community survey (2011), which includes information on identified needs and opportunity areas throughout the County.
Figure 5-4 City of Hughson Existing Bikeways

- **Class 1 Path**
- **Class 2 - Bicycle Lanes**
- **Class 3 - Bicycle Route**
- **Class 3.5 - Bicycle Route with Wide Shoulders**
- **Class 3.5 - Bicycle Route with Share The Road signs**

PROPOSED IMPROVEMENTS

The proposed bikeway network was developed to increase utilitarian and recreational bicycling in the City of Hughson by all levels of bicyclists. The proposed bikeway network was established based on input from the StanCOG BPAC, City staff, recommendations made in the 2008 StanCOG Non-Motorized Transportation Master Plan, and the Hughson Non-Motorized Master Plan. The proposed bikeway network includes Class 1 bicycle paths, Class 2 bicycle lanes, and Class 3 bicycle routes that connect to destinations likely to generate or attract bicycle travel. Figure 5-5 shows the proposed City of Hughson bikeway network. Segments listed as “planned” are proposed segments that are anticipated to be implemented within five years based on information provided by local officials.

PROJECT PRIORITIZATION

Facilities within Stanislaus County were prioritized to address the need for regional and local connections. Because the geographic area of the county is spread out, it is important to prioritize these projects because of the long length of each proposed bikeway and the limited financial resources to implement and maintain facilities.

Prioritization Methodology

The project prioritization methodology is distinct and separate for regional priority bikeways located in unincorporated Stanislaus County and projects within incorporated jurisdictions, and is outlined below. Each methodology is presented in Appendix C and D.

Each proposed bikeway project in the unincorporated county was scored on the follow criteria, which were given equal weight:

- Closure of a critical gap
- Immediate safety need
- Access to key destinations
- Feasibility
Figure 5-5 City of Hughson Proposed Bikeways

- **Existing**
  - Class 1 Path
  - Class 2 - Bicycle Lanes
  - Class 3 - Bicycle Route

- **Planned**
  - Class 1 Path
  - Class 2 - Bicycle Lanes
  - Class 3 - Bicycle Route

- **Proposed**
  - Class 3.5 - Bicycle Route with Wide Shoulders
  - Class 3.5 - Bicycle Route with Share The Road signs

Within the City of Hughson, selected facilities were prioritized in order to establish significant regional routes through incorporated urban areas. Priority bikeways through Hughson were selected using a bicycle and pedestrian demand model developed for Stanislaus County and through the feedback of the StanCOG Bicycle and Pedestrian Advisory Committee (BPAC). Using the demand map as a base, priority bikeway alignments through incorporated areas were selected to:

- Connect local areas of highest biking and walking demand with the most direct route possible;
- Connect cities and/or neighboring unincorporated communities along the most direct route; and
- Create continuous countywide bikeways

**Priority Network**

The countywide bicycle network is presented on Figure 5-6. The following countywide priority bikeways have segments in Hughson:

- Hatch Road (#3), connecting Bret Harte, Shackelford, Ceres, unincorporated County, and Hughson
- Albers Road – Geer Road (#7), connecting Oakdale, unincorporated County, Hughson, and Turlock

These prioritized regional routes through cities should be incorporated into overlay schedules and/or prioritized for competitive grant funding as appropriate. Detailed project descriptions for the two countywide priority bikeways are presented on Figure 5-7 and 5-8.

**BICYCLE PARKING AND SUPPORT FACILITIES**

Bicycle support facilities such as changing rooms, showers, lockers, and short-term and long-term bicycle parking are important end-of-trip facilities for those who commute by bicycle or who may be thinking of commuting by bicycle. As such, it can be an important factor in encouraging bicycle use and bicycling to work. In addition to providing appropriate storage space to park bicycles, support facilities such as showers and lockers are important for commuters who may travel long distances or are subject to formal dress requirements in their workplace. Short-term bicycle parking typically consists of racks, which are useful for visitors to an office or short retail trips, while long-term bicycle parking typically consists of bicycle lockers or secure areas, which are more appropriate for longer stays at work places.

**Existing Bicycle Parking**

In general, very little bicycle parking is available in Hughson. Places of employment do not typically provide showers, changing space, or long-term storage for bicycle gear. However, certain places of
employment such as fire departments, roadway maintenance facilities, or some manufacturing facilities are likely to have showers and changing space that employees could use for bicycle commuting purposes. It is likely that some employers allow employees to store bicycles in their workspace.
Figure 5-6 City of Hughson Priority Bikeways

Prioritization

Existing

Class 1 Path
Class 2 - Bicycle Lanes
Class 2.5 - Bicycle Route

Planned

Class 1 Path
Class 2 - Bicycle Lanes
Class 3 - Bicycle Route

Proposed

Class 3.5 - Bicycle Route with Wide Shoulders
Class 3.5 - Bicycle Route with Share The Road signs

3. Hatch Road
Jurisdictions: Ceres, Unincorporated Stanislaus County, Hughson

Description
Hatch Road is a two- to four-lane east-west arterial connecting unincorporated Stanislaus County communities, Ceres, Modesto, and Hughson. A continuous segment of Class 1 bicycle path is existing within the City of Ceres, paralleling an irrigation canal.

Proposed Improvements
3A. Class 2 between Dallas Street and Herndon Road
3B. Class 1 gap closure between Eastgate Road and Gilbert Road in the Ceres and Unincorporated Stanislaus County
3C. Class 3 with wide shoulders between Clinton Road and Geer Road in Unincorporated Stanislaus County

Design Requirements

3A Class 2 Bicycle Lanes
• Stripe within existing right-of-way
• Widen roadway between Crows Landing Road and Pearson Avenue

3B Class 1 Bicycle Path
• Pave 10 foot path (north side between Richland and Central Avenues, south side between Eastgate and Gilbert Roads)

3C Class 3.5 Bicycle Route with Wide Shoulders
• Widen existing 0-5 foot shoulder to 4 feet minimum
• Shoulder widening planned between Gilbert and Clinton Roads

Implementation and Funding
• High frequency of both pedestrian and bicycle collisions between 2008-2010
  - 27 pedestrian collisions, 29 bicycle collisions on Hatch Road corridor between 2008-2010
• Segments 3A and 3B may be strong candidates for HSIP and/or High-Risk Rural Roadway Program (HR3) funding based on collision history
• Total project cost, including design, environmental, and contingency, is approximately $3,500,000
7. Geer Road-Albers Road

Jurisdictions: City of Oakdale, Unincorporated Stanislaus County, and City of Turlock

Description

Geer Road - Albers Road is a north-south arterial connecting the Cities of Turlock and Oakdale through the unincorporated County. The Geer Road – Albers Road bikeway would connect the proposed Golden State Boulevard Class 3.5 facility with existing Class 2 bicycle lanes on Albers Road in Oakdale, terminating at S. Yosemite Avenue. The north-south bikeway would also connect to a proposed Class 3.5 facility on SR 132-Yosemite Boulevard, which may require coordination with Caltrans.

Proposed Improvements

7A Class 2 bicycle lanes on Geer Road between Taylor Road and Golden State Boulevard
7B Class 3.5 wide shoulders on Albers Road-Geer Road between Albers Road/Oakdale-Waterford Highway and Taylor Road
7C Class 2 bicycle lanes on Albers Road/Oakdale-Waterford Highway between Warnerville Road and Yosemite Boulevard

Design Requirements

7A & 7C Class 2 Bicycle Lanes
- Stripe within existing right-of-way
- Reduce width of outside travel lane and/or two-way left-turn lane

Existing

Proposed

Bike Lane Sign optional

7B Class 3.5 Bicycle Route with Wide Shoulders
- Existing 6 foot shoulders between Claribel Road and Oakdale-Waterford Highway
- Widen shoulder to 4’ minimum between Claribel Road and Turlock City Limits
- Shoulders widening planned between Claribel and Milnes Roads
- Install Class 3 signs each 1/4 mile

Existing

Proposed

Class 3 Bicycle Route Signage

Implementation and Funding

- 5 pedestrian-auto collisions and 3 bicyclist-auto collisions between 2008-2010
- May be eligible for CMAQ Competitive Funds and HR3/HSIP
- Total project cost, including design, environmental, and contingency, is approximately $11,700,000
- Through Turlock, Olive Avenue could be considered as an alternative alignment, if preferred
A bicycle rack was installed at the City Development Services building in 2008. Based on an interview with City staff and field observations, no other short-term or long-term bicycle parking is available. Though bicycle parking may exist, particularly near schools or other civic uses, Hughson does not have a bicycle parking ordinance for new development or programs to install bicycle parking in the public right-of-way.

**Proposed Bicycle Parking**

Three strategies for encouraging bicycling for commuting and utilitarian purposes are proposed:

- Adopt a bicycle parking ordinance for new development
- Organize a bicycle rack request program
- Encourage construction of support facilities at major employers through the permitting process

**Bicycle Rack Request Program**

The City should begin a bicycle rack request program, whereby residents and businesses can request a bicycle rack at specific locations throughout the City. In general, racks should be installed at neighborhood shopping centers, schools, and parks.

**Bicycle Parking Ordinance**

At minimum, the City of Hughson should update their zoning code to include short-term and long-term bicycle parking requirements. Model ordinances are included in the Association of Pedestrian and Bicycle Professionals’ *Bicycle Parking Guidelines, 2nd Edition*. Such a bicycle parking ordinance should include:

**Short-term bicycle parking.** If the project is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 50 feet of the visitors’ entrance, readily visible to passers-by, for five percent of visitor motorized vehicle parking capacity, with a minimum of one two-bicycle capacity rack. Specifications for short-term bicycle parking:

- Bicycle parking space size (eight feet long, three feet wide)
- Bicycle rack type (should be U-lock compatible)
- Bicycle racks should be securely anchored to the surface or structure with fixtures that cannot be removed using common tools

**Long-term bicycle parking.** For buildings with over ten tenant-occupants, provide secure bicycle parking for five percent of motorized vehicle parking capacity, with a minimum of one space. Acceptable parking facilities shall be convenient from the street and may include:
- Covered, lockable enclosures with permanently anchored racks for bicycles
- Lockable bicycle rooms with permanently anchored racks; and
- Lockable, permanently anchored bicycle lockers

Bicycle parking placement guidelines should include discussion of safe, visible, and convenient locations, spaced far enough from walls or other objects so that it is usable by bicyclists. Design guidelines for bicycle parking and siting bicycle parking are included in Appendix A.

**Shower/Locker Facilities at Employment Centers**

Showers and clothes lockers are important for bicycle commuters with a rigorous commute or whose job requires formal office attire. Academic studies show shower and locker facilities at places of employment can be a factor in encouraging commuting to work by bicycle. Employees who exercise on their lunch breaks can also benefit from these facilities. While simpler end-of-trip facilities may be more feasible, consideration should be given to requiring shower and locker facilities in all developments with 100 or more employees.

The design of shower and locker facilities should accommodate both male and female employees and tenants. Small employment centers can provide a unisex restroom/shower room with a locking door. Larger employment centers that require more than one shower can add a separate shower and locker room to both the men’s and women’s restrooms. Maintenance of shower and locker facilities should be provided by the building management. Whenever possible, shower facilities should be located near bicycle parking facilities.

The City of Hughson should encourage bicycle parking and shower/locker facilities with new development at major employment centers. This can be done through the permitting process.
MULTI-MODAL CONNECTIONS

Stanislaus Regional Transit serves the City of Hughson. Figure 5-9 presents existing transit service.

**Stanislaus Regional Transit (StaRT)**

The Waterford/Modesto Runabout provides service between Hughson, Empire, Modesto, and Waterford Monday through Saturday. The Runabout service combines designated fixed stops and a curb-to-curb service, such as a Dial-A-Ride or a Shuttle.

- Passengers can catch the Runabout at designated fixed stop without having to phone ahead and book a ride. The designated fixed stop within the City is located at the Hughson Resource Center.
- Reservations are needed for bikes on Dial-A-Ride.
Figure 5-9 City of Hughson Existing Transit

**Bikeways**

*Existing*
- Class 1 - Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders

*Proposed*
- Class 1 - Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3 - Bicycle Route with Share the Road Signage
- Class 3.5 - Bicycle Route with Wide Shoulders

**Transit**
- CAT
- MAX
- StaRT
- Turlock Transit
- Escalon Transit (eTrans)
- Limited Bus Service

**Paratransit Service Areas**
- StaRT Dial-A-Ride Service Areas

Source: StanCOG, Fehr & Peers, 2013
5.4 PEDESTRIAN FACILITIES

PEDESTRIAN FACILITIES

Pedestrian facilities can be broken into three basic categories, with implementation and use varying based on geographic location:

- **Walkways**—in urban and suburban contexts, sidewalks with curb ramps at intersections are typical and vary in width depending on land use contexts. In rural contexts, paved or unpaved graded shoulders may be typical, or a walkway may not be provided.

- **Crosswalks**—California Vehicle Code Section 275 defines a crosswalk as either “that portion of a roadway included within the prolongation or connection of the boundary lines of sidewalks at intersections” or “any portion of a roadway distinctly indicated for pedestrian crossing by lines or other markings.” So, legal unmarked crossings are those at intersections defined by the prolongation of sidewalk areas.

- **Crosswalk Enhancements**—the most basic crosswalk enhancement is crosswalk markings. More substantial enhancements include devices meant to induce improved motorist yielding or to control vehicles at the crosswalk. Control devices include signals and pedestrian hybrid beacons. Yield devices include a variety of in-pavement and sign-mounted flashing yellow beacons.

**Appendix B Pedestrian Design Guidelines** provides additional definition for these facilities and guidance on their application.

EXISTING CONDITIONS

The older portion of Hughson centered between Whitmore and Fox Road is on a compact grid. Newer residential areas to the north have longer block lengths and many cul-de-sacs, creating a discontinuous pedestrian network. However, these newer areas have more complete sidewalk coverage. Industrial areas west of the railroad tracks also have many sidewalk deficiencies.

The 2008 Hughson Non-Motorized Plan identified existing sidewalk deficiencies, which are present in the industrial and older residential areas of the city. Identified gaps included blocks with sidewalk on only one side of the street or no improved sidewalk on either side. Important east-west connections such as Locust Street and Whitmore Avenue were identified as having sidewalk gaps as well as Tully Road, 5th Street, and 7th Street in addition to several shorter segments. In 2010, Hughson completed the Locust Street Sidewalk Infill Project, which closed critical sidewalk gaps along Locus Street between 3rd and 7th
Streets in the downtown area. Several important north-south connections on Tully Road, 2nd Street, 5th Street, and 7th Street continue to have multiple blocks with no sidewalk coverage. In 2012, the city completed a sidewalk gap closure on Pine Street between 4th and 7th Streets.

While bringing portions of Hughson Avenue in the downtown area into ADA compliance, the City of Hughson also introduced curb extensions at Hughson Avenue/3rd Street and Hughson Avenue/Charles Road. The new curb extensions reduce crossing distances for pedestrians and provide new space for landscaping.

**BICYCLE & PEDESTRIAN DEMAND MODELING**

In order to highlight areas with the highest potential for walking and biking demand a Geographic Information Systems (GIS) model based on land use factors, demographics, and roadway infrastructure was developed for this Plan. The model results are illustrated in a “heat map” for the entire county roadway network to show relative amounts of pedestrian and bicycle demand, and are based on weighing these different walking-related variables.

**Bicycle & Pedestrian Demand Modeling**

In order to highlight areas with the highest potential for walking and biking demand a Geographic Information Systems (GIS) model based on land use factors, demographics, and roadway infrastructure was developed for this Plan. The model results are illustrated in a “heat map” for the entire county roadway network to show relative amounts of pedestrian and bicycle demand, and are based on weighing these different walking-related variables.

**Methodology**

The GIS model measured pedestrian and bicycle demand based on surrounding land use development, and time and proximity to key destinations. Based on those inputs, the model can help identify areas that may be the most desirable locations for walking trips and would therefore be target areas for investment.

The variables used in this model are based on US Environmental Protection Agency (US EPA) research on the relationship between the built environment and travel patterns. The variables shown to have the greatest effects on the number of people walking in a given area were used and broadly fall into four categories: built environment, proximity to walking destinations, demographics, and street network and connectivity. The methodology is detailed in Appendix C and D.
Analysis

The pedestrian and bicycle demand map can provide a guide to prioritization of pedestrian safety and walkability improvement projects in Hughson. Areas with high potential for pedestrian demand are shown in green on Figure 5-10, with areas of low demand shown in red. The central area of Hughson has a high potential for pedestrian demand around the commercial, residential, and civic uses in the downtown area. The street network provides connectivity and is close to commercial areas and schools. Limited roadway connectivity in the newer residential communities, such as the northern area of the City, produces lower demand for walking and biking. Proximity to schools and commercial areas creates higher demand in some of these neighborhoods.

Priority Areas

The Downtown Hughson area is identified as a pedestrian priority area in this Plan. These priority areas are shown on Figure 5-10. With the proximity to the downtown commercial area and civic uses along Hughson Avenue, accessibility and continuous pedestrian infrastructure is critical. Additionally, multiple schools are located to the east and south of downtown, including Hughson Elementary and Hughson High Schools. Potential pedestrian improvement projects along Hughson and Whitmore Avenues are presented on Figure 5-11.

Potential Pedestrian Improvement Projects

Potential projects are shown conceptually on Figure 5-11. The conceptual drawings present a range of solutions for the Hughson Avenue between 3rd and 7th Street and Whitmore Avenue between 7th Street and the Hughson Arboretum. Feasibility analyses should be completed before moving forward with these conceptual design or any other designs that address the needs of pedestrians on the corridor.

Potential projects in Hughson focus on reducing crossing widths and improving accessibility for all pedestrians. In downtown, angled parking may obscure sightlines between drivers and pedestrians and several street corners do not have ADA curb ramps.

Potential treatments include the use of:

- Curb extensions at crosswalk near important land use attractors
- Directional ADA curb ramps whenever feasible
- Marked crosswalks at signalized and stop-controlled intersections
- Yellow school markings within school zones
- Close sidewalk gaps near schools and other land use attractors
Figure 5-10 City of Hughson
Bicycle & Pedestrian Demand Analysis

Demand Index

- Low Demand
- High Demand

**SAFE ROUTES TO SCHOOL PEDESTRIAN PROJECTS**

**Hughson Avenue Crosswalk Improvements between 3rd and 7th Streets**

- Install ADA curb ramp at SW corner of intersection
- Stripe high-visibility crosswalks at uncontrolled locations
- Install ADA curb ramps and bulb-outs on south side of intersection; upgrade curb ramp on NW corner to ADA standards
- Consider continuing existing streetscape improvement project further east on Hughson Avenue
- Install ADA curb ramp and bulb-out on SE corner

---

<table>
<thead>
<tr>
<th>Hughson Avenue between 3rd Street and 7th Street</th>
</tr>
</thead>
<tbody>
<tr>
<td>Install W11-2 pedestrian crossing signs at crosswalks</td>
</tr>
<tr>
<td>Consider advanced stop bars 4-10' before crosswalks</td>
</tr>
</tbody>
</table>

---

**Figure 5-11 Hughson Pedestrian Priority Area Project Sheet**

*Hughson Avenue between 3rd Street and 7th Street*
Many of these proposed projects can be packaged together into a Safe Routes to School grant application, given their proximity to Hughson Elementary and Hughson High Schools. Additional funding sources should also be explored. Further information on funding is presented in Section 9.7.

Additional information on the proposed treatments and other pedestrian infrastructure are discussed further in Appendix B.

5.5 ADA INFORMATION

The City of Hughson recently rebuilt one block of Hughson Avenue to provide ADA accessible sidewalks, and installed bulb-outs at the intersections to help accomplish the transition. The City of Hughson does not currently have an ADA Transition Plan in place.

The City Planning and Public Works departments should pursue universal access in Hughson through a variety of means:

- Enforce ADA requirements as part of the permitting and entitlement process, using the draft Proposed Guidelines for Access Right-of-Way Guidelines (PROWAG) to ensure universal accessibility
- Adopt citywide policy of constructing ADA curb ramps and any other accessibility measures, as described in PROWAG, routine practice in any new construction or improvement project within the public right-of-way
- Prepare and implement a citywide ADA Transition Plan

5.6 BICYCLE AND PEDESTRIAN PROJECT IMPLEMENTATION

FUNDING

Bicycle and pedestrian infrastructure and programs can be funded either directly through the City or through various competitive grant programs.

Past Expenditures

Since 2008, the City of Hughson has spent $632,150 on its pedestrian and bicycle improvement program.
TABLE 5-2
CITY OF HUGHSON BICYCLE AND PEDESTRIAN IMPROVEMENTS SINCE 2008

<table>
<thead>
<tr>
<th>ID</th>
<th>Segment</th>
<th>From</th>
<th>To</th>
<th>Class/Type</th>
<th>Approximate Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Locust Street</td>
<td>3rd St</td>
<td>7th St</td>
<td>Sidewalk Gap Closure</td>
<td>$310,000</td>
</tr>
<tr>
<td>2</td>
<td>Pine Street</td>
<td>4th St</td>
<td>7th St</td>
<td>Sidewalk Gap Closure</td>
<td>$332,000</td>
</tr>
<tr>
<td>3</td>
<td>City Development Services Building</td>
<td></td>
<td></td>
<td>Bicycle Rack</td>
<td>$150</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td>$632,150</td>
</tr>
</tbody>
</table>

Source: City of Hughson, Fehr & Peers, 2013.

Funding Need

Based on the City of Hughson Non-Motorized Plan, the total build out of all three phases of the proposed bicycle network represents a $2.06 million investment, with $847,000 in Phase 1 and $847,000 in Phase II. Over twenty years, the Hughson Non-Motorized Transportation Plan proposes $258,000 per year in bicycle and pedestrian investments.

Recommended Funding Sources

Bicycle and pedestrian infrastructure and programs can be funded either directly through the City or through various competitive grant programs. Available funding sources are summarized in Table 5-3. The most applicable funding sources for the improvements recommended by this plan are:

- CMAQ Formula and Competitive Funding
- Highway Safety Improvement Program (HSIP)
- Safe Routes to School Grants (SR2S)
- Remove II Bicycle Infrastructure Component Grants
- Bicycle Transportation Account

Congestion Mitigation and Air Quality Improvement Program (CMAQ)

Congestion Mitigation and Air Quality Improvement Program (CMAQ) grants are administered on a per-population and competitive basis by StanCOG. The program is jointly administered by the Federal Highway Administration and Federal Transit Administration to increase attainment of the NAAQS. Based
on population, StanCOG received $7,441,852 in CMAQ funding for FY2010-2011. For FY 2014 through FY 2016, $7,129,539 was available for CMAQ Competitive Funds. The cost-effectiveness calculation, based on the Air Resource Board (ARB) methodology, was the sole criteria for selected competitive funds. For FY2014-2015 and FY 2015-2016, all projects with a cost-effectiveness calculation of $64.45 were selected.

Stanislaus County communities routinely use the formula-based funding for the construction of bicycle and pedestrian projects. Seeking competitive grant funding for bicycle and pedestrian projects may be another opportunity to secure funding for the build-out and improvement of bicycle and pedestrian networks.

**Highway Safety Improvement Program (HSIP)**

Caltrans administers two funding programs for roadway safety improvements: the Highway Safety Improvement Program (HSIP) and the Highway Rural Roads Program (HR3). These programs use cost-benefit ratios as a primary factor in the awarding of applications. Because both of these programs focus on roadway safety, projects with a high-frequency of documented collision history, particularly severe collisions, are typically ranked higher. Roadways with documented bicycle and pedestrian collision history, as discussed in Section 5-3 of this Plan, may be well-qualified for HSIP and HR3 applications, particularly since many of the proposed projects would improve bicyclist and pedestrian safety at a lower cost than many of the highway projects also eligible under this funding source.

For FY 2013, Caltrans estimated that $100 million in Highway Safety Improvement Program (HSIP) funding. While this funding source is often used for major roadway improvement projects, installation of traffic signals, and most other cost-intensive projects, funding has routinely been awarded to bicycle and pedestrian projects. Successful projects have included:

- Median refuges and curb extensions
- Curb, gutter, and sidewalk
- Paved shoulders
- Upgraded traffic signals with pedestrian countdown signals and pedestrian-scale lighting
- Bicycle lane striping
- Crosswalk striping
- In-pavement flashers and rectangular rapid flashing beacon (RRFB) at crossings
Many of these projects were applied for as standalone bicycle and pedestrian improvement projects; some bicycle and pedestrian improvements were included with a broader package of roadway improvement projects. The average programmed federal funding amount was $400,000.

An additional $15 million is dedicated for the Highway Rural Road Improvement Program (HR3), for which many Stanislaus County communities are eligible. To be eligible for HR3, roadway improvements must occur on a roadway with a functional classification of:

- Rural major collector
- Rural minor collector
- Rural local road

Programmed federal funds for HR3 projects averaged $580,000 in the third funding cycle (2011), and most projects funded the widening or improvement of shoulders. Most of the priority bikeway projects included in this Plan consist of Class 3 bicycle routes with widened shoulders.

**Safe Routes to School (SR2S)**

Prior to 2012, the state and federal Safe Routes to School programs were potential funding sources for both bicycle and pedestrian planning and infrastructure projects that improve access to schools. Caltrans administered two Safe Routes to School programs: the state-legislated program (SR2S), authorized by California Streets and Highways Code Section 2330-2334, and the federal program (SRTS), authorized by the SAFETEA-LU federal funding bill. The SR2S and SRTS programs provided $24.25 million and $21 million, respectively, in annual funding. As of March 2013, the future of Safe Routes to School funding is improbable. Neither MAP-21, the federal funding bill for transportation spending, or the proposed California’s Governor’s Budget 2013-14, include set-aside funds for Safe Routes to School projects.

There are California state assembly bills currently under consideration that propose state funding for Safe Routes to School. Should Safe Routes to School funding continue beyond 2013, several of the proposed bikeways can be funded by Safe Routes to School programs. Successful applications are typically oriented toward pedestrian infrastructure projects; though bicycle projects may also be included in project packages.

**Remove II Bicycle Infrastructure Component Grants**

The San Joaquin Valley Air Pollution Control District (SJVAPCD) offers grant and incentive programs to help reduce air pollutants in the eight-county San Joaquin Valley, which currently does not meet the
required National Ambient Air Quality Standards (NAAQS) for ozone and particulate matter. The SJVAPCD Remove II Program includes the Bicycle Infrastructure Component, which provides incentives for the construction of Class 1 bicycle paths or Class 2 bicycle lanes that directly benefit commuters in the San Joaquin Valley. Up to $150,000 is available for Class 1 bicycle paths and $100,000 for Class 2 bicycle lanes per applications. Applications must be for either a Class 1 or Class 2 facility, not both; however, multiple applications may be submitted. Grants are accepted on a first-come, first-served basis and the following criteria should be considered:

- Project must contribute to increase in bicycle commuting and reduction in auto emissions
- Proposed bikeways that close gaps in the network are highly encouraged
- Project should improve bicycle-transit connections
- Project should benefit disadvantaged communities
- Projects should target areas of high demand such as schools, parks, shopping areas, and commercial areas
- Co-funding from other sources is encouraged

Additional information can be found at: [http://www.valleyair.org/transportation/removeII/BI.htm](http://www.valleyair.org/transportation/removeII/BI.htm).

**California Bicycle Transportation Account (BTA)**

Bicycle facilities can be funded through the California Bicycle Transportation Account (BTA). Annually, $7.2 million is available for projects through the BTA.

**Additional Funding Sources**

The majority of public funds for bicycle and pedestrian projects are derived through a core group of federal and state programs. Federal funds from the Surface Transportation Program (STP), Transportation Alternatives (TA), and Congestion Mitigation Air Quality (CMAQ) programs are allocated to the County and distributed accordingly.

Limited amounts from the Local Transportation Fund (LTF), which is derived from a ¼ cent of the general sales tax collected statewide, can be used for bicycle and pedestrian facilities.

The Federal Safe Routes to School (SRTS) program was previously authorized under SAFETEA-LU; when MAP-21 superseded SAFETEA-LU, the SRTS program was discontinued. Instead, SRTS programs and infrastructure are eligible to compete for funding as a part of a new program called Transportation
Alternatives (TA). As of December 2012, it is unknown whether California will dedicate a specific portion of TA funds for Safe Routes to School projects.

The California State Parks Recreational Trails Program provides funds annually for recreational trails and trail-related projects. Cities are eligible applicants for the approximately $2.3 million available annually. The program requires an applicant match of 12 percent of the total project cost.

In 2010, the California Strategic Growth Council (SGC) awarded $20 million through the Proposition 84 Sustainable Communities Planning Grant and Incentives Program. Sustainable Community Planning Grant awards totaled $24.6 million in 2012; the SGC plans to award another cycle of grants in 2013. Eligible projects include plans that support greenhouse gas emission reduction and sustainable communities. Twenty percent of the grant funds are set aside for Economically Disadvantaged Communities (EDC), which describes some areas of Stanislaus County.

Caltrans Transportation Planning Grants are available to jurisdictions and can be used for planning or feasibility studies. The maximum funding available per project is $300,000.

The California Office of Traffic Safety (OTS) administers the General OTS Grant opportunities. Pedestrian safety is a priority area for grant funding. Funding can be used for certain police equipment, for signage (vehicle speed feedback signs), and for outreach materials and campaigns.

The Land and Water Conservation Program offers funds to states and through states to local governments for trails acquisition and development.

**FUNDING STRATEGY**

Although every community is unique, in our experience the following elements are important factors in successfully obtaining grant funding for projects:

- Identify local staff who can support the grant applications and oversee project implementation
- Develop a community vision
- Involve multiple stakeholders in the process
- Identify projects that:
  - Connect communities
  - Address safety issues
  - Support economic development
  - Improve access to schools
- Prioritize projects
- Identify projects that are most likely to successfully compete for grants
- Identify project champions
- Identify multiple parties to be co-applicants
- Identify local match opportunities
### TABLE 5-3
**FUNDING SOURCE APPLICABILITY MATRIX**

<table>
<thead>
<tr>
<th>Funding Source</th>
<th>Bicycle Projects</th>
<th>Pedestrian Projects</th>
<th>Other Projects</th>
<th>Planning and Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Class 1 Bicycle Path</td>
<td>Class 2 Bicycle Lane</td>
<td>Class 3 Bicycle Route</td>
<td>Class 3.5 Bicycle Route</td>
</tr>
<tr>
<td>Surface Transportation Program (STP)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Transportation Alternatives (TAs)</td>
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<td>●</td>
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<td>●</td>
</tr>
<tr>
<td>Congestion Mitigation Air Quality (CMAQ)</td>
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<td>●</td>
</tr>
<tr>
<td>Local Transportation Fund (LTF)</td>
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<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>California Safe Routes to School (SR2S)</td>
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<td>●</td>
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</tr>
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<td>California Bicycle Transportation Account (BTA)</td>
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</tr>
<tr>
<td>Highway Safety Improvement Program (HSIP) Grants</td>
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<tr>
<td>California State Parks Recreational Trails Program</td>
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<td>Proposition 84 Sustainable Communities Planning Grant and Incentives Program</td>
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<td>●</td>
</tr>
<tr>
<td>Land and Water Conservation Program</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
</tbody>
</table>

**Notes:**
1. Includes non-pavement elements such as signal equipment, vehicle speed feedback signs, police equipment, or crossing guard equipment

- ● Funding source is applicable
- ● Funding source is potentially applicable
- ○ Funding source is not applicable

**Source:** Fehr & Peers, 2013.
POLICY RECOMMENDATIONS

In addition to the proposed bicycle and pedestrian projects, policy changes that support walking and biking can help establish a policy rationale for the creation of these facilities. The following policies are recommended:

- Adopt bicycle parking requirements in Zoning Code based on Section 9-4 of this Plan
- Consider updating the Hughson Non-Motorized Transportation Master Plan to accurately reflect current community walking and biking needs, update latest best practices in bicycle and pedestrian facility design, and provide feasibility and implementation guidance on proposed bikeways
- Adopt a “Complete Streets” policy or “Routine Accommodation” type of policy to encourage accommodation of bicyclists and pedestrians of all ages and experience levels with new construction or improvements to the public right-of-way. The City already has plans to adopt a Complete Streets policy.
- Prepare an ADA Implementation Plan to guide inventory accessibility needs and future improvements
- Update the City’s Standard Plans to reflect guidance provide in Appendix A and B of this Plan
- Codify current practice of enacting ADA requirements as part of permitting and entitlement process, using the draft Proposed Guidelines for Access Right-of-Way Guidelines (PROWAG) to ensure universal accessibility
- Adopt citywide policy of constructing ADA curb ramps and any other accessibility measures, as described in PROWAG, routine practice in any new construction or improvement project within the public right-of-way
- When competing traffic analysis, collect bicycle and pedestrian volumes at each study location to address safety and circulation issues for those modes

5.7 SAFETY AND EDUCATION

In addition to implementing bicycle and pedestrian facilities, programs focused on education, encouragement, and enforcement can increase the number of people who bicycle and walk in Hughson.
EXISTING PROGRAMS

The Hughson Unified School District has organized the following programs to encourage biking and walking:

- Walking school buses and bicycle trains
- International Walk to School Day
- Promotional and informational assemblies on pedestrian and bicycle safety.

Additionally, the Hughson Children’s Health Festival (2011) features a bicycle rodeo.

PROPOSED EDUCATION AND ENCOURAGEMENT PROGRAMS

Education programs seek to reduce collisions and help people feel safe and comfortable while biking or walking. These programs include elements that help motorists understand the rights of bicyclists and pedestrians. Simultaneously, education campaigns should target the general public and specific groups that have unique education needs or play a greater role in perpetuating collisions and other dangerous situations. Key target audiences include students, children and families, senior citizens, and drivers.

School Programs

Basic bicycling and walking skills and safety courses can be incorporated into school curricula. Often, these programs are facilitated by a local volunteer or by a member of local police, the Sheriff’s Department, or the California Highway Patrol. Anecdotally, many students may be walking to school. With local schools and residential areas located near state highways, the need for safety education related to walking and biking is important. Additional resources and information are available at the Safe Routes to School National Partnership website: http://www.saferoutespartnership.org/local. Programs could include:

- Walk and Roll to School days
- Pedestrian and bicycle safety curricula in the classroom or assemblies

Adult Education

Many less-experienced adult bicyclists are unsure how to negotiate intersections and how to ride with traffic on streets and roads. Adult education efforts which are sponsored by government agencies, major employers, local bicycle enthusiasts or other volunteer groups can help address this need. An annual or
A semi-annual class could be offered free of charge to provide information on how to avoid collisions and citations, how to ride safely and improve visibility, and understand the legal rights of cyclists. Instructors from elsewhere in the state or qualified local instructors or volunteers could teach this class to cyclists, tailored to local needs and issues. Future expansion ideas could include adding on-the-bicycle training.

**Online Bicycle Maps**

The City should provide existing bicycle network maps on their Web page for residents to use as a trip-planning resource, including the countywide maps developed in this Plan. The maps could be used by local residents and visitors to plan their bicycle trips or alternatively could be used as a marketing piece to attract tourist bicycling in the City and surrounding area. The website could also include educational information, including hand signals, bicycle lighting, and safety.

**ENFORCEMENT PROGRAMS**

The City should work with the local Police Department, Sheriff, and California Highway Patrol (CHP) to conduct enforcement campaigns intended to improve bicyclist and pedestrian safety. Sample enforcement programs include the following.

**Targeted Moving Violations**

Decreasing moving violations committed by motorists, bicyclists, and pedestrians alike is critical to improving safety and encouraging all roadway users to share the road. The City should work with the Sheriff and CHP to develop targeted enforcement efforts or sting operations. Advertising campaigns help the targeted violation efforts reach a wider audience.

Moving violations by motorists that affect bicyclists and pedestrians include:

- Speeding
- Passing without sufficient clearance
- Driving in the bicycle lane
- Right-turning in front of bicyclists
- Failing to signal
- Double parking
- Failing to yield to pedestrians at a crosswalk
Moving violations by bicyclists and pedestrians include:

- Failing to stop at a stop sign
- Failing to signal
- Wrong-way riding
- Riding without lights at night
- Failing to wear a helmet (if under 18 years of age)
- Jaywalking

**Radar Speed Signs**

Radar speed signs feature a changeable message sign linked to a radar unit; the signs display the vehicle’s actual speed as the vehicle approaches the sign. Radar speed signs can be mounted permanently to a pole (where they are powered by hard wire or a solar unit) or alternatively they can be mounted to a trailer (also known as a “speed trailer”) and deployed on a temporary basis. Studies in the United States have shown that radar speed signs are an effective way to slow traffic. The City should consider installing additional radar speed signs within school zones in partnership with the school district. The City of Hughson already uses a trailer mounted radar speed sign, which can be deployed throughout the city.
6.0 CITY OF MODESTO

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6.1 INTRODUCTION

PURPOSE OF THE PLAN

The City of Modesto Existing and Planned Bicycle and Pedestrian Facilities chapter is intended to be both a chapter of the Stanislaus County of Government (StanCOG) 2012 Bicycle and Pedestrian Master Plan and a standalone document that can be used as a guide for prioritizing bicycle and pedestrian projects in unincorporated areas of the county. The StanCOG Bicycle and Pedestrian Master Plan is a unifying document that coordinates the existing and planned bicycle and pedestrian networks of Stanislaus County communities to serve local and regional needs. This document meets the Bicycle Transportation Account (BTA) requirements for a Bicycle Transportation Plan (BTP), which, once adopted by StanCOG, will make the City of Modesto eligible for BTA funding and improve local competitiveness for other funding sources to implement this plan.

CALTRANS COMPLIANCE

The Bicycle Transportation Account (BTA) is a Caltrans program that provides grant funding to cities and counties in support of bicycle projects benefitting bicycle commuters. In order to apply for these funds, local jurisdictions must prepare and adopt a Bicycle Transportation Plan that meets the requirements described in Section 891.2 of the Streets and Highways Code. Table 6-1 presents the required elements of a Bicycle Transportation Plan and indicates where they are located in this plan.

Local agencies without a standalone bicycle or bicycle and pedestrian master plan can use the 2012 StanCOG Bicycle and Pedestrian Master Plan to establish eligibility for BTA Funding until 2017, as long as items “a” through “k” are addressed for that city and the unincorporated areas of the county.
<table>
<thead>
<tr>
<th>Item</th>
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<tbody>
<tr>
<td>a</td>
<td>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.</td>
<td>Section 6-2 Demographics</td>
</tr>
<tr>
<td>b</td>
<td>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.</td>
<td>Section 6-2, Figure 6-1</td>
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<td>c</td>
<td>A map and description of existing and proposed bikeways.</td>
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<td>A map and description of existing and proposed end-of-trip bicycle parking facilities.</td>
<td>Section 6-3 Bicycle Parking, Figure 6-2</td>
</tr>
<tr>
<td>e</td>
<td>A map and description of existing and proposed bicycle transport and parking facilities for connections with and use of other transportation modes.</td>
<td>Section 6-3 Multi-Modal Connections, Figure 6-9</td>
</tr>
<tr>
<td>f</td>
<td>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.</td>
<td>Section 6-3 Bicycle Parking, Figure 6-2</td>
</tr>
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<td>g</td>
<td>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 the resulting effect on accidents involving bicyclists.</td>
<td>Section 6-7 Safety &amp; Education</td>
</tr>
<tr>
<td>h</td>
<td>A description of the extent of citizen and community involvement in development of the plan, including, but not limited to, letters of support.</td>
<td>Sections 6-3 &amp; 6-4</td>
</tr>
<tr>
<td>i</td>
<td>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.</td>
<td>Section 6-2 Planning &amp; Policy Context</td>
</tr>
<tr>
<td>j</td>
<td>A description of the projects proposed in the plan and a listing of their priorities for implementation.</td>
<td>Sections 6-3 &amp; 6-4, Figures 6-6, 6-7, &amp; 6-8</td>
</tr>
<tr>
<td>k</td>
<td>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.</td>
<td>Section 6-6</td>
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</table>
6.2 SETTING AND CONTEXT

JURISDICTION OVERVIEW

Modesto is located along SR 99 in the center of Stanislaus County. The City is 36 square miles and has a population of approximately 206,000. Modesto has diverse development, consisting of low- to medium-density residential, commercial and office space, and some industrial land uses. Outside of the urbanized area, agricultural land uses dominate; some of the region’s top commodities include dairy products, almonds, apricots, melons, tomatoes, wine grapes, peaches, walnuts and poultry products. Due to its location on the valley floor, the topography in Modesto is generally flat.

LAND USE ATTRACTORS AND GENERATORS

As the largest city in Stanislaus County, Modesto has diverse land uses, including low- to medium-density residential, commercial and office space, and some industrial land uses. The downtown area houses many city and county offices and other civic and cultural activities. Much of the commercial and retail development is located along arterials north of the downtown area. Many of these uses are along McHenry Avenue, Coffee Road, and Oakdale Road, and are surrounded by residential neighborhoods. Industrial uses are primarily located south of Yosemite Boulevard (SR 132). Figure 6-1 presents existing land use patterns in Modesto.

SCHOOLS AND SCHOOL ACCESS/SAFE ROUTES

Schools are located throughout the city and generally located near a major arterial or collector street. Schools are shown on Figure 6-2.

PARKS AND COMMUNITY FACILITIES

Parks are shown on Figure 6-2. In addition to the many neighborhood parks, Modesto also has regional parks and trails along the Tuolumne River.
Figure 6-1
Modesto Existing Land Uses
December 2012
Figure 6-2 City of Modesto Schools and Parks

Existing
- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route

Planned
- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders
- Class 3.5 - Bicycle Route with Share The Road signs

Proposed
- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders
- Class 3.5 - Bicycle Route with Share The Road signs

DEMOGRAPHICS AND EXISTING TRANSPORTATION PATTERNS

Data from the American Community Survey Five-Year Summaries from 2005 to 2009 was analyzed to understand commute patterns in Modesto. The American Community Survey is conducted each year to provide ongoing data collection between the Decennial Census and includes questions that are not asked in the Decennial Census. The 2005-2009 summaries were used for this Plan because the 2006-2010 summaries aggregated taxicab, motorcycle, and bicycle use into one category, which does not give an accurate picture of bicycle commuting in Modesto. The American Community Survey includes information such as the primary means respondents use to get to work as well as information on age, income, and auto ownership. The means of transportation to work question specifically focuses on commuting trips and does not record the school, shopping, and recreational trips that occur by various modes of transportation. The mode split information also does not account for commuters who may carpool or bicycle to work some days but drive alone other days, or for trips that include both walking or bicycling and another mode (such as transit or carpooling), as only one response is allowed. As such, walking and bicycling trips tend to be underrepresented in this data set.

The majority of commuters in Modesto—82 percent of workers—travel by single-occupancy vehicle (SOV) to get to work, which is 2 percent higher than the County average, and carpooling represented 9 percent of trips to work. Commute trips on foot amounted to 1.6 percent, and bicycle trips amounted to 0.5 percent of commute trips. Public transit accounted for 1.3 percent of commute trips. Vehicle ownership in Modesto is on par with the rest of the county, with over a third of residents having access to three or more vehicles, and only 2 percent of residents do not have access to a vehicle for their commute.

Accounting for schools trips, recreation trips, and other non-work related trips, the overall bicycle mode split is likely higher than 0.4 percent. According to the Census 2010 data, there are 69,107 households in Modesto. Assuming nine daily person trips per household, at least 3,100 work trips are made by bicycle each day in Modesto.

Future bicycle trips will depend on a variety of factors such as the availability of well-connected facilities and the location, density, and type of future land development. With appropriate bicycle facilities in place and implementation of bicycle support facilities, such as bicycle parking, mode share could increase countywide. Doubling the current mode split (0.5 percent for work trips) would result in approximately 6,200 work trips based on the number of households in 2010.
COLLISION DATA

SWITRS collision reports were collected and analyzed over a three-year period (2008-2010). The database includes collisions reports recorded by both local police and the California Highway Patrol. Bicycle and pedestrian collision data can aid in the identification of problematic areas for bicycles and pedestrians; however, a high frequency of collisions in a particular neighborhood may also indicate an abundance of bicyclists and pedestrians using a particular route.

From 2008-2010, 578 collisions involving bicyclists and pedestrians were reported in Modesto, as shown on Figure 6-3. Modesto had 299 pedestrian-auto collisions in the study period. The following locations in Modesto had three or more pedestrian-auto collisions occur during the three year study period:

- Oakdale Road/Surrey Avenue
- Oakdale Road/Floyd Avenue
- Oakdale Road/Lancey Drive
- College Avenue/Stoddard Avenue
- Yosemite Boulevard (SR 132)/Wilson Avenue
- Carpenter Road/Paradise Road

Of the 279 bicyclist-auto collisions in Modesto during the study period, the following intersections had three or more bicycle-auto collisions:

- Scenic Drive/Bodem Street
- Prescott Road/Mount Vernon Drive
- West Orangeburg Avenue/Roosevelt Drive
- Morris Avenue/McHenry Avenue

The high frequency of collisions at these locations indicates these areas may have higher pedestrian and bicyclist activity, contributing to the higher number of collisions.
LOCAL OPPORTUNITIES AND CONSTRAINTS

The following opportunities and constraints for improving pedestrian and bicycle facilities in Modesto include considerations such as the existing distribution of urbanized areas throughout the county, roadway infrastructure and connectivity, sidewalk coverage, and existing policies and agreements with local agencies.

**Opportunities**

- As the major population center, the City of Modesto has more regional funding available for bicycle and pedestrian projects
- Recent emphasis on building Class 1 bikeways creates several important east-west and north-south connections that may have lower barriers to entry for bicyclists of different ages and experience levels
- Paths have also been developed along natural resources such as the Tuolumne River

**Constraints**

- Many roadways in Modesto have wide cross-sections and high speeds
- Much of the commercial development is automobile-oriented

PLANNING AND POLICY CONTEXT

The following section summarizes past related planning efforts and establishes a policy framework to guide future transportation decisions and capital improvement programming. This information helps to ensure infrastructure improvements are closely coordinated with past and ongoing planning efforts.

**Modesto Urban Area Plan (2008)**

The General Plan includes non-motorized transportation in a few key areas. One of the overall goals behind the plan is to encourage alternatives to driving alone, such as developing trail systems to reduce traffic congestion and enhance air quality. The Plan includes design principles so that housings, jobs, and daily needs are within easy walking distance of each other, locating activities within easy walking distance of transit stops, and providing streets, pedestrian paths, and bicycle paths to create fully connected and interesting routes to all destinations.

The General Plan circulation and transportation policies include reference to non-motorized transportation as well. Development should be designed in a way that will encourage walking as an alternative mode to the automobile for transportation. Safe and convenient pedestrian facilities should
be provided in residential, commercial, and other areas when possible. The use of the bicycle shall be promoted as an alternative mode of transportation. An adequate and safe bicycle system should be provided to connect residential areas with shopping and employment areas. Right of way for bicycle usage should be considered in the planning of new streets and in street improvements. Facilities for mode transfer from bicycle to park and ride lots, transit, and rail must be considered and provided when necessary.

**Modesto Non-Motorized Transportation Master Plan (updated in 2006)**

The Non-Motorized Transportation Master Plan includes an evaluation of existing bicycle and pedestrian conditions, suggestions for improvements, maps of existing and proposed bicycle facilities, and design guidelines for Class 1, 2, and 3 facilities as well as undercrossings, treatments at intersections, signage and pavement marking, and bicycle parking. It also recommends the addition of bicycle parking requirements to the City’s zoning ordinance. The stated purpose of the plan is to make bicycling and walking safer, plan for needed bicycle and pedestrian infrastructure and services, improve the quality of life in Modesto, prioritize the planned biking and walking networks, and to transform Modesto into the “City of Trees and Trails,” taking advantage of the rural and agricultural character of the city to provide recreational facilities and greenways. It reviews and reaffirms the ten goals of the 1996 Plan, which are:

1) Continue developing a Citywide non-motorized transportation system that serves as an alternative to motorized transportation.
2) Coordinate Modesto’s non-motorized transportation system with the systems of neighboring cities and the County.
3) Link the City’s non-motorized transportation users to major destinations.
4) Establish a regular maintenance and hazard removal program to ensure safe and well-maintained non-motorized transportation facilities.
5) Continue and expand programs that provide and encourage support facilities for non-motorized transportation users.
6) Continue to establish policies encouraging new development patterns that support non-motorized transportation, such as the village concept.
7) Establish strong transit connections for those who use non-motorized transportation, and to accommodate their particular needs on public transit (i.e., bicycle racks on buses).
8) Work with irrigation districts, railroads and other owners of linear right-of-way that have the potential to accommodate non-motorized transportation facilities and thereby to strengthen the City’s non-motorized transportation system.
9) Establish a comprehensive program of community education and feedback related to non-motorized ways of getting about.

10) Seek regular, dedicated local funding for developing the Modesto Non-Motorized Transportation Master Plan, and establish a program to seek regular State and other public development and maintenance funding as available.

**Modesto Standards and Specifications (2006)**

The Modesto Standards and Specifications Chapter 3, “Street Design,” describes requirements for materials and design of all street improvements. Sidewalks, curb treatments, and ramps are covered thoroughly, and a detail is included for a walk-through cul-de-sac. Details for collector streets and minor arterials show bicycle lane striping, which “shall be installed unless otherwise instructed by the city traffic engineer.” The Downtown Streetscape details state that pedestrian bulb-outs should be used at key intersections and at mid-block crosswalks when appropriate. Appropriate street furnishing should be encouraged. Bicycle racks are recommended at a maximum of four per block face and benches are recommended at two per block face.

### 6.3 BICYCLE NETWORK

#### BICYCLE FACILITIES

Bicycle facilities can be divided into two types:

- Bikeways—on-street or off-street facilities provided for bicycle travel
- Support Facilities—facilities used by bicyclists when they reach their destination, such as bicycle parking
Bikeways

Chapter 1000 of the Caltrans *Highway Design Manual* defines three classes of bicycle facilities and details the minimum requirements for those facility types:

- **Class 1 Bicycle Paths**—a paved right of way completely separated from any street or highway
- **Class 2 Bicycle Lanes**—a striped and stenciled lane for one-way travel on a street or highway
- **Class 3 Bicycle Routes**—a typical roadway identified as a preferred bicycle route with signage. They may also include shared use lane markings, “SHARE THE ROAD” signage, or wide shoulders, as described in *Appendix A Bicycle Design Guidelines*.

In this Plan, a Class 3.5 bicycle route designation is also used. In the context of this plan, Class 3.5 facilities indicate a Class 3 bicycle route, as defined by Caltrans, with wide shoulders, typically four to eight feet in width. Class 3 Share the Lane indicates Class 3 bicycle routes, as defined by Caltrans, with “SHARE THE ROAD” signage, typically on narrow, rural roadways. These treatments are further defined on Figure A-1 in *Appendix A Bicycle Design Guidelines*. Figure A-1 provides cross-sections and additional description of these facilities, including Caltrans minimum requirements as well as recommended cross-section widths and additional treatments.

Support Facilities

Support facilities are critical to bicycle use, especially as a means to encourage bicycle commuting. Support facilities consist primarily of:

- **Bicycle Parking**—bicycle parking supply should vary to accommodate short-term and long-term trips and consist of two basic types:
  - **Short-Term Parking**—bicycle racks for users who need to stop for several hours or less, placed adjacent to key destinations such as shopping areas, schools, and parks
  - **Long-Term Parking**—lockable bicycle lockers, bicycle cages, or bicycle rooms that only users are allowed access to, placed at major employment areas, schools, and transit centers.
- **Shower and Changing Space**—showers and changing areas provide longer-distance commuters with an area to change and get ready for work or school
- **Secure Storage Areas**—locker-type storage areas provide room to store a change of clothes or bicycle gear.
EXISTING BIKEWAYS

Modesto’s bicycle network consists of 13.9 miles of Class 1 bicycle paths and 26 miles of bicycle lanes. **Figure 6-4** presents the existing bikeway network. The off-street paths primarily provide access to the periphery of the City, with the exception of the Virginia Corridor, which provides a north-south connection between College Avenue and Bowen Avenue, beginning at a canal and following an abandoned rail right-of-way along Virginia Avenue. The on-street network provides north-south access along major arterials such as Prescott, Tully, and Coffee Roads.
Figure 6-4 City of Modesto Existing Bikeways

Existing

- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders
- Class 3.5 - Bicycle Route with Share The Road signs

Three long segments of Class 2 routes provide east-west connections: Pelandale, Standiford, and Orangeburg Avenues. East-west connections south of Orangeburg Avenue are provided on Class 3 routes that snake through residential neighborhoods. Several more isolated Class 2 segments exist in the eastern portion of the city and serve local neighborhood trips which also connect to neighborhood schools. Downtown Modesto and the southwest portion of the city (west of SR 99) are underserved by the existing bicycle network. Only two segments exist in that area: Class 2 on 11th Street and Class 3 on Roselawn Avenue.

Appendix E lists existing and proposed bikeways in the City of Modesto. Appendix G presents the results of the StanCOG BPAC’s community survey (2011), which includes information on identified needs and opportunity areas throughout the County.

PROPOSED IMPROVEMENTS

The proposed bikeway network was developed to increase utilitarian and recreational bicycling in the City of Modesto by all types of bicyclists. The proposed bikeway network was established based on input from the StanCOG BPAC, input from City Parks and Recreation and Transportation Engineering and Design staff, recommendations made in the 2008 StanCOG Non-Motorized Transportation Master Plan, and recommendations made in the City of Modesto Non-Motorized Master Plan. The proposed bikeway network includes Class 1 bicycle paths, Class 2 bicycle lanes, and Class 3 bicycle routes that connect to destinations likely to generate or attract bicycle travel. Figure 6-5 shows the proposed City of Modesto bikeway network. Segments listed as “planned” are proposed segments that are anticipated to be implemented within five years based on information provided by local officials.

PROJECT PRIORITIZATION

Facilities within Stanislaus County were prioritized to address the need for regional and local connections. Because the geographic area of the county is spread out, it is important to prioritize these projects because of the long length of each proposed bikeway and the limited financial resources to implement and maintain facilities.
Figure 6-5 City of Modesto Proposed Bikeways

Existing
- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders
- Class 3.5 - Bicycle Route with Share The Road signs

Planned
- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route

Proposed
- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders
- Class 3.5 - Bicycle Route with Share The Road signs

Prioritization Methodology

The project prioritization methodology is distinct and separate for regional priority bikeways located in unincorporated Stanislaus County and projects within incorporated jurisdictions, and is outlined below. Each methodology is presented in Appendix C and D.

Each proposed bikeway project in the unincorporated county was scored on the follow criteria, which were given equal weight:

- Closure of a critical gap
- Immediate safety need
- Access to key destinations
- Feasibility

Within the City of Modesto, selected facilities were prioritized in order to establish significant regional routes through incorporated urban areas. Priority bikeways through Modesto were selected using a bicycle and pedestrian demand model developed for Stanislaus County and through the feedback of the StanCOG Bicycle and Pedestrian Advisory Committee (BPAC). Using the demand map as a base, priority bikeway alignments through incorporated areas were selected to:

- Connect local areas of highest biking and walking demand with the most direct route possible;
- Connect cities and/or neighboring unincorporated communities along the most direct route; and
- Create continuous countywide bikeways

Priority Network

The countywide bicycle network is presented on Figure 6-6. The following countywide priority bikeways have segments in Modesto:

- Paradise Road – G & H Streets - Yosemite Avenue/SR 120 (Countywide Priority Bikeway 4), connecting Modesto, Empire, unincorporated County, and Waterford
- Oakdale Road – Mitchell Road – Moore Road (Countywide Priority Bikeway 10), connecting Riverbank, unincorporated County, Modesto, and Ceres

These prioritized regional routes through cities should be incorporated into overlay schedules and/or prioritized for competitive grant funding as appropriate. Detailed project descriptions for the two countywide priority bikeways are presented on Figure 6-7 and 6-8.
Figure 6-6 City of Modesto Priority Bikeways

Prioritization

- First-Tier
- Second Tier

Existing
- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route

Proposed
- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders
- Class 3.5 - Bicycle Route with Share The Road signs

4. Paradise Road - H & G Street - Yosemite Boulevard/SR 132
Jurisdictions: City of Modesto, Unincorporated Stanislaus County, and City of Waterford

Description
This east-west bikeway begins on Paradise Road in the western end of Modesto, and extends east through G and H Streets in Downtown onto Yosemite Boulevard / SR-132. Yosemite Boulevard is an east-west highway that runs through Downtown Modesto and continues east to the County limit. Coordination with Caltrans will be required.

Proposed Improvements
4A. Class 2 on Paradise Road between Carpenter Road and Jefferson Street
4B. Class 3 on H Street between Jefferson Street and 14th Street; Class 3 on G Street between 1st and 14th Streets. Class 3 on 1st Street between H and G Streets; Class 3 on 14th Street between H and Yosemite Boulevard.
4C. Class 3.5 with wide shoulders on Yosemite Boulevard between Claus Road and Skyline Boulevard (Waterford)
4D. Class 2 on Yosemite Boulevard between 14th Street and Riverside Drive

Design Requirements

4A, 4D Class 2 Bicycle Lanes
- Stripe within existing right-of-way
- On Paradise west of Martin Luther King Jr cross section allows for on-street parking with 5-6’ bike lanes
- On Paradise between Martin Luther King Jr and Jefferson, remove on-street parking on north side and stripe with 11’ travel lanes to allow 5’ bike lanes
- On Yosemite, remove on-street parking to accommodate 6’ bike lanes with 2’ buffer

4B Class 3 Bicycle Route with Sharrows
- Install Class 3 bicycle route signage
- Stripe sharrows 14’ from face of curb
- Install Class 3 signs each 1/4 mile

4C Class 3.5 Bicycle Route with Wide Shoulders
- Widen shoulder to 4’ minimum on Yosemite Boulevard between Claus Road and Skyline Boulevard
- Existing shoulders in Waterford are 0-4’
- Install Class 3 signs each 1/4 mile

Implementation and Funding
- High frequency of both pedestrian and bicycle collisions between 2008-2010
  - 33 pedestrian-auto collisions, 38 bicyclists-auto collisions on Hatch Road corridor between 2008-2010
- All segments may be strong candidates for HSIP and/or High-Risk Rural Roadway Program (HR3) funding based on collision history
- Total project cost, including design, environmental, and contingency, is approximately $6,250,000
10. Oakdale Road - Mitchell Road - Moore Road

Jurisdictions: City of Riverbank, Unincorporated Stanislaus County, City of Modesto, and City of Ceres

Description
Oakdale Road/El Vista Avenue/Mitchell Road is a north-south arterial connecting Riverbank, Modesto, and Ceres. Mitchell Road crosses the Tuolumne River to connect to the City of Ceres. The priority bikeway jogs onto the planned and funded Moore Road Class 1 TID path, connecting to the proposed priority bike lanes on Golden State Boulevard (#8). Bicycle lanes are planned for Oakdale Road between Patterson Road and Claribel Road. (Riverbank).

Proposed Improvements

10A. Class 2 between Claribel Road (Riverbank) and Mable Road (Modesto)
10B. Class 2 between Mable Avenue to La Force Drive (Modesto)
10C. Class 2 between La Force Drive (Modesto) and Floyd Avenue (Modesto)
10D. Class 2 between Floyd Avenue (Modesto) and existing Class 2 on Mitchell Road (Ceres)

Design Requirements

10A, 10C Class 2 Bicycle Lanes
- Widen roadway between La Force Drive and Floyd Avenue
- Widen roadway between Claribel Road and Mable Avenue

Existing

Proposed

Optional Class 2 Bicycle Lane Signage

10B, 10D Class 2 Bicycle Lanes
- Stripe within existing right-of-way from Claribel Road to La Force Drive
- Stripe within existing right-of-way from Floyd Avenue to existing Class 2 on Mitchell Road (Ceres)
- May require parking removal for portions of El Vista Avenue

Existing

Proposed

Optional Class 2 Bicycle Lane Signage

Implementation and Funding

- High frequency of both pedestrian and bicycle collisions between 2008-2010
- 28 auto-pedestrian collisions, 26 auto-bicyclist collisions on corridor
- Strong candidate for HSIP/HR3 funds
- Total project cost, including design, environmental, and contingency, is approximately $5,420,000
BICYCLE PARKING AND SUPPORT FACILITIES

Bicycle support facilities such as changing rooms, showers, lockers, and short-term and long-term bicycle parking are important end-of-trip facilities for those who commute by bicycle or who may be thinking of commuting by bicycle. As such, it can be an important factor in encouraging bicycle use and bicycling to work. In addition to providing appropriate storage space to park bicycles, support facilities such as showers and lockers are important for commuters who may travel long distances or are subject to formal dress requirements in their workplace. Short-term bicycle parking typically consists of racks, which are useful for visitors to an office or short retail trips, while long-term bicycle parking typically consists of bicycle lockers or secure areas, which are more appropriate for longer stays at work places.

Existing Bicycle Parking

Based on an interview with City staff and field observations, several known locations of long-term bicycle parking and changing rooms with showers have been built recently, though the City does not keep a database of bicycle parking locations. The following employers provide long-term bicycle parking and changing rooms with showers:

- City of Modesto and Stanislaus County offices on 10th Street
- Modesto Irrigation District offices on 11th Street
- Gallo Winery near Yosemite Boulevard
- Doctors Hospital
- Memorial Hospital
- 11th Street Parking Garage (bicycle lockers only)

Additionally, bicycle racks may be requested in the Downtown area through the local business improvement district (BID) which provides and installs the racks.

Modesto does not currently have a bicycle parking ordinance; though the City’s 2006 Modesto Non-Motorized Transportation Plan did recommend it and included sample language. Though bicycle parking may exist, particularly near schools or other civic uses, the City of Modesto does not have a bicycle parking ordinance or programs to install bicycle parking in the public right-of-way.

Proposed Bicycle Parking

Three strategies for encouraging bicycling for commuting and utilitarian purposes are proposed:
• Adopt a bicycle parking ordinance for new development
• Organize a bicycle rack request program
• Encourage construction of support facilities at major employers through the permitting process

_Bicycle Rack Request Program_

The City should begin a bicycle rack request program, whereby residents and businesses can request a bicycle rack at specific locations throughout the City. Racks should be installed at neighborhood shopping centers, schools, parks, and City of Modesto.

_Bicycle Parking Ordinance_

At minimum, the City of Modesto should update their zoning code to include short-term and long-term bicycle parking requirements. Model ordinances are included in the Association of Pedestrian and Bicycle Professionals’ _Bicycle Parking Guidelines, 2nd Edition_. Such a bicycle parking ordinance should include:

**Short-term bicycle parking.** If the project is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 50 feet of the visitors’ entrance, readily visible to passers-by, for five percent of visitor motorized vehicle parking capacity, with a minimum of two two-bicycle capacity racks. Specifications for short-term bicycle parking:

- Bicycle parking space size (eight feet long, three feet wide)
- Bicycle rack type (should be U-lock compatible)
- Bicycle racks should be securely anchored to the surface or structure with fixtures that cannot be removed using common tools

**Long-term bicycle parking.** For buildings with over ten tenant-occupants, provide secure bicycle parking for five percent of motorized vehicle parking capacity, with a minimum of two spaces. Acceptable parking facilities shall be convenient from the street and may include:

- Covered, lockable enclosures with permanently anchored racks for bicycles
- Lockable bicycle rooms with permanently anchored racks; and
- Lockable, permanently anchored bicycle lockers

Bicycle parking placement guidelines should include discussion of safe, visible, and convenient locations, spaced far enough from walls or other objects so that it is usable by bicyclists. Design guidelines for bicycle parking and siting bicycle parking are included in _Appendix A_.

6-23
Shower/Locker Facilities at Employment Centers

Showers and clothes lockers are important for bicycle commuters with a rigorous commute or whose job requires formal office attire. Academic studies show shower and locker facilities at places of employment can be a factor in encouraging commuting to work by bicycle. Employees who exercise on their lunch breaks can also benefit from these facilities. While simpler end-of-trip facilities may be more feasible, consideration should be given to requiring shower and locker facilities in all developments with 100 or more employees.

The design of shower and locker facilities should accommodate both male and female employees and tenants. Small employment centers can provide a unisex restroom/shower room with a locking door. Larger employment centers that require more than one shower can add a separate shower and locker room to both the men’s and women’s restrooms. Maintenance of shower and locker facilities should be provided by the building management. Whenever possible, shower facilities should be located near bicycle parking facilities.

The City of Modesto should encourage bicycle parking and shower/locker facilities with new development at major employment centers. This can be done through the permitting process.

MULTI-MODAL CONNECTIONS

Stanislaus Regional Transit (StaRT), Ceres Area Transit (CAT), and Modesto Area Express (MAX) provide bus service in Modesto. These agencies have bike-rack equipped bus fleets on a first-come, first-served basis. Figure 6-9 shows existing transit routes.

Modesto Area Express (MAX)

Routes 21, 22, 24-34, 36-39, 41-43, serve the city of Modesto. Weekday and Saturday MAX bus operations run on 30 minute\textsuperscript{1} and 60 minute\textsuperscript{2} headways, respectively. MAX Gillig coaches are equipped with a bicycle rack on the front bumper that can store up to two bicycles. Bicycle racks are available on a first-come, first-served basis, and bikes are not allowed on board. When purchasing new buses or new bicycle racks, racks that hold three bicycles should be considered.

\begin{footnotesize}
\footnote{1 Exceptions: Monday through Saturday, Routes 24, 27, 34, 37, and CAT Routes operate on 60 minute headways.}
\footnote{2 Exceptions: On Saturdays, Routes 21, 26, 29, 30, 38, 42, 43 operate on 30 minute headways.}
\end{footnotesize}
Ceres Area Transit (CAT)

Routes A and B serve the City of Modesto Monday through Friday between the hours of 6:00 am and 7:00 pm.

Route C provides weekend service, Saturdays from 10:00 am to 6:00 pm and Sundays from 10:00 am to 4:00 pm.

Modesto/BART Express Buses

The Modesto ACE (Altamont Commuter Express) Express bus provides three trips in the morning from Modesto’s Vintage Faire Mall Park & Ride lot to the Lathrop/Manteca ACE train station. The Modesto BART Express bus provides two trips in the morning to the Dublin/Pleasanton BART station and two return trips in the evening. BART Express buses are not equipped with exterior bicycle racks.

Stanislaus Regional Transit (StaRT)

Fixed routes 10 Express, 15, 40, 60, and 70 serve the City of Modesto. Modesto is within the service areas of the Waterford/Modesto Runabout, Turlock/Modesto Shuttle, and Eastside Shuttle. StaRT Orion coaches have a bicycle rack on the front bumper that can store up to three bicycles. Reservations are needed for bikes on Dial-A-Ride.

Amtrak

Amtrak provides passenger rail service on the San Joaquin route to the Modesto Amtrak Station, located on Briggsmore Avenue in the eastern portion of the City. San Joaquin trains have space for six bicycles per train and do not require reservations.
Figure 6-9 City of Modesto Existing Transit

Bikeways

Existing
- Class 1 - Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders

Planned
- Class 1 - Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders

Proposed
- Class 1 - Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3 - Bicycle Route with Share the Road Signage
- Class 3.5 - Bicycle Route with Wide Shoulders

Transit
- CAT
- MAX
- StarT
- Turlock Transit
- Escalon Transit (eTrans)
- Limited Bus Service

Paratransit Service Areas
- StarT Dial-A-Ride Service Areas

Source: StanCOG, Fehr & Peers, 2013
6.4 PEDESTRIAN FACILITIES

PEDESTRIAN FACILITIES

Pedestrian facilities can be broken into three basic categories, with implementation and use varying based on geographic location:

- **Walkways**—in urban and suburban contexts, sidewalks with curb ramps at intersections are typical and vary in width depending on land use contexts. In rural contexts, paved or unpaved graded shoulders may be typical, or a walkway may not be provided.

- **Crosswalks**—California Vehicle Code Section 275 defines a crosswalk as either “that portion of a roadway included within the prolongation or connection of the boundary lines of sidewalks at intersections” or “any portion of a roadway distinctly indicated for pedestrian crossing by lines or other markings.” So, legal unmarked crossings are those at intersections defined by the prolongation of sidewalk areas.

- **Crosswalk Enhancements**—the most basic crosswalk enhancement is crosswalk markings. More substantial enhancements include devices meant to induce improved motorist yielding or to control vehicles at the crosswalk. Control devices include signals and pedestrian hybrid beacons. Yield devices include a variety of in-pavement and sign-mounted flashing yellow beacons.

**Appendix B Pedestrian Design Guidelines** provides additional definition for these facilities and guidance on their application.

EXISTING CONDITIONS

Sidewalk coverage is largely complete in commercial areas and newer residential areas. Some older residential neighborhoods have curbs and gutters but no sidewalks. Many of the newer roadways have wide cross-sections lined with auto-oriented development, which increases pedestrian exposure to vehicles and may not make walking the preferred mode choice. Crossing opportunities can be limited across some of these wide roadways, with long distances between marked crosswalks. Many of the residential neighborhoods of Modesto are located in close proximity to the retail and other commercial land use attractors located along McHenry Avenue, for example. Many schools are located on the edge of residential neighborhoods, along arterial and collector streets. This may make walking a viable option for some living nearby; though students living across these wide roadways may be less inclined to walk to school or may face greater exposure to vehicle traffic as a result.
BICYCLE & PEDESTRIAN DEMAND MODELING

In order to highlight areas with the highest potential for walking and biking demand, a Geographic Information Systems (GIS) model based on land use factors, demographics, and roadway infrastructure was developed for this Plan. The model results are illustrated in a “heat map” for the entire county roadway network to show relative amounts of pedestrian and bicycle demand, and are based on weighing these different walking-related variables.

Methodology

The GIS model measured pedestrian and bicycle demand based on surrounding land use development, and time and proximity to key destinations. Based on those inputs, the model can help identify areas that may be the most desirable locations for walking trips and would therefore be target areas for investment.

The variables used in this model are based on US Environmental Protection Agency (US EPA) research on the relationship between the built environment and travel patterns. The variables shown to have the greatest effects on the number of people walking in a given area were used and broadly fall into four categories: built environment, proximity to walking destinations, demographics, and street network and connectivity. The methodology is detailed in Appendix C and D.

Analysis

The pedestrian and bicycle demand map can provide a guide to prioritization of pedestrian safety and walkability improvement projects in Modesto. Areas with high potential for pedestrian demand are shown in green on Figure 6-10, with areas of low demand shown in red. Many of the areas shown in the darkest green have high degree of street connectivity and/or are located in nearby to a variety of employment centers and retail locations. Downtown Modesto, for example, scores high on the index with its small street grid and many employers. McHenry Avenue, Coffee Road, and Oakdale Road all score high on the index also due to their variety of employment centers and retail destinations, with residential neighborhoods located nearby. These areas have a high degree of latent pedestrian demand. Establishing Complete Streets policies and street standards would help to enhance the pedestrian environment on these areas of highest potential demand. Narrowing the crossing distance of these wide roadways, improving pedestrian access through building codes and site planning standards, and providing crosswalk enhancements may help to realize more of the latent pedestrian demand in these areas.
Priority Areas

Based on the latent demand analysis and in consultation with the StanCOG BPAC, multiple pedestrian priority areas are identified in Modesto. Priority areas include:

1) Downtown Modesto
2) Paradise Road area
3) McHenry Road corridor
4) Oakdale Road corridor

Each identified area should be prioritized for pedestrian improvements and investments. Potential pedestrian improvement projects along Paradise Road are described in the next section to illustrate the range of possible pedestrian improvement projects. Figure 6-10 presents pedestrian priority areas in Modesto.

Potential Pedestrian Improvement Projects

Potential projects are shown conceptually on Figure 6-11. The conceptual drawings present a range of solutions for the Paradise Road corridor on the west side of Modesto. Feasibility analyses should be completed before moving forward with these conceptual designs or any other designs that address the needs of pedestrians on the corridor.

Potential projects on Paradise Road focus on improving crossing conditions for pedestrians at signalized and uncontrolled crosswalks. In all cases, crossing distances are long and median refuges are not provided. Small medians currently exist at several intersections—these could be widened to six feet to provide protection for bicyclists or pedestrians with strollers with median tips added to provide a full refuge. Many side streets do not have sidewalks. Additional treatments include the use of:

- High-visibility ladder-style crosswalks, advanced yield markings, and signalized devices, such as rectangular rapid flashing beacons (RRFBs) at uncontrolled, multi-lane crosswalks
- Yellow school markings within school zones
- Directional ADA curb ramps whenever feasible
Figure 6-10 City of Modesto
Bicycle & Pedestrian Demand Analysis

Demand Index

- Low Demand
- High Demand

HSIP BICYCLE & PEDESTRIAN PROJECTS
Paradise Road between Florette Avenue and Ellen Avenue

- Stripe bicycle lanes on Paradise Road
- Close sidewalk gaps on Paradise Road
- Consider treatments such as flashing beacons and RRFBs at key unsignalized crosswalks on Paradise Road*
- Install directional ADA curb ramps at all crosswalks
- Eliminate existing 5-way intersection by making Chicago Avenue intersect Paradise Road at a right-angle
- Install bulbouts at Ellen and Chicago Avenues
- Stripe advanced stop bars on side streets
- Install directional ADA curb ramps at all crosswalks
- Install bulb-outs at Florette Avenue and Sheridan Street, consider bus bulbout at Florette Avenue
- Close sidewalk gaps on Florette Avenue
- Install directional ADA curb ramps at all crosswalks
- Consider treatments such as flashing beacons and RRFBs at key unsignalized crosswalks on Paradise Road*
- Stripe advanced stop bars on side streets

*Not a candidate for a marked crosswalk without enhancements. Either remove or enhance with candidate treatments such as RRFBs and HAWK pedestrian beacons. Requires further study.
Bicycle lanes are also shown on Paradise Road, consistent with the Paradise Road – G & H Streets – Yosemite Boulevard/SR 132 (#4) priority bikeway presented on Figure 6-11. Unsignalized crosswalks require further study to determine if they should be removed or enhanced with treatments such as in-pavement flashers, RRFBs, and HAWKs/Pedestrian Hybrid Beacons. Additional information on the proposed treatments and other pedestrian infrastructure are discussed further in Appendix B.

With the high number of collisions along the corridor, the range of projects indicated on Figure 6-11 may be eligible for Caltrans HSIP funding; however, additional funding sources should also be explored. Further information on funding is presented in Section 9.7.

### 6.5 ADA INFORMATION

The City of Modesto has an ADA Transition Plan in place. The City of Modesto upgraded 270 curb ramps in 2011. The following locations are among those with ramp improvements:

<table>
<thead>
<tr>
<th>Segment</th>
<th>From</th>
<th>To</th>
<th>Number Of Ramps</th>
</tr>
</thead>
<tbody>
<tr>
<td>I Street</td>
<td>14th Street</td>
<td>Downey Avenue</td>
<td>22</td>
</tr>
<tr>
<td>Semple Street</td>
<td>Downey Avenue</td>
<td>Maynell Avenue</td>
<td>20</td>
</tr>
<tr>
<td>Orangeburg Avenue</td>
<td>McHenry Avenue</td>
<td>Coffee Road</td>
<td>30</td>
</tr>
<tr>
<td>Oakdale Road</td>
<td>Scenic Drive</td>
<td>Briggsmore Avenue</td>
<td>19</td>
</tr>
<tr>
<td>Roseburg Avenue</td>
<td>Carver Avenue</td>
<td>McHenry Avenue</td>
<td>42</td>
</tr>
</tbody>
</table>

Source: City of Modesto Transportation Engineering & Design Department, Fehr & Peers, 2013.

The City Planning and Public Works departments should pursue universal access in Modesto through the continued implementation of the ADA Transition Plan and the routine inclusion of Proposed Guidelines for Access Right-of-Way Guidelines (PROWAG) and universal accessibility standards when new construction or improvements occur in the public right-of-way. This includes providing design and construction standards that ensure ramps do not pool water and debris at their base and allow for adequate cleaning and maintenance by standard street maintenance equipment.
6.6 BICYCLE AND PEDESTRIAN PROJECT IMPLEMENTATION

FUNDING

Bicycle and pedestrian infrastructure and programs can be funded either directly through the City or through various competitive grant programs.

Past Expenditures

In the past five years, the City of Modesto has invested approximately $4.8 million in bicycle and pedestrian improvements, specifically targeting curb ramp construction and Class 1 bikeways. Table 6-3 shows pedestrian and bicycle improvement.

<table>
<thead>
<tr>
<th>ID</th>
<th>Segment</th>
<th>From</th>
<th>To</th>
<th>Class/Type</th>
<th>Mileage</th>
<th>Approximate Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Snyder Avenue</td>
<td>Prescott Road</td>
<td>Carver Road</td>
<td>Class 1 (south side)</td>
<td>0.5</td>
<td>$ 120,000.00</td>
</tr>
<tr>
<td>2</td>
<td>Tuolumne River Regional Park Pathways</td>
<td>-</td>
<td>-</td>
<td>Class 1</td>
<td>-</td>
<td>$ 300,000.00</td>
</tr>
<tr>
<td>3</td>
<td>Virginia Corridor Phase V</td>
<td>Granger Avenue</td>
<td>Bowen Avenue</td>
<td>Class 1</td>
<td>0.5</td>
<td>$4,000,000.00</td>
</tr>
<tr>
<td>4</td>
<td>Floyd Avenue</td>
<td>Roselle Avenue</td>
<td>Claus Road</td>
<td>Class 1 (south side)</td>
<td>-</td>
<td>$ 150,000.00</td>
</tr>
<tr>
<td>5</td>
<td>Village 1 Striping: Hillglen Avenue</td>
<td>Aria Way</td>
<td>Roselle Avenue</td>
<td>Class 2</td>
<td>0.5</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Village 1 Striping: Bear Cub Lane</td>
<td>Hillglen Avenue</td>
<td>Kodiak Road</td>
<td>Class 2</td>
<td>0.25</td>
<td>$ 75,000.00</td>
</tr>
<tr>
<td>7</td>
<td>Village 1 Striping: Kodiak Drive</td>
<td>Bear Cub Lane</td>
<td>Roselle Avenue</td>
<td>Class 2</td>
<td>0.12</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Sylvan Avenue</td>
<td>Coffee Road</td>
<td>Oakdale Road</td>
<td>Class 2, 21 ADA curb ramps</td>
<td>1.0</td>
<td></td>
</tr>
</tbody>
</table>

Total: $ 4,645,000.00

Funding Need

Based on the City’s calculations, the total future funding need for new pedestrian and bicycle infrastructure in Modesto is $48,324,770, based on project cost estimates.

Countywide priority bikeways and projects within the pedestrian priority areas can be funded through a variety of sources. Because the countywide priority bikeways are multi-jurisdictional, coordination between agencies will be critical.

Recommended Funding Sources

Bicycle and pedestrian infrastructure and programs can be funded either directly through the City or through various competitive grant programs. Available funding sources are summarized in Table 6-4. The most applicable funding sources for the improvements recommended by this plan are:

- CMAQ Formula and Competitive Funding
- Highway Safety Improvement Program (HSIP)
- Safe Routes to School Grants (SR2S)
- Remove II Bicycle Infrastructure Component Grants
- Bicycle Transportation Account

Congestion Mitigation and Air Quality Improvement Program (CMAQ)

Congestion Mitigation and Air Quality Improvement Program (CMAQ) grants are administered on a per-population and competitive basis by StanCOG. The program is jointly administered by the Federal Highway Administration and Federal Transit Administration to increase attainment of the National Ambient Air Quality Standards (NAAQS). Based on population, StanCOG received $7,441,852 in CMAQ funding for FY2010-2011. For FY 2014 through FY 2016, $7,129,539 was available for CMAQ Competitive Funds. The cost-effectiveness calculation, based on the Air Resource Board (ARB) methodology, was the sole criteria for selected competitive funds. For FY2014-2015 and FY 2015-2016, all projects with a cost-effectiveness calculation of $64.45 per pound of pollutant reduced were selected.

Stanislaus County communities routinely use the formula-based funding for the construction of bicycle and pedestrian projects. Seeking competitive grant funding for bicycle and pedestrian projects may be another opportunity to secure funding for the build-out and improvement of bicycle and pedestrian networks.
Highway Safety Improvement Program (HSIP)

Caltrans administers two funding programs for roadway safety improvements: the Highway Safety Improvement Program (HSIP) and the Highway Rural Roads Program (HR3). These programs use cost-benefit ratios as a primary factor in the awarding of applications. Because both of these programs focus on roadway safety, projects with a high-frequency of documented collision history, particularly severe collisions, are typically ranked higher. Roadways with documented bicycle and pedestrian collision history, as discussed in Section 6-3 of this Plan, may be well-qualified for HSIP and HR3 applications, particularly since many of the proposed projects would improve bicyclist and pedestrian safety at a lower cost than many of the highway projects also eligible under this funding source.

For FY 2013, Caltrans estimates that $100 million in Highway Safety Improvement Program (HSIP) funding will be available. While this funding source is often used for major roadway improvement projects, installation of traffic signals, and most other cost-intensive projects, funding has routinely been awarded to bicycle and pedestrian projects. Successful projects have included:

- Median refuges and curb extensions
- Curb, gutter, and sidewalk
- Paved shoulders
- Upgraded traffic signals with pedestrian countdown signals and pedestrian-scale lighting
- Bicycle lane striping
- Crosswalk striping
- In-pavement flashers and rectangular rapid flashing beacon (RRFB) at crossings

Many of these projects were applied for as standalone bicycle and pedestrian improvement projects – some bicycle and pedestrian improvements were included with a broader package of roadway improvement projects. The average programmed federal funding amount was $400,000.

An additional $15 million is dedicated for the Highway Rural Road Improvement Program (HR3), for which many Stanislaus County communities are eligible. To be eligible for HR3, roadway improvements must occur on a roadway with a functional classification of:

- Rural major collector
- Rural minor collector
- Rural local road
Programmed federal funds for HR3 projects averaged $580,000 in the third funding cycle (2011), and most projects funded the widening or improvement of shoulders. Most of the priority bikeway projects included in this Plan consist of Class 3 bicycle routes with widened shoulders.

Priority bikeways on Paradise Road – G & H Street – Yosemite Boulevard/SR 132 and Oakdale Road – Mitchell Road – Moore Road, shown in Figure 6-7 and 6-8, are likely good candidates for HSIP funding, particularly as a result of the large number of pedestrian and bicycle collisions along this corridor.

**Safe Routes to School (SR2S)**

Prior to 2012, the state and federal Safe Routes to School programs were potential funding sources for both bicycle and pedestrian planning and infrastructure projects that improve access to schools. Caltrans administered two Safe Routes to School programs: the state-legislated program (SR2S), authorized by California Streets and Highways Code Section 2330-2334, and the federal program (SRTS), authorized by the SAFETEA-LU federal funding bill. The SR2S and SRTS programs provided $24.25 million and $21 million, respectively, in annual funding. As of March 2013, the future of Safe Routes to School funding is improbable. Neither MAP-21, the federal funding bill for transportation spending, or the proposed California’s Governor’s Budget 2013-14, include set-aside funds for Safe Routes to School projects.

There are California state assembly bills currently under consideration that propose state funding for Safe Routes to School. Should Safe Routes to School funding continue beyond 2013, several of the proposed bikeways can be funded by Safe Routes to School programs. Successful applications are typically oriented toward pedestrian infrastructure projects; though bicycle projects may also be included in project packages.

**Remove II Bicycle Infrastructure Component Grants**

The San Joaquin Valley Air Pollution Control District (SJVAPCD) offers grant and incentive programs to help reduce air pollutants in the eight-county San Joaquin Valley, which currently does not meet the required National Ambient Air Quality Standards for ozone and particulate matter. The SJVAPCD Remove II Program includes the Bicycle Infrastructure Component, which provides incentives for the construction of Class 1 bicycle paths or Class 2 bicycle lanes that directly benefit commuters in the San Joaquin Valley. Up to $150,000 is available for Class 1 bicycle paths and $100,000 for Class 2 bicycle lanes per application. Applications must be for either a Class 1 or Class 2 facility, not both; however, multiple applications may be submitted. Grants are accepted on a first-come, first-served basis and the following criteria should be considered:
- Project must contribute to an increase in bicycle commuting and a reduction in auto emissions
- Proposed bikeways that close gaps in the network are highly encouraged
- Project should improve bicycle-transit connections
- Project should benefit disadvantaged communities
- Projects should target areas of high demand such as schools, parks, shopping areas, and commercial areas
- Co-funding from other sources is encouraged

Additional information can be found at: http://www.valleyair.org/transportation/removeII/BI.htm.

**California Bicycle Transportation Account (BTA)**

Bicycle facilities can be funded through the California Bicycle Transportation Account (BTA). Annually, $7.2 million is available for projects through the BTA.

**Additional Funding Sources**

The majority of public funds for bicycle and pedestrian projects are derived through a core group of federal and state programs. Federal funds from the Surface Transportation Program (STP), Transportation Alternatives (TA), and Congestion Mitigation Air Quality (CMAQ) programs are allocated to the County and distributed accordingly.

Limited amounts from the Local Transportation Fund (LTF), which is derived from a ¼ cent of the general sales tax collected statewide, can be used for bicycle and pedestrian facilities.

The Federal Safe Routes to School (SRTS) program was previously authorized under SAFETEA-LU; when MAP-21 superseded SAFETEA-LU, the SRTS program was discontinued. Instead, SRTS programs and infrastructure are eligible to compete for funding as a part of a new program called Transportation Alternatives (TA). As of December 2012, it is unknown whether California will dedicate a specific portion of TA funds for Safe Routes to School projects.

The California State Parks Recreational Trails Program provides funds annually for recreational trails and trail-related projects. Cities are eligible applicants for the approximately $2.3 million available annually. The program requires an applicant match of 12 percent of the total project cost.

In 2010, the California Strategic Growth Council (SGC) awarded $20 million through the Proposition 84 Sustainable Communities Planning Grant and Incentives Program. Sustainable Community Planning Grant
awards totaled $24.6 million in 2012; the SGC plans to award another cycle of grants in 2013. Eligible projects include plans that support greenhouse gas emission reduction and sustainable communities. Twenty percent of the grant funds are set aside for Economically Disadvantaged Communities (EDC), which would include some areas of Stanislaus County.

Caltrans Transportation Planning Grants are available to jurisdictions and can be used for planning or feasibility studies. The maximum funding available per project is $300,000.

The California Office of Traffic Safety (OTS) administers the General OTS Grant opportunities. Pedestrian safety is a priority area for grant funding. Funding can be used for certain police equipment, for signage (vehicle speed feedback signs), and for outreach materials and campaigns.

The Land and Water Conservation Program offers funds to states and through states to local governments for trails acquisition and development.

**FUNDING STRATEGY**

Although every community is unique, in our experience the following elements are important factors in successfully obtaining grant funding for projects:

- Identify local staff who can support the grant applications and oversee project implementation
- Develop a community vision
- Involve multiple stakeholders in the process
- Identify projects that:
  - Connect communities
  - Address safety issues
  - Support economic development
  - Improve access to schools
- Prioritize projects
- Identify projects that are most likely to successfully compete for grants
- Identify project champions
- Identify multiple parties to be co-applicants
- Identify local match opportunities
### TABLE 6-4
**FUNDING SOURCE APPLICABILITY MATRIX**

<table>
<thead>
<tr>
<th>Funding Source</th>
<th>Bicycle Projects</th>
<th>Pedestrian Projects</th>
<th>Other Projects&lt;sup&gt;1&lt;/sup&gt;</th>
<th>Planning and Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Class 1 Bicycle Path</td>
<td>Class 2 Bicycle Lane</td>
<td>Class 3 Bicycle Route</td>
<td>Class 3.5 Bicycle Route</td>
</tr>
<tr>
<td>Surface Transportation Program (STP)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Transportation Alternatives (TAs)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Congestion Mitigation Air Quality (CMAQ)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Local Transportation Fund (LTF)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>California Safe Routes to School (SR2S)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>California Bicycle Transportation Account (BTA)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Highway Safety Improvement Program (HSIP) Grants</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>California State Parks Recreational Trails Program</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Proposition 84 Sustainable Communities Planning Grant and Incentives Program</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Caltrans Transportation Planning Grants</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>California Office of Traffic Safety (OTS) Grants</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Land and Water Conservation Program</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
</tbody>
</table>

**Notes:**

1. Includes non-pavement elements such as signal equipment, vehicle speed feedback signs, police equipment, or crossing guard equipment

● Funding source is applicable  ○ Funding source is potentially applicable  ○ Funding source is not applicable

POLICY RECOMMENDATIONS

In addition to the proposed bicycle and pedestrian projects, policy changes that support walking and biking can help establish a policy rationale for the creation of these facilities. The following policies are recommended:

- Adopt bicycle parking requirements in Zoning Code based on Section 9-4 of this Plan
- Consider updating the City of Modesto Non-Motorized Transportation Plan (2006) within next five years to reflect new bicycle facilities, regional priorities, and new bicycle facility treatments
- Consider adoption of a “Complete Streets” policy or “Routine Accommodation” type of policy to encourage accommodation of bicyclists and pedestrians of all ages and experience levels with new construction or improvements to the public right-of-way
- Continue to implement the ADA Implementation Plan to guide inventory accessibility needs and future improvements
- Adopt citywide policy of constructing ADA curb ramps and any other accessibility measures, as described in PROWAG, routine practice in any new construction or improvement project within the public right-of-way
- When completing traffic analyses, collect bicycle and pedestrian volumes at each study location to address safety and circulation issues for those modes

6.7 SAFETY AND EDUCATION

In addition to implementing bicycle and pedestrian facilities, programs focused on education, encouragement, and enforcement can increase the number of people who bicycle and walk in Modesto.

EXISTING PROGRAMS

Multiple programs and events currently exist in the City of Modesto to encourage biking and walking for both adults and children. These programs include:

- Family Cycling Festival, sponsored by StanCOG’s Commuter Choice Program
  - Bicycle rodeo and skills/safety course
  - Free helmet giveaway for children
- Annual Bicycle to Work Day, sponsored by the City of Modesto
Event includes three police escorted routes where bicycle police officers lead commuters and discuss rules of the road.

PROPOSED EDUCATION AND ENCOURAGEMENT PROGRAMS

Education programs seek to reduce collisions and help people feel safe and comfortable while biking or walking. These programs include elements that help motorists understand the rights of bicyclists and pedestrians. Simultaneously, education campaigns should target the general public and specific groups that have unique education needs or play a greater role in perpetuating collisions and other dangerous situations. Key target audiences include students, children and families, senior citizens, and drivers. The following education and encouragement programs may present an opportunity to create linkages with local media, schools, and local businesses as a means of funding and distributing materials.

School Programs

Basic bicycling and walking skills and safety courses can be incorporated into school curricula. Often, these programs are facilitated by a local volunteer or by a member of the local police, the Sheriff’s Department, or the California Highway Patrol. Anecdotally, many students may be walking to school. With local schools and residential areas located near state highways, the need for safety education related to walking and biking is important. Additional resources and information are available at the Safe Routes to School National Partnership website: http://www.saferoutespartnership.org/local. Programs could include:

- Walk and Roll to School days
- Pedestrian and bicycle safety curricula in the classroom or assemblies

Adult Education

Many less-experienced adult bicyclists are unsure how to negotiate intersections and how to ride with traffic on streets and roads. Adult education efforts which are sponsored by government agencies, major employers, local bicycle enthusiasts or other volunteer groups can help address this need. An annual or semi-annual class could be offered free of charge to provide information on how to avoid collisions and citations, how to ride safely and improve visibility, and understand the legal rights of cyclists. Instructors from elsewhere in the state or qualified local instructors or volunteers could teach this class to cyclists, tailored to local needs and issues. Future expansion ideas could include adding on-the-bicycle training. These classes could be held at local community centers and could be sponsored through local business sponsorship, such as with a bicycle shop, or local advocacy groups. The classes can also address pedestrian issues.
Online Bicycle Maps

The City should provide existing bicycle network maps on their Web page for residents to use as a trip-planning resource, including the countywide maps developed in this Plan. The maps could be used by local residents and visitors to plan their bicycle trips or alternatively could be used as a marketing piece to attract tourist bicycling in the City and surrounding area. The website could also include educational information, including hand signals, bicycle lighting, and safety.

ENFORCEMENT PROGRAMS

The City should work with the local police department, Sheriff, and California Highway Patrol (CHP) to conduct enforcement campaigns intended to improve bicyclist and pedestrian safety. Sample enforcement programs include the following.

Targeted Moving Violations

Decreasing moving violations committed by motorists, bicyclists, and pedestrians alike is critical to improving safety and encouraging all roadway users to share the road. The City should work with the Modesto Police Department and Sheriff’s office to develop targeted enforcement efforts or sting operations and include both officers in motor vehicles and on bicycles. Advertising campaigns help the targeted violation efforts reach a wider audience.

Moving violations by motorists that affect bicyclists and pedestrians include:

- Speeding
- Passing without sufficient clearance
- Driving in the bicycle lane
- Right-turning in front of bicyclists
- Failing to signal
- Double parking
- Failing to yield to pedestrians at a crosswalk

Moving violations by bicyclists and pedestrians include:

- Failing to stop at a stop sign
- Failing to signal
- Wrong-way riding
- Riding without lights at night
- Failing to wear a helmet (if under 18 years of age)
- Jaywalking
Radar Speed Signs

Radar speed signs feature a changeable message sign linked to a radar unit; the signs display the vehicle’s actual speed as the vehicle approaches the sign. Radar speed signs can be mounted permanently to a pole (where they are powered by hard wire or a solar unit) or alternatively they can be mounted to a trailer (also known as a "speed trailer") and deployed on a temporary basis. Studies in the United States have shown that radar speed signs are an effective way to slow traffic. The City should consider installing additional radar speed signs within school zones in partnership with the school district and, on state highways, Caltrans. Speed trailers should be deployed to different parts of the City regularly on a rotating-basis to remind drivers citywide to obey the speed limit.
## 7.0 CITY OF NEWMAN

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7.1 INTRODUCTION

PURPOSE OF THE PLAN

The City of Newman Existing and Planned Bicycle and Pedestrian Facilities chapter is intended to be both a chapter of the Stanislaus County of Government (StanCOG) 2012 Bicycle and Pedestrian Master Plan and a standalone document that can be used as a guide for prioritizing bicycle and pedestrian projects in unincorporated areas of the county. The StanCOG Bicycle and Pedestrian Master Plan is a unifying document that coordinates the existing and planned bicycle and pedestrian networks of Stanislaus County communities to serve local and regional needs. This document meets the Bicycle Transportation Account (BTA) requirements for a Bicycle Transportation Plan (BTP), which, once adopted by StanCOG, will make the City of Newman eligible for BTA funding and improve local competiveness for other funding sources to implement this plan.

CALTRANS COMPLIANCE

The Bicycle Transportation Account (BTA) is a Caltrans program that provides grant funding to cities and counties in support of bicycle projects benefitting bicycle commuters. In order to apply for these funds, local jurisdictions must prepare and adopt a Bicycle Transportation Plan that meets the requirements described in Section 891.2 of the Streets and Highways Code. Table 7-1 presents the required elements of a Bicycle Transportation Plan and indicates where they are located in this plan.

Local agencies without a standalone bicycle or bicycle and pedestrian master plan can use the 2012 StanCOG Bicycle and Pedestrian Master Plan to establish eligibility for BTA Funding until 2017, as long as items “a” through “k” are addressed for that city and the unincorporated areas of the county.
<table>
<thead>
<tr>
<th>Item</th>
<th>Requirement</th>
<th>Section</th>
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</thead>
<tbody>
<tr>
<td>a</td>
<td>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.</td>
<td>Section 7-2 Demographics</td>
</tr>
<tr>
<td>b</td>
<td>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.</td>
<td>Section 7-2, Figure 7-1</td>
</tr>
<tr>
<td>c</td>
<td>A map and description of existing and proposed bikeways.</td>
<td>Section 7-3, Figure 7-4</td>
</tr>
<tr>
<td>d</td>
<td>A map and description of existing and proposed end-of-trip bicycle parking facilities.</td>
<td>Section 7-3 Bicycle Parking, Figure 7-2</td>
</tr>
<tr>
<td>e</td>
<td>A map and description of existing and proposed bicycle transport and parking facilities for connections with and use of other transportation modes.</td>
<td>Section 7-3 Multi-Modal Connections, Figure 7-7</td>
</tr>
<tr>
<td>f</td>
<td>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.</td>
<td>Section 7-3 Bicycle Parking, Figure 7-2</td>
</tr>
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<td>g</td>
<td>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 the resulting effect on accidents involving bicyclists.</td>
<td>Section 7-7 Safety &amp; Education</td>
</tr>
<tr>
<td>h</td>
<td>A description of the extent of citizen and community involvement in development of the plan, including, but not limited to, letters of support.</td>
<td>Sections 7-3 &amp; 7-4</td>
</tr>
<tr>
<td>i</td>
<td>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.</td>
<td>Section 7-2 Planning &amp; Policy Context</td>
</tr>
<tr>
<td>j</td>
<td>A description of the projects proposed in the plan and a listing of their priorities for implementation.</td>
<td>Sections 7-3 &amp; 7-4, Figure 7-6</td>
</tr>
<tr>
<td>k</td>
<td>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.</td>
<td>Section 7-6</td>
</tr>
</tbody>
</table>
7.2 SETTING AND CONTEXT

JURISDICTION OVERVIEW

The City of Newman is located on the southwestern edge of Stanislaus County, approximately 30 miles south of Modesto. The city is just over two square miles with a population of approximately 10,224. Newman primarily consists of single-family residential neighborhoods surrounded by agricultural uses and some manufacturing and light industrial uses. The older section of the city is located on a grid and includes the Main Street area, west of SR 33. Newer areas are located to the north and south and have more typical suburban roadways with cul-de-sacs and longer block lengths. Connections across SR 33 and the rail line are limited.

LAND USE ATTRACTORS AND GENERATORS

Residential neighborhoods are located on both sides of SR 33 and the railroad tracks, which run north-south through the middle of Newman. Newer residential areas are located to the northeast and southwest. A large industrial zone with light industrial and manufacturing uses is located to the east of the railroad tracks. The Main Street area has small retail and local government buildings. Figure 7-1 shows planned land uses in Newman.

SCHOOLS AND SCHOOL ACCESS/SAFE ROUTES

As shown in Figure 7-2, Elementary schools in Newman are located within residential neighborhoods throughout the city. The middle and high schools are located on the western edge of town; though many residential neighborhoods are located on the eastern side of the town, across SR 33 and the railroad tracks. Newman schools are located next to or in close proximity to parks and are often used by students after school hours.

PARKS AND COMMUNITY FACILITIES

Parks are distributed throughout Newman, with many of the larger parks located in new residential neighborhoods. Figure 7-2 shows parks and community facilities in Newman.
Figure 7-1
Newman Existing Land Uses

December 2012

Figure LU-3
Land Use Designations

Sources: Stanislaus County GIS; Merced County GIS; City of Newman General Plan Land Use Diagram, adopted October 1992.
DEMOGRAPHICS AND EXISTING TRANSPORTATION PATTERNS

Data from the American Community Survey Five-Year Summaries from 2005 to 2009 was analyzed to understand commute patterns in Newman. The American Community Survey is conducted each year to provide ongoing data collection between the Decennial Census and includes questions that are not asked in the Decennial Census. The 2005-2009 summaries were used for this Plan because the 2006-2010 summaries aggregated taxicab, motorcycle, and bicycle use into one category, which does not give an accurate picture of bicycle commuting in Newman. The American Community Survey includes information such as the primary means respondents use to get to work as well as information on age, income, and auto ownership. The means of transportation to work question specifically focuses on commuting trips and does not record the school, shopping, and recreational trips that occur by various modes of transportation. The mode split information also does not account for commuters who may carpool or bicycle to work on some days but drive alone other days, or for trips that include both walking or bicycling and another mode (such as transit or carpooling), as only one response is allowed. As such, walking and bicycling trips tend to be underrepresented in this data set.

Newman has a lower rate of single-occupancy vehicle trips than the county, at 73% of work trips. The city has a very high rate of carpooling, at 20%. Walking and biking trips are slightly lower than the county on the whole, at 1.6% of work trips and 0.2%, respectively. Transit trips account for 0.4% of all trips, and the remaining trips are captured under other (1%) and worked at home (3%).

Accounting for schools trips, recreation trips, and other non-work related trips, the overall bicycle mode split is likely higher than 0.2%. According to the Census 2010 data, there are 3,006 households in Newman. Assuming nine daily person trips per household, approximately 58 work trips are made by bicycle each day in Newman.

Future bicycle trips will depend on a variety of factors such as the availability of well-connected facilities and the location, density, and type of future land development. With appropriate bicycle facilities in place and implementation of bicycle support facilities, such as bicycle parking, mode share could increase countywide. Doubling the current mode split (0.2% for work trips) would result in approximately 120 work trips based on the number of households in 2010.

Data is also available from a 2012 Newman-Crows Landing Unified School District survey that asked what percentage of students walked and biked to school. Table 7-2 presents percentages of students walking and biking to the area schools. With the exception of Von Renner Elementary School and Hunt Elementary School (which had no responses), Newman students walk to school at very high rates. Fewer
students report bicycling to school, but even at 1-2%, this is higher than the mode share for bicycle commuters.

### TABLE 7-2

**MODE SHARE OF NEWMAN-CROWS LANDING UNIFIED SCHOOL DISTRICT STUDENTS, 2012**

<table>
<thead>
<tr>
<th>School</th>
<th>% of Students Walking</th>
<th>% of Students Biking</th>
<th>Total Enrollment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Von Renner Elementary</td>
<td>9%</td>
<td>Less than 1%</td>
<td>339</td>
</tr>
<tr>
<td>Barrington Elementary</td>
<td>45%</td>
<td>1%</td>
<td>548</td>
</tr>
<tr>
<td>Hunt Elementary</td>
<td>No Response</td>
<td>Less than 1%</td>
<td>300</td>
</tr>
<tr>
<td>Yolo Middle</td>
<td>60-65%</td>
<td>Less than 1%</td>
<td>636</td>
</tr>
<tr>
<td>Orestimba High</td>
<td>80%</td>
<td>2%</td>
<td>755</td>
</tr>
</tbody>
</table>

1. 75% of Hunt Elementary School students use school shuttles.

Auto ownership in Newman is comparable to countywide statistics. Of Newman workers, 82% have access to one or more automobiles for their commute. Approximately 18% of Newman residents have one or no auto.

**COLLISION DATA**

SWITRS collision reports were collected and analyzed over a three-year period (2008-2010). The database includes collisions reports recorded by both local police officials and the California Highway Patrol. Bicycle and pedestrian collision data can aid in the identification of problematic areas for bicycles and pedestrians; however, a high frequency of collisions in a particular neighborhood may also indicate an abundance of bicyclists and pedestrians using a particular route.

From 2008 to 2010, 13 collisions involving bicyclists or pedestrians were reported in Newman, as shown on Figure 7-3. The majority of collisions (nine) were auto-bicyclist collisions. Two auto-bicyclist collisions were reported at the Inyo Avenue/T Street intersection. The Inyo Avenue corridor had the most reported collisions involving bicyclists and pedestrian, with five total collisions. Merced and N Streets also had multiple bicyclist and pedestrian collisions along its length. The higher frequency of collisions at these locations indicates these areas have higher pedestrian and bicyclist activity, which may contribute to the higher number of collisions.
Figure 7-3 City of Newman Bicycle & Pedestrian Collisions, 2008-2011

- Pedestrian/Auto Collision
- Bicycle/Pedestrian Collision

- Existing
  - 1 collision
  - 2 collisions
  - 3 collisions
  - 4 collisions
  - 5+ collisions

- Planned
  - Class 1 Path
  - Class 2 - Bicycle Lanes
  - Class 3 - Bicycle Route
  - Class 3.5 - Bicycle Route with Wide Shoulders
  - Class 3.5 - Bicycle Route with Share The Road signs

- Proposed
  - Class 1 Path
  - Class 2 - Bicycle Lanes
  - Class 3 - Bicycle Route
  - Class 3.5 - Bicycle Route with Wide Shoulders
  - Class 3.5 - Bicycle Route with Share The Road signs

LOCAL OPPORTUNITIES AND CONSTRAINTS

The following opportunities and constraints for improving pedestrian and bicycle facilities in Newman include considerations such as existing distribution of urbanized areas throughout the county, roadway infrastructure and connectivity, sidewalk coverage, and existing policies and agreements with local agencies.

**Opportunities**
- Historic street grid has high degree of connectivity
- Class 1 pathways provide east-west connections on the eastern side of the City

**Constraints**
- SR 33 and railroad tracks divide the east and west portions of the city
- Middle and high schools are located on the western edge of the city

PLANNING AND POLICY CONTEXT

The following section summarizes past related planning efforts and establishes a policy framework to guide future transportation decisions and capital improvement programming. This information helps to ensure infrastructure improvements are closely coordinated with past and ongoing planning efforts.

*Newman Non-Motorized Transportation Master Plan, Draft (2012)*

The Draft *Newman Non-Motorized Transportation Master Plan* sets the goals of creating safe, enjoyable, and connected walking and biking networks within the City. The Plan established a priority pedestrian network and identifies locations for new sidewalks, crosswalks, curb ramps, and crossing enhancements, such as in-pavement flashing lights. The priority pedestrian network focuses on improvements to east-west roadways that connect across the railroad tracks or that connect residential areas to local schools. Proposed bikeway improvements also include east-west connections across the railroad tracks as well as new north-south connections. Class 2 bicycle lanes are proposed on SR 33/Main Street through Newman.

*Newman 2030 General Plan (2007)*

The 2030 *General Plan* Vision Statement asserts that “Newman will be a walkable community, with a well-connected street grid, pedestrian amenities and bicycle lanes. A network of pedestrian trails and bicycle paths will connect residents to parks, schools, downtown and other destinations.” Accordingly, Master Plans for sub-areas containing residential land uses are required to include these features. The Transportation and Circulation Element includes a thorough discussion of the existing conditions of the
pedestrian and bicycle networks in Newman. The Community Design Element lists pedestrian orientation as one of the urban design principles which characterize Newman, and should shape future growth. Goals, policies and actions throughout the General Plan emphasize the importance of pedestrian and bicycle facilities in the city’s circulation network.

**Newman City Code**

The Newman City Code includes provisions for bicycle parking which state, “each parking area associated with any type of land use, except single-family and two-family residential dwellings, shall provide a number of bicycle parking spaces with secured bicycle racks.” The number of bicycle parking spaces required is based on the number of vehicle parking spaces, and ranges from zero (if there are one to four vehicle parking spaces), to 10 (if there are 400 or more vehicle parking spaces).

### 7.3 BICYCLE NETWORK

**BICYCLE FACILITIES**

Bicycle facilities can be divided into two types:

- **Bikeways**—on-street or off-street facilities provided for bicycle travel
- **Support Facilities**—facilities used by bicyclists when they reach their destination, such as bicycle parking

**Bikeways**

Chapter 1000 of the Caltrans Highway Design Manual defines three classes of bicycle facilities and details the minimum requirements for those facility types:

- **Class 1 Bicycle Paths**—a paved right of way completely separated from any street or highway
- **Class 2 Bicycle Lanes**—a striped and stenciled lane for one-way travel on a street or highway
- **Class 3 Bicycle Routes**—a typical roadway identified as a preferred bicycle route with signage. They may also include shared use lane markings, “SHARE THE ROAD” signage, or wide shoulders, as described in *Appendix A Bicycle Design Guidelines*.

In this Plan, a Class 3.5 bicycle route designation is also used. In the context of this plan, Class 3.5 facilities indicate a Class 3 bicycle route, as defined by Caltrans, with wide shoulders, typically four to eight feet in width. Class 3 Share the Lane indicates Class 3 bicycle routes, as defined by Caltrans, with “SHARE THE
ROAD" signage, typically on narrow, rural roadways. These treatments are further defined on Figure A-1 in Appendix A Bicycle Design Guidelines. Figure A-1 provides cross-sections and additional description of these facilities, including Caltrans minimum requirements as well as recommended cross-section widths and additional treatments.

**Support Facilities**

Support facilities are critical to bicycle use, especially as a means to encourage bicycle commuting. Support facilities consist primarily of:

- *Bicycle Parking*—bicycle parking supply should vary to accommodate short-term and long-term trips and consist of two basic types:
  - *Short-Term Parking*—bicycle racks for users who need to stop for several hours or less, placed adjacent to key destinations such as shopping areas, schools, and parks
  - *Long-Term Parking*—lockable bicycle lockers, bicycle cages, or bicycle rooms that only users are allowed access to, placed at major employment areas, schools, and transit centers.
- *Shower and Changing Space*—showers and changing areas provide longer-distance commuters with an area to change and get ready for work or school
- *Secure Storage Areas*—locker-type storage areas provide room to store a change of clothes or bicycle gear.

**EXISTING BIKEWAYS**

Newman has over five miles of Class 1 and Class 2 bikeways. The majority of the bikeways are located in the newer, northeast residential areas of the city. Class 2 bicycle lanes on Driskell Avenue and a Class 1 path paralleling Jensen Road provide east-west connection across the eastern half of the city, and Balsam Drive provides north-south connections between the two. West of SR 33, Yolo Avenue provides an east-west Class 2 facility leading to the high school. Two parallel roadways—S & T Street—both provide north-south connections from the Class 2 lanes on Yolo Street, the high school, and middle school to residential areas to the south. Striping on the Class 2 facilities in the western half of the city is faded. Figure 7-4 presents existing bikeways in Newman.

Appendix E lists existing and proposed bikeways in the City of Newman. Appendix F presents the results of the StanCOG BPAC’s community survey (2011), which includes information on identified needs and opportunity areas throughout the County.
PROPOSED IMPROVEMENTS

The proposed bikeway network was developed to increase utilitarian and recreational bicycling in the City of Newman by all types of bicyclists. The proposed bikeway network was established based on input from the StanCOG BPAC and recommendations made in the draft Newman Non-Motorized Transportation Master Plan and the 2008 StanCOG Non-Motorized Transportation Master Plan. The proposed bikeway network includes Class 1 bicycle paths, Class 2 bicycle lanes, and Class 3 bicycle routes that connect to destinations likely to generate or attract bicycle travel. Figure 7-5 shows the proposed City of Newman bikeway network. Segments listed as “planned” are proposed segments that are anticipated to be implemented within five years based on information provided by local officials.

PROJECT PRIORITIZATION

Facilities within Stanislaus County were prioritized to address the need for regional and local connections. Because the geographic area of the county is spread out, it is important to prioritize these projects because of the long length of each proposed bikeway and the limited financial resources to implement and maintain facilities.

Prioritization Methodology

The project prioritization methodology is distinct and separate for regional priority bikeways located in unincorporated Stanislaus County and projects within incorporated jurisdictions, and is outlined below. Each methodology is presented in Appendix C and D.

Each proposed bikeway project in the unincorporated county was scored on the follow criteria, which were given equal weight:

- Closure of a critical gap
- Immediate safety need
- Access to key destinations
- Feasibility
Figure 7-5 City of Newman Proposed Bikeways

<table>
<thead>
<tr>
<th>Existing</th>
<th>Planned</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class 1 Path</td>
<td>Class 1 Path</td>
<td>Class 1 Path</td>
</tr>
<tr>
<td>Class 2 - Bicycle Lanes</td>
<td>Class 2 - Bicycle Lanes</td>
<td>Class 2 - Bicycle Lanes</td>
</tr>
<tr>
<td>Class 3 - Bicycle Route</td>
<td>Class 3 - Bicycle Route</td>
<td>Class 3 - Bicycle Route</td>
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<tr>
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<td>Class 3.5 - Bicycle Route with Share The Road signs</td>
<td>Class 3.5 - Bicycle Route with Share The Road signs</td>
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</table>

Within the City of Newman, selected facilities were prioritized in order to establish significant regional routes through incorporated urban areas. Priority bikeways through Newman were selected using a bicycle and pedestrian demand model developed for Stanislaus County and through the feedback of the StanCOG Bicycle and Pedestrian Advisory Committee (BPAC). Using the demand map as a base, priority bikeway alignments through incorporated areas were selected to:

- Connect local areas of highest biking and walking demand with the most direct route possible;
- Connect cities and/or neighboring unincorporated communities along the most direct route; and
- Create continuous countywide bikeways

**Priority Network**

The countywide bicycle network is presented on Figure 7-6. The following second-tier priority bikeways have segments in Newman:

- SR 33 – N Street, Class 3.5 wide shoulders through County with Class 2 bicycle lanes through Newman.
- Merced Street, connecting east-west across the railroad tracks
- Kern Street, connecting east-west across the railroad tracks

These prioritized regional routes through cities should be incorporated into overlay schedules and/or prioritized for competitive grant funding as appropriate.

**BICYCLE PARKING AND SUPPORT FACILITIES**

Bicycle support facilities such as changing rooms, showers, lockers, and short-term and long-term bicycle parking are important end-of-trip facilities for those who commute by bicycle or who may be thinking of commuting by bicycle. As such, it can be an important factor in encouraging bicycle use and bicycling to work. In addition to providing appropriate storage space to park bicycles, support facilities such as showers and lockers are important for commuters who may travel long distances or are subject to formal dress requirements in their workplace. Short-term bicycle parking typically consists of racks, which are useful for visitors to an office or short retail trips, while long-term bicycle parking typically consists of bicycle lockers or secure areas, which are more appropriate for longer stays at work places.
Figure 7-6 City of Newman Priority Bikeways

Prioritization

First-Tier

Second Tier

Existing

Class 1 Path

Class 2 - Bicycle Lanes

Class 3 - Bicycle Route

Planned

Class 3.5 - Bicycle Route with Wide Shoulders

Class 3.5 - Bicycle Route with Share The Road signs

Proposed

Class 1 Path

Class 2 - Bicycle Lanes

Class 3 - Bicycle Route

Class 3.5 - Bicycle Route with Wide Shoulders

Class 3.5 - Bicycle Route with Share The Road signs

Existing Bicycle Parking

Places of employment in Newman do not typically provide showers, changing space, or long-term storage for bicycle gear. However, certain places of employment such as fire departments, roadway maintenance facilities, or some manufacturing facilities are likely to have showers and changing space that employees could use for bicycle commuting purposes. It is likely that some employers allow employees to store bicycles in their workspace.

Bicycle racks can be found at a several locations around the city, primarily along Main Street and at several schools. However, important destinations such as local parks and the West Side Marketplace do not provide bicycle parking. The greatest demand for bicycle parking may not be at the commercial areas on Main Street but the area schools, which have high rates of walking and biking, as well as local parks. Providing bicycle parking at these locations could further encourage people to bicycle to these destinations. Additionally, Section B.5 of the City Code requires secured bicycle racks for land uses other than single-family and two-family housing.

Proposed Bicycle Parking

Three strategies for encouraging bicycling for commuting and utilitarian purposes are proposed:

- Install bicycle racks at all schools and parks
- Organize a bicycle rack request program
- Revise bicycle parking ordinance to include long-term bicycle parking
- Encourage construction of support facilities at major employers through the permitting process

Bicycle Rack Request Program

Per the recommendations of the Newman Non-Motorized Transportation Plan, the City should consider coordinating with the parks department and Newman Unified School District to install bicycle racks at all parks and schools in the City.

Bicycle Rack Request Program

The City should begin a bicycle rack request program, whereby residents and businesses can request a bicycle rack at specific locations throughout the City. In general, racks should be installed at neighborhood shopping centers, schools, and parks.
Updated Bicycle Parking Ordinance

At minimum, the City of Newman should update their zoning code to include long-term bicycle parking requirements. Model ordinances are included in the Association of Pedestrian and Bicycle Professionals’ Bicycle Parking Guidelines, 2nd Edition. In addition to their existing short-term parking requirements, Newman should consider adopting long-term bicycle parking requirements as follows:

**Long-term bicycle parking.** For buildings with over ten tenant-occupants, provide secure bicycle parking for five percent of motorized vehicle parking capacity, with a minimum of one space. Acceptable parking facilities shall be convenient from the street and may include:

- Covered, lockable enclosures with permanently anchored racks for bicycles
- Lockable bicycle rooms with permanently anchored racks; and
- Lockable, permanently anchored bicycle lockers

Bicycle parking placement guidelines should include discussion of safe, visible, and convenient locations, spaced far enough from walls or other objects so that it is usable by bicyclists. Design guidelines for bicycle parking and siting bicycle parking are included in Appendix A.

Shower/Locker Facilities at Employment Centers

Showers and clothes lockers are important for bicycle commuters with a rigorous commute or whose job requires formal office attire. Academic studies show shower and locker facilities at places of employment can be a factor in encouraging commuting to work by bicycle. Employees who exercise on their lunch breaks can also benefit from these facilities. While simpler end-of-trip facilities may be more feasible, consideration should be given to requiring shower and locker facilities in all developments with 100 or more employees.

The design of shower and locker facilities should accommodate both male and female employees and tenants. Small employment centers can provide a unisex restroom/shower room with a locking door. Larger employment centers that require more than one shower can add a separate shower and locker room to both the men’s and women’s restrooms. Maintenance of shower and locker facilities should be provided by the building management. Whenever possible, shower facilities should be located near bicycle parking facilities.

The City of Newman should encourage bicycle parking and shower/locker facilities with new development at major employment centers. This can be done through the permitting process.
MULTI-MODAL CONNECTIONS

Stanislaus Regional Transit (StaRT) serves Newman. Both agencies have bike-rack equipped bus fleets, on a first-come, first-served basis. Figure 7-7 shows existing transit routes.

**Stanislaus Regional Transit (StaRT)**

Route 45 connects Newman to Gustine to the south and the Crows Landing, Patterson, and Turlock to the north.

- Connecting routes in Turlock provide connections to Modesto and access to cities throughout the County. Route 45 completes four route lengths daily, Monday through Saturday.
- All buses are bicycle rack equipped.

Dial-A-Ride service extends from Newman south to the Cities of Gustine, and north to the Cities of Crows Landing and Patterson.

This service operates Monday through Friday 7:00 am to 6:00 pm and Saturdays 8:00 am to 4:30 pm. Reservations are needed for bikes on Dial-A-Ride.

### 7.4 PEDESTRIAN FACILITIES

**PEDESTRIAN FACILITIES**

Pedestrian facilities can be broken into three basic categories, with implementation and use varying based on geographic location:

- **Walkways**—in urban and suburban contexts, sidewalks with curb ramps at intersections are typical and vary in width depending on land use contexts. In rural contexts, paved or unpaved graded shoulders may be typical, or a walkway may not be provided.

- **Crosswalks**—California Vehicle Code Section 275 defines a crosswalk as either “that portion of a roadway included within the prolongation or connection of the boundary lines of sidewalks at intersections” or “any portion of a roadway distinctly indicated for pedestrian crossing by lines or other markings.” So, legal unmarked crossings are those at intersections defined by the prolongation of sidewalk areas.
Figure 7-7 City of Newman Existing Transit

Bikeways

**Existing**
- Class 1 - Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders

**Planned**
- Class 3.5 - Bicycle Route with Wide Shoulders
- Class 1 - Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders

**Proposed**
- Class 3 - Bicycle Route with Share the Road Signage
- Class 3.5 - Bicycle Route with Wide Shoulders
- Class 1 - Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders

Transit

- CAT
- MAX
- StaRT
- Turlock Transit
- Escalon Transit (eTrans)
- Limited Bus Service

Paratransit Service Areas

Source: StanCOG, Fehr & Peers, 2013
- **Crosswalk Enhancements**—the most basic crosswalk enhancement is crosswalk markings. More substantial enhancements include devices meant to induce improved motorist yielding or to control vehicles at the crosswalk. Control devices include signals and pedestrian hybrid beacons. Yield devices include a variety of in-pavement and sign-mounted flashing yellow beacons.

**Appendix B Pedestrian Design Guidelines** provides additional definition for these facilities and guidance on their application.

**EXISTING CONDITIONS**

The sidewalk network in Newman is a largely built out except for industrial areas along the east side of SR 33 and several notable east-west and north-south connections. The newer residential areas of the city and the older street grid around Main Street have complete sidewalk networks, with streets trees and ample sidewalk width. However, several critical routes that cross SR 33 and the railroad tracks, such as Inyo Avenue and Stanislaus Street, lack complete sidewalks. T Street, Yolo Street, and Fig Lane are also critical segments that lack sidewalk coverage. These streets in particular serve popular destinations such as Orestimba High School, Yolo Middle School, and the West Side Marketplace. Additionally, sidewalks in the southwestern portion of the city have rolled curbs, encouraging drivers to mount the curb and park partially on the sidewalk.

Newman has two signalized intersections. Both have signalized crosswalks with pedestrian push buttons. SR 33/Merced Street and SR 33/Kern Street both provide a signalized intersection with pedestrian actuation; however, the crossings are not fully accessible.

**BICYCLE & PEDESTRIAN DEMAND MODELING**

In order to highlight areas with the highest potential for walking and biking demand a Geographic Information Systems (GIS) model based on land use factors, demographics, and roadway infrastructure was developed for this Plan. The model results are illustrated in a “heat map” for the entire county roadway network to show relative amounts of pedestrian and bicycle demand, and are based on weighing these different walking-related variables.

**Methodology**

The GIS model measured pedestrian and bicycle demand based on surrounding land use development, and time and proximity to key destinations. Based on those inputs, the model can help identify areas that may be the most desirable locations for walking trips and would therefore be target areas for investment.
The variables used in this model are based on US Environmental Protection Agency (US EPA) research on the relationship between the built environment and travel patterns. The variables shown to have the greatest effects on the number of people walking in a given area were used and broadly fall into four categories: built environment, proximity to walking destinations, demographics, and street network and connectivity. The methodology is detailed in Appendix C and D.

Analysis

The demand map can provide a guide to prioritization of pedestrian and bicycle improvement projects in Newman. Areas with high potential for pedestrian and bicycle demand are shown in green on Figure 7-8, with areas of low demand shown in red. Areas with the highest demand are on the core grid of Newman, where residential neighborhoods converge with commercial and civic uses along Main Street. These areas are also in close proximity to employment areas, including the industrial uses near N Street and the railroad tracks. This area of the city also provides access to Newman’s middle and high schools. These areas should be prioritized for pedestrian and bicycle infrastructure to facilitate walking and biking for short trips in this area. The eastern portion of the city has a limited number of connections across SR 33 and the railroad tracks.

The newer residential neighborhoods to the south and east are built on a typical suburban street layout, with longer blocks, cul-de-sacs, and limited connectivity. Walking and biking infrastructure in this portion of the city should focus on connecting to the local elementary schools in the area. The high percentage of students walking to schools evidenced in the Newman-Crows Landing Unified School District survey further reinforces such investments. Potential infrastructure projects may include continuous sidewalk with ADA Curb ramps, crosswalks, crosswalk enhancements, and traffic calming measures such as curb extensions.

Priority Areas

The Newman Non-Motorized Transportation Plan identifies a pedestrian priority network and related improvements. The segments focus on north-south connections between residential areas, schools, and key commercial destinations as well as east-west connections across the railroad tracks. Pedestrian priority network segments include:

1) Downtown Main Street/Schools: T Street, R Street, Main Street, SR 33/N Street, and Fig Lane (north-south); Ruth Avenue, Yolo Street, Kern Street, Merced Street, and Inyo Avenue (east-west)
2) Von Renner Elementary-West Side Marketplace: Upper Road and Prince Street (north-south); Patchett Drive and Canyon Creek Drive (east-west)
3) **Barrington Elementary-East Newman**: Balsam Drive, Barrington Avenue, Hills Ferry Road (Sherman Parkway, Banff Drive, Driskell Avenue, Merced Street (east-west))

Each identified area should be prioritized for pedestrian improvements and investments.

### Potential Pedestrian Improvement Projects

Potential projects are shown on **Figures 7-9 and 7-10**. Figure 7-8 presents crosswalk, curb ramp, and in-pavement flashing light locations to enhance crossings and make them accessible. Figure 7-9 identifies areas of existing sidewalk gaps or where sidewalk improvements are necessary.

Given the proximity to local schools, many of the projects may be eligible for Safe Routes to School grants. With more frequent pedestrian-auto collisions on Inyo Avenue and Merced Street, those projects may be eligible for Caltrans HSIP funding. Further funding information is presented in Section 7.7.

Additional information on the proposed treatments and other pedestrian infrastructure are discussed further in **Appendix B**.

### 7.5 ADA INFORMATION

Like many rural communities, the sidewalk network in Newman is not complete, which therefore limits accessibility. Additionally, many intersections, with or without sidewalks, either do not have ramps or have ramps with no truncated domes.

The City Planning and Public Works departments should pursue universal access in Newman through a variety of means:

- Prepare and implement a citywide ADA Transition Plan
- Enforce ADA requirements as part of the permitting and entitlement process, using the draft Proposed Guidelines for Access Right-of-Way Guidelines (PROWAG) to ensure universal accessibility
- Adopt citywide policy of constructing ADA curb ramps and any other accessibility measures, as described in PROWAG, routine practice in any new construction or improvement project within the public right-of-way
Figure 7-9 Newman Pedestrian Priority Area Project Sheet


*Recommends Pedestrian Priority Network and Facilities

*Recommend Projects Map from City of Newman Non-Motorized Transportation Plan (2012).
Figure 7-10 Newman Pedestrian Priority Area Project Sheet

CITY OF NEWMAN
NEWMAN NON-MOTORIZED TRANSPORTATION PLAN
RECOMMENDED PROJECTS

RECOMMENDED SIDEWALK IMPROVEMENTS

*Recommend Projects Map from City of Newman Non-Motorized Transportation plan (2012).
7.6 BICYCLE AND PEDESTRIAN PROJECT IMPLEMENTATION

FUNDING

Bicycle and pedestrian infrastructure and programs can be funded either directly through the City or through various competitive grant programs.

Past Expenditures

Newman has spent approximately $10,000 for each of the last five years on bicycle and pedestrian improvements.

Funding Need

Based on City calculation, the total future funding need for new pedestrian and bicycle infrastructure in Newman is $2,172,511, based on project cost estimates.

Newman secured a Caltrans Safe Routes to School Cycle 10 grant to construct sidewalks, curbs, and gutters near Yolo Junior High School. The total project cost was estimated at $197,100. Additionally, Newman plans to use $100,000 in CMAQ FY2013-14 funds for signalization of the Inyo Avenue/N Street intersection, which will improve safety at the intersection and facilitate crossing for bicyclists and pedestrians.

Countywide priority bikeways and projects within the pedestrian priority areas can be funded through a variety of sources. Because the countywide priority bikeways are multi-jurisdictional, coordination between agencies will be critical.

Recommended Funding Sources

Bicycle and pedestrian infrastructure and programs can be funded either directly through the City or through various competitive grant programs. Available funding sources are summarized in Table 7-3. The most applicable funding sources for the improvements recommended by this plan are:

- CMAQ Formula and Competitive Funding
- Highway Safety Improvement Program (HSIP)
- Safe Routes to School Grants (SR2S)
- Remove II Bicycle Infrastructure Component Grants
- Bicycle Transportation Account
Congestion Mitigation and Air Quality Improvement Program (CMAQ)

Congestion Mitigation and Air Quality Improvement Program (CMAQ) grants are administered on a per-population and competitive basis by StanCOG. The program is jointly administered by the Federal Highway Administration and Federal Transit Administration to increase attainment of the National Ambient Air Quality Standards (NAAQS). Based on population, StanCOG received $7,441,852 in CMAQ funding for FY2010-2011. For FY 2014 through FY 2016, $7,129,539 was available for CMAQ Competitive Funds. The cost-effectiveness calculation, based on the Air Resource Board (ARB) methodology, was the sole criteria for selected competitive funds. For FY2014-2015 and FY 2015-2016, all projects with a cost-effectiveness calculation of $64.45 were selected.

Stanislaus County communities routinely use the formula-based funding for the construction of bicycle and pedestrian projects. Seeking competitive grant funding for bicycle and pedestrian projects may be another opportunity to secure funding for the build-out and improvement of bicycle and pedestrian networks.

Highway Safety Improvement Program (HSIP)

Caltrans administers two funding programs for roadway safety improvements: the Highway Safety Improvement Program (HSIP) and the Highway Rural Roads Program (HR3). These programs use cost-benefit ratios as a primary factor in the awarding of applications. Because both of these programs focus on roadway safety, projects with a high-frequency of documented collision history, particularly severe collisions, are typically ranked higher. Roadways with documented bicycle and pedestrian collision history, as discussed in Section 7-3 of this Plan, may be well-qualified for HSIP and HR3 applications, particularly since many of the proposed projects would improve bicyclist and pedestrian safety at a lower cost than many of the highway projects also eligible under this funding source.

For FY 2013, Caltrans estimates that $100 million in Highway Safety Improvement Program (HSIP) funding will be available. While this funding source is often used for major roadway improvement projects, installation of traffic signals, and most other cost-intensive projects, funding has routinely been awarded to bicycle and pedestrian projects. Successful projects have included:

- Median refuges and curb extensions
- Curb, gutter, and sidewalk
- Paved shoulders
- Upgraded traffic signals with pedestrian countdown signals and pedestrian-scale lighting
- Bicycle lane striping
- Crosswalk striping
- In-pavement flashers and rectangular rapid flashing beacon (RRFB) at crossings

Many of these projects were applied for as standalone bicycle and pedestrian improvement projects; some bicycle and pedestrian improvements were included with a broader package of roadway improvement projects. The average programmed federal funding amount was $400,000.

An additional $15 million is dedicated for the Highway Rural Road Improvement Program (HR3), for which many Stanislaus County communities are eligible. To be eligible for HR3, roadway improvements must occur on a roadway with a functional classification of:

- Rural major collector
- Rural minor collector
- Rural local road

Programmed federal funds for HR3 projects averaged $580,000 in the third funding cycle (2011), and most projects funded the widening or improvement of shoulders. Most of the priority bikeway projects included in this Plan consist of Class 3 bicycle routes with widened shoulders.

Safe Routes to School (SR2S)

Prior to 2012, the state and federal Safe Routes to School programs were potential funding sources for both bicycle and pedestrian planning and infrastructure projects that improve access to schools. Caltrans administered two Safe Routes to School programs: the state-legislated program (SR2S), authorized by California Streets and Highways Code Section 2330-2334, and the federal program (SRTS), authorized by the SAFETEA-LU federal funding bill. The SR2S and SRTS programs provided $24.25 million and $21 million, respectively, in annual funding. As of March 2013, the future of Safe Routes to School funding is improbable. Neither MAP-21, the federal funding bill for transportation spending, or the proposed California’s Governor’s Budget 2013-14, include set-aside funds for Safe Routes to School projects.

There are California state assembly bills currently under consideration that propose state funding for Safe Routes to School. Should Safe Routes to School funding continue beyond 2013, several of the proposed bikeways can be funded by Safe Routes to School programs. Successful applications are typically oriented toward pedestrian infrastructure projects; though bicycle projects may also be included in project packages.
Remove II Bicycle Infrastructure Component Grants

The San Joaquin Valley Air Pollution Control District (SJVAPCD) offers grant and incentive programs to help reduce air pollutants in the eight-county San Joaquin Valley, which currently does not meet the required National Ambient Air Quality Standards for ozone and particulate matter. The SJVAPCD Remove II Program includes the Bicycle Infrastructure Component, which provides incentives for the construction of Class 1 bicycle paths or Class 2 bicycle lanes that directly benefit commuters in the San Joaquin Valley. Up to $150,000 is available for Class 1 bicycle paths and $100,000 for Class 2 bicycle lanes per application. Applications must be for either a Class 1 or Class 2 facility, not both; however, multiple applications may be submitted. Grants are accepted on a first-come, first-served basis and the following criteria should be considered:

- Project must contribute to an increase in bicycle commuting and a reduction in auto emissions
- Proposed bikeways that close gaps in the network are highly encouraged
- Project should improve bicycle-transit connections
- Project should benefit disadvantaged communities
- Projects should target areas of high demand such as schools, parks, shopping areas, and commercial areas
- Co-funding from other sources is encouraged

Additional information can be found at: [http://www.valleyair.org/transportation/removeII/BI.htm](http://www.valleyair.org/transportation/removeII/BI.htm).

California Bicycle Transportation Account (BTA)

Bicycle facilities can be funded through the California Bicycle Transportation Account (BTA). Annually, $7.2 million is available for projects through the BTA.

Additional Funding Sources

The majority of public funds for bicycle and pedestrian projects are derived through a core group of federal and state programs. Federal funds from the Surface Transportation Program (STP), Transportation Alternatives (TA), and Congestion Mitigation Air Quality (CMAQ) programs are allocated to the County and distributed accordingly.

Limited amounts from the Local Transportation Fund (LTF), which is derived from a ¼ cent of the general sales tax collected statewide, can be used for bicycle and pedestrian facilities.
The Federal Safe Routes to School (SRTS) program was previously authorized under SAFETEA-LU; when MAP-21 superseded SAFETEA-LU, the SRTS program was discontinued. Instead, SRTS programs and infrastructure are eligible to compete for funding as a part of a new program called Transportation Alternatives (TA). As of December 2012, it is unknown whether California will dedicate a specific portion of TA funds for Safe Routes to School projects.

The California State Parks Recreational Trails Program provides funds annually for recreational trails and trail-related projects. Cities are eligible applicants for the approximately $2.3 million available annually. The program requires an applicant match of 12 percent of the total project cost.

In 2010, the California Strategic Growth Council (SGC) awarded $20 million through the Proposition 84 Sustainable Communities Planning Grant and Incentives Program. Sustainable Community Planning Grant awards totaled $24.6 million in 2012; the SGC plans to award another cycle of grants in 2013. Eligible projects include plans that support greenhouse gas emission reduction and sustainable communities. Twenty percent of the grant funds are set aside for Economically Disadvantaged Communities (EDC), which describes some areas of Stanislaus County.

Caltrans Transportation Planning Grants are available to jurisdictions and can be used for planning or feasibility studies. The maximum funding available per project is $300,000.

The California Office of Traffic Safety (OTS) administers the General OTS Grant opportunities. Pedestrian safety is a priority area for grant funding. Funding can be used for certain police equipment, for signage (vehicle speed feedback signs), and for outreach materials and campaigns.

The Land and Water Conservation Program offers funds to states and through states to local governments for trails acquisition and development.
### TABLE 7-3
FUNDING SOURCE APPLICABILITY MATRIX

<table>
<thead>
<tr>
<th>Funding Source</th>
<th>Bicycle Projects</th>
<th>Pedestrian Projects</th>
<th>Other Projects (^1)</th>
<th>Planning and Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Class 1 Bicycle Path</td>
<td>Class 2 Bicycle Path</td>
<td>Class 3 Bicycle Route</td>
<td>Class 3.5 Bicycle Route</td>
</tr>
<tr>
<td>Surface Transportation Program (STP)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
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<tr>
<td>Transportation Alternatives (TAs)</td>
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<td>●</td>
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<td>●</td>
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<tr>
<td>Congestion Mitigation Air Quality (CMAQ)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Local Transportation Fund (LTF)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>California Safe Routes to School (SR2S)</td>
<td>●</td>
<td>●</td>
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<td>●</td>
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<tr>
<td>California Bicycle Transportation Account (BTA)</td>
<td>●</td>
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<td>●</td>
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<tr>
<td>Highway Safety Improvement Program (HSIP) Grants</td>
<td>●</td>
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<td>●</td>
<td>●</td>
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<tr>
<td>California State Parks Recreational Trails Program</td>
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<tr>
<td>Proposition 84 Sustainable Communities Planning Grant and Incentives Program</td>
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<tr>
<td>Caltrans Transportation Planning Grants</td>
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<td>California Office of Traffic Safety (OTS) Grants</td>
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<tr>
<td>Land and Water Conservation Program</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
</tbody>
</table>

**Notes:**
1. Includes non-pavement elements such as signal equipment, vehicle speed feedback signs, police equipment, or crossing guard equipment

- ● Funding source is applicable
- ○ Funding source is potentially applicable
- ○ Funding source is not applicable

FUNDING STRATEGY

Although every community is unique, in our experience the following elements are important factors in successfully obtaining grant funding for projects:

- Identify local staff who can support the grant applications and oversee project implementation
- Develop a community vision
- Involve multiple stakeholders in the process
- Identify projects that:
  - Connect communities
  - Address safety issues
  - Support economic development
  - Improve access to schools
- Prioritize projects
- Identify projects that are most likely to successfully compete for grants
- Identify project champions
- Identify multiple parties to be co-applicants
- Identify local match opportunities

POLICY RECOMMENDATIONS

In addition to the proposed bicycle and pedestrian projects, policy changes that support walking and biking can help establish a policy rationale for the creation of these facilities. The following policies are recommended:

- Adopt and implement draft Newman Non-Motorized Transportation Plan (NNMTP), which includes policies that establish walking and biking as important elements of Newman’s transportation system and prioritize critical projects for walking and biking. Recommendations include:
  - Install bicycle racks at all schools and parks
  - Install loop detectors at signalized intersection
  - Install bicycle crossing warning signs
  - Identify and close sidewalk gaps
  - Main and repair biking and walking facilities
Consider adoption of a “Complete Streets” policy or “Routine Accommodation” type of policy to encourage accommodation of bicyclists and pedestrians of all ages and experience levels with new construction or improvements to the public right-of-way.

- Develop, adopt, and implement an ADA Implementation Plan to guide inventory accessibility needs and future improvements, as described in the NNMTP.

- Adopt citywide policy of constructing ADA curb ramps and any other accessibility measures, as described in PROWAG, routine practice in any new construction or improvement project within the public right-of-way.

- When competing traffic analysis, collect bicycle and pedestrian volumes at each study location to address safety and circulation issues for those modes.

### 7.7 SAFETY AND EDUCATION

In addition to implementing bicycle and pedestrian facilities, programs focused on education, encouragement, and enforcement can increase the number of people who bicycle and walk in Newman.

#### EXISTING PROGRAMS

The City of Newman does not currently have education, encouragement, and enforcement programs.

#### PROPOSED EDUCATION AND ENCOURAGEMENT PROGRAMS

Education programs seek to reduce collisions and help people feel safe and comfortable while biking or walking. These programs include elements that help motorists understand the rights of bicyclists and pedestrians. Simultaneously, education campaigns should target the general public and specific groups that have unique education needs or play a greater role in perpetuating collisions and other dangerous situations. Key target audiences include students, children and families, senior citizens, and drivers.

**School Programs**

Basic bicycling and walking skills and safety courses can be incorporated into school curricula. Often, these programs are facilitated by a local volunteer or by a member of the local police, the Sheriff’s Department, or the California Highway Patrol. Anecdotally, many students may be walking to school. With local schools and residential areas located near state highways, the need for safety education related to walking and biking is important. Additional resources and information are available at the Safe Routes
to School National Partnership website: http://www.saferoutespartnership.org/local. Programs could include:

- Walk and Roll to School days
- Pedestrian and bicycle safety curricula in the classroom or assemblies

**Adult Education**

Many less-experienced adult bicyclists are unsure how to negotiate intersections and how to ride with traffic on streets and roads. Adult education efforts which are sponsored by government agencies, major employers, local bicycle enthusiasts or other volunteer groups can help address this need. An annual or semi-annual class could be offered free of charge to provide information on how to avoid collisions and citations, how to ride safely and improve visibility, and understand the legal rights of cyclists. Instructors from elsewhere in the state or qualified local instructors or volunteers could teach this class to cyclists, tailored to local needs and issues. Future expansion ideas could include adding on-the-bicycle training.

**Online Bicycle Maps**

The City should provide existing bicycle network maps on their Web page for residents to use as a trip-planning resource, including the countywide maps developed in this Plan. The maps could be used by local residents and visitors to plan their bicycle trips or alternatively could be used as a marketing piece to attract tourist bicycling in the City and surrounding area. The website could also include educational information, including hand signals, bicycle lighting, and safety.

**ENFORCEMENT PROGRAMS**

The City should work with the local Police Department, Sheriff, and California Highway Patrol (CHP) to conduct enforcement campaigns intended to improve bicyclist and pedestrian safety. Sample enforcement programs include the following.

**Targeted Moving Violations**

Decreasing moving violations committed by motorists, bicyclists, and pedestrians alike is critical to improving safety and encouraging all roadway users to share the road. The City should work with the Sheriff and CHP to develop targeted enforcement efforts or sting operations. Advertising campaigns help the targeted violation efforts reach a wider audience.

Moving violations by motorists that affect bicyclists and pedestrians include:
• Speeding
• Passing without sufficient clearance
• Driving in the bicycle lane
• Right-turning in front of bicyclists

Moving violations by bicyclists and pedestrians include:

• Failing to stop at a stop sign
• Failing to signal
• Wrong-way riding
• Riding without lights at night
• Failing to wear a helmet (if under 18 years of age)
• Jaywalking

**Radar Speed Signs**

Radar speed signs feature a changeable message sign linked to a radar unit; the signs display the vehicle’s actual speed as the vehicle approaches the sign. Radar speed signs can be mounted permanently to a pole (where they are powered by hard wire or a solar unit) or alternatively they can be mounted to a trailer (also known as a “speed trailer”) and deployed on a temporary basis. Studies in the United States have shown that radar speed signs are an effective way to slow traffic. The City should consider installing additional radar speed signs within school zones in partnership with the school district and, on state highways, Caltrans. Speed trailers should be deployed to different parts of the City regularly to remind drivers citywide to obey the speed limit.
### 8.0 CITY OF OAKDALE

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8.1 INTRODUCTION

PURPOSE OF THE PLAN

The City of Oakdale Existing and Planned Bicycle and Pedestrian Facilities chapter is intended to be both a chapter of the Stanislaus County of Government (StanCOG) 2013 Bicycle and Pedestrian Master Plan and a standalone document that can be used as a guide for prioritizing bicycle and pedestrian projects in unincorporated areas of the county. The StanCOG Bicycle and Pedestrian Master Plan is a unifying document that coordinates the existing and planned bicycle and pedestrian networks of Stanislaus County communities to serve local and regional needs. This document meets the Bicycle Transportation Account (BTA) requirements for a Bicycle Transportation Plan (BTP), which, once adopted by StanCOG, will make the City of Oakdale eligible for BTA funding and improve local competitiveness for other funding sources to implement this plan.

CALTRANS COMPLIANCE

The Bicycle Transportation Account (BTA) is a Caltrans program that provides grant funding to cities and counties in support of bicycle projects benefitting bicycle commuters. In order to apply for these funds, local jurisdictions must prepare and adopt a Bicycle Transportation Plan that meets the requirements described in Section 891.2 of the Streets and Highways Code. Table 9-1 presents the required elements of a Bicycle Transportation Plan and indicates where they are located in this plan.

Local agencies without a standalone bicycle or bicycle and pedestrian master plan can use the 2012 StanCOG Bicycle and Pedestrian Master Plan to establish eligibility for BTA Funding until 2017, as long as items “a” through “k” are addressed for that city and the unincorporated areas of the county.
**TABLE 8-1**

**STREET AND HIGHWAYS CODE SECTION 891.2 REQUIREMENTS ADDRESSED IN THIS PLAN**

<table>
<thead>
<tr>
<th>Item</th>
<th>Requirement</th>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>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.</td>
<td>Section 8-2 Demographics</td>
</tr>
<tr>
<td>b</td>
<td>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.</td>
<td>Section 8-2, Figure 8-1</td>
</tr>
<tr>
<td>c</td>
<td>A map and description of existing and proposed bikeways.</td>
<td>Section 8-3, Figure 8-4 and 8-5</td>
</tr>
<tr>
<td>d</td>
<td>A map and description of existing and proposed end-of-trip bicycle parking facilities.</td>
<td>Section 8-3 Bicycle Parking, Figure 8-2</td>
</tr>
<tr>
<td>e</td>
<td>A map and description of existing and proposed bicycle transport and parking facilities for connections with and use of other transportation modes.</td>
<td>Section 8-3 Multi-Modal Connections, Figure 8-9</td>
</tr>
<tr>
<td>f</td>
<td>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.</td>
<td>Section 8-3 Bicycle Parking, Figure 8-2</td>
</tr>
<tr>
<td>g</td>
<td>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 the resulting effect on accidents involving bicyclists.</td>
<td>Section 8-7 Safety &amp; Education</td>
</tr>
<tr>
<td>h</td>
<td>A description of the extent of citizen and community involvement in development of the plan, including, but not limited to, letters of support.</td>
<td>Sections 8-3 &amp; 8-4</td>
</tr>
<tr>
<td>i</td>
<td>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.</td>
<td>Section 8-2 Planning &amp; Policy Context</td>
</tr>
<tr>
<td>j</td>
<td>A description of the projects proposed in the plan and a listing of their priorities for implementation.</td>
<td>Sections 8-3 &amp; 8-4, Figures 8-6, 8-7, &amp; 8-8</td>
</tr>
<tr>
<td>k</td>
<td>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.</td>
<td>Section 8-6</td>
</tr>
</tbody>
</table>
8.2 SETTING AND CONTEXT

JURISDICTION OVERVIEW

Located in the northeastern section of the county, Oakdale is laid out on a grid along two principal roadways: Yosemite Avenue (SR 108) and F Street (SR 120). The city is five square miles and home to about 19,600 people. The Stanislaus River winds through the City and nearby lakes offer recreational opportunities.

LAND USE ATTRACTORS AND GENERATORS

The main downtown area is centered on East F Street and Yosemite Boulevard, which includes local retail, office, and city services. Newer shopping centers and other commercial uses are located on the eastern and western ends of F Street, including various medical office uses associated with the Oak Valley Hospital. New residential development is located south of J Street, which has very limited accessibility due to the east-west railroad tracks that traverse the area. Along South Yosemite Avenue south of J Street are many light industrial and manufacturing uses which provide employment in the city. Figure 8-1 presents existing land uses.

SCHOOLS AND SCHOOL ACCESS/SAFE ROUTES

As shown in Figure 9-2, schools in Oakdale are located throughout the city, with many schools located in proximity to residential neighborhoods as well as the downtown area along Yosemite Avenue and F Street.

PARKS AND COMMUNITY FACILITIES

Neighborhood parks are located in the newer residential areas of the city, particularly south of F Street and east of Yosemite Avenue. Located along the Stanislaus River, Oakdale also has recreational opportunities along the river. Parks are shown on Figure 8-2.
Figure 8-1
Oakdale Existing Land Uses

December 2012
Figure 8-2 City of Oakdale Schools and Parks

Existing
- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders
- Class 3.5 - Bicycle Route with Share The Road signs

Planned
- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders
- Class 3.5 - Bicycle Route with Share The Road signs

Proposed
- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders
- Class 3.5 - Bicycle Route with Share The Road signs

DEMOGRAPHICS AND EXISTING TRANSPORTATION PATTERNS

Data from the American Community Survey Five-Year Summaries from 2005 to 2009 was analyzed to understand commute patterns in Oakdale. The American Community Survey is conducted each year to provide ongoing data collection between the Decennial Census and includes questions that are not asked in the Decennial Census. The 2005-2009 summaries were chosen, because the 2006-2010 summaries aggregated taxicab, motorcycle, and bicycle use into one category, which does not give an accurate picture of bicycle commuting in Oakdale. The American Community Survey includes information such as the primary means respondents use to get to work as well as information on age, income, and auto ownership. The means of transportation to work question specifically focuses on commuting trips and does not record the school, shopping, and recreational trips that occur by various modes of transportation. The mode split information also does not account for commuters who may carpool or bicycle to work some days but drive alone other days, as only one response is allowed.

Oakdale has single occupancy vehicle and carpool rates commensurate with Stanislaus County as whole, at 80% and 11%, respectively. Oakdale has the highest bicycle mode share in the county for work trips at 0.9%. Walking trips for commute purposes are also the highest in the county at 2.2%. Public transit accounts for 0.4% of commute trips. This higher walking and biking mode share is true despite the fact that 42% of Oakdale residents have three or more vehicles available to them for commute purposes.

Accounting for schools trips, recreation trips, and other non-work related trips, the overall bicycle mode split is likely higher than 0.9%. According to the Census 2010 data, there are 7,288 households in Oakdale. Assuming nine daily person trips per household, approximately 620 work trips are made by bicycle each day in Oakdale.

Future bicycle trips will depend on a variety of factors such as the availability of well-connected facilities and the location, density, and type of future land development. With appropriate bicycle facilities in place and implementation of bicycle support facilities, such as bicycle parking, mode share could increase countywide. Doubling the current mode split (0.9% for work trips) would result in approximately 1,250 work trips based on the number of households in 2010.

COLLISION DATA

SWITRS collision reports were collected and analyzed over a three-year period (2008-2010). The database includes collisions reports recorded by both local police officials and the California Highway Patrol. Bicycle and pedestrian collision data can aid in the identification of problematic areas for bicycles and
pedestrians; however, a high frequency of collisions in a particular neighborhood may also indicate an abundance of bicyclists and pedestrians use a particular route.

From 2008-2010, 43 collisions involving bicyclists and pedestrians were reported in Oakdale, as shown on Figure 8-3. Of the collisions, 23 involved bicyclists and 21 involved pedestrians. Most collisions were reported along multi-lane arterials such as F Street, Maag Avenue, Yosemite Avenue, and 6th Avenue. The following intersections had two or more reported pedestrian-auto collisions: F Street/6th Avenue, Yosemite Avenue/Maag Avenue, and F Street/Oak Avenue. The intersections with two more reported bicycle-auto collision were F Street/3rd Avenue and F Street/Yosemite Avenue. The higher frequency of collisions at these locations indicate that these areas have higher pedestrian and bicyclist activity, which may contribute to the higher number of collisions.

LOCAL OPPORTUNITIES AND CONSTRAINTS

The following opportunities and constraints for improving pedestrian and bicycle facilities in Oakdale include considerations such as existing distribution of urbanized areas throughout the county, roadway infrastructure and connectivity, sidewalk coverage, and existing policies and agreements with local agencies.

Opportunities
- Most of Oakdale is laid out on a compact grid on flat terrain that facilitates walking and biking trips
- The Stanislaus River is an important recreational trip attractor and could provide opportunities for an east-west shared use pathway

Constraints
- Newer areas of Oakdale, particularly to the west and east, are built on discontinuous street networks with large block sizes
- Newer areas are also spatially isolated from the rest of the city and have limited connections to the rest of the city through the existing street network
- Many railroad tracks snake through Oakdale, particularly in the southern part of the city, and currently act as barriers to connectivity
Figure 8-3 City of Oakdale Bicycle & Pedestrian Collisions, 2008-2011

- Pedestrian/Auto Collision
- Bicycle/Pedestrian Collision

Existing

- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route

Proposed

- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders
- Class 3.5 - Bicycle Route with Share The Road signs

PLANNING AND POLICY CONTEXT

The following section summarizes past related planning efforts and establishes a policy framework to guide future transportation decisions and capital improvement programming. This information helps to ensure infrastructure improvements are closely coordinated with past and ongoing planning efforts.

**Draft Oakdale 2030 General Plan (2012)**

The Draft Oakdale 2030 General Plan Mobility Chapter includes M-1: Multimodal Transportation Choices. The Plan includes goals for establishing complete streets in Oakdale to serve all users and to ensure that the transportation network provides access for people of all abilities on all modes of transportation. Policy M-2.18 Pedestrian Areas specifically addresses the need for reduced crossing distances, appropriate curb radii, and the provision of bulbouts and enhanced crosswalks in areas of high pedestrian demand. Policy M-3.6 Enhanced Crossings specifically addresses the need for enhanced crossings on F Street and Yosemite Avenue, the two main routes through Oakdale and that are also state highways. The Plan also encourages the provision of public access along the Stanislaus River.

**Oakdale Bicycle and Pedestrian Master Plan (2006)**

The Oakdale City Bicycle and Pedestrian Master Plan is a blueprint for direction of bicycle and pedestrian facilities. The goals of the plan include a well-connected bikeway system that is safe and convenient for travel within the City as well as travel to other Stanislaus Communities. Policies of the Plan include the provision for and maintenance of bicycle parking, lockers and showers at appropriate locations, as well as the incorporation of signing to ensure safety. This Plan also addresses the proposed 12-mile perimeter bikeway and identifies needs along certain corridors in order to achieve implementation.

**Oakdale City Code**

The Oakdale City Code includes a bicycle parking requirement for amusement arcades at a rate of one bicycle space for every two amusement game machines. The code also describes limited bicycle parking on E Street.

**Oakdale Single Family and Multifamily Residential Design Expectations (2003)**

Oakdale's Single Family and Multifamily Residential Design Expectations promotes pedestrian and bicycle focused design. One design principle states that "streets, pedestrians and bicycle paths should contribute to a system of fully connected routes to all destination areas adjacent to proposed annexation areas." This principle is applied in Design Expectations, stating that "pedestrian sidewalks or pathways [shall be] provided on both sides of all streets (local residential, collector and arterial)," and "Class 3 Bikeways shall
be designed on all collector street,s, in addition to a system of Class 1 trails where possible. Also, designers are cautioned to avoid “the use of dead-end cul-de-sacs lacking pedestrian and/or bicycle access to adjoining streets or public areas.” Other design principles address the desire for enhancing pedestrian scale in residential streetscapes and reducing pedestrian-vehicle conflicts.

**Specific Plans**

Several specific plans (Bridle Ridge, East F Street Corridor, and South Oakdale Industrial) include proposed bicycle and pedestrian facilities and/or guidelines.

### 8.3  BICYCLE NETWORK

#### BICYCLE FACILITIES

Bicycle facilities can be divided into two types:

- **Bikeways**—on-street or off-street facilities provided for bicycle travel
- **Support Facilities**—facilities used by bicyclists when they reach their destination, such as bicycle parking

**Bikeways**

Chapter 1000 of the Caltrans *Highway Design Manual* defines three classes of bicycle facilities and details the minimum requirements for those facility types:

- **Class 1 Bicycle Paths**—a paved right of way completely separated from any street or highway
- **Class 2 Bicycle Lanes**—a striped and stenciled lane for one-way travel on a street or highway
- **Class 3 Bicycle Routes**—a typical roadway identified as a preferred bicycle route with signage. They may also include shared use lane markings, “SHARE THE ROAD” signage, or wide shoulders, as described in Appendix A Bicycle Design Guidelines.

In this Plan, a Class 3.5 bicycle route designation is also used. In the context of this plan, Class 3.5 facilities indicate a Class 3 bicycle route, as defined by Caltrans, with wide shoulders, typically four to eight feet in width. Class 3 Share the Lane indicates Class 3 bicycle routes, as defined by Caltrans, with “SHARE THE ROAD” signage, typically on narrow, rural roadways. These treatments are in Appendix A Bicycle Design Guidelines.
Support Facilities

Support facilities are critical to bicycle use, especially as a means to encourage bicycle commuting. Support facilities consist primarily of:

- **Bicycle Parking**—bicycle parking supply should vary to accommodate short-term and long-term trips and consist of two basic types:
  - Short-Term Parking—bicycle racks for users who need to stop for several hours or less, placed adjacent to key destinations such as shopping areas, schools, and parks
  - Long-Term Parking—lockable bicycle lockers, bicycle cages, or bicycle rooms that only users are allowed access to, placed at major employment areas, schools, and transit centers.
- **Shower and Changing Space**—showers and changing areas provide longer-distance commuters with an area to change and get ready for work or school
- **Secure Storage Areas**—locker-type storage areas provide room to store a change of clothes or bicycle gear.

EXISTING BIKEWAYS

Oakdale has over 15 miles of bikeways, of which nearly ten miles are Class 2 facilities. **Figure 8-4** presents the existing bicycle network in Oakdale. Many Class 2 bicycle lanes exist in Oakdale, primarily in the newer residential neighborhoods. Several Class 1 segments also exist in the newer residential areas, providing east-west and north-south connections between residential areas. Class 2 east-west connections can be found on East G Street, East J Street, and West Greger Street. North-South connections are located on North 6th and North Maag Avenues as well as Crane Road and South Yosemite Avenue on the edge of town.

**Appendix E** lists existing and proposed bikeways in the City of Oakdale. **Appendix F** presents the results of the StanCOG BPAC’s community survey (2011), which includes information on identified needs and opportunity areas throughout the County.
Figure 8-4 City of Oakdale Existing Bikeways

- **Existing**
  - Class 1 Path
  - Class 2 - Bicycle Lanes
  - Class 3 - Bicycle Route
  - Class 3.5 - Bicycle Route with Wide Shoulders
  - Class 3.5 - Bicycle Route with Share The Road signs

PROPOSED IMPROVEMENTS

The proposed bikeway network was developed to increase utilitarian and recreational bicycling in the City of Oakdale by all levels of bicyclists. The proposed bikeway network was established based on input from the StanCOG BPAC and recommendations made in the 2008 StanCOG Non-Motorized Transportation Master Plan and the Oakdale Non-Motorized Master Plan. The proposed bikeway network includes Class 1 bicycle paths, Class 2 bicycle lanes, and Class 3 bicycle routes that connect to destinations likely to generate or attract bicycle travel. Figure 8-5 shows the proposed City of Oakdale bikeway network. Segments listed as “planned” are proposed segments that are anticipated to be implemented within five years based on information provided by local officials.

PROJECT PRIORITIZATION

Facilities within Oakdale were prioritized to address the need for regional and local connections. Because the geographic area of the county is spread out, it is important to prioritize these projects because of the long length of each proposed bikeway and the limited financial resources to implement and maintain facilities.

Prioritization Methodology

The project prioritization methodology is distinct and separate for regional priority bikeways located in unincorporated Stanislaus County and projects within incorporated jurisdictions, and is outlined below. Each methodology is presented in Appendix C and D.

Each proposed bikeway project in the unincorporated county was scored on the follow criteria, which were given equal weight:

- Closure of a critical gap
- Immediate safety need
- Access to key destinations
- Feasibility
Figure 8-5 City of Oakdale Proposed Bikeways

Existing
- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route

Proposed
- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders
- Class 3.5 - Bicycle Route with Share The Road signs

Within the City of Oakdale, selected facilities were prioritized in order to establish significant regional routes through incorporated urban areas. Priority bikeways through Oakdale were selected using a bicycle and pedestrian demand model developed for Stanislaus County and through the feedback of the StanCOG Bicycle and Pedestrian Advisory Committee (BPAC). Using the demand map as a base, priority bikeway alignments through incorporated areas were selected to:

- Connect local areas of highest biking and walking demand with the most direct route possible;
- Connect cities and/or neighboring unincorporated communities along the most direct route; and
- Create continuous countywide bikeways

**Priority Network**

The countywide bicycle network is presented on Figure 8-6. The following countywide priority bikeways have segments in Oakdale:

- Patterson Road – Claus Road – SR 108 – F Street (#1), connecting Riverbank, unincorporated County, and Oakdale
- Yosemite Avenue/SR 120 – Albers Road – Geer Road (#7), connecting Oakdale, unincorporated County, Hughson, and Turlock

These prioritized regional routes through cities should be incorporated into overlay schedules and/or prioritized for competitive grant funding as appropriate. Detailed project descriptions for the two countywide priority bikeways are presented on Figure 8-7 and 8-8.

**BICYCLE PARKING AND SUPPORT FACILITIES**

Bicycle support facilities such as changing rooms, showers, lockers, and short-term and long-term bicycle parking are important end-of-trip facilities for those who commute by bicycle or who may be thinking of commuting by bicycle. As such, it can be an important factor in encouraging bicycle use and bicycling to work. In addition to providing appropriate storage space to park bicycles, support facilities such as showers and lockers are important for commuters who may travel long distances or are subject to formal dress requirements in their workplace. Short-term bicycle parking typically consists of racks, which are useful for visitors to an office or short retail trips, while long-term bicycle parking typically consists of bicycle lockers or secure areas, which are more appropriate for longer stays at work places.
Figure 8-6 City of Oakdale Priority Bikeways

Prioritization

First-Tier

Second Tier

Existing

Class 1 Path

Class 2 - Bicycle Lanes

Class 3 - Bicycle Route

Class 3.5 - Bicycle Route with Wide Shoulders

Class 3.5 - Bicycle Route with Share The Road signs

Planned

Proposed

1. SR 108 - Patterson Road-Claus Road - Atchison Road - F Street

Jurisdictions: City of Riverbank, Unincorporated Stanislaus County, and City of Oakdale

Description

The SR 108 - Patterson Road - Claus Road - Atchison Road - F Street bikeway travels east-west connecting the Cities of Riverbank and Oakdale through unincorporated Stanislaus County. The bikeway runs from SR 108/Oakdale Road to Patterson Road/1st Street, where there are existing bike lanes between Terminal Avenue and Claus Road. Jogging north-south on Claus Road, the bikeway continues on Atchison Road/SR 108 connecting to F Street/SR 108 through Oakdale. Existing bike lanes are striped on F Street between Crane Road and Willowood Road.

Proposed Improvements

1A. Class 2 Bike Lanes on Patterson Road/SR 108 between Oakdale Road and Terminal Avenue
1B. Class 2 Bike Lanes on Claus Road between Patterson Road and Atchison Road/SR 108
1C. Class 3.5 Bicycle Route with Wide Shoulders on Patterson Road and Atchison Road
1D. Class 2 Bike Lanes on SR 108/F Street between Willowood Road and Wood Avenue
1E. Class 3 Bicycle Route on SR 108/F Street between Wood Avenue and Oakdale City Limits

Design Requirements

1A, 1B, 1D Class 2 Bicycle Lanes
- Stripe within existing right-of-way
- Widen roadway between Roselle Avenue and Terminal Avenue (Riverbank)
- Prohibit parking on one-side of street between Callander and 1st Street (Riverbank)

1C Class 3.5 Bicycle Route with Wide Shoulders
- Existing 0-8’ shoulders
- Widen shoulder to 4’ minimum
- Install Class 3 signs each 1/4 mile

1E Class 3 Bicycle Route
- Install Class 3 signs each 1/4 mile
- Consider striping sharrows 14’ from face of curb

Implementation and Funding

- High frequency of both pedestrian and bicycle collisions between 2008-2010
  - 19 auto-pedestrian collisions, 16 auto-bicyclist collisions on corridor
- Striping project may be a strong candidate for HSIP Funding due to collision history
- Possible to stripe within existing curb-to-curb right-of-way with parking removal
- Total project cost, including design, environmental, and contingency, is approximately $1,390,000
7. Geer Road-Albers Road

Jurisdictions: City of Oakdale, Unincorporated Stanislaus County, and City of Turlock

Description

Geer Road - Albers Road is a north-south arterial connecting the Cities of Turlock and Oakdale through the unincorporated County. The Geer Road – Albers Road bikeway would connect the proposed Golden State Boulevard Class 3.5 facility with existing Class 2 bicycle lanes on Albers Road in Oakdale, terminating at S. Yosemite Avenue. The north-south bikeway would also connect to a proposed Class 3.5 facility on SR 132-Yosemite Boulevard, which may require coordination with Caltrans.

Proposed Improvements

7A Class 2 bicycle lanes on Geer Road between Taylor Road and Golden State Boulevard
7B Class 3.5 wide shoulders on Albers Road-Geer Road between Albers Road/Oakdale-Waterford Highway and Taylor Road
7C Class 2 bicycle lanes on Albers Road/Oakdale-Waterford Highway between Warnerville Road and Yosemite Boulevard

Design Requirements

7A & 7C Class 2 Bicycle Lanes
- Stripe within existing right-of-way
- Reduce width of outside travel lane and/or two-way left-turn lane

Existing

- On-street parking allowed in limited locations

Proposed

- Bike Lane sign optional

7B Class 3.5 Bicycle Route with Wide Shoulders
- Existing 6 foot shoulders between Claribel Road and Oakdale-Waterford Highway
- Widen shoulder to 4’ minimum between Claribel Road and Turlock City Limits
- Shoulders widening planned between Claribel and Milnes Roads
- Install Class 3 signs each 1/4 mile

Existing

- 0.8' PAVED SHOULDER

Proposed

- 4.8' PAVED SHOULDER

Class 3 Bicycle Route Signage

Implementation and Funding

- 5 pedestrian-auto collisions and 3 bicyclist-auto collisions between 2008-2010
- May be eligible for CMAQ Competitive Funds and HR3/HSIP
- Total project cost, including design, environmental, and contingency, is approximately $11,700,000
- Through Turlock, Olive Avenue could be considered as an alternative alignment, if preferred
Existing Bicycle Parking

In general, very little bicycle parking is available in Oakdale. Places of employment in Oakdale do not typically provide showers, changing space, or long-term storage for bicycle gear. However, certain places of employment such as fire departments, roadway maintenance facilities, or some manufacturing facilities are likely to have showers and changing space that employees could use for bicycle commuting purposes. It is likely that some employers allow employees to store bicycles in their workspace.

Based on an interview with City staff and field observation, particularly near schools or other civic uses, the City of Oakdale does not have a bicycle parking ordinance or programs to install bicycle parking in the public right-of-way, though bicycle parking may exist. Bicycle parking may be located at arcades and any amusement parks in Oakdale per the City Code.

Proposed Bicycle Parking

Three strategies for encouraging bicycling for commuting and utilitarian purposes are proposed:

- Revise bicycle parking ordinance for new development
- Organize a bicycle rack request program
- Encourage construction of support facilities at major employers through the permitting process

Bicycle Rack Request Program

The City should begin a bicycle rack request program, whereby residents and businesses can request a bicycle rack at specific locations throughout the City. Racks should be installed at neighborhood shopping centers, schools, and parks.

Bicycle Parking Ordinance

At minimum, the City of Oakdale Code should be updated to include short-term and long-term bicycle parking requirements. Model ordinances are included in the Association of Pedestrian and Bicycle Professionals’ Bicycle Parking Guidelines, 2nd Edition. Such a bicycle parking ordinance should include:

**Short-term bicycle parking.** If the project is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 50 feet of the visitors’ entrance, readily visible to passers-by, for five percent of visitor motorized vehicle parking capacity, with a minimum of one two-bicycle capacity rack. Specifications for short-term bicycle parking:

- Bicycle parking space size (eight feet long, three feet wide)
- Bicycle rack type (should be U-lock compatible)
- Bicycle racks should be securely anchored to the surface or structure with fixtures that cannot be removed using common tools

**Long-term bicycle parking.** For buildings with over ten tenant-occupants, provide secure bicycle parking for five percent of motorized vehicle parking capacity, with a minimum of one space. Acceptable parking facilities shall be convenient from the street and may include:

- Covered, lockable enclosures with permanently anchored racks for bicycles
- Lockable bicycle rooms with permanently anchored racks; and
- Lockable, permanently anchored bicycle lockers

Bicycle parking placement guidelines should include discussion of safe, visible, and convenient locations, spaced far enough from walls or other objects so that it is usable by bicyclists. Design guidelines for bicycle parking and siting bicycle parking are included in Appendix A.

**Shower/Locker Facilities at Employment Centers**

Showers and clothes lockers are important for bicycle commuters with a rigorous commute or whose job requires formal office attire. Academic studies show shower and locker facilities at places of employment can be a factor in encouraging commuting to work by bicycle. Employees who exercise on their lunch breaks can also benefit from these facilities. While simpler end-of-trip facilities may be more feasible, consideration should be given to requiring shower and locker facilities in all developments with 100 or more employees.

The design of shower and locker facilities should accommodate both male and female employees and tenants. Small employment centers can provide a unisex restroom/shower room with a locking door. Larger employment centers that require more than one shower can add a separate shower and locker room to both the men's and women's restrooms. Maintenance of shower and locker facilities should be provided by the building management. Whenever possible, shower facilities should be located near bicycle parking facilities.

The City of Oakdale should encourage bicycle parking and shower/locker facilities with new development at major employment centers. This can be done through the permitting process.
MULTI-MODAL CONNECTIONS

Stanislaus Regional Transit (StaRT) provides bus and Dial-A-Ride service in Oakdale. Both agencies have bike-rack equipped bus fleets, on a first-come, first-served basis. Figure 8-9 shows existing transit routes.

StaRT

StaRT operates a limited number of fixed route, shuttle, and dial-a-ride services that connect Oakdale to neighboring communities:

- **Route 60** provides fixed route bus service in the City of Oakdale via F and G Streets weekdays and Saturdays, providing connections to Modesto and Riverbank.

- **Eastside Shuttle Service** provides curb-to-curb transportation to Oakdale, Riverbank, and Modesto Monday through Saturday.

- **Waterford Dial-A-Ride** provides curb-to-curb service within Waterford and partial service between Waterford and Oakdale weekdays and Saturday. Three designated fixed stops are located within the service area. Curb-to-curb service passengers must make advanced reservations.

### 8.4 PEDESTRIAN FACILITIES

PEDESTRIAN FACILITIES

Pedestrian facilities can be broken into three basic categories, with implementation and use varying based on geographic location:

- **Walkways**—in urban and suburban contexts, sidewalks with curb ramps at intersections are typical and vary in width depending on land use contexts. In rural contexts, paved or unpaved graded shoulders may be typical, or a walkway may not be provided.

- **Crosswalks**—California Vehicle Code Section 275 defines a crosswalk as either “that portion of a roadway included within the prolongation or connection of the boundary lines of sidewalks at intersections” or “any portion of a roadway distinctly indicated for pedestrian crossing by lines or other markings.” So, legal unmarked crossings are those at intersections defined by the prolongation of sidewalk areas.
Figure 8-9 City of Oakdale Existing Transit

Bikeways

<table>
<thead>
<tr>
<th>Existing</th>
<th>Planned</th>
<th>Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class 1 - Path</td>
<td>Class 1 - Path</td>
<td>Class 1 - Path</td>
</tr>
<tr>
<td>Class 2 - Bicycle Lanes</td>
<td>Class 2 - Bicycle Lanes</td>
<td>Class 2 - Bicycle Lanes</td>
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<td>Class 3 - Bicycle Route</td>
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<td>Class 3.5 - Bicycle Route with Wide Shoulders</td>
<td>Class 3.5 - Bicycle Route with Wide Shoulders</td>
<td>Class 3.5 - Bicycle Route with Wide Shoulders</td>
</tr>
</tbody>
</table>

Transit

- CAT
- MAX
- StaRT
- Turlock Transit
- Escalon Transit (eTrans)
- Limited Bus Service

Paratransit Service Areas

- StaRT Dial-A-Ride Service Areas

Source: StanCOG, Fehr & Peers, 2013
- **Crosswalk Enhancements**—the most basic crosswalk enhancement is crosswalk markings. More substantial enhancements include devices meant to induce improved motorist yielding or to control vehicles at the crosswalk. Control devices include signals and pedestrian hybrid beacons. Yield devices include a variety of in-pavement and sign-mounted flashing yellow beacons.

**Appendix B Pedestrian Design Guidelines** provides additional definition for these facilities and guidance on their application.

**EXISTING CONDITIONS**

Oakdale has a relatively built-out sidewalk network. More than most other Stanislaus County communities, whether in the older or newer portions of the city, Oakdale typically has sidewalk on both sides of the street with crosswalks marked on at least one leg of most major intersections. The small grid system creates favorable conditions for walking, with short block lengths. Residential areas are located just outside of the commercial areas, which provide opportunities for short trips made by walking or bicycling. The newer residential neighborhoods on the northeast or south side of town have barriers to walking and biking trips. On the south side of town, the rail road tracks limit pedestrian and bicycle accessibility to commercial and civic destinations in the core of Oakdale. In the northeastern residential neighborhoods, typical suburban roadway networks increase the distance that pedestrians must walk to reach a destination.

**PRIORITY PEDESTRIAN AREAS**

Priority pedestrian areas were identified to establish area for priority investment and to further define pedestrian needs within these areas. The priority areas were identified through bicycle and pedestrian demand modeling and further refined based on input received from the BPAC and the public.

**Bicycle & Pedestrian Demand Modeling**

In order to highlight areas with the highest potential for walking and biking demand a Geographic Information Systems (GIS) model based on land use factors, demographics, and roadway infrastructure was developed for this Plan. The model results are illustrated in a “heat map” for the entire county roadway network to show relative amounts of pedestrian and bicycle demand, and are based on weighing these different walking-related variables.
Methodology

The GIS model measured pedestrian and bicycle demand based on surrounding land use development, and time and proximity to key destinations. Based on those inputs, the model can help identify areas that may be the most desirable locations for walking trips and would therefore be target areas for investment.

The variables used in this model are based on US Environmental Protection Agency (US EPA) research on the relationship between the built environment and travel patterns. The variables shown to have the greatest effects on the number of people walking in a given area were used and broadly fall into four categories: built environment, proximity to walking destinations, demographics, and street network and connectivity. The methodology is detailed in Appendix C and D.

Analysis

The pedestrian and bicycle demand map can provide a guide to prioritization of safety improvement projects in Oakdale. Areas with high potential for demand are shown in green on Figure 8-10, with areas of low demand shown in red. The central area of Oakdale has a high pedestrian and bicycle demand around the commercial, residential, and civic uses in the city core. The street network provides connectivity and is close to commercial areas and schools. The two major streets, F Street and Yosemite Boulevard, are also state highways.

Newer residential communities have lower bicycle and pedestrian demand due to single land uses and roadways with limited connectivity. Many of these areas rely on one or two collector streets to connect whole neighborhoods to adjacent uses. However, these areas also have the highest concentration of population density and attractors such as schools and parks. Additionally, many Oakdale residents, including children on their way to school, may need to cross state highways such as F Street/SR 108 or Yosemite Boulevard/SR 120 to get to school or to access other destinations. Signalized crossings on these routes are limited as a result.
Figure 8-10 City of Oakdale
Bicycle & Pedestrian Demand Analysis

Demand Index

- **Low Demand**
- **High Demand**

**Priority Areas**

Two pedestrian priority areas are identified within the City of Oakdale: the F Street/SR 108 corridor and Yosemite Boulevard/SR 120. Several treatments exist on the corridor such as a mid-block overhead flashing beacon with school sign and a high-visibility crosswalk with in-pavement flashers at F Street/Mann Avenue exist on the corridor. However, additional enhancements may also be available.

With the proximity to Magnolia Elementary to the north and Oakdale Joint Union High School to the school, such enhancements would be strong candidates for Caltrans’ Safe Routes to Schools grants. Detailed recommendations are presented on Figure 8-11. Given the high number of collisions along the corridor between 2008 and 2010, both bicyclists and pedestrians continue to use the corridor. Additional information on recommended pedestrian enhancements can be found in Appendix B Pedestrian Design Guidelines.

Because these two routes are state highways, coordination with Caltrans is important. Studying pedestrian circulation the area, including collecting volume information on pedestrians, autos, and bicyclists, is an important next step for understanding the crossing needs of pedestrians in this area. Additionally, crosswalks should be studied further to determine if removal or enhancements, such as rectangular rapid flashing beacons or HAWK/pedestrian hybrid beacons, is appropriate.

### 8.5 ADA INFORMATION

The City of Oakdale does not currently have an ADA Transition Plan in place. However, Oakdale has enforced ADA accessibility improvements as a part of building permitting process. Additionally, curb ramps are typically addressed during roadway reconstruction projects.

The City Planning and Public Works departments should pursue universal access in Oakdale through a variety of means:

- Codify current practice of enacting ADA requirements as part of the permitting and entitlement process, using the draft Proposed Guidelines for Access Right-of-Way Guidelines (PROWAG) to ensure universal accessibility in Oakdale
- Adopt citywide policy of constructing ADA curb ramps and any other accessibility measures, as described in PROWAG, routine practice in any new construction or improvement project within the public right-of-way
- Prepare and implement a citywide ADA Transition Plan
**Figure 8-11 Oakdale Pedestrian Priority Area Project Sheet**

**SAFE ROUTES TO SCHOOL PEDESTRIAN PROJECTS**
F Street Uncontrolled Crosswalks between Bryan and Gilbert Avenues

- **Stripe Yellow School Crosswalks within School Zone**
- **Enhance crosswalk on F Street with RRFB or HAWK**
- **Reduce Turning Radii Where Possible**
- **Add Curb Extension on North Side of Street**
- **Consider Curb Extensions to Reduce Crossing Distances**
- **Enhance crosswalk on F Street with RRFB or HAWK**

*Not a candidate for a marked crosswalk without enhancements. Either remove or enhance with candidate treatments such as RRFB and HAWK pedestrian beacons. Requires further study.*

**Existing Overhead Flashing Beacons with School Sign**

**Telephone Pole in Curb Ramp**

**Consider Advance Yield Markings 10' Before Crosswalks**

**Install Curb Extensions and Directional Curb Ramps**

**Install Advanced Pedestrian Crossing Signage and In-Pavement Flashers, RRFBs, or HAWKs pending further study.**

**HSIP PEDESTRIAN PROJECTS**
F Street Uncontrolled Crosswalks between 2nd & 6th Avenues

*Not a candidate for a marked crosswalk without enhancements. Either remove or enhance with candidate treatments such as RRFB and HAWK pedestrian beacons. Requires further study.*

---

**Oakdale Joint Union High**

**Downtown Oakdale**

**Yosemite Boulevard/SR 120**

**F Street/SR 108**
8.6 BICYCLE AND PEDESTRIAN PROJECT IMPLEMENTATION

FUNDING

Bicycle and pedestrian infrastructure and programs can be funded either directly through the County or through various competitive grant programs.

Past Expenditures

In the past five years, the City of Oakdale has invested approximately $100,000 in pedestrian improvements and $25,000 in bicycle improvements.

Funding Need

The City estimates the future funding need for new pedestrian and bicycle infrastructure, such as sidewalk, new bikeways, and traffic signals, is approximately $60,000 per year. This number is derived from Congestion Mitigation and Air Quality Improvement Program (CMAQ) and Regional Surface Transportation Program (RSTP) funding. Oakdale has secured $79,356 in 2012/13 and $86,597 in FY2013-14 in CMAQ funding for pedestrian facilities.

Countywide priority bikeways and projects within the pedestrian priority areas can be funded through a variety of sources. Because the countywide priority bikeways are multi-jurisdictional, coordination between agencies will be critical.

Recommended Funding Sources

Bicycle and pedestrian infrastructure and programs can be funded either directly through the City or through various competitive grant programs. Available funding sources are summarized in Table 8-3. The most applicable funding sources for the improvements recommended by this plan are:

- CMAQ Formula and Competitive Funding
- Highway Safety Improvement Program (HSIP)
- Safe Routes to School Grants (SR2S)
- Remove II Bicycle Infrastructure Component Grants
- Bicycle Transportation Account
Congestion Mitigation and Air Quality Improvement Program (CMAQ)

Congestion Mitigation and Air Quality Improvement Program (CMAQ) grants are administered on a per-population and competitive basis by StanCOG. The program is jointly administered by the Federal Highway Administration and Federal Transit Administration to increase attainment of the National Ambient Air Quality Standards (NAAQS). Based on population, StanCOG received $7,441,852 in CMAQ funding for FY2010-2011. For FY 2014 through FY 2016, $7,129,539 was available for CMAQ Competitive Funds. The cost-effectiveness calculation, based on the Air Resource Board (ARB) methodology, was the sole criteria for selected competitive funds. For FY2014-2015 and FY 2015-2016, all projects with a cost-effectiveness calculation of $64.45 were selected.

Stanislaus County communities routinely use the formula-based funding for the construction of bicycle and pedestrian projects. Seeking competitive grant funding for bicycle and pedestrian projects may be another opportunity to secure funding for the build-out and improvement of bicycle and pedestrian networks.

Highway Safety Improvement Program (HSIP)

Caltrans administers two funding programs for roadway safety improvements: the Highway Safety Improvement Program (HSIP) and the Highway Rural Roads Program (HR3). These programs use cost-benefit ratios as a primary factor in the awarding of applications. Because both of these programs focus on roadway safety, projects with a high-frequency of documented collision history, particularly severe collisions, are typically ranked higher. Roadways with documented bicycle and pedestrian collision history, as discussed in Section 8-3 of this Plan, may be well-qualified for HSIP and HR3 applications, particularly since many of the proposed projects would improve bicyclist and pedestrian safety at a lower cost than many of the highway projects also eligible under this funding source.

For FY 2013, Caltrans estimates that $100 million in Highway Safety Improvement Program (HSIP) funding will be available. While this funding source is often used for major roadway improvement projects, installation of traffic signals, and most other cost-intensive projects, funding has routinely been awarded to bicycle and pedestrian projects. Successful projects have included:

- Median refuges and curb extensions
- Curb, gutter, and sidewalk
- Paved shoulders
- Upgraded traffic signals with pedestrian countdown signals and pedestrian-scale lighting
• Bicycle lane striping
• Crosswalk striping
• In-pavement flashers and rectangular rapid flashing beacon (RRFB) at crossings

Many of these projects were applied for as standalone bicycle and pedestrian improvement projects; some bicycle and pedestrian improvements were included with a broader package of roadway improvement projects. The average programmed federal funding amount was $400,000.

An additional $15 million is dedicated for the Highway Rural Road Improvement Program (HR3), for which many Stanislaus County communities are eligible. To be eligible for HR3, roadway improvements must occur on a roadway with a functional classification of:

• Rural major collector
• Rural minor collector
• Rural local road

Programmed federal funds for HR3 projects averaged $580,000 in the third funding cycle (2011), and most projects funded the widening or improvement of shoulders. Most of the priority bikeway projects included in this Plan consist of Class 3 bicycle routes with widened shoulders.

Safe Routes to School (SR2S)

Prior to 2012, the state and federal Safe Routes to School programs were potential funding sources for both bicycle and pedestrian planning and infrastructure projects that improve access to schools. Caltrans administered two Safe Routes to School programs: the state-legislated program (SR2S), authorized by California Streets and Highways Code Section 2330-2334, and the federal program (SRTS), authorized by the SAFETEA-LU federal funding bill. The SR2S and SRTS programs provided $24.25 million and $21 million, respectively, in annual funding. As of March 2013, the future of Safe Routes to School funding is improbable. Neither MAP-21, the federal funding bill for transportation spending, or the proposed California’s Governor’s Budget 2013-14, include set-aside funds for Safe Routes to School projects.

There are California state assembly bills currently under consideration that propose state funding for Safe Routes to School. Should Safe Routes to School funding continue beyond 2013, several of the proposed bikeways can be funded by Safe Routes to School programs. Successful applications are typically oriented toward pedestrian infrastructure projects; though bicycle projects may also be included in project packages.
**Remove II Bicycle Infrastructure Component Grants**

The San Joaquin Valley Air Pollution Control District (SJVAPCD) offers grant and incentive programs to help reduce air pollutants in the eight-county San Joaquin Valley, which currently does not meet the required National Ambient Air Quality Standards for ozone and particulate matter. The SJVAPCD Remove II Program includes the Bicycle Infrastructure Component, which provides incentives for the construction of Class 1 bicycle paths or Class 2 bicycle lanes that directly benefit commuters in the San Joaquin Valley. Up to $150,000 is available for Class 1 bicycle paths and $100,000 for Class 2 bicycle lanes per application. Applications must be for either a Class 1 or Class 2 facility, not both; however, multiple applications may be submitted. Grants are accepted on a first-come, first-served basis and the following criteria should be considered:

- Project must contribute to an increase in bicycle commuting and a reduction in auto emissions
- Proposed bikeways that close gaps in the network are highly encouraged
- Project should improve bicycle-transit connections
- Project should benefit disadvantaged communities
- Projects should target areas of high demand such as schools, parks, shopping areas, and commercial areas
- Co-funding from other sources is encouraged

Additional information can be found at: [http://www.valleyair.org/transportation/removeII/BI.htm](http://www.valleyair.org/transportation/removeII/BI.htm).

*California Bicycle Transportation Account (BTA)*

Bicycle facilities can be funded through the California Bicycle Transportation Account (BTA). Annually, $7.2 million is available for projects through the BTA.

**Additional Funding Sources**

The majority of public funds for bicycle and pedestrian projects are derived through a core group of federal and state programs. Federal funds from the Surface Transportation Program (STP), Transportation Alternatives (TA), and Congestion Mitigation Air Quality (CMAQ) programs are allocated to the County and distributed accordingly.

Limited amounts from the Local Transportation Fund (LTF), which is derived from a ¼ cent of the general sales tax collected statewide, can be used for bicycle and pedestrian facilities.
The Federal Safe Routes to School (SRTS) program was previously authorized under SAFETEA-LU; when MAP-21 superseded SAFETEA-LU, the SRTS program was discontinued. Instead, SRTS programs and infrastructure are eligible to compete for funding as a part of a new program called Transportation Alternatives (TA). As of December 2012, it is unknown whether California will dedicate a specific portion of TA funds for Safe Routes to School projects.

The California State Parks Recreational Trails Program provides funds annually for recreational trails and trail-related projects. Cities are eligible applicants for the approximately $2.3 million available annually. The program requires an applicant match of 12 percent of the total project cost.

In 2010, the California Strategic Growth Council (SGC) awarded $20 million through the Proposition 84 Sustainable Communities Planning Grant and Incentives Program. Sustainable Community Planning Grant awards totaled $24.6 million in 2012; the SGC plans to award another cycle of grants in 2013. Eligible projects include plans that support greenhouse gas emission reduction and sustainable communities. Twenty percent of the grant funds are set aside for Economically Disadvantaged Communities (EDC), which describes some areas of Stanislaus County.

Caltrans Transportation Planning Grants are available to jurisdictions and can be used for planning or feasibility studies. The maximum funding available per project is $300,000.

The California Office of Traffic Safety (OTS) administers the General OTS Grant opportunities. Pedestrian safety is a priority area for grant funding. Funding can be used for certain police equipment, for signage (vehicle speed feedback signs), and for outreach materials and campaigns.

The Land and Water Conservation Program offers funds to states and through states to local governments for trails acquisition and development.
FUNDING STRATEGY

Although every community is unique, in our experience the following elements are important factors in successfully obtaining grant funding for projects:

- Identify local staff who can support the grant applications and oversee project implementation
- Develop a community vision
- Involve multiple stakeholders in the process
- Identify multiple parties to be co-applicants
- Identify local match opportunities
- Identify projects that:
  - Connect communities
  - Address safety issues
  - Support economic development
- Improve access to schools
- Prioritize projects
- Identify projects that are most likely to successfully compete for grants
- Identify project champions
### TABLE 8-2
**FUNDING SOURCE APPLICABILITY MATRIX**

<table>
<thead>
<tr>
<th>Funding Source</th>
<th>Bicycle Projects</th>
<th>Pedestrian Projects</th>
<th>Other Projects</th>
<th>Planning and Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Class 1 Bicycle Path</td>
<td>Class 2 Bicycle Lane</td>
<td>Class 3 Bicycle Route</td>
<td>Class 3.5 Bicycle Route</td>
</tr>
<tr>
<td>Surface Transportation Program (STP)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Transportation Alternatives (TAs)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Congestion Mitigation Air Quality (CMAQ)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Local Transportation Fund (LTF)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>California Safe Routes to School (SR2S)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>California Bicycle Transportation Account (BTA)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Highway Safety Improvement Program (HSIP) Grants</td>
<td>○</td>
<td>●</td>
<td>○</td>
<td>●</td>
</tr>
<tr>
<td>California State Parks Recreational Trails Program</td>
<td>●</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Proposition 84 Sustainable Communities Planning Grant and Incentives Program</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
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<tr>
<td>Caltrans Transportation Planning Grants</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>California Office of Traffic Safety (OTS) Grants</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Land and Water Conservation Program</td>
<td>●</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

**Notes:**
1. Includes non-pavement elements such as signal equipment, vehicle speed feedback signs, police equipment, or crossing guard equipment
   - ● Funding source is applicable
   - ❁ Funding source is potentially applicable
   - ○ Funding source is not applicable

POLICY RECOMMENDATIONS

In addition to the proposed bicycle and pedestrian projects, policy changes that support walking and biking can help establish a policy rationale for the creation of these facilities. The following policies are recommended:

- Revise bicycle parking requirements in Zoning Code based on Section 9-4 of this Plan
- Consider updating the Oakdale City Bicycle and Pedestrian Master Plan (2006) to accurately reflect current community walking and biking needs and to update latest best practices in bicycle and pedestrian facility design
- Adopt draft Oakdale 2030 General Plan, which includes policies that establish walking and biking as important elements of Oakdale’s transportation system
- Consider adoption of a "Complete Streets" policy or "Routine Accommodation” type of policy to encourage accommodation of bicyclists and pedestrians of all ages and experience levels with new construction or improvements to the public right-of-way
- Consider preparing ADA Implementation Plan to guide inventory accessibility needs and future improvements
- Codify current practice of enacting ADA requirements as part of permitting and entitlement process, using the draft Proposed Guidelines for Access Right-of-Way Guidelines (PROWAG) to ensure universal accessibility in Oakdale
- Adopt citywide policy of constructing ADA curb ramps and any other accessibility measures, as described in PROWAG, routine practice in any new construction or improvement project within the public right-of-way
- When competing traffic analysis, collect bicycle and pedestrian volumes at each study location to address safety and circulation issues for those modes

8.7 SAFETY AND EDUCATION

In addition to implementing bicycle and pedestrian facilities, programs focused on education, encouragement, and enforcement can increase the number of people who bicycle and walk in Oakdale. The City of Oakdale does not currently have education, encouragement, and enforcement programs.
EDUCATION AND ENCOURAGEMENT PROGRAMS

Education programs seek to reduce collisions and help people feel safe and comfortable while biking or walking. These programs include elements that help motorists understand the rights of bicyclists and pedestrians. Simultaneously, education campaigns should target the general public and specific groups that have unique education needs or play a greater role in perpetuating collisions and other dangerous situations. Key target audiences include students, children and families, senior citizens, and drivers.

School Programs

Basic bicycling and walking skills and safety courses can be incorporated into school curricula. Often, these programs are facilitated by a local volunteer or by a member of local police, the Sheriff’s Department, or the California Highway Patrol. Anecdotally, many students may be walking to school. With local schools and residential areas located near state highways, the need for safety education related to walking and biking is important. Additional resources and information are available at the Safe Routes to School National Partnership website: http://www.saferoutespartnership.org/local. Programs could include:

- Walk and Roll to School days
- Pedestrian and bicycle safety curricula in the classroom or assemblies

Adult Education

Many less-experienced adult bicyclists are unsure how to negotiate intersections and how to ride with traffic on streets and roads. Adult education efforts which are sponsored by government agencies, major employers, local bicycle enthusiasts or other volunteer groups can help address this need. An annual or semi-annual class could be offered free of charge to provide information on how to avoid collisions and citations, how to ride safely and improve visibility, and understand the legal rights of cyclists. Instructors from elsewhere in the state or qualified local instructors or volunteers could teach this class to cyclists, tailored to local needs and issues. Future expansion ideas could include adding on-the-bicycle training.

Online Bicycle Maps

The City should provide existing bicycle network maps on their Web page for residents to use as a trip-planning resource, including the countywide maps developed in this Plan. The maps could be used by local residents and visitors to plan their bicycle trips or alternatively could be used as a marketing piece to attract tourist bicycling in the City and surrounding area. The website could also include educational information, including hand signals, bicycle lighting, and safety.
ENFORCEMENT PROGRAMS

The City should work with the local Police Department, Sheriff, and California Highway Patrol (CHP) to conduct enforcement campaigns intended to improve bicyclist and pedestrian safety. Sample enforcement programs include the following.

Targeted Moving Violations

Decreasing moving violations committed by motorists, bicyclists, and pedestrians alike is critical to improving safety and encouraging all roadway users to share the road. The City should work with the Sheriff and CHP to develop targeted enforcement efforts or sting operations. Advertising campaigns help the targeted violation efforts reach a wider audience.

Moving violations by motorists that affect bicyclists and pedestrians include:

- Speeding
- Passing without sufficient clearance
- Driving in the bicycle lane
- Right-turning in front of bicyclists
- Failing to signal
- Double parking
- Failing to yield to pedestrians at a crosswalk

Moving violations by bicyclists and pedestrians include:

- Failing to stop at a stop sign
- Failing to signal
- Wrong-way riding
- Riding without lights at night
- Failing to wear a helmet (if under 18 years of age)
- Jaywalking

Radar Speed Signs

Radar speed signs feature a changeable message sign linked to a radar unit; the signs display the vehicle’s actual speed as the vehicle approaches the sign. Radar speed signs can be mounted permanently to a pole (where they are powered by hard wire or a solar unit) or alternatively they can be mounted to a trailer (also known as a "speed trailer") and deployed on a temporary basis. Studies in the United States have shown that radar speed signs are an effective way to slow traffic. The City should consider installing additional radar speed signs within school zones in partnership with the school district, and on state highways such as F Street and Yosemite Boulevard. Speed trailers should be deployed to different parts of the City regularly to remind drivers citywide to obey the speed limit.
9.0 CITY OF PATTERSON

9.1 Introduction ............................................................................................................. 9-2
9.2 Setting and Context .................................................................................................. 9-4
9.3 Bicycle Network ...................................................................................................... 9-10
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9.6 Bicycle and Pedestrian Project Implementation ..................................................... 9-27
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9.1 INTRODUCTION

PURPOSE OF THE PLAN

The City of Patterson’s Existing and Planned Bicycle and Pedestrian Facilities chapter is intended to be both a chapter of the Stanislaus County of Government (StanCOG) 2012 Bicycle and Pedestrian Master Plan and a standalone document that can be used as a guide for prioritizing bicycle and pedestrian projects in unincorporated areas of the county. The StanCOG Bicycle and Pedestrian Master Plan is a unifying document that coordinates the existing and planned bicycle and pedestrian networks of Stanislaus County communities to serve local and regional needs. This document meets the Bicycle Transportation Account (BTA) requirements for a Bicycle Transportation Plan (BTP), which, once adopted by StanCOG, will make the City of Patterson eligible for BTA funding and improve local competiveness for other funding sources to implement this plan.

CALTRANS COMPLIANCE

The Bicycle Transportation Account (BTA) is a Caltrans program that provides grant funding to cities and counties in support of bicycle projects benefitting bicycle commuters. In order to apply for these funds, local jurisdictions must prepare and adopt a Bicycle Transportation Plan that meets the requirements described in Section 891.2 of the Streets and Highways Code. Table 9-1 presents the required elements of a Bicycle Transportation Plan and indicates where they are located in this plan.

Local agencies without a standalone bicycle or bicycle and pedestrian master plan can use the 2012 StanCOG Bicycle and Pedestrian Master Plan to establish eligibility for BTA Funding until 2017, as long as items “a” through “k” are addressed for that city and the unincorporated areas of the county.
<table>
<thead>
<tr>
<th>Item</th>
<th>Requirement</th>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>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.</td>
<td>Section 9-2 Demographics</td>
</tr>
<tr>
<td>b</td>
<td>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.</td>
<td>Section 9-2, Figure 9-1</td>
</tr>
<tr>
<td>c</td>
<td>A map and description of existing and proposed bikeways.</td>
<td>Section 9-3, Figure 9-4 &amp; 9-5</td>
</tr>
<tr>
<td>d</td>
<td>A map and description of existing and proposed end-of-trip bicycle parking facilities.</td>
<td>Section 9-3 Bicycle Parking, Figure 9-2</td>
</tr>
<tr>
<td>e</td>
<td>A map and description of existing and proposed bicycle transport and parking facilities for connections with and use of other transportation modes.</td>
<td>Section 9-3 Multi-Modal Connections, Figure 9-8</td>
</tr>
<tr>
<td>f</td>
<td>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.</td>
<td>Section 9-3 Bicycle Parking, Figure 9-2</td>
</tr>
<tr>
<td>g</td>
<td>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 the resulting effect on accidents involving bicyclists.</td>
<td>Section 9-7 Safety &amp; Education</td>
</tr>
<tr>
<td>h</td>
<td>A description of the extent of citizen and community involvement in development of the plan, including, but not limited to, letters of support.</td>
<td>Sections 9-3 &amp; 9-4</td>
</tr>
<tr>
<td>i</td>
<td>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.</td>
<td>Section 9-2 Planning &amp; Policy Context</td>
</tr>
<tr>
<td>j</td>
<td>A description of the projects proposed in the plan and a listing of their priorities for implementation.</td>
<td>Sections 9-3 &amp; 9-4, Figures 9-6 &amp; 9-7</td>
</tr>
<tr>
<td>k</td>
<td>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.</td>
<td>Section 9-6</td>
</tr>
</tbody>
</table>
9.2 SETTING AND CONTEXT

JURISDICTION OVERVIEW

Patterson is located on the western edge of Stanislaus County, over ten miles away from the nearest incorporated Stanislaus County city. Patterson is located just east of I 5, situated along SR 33 and the railroad tracks. Patterson has a population of approximately 18,000 people and is approximately 2.9 square miles. The historic core of the town has a hub-and-spoke street pattern overlaid on a small grid.

LAND USE ATTRACTORS AND GENERATORS

Commercial and civic uses are located around El Circulo Avenue, where the radial avenues of the city begin. These uses are located west of SR 33 (2nd Street). Light industrial uses are located east of SR 33. Figure 9-1 presents existing land use patterns in Patterson.

SCHOOLS AND SCHOOL ACCESS/SAFE ROUTES

Schools in Patterson are located in the newer residential areas of the city, typically collocated with large parks. Schools are shown on Figure 9-2.

PARKS AND COMMUNITY FACILITIES

Parks are primarily located in the newer residential areas of Patterson and are frequently located adjacent to the area’s schools. Several parks are also located in the historic core of the city within El Circulo Avenue. Parks are shown on Figure 9-2.
Figure 9-1
Patterson Existing Land Uses
December 2012
Figure 9-2 City of Patterson Schools and Parks

- **Existing**
  - Class 1 Path
  - Class 2 - Bicycle Lanes
  - Class 3 - Bicycle Route
  - Class 3.5 - Bicycle Route with Wide Shoulders
  - Class 3.5 - Bicycle Route with Share The Road signs

- **Proposed**
  - Class 1 Path
  - Class 2 - Bicycle Lanes
  - Class 3 - Bicycle Route
  - Class 3.5 - Bicycle Route with Wide Shoulders
  - Class 3.5 - Bicycle Route with Share The Road signs

DEMOGRAPHICS AND EXISTING TRANSPORTATION PATTERNS

Data from the American Community Survey Five-Year Summaries from 2005 to 2009 was analyzed to understand commute patterns in Patterson. The American Community Survey is conducted each year to provide ongoing data collection between the Decennial Census and includes questions that are not asked in the Decennial Census. The 2005-2009 summaries were used for this Plan because the 2006-2010 summaries aggregated taxicab, motorcycle, and bicycle use into one category, which does not give an accurate picture of bicycle commuting in Patterson. The American Community Survey includes information such as the primary means respondents use to get to work as well as information on age, income, and auto ownership. The means of transportation to work question specifically focuses on commuting trips and does not record the school, shopping, and recreational trips that occur by various modes of transportation. The mode split information also does not account for commuters who may carpool or bicycle to work some days but drive alone other days, or for trips that include both walking or bicycling and another mode (such as transit or carpooling), as only one response is allowed. As such, walking and bicycling trips tend to be underrepresented in this data set.

Patterson has a lower share of single occupancy vehicle trips than Stanislaus County on the whole (69%) due to the city’s very high carpooling rate (26%), which may be attributed to the city’s location along I 5. The bicycle commute share is one of the lowest in Stanislaus County at 0.1%. Walking for commute purposes is also one of the lowest in the county at 1%. Auto ownership is on par with the rest of the county, with 82% of Patterson residents having access to two or more automobiles.

Accounting for schools trips, recreation trips, and other non-work related trips, the overall bicycle mode split is likely higher than 0.3%. According to the Census 2010 data, there are 5,630 households in Patterson. Assuming nine daily person trips per household, at least 175 work trips are made by bicycle each day in Patterson.

Future bicycle trips will depend on a variety of factors such as the availability of well-connected facilities and the location, density, and type of future land development. With appropriate bicycle facilities in place and implementation of bicycle support facilities, such as bicycle parking, mode share could increase countywide. Doubling the current mode split (0.3% for work trips) would result in approximately 350 work trips based on the number of households in 2010.

COLLISION DATA

SWITRS collision reports were collected and analyzed over a three-year period (2008-2010). The database includes collisions reports recorded by both local police officials and the California Highway Patrol.
Bicycle and pedestrian collision data can aid in the identification of problematic areas for bicycles and pedestrians; however, a high frequency of collisions in a particular neighborhood may also indicate an abundance of bicyclists and pedestrians use a particular route.

Between 2008 and 2010, 24 collisions involving bicycles and pedestrians were reported, 17 of which involved pedestrians (and two of which were fatalities) and seven of which involved bicyclists, as shown on Figure 9-3. Crashes were dispersed across the city; however, seven occurred along Las Palmas Avenue. Ward Avenue, 2nd Street, and Kestrel Drive all had multiple crashes reported. The 2nd Street/Las Palmas Avenue intersection had the highest frequency of collisions: two pedestrian-auto crashes were recorded there from 2008-2010. The higher frequency of collisions at these locations indicates these areas may have higher pedestrian and bicyclist activity, contributing to the higher number of collisions.

LOCAL OPPORTUNITIES AND CONSTRAINTS

The following opportunities and constraints for improving pedestrian and bicycle facilities in Patterson include considerations such as existing distribution of urbanized areas throughout the county, roadway infrastructure and connectivity, sidewalk coverage, and existing policies and agreements with local agencies.

Opportunities

- Small grid network in older areas of the city facilitates walking and biking trips
- Dense neighborhoods of single-family houses create opportunities to maximize investment in bicycle, pedestrian, and multi-modal infrastructure
- Most portions of the city have almost continuous sidewalk coverage, with notable gaps in the older area of downtown

Constraints

- Many north-south barriers separate neighborhoods and significantly lengthen distances to destinations, such as the canal paralleling American Eagle Avenue, the canal adjacent to 9th Street, and the railroad tracks parallel to SR 33
- Many neighborhoods of Patterson are separated by large areas of sparsely developed land, particularly west of the historic core and in the southwestern portion of the city
- Commercial uses are largely confined to the area within El Circulo Avenue and shopping centers at Sperry Avenue/Ward Avenue

Newer roadways such as American Eagle Avenue and Sperry Avenue have been designed with a wide cross-section, creating long crossing distances and encouraging higher vehicle speeds.
Figure 9-3 City of Patterson Bicycle & Pedestrian Collisions, 2008-2011
PLANNING AND POLICY CONTEXT

The following section summarizes past related planning efforts and establishes a policy framework to guide future transportation decisions and capital improvement programming. This information helps to ensure infrastructure improvements are closely coordinated with past and ongoing planning efforts.

General Plan (updated 2004)

The Patterson General Plan includes reference to mon-motorized travel in the Circulation Chapter. Several policies address safe convenient networks for bicycle and pedestrian travel, the inclusion of Class 1 and Class 2 bikeways where possible, and require bicycle parking at new public facilities and commercial development.

Municipal Code

The Patterson Municipal Code includes provisions for bicycle parking for all land uses but single-family and two-family residential dwellings. The number of bicycle parking spaces required is based on the number of vehicle parking spaces, and ranges from zero (if there are one to four vehicle parking spaces), to ten (if there are 400 or more vehicle parking spaces).


The Community Design Guidelines include guidelines for commercial, industrial, and residential development. A goal of this document is to “design for the pedestrian scale in appropriate areas.” This includes:

- Encourage pedestrian-oriented buildings and site planning.
- Incorporate design elements that respond to environmental conditions such as wind, sun, shade, etc. to protect and shelter pedestrians and that will provide an enjoyable pedestrian experience.
- Encourage an appropriate scale of building height to street width in commercial areas. Prohibit or minimize parking between buildings and the street.

9.3 BICYCLE NETWORK

BICYCLE FACILITIES

Bicycle facilities can be divided into two types:
- Bikeways—on-street or off-street facilities provided for bicycle travel
- Support Facilities—facilities used by bicyclists when they reach their destination, such as bicycle parking

**Bikeways**

Chapter 1000 of the Caltrans *Highway Design Manual* defines three classes of bicycle facilities and details the minimum requirements for those facility types:

- Class 1 Bicycle Paths—a paved right of way completely separated from any street or highway
- Class 2 Bicycle Lanes—a striped and stenciled lane for one-way travel on a street or highway
- Class 3 Bicycle Routes—a typical roadway identified as a preferred bicycle route with signage. They may also include shared use lane markings, “SHARE THE ROAD” signage, or wide shoulders, as described in *Appendix A Bicycle Design Guidelines*.

In this Plan, a Class 3.5 bicycle route designation is also used. In the context of this plan, Class 3.5 facilities indicate a Class 3 bicycle route, as defined by Caltrans, with wide shoulders, typically four to eight feet in width. Class 3 Share the Lane indicates Class 3 bicycle routes, as defined by Caltrans, with “SHARE THE ROAD” signage, typically on narrow, rural roadways. These treatments are further defined on **Figure A-1 in Appendix A Bicycle Design Guidelines**. Figure A-1 provides cross-sections and additional description of these facilities, including Caltrans minimum requirements as well as recommended cross-section widths and additional treatments.

**Support Facilities**

Support facilities are critical to bicycle use, especially as a means to encourage bicycle commuting. Support facilities consist primarily of:

- **Bicycle Parking**—bicycle parking supply should vary to accommodate short-term and long-term trips and consist of two basic types:
  - **Short-Term Parking**—bicycle racks for users who need to stop for several hours or less, placed adjacent to key destinations such as shopping areas, schools, and parks
  - **Long-Term Parking**—lockable bicycle lockers, bicycle cages, or bicycle rooms that only users are allowed access to, placed at major employment areas, schools, and transit centers.
- **Shower and Changing Space**—showers and changing areas provide longer-distance commuters with an area to change and get ready for work or school
• Secure Storage Areas—locker-type storage areas provide room to store a change of clothes or bicycle gear.

EXISTING BIKEWAYS

As shown on Figure 9-4, Patterson has over file miles of bikeways. Over three miles of these facilities are Class 2 bicycle lanes, and the remainder are Class 1 paths. West-East connections are located on Shearwater Drive, Salado Avenue, E Street, and portions of Las Palmas Avenue. American Eagle Drive and parts of Ward Avenue provide north-south connections.

Appendix E lists existing and proposed bikeways in the City of Patterson. Appendix F presents the results of the StanCOG BPAC’s community survey (2011), which includes information on identified needs and opportunity areas throughout the County.

PROPOSED IMPROVEMENTS

The proposed bikeway network was developed to increase utilitarian and recreational bicycling in the City of Patterson by all types of bicyclists. The proposed bikeway network was established based on input from the StanCOG BPAC and City staff and recommendations made in the 2008 StanCOG Non-Motorized Transportation Master Plan. The proposed bikeway network includes Class 1 bicycle paths, Class 2 bicycle lanes, and Class 3 bicycle routes that connect to destinations likely to generate or attract bicycle travel. Figure 9-5 shows the proposed City of Patterson bikeway network. Segments listed as “planned” are proposed segments that are anticipated to be implemented within five years based on information provided by local officials.

PROJECT PRIORITIZATION

Facilities within Stanislaus County were prioritized to address the need for regional and local connections. Because the geographic area of the county is spread out, it is important to prioritize these projects because of the long length of each proposed bikeway and the limited financial resources to implement and maintain facilities.
Figure 9-4 City of Patterson Existing Bikeways

- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders
- Class 3.5 - Bicycle Route with Share The Road signs

Figure 9-5 City of Patterson Proposed Bikeways

Existing
- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders

Planned
- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders
- Class 3.5 - Bicycle Route with Share The Road signs

Proposed
- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders
- Class 3.5 - Bicycle Route with Share The Road signs

Prioritization Methodology

The project prioritization methodology is distinct and separate for regional priority bikeways located in unincorporated Stanislaus County and projects within incorporated jurisdictions, and is outlined below. Each methodology is presented in Appendix C and D.

Each proposed bikeway project in the unincorporated county was scored on the follow criteria, which were given equal weight:

- Closure of a critical gap
- Immediate safety need
- Access to key destinations
- Feasibility

Within the City of Patterson, selected facilities were prioritized in order to establish significant regional routes through incorporated urban areas. Priority bikeways through Patterson were selected using a bicycle and pedestrian demand model developed for Stanislaus County and through the feedback of the StanCOG Bicycle and Pedestrian Advisory Committee (BPAC). Using the demand map as a base, priority bikeway alignments through incorporated areas were selected to:

- Connect local areas of highest biking and walking demand with the most direct route possible;
- Connect cities and/or neighboring unincorporated communities along the most direct route; and
- Create continuous countywide bikeways

Priority Network

The countywide bicycle network is presented on Figure 9-6. The following countywide priority bikeways have segments in Patterson:

- Las Palmas Avenue – Main Street (#1), connecting Patterson, unincorporated County, and Turlock

These prioritized regional routes through cities should be incorporated into overlay schedules and/or prioritized for competitive grant funding as appropriate. Detailed project descriptions for the two countywide priority bikeways are presented on Figure 9-7.
Figure 9-6 City of Patterson Priority Bikeways

<table>
<thead>
<tr>
<th>Prioritization</th>
<th>Existing</th>
<th>Planned</th>
<th>Proposed</th>
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<tr>
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<td>Class 1 Path</td>
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<td>Class 1 Path</td>
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<td></td>
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<td>Class 3 - Bicycle Route</td>
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<tr>
<td></td>
<td>Class 3.5 - Bicycle Route with Wide Shoulders</td>
<td>Class 3.5 - Bicycle Route with Wide Shoulders</td>
<td>Class 3.5 - Bicycle Route with Wide Shoulders</td>
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<tr>
<td></td>
<td>Class 3.5 - Bicycle Route with Share The Road signs</td>
<td>Class 3.5 - Bicycle Route with Share The Road signs</td>
<td>Class 3.5 - Bicycle Route with Share The Road signs</td>
</tr>
</tbody>
</table>

5. Las Palmas Street - Main Street
Jurisdictions: City of Patterson, Unincorporated Stanislaus County, and City of Turlock

Description
This east-west bikeway connects Las Palmas Avenue in Patterson through the unincorporated County to Main Street in the City or Turlock, connecting to Downtown Turlock and the priority bikeway on Golden State Boulevard (#8).

Proposed Improvements

5A. Class 2 on Las Palmas Avenue between Ward Avenue and 9th Street and El Circulo and 1st Street
5B. Class 3.5 with wide shoulders on Las Palmas Avenue/Main Street between Sycamore Avenue and Walnut Road
5C. Class 3 on Main Street between Walnut Road and Golden State Boulevard

Design Requirements

5A Class 2 Bicycle Lanes
- Widen roadway between Ward Avenue and 9th Street
- Stripe within existing right of way from El Circulo to 1st Street

5B Class 3.5 with Wide Shoulders
- Widen shoulder to 4’ minimum
- Existing shoulders are 0-6’
- Install Class 3 signs each 1/4 mile

5C Class 3.5 Bicycle Route with Sharrows
- Install Class 3 bicycle route signage
- Stripe sharrows 14’ from face of curb
- Install Class 3 signs each 1/4 mile

Implementation and Funding

- 4 pedestrian-auto collisions, 4 bicyclist-auto collisions on West Las Palmas Avenue/Main Street corridor between 2008-2010
- May be candidates for SJVAQD Remove II, CMAQ competitive funding, and HSIP funding
- Total project cost, including design, environmental, and contingency, is approximately $5,150,000
BICYCLE PARKING AND SUPPORT FACILITIES

Bicycle support facilities such as changing rooms, showers, lockers, and short-term and long-term bicycle parking are important end-of-trip facilities for those who commute by bicycle or who may be thinking of commuting by bicycle. As such, it can be an important factor in encouraging bicycle use and bicycling to work. In addition to providing appropriate storage space to park bicycles, support facilities such as showers and lockers are important for commuters who may travel long distances or are subject to formal dress requirements in their workplace. Short-term bicycle parking typically consists of racks, which are useful for visitors to an office or short retail trips, while long-term bicycle parking typically consists of bicycle lockers or secure areas, which are more appropriate for longer stays at work places.

Existing Bicycle Parking

In general, very little bicycle parking is available in Patterson. Places of employment do not typically provide showers, changing space, or long-term storage for bicycle gear. However, certain places of employment such as fire departments, roadway maintenance facilities, or some manufacturing facilities are likely to have showers and changing space that employees could use for bicycle commuting purposes. It is likely that some employers allow employees to store bicycles in their workspace.

Patterson does have bicycle racks at City Hall, the Patterson Community Center, and at the Sports Park. Some shopping areas may also have bicycle racks, such as the Savemart. Short-term bicycle racks are typically included in conditions of approval for all new projects. Bicycle racks may exist at other new development sites in Patterson; however, the City does not document the location of new short-term parking.

Proposed Bicycle Parking

Three strategies for encouraging bicycling for commuting and utilitarian purposes are proposed:

- Adopt a bicycle parking ordinance for new development
- Organize a bicycle rack request program
- Encourage construction of support facilities at major employers through the permitting process

Bicycle Parking Ordinance

At minimum, the City of Patterson should update their zoning code to include short-term and long-term bicycle parking requirements. Model ordinances are included in the Association of Pedestrian and Bicycle Professionals' Bicycle Parking Guidelines, 2nd Edition. Such a bicycle parking ordinance should include:
Short-term bicycle parking. If the project is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 50 feet of the visitors’ entrance, readily visible to passers-by, for five percent of visitor motorized vehicle parking capacity, with a minimum of one two-bicycle capacity rack. Specifications for short-term bicycle parking:

- Bicycle parking space size (eight feet long, three feet wide)
- Bicycle rack type (should be U-lock compatible)
- Bicycle racks should be securely anchored to the surface or structure with fixtures that cannot be removed using common tools

Long-term bicycle parking. For buildings with over ten tenant-occupants, provide secure bicycle parking for five percent of motorized vehicle parking capacity, with a minimum of one space. Acceptable parking facilities shall be convenient from the street and may include:

- Covered, lockable enclosures with permanently anchored racks for bicycles
- Lockable bicycle rooms with permanently anchored racks; and
- Lockable, permanently anchored bicycle lockers

Bicycle parking placement guidelines should include discussion of safe, visible, and convenient locations, spaced far enough from walls or other objects so that it is usable by bicyclists. Design guidelines for bicycle parking and siting bicycle parking are included in Appendix A.

Bicycle Rack Request Program

The City should begin a bicycle rack request program, whereby residents and businesses can request a bicycle rack at specific locations throughout the City. In general, racks should be installed at neighborhood shopping centers, schools, and parks.

Shower/Locker Facilities at Employment Centers

Showers and clothes lockers are important for bicycle commuters with a rigorous commute or whose job requires formal office attire. Academic studies show shower and locker facilities at places of employment can be a factor in encouraging commuting to work by bicycle. Employees who exercise on their lunch breaks can also benefit from these facilities. While simpler end-of-trip facilities may be more feasible, consideration should be given to requiring shower and locker facilities in all developments with 100 or more employees.
The design of shower and locker facilities should accommodate both male and female employees and tenants. Small employment centers can provide a unisex restroom/shower room with a locking door. Larger employment centers that require more than one shower can add a separate shower and locker room to both the men’s and women’s restrooms. Maintenance of shower and locker facilities should be provided by the building management. Whenever possible, shower facilities should be located near bicycle parking facilities.

The City of Patterson should encourage bicycle parking and shower/locker facilities with new development at major employment centers. This can be done through the permitting process.

**MULTI-MODAL CONNECTIONS**

Stanislaus Regional Transit (StaRT) serves Patterson. It has bike-rack equipped bus fleets, which are available on a first-come, first-served basis. Figure 9-8 shows existing transit routes.

**Stanislaus Regional Transit (StaRT)**

StaRT Routes 40 and 45 provide service to the City of Patterson.

- Route 40 provides service between the Cities of Patterson and Modesto, including stops in Westley, Grayson, and Ceres.
- Route 45 connects Patterson to the cities of Crows Landing, Newman, and Gustine to the south, and Turlock to the east. Connecting routes in Turlock provide connections to Modesto and access to cities throughout the County. Route 45 completes four route lengths daily, Monday through Saturday.
- All buses are bicycle rack equipped.

Two Dial-A-Ride services are provided within the City of Patterson.

- Patterson Dial-A-Ride provides service within the City of Patterson.
- Newman Dial-A-Ride service area extends into Patterson, providing Dial-A-Ride service from Patterson to Crows Landing, Newman, and Gustine. This service operates Monday through Friday 7:00 am to 6:00 pm and Saturdays 8:00 am to 4:30 pm.
- Reservations are needed for bikes on Dial-A-Ride.
Figure 9-8 City of Patterson Existing Transit

Bikeways

Existing

- Class 1 - Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders

Proposed

- Class 1 - Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3 - Bicycle Route with Share the Road Signage
- Class 3.5 - Bicycle Route with Wide Shoulders

Transit

- CAT
- MAX
- StaRT
- Turlock Transit
- Escalon Transit (eTrans)
- Limited Bus Service

Paratransit Service Areas

- StaRT Dial-A-Ride Service Areas

Source: StanCOG, Fehr & Peers, 2013
9.4 PEDESTRIAN FACILITIES

PEDESTRIAN FACILITIES

Pedestrian facilities can be broken into three basic categories, with implementation and use varying based on geographic location:

- **Walkways**—in urban and suburban contexts, sidewalks with curb ramps at intersections are typical and vary in width depending on land use contexts. In rural contexts, paved or unpaved graded shoulders may be typical, or a walkway may not be provided.

- **Crosswalks**—California Vehicle Code Section 275 defines a crosswalk as either “that portion of a roadway included within the prolongation or connection of the boundary lines of sidewalks at intersections” or “any portion of a roadway distinctly indicated for pedestrian crossing by lines or other markings.” So, legal unmarked crossings are those at intersections defined by the prolongation of sidewalk areas.

- **Crosswalk Enhancements**—the most basic crosswalk enhancement is crosswalk markings. More substantial enhancements include devices meant to induce improved motorist yielding or to control vehicles at the crosswalk. Control devices include signals and pedestrian hybrid beacons. Yield devices include a variety of in-pavement and sign-mounted flashing yellow beacons.

**Appendix B Pedestrian Design Guidelines** provides additional definition for these facilities and guidance on their application.

EXISTING CONDITIONS

Sidewalk coverage is comprehensive in Patterson, particularly in the newer residential areas. In some of the historic areas, stretches of sidewalk gaps exist. In these historic areas, many intersections lack curb ramps, limiting the ability of some to easily get around.

Within residential neighborhoods, connectivity is sufficient; however, several barriers impede the ease of moving across the city by foot or bicycle. American Eagle Avenue and 9th Street both parallel canals that have limited connection points across them. Connections are also limited across Sperry Avenue, Ward Avenue, SR 33, and the railroad tracks.
BICYCLE & PEDESTRIAN DEMAND MODELING

In order to highlight areas with the highest potential for walking and biking demand a Geographic Information Systems (GIS) model based on land use factors, demographics, and roadway infrastructure was developed for this Plan. The model results are illustrated in a “heat map” for the entire county roadway network to show relative amounts of pedestrian and bicycle demand, and are based on weighing these different walking-related variables.

Methodology

The GIS model measured pedestrian and bicycle demand based on surrounding land use development, and time and proximity to key destinations. Based on those inputs, the model can help identify areas that may be the most desirable locations for walking trips and would therefore be target areas for investment.

The variables used in this model are based on US Environmental Protection Agency (US EPA) research on the relationship between the built environment and travel patterns. The variables shown to have the greatest effects on the number of people walking in a given area were used and broadly fall into four categories: built environment, proximity to walking destinations, demographics, and street network and connectivity. The methodology is detailed in Appendix C and D.

Analysis

The demand map can provide a guide to prioritization of safety and access improvement projects in Patterson. Areas with high potential for demand are shown in green on Figure 9-9, with areas of low demand shown in red. The central area of Patterson has high bicycle and pedestrian demand around the commercial, residential, and civic uses in the city core. The street network provides connectivity and is close to commercial areas and employment centers. Newer residential communities have a lower walking and biking demand due to the singular residential land use and limited roadway connectivity. However, significant land use generators and attractors exist in the western portion of the city: dense single-family housing in close proximity to local schools. These newer residential areas have a more complete sidewalk network. Potential improvements might focus on crossing enhancements, traffic calming measures, and addressing pedestrian access at key destinations in the downtown area while also improving the land use mix and addressing pedestrian crossings and roadway connectivity at major roadways such as American Eagle Avenue and Sperry Avenue.
Figure 9-9  City of Patterson
Bicycle & Pedestrian Demand Analysis

Demand Index

Low Demand
High Demand

Priority Areas

Schools
Employment Centers

Priority Areas

Multiple pedestrian priority areas are identified in unincorporated communities throughout Patterson. Priority areas include:

1) Neighborhood Commercial areas along Ward and Sperry Avenues
2) Residential Areas/School zones west of Ward Avenue

Each identified area should be prioritized for pedestrian improvements and investments. Potential pedestrian improvement projects along West Las Palmas/Ward Avenue are included in this Plan to illustrate the range of possible pedestrian improvement projects.

Potential Pedestrian Improvement Projects

Potential projects are shown conceptually on Figure 9-10. The conceptual drawings present a range of solutions for the West Las Palmas, Sperry Avenue, and Ward Avenue corridors, where residential neighborhoods meet neighborhood commercial areas. Feasibility analyses should be completed before moving forward with these conceptual designs or any other designs that address the needs of pedestrians in the area. Marked crosswalks at unsignalized locations should specifically be studied for removal or enhancement, such as with rectangular rapid flashing beacons or HAWK/pedestrian hybrid beacons.

Potential projects in the priority areas focus on improving access from the residential areas to the neighborhood commercial areas, which includes crossing large arterials such as Sperry Avenue. At both the residential intersection and across Sperry Avenue and West Las Palmas Avenue, crossing distances are long and median refuges are not provided. Small medians currently exist on Sperry Avenue—these could be widened to six feet to provide protection for bicyclists or pedestrians with strollers with median tips added to provide a full refuge. Additional treatments include the use of:

- High-visibility ladder-style crosswalks, advanced yield markings, and pedestrian beacons such as rectangular rapid flashing beacons as appropriate, at uncontrolled, multi-lane crosswalks
- Directional ADA curb ramps whenever feasible
- Curb extensions and tightened radii to shorten crossing distances

Bicycle lanes are also shown on Sperry Avenue, consistent with the proposed bikeway network on Figure 9-5.

Additional information on the proposed treatments and other pedestrian infrastructure are discussed further in Appendix B.
Figure 9-10 Patterson Pedestrian Priority Area Project Sheet

West Las Palmas Avenue, Sperry Avenue

Pipit Drive/West Las Palmas Intersection Improvements

- Install corner bulb-outs to reduce crossing distances
- Provide median refuge for pedestrians crossing West Las Palmas Avenue
- Restripe bicycle lanes on West Las Palmas Avenue
- Stripe crosswalk across commercial driveway. Use high-visibility markings at uncontrolled locations
- Install directional curb ramps where possible

*Not a candidate for a marked crosswalk without enhancements. Either remove or enhance with candidate treatments such as RRFB and HAWK pedestrian beacons. Requires further study.

Sperry Avenue Intersection Improvements

- Stripe bicycle lanes on Sperry Avenue
- Widen existing medians, add median tips for pedestrian refuge
- Install directional curb ramps where feasible
- Tighten curb radii and straighten crossings to reduce crossing distances
9.5 ADA INFORMATION

Patterson does not currently have an ADA Transition Plan. Newer residential areas have ADA curb ramps, and the commercial areas of downtown have been retrofitted with ramps. Many of the older residential neighborhoods near downtown lack curb ramps at intersection.

The City Planning and Public Works departments should pursue universal access in Patterson through a variety of means:

- Enforce ADA requirements as part of the permitting and entitlement process, using the draft Proposed Guidelines for Access Right-of-Way Guidelines (PROWAG) to ensure universal accessibility
- Adopt citywide policy of constructing ADA curb ramps and any other accessibility measures, as described in PROWAG, routine practice in any new construction or improvement project within the public right-of-way
- Prepare and implement a citywide ADA Transition Plan

9.6 BICYCLE AND PEDESTRIAN PROJECT IMPLEMENTATION

FUNDING

Bicycle and pedestrian infrastructure and programs can be funded either directly through the City or through various competitive grant programs.

Past Expenditures

In the past five years, Patterson has invested approximately $108,184 in bicycle and pedestrian improvements. Table 9-2 shows bicycle and pedestrian improvements in Patterson.
TABLE 9-2
PATTERSON BICYCLE AND PEDESTRIAN IMPROVEMENTS, 2008-2012

<table>
<thead>
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<th>ID</th>
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<th>To</th>
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<th>Approximate Cost</th>
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<tr>
<td>1</td>
<td>Patterson</td>
<td>Ward Avenue</td>
<td>-</td>
<td>Sports Complex</td>
<td>Class 1 (west side)</td>
<td>$55,574</td>
</tr>
<tr>
<td>2</td>
<td>Patterson</td>
<td>Las Palmas</td>
<td>9th Street</td>
<td>Ward Avenue</td>
<td>5-foot wide pedestrian path</td>
<td>$52,610</td>
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</tbody>
</table>

Total $108,184

Source: City of Patterson, Fehr & Peers, 2013.

Funding Need

The total future funding need for new pedestrian and bicycle infrastructure in Patterson is $1,795,864, based on project cost estimates.

The City of Patterson was recently awarded a Caltrans Cycle 10 Safe Routes to School (SR2S) grant totaling $135,200. The project will construct sidewalks and install bicycle lanes, crosswalks, in-pavement crosswalk lighting or safety lighting and striping on American Eagle Street between Kestrel Way and North 2nd Street/SR 33.

The City has applied $55,574 in CMAQ “Formula” funding for the construction of a bicycle path along Ward Avenue, connecting to the Sports Park.

Countywide priority bikeways and projects within the pedestrian priority areas can be funded through a variety of sources. Because the countywide priority bikeways are multi-jurisdictional, coordination between agencies will be critical.

Recommended Funding Sources

Bicycle and pedestrian infrastructure and programs can be funded either directly through the City or through various competitive grant programs. Available funding sources are summarized in Table 9-3. The most applicable funding sources for the improvements recommended by this plan are:

- CMAQ Formula and Competitive Funding
- Highway Safety Improvement Program (HSIP)
- Safe Routes to School Grants (SR2S)
- Remove II Bicycle Infrastructure Component Grants
- Bicycle Transportation Account

**Congestion Mitigation and Air Quality Improvement Program (CMAQ)**

Congestion Mitigation and Air Quality Improvement Program (CMAQ) grants are administered on a per-population and competitive basis by StanCOG. The program is jointly administered by the Federal Highway Administration and Federal Transit Administration to increase attainment of the National Ambient Air Quality Standards (NAAQS). Based on population, StanCOG received $7,441,852 in CMAQ funding for FY2010-2011. For FY 2014 through FY 2016, $7,129,539 was available for CMAQ Competitive Funds. The cost-effectiveness calculation, based on the Air Resource Board (ARB) methodology, was the sole criteria for selected competitive funds. For FY2014-2015 and FY 2015-2016, all projects with a cost-effectiveness calculation of $64.45 were selected.

Stanislaus County communities routinely use the formula-based funding for the construction of bicycle and pedestrian projects. Seeking competitive grant funding for bicycle and pedestrian projects may be another opportunity to secure funding for the build-out and improvement of bicycle and pedestrian networks.

**Highway Safety Improvement Program (HSIP)**

Caltrans administers two funding programs for roadway safety improvements: the Highway Safety Improvement Program (HSIP) and the Highway Rural Roads Program (HR3). These programs use cost-benefit ratios as a primary factor in the awarding of applications. Because both of these programs focus on roadway safety, projects with a high-frequency of documented collision history, particularly severe collisions, are typically ranked higher. Roadways with documented bicycle and pedestrian collision history, as discussed in Section 9-3 of this Plan, may be well-qualified for HSIP and HR3 applications, particularly since many of the proposed projects would improve bicyclist and pedestrian safety at a lower cost than many of the highway projects also eligible under this funding source.

For FY 2013, Caltrans estimates that $100 million in Highway Safety Improvement Program (HSIP) funding will be available. While this funding source is often used for major roadway improvement projects, installation of traffic signals, and most other cost-intensive projects, funding has routinely been awarded to bicycle and pedestrian projects. Successful projects have included:
• Median refuges and curb extensions
• Curb, gutter, and sidewalk
• Paved shoulders
• Upgraded traffic signals with pedestrian countdown signals and pedestrian-scale lighting
• Bicycle lane striping
• Crosswalk striping
• In-pavement flashers and rectangular rapid flashing beacon (RRFB) at crossings

Many of these projects were applied for as standalone bicycle and pedestrian improvement projects; some bicycle and pedestrian improvements were included with a broader package of roadway improvement projects. The average programmed federal funding amount was $400,000.

An additional $15 million is dedicated for the Highway Rural Road Improvement Program (HR3), for which many Stanislaus County communities are eligible. To be eligible for HR3, roadway improvements must occur on a roadway with a functional classification of:

• Rural major collector
• Rural minor collector
• Rural local road

Programmed federal funds for HR3 projects averaged $580,000 in the third funding cycle (2011), and most projects funded the widening or improvement of shoulders. Most of the priority bikeway projects included in this Plan consist of Class 3 bicycle routes with widened shoulders.

**Safe Routes to School (SR2S)**

Prior to 2012, the state and federal Safe Routes to School programs were potential funding sources for both bicycle and pedestrian planning and infrastructure projects that improve access to schools. Caltrans administered two Safe Routes to School programs: the state-legislated program (SR2S), authorized by California Streets and Highways Code Section 2330-2334, and the federal program (SRTS), authorized by the SAFETEA-LU federal funding bill. The SR2S and SRTS programs provided $24.25 million and $21 million, respectively, in annual funding. As of March 2013, the future of Safe Routes to School funding is improbable. Neither MAP-21, the federal funding bill for transportation spending, or the proposed California’s Governor’s Budget 2013-14, include set-aside funds for Safe Routes to School projects.
There are California state assembly bills currently under consideration that propose state funding for Safe Routes to School. Should Safe Routes to School funding continue beyond 2013, several of the proposed bikeways can be funded by Safe Routes to School programs. Successful applications are typically oriented toward pedestrian infrastructure projects; though bicycle projects may also be included in project packages.

**Remove II Bicycle Infrastructure Component Grants**

The San Joaquin Valley Air Pollution Control District (SJVAPCD) offers grant and incentive programs to help reduce air pollutants in the eight-county San Joaquin Valley, which currently does not meet the required National Ambient Air Quality Standards for ozone and particulate matter. The SJVAPCD Remove II Program includes the Bicycle Infrastructure Component, which provides incentives for the construction of Class 1 bicycle paths or Class 2 bicycle lanes that directly benefit commuters in the San Joaquin Valley. Up to $150,000 is available for Class 1 bicycle paths and $100,000 for Class 2 bicycle lanes per application. Applications must be for either a Class 1 or Class 2 facility, not both; however, multiple applications may be submitted. Grants are accepted on a first-come, first-served basis and the following criteria should be considered:

- Project must contribute to an increase in bicycle commuting and a reduction in auto emissions
- Proposed bikeways that close gaps in the network are highly encouraged
- Project should improve bicycle-transit connections
- Project should benefit disadvantaged communities
- Projects should target areas of high demand such as schools, parks, shopping areas, and commercial areas
- Co-funding from other sources is encouraged

Additional information can be found at: [http://www.valleyair.org/transportation/removell/BI.htm](http://www.valleyair.org/transportation/removell/BI.htm).

**California Bicycle Transportation Account (BTA)**

Bicycle facilities can be funded through the California Bicycle Transportation Account (BTA). Annually, $7.2 million is available for projects through the BTA.

**Additional Funding Sources**

The majority of public funds for bicycle and pedestrian projects are derived through a core group of federal and state programs. Federal funds from the Surface Transportation Program (STP), Transportation
Alternatives (TA), and Congestion Mitigation Air Quality (CMAQ) programs are allocated to the County and distributed accordingly.

Limited amounts from the Local Transportation Fund (LTF), which is derived from a ¼ cent of the general sales tax collected statewide, can be used for bicycle and pedestrian facilities.

The Federal Safe Routes to School (SRTS) program was previously authorized under SAFETEA-LU; when MAP-21 superseded SAFETEA-LU, the SRTS program was discontinued. Instead, SRTS programs and infrastructure are eligible to compete for funding as a part of a new program called Transportation Alternatives (TA). As of December 2012, it is unknown whether California will dedicate a specific portion of TA funds for Safe Routes to School projects.

The California State Parks Recreational Trails Program provides funds annually for recreational trails and trail-related projects. Cities are eligible applicants for the approximately $2.3 million available annually. The program requires an applicant match of 12 percent of the total project cost.

In 2010, the California Strategic Growth Council (SGC) awarded $20 million through the Proposition 84 Sustainable Communities Planning Grant and Incentives Program. Sustainable Community Planning Grant awards totaled $24.6 million in 2012; the SGC plans to award another cycle of grants in 2013. Eligible projects include plans that support greenhouse gas emission reduction and sustainable communities. Twenty percent of the grant funds are set aside for Economically Disadvantaged Communities (EDC), which describes some areas of Stanislaus County.

Caltrans Transportation Planning Grants are available to jurisdictions and can be used for planning or feasibility studies. The maximum funding available per project is $300,000.

The California Office of Traffic Safety (OTS) administers the General OTS Grant opportunities. Pedestrian safety is a priority area for grant funding. Funding can be used for certain police equipment, for signage (vehicle speed feedback signs), and for outreach materials and campaigns.

The Land and Water Conservation Program offers funds to states and through states to local governments for trails acquisition and development.
### TABLE 9-3
FUNDING SOURCE APPLICABILITY MATRIX

<table>
<thead>
<tr>
<th>Funding Source</th>
<th>Bicycle Projects</th>
<th>Pedestrian Projects</th>
<th>Other Projects</th>
<th>Planning and Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Class 1 Bicycle Path</td>
<td>Class 2 Bicycle Lane</td>
<td>Class 3 Bicycle Route</td>
<td>Class 3.5 Bicycle Route</td>
</tr>
<tr>
<td>Surface Transportation Program (STP)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Transportation Alternatives (TAs)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Congestion Mitigation Air Quality (CMAQ)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Local Transportation Fund (LTF)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>California Safe Routes to School (SR25)</td>
<td>●</td>
<td>○</td>
<td>●</td>
<td>○</td>
</tr>
<tr>
<td>California Bicycle Transportation Account (BTA)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Highway Safety Improvement Program (HSIP) Grants</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>California State Parks Recreational Trails Program</td>
<td>○</td>
<td>○</td>
<td>○</td>
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<tr>
<td>Proposition 84 Sustainable Communities Planning Grant and Incentives Program</td>
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<td>○</td>
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<tr>
<td>Caltrans Transportation Planning Grants</td>
<td>○</td>
<td>○</td>
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<td>○</td>
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<tr>
<td>California Office of Traffic Safety (OTS) Grants</td>
<td>○</td>
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<tr>
<td>Land and Water Conservation Program</td>
<td>●</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

Notes:
1. Includes non-pavement elements such as signal equipment, vehicle speed feedback signs, police equipment, or crossing guard equipment

- ● Funding source is applicable
- ○ Funding source is potentially applicable
- ○ Funding source is not applicable

FUNDING STRATEGY

Although every community is unique, in our experience the following elements are important factors in successfully obtaining grant funding for projects:

- Identify local staff who can support the grant applications and oversee project implementation
- Prioritize projects
- Develop a community vision
- Identify projects that are most likely to successfully compete for grants
- Involve multiple stakeholders in the process
- Identify project champions
- Identify multiple parties to be co-applicants
- Identify projects that:
  - Connect communities
  - Address safety issues
  - Support economic development
  - Improve access to schools
- Identify local match opportunities

POLICY RECOMMENDATIONS

In addition to the proposed bicycle and pedestrian projects, policy changes that support walking and biking can help establish a policy rationale for the creation of these facilities. The following policies are recommended:

- Consider revising bicycle parking requirements in Zoning Code based on Section 9-4 of this Plan
- Adopt policy language in the next General Plan update that focused on Complete Streets and balancing the need of all roadway users
- Consider adoption of a "Complete Streets" policy or “Routine Accommodation” type of policy to encourage accommodation of bicyclists and pedestrians of all ages and experience levels with new construction or improvements to the public right-of-way
- Prepare, adopt, and implement an ADA Implementation Plan to guide inventory accessibility needs and future improvements
- Adopt citywide policy of constructing ADA curb ramps and any other accessibility measures routine practice in any new construction or improvement project within the public right-of-way
- When completing traffic analysis, collect bicycle and pedestrian volumes at each study location to address safety and circulation issues for those modes

9.7 SAFETY AND EDUCATION

In addition to implementing bicycle and pedestrian facilities, programs focused on education, encouragement, and enforcement can increase the number of people who bicycle and walk in Patterson.

EXISTING PROGRAMS

The City of Patterson does not currently have education, encouragement, and enforcement programs.

PROPOSED EDUCATION AND ENCOURAGEMENT PROGRAMS

Education programs seek to reduce collisions and help people feel safe and comfortable while biking or walking. These programs include elements that help motorists understand the rights of bicyclists and pedestrians. Simultaneously, education campaigns should target the general public and specific groups that have unique education needs or play a greater role in perpetuating collisions and other dangerous situations. Key target audiences include students, children and families, senior citizens, and drivers.

School Programs

Basic bicycling and walking skills and safety courses can be incorporated into school curricula. Often, these programs are facilitated by a local volunteer or by a member of local police, the Sheriff’s Department, or the California Highway Patrol. Anecdotally, many students may be walking to school. With local schools and residential areas located near state highways, the need for safety education related to walking and biking is important. Additional resources and information are available at the Safe Routes to School National Partnership website: http://www.saferoutespartnership.org/local. Programs could include:

- Walk and Roll to School days
- Pedestrian and bicycle safety curricula in the classroom or assemblies

Adult Education

Many less-experienced adult bicyclists are unsure how to negotiate intersections and how to ride with traffic on streets and roads. Adult education efforts which are sponsored by government agencies, major employers, local bicycle enthusiasts or other volunteer groups can help address this need. An annual or
A semi-annual class could be offered free of charge to provide information on how to avoid collisions and citations, how to ride safely and improve visibility, and understand the legal rights of cyclists. Instructors from elsewhere in the state or qualified local instructors or volunteers could teach this class to cyclists, tailored to local needs and issues. Future expansion ideas could include adding on-the-bicycle training.

**Online Bicycle Maps**

The City should provide existing bicycle network maps on their Web page for residents to use as a trip-planning resource, including the countywide maps developed in this Plan. The maps could be used by local residents and visitors to plan their bicycle trips or alternatively could be used as a marketing piece to attract tourist bicycling in the City and surrounding area. The website could also include educational information, including hand signals, bicycle lighting, and safety.

**ENFORCEMENT PROGRAMS**

The City should work with the local Police Department, Sheriff, and California Highway Patrol (CHP) to conduct enforcement campaigns intended to improve bicyclist and pedestrian safety. Sample enforcement programs include the following.

**Targeted Moving Violations**

Decreasing moving violations committed by motorists, bicyclists, and pedestrians alike is critical to improving safety and encouraging all roadway users to share the road. The City should work with the Sheriff and CHP to develop targeted enforcement efforts or sting operations. Advertising campaigns help the targeted violation efforts reach a wider audience.

Moving violations by motorists that affect bicyclists and pedestrians include:

- Speeding
- Passing without sufficient clearance
- Driving in the bicycle lane
- Right-turning in front of bicyclists
- Failing to signal
- Double parking
- Failing to yield to pedestrians at a crosswalk
Moving violations by bicyclists and pedestrians include:

- Failing to stop at a stop sign
- Failing to signal
- Wrong-way riding
- Riding without lights at night
- Failing to wear a helmet (if under 18 years of age)
- Jaywalking

Radar Speed Signs

Radar speed signs feature a changeable message sign linked to a radar unit; the signs display the vehicle’s actual speed as the vehicle approaches the sign. Radar speed signs can be mounted permanently to a pole (where they are powered by hard wire or a solar unit) or alternatively they can be mounted to a trailer (also known as a "speed trailer") and deployed on a temporary basis. Studies in the United States have shown that radar speed signs are an effective way to slow traffic. The City should consider installing additional radar speed signs within school zones in partnership with the school district and, on state highways, Caltrans. Speed trailers should be deployed to different parts of the City regularly to remind drivers citywide to obey the speed limit.
10.0  CITY OF RIVERBANK

10.1 Introduction .......................................................................................................................... 10-2

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10.1 INTRODUCTION

PURPOSE OF THE PLAN

The City of Riverbank Existing and Planned Bicycle and Pedestrian Facilities chapter is intended to be both a chapter of the Stanislaus County of Government (StanCOG) 2012 Bicycle and Pedestrian Master Plan and a standalone document that can be used as a guide for prioritizing bicycle and pedestrian projects in unincorporated areas of the county. The StanCOG Bicycle and Pedestrian Master Plan is a unifying document that coordinates the existing and planned bicycle and pedestrian networks of Stanislaus County communities to serve local and regional needs. This document meets the Bicycle Transportation Account (BTA) requirements for a Bicycle Transportation Plan (BTP), which, once adopted by StanCOG, will make the City of Riverbank eligible for BTA funding and improve local competitiveness for other funding sources to implement this plan.

CALTRANS COMPLIANCE

The Bicycle Transportation Account (BTA) is a Caltrans program that provides grant funding to cities and counties in support of bicycle projects benefitting bicycle commuters. In order to apply for these funds, local jurisdictions must prepare and adopt a Bicycle Transportation Plan that meets the requirements described in Section 891.2 of the Streets and Highways Code. Table 10-1 presents the required elements of a Bicycle Transportation Plan and indicates where they are located in this plan.

Local agencies without a standalone bicycle or bicycle and pedestrian master plan can use the 2012 StanCOG Bicycle and Pedestrian Master Plan to establish eligibility for BTA Funding until 2017, as long as items “a” through “k” are addressed for that city and the unincorporated areas of the county.
**TABLE 10-1**  
**STREET AND HIGHWAYS CODE SECTION 891.2 REQUIREMENTS ADDRESSED IN THIS PLAN**

<table>
<thead>
<tr>
<th>Item</th>
<th>Requirement</th>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>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.</td>
<td>Section 10-2 Demographics</td>
</tr>
<tr>
<td>b</td>
<td>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.</td>
<td>Section 10-2, Figure 10-1</td>
</tr>
<tr>
<td>c</td>
<td>A map and description of existing and proposed bikeways.</td>
<td>Section 10-3, Figure 10-4 &amp; 10-5</td>
</tr>
<tr>
<td>d</td>
<td>A map and description of existing and proposed end-of-trip bicycle parking facilities.</td>
<td>Section 10-3 Bicycle Parking, Figure 10-2</td>
</tr>
<tr>
<td>e</td>
<td>A map and description of existing and proposed bicycle transport and parking facilities for connections with and use of other transportation modes.</td>
<td>Section 10-3 Multi-Modal Connections, Figure 10-9</td>
</tr>
<tr>
<td>f</td>
<td>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.</td>
<td>Section 10-3 Bicycle Parking, Figure 10-2</td>
</tr>
<tr>
<td>g</td>
<td>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 the resulting effect on accidents involving bicyclists.</td>
<td>Section 10-7 Safety &amp; Education</td>
</tr>
<tr>
<td>h</td>
<td>A description of the extent of citizen and community involvement in development of the plan, including, but not limited to, letters of support.</td>
<td>Sections 10-3 &amp; 10-4</td>
</tr>
<tr>
<td>i</td>
<td>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.</td>
<td>Section 10-2 Planning &amp; Policy Context</td>
</tr>
<tr>
<td>j</td>
<td>A description of the projects proposed in the plan and a listing of their priorities for implementation.</td>
<td>Sections 10-3 &amp; 10-4, Figures 10-6, 10-7, &amp; 10-8</td>
</tr>
<tr>
<td>k</td>
<td>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.</td>
<td>Section 10-6</td>
</tr>
</tbody>
</table>
10.2 SETTING AND CONTEXT

JURISDICTION OVERVIEW

Riverbank is a city of 20,165 people situated along the Stanislaus River and the northern Stanislaus County line. SR 108 is the major connection into and out of the city. Active railroads tracks separate the east and west halves of Riverbank. The railroad tracks are a significant barrier separating the downtown and older residential neighborhoods in the east from the shopping centers and newer residential areas to the west. Only four railroad crossings exist along the 2.25 miles of railroad tracks, limiting the opportunities for east-west connections.

Riverbank is closely situated to two neighboring Stanislaus County communities: Modesto, approximately 1.5 miles to the south, and Oakdale, approximately three miles to the east. The city shares the same north-south grid pattern as Modesto, providing direct roadway connections between the two cities along Oakdale Road, Roselle Avenue, and Claus Road, making these important regional connections. Likewise, Oakdale and Riverbank are connected by SR 108, which travels east-west through the two cities. Patterson Road and Claribel Road provide a secondary set of east-west connections through the area, passing SR 99 into Salida to the west and connecting with the Oakdale-Waterford Highway to the east.

LAND USE ATTRACTORS AND GENERATORS

Riverbank’s shopping centers, parks, and schools are viewed as the major land use attractors and are dispersed throughout the city. The Crossroads at Riverbank shopping center at the corner of Oakdale Road and Claribel Road is one of the largest attractors in addition to the shopping centers at the intersection of Patterson Road and Oakdale Road. The City consciously looks to land use generators, schools, and parks to provide beginning and endpoints to walking and biking trips as they build out the bicycle and pedestrian network. Figure 10-1 shows planned land uses in Riverbank.

SCHOOLS AND SCHOOL ACCESS/Safe ROUTES

Schools are located throughout Riverbank, with elementary schools located in residential neighborhoods. The high school and middle school are separated from much of the city by Patterson Road and the railroad tracks, which are major barriers to walking and biking. Schools and parks are shown on Figure 10-2.
Figure 10-1
Riverbank Existing Land Uses

December 2012

Source: EDAW 2009
Figure LAND-4. Land Use Diagram
Figure 10-2 City of Riverbank Schools and Parks

Parks and Community Facilities

As shown in Figure 10-2, neighborhood parks are generally located in residential areas throughout the city. With the City’s proximity to the Stanislaus River, park space is also located on the northern edge of the city, across the river in San Joaquin County.

DEMOGRAPHICS AND EXISTING TRANSPORTATION PATTERNS

Data from the American Community Survey Five-Year Summaries from 2005 to 2009 was analyzed to understand commute patterns in Riverbank. The American Community Survey is conducted each year to provide ongoing data collection between the Decennial Census and includes questions that are not asked in the Decennial Census. The 2005-2009 summaries were used for this Plan because the 2006-2010 summaries aggregated taxicab, motorcycle, and bicycle use into one category, which does not give an accurate picture of bicycle commuting in Riverbank. The American Community Survey includes information such as the primary means respondents use to get to work as well as information on age, income, and auto ownership. The means of transportation to work question specifically focuses on commuting trips and does not record the school, shopping, and recreational trips that occur by various modes of transportation. The mode split information also does not account for commuters who may carpool or bicycle to work some days but drive alone other days, or for trips that include both walking or bicycling and another mode (such as transit or carpooling), as only one response is allowed. As such, walking and bicycling trips tend to be underrepresented in this data set.

Riverbank has the highest rate of walking for commute purposes in Stanislaus County at 3.2%. However, the City has the second lowest rate of bicycling to work in Stanislaus County, at 0.1%. Single Occupancy Vehicle (SOV) usage is 81%, with 12% of Riverbank commuters carpooling to work, both of which are on par with County rates. Only 0.3% of Riverbank workers use transit for their commute. The city has the highest rate of auto ownership of two or more vehicles in the county, with over 89% of residents having two or more vehicles available for their commutes.

Accounting for schools trips, recreation trips, and other non-work related trips, the overall bicycle mode split is likely higher than 0.1%. According to the Census 2010 data, there are 6,579 households in Riverbank. Assuming nine daily person trips per household, approximately 80 work trips are made by bicycle each day in Riverbank.

Future bicycle trips will depend on a variety of factors such as the availability of well-connected facilities and the location, density, and type of future land development. With appropriate bicycle facilities in place and implementation of bicycle support facilities, such as bicycle parking, mode share could increase.
countywide. Doubling the current mode split (0.1% for work trips) would result in approximately 160 work trips based on the number of households in 2010.

COLLISION DATA

SWITRS collision reports were collected and analyzed over a three-year period (2008-2010). The database includes collisions reports recorded by both local police officials and the California Highway Patrol. Bicycle and pedestrian collision data can aid in the identification of problematic areas for bicycles and pedestrians; however, a high frequency of collisions in a particular neighborhood may also indicate an abundance of bicyclists and pedestrians use a particular route.

From 2008-2010, 32 bicycle and pedestrian collisions were reported in Riverbank, as shown on Figure 10 -3. Of those collisions, 15 involved bicyclists and 17 involved pedestrians. The majority of collisions were reported along Patterson Road, Jackson Avenue, Oakdale Road, and SR 108. The higher frequency of collisions at these locations indicates these areas may have higher pedestrian and bicyclist activity, contributing to the higher number of collisions.

LOCAL OPPORTUNITIES AND CONSTRAINTS

The following opportunities and constraints for improving pedestrian and bicycle facilities in Riverbank include considerations such as existing distribution of urbanized areas throughout the county, roadway infrastructure and connectivity, sidewalk coverage, and existing policies and agreements with local agencies.

Opportunities

- General Plan policies support roadway connectivity in new development
- City has a program for citizens to request bicycle racks at specific locations throughout the City
- Riverbank has many east-west canals, which could provide future off-street connections
- Riverbank has been able to develop paths parallel to the canals through easements associated with new residential development
- Proximity to the Stanislaus River provides opportunity for longer trail connections to connection to neighboring Oakdale and other Stanislaus County communities
Figure 10-3 City of Riverbank Bicycle & Pedestrian Collisions, 2008-2011

- **Pedestrian/Auto Collision**
- **Bicycle/Pedestrian Collision**
- **1 collision**
- **2 collisions**
- **3 collisions**
- **4 collisions**
- **5+ collisions**

**Existing**
- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route

**Planned**
- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders
- Class 3.5 - Bicycle Route with Share The Road signs

**Proposed**
- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders
- Class 3.5 - Bicycle Route with Share The Road signs

Constraints

- North-south and east-west railroads and Patterson Road isolate the eastern and western portions of the city
- Riverbank’s high school and middle school are both located on the eastern side of the railroad tracks, isolated from newer and denser development

PLANNING AND POLICY CONTEXT

The following section summarizes past related planning efforts and establishes a policy framework to guide future transportation decisions and capital improvement programming. This information helps to ensure infrastructure improvements are closely coordinated with past and ongoing planning efforts.

General Plan (2009)

Riverbank updated its General Plan in 2009. The Circulation Element includes goals and policies supportive of non-motorized transportation and includes standard street sections. The Circulation Element’s goals include the provision of transportation networks built on convenience and choice for all transportation modes and development patterns that support all modes. Relevant policies encourage new subdivision development to provide fully connected roadway networks with connected and integrated bicycle facilities and fully-accessible pedestrian infrastructure (Policy CIRC-1.1, 1.2, & 1.3). The Plan requires potential projects to calculate an “internal connectivity index” for the proposed project that must be higher than 1.4, the minimum allowable ratio of number of roadway segments to number of intersections and cul-de-sacs. The policy emphasizes the City’s commitment to a convenient, well-maintained, and safe system of bicycle and pedestrian facilities that connect residential areas with local attractors such as shopping centers, parks, employment centers, and schools (Policy CIRC-1.9).

The Implementation Strategies section states that the City will develop a Bicycle Master Plan and coordinate with the City of Modesto, the County, StanCOG, and the local irrigation districts to help build out and make regional connections with its bicycle network. The General Plan does not include a map of existing and planned bicycle facilities.

The Plan also explains that typical street design standards should provide five- to seven-foot bicycle lanes on all collectors and local roads with mixed use development. Sidewalks on arterial and some commercial collector streets are wide enough to be considered sidewalks/bicycle paths, approximately eight to ten feet in width, typically accompanied by a planting strip with shade trees to improve the walking environment.
Bruinville Area Master Public Facilities Plan (2005)

The Bruinville Area Master Public Facilities Plan covers future development around the Riverbank High School Area. The area is generally bounded by Claus Road to the west, SR 108 and Mesa Drive to the north, Kentucky Avenue to the south, and Eleanor Avenue to the east. Except for the high school, Bruinville is in the unincorporated County. The Plan recommends bicycle lanes and roadways in accordance with the standard street sections.

10.3 BICYCLE NETWORK

BICYCLE FACILITIES

Bicycle facilities can be divided into two types:

- Bikeways—on-street or off-street facilities provided for bicycle travel
- Support Facilities—facilities used by bicyclists when they reach their destination, such as bicycle parking

Bikeways

Chapter 1000 of the Caltrans Highway Design Manual defines three classes of bicycle facilities and details the minimum requirements for those facility types:

- Class 1 Bicycle Paths—a paved right of way completely separated from any street or highway
- Class 2 Bicycle Lanes—a striped and stenciled lane for one-way travel on a street or highway
- Class 3 Bicycle Routes—a typical roadway identified as a preferred bicycle route with signage. They may also include shared use lane markings, “SHARE THE ROAD” signage, or wide shoulders, as described in Appendix A Bicycle Design Guidelines.

In this Plan, a Class 3.5 bicycle route designation is also used. In the context of this plan, Class 3.5 facilities indicate a Class 3 bicycle route, as defined by Caltrans, with wide shoulders, typically four to eight feet in width. Class 3 Share the Lane indicates Class 3 bicycle routes, as defined by Caltrans, with “SHARE THE ROAD” signage, typically on narrow, rural roadways. These treatments are further defined on Figure A-1 in Appendix A Bicycle Design Guidelines. Figure A-1 provides cross-sections and additional description of these facilities, including Caltrans minimum requirements as well as recommended cross-section widths and additional treatments.
Support Facilities

Support facilities are critical to bicycle use, especially as a means to encourage bicycle commuting. Support facilities consist primarily of:

- **Bicycle Parking**—bicycle parking supply should vary to accommodate short-term and long-term trips and consist of two basic types:
  - **Short-Term Parking**—bicycle racks for users who need to stop for several hours or less, placed adjacent to key destinations such as shopping areas, schools, and parks
  - **Long-Term Parking**—lockable bicycle lockers, bicycle cages, or bicycle rooms that only users are allowed access to, placed at major employment areas, schools, and transit centers.

- **Shower and Changing Space**—showers and changing areas provide longer-distance commuters with an area to change and get ready for work or school

- **Secure Storage Areas**—locker-type storage areas provide room to store a change of clothes or bicycle gear.

EXISTING BIKEWAYS

Riverbank has approximately 7.5 miles of bikeways, as shown on Figure 10-4. The east-west connections are located on Patterson Road, Morrill Road, and Atchison Street. Terminal Avenue and Squire Wells Way have Class 2 bicycle lanes which provide access to/from residential neighborhoods and schools, parks, and shopping centers. A new Class 1 pathway runs along the canal in the southwestern portion of the city, connecting with the on-street network at Squire Wells Way and Roselle Avenue. The majority of streets have paved sidewalks, particularly in the newly developed residential areas. The rail line limits bicycle connections between the eastern and western portions of the city.

**Appendix E** lists existing and proposed bikeways in the City of Riverbank. **Appendix F** presents the results of the StanCOG BPAC’s community survey (2011), which includes information on identified needs and opportunity areas throughout the County.
Figure 10-4 City of Riverbank Existing Bikeways

- **Class 1 Path**
- **Class 2 - Bicycle Lanes**
- **Class 3 - Bicycle Route**
- **Class 3.5 - Bicycle Route with Wide Shoulders**
- **Class 3.5 - Bicycle Route with Share The Road signs**

PROPOSED IMPROVEMENTS

The proposed bikeway network was developed to increase utilitarian and recreational bicycling in the City of Riverbank by all levels of bicyclists. The proposed bikeway network was established based on input from the StanCOG BPAC, recommendations made in the 2008 StanCOG Non-Motorized Transportation Master Plan, and input from City staff. The proposed bikeway network includes Class 1 bicycle paths, Class 2 bicycle lanes, and Class 3 bicycle routes that connect to destinations likely to generate or attract bicycle travel. Figure 10-5 shows the proposed City of Riverbank bikeway network. Segments listed as "planned" are proposed segments that are anticipated to be implemented within five years based on information provided by local officials. New north-south connections along Claus Road and Oakdale Road between Patterson Road and Claribel Road are planned and funded in FY2013-14.

PROJECT PRIORITIZATION

Facilities within Riverbank were prioritized to address the need for regional and local connections. Because the geographic area of the county is spread out, it is important to prioritize these projects because of the long length of each proposed bikeway and the limited financial resources to implement and maintain facilities.

Prioritization Methodology

The project prioritization methodology is distinct and separate for regional priority bikeways located in unincorporated Stanislaus County and projects within incorporated jurisdictions, and is outlined below. Each methodology is presented in Appendix C and D.

Each proposed bikeway project in the unincorporated county was scored on the follow criteria, which were given equal weight:

- Closure of a critical gap
- Immediate safety need
- Access to key destinations
- Feasibility
Figure 10-5 City of Riverbank Proposed Bikeways

Existing
- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route

Planned
- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route

Proposed
- Class 3.5 - Bicycle Route with Wide Shoulders
- Class 3.5 - Bicycle Route with Share The Road signs

Within the City of Riverbank, selected facilities were prioritized in order to establish significant regional routes through incorporated urban areas. Priority bikeways through Riverbank were selected using a bicycle and pedestrian demand model developed for Stanislaus County and through the feedback of the StanCOG Bicycle and Pedestrian Advisory Committee (BPAC). Using the demand map as a base, priority bikeway alignments through incorporated areas were selected to:

- Connect local areas of highest biking and walking demand with the most direct route possible;
- Connect cities and/or neighboring unincorporated communities along the most direct route; and
- Create continuous countywide bikeways

**Priority Network**

The countywide bicycle network is presented on Figure 10-6. The following countywide priority bikeways have segments in Riverbank:

- Patterson Road – Claus Road – SR 108 – F Street (#1), connecting Riverbank, unincorporated County, and Oakdale
- Oakdale Road – Mitchell Road – Moore Road (#10), connecting Riverbank, unincorporated County, Modesto, and Ceres

These prioritized regional routes through cities should be incorporated into overlay schedules and/or prioritized for competitive grant funding as appropriate. Detailed project descriptions for the two countywide priority bikeways are presented on Figure 10-7 and 10-8.

**BICYCLE PARKING AND SUPPORT FACILITIES**

Bicycle support facilities such as changing rooms, showers, lockers, and short-term and long-term bicycle parking are important end-of-trip facilities for those who commute by bicycle or who may be thinking of commuting by bicycle. As such, it can be an important factor in encouraging bicycle use and bicycling to work. In addition to providing appropriate storage space to park bicycles, support facilities such as showers and lockers are important for commuters who may travel long distances or are subject to formal dress requirements in their workplace. Short-term bicycle parking typically consists of racks, which are useful for visitors to an office or short retail trips, while long-term bicycle parking typically consists of bicycle lockers or secure areas, which are more appropriate for longer stays at work places.
Figure 10-6 City of Riverbank Priority Bikeways

Prioritization

- First-Tier
- Second Tier

Existing

- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route

Planned

- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route

Proposed

- Class 3.5 - Bicycle Route with Wide Shoulders
- Class 3.5 - Bicycle Route with Share The Road signs

1. SR 108 - Patterson Road-Claus Road - Atchison Road - F Street

Jurisdictions: City of Riverbank, Unincorporated Stanislaus County, and City of Oakdale

Description

The SR 108 - Patterson Road - Claus Road - Atchison Road - F Street bikeway travels east-west connecting the Cities of Riverbank and Oakdale through unincorporated Stanislaus County. The bikeway runs from SR 108/Oakdale Road to Patterson Road/1st Street, where there are existing bike lanes between Terminal Avenue and Claus Road. Jogging north-south on Claus Road, the bikeway continues on Atchison Road/SR 108 connecting to F Street/SR 108 through Oakdale. Existing bike lanes are striped on F Street between Crane Road and Willowood Road.

Proposed Improvements

1A. Class 2 Bike Lanes on Patterson Road/SR 108 between Oakdale Road and Terminal Avenue
1B. Class 2 Bike Lanes on Claus Road between Patterson Road and Atchison Road/SR 108
1C. Class 3.5 Bike Route with Wide Shoulders on Patterson Road and Atchison Road
1D. Class 2 Bike Lanes on SR 108/F Street between Willowood Road and Wood Avenue
1E. Class 3 Bicycle Route on SR 108/F Street between Wood Avenue and Oakdale City Limits

Design Requirements

1A, 1B, 1D Class 2 Bicycle Lanes
- Stripe within existing right-of-way
- Widen roadway between Roselle Avenue and Terminal Avenue (Riverbank)
- Prohibit parking on one-side of street between Callander and 1st Street (Riverbank)

1C Class 3.5 Bicycle Route with Wide Shoulders
- Existing 0-8’ shoulders
- Widen shoulder to 4’ minimum
- Install Class 3 signs each 1/4 mile

1E Class 3 Bicycle Route
- Install Class 3 signs each 1/4 mile
- Consider striping sharrows 14’ from face of curb

Implementation and Funding

- High frequency of both pedestrian and bicycle collisions between 2008-2010
  - 19 auto-pedestrian collisions, 16 auto-bicyclist collisions on corridor
- Striping project may be a strong candidate for HSIP Funding due to collision history
- Possible to stripe within existing curb-to-curb right-of-way with parking removal
- Total project cost, including design, environmental, and contingency, is approximately $1,390,000
10. Oakdale Road - Mitchell Road - Moore Road

Jurisdictions: City of Riverbank, Unincorporated Stanislaus County, City of Modesto, and City of Ceres

Description
Oakdale Road/El Vista Avenue/Mitchell Road is a north-south arterial connecting Riverbank, Modesto, and Ceres. Mitchell Road crosses the Tuolumne River to connect to the City of Ceres. The priority bikeway jogs onto the planned and funded Moore Road Class 1 TID path, connecting to the proposed priority bike lanes on Golden State Boulevard (#8). Bicycle lanes are planned for Oakdale Road between Patterson Road and Claribel Road. (Riverbank).

Proposed Improvements
10A. Class 2 between Claribel Road (Riverbank) and Mable Road (Modesto)
10B. Class 2 between Mable Avenue to La Force Drive (Modesto)
10C. Class 2 between La Force Drive (Modesto) and Floyd Avenue (Modesto)
10D. Class 2 between Floyd Avenue (Modesto) and existing Class 2 on Mitchell Road (Ceres)

Design Requirements
10A, 10C Class 2 Bicycle Lanes
- Widen roadway between La Force Drive and Floyd Avenue
- Widen roadway between Claribel Road and Mable Avenue

10B, 10D Class 2 Bicycle Lanes
- Stripe within existing right-of-way from Claribel Road to La Force Drive
- Stripe within existing right-of-way from Floyd Avenue to existing Class 2 on Mitchell Road (Ceres)
- May require parking removal for portions of El Vista Avenue

Implementation and Funding
- High frequency of both pedestrian and bicycle collisions between 2008-2010
  - 28 auto-pedestrian collisions, 26 auto-bicyclist collisions on corridor
- Strong candidate for HSIP/HR3 funds
- Total project cost, including design, environmental, and contingency, is approximately $5,420,000
Existing Bicycle Parking

In general, little bicycle parking is available in Riverbank. Places of employment do not typically provide showers, changing space, or long-term storage for bicycle gear. However, certain places of employment such as fire departments, roadway maintenance facilities, or some manufacturing facilities are likely to have showers and changing space that employees could use for bicycle commuting purposes. It is likely that some employers allow employees to store bicycles in their workspace.

Short-term bicycle parking, consisting of bicycle racks, is available at new commercial locations around Riverbank and in the downtown area. However, the City does not have records of this information. End of trip facilities are not provided in Riverbank. The City of Riverbank recently purchased bicycle racks so that new businesses that request them can have them installed in front of their property.

Proposed Bicycle Parking

Three strategies for encouraging bicycling for commuting and utilitarian purposes are proposed:

- Adopt a bicycle parking ordinance for new development
- Continue to implement and secure funding for the bicycle rack request program
- Encourage construction of support facilities at major employers through the permitting process

Bicycle Parking Ordinance

At minimum, the City of Riverbank should update their zoning code to include short-term and long-term bicycle parking requirements. Model ordinances are included in the Association of Pedestrian and Bicycle Professionals’ Bicycle Parking Guidelines, 2nd Edition. Such a bicycle parking ordinance should include:

Short-term bicycle parking. If the project is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 50 feet of the visitors’ entrance, readily visible to passers-by, for five percent of visitor motorized vehicle parking capacity, with a minimum of one two-bicycle capacity rack. Specifications for short-term bicycle parking:

- Bicycle parking space size (eight feet long, three feet wide)
- Bicycle rack type (should be U-lock compatible)
- Bicycle racks should be securely anchored to the surface or structure with fixtures that cannot be removed using common tools
**Long-term bicycle parking.** For buildings with over ten tenant-occupants, provide secure bicycle parking for five percent of motorized vehicle parking capacity, with a minimum of one space. Acceptable parking facilities shall be convenient from the street and may include:

- Covered, lockable enclosures with permanently anchored racks for bicycles
- Lockable bicycle rooms with permanently anchored racks; and
- Lockable, permanently anchored bicycle lockers

Bicycle parking placement guidelines should include discussion of safe, visible, and convenient locations, spaced far enough from walls or other objects so that it is usable by bicyclists. Design guidelines for bicycle parking and siting bicycle parking are included in Appendix A.

**Bicycle Rack Request Program**

The City should begin a bicycle rack request program, whereby residents and businesses can request a bicycle rack at specific locations throughout the County. In general, racks should be installed at neighborhood shopping centers, schools, and parks. The City should seek a dedicated funding stream to purchase new racks in the future and should publicize the program to local businesses.

**Shower/Locker Facilities at Employment Centers**

Showers and clothes lockers are important for bicycle commuters with a rigorous commute or whose job requires formal office attire. Academic studies show shower and locker facilities at places of employment can be a factor in encouraging commuting to work by bicycle. Employees who exercise on their lunch breaks can also benefit from these facilities. While simpler end-of-trip facilities may be more feasible, consideration should be given to requiring shower and locker facilities in all developments with 100 or more employees.

The design of shower and locker facilities should accommodate both male and female employees and tenants. Small employment centers can provide a unisex restroom/shower room with a locking door. Larger employment centers that require more than one shower can add a separate shower and locker room to both the men’s and women’s restrooms. Maintenance of shower and locker facilities should be provided by the building management. Whenever possible, shower facilities should be located near bicycle parking facilities.

The City of Riverbank should encourage bicycle parking and shower/locker facilities with new development at major employment centers. This can be done through the permitting process.
MULTI-MODAL CONNECTIONS

Stanislaus Regional Transit (StaRT) and Modesto Area Express (MAX) provide bus service in Riverbank. Both agencies have bike-rack equipped bus fleets, on a first-come, first-served basis. Figure 10-9 shows existing transit routes.

**Stanislaus Regional Transit (StaRT)**

Route 60 serves the City of Riverbank and provides connections to Modesto and Oakdale. Route 60 operates weekdays and Saturdays, and all buses are bicycle rack equipped.

The Eastside Shuttle Service provides curb-to-curb transportation within Riverbank, Modesto, and Oakdale. This bus provides three round-trips of shuttle service Monday through Saturday between 6:55 am and 5:30 pm. Reservations are needed for bikes on Dial-A-Ride.

**Modesto Area Express (MAX)**

Routes 27 and 22 (limited) serve the western portion of the City of Riverbank. Route 27 provides service Monday through Saturday with 60 minute headways. Route 22 provides limited service to Riverbank. Service is limited to the first trip from Downtown, Monday through Friday. MAX buses are equipped with two exterior bicycle racks located on the front bumper. Bicycle racks are available on a first-come, first-served basis, and bikes are not allowed on board.
Figure 10-9 City of Riverbank Existing Transit

Bikeways
- **Existing**
  - Class 1 - Path
  - Class 2 - Bicycle Lanes
  - Class 3 - Bicycle Route
  - Class 3.5 - Bicycle Route with Wide Shoulders
- **Planned**
  - Class 1 - Path
  - Class 2 - Bicycle Lanes
  - Class 3 - Bicycle Route
  - Class 3.5 - Bicycle Route with Wide Shoulders
- **Proposed**
  - Class 3 - Bicycle Route with Share the Road Signage
  - Class 3.5 - Bicycle Route with Wide Shoulders

Transit
- CAT
- MAX
- StaRT
- Turlock Transit
- Escalon Transit (eTrans)
- Limited Bus Service
- StaRT Dial-A-Ride Service Areas

Paratransit Service Areas
- StaRT Dial-A-Ride Service Areas

Source: StanCOG, Fehr & Peers, 2013
10.4 PEDESTRIAN FACILITIES

PEDESTRIAN FACILITIES

Pedestrian facilities can be broken into three basic categories, with implementation and use varying based on geographic location:

- **Walkways**—in urban and suburban contexts, sidewalks with curb ramps at intersections are typical and vary in width depending on land use contexts. In rural contexts, paved or unpaved graded shoulders may be typical, or a walkway may not be provided.

- **Crosswalks**—California Vehicle Code Section 275 defines a crosswalk as either “that portion of a roadway included within the prolongation or connection of the boundary lines of sidewalks at intersections” or “any portion of a roadway distinctly indicated for pedestrian crossing by lines or other markings.” So, legal unmarked crossings are those at intersections defined by the prolongation of sidewalk areas.

- **Crosswalk Enhancements**—the most basic crosswalk enhancement is crosswalk markings. More substantial enhancements include devices meant to induce improved motorist yielding or to control vehicles at the crosswalk. Control devices include signals and pedestrian hybrid beacons. Yield devices include a variety of in-pavement and sign-mounted flashing yellow beacons.

**Appendix B Pedestrian Design Guidelines** provides additional definition for these facilities and guidance on their application.

EXISTING CONDITIONS

Major roadways such as SR 108, Patterson Road, and Oakdale Road that carry a significant amount of regional traffic, pose large barriers for pedestrians. The railroad tracks adjacent to the discontinuous street grid also pose barriers for residents trying to walk between neighborhoods. Existing city policies that set minimum standards for connectivity in new residential subdivisions make these new neighborhoods more accessible by foot as well as by bicycle. Despite the east-west barrier of the railroad, Riverbank’s city policies have tried to limit the number of cul-de-sacs in their new development and have created a minimum standard for street network connectivity, which can be seen in the southwest portion of the city’s new residential neighborhoods. The flat topography of the area and the relatively interconnected street network in these areas create good conditions for walking, particularly in the more mild weather conditions of the spring and fall. Likewise, new paths along canals provide new off-street pedestrian and bicycle connections.
Additionally, Riverbank has recently signalized several intersections, which now provide controlled crossings for pedestrians. The Roselle Avenue/Patterson Avenue intersection is now signalized and has a new crosswalk in addition to closing a sidewalk gap from Roselle Avenue to 1st Street. Patterson Road/Claus Road, Claribel Road/Squire Wells Road, and Roselle Avenue/Claribel Road have all been recently signalized and include crosswalks and pedestrian signals. Since 2008, new sidewalk closed a previous gap along 1st Street between the Stanislaus River and Atchison Street. Sidewalk gaps have also been closed near the intersection of Patterson Road and Terminal Street, including several new ADA curb ramps.

BICYCLE & PEDESTRIAN DEMAND MODELING

In order to highlight areas with the highest potential for walking and biking demand a Geographic Information Systems (GIS) model based on land use factors, demographics, and roadway infrastructure was developed for this Plan. The model results are illustrated in a “heat map” for the entire county roadway network to show relative amounts of pedestrian and bicycle demand, and are based on weighing these different walking-related variables.

Methodology

The GIS model measured pedestrian and bicycle demand based on surrounding land use development, and time and proximity to key destinations. Based on those inputs, the model can help identify areas that may be the most desirable locations for walking trips and would therefore be target areas for investment.

The variables used in this model are based on US Environmental Protection Agency (US EPA) research on the relationship between the built environment and travel patterns. The variables shown to have the greatest effects on the number of people walking in a given area were used and broadly fall into four categories: built environment, proximity to walking destinations, demographics, and street network and connectivity. The methodology is detailed in Appendix C and D.

Analysis

The pedestrian and bicycle demand map can provide a guide to prioritization of safety and access improvement projects in Riverbank. Areas with high potential for demand are shown in green on Figure 10-10, with areas of low demand shown in red.

Three areas have high walking and biking demand: the area around SR 108 and the commercial areas, the residential neighborhood around Cardozo Middle School, and the residential areas adjacent to the high
school. Major barriers separate these areas and include two railroad alignments, SR 108, and Patterson Road, a wide arterial with limited to no bicycle and pedestrian facilities.

The limited connectivity resulting from the large number of cul-de-sacs located in new residential development in the southwestern portion of the city constrains demand for walking and biking. Though the single-family housing is relatively dense, it is isolated from commercial and retail destinations of the downtown area, SR 108, and Claribel Road. The areas in the southeastern portion of the city are undeveloped or have large-scale industrial uses with very large parcels. Improvements might focus on bridging the gaps between these three pockets of high pedestrian and bicycle demand. Providing additional connections across the north-south railroad tracks would allow people to travel further by foot and by bicycle. Within these three areas, locations close to schools and other key destinations should continue to be prioritized for crossing enhancements, traffic calming measures, and sidewalk and bicycle network gap closures.

**Priority Areas**

Multiple pedestrian priority areas are identified in Riverbank. Priority areas include:

1) Patterson Road/Roselle Avenue/Terminal Avenue/Claus Road area
2) Atchison Road/Callander Avenue/Patterson Road-SR108/1st Street area, including connections across the river to Jacob Meyers Park
3) Crossroads Plan Area/Morrill Road area

Each identified area should be prioritized for pedestrian improvements and investments. Potential pedestrian improvement projects along Patterson Avenue east of the railroad tracks are included in this Plan to illustrate possible pedestrian improvement projects. These priority areas are show on Figure 10-10.

**Potential Pedestrian Improvement Projects**

Potential projects are shown conceptually on Figure 10-11. The conceptual drawings present a range of solutions for the Patterson Avenue corridor between Roselle Avenue and 8th Street. This is one of the two primary east-west thoroughfares in the City, and it directly accesses Riverbank High School on Claus Road. Feasibility analyses should be completed before moving forward with these conceptual design or any other designs that address the needs of pedestrians on the corridor.
Figure 10-10 City of Riverbank
Bicycle & Pedestrian Demand Analysis
Demand Index

Low Demand
High Demand

Schools
Employment Centers
Priority Areas

Potential projects on Patterson Avenue focus on improving walkways, adjusting intersection geometry, and improving crossing conditions. Some bus stops have been improved; however, access to them is limited. Crossing distances are long due to large turning radii where curbs have been constructed. Sidewalk is not provided on the north side of the street, and segments of sidewalk are provided on the south side of the street, with several gaps.

Treatments include the use of:

- Tighten intersection of Patterson Avenue/1st Street and Patterson Avenue/8th Street
- Sidewalk gap closure on south side and portions of north side of street
- Partial medians
- Curb extensions and smaller turning radii at crossings

Bicycle lanes are also shown on Patterson Avenue and, consistent with the proposed countywide bikeway network on Figure 10-6.

Multiple collisions involving bicyclists and pedestrians have occurred on the corridor between 2008 and 2010, and the projects may be eligible for HSIP funding as a result. Safe Routes to School funding may be another viable option, given the proximity to Riverbank High School. Additional funding sources should also be explored. Further information on funding is presented in Section 9.7.

Additional information on the proposed treatments and other pedestrian infrastructure are discussed further in Appendix B.

### 10.5 ADA INFORMATION

The City of Riverbank has an ADA Transition Plan that was adopted in 2009. ADA curb ramps have generally been installed as sidewalk gaps have been closed or sidewalk has been reconstructed. The ADA Plan calls for funding pedestrian improvements along:

- Morrill Road between Roselle Avenue and Oakdale Road
- Roselle Avenue between Patterson and Claribel Roads
- Terminal Avenue between Patterson and Claribel Roads
- Callander Avenue between Patterson Road and Prestwick Drive
- Crossroads Plan Area
The City Planning and Public Works departments should pursue universal access in Riverbank through a variety of means:

- Enforce ADA requirements as part of the permitting and entitlement process, using the draft Proposed Guidelines for Access Right-of-Way Guidelines (PROWAG) to ensure universal accessibility
- Adopt citywide policy of constructing ADA curb ramps and any other accessibility measures, as described in PROWAG, routine practice in any new construction or improvement project within the public right-of-way
- Continue to implement the citywide ADA Transition Plan

10.6 BICYCLE AND PEDESTRIAN PROJECT IMPLEMENTATION

FUNDING

Bicycle and pedestrian infrastructure and programs can be funded either directly through the City or through various competitive grant programs.

Past Expenditures

In the past five years, the City of Riverbank has invested almost $2.5 million in bicycle and pedestrian improvements. Table 10-2 shows pedestrian and bicycle improvements since 2008.
Figure 10-11 Riverbank Pedestrian Priority Area Project Sheet

Patterson Road between Jackson Avenue and Claus Road

**HSIP PEDESTRIAN PROJECTS**

**Patterson Road between 1st Street and Terminal Avenue**

- Install ADA curb ramp, pork-chop island, and median refuge.
- Stripe high-visibility crosswalks pending further study.*
- Add median refuge and ADA curb ramp at 3rd Street.
- Close sidewalk gap between Roselle Avenue and 1st Street.
- Add ADA curb ramp.
- Improve EB bus stop with bus shelter as part of sidewalk improvements.
- Close sidewalk gap between 60' west of 3rd Street and 150' west of Terminal Avenue.
- Close sidewalk gap in front of WB bus shelter, connect to 8th and Front Streets.
- Stripe advanced stop bars 4-10' prior to crosswalks.
- Stripe high-visibility east crosswalk.

*May not a candidate for a marked crosswalk without enhancements. Either remove or enhance with candidate treatments such as RRFB and HAWK pedestrian beacons. Requires further study.

Consider installing median refuge.

Existing Sidewalk Gap.

Existing Sidewalk Gap.

Existing WB Bus Stop with Shelter.

Existing EB Bus Stop has no sidewalk or waiting space.

Existing EB Bus Stop with Shelter.

6 pedestrian-auto collisions, 3 bicycle-auto collision between 2008-2010.
Funding Need

The total future funding need for new pedestrian and bicycle infrastructure in Riverbank is $8,621,626 based on project cost estimates. Riverbank has secured competitive CMAQ funding in the amount of $630,000 for signalizing the Roselle Avenue/Patterson Avenue intersection and constructing a pedestrian crossing over the adjacent railroad crossing for FY 2014/15 and FY2015/16.

Countywide priority bikeways and projects within the pedestrian priority areas can be funded through a variety of sources. Because the countywide priority bikeways are multi-jurisdictional, coordination between agencies will be critical.

### TABLE 10-2
CITY OF RIVERBANK PEDESTRIAN AND BICYCLE IMPROVEMENTS SINCE 2008

<table>
<thead>
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<th>ID</th>
<th>Class/Type</th>
<th>Segment/Location</th>
<th>From</th>
<th>To</th>
<th>Mileage</th>
<th>Approximate Cost</th>
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<tbody>
<tr>
<td>1</td>
<td>Class 1</td>
<td>Oakdale Road</td>
<td>Claribel Road</td>
<td>Crawford Road</td>
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<tr>
<td>2</td>
<td>Class 1</td>
<td>Claribel Road¹</td>
<td>Squire Wells Road</td>
<td>Oakdale Road</td>
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<td></td>
<td>Signal, Crosswalk with Flashing Beacons</td>
<td>Claus Road/California Street</td>
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<td>-</td>
<td>-</td>
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<td>-</td>
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<td>Class 2 Striping</td>
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<td>Novi Drive</td>
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<td>Stanislaus River</td>
<td>Atchison Street</td>
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<td>Sidewalk, Curb Ramps</td>
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<td>Sidewalk, Curb Ramps</td>
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<td></td>
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<td><strong>$2,484,565</strong></td>
</tr>
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</table>

Source: City of Riverbank Development Services, Fehr & Peers, 2013.
1. Included in Oakdale Road costs
2. Included in Crawford Road Costs
3. Included in Patterson Street Costs
Recommended Funding Sources

Bicycle and pedestrian infrastructure and programs can be funded either directly through the City or through various competitive grant programs. Available funding sources are summarized in Table 10-3. The most applicable funding sources for the improvements recommended by this plan are:

- CMAQ Formula and Competitive Funding
- Highway Safety Improvement Program (HSIP)
- Safe Routes to School Grants (SR2S)
- Remove II Bicycle Infrastructure Component Grants
- Bicycle Transportation Account

Congestion Mitigation and Air Quality Improvement Program (CMAQ)

Congestion Mitigation and Air Quality Improvement Program (CMAQ) grants are administered on a per-population and competitive basis by StanCOG. The program is jointly administered by the Federal Highway Administration and Federal Transit Administration to increase attainment of the National Ambient Air Quality Standards (NAAQS). Based on population, StanCOG received $7,441,852 in CMAQ funding for FY2010-2011. For FY 2014 through FY 2016, $7,129,539 was available for CMAQ Competitive Funds. The cost-effectiveness calculation, based on the Air Resource Board (ARB) methodology, was the sole criteria for selected competitive funds. For FY2014-2015 and FY 2015-2016, all projects with a cost-effectiveness calculation of $64.45 were selected.

Stanislaus County communities routinely use the formula-based funding for the construction of bicycle and pedestrian projects. Seeking competitive grant funding for bicycle and pedestrian projects may be another opportunity to secure funding for the build-out and improvement of bicycle and pedestrian networks.

Highway Safety Improvement Program (HSIP)

Caltrans administers two funding programs for roadway safety improvements: the Highway Safety Improvement Program (HSIP) and the Highway Rural Roads Program (HR3). These programs use cost-benefit ratios as a primary factor in the awarding of applications. Because both of these programs focus on roadway safety, projects with a high-frequency of documented collision history, particularly severe collisions, are typically ranked higher. Roadways with documented bicycle and pedestrian collision history, as discussed in Section 10-3 of this Plan, may be well-qualified for HSIP and HR3 applications,
particularly since many of the proposed projects would improve bicyclist and pedestrian safety at a lower cost than many of the highway projects also eligible under this funding source.

For FY 2013, Caltrans estimates that $100 million in Highway Safety Improvement Program (HSIP) funding will be available. While this funding source is often used for major roadway improvement projects, installation of traffic signals, and most other cost-intensive projects, funding has routinely been awarded to bicycle and pedestrian projects. Successful projects have included:

- Median refuges and curb extensions
- Curb, gutter, and sidewalk
- Paved shoulders
- Upgraded traffic signals with pedestrian countdown signals and pedestrian-scale lighting
- Bicycle lane striping
- Crosswalk striping
- In-pavement flashers and rectangular rapid flashing beacon (RRFB) at crossings

Many of these projects were applied for as standalone bicycle and pedestrian improvement projects; some bicycle and pedestrian improvements were included with a broader package of roadway improvement projects. The average programmed federal funding amount was $400,000.

An additional $15 million is dedicated for the Highway Rural Road Improvement Program (HR3), for which many Stanislaus County communities are eligible. To be eligible for HR3, roadway improvements must occur on a roadway with a functional classification of:

- Rural major collector
- Rural minor collector
- Rural local road

Programmed federal funds for HR3 projects averaged $580,000 in the third funding cycle (2011), and most projects funded the widening or improvement of shoulders. Most of the priority bikeway projects included in this Plan consist of Class 3 bicycle routes with widened shoulders.
Safe Routes to School (SR2S)

Prior to 2012, the state and federal Safe Routes to School programs were potential funding sources for both bicycle and pedestrian planning and infrastructure projects that improve access to schools. Caltrans administered two Safe Routes to School programs: the state-legislated program (SR2S), authorized by California Streets and Highways Code Section 2330-2334, and the federal program (SRTS), authorized by the SAFETEA-LU federal funding bill. The SR2S and SRTS programs provided $24.25 million and $21 million, respectively, in annual funding. As of March 2013, the future of Safe Routes to School funding is improbable. Neither MAP-21, the federal funding bill for transportation spending, or the proposed California’s Governor’s Budget 2013-14, include set-aside funds for Safe Routes to School projects.

There are California state assembly bills currently under consideration that propose state funding for Safe Routes to School. Should Safe Routes to School funding continue beyond 2013, several of the proposed bikeways can be funded by Safe Routes to School programs. Successful applications are typically oriented toward pedestrian infrastructure projects; though bicycle projects may also be included in project packages.

Remove II Bicycle Infrastructure Component Grants

The San Joaquin Valley Air Pollution Control District (SJVAPCD) offers grant and incentive programs to help reduce air pollutants in the eight-county San Joaquin Valley, which currently does not meet the required National Ambient Air Quality Standards for ozone and particulate matter. The SJVAPCD Remove II Program includes the Bicycle Infrastructure Component, which provides incentives for the construction of Class 1 bicycle paths or Class 2 bicycle lanes that directly benefit commuters in the San Joaquin Valley. Up to $150,000 is available for Class 1 bicycle paths and $100,000 for Class 2 bicycle lanes per application. Applications must be for either a Class 1 or Class 2 facility, not both; however, multiple applications may be submitted. Grants are accepted on a first-come, first-served basis and the following criteria should be considered:

- Project must contribute to an increase in bicycle commuting and a reduction in auto emissions
- Proposed bikeways that close gaps in the network are highly encouraged
- Project should improve bicycle-transit connections
- Project should benefit disadvantaged communities
- Projects should target areas of high demand such as schools, parks, shopping areas, and commercial areas
- Co-funding from other sources is encouraged
Additional information can be found at: [http://www.valleyair.org/transportation/removeII/BI.htm](http://www.valleyair.org/transportation/removeII/BI.htm).

**California Bicycle Transportation Account (BTA)**

Bicycle facilities can be funded through the California Bicycle Transportation Account (BTA). Annually, $7.2 million is available for projects through the BTA.

**Additional Funding Sources**

The majority of public funds for bicycle and pedestrian projects are derived through a core group of federal and state programs. Federal funds from the Surface Transportation Program (STP), Transportation Alternatives (TA), and Congestion Mitigation Air Quality (CMAQ) programs are allocated to the County and distributed accordingly.

Limited amounts from the Local Transportation Fund (LTF), which is derived from a ¼ cent of the general sales tax collected statewide, can be used for bicycle and pedestrian facilities.

The Federal Safe Routes to School (SRTS) program was previously authorized under SAFETEA-LU; when MAP-21 superseded SAFETEA-LU, the SRTS program was discontinued. Instead, SRTS programs and infrastructure are eligible to compete for funding as a part of a new program called Transportation Alternatives (TA). As of December 2012, it is unknown whether California will dedicate a specific portion of TA funds for Safe Routes to School projects.

The California State Parks Recreational Trails Program provides funds annually for recreational trails and trail-related projects. Cities are eligible applicants for the approximately $2.3 million available annually. The program requires an applicant match of 12 percent of the total project cost.

In 2010, the California Strategic Growth Council (SGC) awarded $20 million through the Proposition 84 Sustainable Communities Planning Grant and Incentives Program. Sustainable Community Planning Grant awards totaled $24.6 million in 2012; the SGC plans to award another cycle of grants in 2013. Eligible projects include plans that support greenhouse gas emission reduction and sustainable communities. Twenty percent of the grant funds are set aside for Economically Disadvantaged Communities (EDC), which describes some areas of Stanislaus County.

Caltrans Transportation Planning Grants are available to jurisdictions and can be used for planning or feasibility studies. The maximum funding available per project is $300,000.
The California Office of Traffic Safety (OTS) administers the General OTS Grant opportunities. Pedestrian safety is a priority area for grant funding. Funding can be used for certain police equipment, for signage (vehicle speed feedback signs), and for outreach materials and campaigns.

The Land and Water Conservation Program offers funds to states and through states to local governments for trails acquisition and development.
### TABLE 10-3
FUNDING SOURCE APPLICABILITY MATRIX

<table>
<thead>
<tr>
<th>Funding Source</th>
<th>Bicycle Projects</th>
<th>Pedestrian Projects</th>
<th>Other Projects</th>
<th>Planning and Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Class 1 Bicycle Path</td>
<td>Class 2 Bicycle Lane</td>
<td>Class 3 Bicycle Route</td>
<td>Class 3.5 Bicycle Route</td>
</tr>
<tr>
<td>Surface Transportation Program (STP)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Transportation Alternatives (TAs)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Congestion Mitigation Air Quality (CMAQ)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Local Transportation Fund (LTF)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>California Safe Routes to School (SR2S)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>California Bicycle Transportation Account (BTA)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Highway Safety Improvement Program (HSIP) Grants</td>
<td>○</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>California State Parks Recreational Trails Program</td>
<td>●</td>
<td>○</td>
<td>●</td>
<td>○</td>
</tr>
<tr>
<td>Proposition 84 Sustainable Communities Planning Grant and Incentives Program</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Caltrans Transportation Planning Grants</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>California Office of Traffic Safety (OTS) Grants</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Land and Water Conservation Program</td>
<td>●</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

Notes:
1. Includes non-pavement elements such as signal equipment, vehicle speed feedback signs, police equipment, or crossing guard equipment

- ● Funding source is applicable
- ○ Funding source is potentially applicable
- ○ Funding source is not applicable

FUNDING STRATEGY

Although every community is unique, in our experience the following elements are important factors in successfully obtaining grant funding for projects:

- Identify local staff who can support the grant applications and oversee project implementation
- Develop a community vision
- Involve multiple stakeholders in the process
- Identify projects that:
  - Connect communities
  - Address safety issues
  - Support economic development
  - Improve access to schools
- Prioritize projects
- Identify projects that are most likely to successfully compete for grants
- Identify project champions
- Identify multiple parties to be co-applicants
- Identify local match opportunities

POLICY RECOMMENDATIONS

In addition to the proposed bicycle and pedestrian projects, policy changes that support walking and biking can help establish a policy rationale for the creation of these facilities. The following policies are recommended:

- Adopt bicycle parking requirements in Zoning Code based on Section 9-4 of this Plan
- Consider adoption of a “Complete Streets” policy or “Routine Accommodation” type of policy to encourage accommodation of bicyclists and pedestrians of all ages and experience levels with new construction or improvements to the public right-of-way
- Continue to implement the ADA Implementation Plan to guide priority improvement areas
- Adopt citywide policy of constructing ADA curb ramps and any other accessibility measures, as described in PROWAG, routine practice in any new construction or improvement project within the public right-of-way
- When competing traffic analysis, collect bicycle and pedestrian volumes at each study location to address safety and circulation issues for those modes
10.7 SAFETY AND EDUCATION

In addition to implementing bicycle and pedestrian facilities, programs focused on education, encouragement, and enforcement can increase the number of people who bicycle and walk in Riverbank.

EXISTING PROGRAMS

The City of Riverbank does not have ongoing education, encouragement, and enforcement programs. However, the City has sponsored education and encouragement events in the past such as:

- Kids’ Safety Fair at Farmers’ Market, sponsored by the City of Riverbank (2011)
- Bicycle rodeo, and helmet and bicycle raffles
- Childrens’ bicycles licensed by Stanislaus County Sheriff Department

PROPOSED EDUCATION AND ENCOURAGEMENT PROGRAMS

Education programs seek to reduce collisions and help people feel safe and comfortable while biking or walking. These programs include elements that help motorists understand the rights of bicyclists and pedestrians. Simultaneously, education campaigns should target the general public and specific groups that have unique education needs or play a greater role in perpetuating collisions and other dangerous situations. Key target audiences include students, children and families, senior citizens, and drivers.

School Programs

Basic bicycling and walking skills and safety courses can be incorporated into school curricula. Often, these programs are facilitated by a local volunteer or by a member of local police, the Sheriff’s Department, or the California Highway Patrol. Anecdotally, many students may be walking to school. With local schools and residential areas located near state highways, the need for safety education related to walking and biking is important. Additional resources and information are available at the Safe Routes to School National Partnership website: http://www.saferoutespartnership.org/local. Programs could include:

- Walk and Roll to School days
- Pedestrian and bicycle safety curricula in the classroom or assemblies
Adult Education

Many less-experienced adult bicyclists are unsure how to negotiate intersections and how to ride with traffic on streets and roads. Adult education efforts which are sponsored by government agencies, major employers, local bicycle enthusiasts or other volunteer groups can help address this need. An annual or semi-annual class could be offered free of charge to provide information on how to avoid collisions and citations, how to ride safely and improve visibility, and understand the legal rights of cyclists. Instructors from elsewhere in the state or qualified local instructors or volunteers could teach this class to cyclists, tailored to local needs and issues. Future expansion ideas could include adding on-the-bicycle training.

Online Bicycle Maps

The City should provide existing bicycle network maps on their Web page for residents to use as a trip-planning resource, including the countywide maps developed in this Plan. The maps could be used by local residents and visitors to plan their bicycle trips or alternatively could be used as a marketing piece to attract tourist bicycling in the City and surrounding area. The website could also include educational information, including hand signals, bicycle lighting, and safety.

ENFORCEMENT PROGRAMS

The City should work with the local Police Department, Sheriff, and California Highway Patrol (CHP) to conduct enforcement campaigns intended to improve bicyclist and pedestrian safety. Sample enforcement programs include the following.

Targeted Moving Violations

Decreasing moving violations committed by motorists, bicyclists, and pedestrians alike is critical to improving safety and encouraging all roadway users to share the road. The City should work with the Sheriff and CHP to develop targeted enforcement efforts or sting operations. Advertising campaigns help the targeted violation efforts reach a wider audience.

Moving violations by motorists that affect bicyclists and pedestrians include:

- Speeding
- Passing without sufficient clearance
- Driving in the bicycle lane
- Right-turning in front of bicyclists
- Failing to signal
- Double parking
- Failing to yield to pedestrians at a crosswalk
Moving violations by bicyclists and pedestrians include:

- Failing to stop at a stop sign
- Failing to signal
- Wrong-way riding
- Riding without lights at night
- Failing to wear a helmet (if under 18 years of age)
- Jaywalking

**Radar Speed Signs**

Radar speed signs feature a changeable message sign linked to a radar unit; the signs display the vehicle’s actual speed as the vehicle approaches the sign. Radar speed signs can be mounted permanently to a pole (where they are powered by hard wire or a solar unit) or alternatively they can be mounted to a trailer (also known as a "speed trailer") and deployed on a temporary basis. Studies in the United States have shown that radar speed signs are an effective way to slow traffic. The City should consider installing additional radar speed signs within school zones in partnership with the school district and, on state highways, Caltrans. Speed trailers should be deployed to different parts of the City regularly to remind drivers citywide to obey the speed limit.
11.0 CITY OF TURLOCK

11.1 Introduction .......................................................................................................................... 11-2
11.2 Setting and Context .................................................................................................................. 11-4
11.3 Bicycle Network ...................................................................................................................... 11-12
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11.6 Bicycle and Pedestrian Project Implementation ......................................................................... 11-32
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11.1 INTRODUCTION

PURPOSE OF THE PLAN

The City of Turlock Existing and Planned Bicycle and Pedestrian Facilities chapter is intended to be both a chapter of the Stanislaus County of Government (StanCOG) 2012 Bicycle and Pedestrian Master Plan and a standalone document that can be used as a guide for prioritizing bicycle and pedestrian projects in unincorporated areas of the county. The StanCOG Bicycle and Pedestrian Master Plan is a unifying document that coordinates the existing and planned bicycle and pedestrian networks of Stanislaus County communities to serve local and regional needs. This document meets the Bicycle Transportation Account (BTA) requirements for a Bicycle Transportation Plan (BTP), which, once adopted by StanCOG, will make the City of Turlock eligible for BTA funding and improve local competitiveness for other funding sources to implement this plan.

CALTRANS COMPLIANCE

The Bicycle Transportation Account (BTA) is a Caltrans program that provides grant funding to cities and counties in support of bicycle projects benefitting bicycle commuters. In order to apply for these funds, local jurisdictions must prepare and adopt a Bicycle Transportation Plan that meets the requirements described in Section 891.2 of the Streets and Highways Code. Table 12-1 presents the required elements of a Bicycle Transportation Plan and indicates where they are located in this plan.

Local agencies without a standalone bicycle or bicycle and pedestrian master plan can use the 2012 StanCOG Bicycle and Pedestrian Master Plan to establish eligibility for BTA Funding until 2017, as long as items “a” through “k” are addressed for that city and the unincorporated areas of the county.
### TABLE 11-1
**STREET AND HIGHWAYS CODE SECTION 891.2 REQUIREMENTS ADDRESSED IN THIS PLAN**

<table>
<thead>
<tr>
<th>Item</th>
<th>Requirement</th>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>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.</td>
<td>Section 11-2 Demographics</td>
</tr>
<tr>
<td>b</td>
<td>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.</td>
<td>Section 11-2, Figure 11-1</td>
</tr>
<tr>
<td>c</td>
<td>A map and description of existing and proposed bikeways.</td>
<td>Section 11-3, Figure 11-4 &amp; 11-5</td>
</tr>
<tr>
<td>d</td>
<td>A map and description of existing and proposed end-of-trip bicycle parking facilities.</td>
<td>Section 11-3 Bicycle Parking, Figure 11-2</td>
</tr>
<tr>
<td>e</td>
<td>A map and description of existing and proposed bicycle transport and parking facilities for connections with and use of other transportation modes.</td>
<td>Section 11-3 Multi-Modal Connections, Figure 11-10</td>
</tr>
<tr>
<td>f</td>
<td>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.</td>
<td>Section 11-3 Bicycle Parking, Figure 11-2</td>
</tr>
<tr>
<td>g</td>
<td>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 the resulting effect on accidents involving bicyclists.</td>
<td>Section 11-7 Safety &amp; Education</td>
</tr>
<tr>
<td>h</td>
<td>A description of the extent of citizen and community involvement in development of the plan, including, but not limited to, letters of support.</td>
<td>Sections 11-3 &amp; 11-4</td>
</tr>
<tr>
<td>i</td>
<td>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.</td>
<td>Section 11-2 Planning &amp; Policy Context</td>
</tr>
<tr>
<td>j</td>
<td>A description of the projects proposed in the plan and a listing of their priorities for implementation.</td>
<td>Sections 11-3 &amp; 11-4, Figures 11-6, 11-7, 11-8 &amp; 11-9</td>
</tr>
<tr>
<td>k</td>
<td>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.</td>
<td>Section 11-6</td>
</tr>
</tbody>
</table>
11.2 SETTING AND CONTEXT

JURISDICTION OVERVIEW

Located near the southern border of the County, Turlock is the second largest city in Stanislaus County. It comprises an area of 13.96 square miles and is home to over 68,549 people. The majority of the developed area is located east of SR 99, and the city is bisected by an active freight rail line. The City has some east-west connectivity across the railroad tracks on major arterials such as Monte Vista Avenue, Tuolumne Road, Hawkeye Avenue, Canal Drive, and Main Street; however, north-south connections across the railroad tracks are limited to Olive Avenue and Berkeley Avenue/Golf Road.

LAND USE ATTRACTIONS AND GENERATORS

Commercial development is concentrated in a string of shopping centers on Geer Road between Monte Vista Avenue and Hawkeye Avenue. The downtown area along East Main Street and East Olive Avenue also has office and retail attractors. California State University (CSU), Stanislaus is an important destination in the area, located in the northern area of Turlock between Monte Vista Avenue and East Christoffersen Parkway. Emanuel Medical Center is also a key destination. These uses are located in the center of the city, surrounded by contiguous development. However, some industrial development and newer commercial development are located west of the railroad tracks and even past SR 99 and do not have contiguous development. These destinations are more difficult to access with the infrastructural barriers and dispersed development patterns. Figure 11-1 presents existing land use patterns in Turlock.

SCHOOLS AND SCHOOL ACCESS/SAFE ROUTES

As shown in Figure 11-2, elementary schools in Turlock are generally located in residential neighborhoods and are often adjacent to parks. Middle and high schools are located adjacent to residential neighborhoods but are accessible from major arterials, with many located along East Christoffersen Parkway and along East Canal Drive.

For middle- and high-school students who walk and bicycle to school in Turlock, primary routes are typically located on major arterials and may involve crossing high-speed, multi-lane roadways. For elementary schools, which are typically surrounded by residential development, primary routes are along neighborhood streets, which typically have lower traffic volumes and speeds and a narrower cross-section.
PARKS AND COMMUNITY FACILITIES

Turlock has many neighborhood parks with large grassy areas and athletic fields, particularly in the newer residential neighborhoods. Schools grounds are typically large and offer additional open space and sports fields within residential areas. Parks are also shown in Figure 11-2.

DEMOGRAPHICS AND EXISTING TRANSPORTATION PATTERNS

Data from the American Community Survey Five-Year Summaries from 2005 to 2009 was analyzed to understand commute patterns in Turlock. The American Community Survey is conducted each year to provide ongoing data collection between the Decennial Census and includes questions that are not asked in the Decennial Census. The 2005-2009 summaries were used for this Plan because the 2006-2010 summaries aggregated taxicab, motorcycle, and bicycle use into one category, which does not give an accurate picture of bicycle commuting in Turlock. The American Community Survey includes information such as the primary means respondents use to get to work as well as information on age, income, and auto ownership. The means of transportation to work question specifically focuses on commuting trips and does not record the school, shopping, and recreational trips that occur by various modes of transportation. The mode split information also does not account for commuters who may carpool or bicycle to work some days but drive alone other days, or for trips that include both walking or bicycling and another mode (such as transit or carpooling), as only one response is allowed. As such, walking and bicycling trips tend to be underrepresented in this data set.

Single occupancy vehicle (SOV) trips account for the largest commuter mode share in Turlock at 80%, which is on par with the countywide average. Turlock has a slightly higher share of walking and bicycling trips than the county as a whole. Bicycling accounts for 0.8% of all commute trips, and 2.4% of Turlock residents walk to work. Public transit totals 0.1% of work trips, and 4% of Turlock residents work from home. Only 16% of Turlock residents have one or no vehicle available for their commute, and 84% of Turlock residents have two or more cars available, which is on par with the countywide average.

Accounting for schools trips, recreation trips, and other non-work related trips, the overall bicycle mode split is likely higher than 0.8%. According to the Census 2010 data, there are 22,772 households in Turlock. Assuming nine daily person trips per household, at least 1,600 work trips are made by bicycle each day in Turlock.
Figure 11-2 City of Turlock Schools and Parks

Existing
- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders
- Class 3.5 - Bicycle Route with Share The Road signs

Planned
- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders
- Class 3.5 - Bicycle Route with Share The Road signs

Proposed
- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders
- Class 3.5 - Bicycle Route with Share The Road signs

Future bicycle trips will depend on a variety of factors such as the availability of well-connected facilities and the location, density, and type of future land development. With appropriate bicycle facilities in place and implementation of bicycle support facilities, such as bicycle parking, mode share could increase countywide. Doubling the current mode split (0.8% for work trips) would result in approximately 3,225 work trips based on the number of households in 2010.

COLLISION DATA

SWITRS collision reports were collected and analyzed over a three-year period (2008-2010). The database includes collisions reports recorded by the Turlock Police, Stanislaus County Sheriff, and California Highway Patrol. Bicycle and pedestrian collision data can aid in the identification of problematic areas for bicycles and pedestrians; however, a high frequency of collisions in a particular neighborhood may also indicate an abundance of bicyclists and pedestrians using a particular route.

From 2008-2010, 133 collision involving bicyclists and pedestrians were reported in Turlock, as shown on Figure 11-3. Of the collisions, 68 involved bicyclists and 65 involved pedestrians. The most collisions were reported along multi-lane arterials such as Lander Avenue, North Olive Avenue, East Canal Drive, and Geer Road. The high frequency of collisions at these locations indicates these areas may have higher pedestrian and bicyclist activity, contributing to the higher number of collisions. Many of these collisions occurred within ¼ mile of schools.

LOCAL OPPORTUNITIES AND CONSTRAINTS

The following opportunities and constraints for improving pedestrian and bicycle facilities in Turlock include considerations such as existing distribution of urbanized areas throughout the county, roadway infrastructure and connectivity, sidewalk coverage, and existing policies and agreements with local agencies.

Opportunities

- As the second largest city in the County, Turlock has significant employment centers and attractors, such as Foster Farms, Emanuel Medical Center, and CSU, Stanislaus
- Compact street grid in downtown area, large grid system of arterials and collectors
- New residential developments have Class 1 pathway networks
- Turlock’s Development Services Department actively analyzes the feasibility of bicycle lanes during typical roadway overlays
Figure 11-3 City of Turlock Bicycle & Pedestrian Collisions, 2008-2011

- **Existing**
  - Class 1 Path
  - Class 2 - Bicycle Lanes
  - Class 3 - Bicycle Route
  - Class 3.5 - Bicycle Route with Wide Shoulders
  - Class 3.5 - Bicycle Route with Share The Road signs

- **Planned**
  - Class 1 Path
  - Class 2 - Bicycle Lanes
  - Class 3 - Bicycle Route
  - Class 3.5 - Bicycle Route
  - Class 3.5 - Bicycle Route with Wide Shoulders
  - Class 3.5 - Bicycle Route with Share The Road signs

**Proposed**
- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders
- Class 3.5 - Bicycle Route with Share The Road signs

• Turlock’s existing City Ordinance requires short-term bicycle parking at commercial and industrial uses

Constraints
• SR 99 and active railroad tracks divide the eastern and western portions of Turlock
• Lack of street connectivity at the neighborhood level
• Large block sizes in new commercial development and near schools
• Unlike the other Stanislaus County communities, Turlock has limited canals and laterals and no natural waterways to provide right-of-way through its urbanized areas
• High number of bicycle and pedestrian collisions

PLANNING AND POLICY CONTEXT

The following section summarizes past related planning efforts and establishes a policy framework to guide future transportation decisions and capital improvement programming. This information helps to ensure infrastructure improvements are closely coordinated with past and ongoing planning efforts.

General Plan (2012)

Turlock’s Circulation Element of the General Plan provides detailed policies related to autos, bicycles, pedestrians, and transit. The Circulation Element includes specific goals for the creation of Complete Streets and a reduction in vehicle miles traveled. Section 5.3: Pedestrian and Bicycle Circulation, presents policy goals of promoting bicycling and walking, meeting the needs of all users, and developing safe and efficient bicycle and pedestrian networks. The City envisions achieving these goals through policies such as integrating the transportation network with land use planning, building out the bicycle network, providing for safe routes to school, and designing accessible facilities. The downtown area and West Main Street east of South Soderquist Road are identified as a Pedestrian Priority Areas. Other bicycle-specific goals include the maintenance of existing bikeways, working with the Turlock Unified School District on bicycle education (5.2-p), and introducing enhanced Class 3 bicycle route markings such as sharrows as appropriate (5.3-q). Pedestrian goals focus on providing safe access to major destinations such as shopping centers and employment centers, as well as internal site access and connections from the public right-of-way. The Goals and Policies section also includes a section on “Relationship between Modes,” detailing policies on the provision of pedestrian access at transit stops (Policy 5.2-as) and improved siting of bus stops relative to major attractors.
Standards Specifications and Drawings (2008)

The 2008 Standards Specifications and Drawings include information on the construction and design of streets, curb ramps, and sidewalks. Drawing ST-00 indicates a five-foot bicycle lane standard. Street sections with bicycle lanes are differentiated from the typical roadway designation and are all listed separately. The five-foot lanes are only included on two-lane and four-lane collectors and four-lane arterials with the designation of the given roadway classification and “with Bicycle Lane.” Residential and two-lane collector streets have 4’-4” sidewalks, with varying widths for four-lane collectors, arterials, and expressways. Planting strips and tree pits are six feet and, like bicycle lanes, are differentiated from the typical roadway classification with a “with Parkway” designation. Curb ramp specifications consist of diagonal curb ramps with a detectable warning surface.

With the adoption of the 2012 General Plan update, this document is expected to be updated to include revised street sections. If adopted, those new street standards would include five- to six-foot bicycle lanes on most collectors and all arterials and expressways. All streets in residential areas would typically have five-foot sidewalks with six-foot “parkway strips” with shade trees, and roadways in commercial or industrial areas would have eight-foot sidewalks and either a three- or seven-foot landscape strip. All arterials and expressways would typically have a 16-foot center median.

Municipal Code

The Turlock Municipal Code, Section 9-2-11: Bicycle Parking, includes the provision for short-term bicycle parking where auto parking is provided for commercial and industrial uses, both public and semipublic. Where ten or more automobile parking spaces are required in a commercial or industrial use, bicycle parking is to be provided at a rate of 10% of automobile parking. The Code also specifies design standards for bicycle parking.

Design Guidelines

Turlock’s Design Guidelines include discussion of pedestrian access from and through parking lots, pedestrian amenities including benches and fountains, and site design to reduce pedestrian-vehicle conflicts.


The Design Guidelines for Downtown Turlock include streetscape amenities that benefit pedestrians, such as benches, trash cans, and way-finding signage, as well as guidelines for locating bicycle parking near transit stops and office buildings to encourage bicycling as an alternative to automobile use.
11.3 BICYCLE NETWORK

BICYCLE FACILITIES

Bicycle facilities can be divided into two types:

- Bikeways—on-street or off-street facilities provided for bicycle travel
- Support Facilities—facilities used by bicyclists when they reach their destination, such as bicycle parking

Bikeways

Chapter 1000 of the Caltrans Highway Design Manual defines three classes of bicycle facilities and details the minimum requirements for those facility types:

- Class 1 Bicycle Paths—a paved right of way completely separated from any street or highway
- Class 2 Bicycle Lanes—a striped and stenciled lane for one-way travel on a street or highway
- Class 3 Bicycle Routes—a typical roadway identified as a preferred bicycle route with signage. They may also include shared use lane markings, “SHARE THE ROAD” signage, or wide shoulders, as described in Appendix A Bicycle Design Guidelines.

In this Plan, a Class 3.5 bicycle route designation is also used. In the context of this plan, Class 3.5 facilities indicate a Class 3 bicycle route, as defined by Caltrans, with wide shoulders, typically four to eight feet in width. Class 3 Share the Lane indicates Class 3 bicycle routes, as defined by Caltrans, with “SHARE THE ROAD” signage, typically on narrow, rural roadways. These treatments are further defined on Figure A-1 in Appendix A Bicycle Design Guidelines. Figure A-1 provides cross-sections and additional description of these facilities, including Caltrans minimum requirements as well as recommended cross-section widths and additional treatments.

Support Facilities

Support facilities are critical to bicycle use, especially as a means to encourage bicycle commuting. Support facilities consist primarily of:

- Bicycle Parking—bicycle parking supply should vary to accommodate short-term and long-term trips and consist of two basic types:
Short-Term Parking—bicycle racks for users who need to stop for several hours or less, placed adjacent to key destinations such as shopping areas, schools, and parks

Long-Term Parking—lockable bicycle lockers, bicycle cages, or bicycle rooms that only users are allowed access to, placed at major employment areas, schools, and transit centers.

- Shower and Changing Space—showers and changing areas provide longer-distance commuters with an area to change and get ready for work or school

- Secure Storage Areas—locker-type storage areas provide room to store a change of clothes or bicycle gear.

EXISTING BIKEWAYS

As shown on Figure 11-4, Turlock has over 40 miles of bikeways. Over 27 miles are Class 2 facilities, and there are 10 miles of Class 1 facilities. The bicycle network provides good east-west connectivity, strung together by shorter north-south segments and consisting primarily of Class 2 bicycle lanes with Class 3 routes in the downtown and older residential neighborhoods. In the northern portion of the city around the newer residential communities and CSU Stanislaus, Class 1 paths are provided parallel to arterial roadways or as mid-block cut-throughs. Most major east-west arterials have bicycle lanes or a pathway for a significant portion, such as on Taylor Road, Monte Vista Avenue, Tuolumne Road, Fulkerth Road/Hawkeye Avenue, and Canal Drive. Tully Road, Dels Lane, North Walnut Road, North Soderquist Road, and Berkeley Avenue provide substantial north-south Class 2 facilities. Several routes in the northern portion of Turlock have small gaps that should be closed to provide continuous facilities.

The areas west of SR 99 and west of South Golden State Boulevard have limited bikeways. This is due in part to these being located in an industrial area, which may not have the roadway right-of-way to accommodate Class 1 or Class 2 facilities. Additionally, the residential neighborhoods north of East Hawkeye Avenue and the major commercial areas centered on Geer Road are lacking bikeways despite being proximate to major land use attractors.
Figure 11-4 City of Turlock Existing Bikeways

Existing

- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders
- Class 3.5 - Bicycle Route with Share The Road signs

Because Turlock has a limited number of canals and laterals and does not have an agreement in place with TID, the planned and existing network relies primarily on Class 2 facilities that can be located on roadways with excess capacity or roads that can be widened to provide Class 1 or Class 2 facilities.

Appendix E lists existing and proposed bikeways in the Turlock. Appendix F presents the results of the StanCOG BPAC’s community survey, which includes information on identified needs and opportunity areas throughout the County.

PROPOSED IMPROVEMENTS

The proposed bikeway network was developed to increase utilitarian and recreational bicycling in the City of Turlock by all levels of bicyclists. The proposed bikeway network was established based on input from the StanCOG BPAC and recommendations made in the 2008 StanCOG Non-Motorized Transportation Master Plan and the City of Turlock General Plan update (2012). The proposed bikeway network includes Class 1 bicycle paths, Class 2 bicycle lanes, and Class 3 bicycle routes that connect to destinations likely to generate or attract bicycle travel. Figure 11-5 shows the proposed City of Turlock bikeway network.

PROJECT PRIORITIZATION

Facilities within Turlock were prioritized to address the need for regional and local connections. Because the geographic area of the county is spread out, it is important to prioritize these projects because of the long length of each proposed bikeway and the limited financial resources to implement and maintain facilities.

Prioritization Methodology

The project prioritization methodology is distinct and separate for regional priority bikeways located in unincorporated Stanislaus County and projects within incorporated jurisdictions, and is outlined below. Each methodology is presented in Appendix C and D.

Each proposed bikeway project in the unincorporated county was scored on the follow criteria, which were given equal weight:

- Closure of a critical gap
- Immediate safety need
- Access to key destinations
- Feasibility
Figure 11-5 City of Turlock Proposed Bikeways

Existing
- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders
- Class 3.5 - Bicycle Route with Share The Road signs

Planned
- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route

Proposed
- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders
- Class 3.5 - Bicycle Route with Share The Road signs

Source: StanCOG, Fehr & Peers, 2013
Within the City of Turlock, selected facilities were prioritized in order to establish significant regional routes through incorporated urban areas. Priority bikeways through Turlock were selected using a bicycle and pedestrian demand model developed for Stanislaus County and through the feedback of the StanCOG Bicycle and Pedestrian Advisory Committee (BPAC). Using the demand map as a base, priority bikeway alignments through incorporated areas were selected to:

- Connect local areas of highest biking and walking demand with the most direct route possible;
- Connect cities and/or neighboring unincorporated communities along the most direct route; and
- Create continuous countywide bikeways

**Priority Network**

The countywide bicycle network is presented on Figure 11-6. The following countywide priority bikeways have segments in Turlock:

- West Las Palmas Avenue – Main (#5), connecting Patterson, unincorporated County, and Turlock
- Albers Road – Geer Road (#7), connecting Oakdale, unincorporated County, Hughson, and Turlock
- Golden State Boulevard (#10), connecting Ceres, unincorporated Stanislaus County, Keyes, and Turlock

These prioritized regional routes through cities should be incorporated into overlay schedules and/or prioritized for competitive grant funding as appropriate. Detailed project descriptions for the two countywide priority bikeways are presented on Figures 11-7, 11-8, and 11-9.

**BICYCLE PARKING AND SUPPORT FACILITIES**

Bicycle support facilities such as changing rooms, showers, lockers, and short-term and long-term bicycle parking are important end-of-trip facilities for those who commute by bicycle or who may be thinking of commuting by bicycle. As such, it can be an important factor in encouraging bicycle use and bicycling to work. In addition to providing appropriate storage space to park bicycles, support facilities such as showers and lockers are important for commuters who may travel long distances or are subject to formal dress requirements in their workplace. Short-term bicycle parking typically consists of racks, which are useful for visitors to an office or short retail trips, while long-term bicycle parking typically consists of bicycle lockers or secure areas, which are more appropriate for longer stays at work places.
Figure 11-6 City of Turlock Priority Bikeways

Prioritization

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<thead>
<tr>
<th>Existing</th>
<th>Planned</th>
<th>Proposed</th>
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<tr>
<td>Class 1 Path</td>
<td>Class 1 Path</td>
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<td>Class 2 - Bicycle Lanes</td>
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<td>Class 3.5 - Bicycle Route with Share The Road signs</td>
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5. Las Palmas Street - Main Street

Jurisdictions: City of Patterson, Unincorporated Stanislaus County, and City of Turlock

Description
This east-west bikeway connects Las Palmas Avenue in Patterson through the unincorporated County to Main Street in the City or Turlock, connecting to Downtown Turlock and the priority bikeway on Golden State Boulevard (#8).

Proposed Improvements

5A. Class 2 on Las Palmas Avenue between Ward Avenue and 9th Street and El Circulo and 1st Street
5B. Class 3.5 with wide shoulders on Las Palmas Avenue/Main Street between Sycamore Avenue and Walnut Road
5C. Class 3 on Main Street between Walnut Road and Golden State Boulevard

Design Requirements

5A Class 2 Bicycle Lanes
- Widen roadway between Ward Avenue and 9th Street
- Stripe within existing right of way from El Circulo to 1st Street

5B Class 3.5 with Wide Shoulders
- Widen shoulder to 4' minimum
- Existing shoulders are 0-6'
- Install Class 3 signs each 1/4 mile

5C Class 3.5 Bicycle Route with Sharrows
- Install Class 3 bicycle route signage
- Stripe sharrows 14' from face of curb
- Install Class 3 signs each 1/4 mile

Implementation and Funding

- 4 pedestrian-auto collisions, 4 bicyclist-auto collisions on West Las Palmas Avenue/Main Street corridor between 2008-2010
- May be candidates for SJVAQD Remove II, CMAQ competitive funding, and HSIP funding
- Total project cost, including design, environmental, and contingency, is approximately $5,150,000
7. Geer Road-Albers Road

Jurisdictions: City of Oakdale, Unincorporated Stanislaus County, and City of Turlock

Description

Geer Road - Albers Road is a north-south arterial connecting the Cities of Turlock and Oakdale through the unincorporated County. The Geer Road – Albers Road bikeway would connect the proposed Golden State Boulevard Class 3.5 facility with existing Class 2 bicycle lanes on Albers Road in Oakdale, terminating at S. Yosemite Avenue. The north-south bikeway would also connect to a proposed Class 3.5 facility on SR 132-Yosemite Boulevard, which may require coordination with Caltrans.

Proposed Improvements

7A Class 2 bicycle lanes on Geer Road between Taylor Road and Golden State Boulevard
7B Class 3.5 wide shoulders on Albers Road-Geer Road between Albers Road/Oakdale-Waterford Highway and Taylor Road
7C Class 2 bicycle lanes on Albers Road/Oakdale-Waterford Highway between Warnerville Road and Yosemite Boulevard

Design Requirements

7A & 7C Class 2 Bicycle Lanes
• Stripe within existing right-of-way
• Reduce width of outside travel lane and/or two-way left-turn lane

Existing

Proposed

7B Class 3.5 Bicycle Route with Wide Shoulders
• Existing 6 foot shoulders between Claribel Road and Oakdale-Waterford Highway
• Widen shoulder to 4’ minimum between Claribel Road and Turlock City Limits
• Shoulders widening planned between Claribel and Milnes Roads
• Install Class 3 signs each 1/4 mile

Existing

Proposed

Implementation and Funding

• 5 pedestrian-auto collisions and 3 bicyclist-auto collisions between 2008-2010
• May be eligible for CMAQ Competitive Funds and HR3/HSIP
• Total project cost, including design, environmental, and contingency, is approximately $11,700,000
• Through Turlock, Olive Avenue could be considered as an alternative alignment, if preferred
8. Frontage Road - Rohde Road - 7th Street - Golden State Boulevard

Jurisdictions: Unincorporated Stanislaus County and City of Turlock

Description

Golden State Boulevard is a north-south arterial connecting the future Moore Road TID Class 1 path Ceres with the unincorporated community of Keyes, the City of Turlock, and ending south of Turlock at SR 99. Through Keyes, Golden State Boulevard becomes 7th Street and the bikeway turns onto Nunes Road at the south end of Keyes before reconnecting with Golden State Boulevard.

Proposed Improvements

8A Class 2 bicycle lanes on Frontage Road between Moore Road (south of Ceres) and the Keyes limits
8B Class 2 bicycle lanes on Rohde Road, 7th Street, and Nunes Road through Keyes
8C Class 2 bicycle lanes on Golden State Boulevard between Nunes Road and southern Turlock city limit

Design Requirements

8A, 8C Class 2 Bicycle Lanes
• Stripe within existing right-of-way where feasible
• Widen roadway from existing 0-4’ paved shoulders to 6-8’ and stripe as bicycle lane

8B Class 2 Bicycle Lanes
• Stripe within existing right-of-way
• Prohibit parking on one-side of street if necessary

Implementation and Funding

• 7 pedestrian-auto collisions and 5 bicyclist-auto collisions between 2008-2010
• May be eligible for CMAQ Competitive Funds, SJVAQD Remove II, and HR3/HSIP
• Total project cost, including design, environmental, and contingency, is approximately $339,300
Existing Bicycle Parking

Places of employment in Turlock do not typically provide showers, changing space, or long-term storage for bicycle gear. However, certain places of employment such as fire departments, roadway maintenance facilities, or some manufacturing facilities are likely to have showers and changing space that employees could use for bicycle commuting purposes. It is likely that some employers allow employees to store bicycles in their workspace.

Pursuant to Section 9-2-211: Bicycle Parking of the City of Turlock Municipal Code, Turlock requires that bicycle parking be provided in all new commercial and industrial uses at a rate of 10% of the total number of auto parking spaces, where at least 10 off-street automobile parking spaces are required. Turlock does not have requirements for showers, lockers, or other support facilities.

Short-term bicycle parking is provided sporadically around Turlock. Bicycle racks are provided in front of some city buildings, such as in front of City Hall on Broadway. Bicycle racks are also provided at major destinations, such as the Carnegie Arts Center and Turlock Regional Transit Center. However, the City does not document the locations of bicycle parking and any support facilities.

Proposed Bicycle Parking

Three strategies for encouraging bicycling for commuting and utilitarian purposes are proposed:

- Enforce bicycle parking ordinance and consider provision of long-term parking and support facilities for new development
- Organize a bicycle rack request program
- Encourage construction of support facilities at major employers through the permitting process

Bicycle Parking Ordinance

The City of Turlock should monitor the enforcement of its existing bicycle parking ordinance and consider updating their zoning code to include provision of long-term bicycle parking requirements in addition to the existing short-term parking requirements for new development. Model ordinances are included in the Association of Pedestrian and Bicycle Professionals' Bicycle Parking Guidelines, 2nd Edition. Revisions to the ordinance to include long-term parking could include:

For buildings with over ten tenant-occupants, provide secure bicycle parking for five percent of motorized vehicle parking capacity, with a minimum of one space. Acceptable parking facilities shall be convenient from the street and may include:
- Covered, lockable enclosures with permanently anchored racks for bicycles
- Lockable bicycle rooms with permanently anchored racks; and
- Lockable, permanently anchored bicycle lockers

Bicycle parking placement guidelines should include discussion of safe, visible, and convenient locations, spaced far enough from walls or other objects so that it is usable by bicyclists. Design guidelines for bicycle parking and siting bicycle parking are included in Appendix A.

**Bicycle Rack Request Program**

The City should begin a bicycle rack request program, whereby residents and businesses can request a bicycle rack at specific locations throughout the City. In general, racks should be installed at neighborhood shopping centers, schools, and parks.

**Shower/Locker Facilities at Employment Centers**

Showers and clothes lockers are important for bicycle commuters with a rigorous commute or whose job requires formal office attire. Academic studies show shower and locker facilities at places of employment can be a factor in encouraging commuting to work by bicycle. Employees who exercise on their lunch breaks can also benefit from these facilities. While simpler end-of-trip facilities may be more feasible, consideration should be given to requiring shower and locker facilities in all developments with 100 or more employees.

The design of shower and locker facilities should accommodate both male and female employees and tenants. Small employment centers can provide a unisex restroom/shower room with a locking door. Larger employment centers that require more than one shower can add a separate shower and locker room to both the men’s and women’s restrooms. Maintenance of shower and locker facilities should be provided by the building management. Whenever possible, shower facilities should be located near bicycle parking facilities.

The City of Turlock should encourage bicycle parking and shower/locker facilities with new development at major employment centers. This can be done through the permitting process.

**MULTI-MODAL CONNECTIONS**

Bus Line Service of Turlock (BLAST), Dial-A-Ride Turlock (DART), Merced’s The Bus, and Stanislaus Regional Transit (StaRT) provide bus service in Turlock. StaRT has bike-rack equipped bus fleets, on a
first-come, first-served basis. BLAST also has provisions for bikes. The Bus has front-mounted bicycle racks on all buses. Figure 11-10 shows existing transit routes.

**Bus Line Service of Turlock (BLAST)**

Routes A, B, C, and D serve the City of Turlock Monday through Friday 6:40 am to 5:30 pm, and Saturdays from 9:25 am to 4:00 pm. Service is not provided on Sundays and major holidays.

- Routes operate between 35 and 45 minutes during peak hours.

**Dial-A-Ride Turlock (DART)**

Dial-A-Ride Turlock provides curb-to-curb transit service for people over 65, those with disabilities, elementary students going to or from school, and all other passengers going or coming from outside the BLST service area.

DART serves Turlock Monday through Friday from 6:40 am to 5:30 pm and Saturdays from 9:25 am to 4:00 pm, excluding major holidays. Reservations must be made at least two hours ahead of arrival time.

**Merced (The Bus)**

Merced’s The Bus service provides weekday and weekend service to Turlock via Route T, which makes stops at CSU, Stanislaus and the Turlock Transportation Center. Service is provided between 6:20 and 10:58 pm on weekdays, with twelve trips on weekdays. On weekends, four runs are offered between 9:00 am and 7:15 pm.

**Stanislaus Regional Transit (StaRT)**

Routes 10 Express, 15, 45, and 70 serve the City of Turlock.

- Route 10 Express provides frequent weekday service from Modesto to Turlock. At peak hours, headways range from 25 to 45 minutes.
- Route 15 connects Turlock with the Cities of Keyes, Ceres, and Modesto to the north.
- Route 45 connects Turlock with the Cities of Patterson, Crows Landing, Newman, and Gustine to the southwest.
- Route 70 provides access from Turlock to Modesto, and also extends southward all the way to Merced.
- All buses are bicycle rack equipped.
Turlock/Modesto Shuttle Service provides curb-to-curb transportation between Modesto and Turlock, including Ceres and Keyes.

- This bus provides general public Shuttle service Monday through Saturday between 6:55 am and 5:30 pm. Three round-trips are provided between Modesto and Oakdale.

- Reservations are needed for bikes on Dial-A-Ride. When making a reservation for Dial-A-Ride, indicate that you will also have a bike.
Figure 11-10 City of Turlock Existing Transit

### Bikeways

**Existing**
- Class 1 - Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders

**Planned**
- Class 1 - Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders

**Proposed**
- Class 1 - Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders
- Class 3 - Bicycle Route with Share the Road Signage
- Class 3.5 - Bicycle Route with Wide Shoulders

**Transit**
- CAT
- MAX
- StaRT
- Turlock Transit
- Escalon Transit (eTrans)
- Limited Bus Service

**Paratransit Service Areas**
- StaRT Dial-A-Ride Service Areas

11.4 PEDESTRIAN FACILITIES

PEDESTRIAN FACILITIES

Pedestrian facilities can be broken into three basic categories, with implementation and use varying based on geographic location:

- **Walkways**—in urban and suburban contexts, sidewalks with curb ramps at intersections are typical and vary in width depending on land use contexts. In rural contexts, paved or unpaved graded shoulders may be typical, or a walkway may not be provided.

- **Crosswalks**—California Vehicle Code Section 275 defines a crosswalk as either “that portion of a roadway included within the prolongation or connection of the boundary lines of sidewalks at intersections” or “any portion of a roadway distinctly indicated for pedestrian crossing by lines or other markings.” So, legal unmarked crossings are those at intersections defined by the prolongation of sidewalk areas.

- **Crosswalk Enhancements**—the most basic crosswalk enhancement is crosswalk markings. More substantial enhancements include devices meant to induce improved motorist yielding or to control vehicles at the crosswalk. Control devices include signals and pedestrian hybrid beacons. Yield devices include a variety of in-pavement and sign-mounted flashing yellow beacons.

**Appendix B Pedestrian Design Guidelines** provides additional definition for these facilities and guidance on their application.

EXISTING CONDITIONS

Turlock’s pedestrian network is largely built out with complete sidewalks, typically sited with a landscaped buffer. A connected street network provides pedestrian accessibility in the downtown area, centered on East Olive Avenue and East Main Streets. The compact street grid creates small, walkable blocks in the residential neighborhoods to the east and west; however, the neighborhood to the west has limited access due to the train tracks. To the north, the newer residential neighborhoods are oriented along a grid of arterial streets which are typically wide, multi-lane roadways. Internal collector and local streets have limited connectivity with cul-de-sacs. Some of the newest residential developments, such as those south of Taylor Road, have path segments set into large landscaped median which creates a pleasant pedestrian environment but may unnecessarily duplicate pedestrian facilities in a low-density area.
Pockets of unincorporated County land located within Turlock, such as those in the southern portions of the City and between East Hawkeye Avenue and East Canal Drive, are not subject to City of Turlock roadway standards. As a result, pedestrian and bicycle infrastructure in those areas may not provide continuous service and/or may not use standards similar to the City’s Standards and Specifications.

**BICYCLE & PEDESTRIAN DEMAND MODELING**

In order to highlight areas with the highest potential for walking and biking demand a Geographic Information Systems (GIS) model based on land use factors, demographics, and roadway infrastructure was developed for this Plan. The model results are illustrated in a “heat map” for the entire county roadway network to show relative amounts of pedestrian and bicycle demand, and are based on weighing these different walking-related variables.

**Methodology**

The GIS model measured pedestrian and bicycle demand based on surrounding land use development, and time and proximity to key destinations. Based on those inputs, the model can help identify areas that may be the most desirable locations for walking trips and would therefore be target areas for investment.

The variables used in this model are based on US Environmental Protection Agency (US EPA) research on the relationship between the built environment and travel patterns. The variables shown to have the greatest effects on the number of people walking in a given area were used and broadly fall into four categories: built environment, proximity to walking destinations, demographics, and street network and connectivity. The methodology is detailed in Appendix C and D.

**Analysis**

The pedestrian and bicycle demand map can provide a guide to prioritization of safety and access improvement projects in Turlock. Areas with high potential for demand are shown in green on Figure 11-11, with areas of low demand shown in red. As the second largest city in Stanislaus County, Turlock’s many employment centers and institutions create a higher demand for pedestrian and bicycle activity based on land uses in proximity to one another. The compact street grid of the downtown area has a high degree of connectivity. Office and retail uses along Geer Road are low- to medium-density, and there are residential communities to the east and west. Newer development in Turlock, particularly south of West Taylor Road, has a less connected street network and is further away from employment densities and a mix of land uses. The presence of neighborhood schools in these and older residential areas creates a higher potential for pedestrian and bicycle demand. Because Turlock’s network of sidewalks is largely built-out, the index mapping can be viewed as a heat map for further investments in...
pedestrian infrastructure: reducing pedestrian crossing distances and minimizing exposure to traffic through complete streets roadway standards that address as well as bicycle infrastructure, including striping bicycle lanes or providing guidance at important intersections.

**Priority Areas**

Multiple pedestrian priority areas are identified within the City of Turlock:

1) Downtown Turlock
2) Olive Avenue/Geer Road areas
3) Christoffersen Parkway

Potential priority projects were studied for Christoffersen Parkway between Mountain View Road and Kilroy Road. With the wide cross sections of these roadways, shortening crossing distances and providing accessibility at intersections is critical. On many of these roadways, this can be achieved through widening the median and providing median tips. With the proximity to Pitman High School, enhancements on Christoffersen Parkway would be strong candidates for Caltrans’ Safe Routes to Schools grants. Detailed recommendations are presented on Figure 11-12. Additional information on recommended pedestrian enhancements can be found in Appendix B Pedestrian Design Guidelines.

### 11.5 ADA INFORMATION

The City of Turlock constructs curb ramps as sidewalks are reconstructed across the city. The City currently has an ADA Transition Plan, and a comprehensive update is expected to be completed by the end of 2013. ADA Transition Plans inventory existing ADA accessibility issues in a community and layout a framework for addressing areas that are currently inaccessible.

The City Planning and Public Works departments should pursue universal access in Turlock through:

- Enforce ADA requirements as part of the permitting and entitlement process, using the draft Proposed Guidelines for Access Right-of-Way Guidelines (PROWAG) to ensure universal accessibility
- Adopt citywide policy of constructing ADA curb ramps and any other accessibility measures, as described in PROWAG, routine practice in any new construction or improvement project within the public right-of-way
Figure 11-11 City of Turlock
Bicycle & Pedestrian Demand Analysis

Demand Index

- Low Demand
- High Demand

Schools
Employment Centers
Priority Areas

SAFE ROUTES TO SCHOOL PEDESTRIAN PROJECTS
Christofferson Parkway/Mountain View Road and Christofferson Parkway/Kilroy Road Intersections

- Install bus shelter at existing bus stop
- Extend medians and add median tips to provide pedestrian refuges
- Install curb extensions and directional ADA curb ramps on Mountain View Road Road
- Install curb extensions and ADA curb ramps on Kilroy Road
- Extend medians and add median tips to provide pedestrian refuges
11.6  BICYCLE AND PEDESTRIAN PROJECT IMPLEMENTATION

FUNDING

Bicycle and pedestrian infrastructure and programs can be funded either directly through the City or through various competitive grant programs.

Past Expenditures

No information is available on past expenditures at this time.

Funding Need

Based on project cost estimates, the total future funding need for new pedestrian and bicycle infrastructure in Turlock is $13,105,085.

The City recently received Caltrans Safe Routes to School Cycle 10 funding for $319,200 to support safe routes on North Walnut Road between West Christoffersen Parkway and Winter Haven Drive. The project will install a median with fencing. It will also fund an education and encouragement program at the nearby Turlock Junior High School.

Countywide priority bikeways and projects within the pedestrian priority areas can be funded through a variety of sources. Because the countywide priority bikeways are multi-jurisdictional, coordination between agencies will be critical.

Recommended Funding Sources

Bicycle and pedestrian infrastructure and programs can be funded either directly through the City or through various competitive grant programs. Available funding sources are summarized in Table 9-3. The most applicable funding sources for the improvements recommended by this plan are:

- CMAQ Formula and Competitive Funding
- Highway Safety Improvement Program (HSIP)
- Safe Routes to School Grants (SR2S)
- Remove II Bicycle Infrastructure Component Grants
- Bicycle Transportation Account
**Congestion Mitigation and Air Quality Improvement Program (CMAQ)**

Congestion Mitigation and Air Quality Improvement Program (CMAQ) grants are administered on a per-population and competitive basis by StanCOG. The program is jointly administered by the Federal Highway Administration and Federal Transit Administration to increase attainment of the National Ambient Air Quality Standards (NAAQS). Based on population, StanCOG received $7,441,852 in CMAQ funding for FY2010-2011. For FY 2014 through FY 2016, $7,129,539 was available for CMAQ Competitive Funds. The cost-effectiveness calculation, based on the Air Resource Board (ARB) methodology, was the sole criteria for selected competitive funds. For FY2014-2015 and FY 2015-2016, all projects with a cost-effectiveness calculation of $64.45 were selected.

Stanislaus County communities routinely use the formula-based funding for the construction of bicycle and pedestrian projects. Seeking competitive grant funding for bicycle and pedestrian projects may be another opportunity to secure funding for the build-out and improvement of bicycle and pedestrian networks.

**Highway Safety Improvement Program (HSIP)**

Caltrans administers two funding programs for roadway safety improvements: the Highway Safety Improvement Program (HSIP) and the Highway Rural Roads Program (HR3). These programs use cost-benefit ratios as a primary factor in the awarding of applications. Because both of these programs focus on roadway safety, projects with a high-frequency of documented collision history, particularly severe collisions, are typically ranked higher. Roadways with documented bicycle and pedestrian collision history, as discussed in Section 11-3 of this Plan, may be well-qualified for HSIP and HR3 applications, particularly since many of the proposed projects would improve bicyclist and pedestrian safety at a lower cost than many of the highway projects also eligible under this funding source.

For FY 2013, Caltrans estimates that $100 million in Highway Safety Improvement Program (HSIP) funding will be available. While this funding source is often used for major roadway improvement projects, installation of traffic signals, and most other cost-intensive projects, funding has routinely been awarded to bicycle and pedestrian projects. Successful projects have included:

- Median refuges and curb extensions
- Curb, gutter, and sidewalk
- Paved shoulders
- Upgraded traffic signals with pedestrian countdown signals and pedestrian-scale lighting
- Bicycle lane striping
- Crosswalk striping
- In-pavement flashers and rectangular rapid flashing beacon (RRFB) at crossings

Many of these projects were applied for as standalone bicycle and pedestrian improvement projects; some bicycle and pedestrian improvements were included with a broader package of roadway improvement projects. The average programmed federal funding amount was $400,000.

An additional $15 million is dedicated for the Highway Rural Road Improvement Program (HR3), for which many Stanislaus County communities are eligible. To be eligible for HR3, roadway improvements must occur on a roadway with a functional classification of:

- Rural major collector
- Rural minor collector
- Rural local road

Programmed federal funds for HR3 projects averaged $580,000 in the third funding cycle (2011), and most projects funded the widening or improvement of shoulders. Most of the priority bikeway projects included in this Plan consist of Class 3 bicycle routes with widened shoulders.

**Safe Routes to School (SR2S)**

Prior to 2012, the state and federal Safe Routes to School programs were potential funding sources for both bicycle and pedestrian planning and infrastructure projects that improve access to schools. Caltrans administered two Safe Routes to School programs: the state-legislated program (SR2S), authorized by California Streets and Highways Code Section 2330-2334, and the federal program (SRTS), authorized by the SAFETEA-LU federal funding bill. The SR2S and SRTS programs provided $24.25 million and $21 million, respectively, in annual funding. As of March 2013, the future of Safe Routes to School funding is improbable. Neither MAP-21, the federal funding bill for transportation spending, or the proposed California’s Governor’s Budget 2013-14, include set-aside funds for Safe Routes to School projects.

There are California state assembly bills currently under consideration that propose state funding for Safe Routes to School. Should Safe Routes to School funding continue beyond 2013, several of the proposed bikeways can be funded by Safe Routes to School programs. Successful applications are typically oriented toward pedestrian infrastructure projects; though bicycle projects may also be included in project packages.


Remove II Bicycle Infrastructure Component Grants

The San Joaquin Valley Air Pollution Control District (SJVAPCD) offers grant and incentive programs to help reduce air pollutants in the eight-county San Joaquin Valley, which currently does not meet the required National Ambient Air Quality Standards for ozone and particulate matter. The SJVAPCD Remove II Program includes the Bicycle Infrastructure Component, which provides incentives for the construction of Class 1 bicycle paths or Class 2 bicycle lanes that directly benefit commuters in the San Joaquin Valley. Up to $150,000 is available for Class 1 bicycle paths and $100,000 for Class 2 bicycle lanes per application. Applications must be for either a Class 1 or Class 2 facility, not both; however, multiple applications may be submitted. Grants are accepted on a first-come, first-served basis and the following criteria should be considered:

- Project must contribute to an increase in bicycle commuting and a reduction in auto emissions
- Proposed bikeways that close gaps in the network are highly encouraged
- Project should improve bicycle-transit connections
- Project should benefit disadvantaged communities
- Projects should target areas of high demand such as schools, parks, shopping areas, and commercial areas
- Co-funding from other sources is encouraged

Additional information can be found at: [http://www.valleyair.org/transportation/removeII/BI.htm](http://www.valleyair.org/transportation/removeII/BI.htm).

California Bicycle Transportation Account (BTA)

Bicycle facilities can be funded through the California Bicycle Transportation Account (BTA). Annually, $7.2 million is available for projects through the BTA.

Additional Funding Sources

The majority of public funds for bicycle and pedestrian projects are derived through a core group of federal and state programs. Federal funds from the Surface Transportation Program (STP), Transportation Alternatives (TA), and Congestion Mitigation Air Quality (CMAQ) programs are allocated to the County and distributed accordingly.

Limited amounts from the Local Transportation Fund (LTF), which is derived from a ¼ cent of the general sales tax collected statewide, can be used for bicycle and pedestrian facilities.
The Federal Safe Routes to School (SRTS) program was previously authorized under SAFETEA-LU; when MAP-21 superseded SAFETEA-LU, the SRTS program was discontinued. Instead, SRTS programs and infrastructure are eligible to compete for funding as a part of a new program called Transportation Alternatives (TA). As of December 2012, it is unknown whether California will dedicate a specific portion of TA funds for Safe Routes to School projects.

The California State Parks Recreational Trails Program provides funds annually for recreational trails and trail-related projects. Cities are eligible applicants for the approximately $2.3 million available annually. The program requires an applicant match of 12 percent of the total project cost.

In 2010, the California Strategic Growth Council (SGC) awarded $20 million through the Proposition 84 Sustainable Communities Planning Grant and Incentives Program. Sustainable Community Planning Grant awards totaled $24.6 million in 2012; the SGC plans to award another cycle of grants in 2013. Eligible projects include plans that support greenhouse gas emission reduction and sustainable communities. Twenty percent of the grant funds are set aside for Economically Disadvantaged Communities (EDC), which describes some areas of Stanislaus County.

Caltrans Transportation Planning Grants are available to jurisdictions and can be used for planning or feasibility studies. The maximum funding available per project is $300,000.

The California Office of Traffic Safety (OTS) administers the General OTS Grant opportunities. Pedestrian safety is a priority area for grant funding. Funding can be used for certain police equipment, for signage (vehicle speed feedback signs), and for outreach materials and campaigns.

The Land and Water Conservation Program offers funds to states and through states to local governments for trails acquisition and development.

**FUNDING STRATEGY**

Although every community is unique, in our experience the following elements are important factors in successfully obtaining grant funding for projects:
• Identify local staff who can support the grant applications and oversee project implementation

• Develop a community vision

• Involve multiple stakeholders in the process

• Identify projects that:
  o Connect communities
  o Address safety issues
  o Support economic development
  o Improve access to schools

• Prioritize projects

• Identify projects that are most likely to successfully compete for grants

• Identify project champions

• Identify multiple parties to be co-applicants

• Identify local match opportunities

POLICY RECOMMENDATIONS

In addition to the proposed bicycle and pedestrian projects, policy changes that support walking and biking can help establish a policy rationale for the creation of these facilities. The following policies are recommended:

• Enforce bicycle parking ordinance and consider provision of long-term parking and support facilities

• Consider adoption of a "Complete Streets" policy or "Routine Accommodation" type of policy to encourage accommodation of bicyclists and pedestrians of all ages and experience levels with new construction or improvements to the public right-of-way

• When competing traffic analysis, collect bicycle and pedestrian volumes at each study location to address safety and circulation issues for those modes
### TABLE 11-2
FUNDING SOURCE APPLICABILITY MATRIX

<table>
<thead>
<tr>
<th>Funding Source</th>
<th>Bicycle Projects</th>
<th>Pedestrian Projects</th>
<th>Other Projects¹</th>
<th>Planning and Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Class 1 Bicycle Path</td>
<td>Class 2 Bicycle Lane</td>
<td>Class 3 Bicycle Route</td>
<td>Class 3.5 Bicycle Route</td>
</tr>
<tr>
<td>Surface Transportation Program (STP)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Transportation Alternatives (TAs)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Congestion Mitigation Air Quality (CMAQ)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Local Transportation Fund (LTF)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>California Safe Routes to School (SR2S)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>California Bicycle Transportation Account (BTA)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Highway Safety Improvement Program (HSIP) Grants</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>California State Parks Recreational Trails Program</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Proposition 84 Sustainable Communities Planning Grant and Incentives Program</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Caltrans Transportation Planning Grants</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>California Office of Traffic Safety (OTS) Grants</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Land and Water Conservation Program</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
</tbody>
</table>

Notes:
1. Includes non-pavement elements such as signal equipment, vehicle speed feedback signs, police equipment, or crossing guard equipment

- ● Funding source is applicable
- ○ Funding source is not applicable
- □ Funding source is potentially applicable

11.7 SAFETY AND EDUCATION

In addition to implementing bicycle and pedestrian facilities, programs focused on education, encouragement, and enforcement can increase the number of people who bicycle and walk in Turlock.

EXISTING PROGRAMS

Turlock has actively applied for Safe Routes to School funding as a way to encourage and educate students about walking and biking to school. They have requested funding primarily to educate students on how to safely walk to school, train and equip crossing guards at each Turlock Unified School District (TUSD) school, and create maps that highlight the safest walking routes to each of the TUSD schools. The creation of the maps would involve parental outreach to understand what the best walking routes to school are.

- Bicycle Safety Fair and Bicycle Rodeo at Turlock Bicycle Park, organized by the Turlock Police Department and Bicycle Works (2010)
  - Bicycle Rodeo
  - Helmet giveaway to children 16 and under in need
- Safety education and encouragement program at Turlock Junior High School funded by a Caltrans Cycle 10 Safe Routes to School grant

PROPOSED EDUCATION AND ENCOURAGEMENT PROGRAMS

Education programs seek to reduce collisions and help people feel safe and comfortable while biking or walking. These programs include elements that help motorists understand the rights of bicyclists and pedestrians. Simultaneously, education campaigns should target the general public and specific groups that have unique education needs or play a greater role in perpetuating collisions and other dangerous situations. Key target audiences include students, children and families, senior citizens, and drivers.

School Programs

Basic bicycling and walking skills and safety courses can be incorporated into school curricula. Often, these programs are facilitated by a local volunteer or by a member of local police, the Sheriff's Department, or the California Highway Patrol. Anecdotally, many students may be walking to school. With local schools and residential areas located near state highways, the need for safety education related to walking and biking is important. Additional resources and information are available at the Safe Routes
to School National Partnership website: [http://www.saferoutespartnership.org/local](http://www.saferoutespartnership.org/local). Programs could include:

- Walk and Roll to School days
- Pedestrian and bicycle safety curricula in the classroom or assemblies

**Adult Education**

Many less-experienced adult bicyclists are unsure how to negotiate intersections and how to ride with traffic on streets and roads. Adult education efforts which are sponsored by government agencies, major employers, local bicycle enthusiasts or other volunteer groups can help address this need. An annual or semi-annual class could be offered free of charge to provide information on how to avoid collisions and citations, how to ride safely and improve visibility, and understand the legal rights of cyclists. Instructors from elsewhere in the state or qualified local instructors or volunteers could teach this class to cyclists, tailored to local needs and issues. Future expansion ideas could include adding on-the-bicycle training.

**Online Bicycle Maps**

The City should provide existing bicycle network maps on their Web page for residents to use as a trip-planning resource, including the countywide maps developed in this Plan. The maps could be used by local residents and visitors to plan their bicycle trips or alternatively could be used as a marketing piece to attract tourist bicycling in the City and surrounding area. The website could also include educational information, including hand signals, bicycle lighting, and safety.

**ENFORCEMENT PROGRAMS**

The City should work with the local Police Department, Sheriff, and California Highway Patrol (CHP) to conduct enforcement campaigns intended to improve bicyclist and pedestrian safety. Sample enforcement programs include the following.

**Targeted Moving Violations**

Decreasing moving violations committed by motorists, bicyclists, and pedestrians alike is critical to improving safety and encouraging all roadway users to share the road. The City should work with the Sheriff and CHP to develop targeted enforcement efforts or sting operations. Advertising campaigns help the targeted violation efforts reach a wider audience.
Moving violations by motorists that affect bicyclists and pedestrians include:

- Speeding
- Passing without sufficient clearance
- Driving in the bicycle lane
- Right-turning in front of bicyclists
- Failing to signal
- Double parking
- Failing to yield to pedestrians at a crosswalk

Moving violations by bicyclists and pedestrians include:

- Failing to stop at a stop sign
- Failing to signal
- Wrong-way riding
- Riding without lights at night
- Failing to wear a helmet (if under 18 years of age)
- Jaywalking

**Radar Speed Signs**

Radar speed signs feature a changeable message sign linked to a radar unit; the signs display the vehicle's actual speed as the vehicle approaches the sign. Radar speed signs can be mounted permanently to a pole (where they are powered by hard wire or a solar unit) or alternatively they can be mounted to a trailer (also known as a "speed trailer") and deployed on a temporary basis. Studies in the United States have shown that radar speed signs are an effective way to slow traffic. The City should consider installing additional radar speed signs within school zones in partnership with the school district and, on state highways, Caltrans. Speed trailers should be deployed to different parts of the City regularly to remind drivers citywide to obey the speed limit.
12.0  CITY OF WATERFORD

12.1  Introduction .......................................................................................................................... 12-2
12.2  Setting and Context ............................................................................................................. 12-4
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12.4  Pedestrian Facilities .......................................................................................................... 12-25
12.5  ADA Information ............................................................................................................... 12-28
12.6  Bicycle and Pedestrian Project Implementation ................................................................. 12-30
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12.1 INTRODUCTION

PURPOSE OF THE PLAN

The City of Waterford Existing and Planned Bicycle and Pedestrian Facilities chapter is intended to be both a chapter of the Stanislaus County of Government (StanCOG) 2012 Bicycle and Pedestrian Master Plan and a standalone document that can be used as a guide for prioritizing bicycle and pedestrian projects in unincorporated areas of the county. The StanCOG Bicycle and Pedestrian Master Plan is a unifying document that coordinates the existing and planned bicycle and pedestrian networks of Stanislaus County communities to serve local and regional needs. This document meets the Bicycle Transportation Account (BTA) requirements for a Bicycle Transportation Plan (BTP), which, once adopted by StanCOG, will make the City of Waterford eligible for BTA funding and improve local competiveness for other funding sources to implement this plan.

CALTRANS COMPLIANCE

The Bicycle Transportation Account (BTA) is a Caltrans program that provides grant funding to cities and counties in support of bicycle projects benefitting bicycle commuters. In order to apply for these funds, local jurisdictions must prepare and adopt a Bicycle Transportation Plan that meets the requirements described in Section 891.2 of the Streets and Highways Code. Table 13-1 presents the required elements of a Bicycle Transportation Plan and indicates where they are located in this plan.

Local agencies without a standalone bicycle or bicycle and pedestrian master plan can use the 2012 StanCOG Bicycle and Pedestrian Master Plan to establish eligibility for BTA Funding until 2017, as long as items “a” through “k” are addressed for that city and the unincorporated areas of the county.
### TABLE 12-1
STREET AND HIGHWAYS CODE SECTION 891.2 REQUIREMENTS ADDRESSED IN THIS PLAN

<table>
<thead>
<tr>
<th>Item</th>
<th>Requirement</th>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>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.</td>
<td>Section 12-2 Demographics</td>
</tr>
<tr>
<td>b</td>
<td>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.</td>
<td>Section 12-2, Figure 12-1</td>
</tr>
<tr>
<td>c</td>
<td>A map and description of existing and proposed bikeways.</td>
<td>Section 12-3, Figure 12-4 &amp; 12-5</td>
</tr>
<tr>
<td>d</td>
<td>A map and description of existing and proposed end-of-trip bicycle parking facilities.</td>
<td>Section 12-3 Bicycle Parking, Figure 12-2</td>
</tr>
<tr>
<td>e</td>
<td>A map and description of existing and proposed bicycle transport and parking facilities for connections with and use of other transportation modes.</td>
<td>Section 12-3 Multi-Modal Connections, Figure 12-9</td>
</tr>
<tr>
<td>f</td>
<td>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.</td>
<td>Section 12-3 Bicycle Parking, Figure 12-2</td>
</tr>
<tr>
<td>g</td>
<td>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 the resulting effect on accidents involving bicyclists.</td>
<td>Section 12-7 Safety &amp; Education</td>
</tr>
<tr>
<td>h</td>
<td>A description of the extent of citizen and community involvement in development of the plan, including, but not limited to, letters of support.</td>
<td>Sections 12-3 &amp; 12-4</td>
</tr>
<tr>
<td>i</td>
<td>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.</td>
<td>Section 12-2 Planning &amp; Policy Context</td>
</tr>
<tr>
<td>j</td>
<td>A description of the projects proposed in the plan and a listing of their priorities for implementation.</td>
<td>Sections 12-3 &amp; 12-4, Figures 12-6, 12-7, &amp; 12-8</td>
</tr>
<tr>
<td>k</td>
<td>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.</td>
<td>Section 12-6</td>
</tr>
</tbody>
</table>
12.2 SETTING AND CONTEXT

JURISDICTION OVERVIEW

Located in the eastern part of the county, Waterford comprises over 1.5 square miles and is home to nearly 8,573 people. SR 132/Yosemite Boulevard is the main east-west connection through Waterford and separates the southern residential neighborhoods, commercial development, and the high school from neighborhoods to the north. Other than this state highway, east-west connectivity is limited as a result of the discontinuous street grid. The Oakdale-Waterford Highway/F Street runs north-south through the city and connects across the Tuolumne River to the neighboring town of Hickman. Tim Bell Road, Reinway Avenue, Pasadena Avenue, Western Avenue, and G Street/Riverside Road provide north-south access across SR 132/Yosemite Boulevard. Waterford is located eight miles to the east of Modesto, and nine miles south of Oakdale.

LAND USE ATTRACTIONS AND GENERATORS

Downtown Waterford and the auto-oriented industrial uses constitute the main land use draws in the city. Downtown Waterford consists of four blocks of small-scale retail and restaurants. Auto-oriented uses are located on the major local roadways—F Street/Oakdale-Waterford Highway and SR 132/Yosemite Boulevard on the southern edge of the City. Figure 12-1 shows existing and planned land uses.

SCHOOLS AND SCHOOL ACCESS/SAFE ROUTES

The City views its schools as one of the main destinations for existing and future walking and biking trips. Most Waterford schools are located along North Reinway Avenue on the western edge of the city. Waterford Middle School and Connecting Waters Charter School are located on Bentley Street, as shown on Figure 12-2.

PARKS AND COMMUNITY FACILITIES

Waterford has two parks: one located on Goldmine Avenue and one along Bonnie Brae Avenue. Both are located in residential neighborhoods are connected to existing and planned path connections. Figure 12-2 also shows parks in Waterford.
Figure 12-1
Waterford Existing Land Uses

December 2012
Figure 12-2 City of Waterford Schools and Parks

Existing
- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders
- Class 3.5 - Bicycle Route with Share The Road signs

Planned
- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route

Proposed
- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders
- Class 3.5 - Bicycle Route with Share The Road signs

Schools

Parks

DEMOGRAPHICS AND EXISTING TRANSPORTATION PATTERNS

Data from the American Community Survey (ACS) Five-Year Summaries from 2005 to 2009 was analyzed to understand commute patterns in Waterford. The American Community Survey is conducted each year to provide ongoing data collection between the Decennial Census and includes questions that are not asked in the Decennial Census. The 2005-2009 summaries were used for this Plan because the 2006-2010 summaries aggregated taxicab, motorcycle, and bicycle use into one category, which does not give an accurate picture of bicycle commuting in Waterford. The American Community Survey includes information such as the primary means respondents use to get to work as well as information on age, income, and auto ownership. The means of transportation to work question specifically focuses on commuting trips and does not record the school, shopping, and recreational trips that occur by various modes of transportation. The mode split information also does not account for commuters who may carpool or bicycle to work some days but drive alone other days, or for trips that include both walking or bicycling and another mode (such as transit or carpooling), as only one response is allowed. As such, walking and bicycling trips tend to be underestimated in this data set.

Waterford may have lower rates of walking and bicycling compared to Stanislaus County as a whole. Based on ACS estimates, no commuters reported bicycling as a means to work, and 1.4% of workers reported walking as their primary means of getting to work. Single occupancy vehicle (SOV) trips were slightly higher than the County rate. Given the small sample size of the ACS and the small population of Waterford compared with other cities in the County, bicycle commute trips are likely under-represented in the data.

Additionally, data on the number of students and faculty commuting to local elementary schools is available from 2000. That year, 26 students and faculty at Waterford Elementary School biked to school, and eight students and faculty at the Moon School bicycle to school.

Accounting for schools trips, recreation trips, and other non-work related trips, the overall bicycle mode split is likely higher than 0%. Future bicycle trips will depend on a variety of factors such as the availability of well-connected facilities and the location, density, and type of future land development. With appropriate bicycle facilities in place and implementation of bicycle support facilities, such as bicycle parking, mode share could increase countywide. According to the Census 2010 data, there are 2,458 households in Waterford. Assuming nine daily person trips per household and using the current countywide average for bicycle commute mode share, approximately 80 work trips could be made in the future.
COLLISION DATA

SWITRS collision reports were collected and analyzed over a three-year period (2008-2010). The database includes collisions reports recorded by both local police officials and the California Highway Patrol. Bicycle and pedestrian collision data can aid in the identification of problematic areas for bicycles and pedestrians; however, a high frequency of collisions in a particular neighborhood may also indicate an abundance of bicyclists and pedestrians use a particular route.

As shown on Figure 12-3, 13 collisions involving bicyclists and pedestrians have occurred between 2008 and 2011 in Waterford, with nine of those crashes involving pedestrians and four involving bicyclists. The crashes occurred on segments of SR 132/Yosemite Boulevard, E Street, and Bentley Street. The frequency of collisions at these locations indicates these areas may have higher pedestrian and bicyclist activity, contributing to the higher number of collisions. Seven of those collisions took place within ¼ mile of a school, and seven of the crashes took place at a mid-block location.

LOCAL OPPORTUNITIES & CONSTRAINTS

The following opportunities and constraints for improving pedestrian and bicycle facilities in Waterford include considerations such as existing distribution of urbanized areas throughout the county, roadway infrastructure and connectivity, sidewalk coverage, and existing policies and agreements with local agencies.

Opportunities

- Existing Class 1 paths as mid-block connections through residential neighborhoods
- Multiple east-west laterals and canals that if developed as Class 1 paths could provide significant off-street connections toward Modesto to the west
- Local interest in creating regional off-street connections
- Local interest in pursuing funding to develop shovel-ready projects

Constraints

- Limited funding for design and planning projects
- Other major east-west connections are via state highways, SR 132/Yosemite Boulevard
Figure 12-3 City of Waterford Bicycle & Pedestrian Collisions, 2008-2011

- Pedestrian/Auto Collision
- Bicycle/Pedestrian Collision

- Existing
  - 1 collision
  - 2 collisions
  - 3 collisions
  - 4 collisions
  - 5+ collisions

- Planned
  - Class 1 Path
  - Class 2 - Bicycle Lanes
  - Class 3 - Bicycle Route
  - Class 3.5 - Bicycle Route with Wide Shoulders
  - Class 3.5 - Bicycle Route with Share The Road signs

- Proposed
  - Class 1 Path
  - Class 2 - Bicycle Lanes
  - Class 3 - Bicycle Route
  - Class 3.5 - Bicycle Route with Wide Shoulders
  - Class 3.5 - Bicycle Route with Share The Road signs

PLANNING AND POLICY CONTEXT

The following section summarizes past related planning efforts and establishes a policy framework to guide future transportation decisions and capital improvement programming. This information helps to ensure infrastructure improvements are closely coordinated with past and ongoing planning efforts.

**Bicycle Master Plan (2000)**

The Bicycle Master Plan specifically targets students getting to and from school, recreational cyclists, and commuters making trips to shopping and employment centers. The Plan points to the Caltrans Highway Design Manual for design guidance on bicycle facilities.

The Plan has policies to include bicycle facility projects in the Capital Improvement Plan, promote connective street networks in new subdivision design, integrate bicycles with transit through storage and onboard accommodation, require new commercial development to consider bicycle circulation and use, and to prioritize connections to parks and schools. Long-term and short-term bicycle parking facilities are recommended at Beard Park, civic buildings, the downtown area, park-and-ride lots, and new retail and employment areas. Likewise, the Plan states that changing facilities and lockers should be required at new employment centers. However, these policies have not been codified in the local zoning and municipal ordinances.

**General Plan (2010)**

The Waterford General Plan includes a number of goals and policies to improve non-motorized transportation. The Plan includes goals to reduce vehicle miles traveled (VMT) and to develop land use patterns that encourage biking and walking. Policies encouraging the use of bicycles, providing bicycle facilities, and expanding the bicycle circulation system all promote bicycle use in the city. The Waterford General Plan also has policies encouraging pedestrian-friendly environments and improving pedestrian planning practices. Pedestrian circulation goals include rethinking the connectivity of typical residential streets, addressing the needs of students and the disabled, and providing for pedestrians in areas of phased or non-contiguous development.

The General Plan also calls on the City to work with local and regional governments and agencies to develop a regional bicycle network strategy. The strategy should include provisions for bikeway connections to Waterford’s river park trail system and other City recreational areas.
12.3 BICYCLE NETWORK

BICYCLE FACILITIES

Bicycle facilities can be divided into two types:

- Bikeways—on-street or off-street facilities provided for bicycle travel
- Support Facilities—facilities used by bicyclists when they reach their destination, such as bicycle parking

**Bikeways**

Chapter 1000 of the Caltrans *Highway Design Manual* defines three classes of bicycle facilities and details the minimum requirements for those facility types:

- Class 1 Bicycle Paths—a paved right of way completely separated from any street or highway
- Class 2 Bicycle Lanes—a striped and stenciled lane for one-way travel on a street or highway
- Class 3 Bicycle Routes—a typical roadway identified as a preferred bicycle route with signage. They may also include shared use lane markings, “SHARE THE ROAD” signage, or wide shoulders, as described in Appendix A Bicycle Design Guidelines.

In this Plan, a Class 3.5 bicycle route designation is also used. In the context of this plan, Class 3.5 facilities indicate a Class 3 bicycle route, as defined by Caltrans, with wide shoulders, typically four to eight feet in width. Class 3 Share the Lane indicates Class 3 bicycle routes, as defined by Caltrans, with “SHARE THE ROAD” signage, typically on narrow, rural roadways. These treatments are further defined on Figure A-1 in Appendix A Bicycle Design Guidelines. Figure A-1 provides cross-sections and additional description of these facilities, including Caltrans minimum requirements as well as recommended cross-section widths and additional treatments.

**Support Facilities**

Support facilities are critical to bicycle use, especially as a means to encourage bicycle commuting. Support facilities consist primarily of:
• **Bicycle Parking**—bicycle parking supply should vary to accommodate short-term and long-term trips and consist of two basic types:
  - **Short-Term Parking**—bicycle racks for users who need to stop for several hours or less, placed adjacent to key destinations such as shopping areas, schools, and parks
  - **Long-Term Parking**—lockable bicycle lockers, bicycle cages, or bicycle rooms that only users are allowed access to, placed at major employment areas, schools, and transit centers.
• **Shower and Changing Space**—showers and changing areas provide longer-distance commuters with an area to change and get ready for work or school
• **Secure Storage Areas**—locker-type storage areas provide room to store a change of clothes or bicycle gear.

**EXISTING BIKEWAYS**

As shown on Figure 12-4, the existing bikeway network consists of approximately 12 miles of primarily Class 3 bicycle routes with two miles of Class 2 bicycle lanes. Bicycle routes provide the main east-west connections through the city, such as along Bonnie Brae Avenue, Kadota Avenue, Pecan Avenue/Dorsey Street, and Washington Road. F Street provides a major connection from the north city edge through downtown and SR 132/Yosemite Boulevard. Two segments of Bentley Street in addition to part of Welch Street provide northeast-southwest connections through the downtown and adjacent to Waterford Middle School. Reinway Avenue, on which the Moon School and Waterford High School are located, has an existing bicycle route. All parks and schools can be accessed via an existing Class 2 or Class 3 facility.

Appendix E lists existing and proposed bikeways in the City of Waterford. Appendix F presents the results of the StanCOG BPAC’s community survey, which includes information on identified needs and opportunity areas throughout the County.

**PROPOSED IMPROVEMENTS**

The proposed bikeway network was developed to increase utilitarian and recreational bicycling in the City of Waterford by all levels of bicyclists. The proposed bikeway network was established based on input from the StanCOG BPAC and recommendations made in the 2008 StanCOG Non-Motorized Transportation Master Plan and the Bicycle Master Plan. The proposed bikeway network includes Class 1 bicycle paths, Class 2 bicycle lanes, and Class 3 bicycle routes that connect to destinations likely to generate or attract bicycle travel. Figure 12-5 shows the proposed City of Waterford bikeway network.
Figure 12-4 City of Waterford Existing Bikeways

- **Existing**
  - **Class 1 Path**
  - **Class 2 - Bicycle Lanes**
  - **Class 3 - Bicycle Route**
  - **Class 3.5 - Bicycle Route with Wide Shoulders**
  - **Class 3.5 - Bicycle Route with Share The Road signs**

Figure 12-5 City of Waterford Proposed Bikeways

Existing
- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders
- Class 3.5 - Bicycle Route with Share The Road signs

Planned
- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders
- Class 3.5 - Bicycle Route with Share The Road signs

Proposed
- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders
- Class 3.5 - Bicycle Route with Share The Road signs

PROJECT PRIORITIZATION

Facilities within Stanislaus County were prioritized to address the need for regional and local connections. Because the geographic area of the county is spread out, it is important to prioritize these projects because of the long length of each proposed bikeway and the limited financial resources to implement and maintain facilities.

Prioritization Methodology

The project prioritization methodology is distinct and separate for regional priority bikeways located in unincorporated Stanislaus County and projects within incorporated jurisdictions, and is outlined below. Each methodology is presented in Appendix C and D.

Each proposed bikeway project in the unincorporated county was scored on the follow criteria, which were given equal weight:

- Closure of a critical gap
- Immediate safety need
- Access to key destinations
- Feasibility

Within the City of Waterford, selected facilities were prioritized in order to establish significant regional routes through incorporated urban areas. Priority bikeways through Waterford were selected using a bicycle and pedestrian demand model developed for Stanislaus County and through the feedback of the StanCOG Bicycle and Pedestrian Advisory Committee (BPAC). Using the demand map as a base, priority bikeway alignments through incorporated areas were selected to:

- Connect local areas of highest biking and walking demand with the most direct route possible;
- Connect cities and/or neighboring unincorporated communities along the most direct route; and
- Create continuous countywide bikeways
Priority Network

The countywide bicycle network is presented on Figure 12-6. The following countywide priority bikeways have segments in Waterford:

- Yosemite Avenue/SR 132 (#4), connecting Modesto, unincorporated County, Empire, and Waterford
- Oakdale-Waterford Highway (#6), connecting Oakdale, unincorporated County, and Waterford

These prioritized regional routes through cities should be incorporated into overlay schedules and/or prioritized for competitive grant funding as appropriate. Detailed project descriptions for the two countywide priority bikeways are presented on Figure 12-7 and 12-8.
Figure 12-6 City of Waterford Priority Bikeways

Prioritization

- **First-Tier**
- **Second Tier**

**Existing**

- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route

**Planned**

- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders
- Class 3.5 - Bicycle Route with Share The Road signs

**Proposed**

- Class 1 Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders
- Class 3.5 - Bicycle Route with Share The Road signs

4. Paradise Road - H & G Street - Yosemite Boulevard/SR 132
Jurisdictions: City of Modesto, Unincorporated Stanislaus County, and City of Waterford

Description
This east-west bikeway begins on Paradise Road in the western end of Modesto, and extends east through G and H Streets in Downtown onto Yosemite Boulevard / SR-132. Yosemite Boulevard is an east-west highway that runs through Downtown Modesto and continues east to the County limit. Coordination with Caltrans will be required.

Proposed Improvements
4A. Class 2 on Paradise Road between Carpenter Road and Jefferson Street
4B. Class 3 on H Street between Jefferson Street and 14th Street; Class 3 on G Street between 1st and 14th Streets. Class 3 on 1st Street between H and G Streets; Class 3 on 14th Street between H and Yosemite Boulevard.
4C. Class 3.5 with wide shoulders on Yosemite Boulevard between Claus Road and Skyline Boulevard (Waterford)
4D. Class 2 on Yosemite Boulevard between 14th Street and Riverside Drive

Design Requirements

4A, 4D Class 2 Bicycle Lanes
• Stripe within existing right-of-way
• On Paradise west of Martin Luther King Jr cross section allows for on-street parking with 5-6' bike lanes
• On Paradise between Martin Luther King Jr and Jefferson, remove on-street parking on north side and stripe with 11' travel lanes to allow 5' bike lanes
• On Yosemite, remove on-street parking to accommodate 6' bike lanes with 2' buffer

4B Class 3 Bicycle Route with Sharrow
• Install Class 3 bicycle route signage
• Stripe sharrow 14' from face of curb
• Install Class 3 signs each 1/4 mile

4C Class 3.5 Bicycle Route with Wide Shoulders
• Widen shoulder to 4' minimum on Yosemite Boulevard between Claus Road and Skyline Boulevard
• Existing shoulders in Waterford are 0-4'
• Install Class 3 signs each 1/4 mile

Implementation and Funding
• High frequency of both pedestrian and bicycle collisions between 2008-2010
  - 33 pedestrian-auto collisions, 38 bicyclists-auto collisions on Hatch Road corridor between 2008-2010
• All segments may be strong candidates for HSIP and/or High-Risk Rural Roadway Program (HR3) funding based on collision history
• Total project cost, including design, environmental, and contingency, is approximately $6,250,000
6. Oakdale-Waterford Highway

Jurisdictions: City of Oakdale, Unincorporated Stanislaus County, and City of Waterford

Description

The Oakdale-Waterford Highway provides a north-south connection between Albers Road outside of the City of Oakdale and existing Class 2 bicycle lanes on F Street in the City of Waterford. The existing roadway has very narrow or no shoulders.

Proposed Improvements

6A Class 3.5 with wide shoulders between Albers Road and Waterford City Limits

Design Requirements

6A Class 3.5 Bicycle Route with Wide Shoulders

- Existing 0-2’ foot shoulders
- Widen shoulder to 4’ minimum
- Install Class 3 signs each 1/4 mile

Implementation and Funding

- 1 auto-pedestrian collision between 2008-2010
- Requires roadway widening the entire length of the bikeway
- May be eligible for CMAQ Competitive Funds and HR3/HSSIP
- Total project cost, including design, environmental, and contingency, is approximately $5,700,000
BICYCLE PARKING AND SUPPORT FACILITIES

Bicycle support facilities such as changing rooms, showers, lockers, and short-term and long-term bicycle parking are important end-of-trip facilities for those who commute by bicycle or who may be thinking of commuting by bicycle. As such, it can be an important factor in encouraging bicycle use and bicycling to work. In addition to providing appropriate storage space to park bicycles, support facilities such as showers and lockers are important for commuters who may travel long distances or are subject to formal dress requirements in their workplace. Short-term bicycle parking typically consists of racks, which are useful for visitors to an office or short retail trips, while long-term bicycle parking typically consists of bicycle lockers or secure areas, which are more appropriate for longer stays at work places.

Existing Bicycle Parking

In general, very little bicycle parking is available in Waterford. Places of employment in Waterford do not typically provide showers, changing space, or long-term storage for bicycle gear. However, certain places of employment such as fire departments, roadway maintenance facilities, or some manufacturing facilities are likely to have showers and changing space that employees could use for bicycle commuting purposes. It is likely that some employers allow employees to store bicycles in their workspace.

Bicycle parking currently exists at the local Waterford schools, the Community Center, the Stanislaus County Library, and sporadically through the downtown area. The existing facilities consist of short-term bicycle racks. However, the City does not keep specific records of bicycle parking. The Bicycle Master Plan (2000) recommends that bicycle parking be built at Beard Park, civic buildings, the downtown area, and new retail and employment areas and include short- and long-term bicycle parking and changing facilities as appropriate. The City does not currently does not have a bicycle parking ordinance or programs to install bicycle parking at new development.
Proposed Bicycle Parking

Three strategies for encouraging bicycling for commuting and utilitarian purposes are proposed:

- Adopt a bicycle parking ordinance for new development
- Organize a bicycle rack request program
- Encourage construction of support facilities at major employers through the permitting process

Bicycle Parking Ordinance

At minimum, the City of Waterford should update their zoning code to include short-term and long-term bicycle parking requirements. Model ordinances are included in the Association of Pedestrian and Bicycle Professionals' Bicycle Parking Guidelines, 2nd Edition. Such a bicycle parking ordinance should include:

**Short-term bicycle parking.** If the project is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 50 feet of the visitors’ entrance, readily visible to passers-by, for five percent of visitor motorized vehicle parking capacity, with a minimum of one two-bicycle capacity rack. Specifications for short-term bicycle parking:

- Bicycle parking space size (eight feet long, three feet wide)
- Bicycle rack type (should be U-lock compatible)
- Bicycle racks should be securely anchored to the surface or structure with fixtures that cannot be removed using common tools

**Long-term bicycle parking.** For buildings with over ten tenant-occupants, provide secure bicycle parking for five percent of motorized vehicle parking capacity, with a minimum of one space. Acceptable parking facilities shall be convenient from the street and may include:

- Covered, lockable enclosures with permanently anchored racks for bicycles
- Lockable bicycle rooms with permanently anchored racks; and
- Lockable, permanently anchored bicycle lockers

Bicycle parking placement guidelines should include discussion of safe, visible, and convenient locations, spaced far enough from walls or other objects so that it is usable by bicyclists. Design guidelines for bicycle parking and siting bicycle parking are included in Appendix A.
Bicycle Rack Request Program

The City should begin a bicycle rack request program, whereby residents and businesses can request a bicycle rack at specific locations throughout the City. In general, racks should be installed at neighborhood shopping centers, schools, and parks.

Shower/Locker Facilities at Employment Centers

Showers and clothes lockers are important for bicycle commuters with a rigorous commute or whose job requires formal office attire. Academic studies show shower and locker facilities at places of employment can be a factor in encouraging commuting to work by bicycle. Employees who exercise on their lunch breaks can also benefit from these facilities. While simpler end-of-trip facilities may be more feasible, consideration should be given to requiring shower and locker facilities in all developments with 100 or more employees.

The design of shower and locker facilities should accommodate both male and female employees and tenants. Small employment centers can provide a unisex restroom/shower room with a locking door. Larger employment centers that require more than one shower can add a separate shower and locker room to both the men’s and women’s restrooms. Maintenance of shower and locker facilities should be provided by the building management. Whenever possible, shower facilities should be located near bicycle parking facilities.

The City of Waterford should encourage bicycle parking and shower/locker facilities with new development at major employment centers. This can be done through the permitting process.

MULTI-MODAL CONNECTIONS

Stanislaus Regional Transit (StaRT) operates bus service in Waterford. StaRT has bike-rack equipped bus fleets, on a first-come, first-served basis. Figure 12-9 shows existing transit routes.

Stanislaus Regional Transit (StaRT)

Waterford Dial-A-Ride provides curb-to-curb service within Waterford and partial service between Waterford and Oakdale.

- Waterford Dial-A-Ride operates weekdays from 8:30 am to 4:45 pm and Saturdays 9:00 am to 4:30 pm (11:30 pm to 12:30 pm out of service).
- Three designated fixed stops are located within the service area. Curb-to-curb service passengers need to phone ahead to book or schedule a ride.
The Waterford/Modesto Runabout provides service between Hughson, Empire, and Modesto Monday through Saturday.

- The designated Waterford pick-up location is located at the former Waterford City Hall.
- Reservations are needed for bikes on Dial-A-Ride.
Figure 12-9 City of Waterford Existing Transit

Bikeways

Existing
- Class 1 - Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders

Planned
- Class 1 - Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders

Proposed
- Class 1 - Path
- Class 2 - Bicycle Lanes
- Class 3 - Bicycle Route
- Class 3.5 - Bicycle Route with Wide Shoulders
- Class 3.5 - Bicycle Route with Share the Road Signage

Transit
- CAT
- MAX
- StaRT
- Turlock Transit
- Escalon Transit (eTrans)
- Limited Bus Service

Paratransit Service Areas
- StaRT Dial-A-Ride Service Areas

Source: StanCOG, Fehr & Peers, 2013
12.4 PEDESTRIAN FACILITIES

PEDESTRIAN FACILITIES

Pedestrian facilities can be broken into three basic categories, with implementation and use varying based on geographic location:

- **Walkways**—in urban and suburban contexts, sidewalks with curb ramps at intersections are typical and vary in width depending on land use contexts. In rural contexts, paved or unpaved graded shoulders may be typical, or a walkway may not be provided.

- **Crosswalks**—California Vehicle Code Section 275 defines a crosswalk as either “that portion of a roadway included within the prolongation or connection of the boundary lines of sidewalks at intersections” or “any portion of a roadway distinctly indicated for pedestrian crossing by lines or other markings.” So, legal unmarked crossings are those at intersections defined by the prolongation of sidewalk areas.

- **Crosswalk Enhancements**—the most basic crosswalk enhancement is crosswalk markings. More substantial enhancements include devices meant to induce improved motorist yielding or to control vehicles at the crosswalk. Control devices include signals and pedestrian hybrid beacons. Yield devices include a variety of in-pavement and sign-mounted flashing yellow beacons.

**Appendix B Pedestrian Design Guidelines** provides additional definition for these facilities and guidance on their application.

EXISTING CONDITIONS

Waterford has a built-out network of sidewalks, especially in areas of newer residential and contiguous development. However, some locations on the western city edge, adjacent to the High School and Moon School, and locations along SR 132 create gaps in the existing sidewalk network. With the small number of signalized intersections, few crossing controls are present to aid pedestrian crossings, even on some of the larger roadways such as F Street and SR 132.

Recent investments include a streetscape project along four blocks of F Street and Bentley Street in Waterford’s downtown area. At the F Street/SR 132 Intersection, the City constructed curb ramps and sidewalk at all corners of the intersection, connecting with existing sidewalk on F Street north of SR 132.
BICYCLE & PEDESTRIAN DEMAND MODELING

In order to highlight areas with the highest potential for walking and biking demand a Geographic Information Systems (GIS) model based on land use factors, demographics, and roadway infrastructure was developed for this Plan. The model results are illustrated in a “heat map” for the entire county roadway network to show relative amounts of pedestrian and bicycle demand, and are based on weighing these different walking-related variables.

Methodology

The GIS model measured pedestrian and bicycle demand based on surrounding land use development, and time and proximity to key destinations. Based on those inputs, the model can help identify areas that may be the most desirable locations for walking trips and would therefore be target areas for investment.

The variables used in this model are based on US Environmental Protection Agency (US EPA) research on the relationship between the built environment and travel patterns. The variables shown to have the greatest effects on the number of people walking in a given area were used and broadly fall into four categories: built environment, proximity to walking destinations, demographics, and street network and connectivity. The methodology is detailed in Appendix C and D.

Analysis

The pedestrian and bicycle demand map can provide a guide to prioritization of pedestrian safety and walkability improvement projects in Waterford. Areas with high potential for pedestrian demand are shown in green on Figure 12-10, with areas of low demand shown in red. Areas with the highest pedestrian demand in Waterford include the residential neighborhoods located near schools, businesses, and civic uses of the downtown. Much of this area is located on the original grid roadway network of Waterford and has a higher degree of connectivity. Newer residential areas on the northern, eastern, and southern parts of Waterford have lower demand for walking and biking due to the areas’ limited street connectivity, many cul-de-sacs, and lower residential density.

Pedestrian improvements might focus on reducing crossing distance with curb extensions, speed feedback signs, and closing sidewalk gaps crossing enhancements at key destinations, such as schools, parks, and employment centers.
Figure 12-10 City of Waterford Bicycle & Pedestrian Demand Analysis

Demand Index

- Low Demand
- High Demand

Priority Areas

Schools

Employment Centers

Source: StanCOG, Fehr & Peers, 2012
Priority Areas

The area surrounding Reinway Avenue and Yosemite Boulevard/SR 132 was identified as a pedestrian priority area within the City of Waterford. Pedestrian walkways are limited along SR 132, with multiple sidewalk gaps along the route. Moon Elementary School, Lucile Whitehead Intermediate School, and Waterford High School are all located along Reinway Avenue. Providing walkways and any additional crossing treatments can improve pedestrian safety in the area. Such enhancements would be strong candidates for Safe Routes to School funding, should that funding source still be available. Detailed recommendations are presented on Figure 12-11. Given the high number of collisions along the corridor between 2008 and 2010, both bicyclists and pedestrians continue to use the corridor. Additional information on recommended pedestrian enhancements can be found in Appendix B Pedestrian Design Guidelines.

Because Yosemite Boulevard/SR 132 is a state highway, coordination with Caltrans is important. Studying pedestrian circulation the area, including collecting volume information on pedestrians, autos, and bicyclists, is an important next step for understanding the crossing needs of pedestrians in this area.

12.5 ADA INFORMATION

Waterford does not currently have an ADA Transition Plan. Where pedestrian improvements are made, ADA curb ramps are included. However, the City does not typically replace curb ramps outside of such efforts.

The City Planning and Public Works departments should pursue universal access in Waterford through a variety of means:

- Enforce ADA requirements as part of the permitting and entitlement process, using the draft Proposed Guidelines for Access Right-of-Way Guidelines (PROWAG) to ensure universal accessibility
- Adopt citywide policy of constructing ADA curb ramps and any other accessibility measures, as described in PROWAG, routine practice in any new construction or improvement project within the public right-of-way
- Prepare and implement a citywide ADA Transition Plan
SAFE ROUTES TO SCHOOL PEDESTRIAN PROJECTS
Yosemite Boulevard (SR 132) between North Reinway Avenue and Western Avenue

- Add culb outs with directional curb ramps
- Close sidewalk gaps on north and south side of Yosemite Boulevard
- Connect to existing sidewalk on Pasadena Avenue; Install ADA curb ramps
- Connect to existing sidewalk with ADA curb ramps at Western Avenue

(Yosemite Boulevard between North Reinway Avenue and Western Avenue)
12.6  BICYCLE AND PEDESTRIAN PROJECT IMPLEMENTATION

FUNDING

Bicycle and pedestrian infrastructure and programs can be funded either directly through the City or through various competitive grant programs.

Past Expenditures

In the past five years, Waterford has invested approximately $1.5 million in bicycle and pedestrian improvements, which mostly reflects the Downtown Improvement Project. Table 12-2 shows pedestrian improvements and bicycle improvement.

Funding Need

The total future funding need for new pedestrian and bicycle infrastructure in Waterford is $3,900,000, based on planning-level project cost estimates list.

The City recently received Caltrans Safe Routes to School Cycle 10 funding for $232,600 to support safe routes on North Reinway Avenue, Kadota Avenue, and Welch Street. The project will construct sidewalks, curbs and gutters, and bicycle lanes in the vicinity of Moon Primary School, Lucille Whitehead Intermediate School, and Waterford High School. Additionally, the City has received $30,000 total in CMAQ formula funding for the construction of a shared use path on E Street.

Countywide priority bikeways and projects within the pedestrian priority areas can be funded through a variety of sources. Because the countywide priority bikeways are multi-jurisdictional, coordination between agencies will be critical.
TABLE 12-2
CITY OF WATERFORD BICYCLE AND PEDESTRIAN IMPROVEMENTS SINCE 2008

<table>
<thead>
<tr>
<th>ID</th>
<th>Segment</th>
<th>From</th>
<th>To</th>
<th>Class/Type</th>
<th>Approximate Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Western Avenue/Yosemite Boulevard (SR 132) Intersection</td>
<td></td>
<td></td>
<td>Sidewalk, ADA Curb Ramps, High-Visibility Crosswalk</td>
<td>$ 30,225</td>
</tr>
<tr>
<td>2</td>
<td>Downtown improvement Project</td>
<td>-</td>
<td></td>
<td>Sidewalk, Curb Extensions, Street Furniture, Landscape</td>
<td>$ 1,500,000</td>
</tr>
</tbody>
</table>

Total $ 1,530,255


Recommended Funding Sources

Bicycle and pedestrian infrastructure and programs can be funded either directly through the City or through various competitive grant programs. Available funding sources are summarized in Table 12-3. The most applicable funding sources for the improvements recommended by this plan are:

- CMAQ Formula and Competitive Funding
- Highway Safety Improvement Program (HSIP)
- Safe Routes to School Grants (SR2S)
- Remove II Bicycle Infrastructure Component Grants
- Bicycle Transportation Account

Congestion Mitigation and Air Quality Improvement Program (CMAQ)

Congestion Mitigation and Air Quality Improvement Program (CMAQ) grants are administered on a per-population and competitive basis by StanCOG. The program is jointly administered by the Federal Highway Administration and Federal Transit Administration to increase attainment of the National Ambient Air Quality Standards (NAAQS). Based on population, StanCOG received $7,441,852 in CMAQ funding for FY2010-2011. For FY 2014 through FY 2016, $7,129,539 was available for CMAQ Competitive Funds. The cost-effectiveness calculation, based on the Air Resource Board (ARB) methodology, was the sole criteria for selected competitive funds. For FY2014-2015 and FY 2015-2016, all projects with a cost-effectiveness calculation of $64.45 were selected.

Stanislaus County communities routinely use the formula-based funding for the construction of bicycle and pedestrian projects. Seeking competitive grant funding for bicycle and pedestrian projects may be
another opportunity to secure funding for the build-out and improvement of bicycle and pedestrian networks.

*Highway Safety Improvement Program (HSIP)*

Caltrans administers two funding programs for roadway safety improvements: the Highway Safety Improvement Program (HSIP) and the Highway Rural Roads Program (HR3). These programs use cost-benefit ratios as a primary factor in the awarding of applications. Because both of these programs focus on roadway safety, projects with a high-frequency of documented collision history, particularly severe collisions, are typically ranked higher. Roadways with documented bicycle and pedestrian collision history, as discussed in Section 12-3 of this Plan, may be well-qualified for HSIP and HR3 applications, particularly since many of the proposed projects would improve bicyclist and pedestrian safety at a lower cost than many of the highway projects also eligible under this funding source.

For FY 2013, Caltrans estimates that $100 million in Highway Safety Improvement Program (HSIP) funding will be available. While this funding source is often used for major roadway improvement projects, installation of traffic signals, and most other cost-intensive projects, funding has routinely been awarded to bicycle and pedestrian projects. Successful projects have included:

- Median refuges and curb extensions
- Curb, gutter, and sidewalk
- Paved shoulders
- Upgraded traffic signals with pedestrian countdown signals and pedestrian-scale lighting
- Bicycle lane striping
- Crosswalk striping
- In-pavement flashers and rectangular rapid flashing beacon (RRFB) at crossings

Many of these projects were applied for as standalone bicycle and pedestrian improvement projects; some bicycle and pedestrian improvements were included with a broader package of roadway improvement projects. The average programmed federal funding amount was $400,000.

An additional $15 million is dedicated for the Highway Rural Road Improvement Program (HR3), for which many Stanislaus County communities are eligible. To be eligible for HR3, roadway improvements must occur on a roadway with a functional classification of:
- Rural major collector
- Rural minor collector
- Rural local road

Programmed federal funds for HR3 projects averaged $580,000 in the third funding cycle (2011), and most projects funded the widening or improvement of shoulders. Most of the priority bikeway projects included in this Plan consist of Class 3 bicycle routes with widened shoulders.

**Safe Routes to School (SR2S)**

Prior to 2012, the state and federal Safe Routes to School programs were potential funding sources for both bicycle and pedestrian planning and infrastructure projects that improve access to schools. Caltrans administered two Safe Routes to School programs: the state-legislated program (SR2S), authorized by California Streets and Highways Code Section 2330-2334, and the federal program (SRTS), authorized by the SAFETEA-LU federal funding bill. The SR2S and SRTS programs provided $24.25 million and $21 million, respectively, in annual funding. As of March 2013, the future of Safe Routes to School funding is improbable. Neither MAP-21, the federal funding bill for transportation spending, or the proposed California’s Governor’s Budget 2013-14, include set-aside funds for Safe Routes to School projects.

There are California state assembly bills currently under consideration that propose state funding for Safe Routes to School. Should Safe Routes to School funding continue beyond 2013, several of the proposed bikeways can be funded by Safe Routes to School programs. Successful applications are typically oriented toward pedestrian infrastructure projects; though bicycle projects may also be included in project packages.

**Remove II Bicycle Infrastructure Component Grants**

The San Joaquin Valley Air Pollution Control District (SJVAPCD) offers grant and incentive programs to help reduce air pollutants in the eight-county San Joaquin Valley, which currently does not meet the required National Ambient Air Quality Standards for ozone and particulate matter. The SJVAPCD Remove II Program includes the Bicycle Infrastructure Component, which provides incentives for the construction of Class 1 bicycle paths or Class 2 bicycle lanes that directly benefit commuters in the San Joaquin Valley. Up to $150,000 is available for Class 1 bicycle paths and $100,000 for Class 2 bicycle lanes per application. Applications must be for either a Class 1 or Class 2 facility, not both; however, multiple applications may be submitted. Grants are accepted on a first-come, first-served basis and the following criteria should be considered:
• Project must contribute to an increase in bicycle commuting and a reduction in auto emissions
• Proposed bikeways that close gaps in the network are highly encouraged
• Project should improve bicycle-transit connections
• Project should benefit disadvantaged communities
• Projects should target areas of high demand such as schools, parks, shopping areas, and commercial areas
• Co-funding from other sources is encouraged

Additional information can be found at: [http://www.valleyair.org/transportation/removeII/B1.htm](http://www.valleyair.org/transportation/removeII/B1.htm).

**California Bicycle Transportation Account (BTA)**

Bicycle facilities can be funded through the California Bicycle Transportation Account (BTA). Annually, $7.2 million is available for projects through the BTA.

**Additional Funding Sources**

The majority of public funds for bicycle and pedestrian projects are derived through a core group of federal and state programs. Federal funds from the Surface Transportation Program (STP), Transportation Alternatives (TA), and Congestion Mitigation Air Quality (CMAQ) programs are allocated to the County and distributed accordingly.

Limited amounts from the Local Transportation Fund (LTF), which is derived from a ¼ cent of the general sales tax collected statewide, can be used for bicycle and pedestrian facilities.

The Federal Safe Routes to School (SRTS) program was previously authorized under SAFETEA-LU; when MAP-21 superseded SAFETEA-LU, the SRTS program was discontinued. Instead, SRTS programs and infrastructure are eligible to compete for funding as a part of a new program called Transportation Alternatives (TA). As of December 2012, it is unknown whether California will dedicate a specific portion of TA funds for Safe Routes to School projects.

The California State Parks Recreational Trails Program provides funds annually for recreational trails and trail-related projects. Cities are eligible applicants for the approximately $2.3 million available annually. The program requires an applicant match of 12 percent of the total project cost.

In 2010, the California Strategic Growth Council (SGC) awarded $20 million through the Proposition 84 Sustainable Communities Planning Grant and Incentives Program. Sustainable Community Planning Grant
awards totaled $24.6 million in 2012; the SGC plans to award another cycle of grants in 2013. Eligible projects include plans that support greenhouse gas emission reduction and sustainable communities. Twenty percent of the grant funds are set aside for Economically Disadvantaged Communities (EDC), which describes some areas of Stanislaus County.

Caltrans Transportation Planning Grants are available to jurisdictions and can be used for planning or feasibility studies. The maximum funding available per project is $300,000.

The California Office of Traffic Safety (OTS) administers the General OTS Grant opportunities. Pedestrian safety is a priority area for grant funding. Funding can be used for certain police equipment, for signage (vehicle speed feedback signs), and for outreach materials and campaigns.

The Land and Water Conservation Program offers funds to states and through states to local governments for trails acquisition and development.

FUNDING STRATEGY

Although every community is unique, in our experience the following elements are important factors in successfully obtaining grant funding for projects:

- Identify local staff who can support the grant applications and oversee project implementation
- Develop a community vision
- Involve multiple stakeholders in the process
- Identify projects that:
  - Connect communities
  - Address safety issues
  - Support economic development
  - Improve access to schools
- Prioritize projects
- Identify projects that are most likely to successfully compete for grants
- Identify project champions
- Identify multiple parties to be co-applicants
- Identify local match opportunities
**TABLE 12-3**
**FUNDING SOURCE APPLICABILITY MATRIX**

<table>
<thead>
<tr>
<th>Funding Source</th>
<th>Bicycle Projects</th>
<th>Pedestrian Projects</th>
<th>Other Projects¹</th>
<th>Planning and Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Class 1 Bicycle Path</td>
<td>Class 2 Bicycle Lane</td>
<td>Class 3 Bicycle Route</td>
<td>Class 3.5 Bicycle Route</td>
</tr>
<tr>
<td>Surface Transportation Program (STP)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Transportation Alternatives (TAs)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Congestion Mitigation Air Quality (CMAQ)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Local Transportation Fund (LTF)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>California Safe Routes to School (SR2S)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>California Bicycle Transportation Account (BTA)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Highway Safety Improvement Program (HSIP) Grants</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>California State Parks Recreational Trails Program</td>
<td>●</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Proposition 84 Sustainable Communities Planning Grant and Incentives Program</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Caltrans Transportation Planning Grants</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>California Office of Traffic Safety (OTS) Grants</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Land and Water Conservation Program</td>
<td>●</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

Notes:
1. Includes non-pavement elements such as signal equipment, vehicle speed feedback signs, police equipment, or crossing guard equipment

- ● Funding source is applicable
- ○ Funding source is potentially applicable
- ○ Funding source is not applicable

POLICY RECOMMENDATIONS

In addition to the proposed bicycle and pedestrian projects, policy changes that support walking and biking can help establish a policy rationale for the creation of these facilities. The following policies are recommended:

- Adopt bicycle parking requirements in Zoning Code based on Section 9-4 of this Plan
- Consider updating the Waterford Bicycle Plan (2000) to accurately reflect current community biking needs and to update latest best practices in bicycle facility design and consider adding a pedestrian element to the Plan
- Consider adoption of a “Complete Streets” policy or “Routine Accommodation” type of policy to encourage accommodation of bicyclists and pedestrians of all ages and experience levels with new construction or improvements to the public right-of-way
- Develop and adopt an ADA Implementation Plan to guide inventory accessibility needs and future improvements
- Adopt citywide policy of constructing ADA curb ramps and any other accessibility measures, as described in PROWAG, routine practice in any new construction or improvement project within the public right-of-way
- When competing traffic analysis, collect bicycle and pedestrian volumes at each study location to address safety and circulation issues for those modes

12.7 SAFETY AND EDUCATION

In addition to implementing bicycle and pedestrian facilities, programs focused on education, encouragement, and enforcement can increase the number of people who bicycle and walk in Waterford.

EXISTING PROGRAMS

The City of Waterford does not currently have education, encouragement, and enforcement programs.

PROPOSED EDUCATION AND ENCOURAGEMENT PROGRAMS

Education programs seek to reduce collisions and help people feel safe and comfortable while biking or walking. These programs include elements that help motorists understand the rights of bicyclists and pedestrians. Simultaneously, education campaigns should target the general public and specific groups.
that have unique education needs or play a greater role in perpetuating collisions and other dangerous situations. Key target audiences include students, children and families, senior citizens, and drivers.

**School Programs**

Basic bicycling and walking skills and safety courses can be incorporated into school curricula. Often, these programs are facilitated by a local volunteer or by a member of local police, the Sheriff’s Department, or the California Highway Patrol. Anecdotally, many students may be walking to school. With local schools and residential areas located near state highways, the need for safety education related to walking and biking is important. Additional resources and information are available at the Safe Routes to School National Partnership website: [http://www.saferoutespartnership.org/local](http://www.saferoutespartnership.org/local). Programs could include:

- Walk and Roll to School days
- Pedestrian and bicycle safety curricula in the classroom or assemblies

**Adult Education**

Many less-experienced adult bicyclists are unsure how to negotiate intersections and how to ride with traffic on streets and roads. Adult education efforts which are sponsored by government agencies, major employers, local bicycle enthusiasts or other volunteer groups can help address this need. An annual or semi-annual class could be offered free of charge to provide information on how to avoid collisions and citations, how to ride safely and improve visibility, and understand the legal rights of cyclists. Instructors from elsewhere in the state or qualified local instructors or volunteers could teach this class to cyclists, tailored to local needs and issues. Future expansion ideas could include adding on-the-bicycle training.

**Online Bicycle Maps**

The City should provide existing bicycle network maps on their Web page for residents to use as a trip-planning resource, including the countywide maps developed in this Plan. The maps could be used by local residents and visitors to plan their bicycle trips or alternatively could be used as a marketing piece to attract tourist bicycling in the City and surrounding area. The website could also include educational information, including hand signals, bicycle lighting, and safety.
ENFORCEMENT PROGRAMS

The City should work with the local Police Department, Sheriff, and California Highway Patrol (CHP) to conduct enforcement campaigns intended to improve bicyclist and pedestrian safety. Sample enforcement programs include the following.

Targeted Moving Violations

Decreasing moving violations committed by motorists, bicyclists, and pedestrians alike is critical to improving safety and encouraging all roadway users to share the road. The City should work with the Sheriff and CHP to develop targeted enforcement efforts or sting operations. Advertising campaigns help the targeted violation efforts reach a wider audience.

Moving violations by motorists that affect bicyclists and pedestrians include:

- Speeding
- Passing without sufficient clearance
- Driving in the bicycle lane
- Right-turning in front of bicyclists
- Failing to signal
- Double parking
- Failing to yield to pedestrians at a crosswalk

Moving violations by bicyclists and pedestrians include:

- Failing to stop at a stop sign
- Failing to signal
- Wrong-way riding
- Riding without lights at night
- Failing to wear a helmet (if under 18 years of age)
- Jaywalking

Radar Speed Signs

Radar speed signs feature a changeable message sign linked to a radar unit; the signs display the vehicle’s actual speed as the vehicle approaches the sign. Radar speed signs can be mounted permanently to a pole (where they are powered by hard wire or a solar unit) or alternatively they can be mounted to a trailer (also known as a "speed trailer") and deployed on a temporary basis. Studies in the United States have shown that radar speed signs are an effective way to slow traffic. The City should consider installing additional radar speed signs within school zones in partnership with the school district and, on state highways. Speed trailers should be deployed to different parts of the City regularly to remind drivers citywide to obey the speed limit.
APPENDIX A: BIKEWAY DESIGN GUIDELINES
BIKEWAY DESIGN GUIDELINES

This appendix provides basic bikeway planning and design guidelines for use in developing the Stanislaus County bikeway system and support facilities. The appendix provides basic guidance on the following considerations:

- Design requirements for Class 1, 2, and 3 facilities contain elements established in Chapter 1000 of Caltrans’ Highway Design Manual (HDM);
- Additional design considerations and guidelines that may surpass the minimum requirements of Chapter 1000 of the HDM; and
- Implementation.

Engineering review and judgment should be used prior to installation of bicycle facilities.

CLASS 1 BICYCLE PATHS

This section describes minimum design requirements and recommended design guidelines for Class 1 bicycle paths. Design guidance is also provided on bicycle path crossings.

Path Design

A Class 1 bicycle path must be, at minimum, eight feet in width, with a two-foot graded zone clear of obstructions on either side. Where a Class 1 path is adjacent to a roadway, a five-foot separation is required between the travel way and the bicycle path. A conceptual cross-section of these standards is shown on Figure A-1.

A path width of ten feet is the recommended minimum path width based on best practices. This allows bicyclists to ride side-by-side and to pass slower moving cyclists. If a high number of bicyclists is expected, a path width of twelve feet or more should be used.

Path Implementation

Each of the proposed Class 1 bicycle path facilities will require a feasibility assessment for implementation. The feasibility assessment should identify or include:
CLASS 1 BIKEWAY (Bike Path)
Provides a completely separated right-of-way for the exclusive use of bicycles and pedestrians with cross flow minimized.

CLASS 2 BIKEWAY (Bike Lane)
Provides a striped lane for one-way bike travel on a street or highway.

CLASS 3 BIKEWAY (Signed Bike Route)
Provides for shared use with motor vehicle traffic. May also include optional sharrows, pavement marking, optional “BIKES MAY USE FULL LANE” signs (R4-11) in urban areas, and optional “SHARE THE ROAD” signs on rural roadways.

CLASS 3.5 BIKEWAY (Signed Bike Route with Wide Shoulders)
Provides wide paved shoulders, removing bicyclists from the travel lane and provides pedestrian space in rural areas.

Figure A-1
Caltrans Bikeway Classifications
- A preferred route
- Bicycle path or trail surface type (aggregate versus pavement)
- Proposed solutions to key roadway or waterway crossings
- Preliminary engineering and cost estimates
- Statements of stakeholder interest

Following a feasibility assessment, the County can either fund project design and construction or pursue grant funding, as described in the Funding and Implementation sections of this Plan.

**Bicycle Paths at Intersections**

Class 1 paths provide the separation of bicyclists from automobile midblock; however, a potential for conflict is created at intersections. The image at right indicates the potential conflict points with a bicycle path that parallels roadways. At such intersections:

- At signalized intersections, allow protected instead of permissive left-turns across the path. Protected turns should be use where turning volumes and/or path volumes are high.
- Reducing the curb radius where vehicles turn right across the path will help to reduce vehicle speeds.
- Raising the trail crossing will help to slow the speeds of right-turning vehicles and make bicyclists more visible to those motorists.
- At signalized intersections, prohibit right turns on red.

Both the Caltrans *Highway Design Manual* and AASHTO’s *Guide for the Development of Bicycle Facilities, 4th Edition* explicitly discourage use of bollards or other vertical elements at path crossings unless documented as necessary, as they create hazards for bicyclists.
Where bicycle paths begin and terminate, the bicycle path should provide clear direction for how bicyclists can reenter the on-street bicycle network.

**Bicycle Path at Mid-Block Crossings**

Where bicycle paths intersect roadways in the middle of blocks, consideration should be given to how bicyclists cross the roadway. Such crossings should consist of ramped areas on both sides of the path and marked crossing. Where the intersecting roadway has a grade-separated median, an opening should be constructed through the median to allow bicyclists to cross in two steps. Median refuges should be at least six feet wide to accommodate the full length of a bicycle. If the median is landscaped, low-growing vegetation should be used to maximize sightlines between bicyclists and motorists.

Where paths intersect a roadway at a skewed angle, paths should be oriented to cross at as close to 90 degrees as possible.

"YIELD" signs should be considered at each path approach to control bicyclists’ movement at the crosswalk. Though "STOP" signs can be used, compliance is frequently low. "YIELD" signage may be more likely to be observed and may encourage slowing behavior as bicyclists approach the crossing.

**CLASS 2 BICYCLE LANES**

This section includes bicycle lane design minimum standards for different roadway configurations, implementation considerations, and design requirements and guidelines for bicycle lanes at intersections.
Bicycle Lane Design

Minimum design standards for Class 2 bicycle lanes vary depending on whether the roadway has curb and gutter and on-street parking. A conceptual cross-section of these standards is shown on Figure A-1. Minimum six-foot bicycle lanes are recommended whenever feasible in order to increase bicycle safety and comfort, keeping bicycles away from the door zone where on-street parking is allowed. The following minimum design requirements should be used for bicycle lanes:

- **Roadway without Curb and Gutter**—six foot width recommended, minimum four foot width required per MUTCD
- **Roadways with Curb and Gutter and No On-Street Parking**—six foot width recommended, minimum five foot width required per MUTCD
- **Roadways with Curb and Gutter and On-Street Parking**—six foot width recommended, minimum four foot width required per MUTCD. On-street parallel parking can be reduced to seven feet in width to allow for six-foot bicycle lanes

If additional roadway space is available, a buffer between the auto lane and bicycle lanes may be striped.

Bicycle Lane Implementation

Width for bicycle lanes can be acquired in two ways:

- Add width to the existing roadway
- Reduce the width of travel lanes on the existing roadway

Further feasibility assessment should determine the proposed implementation strategy for individual Class 2 bicycle lane projects.

CLASS 3 BICYCLE ROUTES

Class 3 bicycle routes consist of designated bicycle routes that are signed with “BICYCLE ROUTE” (CA MUTCD D11-1) signage. In the largely rural context of Stanislaus County, bicycle route signage should be placed approximately each ¼ mile.

Bicycle route signage may also be combined with bicycle wayfinding signage that indicates distances to the popular destinations and provide basic directional guidance on how to get there via bicycle.
Bicycle routes may also be combined with “shared lane markings” or “sharrows,” as shown on Figure A-1. These markers consist of a bicycle symbol with two chevrons and are striped in the outside travel lane to direct riders to bicycle outside of the door zone when present next to on-street parking. They may also be placed in the center of the lane where travel lanes are narrow and drivers may not be able to safely pass bicyclists. In such urban contexts with narrow lanes, bicycles are legally allowed full use of the lane under the California Vehicle Code, which can be reinforced through “BICYCLE MAY USE FULL LANE” signage (CA MUTCD R4-11).

Implementation

The County can group the signage for all Class 2 bicycle routes into one project and apply for grant funding. This signage should include both the CAMUTCD D11-1 “Bicycle Route” signage, CAMUTCD W11-1 and W16-1 “Share the Road” signage, and guide signs for bicycle facilities.

CLASS 3 BICYCLE ROUTES WITH WIDE SHOULDER

The Plan calls out proposed Class 3 bicycle routes that have wide shoulders. These areas consist of Class 3 bicycle routes signage, as described above, but also have a wide paved shoulder where bicyclists can comfortably ride outside the travel lane. As Stanislaus County completes roadway widening projects across the County, eight-foot shoulders on both sides of the roadway are the standard. Some roadways throughout the County may have wide shoulders in some segments. Though these areas are not designated with a bicycle stencil or “BIKE LANE” pavement legend, they can effectively provide the same level of comfort or more as Class 2 bicycle lanes. Widened shoulders should be constructed any time a jurisdiction completes a roadway widening and/or overlay project in accordance with the proposed network established in the Plan.
Class 3 Bicycle Routes with “SHARE THE ROAD” Signage

Class 3 bicycle routes may also be combined with optional “SHARE THE ROAD” signage (CA MUTCD W11-1 and W16-1), as shown at right. Share the Road (STR) signage may be most appropriate in rural or suburban contexts where drivers, bicyclists, and pedestrians may not have their own dedicated roadway space. On designated Class 3 routes with limited shoulder space, STR signage may be appropriate, particularly in rural contexts. The signage reminds motorists, bicyclists, and pedestrians alike that the roadway needs to be shared between these various users. Through the work of the StanCOG Bicycle & Pedestrian Advisory Committee, Class 3 routes with STR signage were identified within the County. Typically, these are routes in very rural contexts outside of Stanislaus County cities that see heavy use by recreational cyclists.

BICYCLE FACILITIES AT INTERSECTIONS

Intersections represent major conflict points between motorists and bicyclists. As such, careful consideration must be made to the design of bicycle lanes at intersection approaches, especially where right-turn movements by motorists are heavy. The following considerations and accommodations should be made:

- Installation of bicycle detection at all new and modified signalized intersections is required per the California MUTCD (2012).
- Provide direct routes for bicyclists through the intersection.
- Remove excess conflict points between bicyclists and motorists.
- Provide lighting at an appropriate scale for bicyclists.
- Avoid free-flow turning movements where possible or provide bicycle lane to mitigate the issue.
- Where additional guidance is needed, the extension of bicycle lanes through intersections is possible.
With regard to bicycle detection, research has shown that Type D loop detectors are most capable of detecting bicyclists. Limit line detector loops should be Type D so that a bicyclist can be detected from any lane. Bicycle lanes at signalized intersections should include modified Type D loop detectors with the bicycle detector pavement marking. Outside of the bicycle lane or if not provided with a bicycle lane, bicycle detector pavement markings should indicate where to position their bicycle to activate the signal.

**BICYCLE FACILITIES AT INTERCHANGES**

The Institute of Transportation Engineers (ITE) has drafted a new recommended practice: Recommended Design Guidelines to Accommodate Pedestrians and Bicycles at Interchanges. These guidelines, once adopted, will provide best practice in accommodation of all modes through interchanges. Guiding principles for bicycle facilities include:
- Provide bicycle facilities to safely and efficiently accommodate bicycles.
- Install a buffer zone where bicyclists would travel between moving vehicles for more than 200 feet.
- Where bicyclists merge across a vehicle lane, define a merging zone (not location) so bicyclists can merge when there is an opportunity for a safe transition. Consider using color treatments in accordance with the AASHTO Guide for the Development of Bicycle Facilities, 4th Edition (2012) and Section 1A.10 of the MUTCD.
- Follow current best practices regarding bicycle facility and crossings signage (per the MUTCD).

**BICYCLE PARKING**

Placing bicycle parking adjacent to store fronts, shopping centers, schools, parks, and transit stops may encourage people to bicycle to places that are too far to walk and too close for driving. If installed in the furnishing zone, racks parallel to the curb must be a minimum of 18 inches from the curb. On narrow sidewalks, bicycle parking is oriented so the locked bicycle is parallel to the pedestrian traffic flow.

On streets with very wide sidewalks, bicycle parking may also be oriented with locked bicycles perpendicular to the right-of-way as long as they do not project into the pedestrian travel zone. Private property owners are also encouraged to provide bicycle parking for use by the public on their land within the “Frontage Zone.” Such parking should be installed so that locked bicycles do not project into the sidewalk. Bicycle parking rings on posts are designed to prevent bicycles from falling and becoming an obstacle to walking.

Bicycle parking should also be provided at transit centers and at bus stops on important bus routes. Many Stanislaus County residents may bicycle to bus stops, creating a need for bicycle parking at these locations. Bicycle racks should be placed near to bus stops while providing an unobstructed area for boarding and alighting.
Striped areas remain clear for wheelchair access to bus doors.

Trees

Bus Shelter

Bike Racks

Lighting

Remove parking lane and extend sidewalk to create waiting area.

Source: Improving Pedestrian Access to Transit: An Advocacy Handbook
APPENDIX B: PEDESTRIAN DESIGN GUIDELINES
PEDESTRIAN DESIGN GUIDELINES

CROSSWALK MARKINGS AND SITING OF CROSSWALKS

A uniform crosswalk policy that specifies different treatments for crosswalks at controlled (stop-controlled) and uncontrolled marked crosswalks is beneficial for pedestrians. While standard crosswalk striping is typically sufficient at controlled locations, high-visibility striping (such as “ladder” striping) is preferable at uncontrolled locations where motorist yielding is required, as ladder striping improves visibility for motorists. Consistent crosswalk striping policies passively alert pedestrians and motorists to uncontrolled crosswalks.

The first step in identifying candidates for marked crosswalk locations at an uncontrolled crossing (without a stop sign or signal) is to identify the places people would like to walk (“pedestrian desire lines”). These places are affected by local land uses (homes, schools, parks, commercial establishments, etc.) and the location of transit stops. This information forms a basis for identifying pedestrian crossing improvement areas and prioritizing such improvements, thereby creating a convenient, connected, and continuous walking environment.

The second step is identifying the locations safest for people to cross. Of all road users, pedestrians have the highest risk because they are the least protected. National statistics indicate that pedestrians represent 14 percent of all traffic incident fatalities, yet walking accounts for only three percent of total trips. Pedestrian collisions occur most often when a pedestrian is attempting to cross the street at an
intersection or mid-block location. Several major studies of pedestrian collision rates at marked and unmarked crosswalks have been conducted. In 2002, the Federal Highway Administration (FHWA) published a comprehensive report on the relative safety of marked and unmarked crossings. In 2006, another study was completed that further assists engineers and planners in selecting the right treatment for marked crosswalks based on studies of treatment effectiveness. These studies represent best practice guidance on when to mark an uncontrolled crosswalk and how to enhance the crosswalk where needed (on higher volume, higher speed, wider roadways).

### Table 11. Recommendations for installing marked crosswalks and other needed pedestrian improvements at uncontrolled locations.*

<table>
<thead>
<tr>
<th>Roadway Type (Number of Travel Lanes and Median Type)</th>
<th>Vehicle ADT ≤ 5,000</th>
<th>Vehicle ADT &gt;5,000 to 12,000</th>
<th>Vehicle ADT &gt;12,000 to 15,000</th>
<th>Vehicle ADT &gt; 15,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two lanes</td>
<td>BC</td>
<td>BC</td>
<td>BC</td>
<td>BC</td>
</tr>
<tr>
<td>Three lanes</td>
<td>CP</td>
<td>CP</td>
<td>CP</td>
<td>CP</td>
</tr>
<tr>
<td>Multilane (four or more lanes) with raised median</td>
<td>CP</td>
<td>CP</td>
<td>CP</td>
<td>CP</td>
</tr>
<tr>
<td>Multilane (four or more lanes) without raised median</td>
<td>CN</td>
<td>CN</td>
<td>CN</td>
<td>CN</td>
</tr>
</tbody>
</table>

* These guidelines include intersection and midblock locations with no traffic signals or stop signs on the approach to the crossing. They do not apply to school crossings. A two-way center turn lane is not considered a median. Crosswalks should not be installed at locations that could present an increased safety risk to pedestrians, such as where there is poor sight distance, complex or confusing design, 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 it 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 recommendations; good engineering judgment should be used in individual cases for deciding where to install crosswalks.

** Where the speed limit exceeds 64.4 kmh (40 mph), marked crosswalks alone should not be used at unsignaled locations.

*** The raised median or crossing island must be at least 1.2 m (4 ft) wide and 1.8 m (6 ft) long to serve adequately as a refuge area for pedestrians, in accordance with MUTCD and American Association of State Highway and Transportation Officials (AASHTO) guidelines.

C = Candidate sites for marked crosswalks. Marked crosswalks must be installed carefully and selectively. Before installing new marked crosswalks, an engineering study is needed to determine whether the location is suitable for a marked crosswalk. For an engineering study, a site review may be sufficient at some locations, while a more indepth study of pedestrian volume, vehicle speed, sight distance, vehicle mix, and other factors may be needed at other sites. It is recommended that a minimum utilization of 20 pedestrian crossings per peak hour (or 15 or more elderly and/or child pedestrians) be confirmed at a location before placing a high priority on the installation of a marked crosswalk alone.

P = Possible increase in pedestrian crash risk may occur if crosswalks are added without other pedestrian facility enhancements. These locations should be closely monitored and enhanced with other pedestrian crossing improvements, if necessary, before adding a marked crosswalk.

N = Marked crosswalks alone are insufficient, since pedestrian crash risk may be increased by providing marked crosswalks alone. Consider using other treatments, such as traffic-calming treatments, traffic signals with pedestrian signals where warranted, or other substantial crossing improvements to improve crossing safety for pedestrians.

In some situations (e.g., low-speed, two-lane streets in downtown areas), installing a marked crosswalk may help consolidate multiple crossing points. Engineering judgment should be used to install crosswalks at preferred crossing locations (e.g., at a crossing location at a streetlight as opposed to an unlighted crossing point nearby). While evidence of marked crossings at uncontrolled locations should be avoided, higher priority should be placed on providing crosswalk markings where pedestrian volume exceeds 20 per peak hour (or 15 or more elderly pedestrians and/or children per peak hour).

Marked crosswalks and other pedestrian facilities (or lack of facilities) should be routinely monitored to determine what improvements are needed.

**Source:** FHWA, “Safety Effects of Marked versus Unmarked Crosswalk at Uncontrolled Locations.”

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3. Pedestrian Crash Types. A 1990’s Information Guide, FHWA. This paper analyzed 5,076 pedestrian crashes that occurred during the early 1990s. Crashes were evenly selected from small, medium, and large communities within six states: California, Florida, Maryland, Minnesota, North Carolina, and Utah.


Where yielding compliance is an issue or where encroachment into the pedestrian space is common, advanced stop bars and advanced yield markings may be used. Advanced stop bars place the typical stop bar of stop-controlled intersection four to ten feet in advance of the crosswalk location. This indicates that motorists must stop prior to the crosswalk. At uncontrolled crosswalk locations where yielding is an issue, advanced yield markings (or “sharks tooth” markings) can be placed 20 to 50 feet in advance of a crosswalk. These should be combined with “YIELD HERE TO PEDESTRIANS” (CA MUTCD R1-5a) signage. On multi-lane roadways, requiring cars to yield to pedestrians in advance of the crosswalk can reduce the risk of multiple-threat collisions, creating better sightlines for motorists and pedestrians.
CROSSWALK ENHANCEMENTS

The following are examples of preferred non-signal pedestrian safety treatments for uncontrolled locations. Further engineering studies should be completed to determine if candidate treatments are appropriate for a specific location.

Corner Bulb-Outs/Curb Extensions

Corner bulb-outs (or curb extensions) extend the curb and sidewalks further into the roadway, shortening the length of the crosswalk. They act as a traffic calming device by narrowing the effective width of the roadway. Because they extend into the roadway, often past parallel-parked vehicles, they improve visibility for pedestrians. Corner bulb-outs can be constructed with reduced curb radii and to accommodate ADA improvements, such as directional curb ramps.

Pedestrian Refuge Island

Raised islands are placed in the center of the roadway separating opposing lanes of traffic with cutouts or ramps for accessibility along the pedestrian path. Median refuge islands are recommended where right-of-way allows and conditions warrant. Median refuge islands should be a minimum six feet in width wherever possible to provide enough space for bicyclists and pedestrians with strollers.
In-Roadway Warning Lights

Both sides of a crosswalk are lined with pavement markers, often containing an amber LED strobe light. The lights may be push-button activated or activated with passive pedestrian detection.

The County should assess similar jurisdiction’s experiences with In-Roadway Warning Lights’ effectiveness and maintenance before installing In-Roadway Warning Lights.

Rectangular Rapid Flashing Beacons (RRFBs)

RRFBs are an enhancement of the flashing beacon that replaced the traditional slow flashing incandescent lamps with rapid flashing LED lamps. The RRFB may be push-button activated or activated with passive detection. This treatment now has interim approval in the CA MUTCD. RRFBs are most effective on multi-lane roadways and have been proven to increase yield compliance by as much as 80 percent.

SIDEWALKS

Sidewalks vary throughout Stanislaus County. In some jurisdictions and within the unincorporated County, sidewalks may be cost-prohibitive. As a result, lower-cost solutions such as paved multi-use shoulders should be considered. Other areas of the County are more urbanized and sidewalks are required. Where sidewalks occur, it is often separated from vehicle lanes by a landscaped buffer. However, this requires more right-of-way. Where possible, sidewalks should be separated from vehicle lanes by a landscaped buffer.

Wider sidewalks can accommodate more pedestrians and further buffer pedestrians from vehicles. New sidewalks should be a minimum of five feet in width. In busy areas such as downtowns and school areas, sidewalks should be wider.
Meandering sidewalks, as opposed to straight sidewalks, should be avoided since they are inconvenient for pedestrians and are challenging for disabled users.

**CURB RAMPS**

Providing two curb ramps per corner, each that points directly into the crosswalk, improves access for blind pedestrians. When installing new curb ramps, jurisdictions should install two ramps per corner where possible. Where two curb ramps are not possible, diagonal curb ramps are preferred. Parallel curb ramps, which are often used in constrained environments, are not recommended in most circumstances.

**WIDE SHOULDERS**

As part of the designated bicycle network, numerous roadways with wide shoulders are proposed in the County. Wide shoulders provide for a multi-use roadway space adjacent to the travel lane. Both pedestrians and bicyclists can use this space in rural contexts with bicycle lanes or paths in locations where sidewalks may not be feasible. In the unincorporated County, the goal for shoulder widening is eight foot shoulders in each direction. This provides ample space for both bicyclists and pedestrians to get to their destinations.

Wide paved shoulders may also be combined with asphalt curbs to provide a vertical barrier between bicyclists and pedestrians and the travel way. Asphalt curbs may be particularly appropriate where additional dedicated space is required in a rural context, such as near schools in unincorporated areas of the County.
PEDESTRIAN ACCOMMODATION AT INTERCHANGES

The Institute of Transportation Engineers (ITE) has drafted a new recommended practice: *Recommended Design Guidelines to Accommodate Pedestrians and Bicycles at Interchanges*. These guidelines, once adopted, will provide best practice in accommodation of all modes through interchanges. Stanislaus County communities should follow guidance presented in this guide when designing or modifying interchanges. Guiding principles for pedestrians facilities include:

- Provide pedestrian facilities to safely and efficiently accommodate pedestrians.
- Design ramp geometries in ways that encourage slower vehicle speeds until past the pedestrian crosswalk.
- Locate the crosswalk at the location with the best visibility and before the point where vehicles begin to accelerate.
- Crosswalks should be designed to be as short as possible, but without deviating excessively from pedestrian desire lines. For long crosswalks, median pedestrian islands should be considered, as they can improve signal timing while making a long crossing less daunting for pedestrians.
- Use the Crosswalk Treatment Identification Tool (or reference NCHRP Report 562 and similar, current resources/manuals) to select appropriate crossing treatments. The tool was developed by Fehr & Peers and peer reviewed by the Pedestrian Bicycle Council to assist transportation professionals in context-sensitive appropriate crosswalk treatments, ranging from standard tools such as traffic signal and median pedestrian islands to advanced devices such as the High-Intensity Activated Crosswalk beacon (HAWK or Hybrid) and the rectangular rapid flashing beacon (RRFB).
- Follow current best practices regarding pedestrian facility and crossings signage (per the MUTCD).
APPENDIX C & D: BICYCLE AND PEDESTRIAN DEMAND MODELING METHODOLOGY AND BIKEWAY PRIORITIZATION METHODOLOGY
MEMORANDUM

Date: August 21st, 2012
To: Charles Turner, StanCOG
From: Ian Moore, Brooke DuBose, and Carrie Nielson, Fehr & Peers
Subject: StanCOG Bicycle and Pedestrian Master Plan Bikeway Prioritization Criteria and Methodology

This memorandum presents the proposed project prioritization criteria and prioritization methodology for the StanCOG Bicycle and Pedestrian Master Plan. While many Stanislaus County communities already take advantage of roadway overlay projects to stripe bicycle lanes where feasible, or to widen shoulders during repaving, this prioritization exercise will identify projects that would have the most impact on the countywide bicycle network relative to need and funding constraints. The project prioritization methodology is distinct and separate for regional priority bikeways located in unincorporated Stanislaus County and projects within incorporated jurisdictions, and is outlined below.

UNINCORPORATED STANISLAUS COUNTY PRIORITIZATION

Facilities within unincorporated Stanislaus County will be prioritized to address the need for regional connections within Stanislaus County. Because the geographic area of the county is spread out, it is important to prioritize these projects because of the long length of each proposed bikeway and the limited financial resources to implement and maintain facilities.

Proposed bikeways within the unincorporated county may be assigned up to a total of 12 points. Criteria were assigned different point values to reflect their priority weighting, with additional weight given to projects that create continuous bikeways or address immediate safety needs. The following criteria and maximum point values were used:
• Closure of a critical gap – 4 points
• Immediate safety need – 4 points
• Access to key destinations – 2 points
• Feasibility – 2 points

The evaluation criteria are detailed below.

**Closure of a Critical Facility Gap - 4 Points Maximum**

Bikeways in unincorporated Stanislaus County can score 0, 3, or 4 points for closure of a critical facility. In order to weigh gap closure projects heavily within the prioritization scoring, only projects that close a gap receive a score and only high scores—a 3 or 4—are assigned. A critical gap is defined as a break between two existing bikeways, an existing bikeway and a planned and funded facility, or two planned and funded facilities. The gap might consist of a short segment, such as bridge, or a longer segment, such as a bike lane. The score does not take the bikeway facility class into account. Planned and funded facilities were determined based on interviews with local City and County staff. The definitions for each score are:

0 – No gap closure

3 – Closes a critical gap on a facility with multiple critical gaps

4 – Closes a gap on a facility to create a continuous bikeway

**Immediate Safety Need - 4 Points Maximum**

The score for safety accounts for both bikeway facility types (e.g. bike path, bike lanes, bike route with wide shoulders, or signed bicycle route) and the reported collision history between 2008 and 2011. Bike lanes on or bike paths adjacent to roadways with greater collision frequencies are given the highest priority. Class 3 bicycle routes with wide shoulders are also given priority though less than Class 1 and 2 bikeways. A score of 0, 1, 2, 3, or 4 is available for a facility’s ability to address an immediate safety need. The scoring is as follows:

0 – Provides a Class 3 signed route with limited or no shoulders OR no documented walking, biking, or traffic safety concerns

1 – Provides a Class 3 signed route with wide shoulders for bicyclists AND is on corridor with two or less documented bicycle-auto collisions
2 – Provides Class 1 path or Class 2 lanes AND is on corridor with two or less documented bicycle-auto collisions

3 – Provides a Class 3 signed route with wide shoulders for bicyclists AND is on corridor with more than three bicycle-auto collisions

4 – Provides Class 1 or Class 2 lanes AND is on corridor with more than three bicycle-auto collisions

**Access to Key Destinations - 2 Points Maximum**

Unincorporated Stanislaus County has both urbanized communities and long rural roadways lined with agricultural uses. To prioritize needs in both of those settings, access to key destinations is defined in two ways. First, it is defined as access to schools, parks, and commercial centers, where relevant in urbanized areas. Secondly, for rural roadways, access to key destinations is defined as regional connections between cities. The scoring is as follows:

0 – Does not access key destinations (schools, parks, or commercial centers) AND/OR does not provide regional connections

1 – Accesses at least one key destination (schools, parks, or commercial centers) AND/OR provides partial regional connection (on a facility with multiple gaps or provides indirect regional connection)

2 – Accesses multiple key destinations (schools, parks, and/or commercial centers) AND/OR provides continuous regional connections (either through gap closure or new continuous segment)

**Feasibility - 2 Points Maximum**

The feasibility of the project takes into account a variety of implementation concerns. Feasibility is defined here as the need for laying new pavement—whether that be through roadway widening or new path construction—and the need for right-of-way acquisition or easements. Many of the roadways in the County have substantial right-of-way on either side but have limited pavement widths. As such, new pavement is an important feasibility metric in a large county, as costs to widen roadways over long segments of roadway may quickly become cost prohibitive. Projects may receive a score of 0, 1, or 2 for feasibility as follows:
0 – Right-of-Way (ROW) or easement/acquisition required OR significant barriers impede route (e.g. railroad tracks, canals, highway, or major arterials)

1 – New pavement required but no additional ROW or easement/acquisition necessary

2 – No roadway widening or new path construction required

As an example, the proposed facility on Hatch Road between Eastgate Road in the City of Ceres and Gilbert Road in the County would be scored as follows:

**TABLE 1 UNINCORPORATED STANISLAUS COUNTY PRIORIZATION CRITERIA: HATCH ROAD EXAMPLE**

<table>
<thead>
<tr>
<th>Scoring Criteria</th>
<th>Rationale</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Closure of a Critical Gap</td>
<td>Closes critical regional gap, between Class 1 on Hatch Road through Ceres, Class 3 with wide shoulders between Gilbert and Clinton Roads in the County, and the planned and funded Clinton Road to Santa Fe Avenue shoulder widening project in the County</td>
<td>4</td>
</tr>
<tr>
<td>Immediate Safety Need</td>
<td>Provides additional pavement width outside of the travel lanes for bicyclists, but Hatch Road between Eastgate Road and Gilbert Road had no reported collisions between 2008-2011</td>
<td>1</td>
</tr>
<tr>
<td>Access to Key Destinations</td>
<td>Provides new regional connection between Ceres and Hughson</td>
<td>2</td>
</tr>
<tr>
<td>Feasibility</td>
<td>New pavement would be required, but can be done within the existing right-of-way</td>
<td>1</td>
</tr>
</tbody>
</table>

**Total** 8

Each proposed project in the unincorporated county will be scored as demonstrated above. Cost estimates will be used as an additional filter for all projects. The projects with the highest scores will be designated as the short-term recommended bikeway network. The project list will be grouped into short-term, mid-term, and long-term priority projects. This list serves as a starting point for determining project priorities and implementation and should be adjusted as based on changes in planning and funding documents and input from StanCOG staff, StanCOG’s BPAC, and the public during the second outreach workshop.
INCORPORATED STANISLAUS COUNTY PRIORITIZATION

Selected facilities within incorporated Stanislaus County communities were prioritized in order to establish significant regional routes through incorporated urban areas. Countywide priority bikeways through incorporated areas were evaluated using a bicycle and pedestrian demand model developed for Stanislaus County. These prioritized regional routes through cities should be incorporated into overlay schedules and/or prioritized for CMAQ funds or competitive grant funding as appropriate.

Bicycle and Pedestrian Demand Model Methodology

The Demand Model is a predictive tool used to identify relative amounts of pedestrian and bicycling activity in Stanislaus County jurisdictions. The methodology is based on research Fehr & Peers has conducted for the US Environmental Protection Agency (EPA) on the relationship between the built environment and travel patterns. Through this and subsequent studies, several factors have been shown to have significant effects on the number of people walking in a given area.¹ The analysis uses a combination of existing GIS data and newly collected information to develop variables highly correlated with walking activity. The weighting of each individual variable is based on the results of the EPA research described above.

In total, thirteen (13) indicators were selected to estimate pedestrian demand within the County, with variables are organized into four categories:

- Built Environment
- Proximity to Walking Destinations
- Demographics
- Street Network and Pedestrian Permeability

Table 2 lists the 13 variables that were used in developing the model. Each variable was assigned a weighting score proportional to its expected influence on walking demand on streets within the

¹ The literature on travel behavior substantiates that several “D-factors” independently affect travel behavior, including: land use Density, Diversity (land use mix); pedestrian Design, and access to regional Destinations. Because these “Ds” work at a very local level, most travel demand models are too aggregate in scale to capture the effects of the Ds. Additional “D” factors such as Distance to Transit and population Demographics are also included based on their demonstrated relationship to walking/biking.
County. The resulting demand index is the relative forecast of the level of pedestrian and bicycle activity on an individual street segment.

The methodology for developing the bicycle and pedestrian demand model is comprised of the following steps:

- **Step 1: Compile GIS Data**: Available data from StanCOG, Stanislaus County, the US Census, and the local jurisdictions were compiled in GIS. Examples of available data layers include population by census tract, existing street networks, and largest employers. Thirteen variables that have an effect on walking and biking activity were chosen, as shown on Table 2.

- **Step 2: GIS Data Processing**: Each of the variables was analyzed to look at densities such as population density or intersection density, proximity factors such as distance to schools or commercial areas, and network connectivity such as prevalence of cul-de-sacs. Each variable was also assigned a weighting factor to help prioritize specific variables, as shown in Table 2.

- **Step 3: Develop Final Database and Join Attributes to Street Centerline File**: Each roadway segment then received a score, ranging from 0-100, to reflect the potential for walking and biking demand in that area.

<table>
<thead>
<tr>
<th>Table 2 StanCOG Bicycle and Pedestrian Demand Model Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Variable</strong></td>
</tr>
<tr>
<td>--------------</td>
</tr>
<tr>
<td>Population Density</td>
</tr>
<tr>
<td>per acre</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Employment Density</td>
</tr>
<tr>
<td>per acre</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Table 2 StanCOG Bicycle and Pedestrian Demand Model Variables</td>
</tr>
<tr>
<td>--------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>PROXIMITY</strong></td>
</tr>
<tr>
<td><strong>Parks and Open Spaces</strong> (distance in feet)</td>
</tr>
<tr>
<td>0 - 330</td>
</tr>
<tr>
<td>330 - 660</td>
</tr>
<tr>
<td>660 - 1320</td>
</tr>
<tr>
<td>1320 - 2640</td>
</tr>
<tr>
<td>2640 +</td>
</tr>
<tr>
<td>Using street centerline file and spatial selection buffer, assign a value based on distance to nearest park</td>
</tr>
<tr>
<td><strong>Schools</strong> (distance in feet)</td>
</tr>
<tr>
<td>0 - 330</td>
</tr>
<tr>
<td>330 - 660</td>
</tr>
<tr>
<td>660 - 1320</td>
</tr>
<tr>
<td>1320 - 2640</td>
</tr>
<tr>
<td>2640 +</td>
</tr>
<tr>
<td>Using street centerline file and spatial selection buffer, assign a value based on distance to nearest school</td>
</tr>
<tr>
<td><strong>Bus Routes</strong> (distance in feet)</td>
</tr>
<tr>
<td>0 - 330</td>
</tr>
<tr>
<td>330 - 660</td>
</tr>
<tr>
<td>660 - 1320</td>
</tr>
<tr>
<td>1320 +</td>
</tr>
<tr>
<td>Using street centerline file, assign a value based on distance to nearest transit route up to ¼ mile</td>
</tr>
<tr>
<td><strong>Employment Centers</strong> (distance in feet)</td>
</tr>
<tr>
<td>0 - 660</td>
</tr>
<tr>
<td>660 - 1320</td>
</tr>
<tr>
<td>1320 +</td>
</tr>
<tr>
<td>2640 - 5280</td>
</tr>
<tr>
<td>5280 +</td>
</tr>
<tr>
<td>Using street centerline file, assign a value based on streets within 400 ft of a employment center</td>
</tr>
<tr>
<td><strong>Neighborhood/ Downtown Shopping Districts</strong> (distance in feet)</td>
</tr>
<tr>
<td>0 - 330</td>
</tr>
<tr>
<td>330 - 660</td>
</tr>
<tr>
<td>660 - 1320</td>
</tr>
<tr>
<td>1320 - 2640</td>
</tr>
<tr>
<td>2640 +</td>
</tr>
<tr>
<td>Using street centerline file, assign a value based on streets within 400 ft of a commercial corridor (in corridor), within ½ mile, and then everything which does not fall within these two areas.</td>
</tr>
<tr>
<td><strong>SOCIO-ECONOMIC</strong></td>
</tr>
<tr>
<td><strong>Age</strong> (Percentage under 18 and over 65)</td>
</tr>
<tr>
<td>0 - 30</td>
</tr>
<tr>
<td>30 - 35</td>
</tr>
<tr>
<td>35 - 40</td>
</tr>
<tr>
<td>40 - 43</td>
</tr>
<tr>
<td>43+</td>
</tr>
<tr>
<td>Calculate percentage of walking age population</td>
</tr>
<tr>
<td>Assign percentage to street centerline file</td>
</tr>
<tr>
<td><strong>Income</strong> (Percentage below poverty level)</td>
</tr>
<tr>
<td>0 - 5</td>
</tr>
<tr>
<td>5 - 10</td>
</tr>
<tr>
<td>10 - 15</td>
</tr>
<tr>
<td>15 - 20</td>
</tr>
<tr>
<td>20 - 25</td>
</tr>
<tr>
<td>25+</td>
</tr>
<tr>
<td>Calculate percentage of population with income below poverty level</td>
</tr>
<tr>
<td>Assign percentage to street centerline file</td>
</tr>
</tbody>
</table>
Table 2 StanCOG Bicycle and Pedestrian Demand Model Variables

<table>
<thead>
<tr>
<th>Vehicle accessibility (Percent of households with one or no vehicle)</th>
<th>0-10</th>
<th>10-20</th>
<th>20-30</th>
<th>30-40</th>
<th>40-50</th>
<th>50+</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>20</td>
<td>40</td>
<td>60</td>
<td>80</td>
<td>100</td>
</tr>
</tbody>
</table>

- Calculate percentage of households with access to 1 or less vehicles
- Assign percentage to street centerline file

5/100

STREET PERMEABILITY / ACCESSIBILITY

<table>
<thead>
<tr>
<th>Block Length</th>
<th>0 - 300</th>
<th>300 - 600</th>
<th>600 - 900</th>
<th>900 - 1200</th>
<th>1200 +</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>100</td>
<td>75</td>
<td>50</td>
<td>25</td>
<td>0</td>
</tr>
</tbody>
</table>

- Recalculate street segment length after removing freeways, ramps, etc.
- Assign values based on scoring criteria

4/100

<table>
<thead>
<tr>
<th>Intersection Density (per square mile)</th>
<th>150+</th>
<th>100 - 150</th>
<th>50 - 100</th>
<th>25 - 50</th>
<th>&lt; 25</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>100</td>
<td>75</td>
<td>50</td>
<td>25</td>
<td>0</td>
</tr>
</tbody>
</table>

- Use kernel density to derive number of intersections per square mile using a 1 mile radius

12/100

<table>
<thead>
<tr>
<th>Street Connectivity (connectivity score)</th>
<th>Cul-de-sac</th>
<th>Street connected both ends</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>100</td>
</tr>
</tbody>
</table>

- Calculate intersection junctions with 1 or less connected ends
- Assign score to cul-de-sac and connected streets

9/100

Source: Fehr & Peers, 2012

Prioritization Methodology

The pedestrian and bicycle demand maps of the nine municipalities are shown on Figures 1a-9a. Figures 1b-9b highlight the areas of highest walking and biking demand. Using the demand map as a base, priority bikeways through incorporated areas were selected based on the following criteria:

- **Balance Local and Regional Needs**: Align priority bikeways to connect local areas of highest biking and walking demand (shown in dark green on the figures) with the most direct route possible;
- **Make Connections to the Rest of the County**: Align priority bikeways to connect cities and/or neighboring unincorporated communities along the most direct route; and
- **Create Continuous Connections**: Priority bikeways through cities should start and end at existing or proposed priority bikeways in the unincorporated County or adjacent jurisdiction.
The proposed priority bikeway alignments through incorporated areas are shown conceptually on Figures 1b-9b. Cost estimates will be used as an additional filter for all projects to determine the most efficient alignment of regional priority bikeways through cities. The resulting list serves as a starting point for determining project priorities and implementation and should be adjusted as appropriate based on changes in planning and funding documents and input from StanCOG staff, StanCOG’s BPAC, and the public during the second outreach workshop.

As an example, Figures 1a-9a show heat maps for bicycling and walking demand in the nine incorporated communities, with segments of highest biking and walking demand show in dark green. Figure 1b-9b shows how the areas of highest bicycling and walking demand in each city can be linked together with priority regional bikeways, providing needed regional connections through cities while also addressing local needs. For example, in Figure 7b, the need for a direct east-west connection linking local areas of high demand within Riverbank and to Oakdale is evident, with Patterson Road being one of the only direct east-west connections. The Figure also shows the need to prioritize a north-south connection connecting Modesto and Riverbank, providing a direct connection between activity centers in Modesto and Riverbank. Under this prioritization scheme, Oakdale Road and Patterson Road/SR 108 would be the countywide priority bikeways through Riverbank. These two priority regional bikeways, along with priority segments in the unincorporated County, would make countywide connections all the way from Modesto through Riverbank and on to Oakdale.

NEXT STEPS

Once the prioritization scheme is approved by StanCOG, Fehr & Peers will proceed with project prioritization scoring for the proposed bikeways in the unincorporated areas of the county and designating regional priority routes through local jurisdictions. A prioritized recommended project list will be presented at the September 4th BPAC and TAC meetings for BPAC, StanCOG, and public review.
Figure 1a. City of Ceres Bicycle & Pedestrian Demand

Demand Index
- Low Demand
- High Demand
- Commercial Areas
- Schools
- Employment Centers

Existing
- Class 1 Path
- Class II - Bicycle Lanes
- Class III - Bicycle Route

Proposed
- Class 1 Path
- Class II - Bicycle Lanes
- Class III - Bicycle Route

Source: StanCOG, Fehr & Peers, 2012
Figure 3a. City of Modesto Bicycle & Pedestrian Demand

Demand Index
- Low Demand
- High Demand

Existing
- Class 1 Path
- Class II - Bicycle Lanes
- Class III - Bicycle Route

Proposed
- Class 1 Path
- Class II - Bicycle Lanes
- Class III - Bicycle Route

Legend:
- Commercial Areas
- Schools
- Employment Centers

Source: StanCOG, Fehr & Peers, 2012
Figure 3b. City of Modesto Proposed Priority Bikeway Connections

Demand Index
- Low Demand
- High Demand

Existing
- Class I Path
- Class II - Bicycle Lanes
- Class III - Bicycle Route

Proposed
- Class I Path
- Class II - Bicycle Lanes
- Class III - Bicycle Route

Source: StanCOG, Fehr & Peers, 2012

Class II - Bicycle Lanes
Low Demand
High Demand
Existing & Proposed Bikeways
Figure 4a. City of Newman Bicycle & Pedestrian Demand

Demand Index
- Low Demand
- High Demand

Existing & Proposed Bikeways

Existing
- Class I Path
- Class II - Bicycle Lanes
- Class III - Bicycle Route

Proposed
- Class I Path
- Class II - Bicycle Lanes
- Class III - Bicycle Route

Figure 4b. City of Newman Proposed Priority Bikeway Connections

Demand Index
- Low Demand
- High Demand

Existing
- Class I Path
- Class II - Bicycle Lanes
- Class III - Bicycle Route

Proposed
- Class 1 Path
- Class II - Bicycle Lanes
- Class III - Bicycle Route

Figure 5a. City of Oakdale Bicycle & Pedestrian Demand

Demand Index
- Low Demand
- High Demand

Existing
- Class 1 Path
- Class II - Bicycle Lanes
- Class III - Bicycle Route

Proposed
- Class 1 Path
- Class II - Bicycle Lanes
- Class III - Bicycle Route

Commercial Areas
Schools
Employment Centers

Figure 6a. City of Patterson Bicycle & Pedestrian Demand

Demand Index
- Low Demand
- High Demand

Existing
- Class 1 Path
- Class II - Bicycle Lanes
- Class III - Bicycle Route

Proposed
- Class 1 Path
- Class II - Bicycle Lanes
- Class III - Bicycle Route

- Commercial Areas
- Schools
- Employment Centers

Source: StanCOG, Fehr & Peers, 2012
Figure 6b. City of Patterson Proposed Priority Bikeway Connections

Demand Index
- Low Demand
- High Demand

Existing
- Class 1 Path
- Class II - Bicycle Lanes
- Class III - Bicycle Route

Proposed
- Class 1 Path
- Class II - Bicycle Lanes
- Class III - Bicycle Route

Commercial Areas
Schools
Employment Centers

Source: StanCOG, Fehr & Peers, 2012
Figure 7a. City of Riverbank Bicycle & Pedestrian Demand

Demand Index
- Low Demand
- High Demand

Existing & Proposed Bikeways

Existing
- Class I Path
- Class II - Bicycle Lanes
- Class III - Bicycle Route

Proposed
- Class I Path
- Class II - Bicycle Lanes
- Class III - Bicycle Route

Source: StanCOG, Fehr & Peers, 2012
Figure 7b. City of Riverbank Proposed Priority Bikeway Connections

Demand Index
- Low Demand
- High Demand

Existing
- Class 1 Path
- Class II - Bicycle Lanes
- Class III - Bicycle Route

Proposed
- Class I Path
- Class II - Bicycle Lanes
- Class III - Bicycle Route

Figure 6a. City of Waterford Bicycle & Pedestrian Demand

Demand Index
- Low Demand
- High Demand

Existing & Proposed Bikeways

Existing
- Class I Path
- Class II - Bicycle Lanes
- Class III - Bicycle Route

Proposed
- Class I Path
- Class II - Bicycle Lanes
- Class III - Bicycle Route

Commercial Areas
Schools
Employment Centers

Source: StanCOG, Fehr & Peers, 2012
Figure 9b. City of Waterford Proposed Priority Bikeway Connections

Demand Index
- Low Demand
- High Demand

Existing
- Class 1 Path
- Class II - Bicycle Lanes
- Class III - Bicycle Route

Proposed
- Class 1 Path
- Class II - Bicycle Lanes
- Class III - Bicycle Route

APPENDIX E: COUNTYWIDE EXISTING AND PROPOSED BIKEWAYS
TABLES
<table>
<thead>
<tr>
<th>Segment Name</th>
<th>From</th>
<th>To</th>
<th>Bikeway Class</th>
<th>Length (Miles)</th>
<th>Status</th>
<th>Priority</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>E Las Palmas</td>
<td>S Hartley St.</td>
<td>Sycamore Ave.</td>
<td>2</td>
<td>0.57</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>Fig Ln.</td>
<td>W Stuhr Rd.</td>
<td>Newman City Limits</td>
<td>2</td>
<td>0.09</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>Howard Road</td>
<td>Grayson School</td>
<td>East of SR 33</td>
<td>1</td>
<td>0.25</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>Kiernan Avenue</td>
<td>SR99 NB Ramps</td>
<td>Dale Road</td>
<td>2</td>
<td>1.69</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td><strong>Total Existing</strong></td>
<td></td>
<td></td>
<td></td>
<td>2.60</td>
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<td>$1,852,745</td>
</tr>
<tr>
<td>Claribel Rd.</td>
<td>McHenry Ave.</td>
<td>Oakdale Rd.</td>
<td>1</td>
<td>2.00</td>
<td>Planned</td>
<td></td>
<td>$1,852,745</td>
</tr>
<tr>
<td>E Hatch Rd.</td>
<td>Gilbert Road</td>
<td>Clinton Rd.</td>
<td>3.5 WS</td>
<td>0.69</td>
<td>Planned</td>
<td>1st</td>
<td>$639,197</td>
</tr>
<tr>
<td>McHenry Ave.</td>
<td>Pelandale Ave.</td>
<td>County Line</td>
<td>3.5 WS</td>
<td>4.10</td>
<td>Planned</td>
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<td>$3,798,128</td>
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<tr>
<td><strong>Total Planned</strong></td>
<td></td>
<td></td>
<td></td>
<td>6.79</td>
<td></td>
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<td>$6,290,071</td>
</tr>
<tr>
<td>Broadway Ave.</td>
<td>SR 99 WB Ramps</td>
<td>Sequoia St.</td>
<td>2</td>
<td>0.46</td>
<td>Proposed</td>
<td>1st</td>
<td>$15,456</td>
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<tr>
<td>Kiernan Rd.</td>
<td>Sisk Rd.</td>
<td>McHenry Rd.</td>
<td>1</td>
<td>4.53</td>
<td>Proposed</td>
<td>1st</td>
<td>$4,211,088</td>
</tr>
<tr>
<td>F St.</td>
<td>Oakdale City Limit</td>
<td>Orange Blossom Rd.</td>
<td>2</td>
<td>1.94</td>
<td>Proposed</td>
<td>1st</td>
<td>$65,184</td>
</tr>
<tr>
<td>Albers Rd.</td>
<td>Oakdale City Limits</td>
<td>SR 132 (Yosemite Blvd.)</td>
<td>3.5 WS</td>
<td>4.03</td>
<td>Proposed</td>
<td>1st</td>
<td>$1,410,500</td>
</tr>
<tr>
<td>Geer Rd.</td>
<td>SR 132 (Yosemite Blvd.)</td>
<td>Turlock City Limits</td>
<td>3.5 WS</td>
<td>10.05</td>
<td>Proposed</td>
<td>1st</td>
<td>$3,517,500</td>
</tr>
<tr>
<td>HWY 108</td>
<td>Riverbank City Limits</td>
<td>Claus Rd.</td>
<td>2</td>
<td>0.38</td>
<td>Proposed</td>
<td>1st</td>
<td>$12,768</td>
</tr>
<tr>
<td>HWY 108</td>
<td>Claus Rd.</td>
<td>Crane Rd.</td>
<td>3.5 WS</td>
<td>2.60</td>
<td>Proposed</td>
<td>1st</td>
<td>$910,000</td>
</tr>
<tr>
<td>Moore Rd.</td>
<td>Service Rd.</td>
<td>Canal</td>
<td>1</td>
<td>0.33</td>
<td>Proposed</td>
<td>1st</td>
<td>$306,768</td>
</tr>
<tr>
<td>N Golden State Blvd.</td>
<td>Turlock City Limits</td>
<td>Moore Rd.</td>
<td>2</td>
<td>3.74</td>
<td>Proposed</td>
<td>1st</td>
<td>$125,664</td>
</tr>
<tr>
<td>Oakdale Rd.</td>
<td>Claribel Rd.</td>
<td>Claratina Ave.</td>
<td>2</td>
<td>0.75</td>
<td>Proposed</td>
<td>1st</td>
<td>$25,200</td>
</tr>
<tr>
<td>Oakdale-Waterford Hwy.</td>
<td>near Valk Rd.</td>
<td>Beard Road</td>
<td>3.5 WS</td>
<td>7.28</td>
<td>Proposed</td>
<td>1st</td>
<td>$1,526,000</td>
</tr>
<tr>
<td>Paradise</td>
<td>Hart</td>
<td>Pauline Ave.</td>
<td>3.5 STR</td>
<td>4.36</td>
<td>Proposed</td>
<td>1st</td>
<td>$73,248</td>
</tr>
<tr>
<td>S Golden State Blvd.</td>
<td>Turlock City Limits</td>
<td>County Boundary</td>
<td>2</td>
<td>1.86</td>
<td>Proposed</td>
<td>1st</td>
<td>$62,496</td>
</tr>
<tr>
<td>W Hatch Rd.</td>
<td>Crows Landing Rd.</td>
<td>Joyce Ave.</td>
<td>2</td>
<td>1.07</td>
<td>Proposed</td>
<td>1st</td>
<td>$35,952</td>
</tr>
<tr>
<td>West Main St.</td>
<td>San Joaquin River</td>
<td>Turlock City Limits</td>
<td>3.5 WS</td>
<td>9.76</td>
<td>Proposed</td>
<td>1st</td>
<td>$3,416,000</td>
</tr>
<tr>
<td>Yosemite Blvd.</td>
<td>Claus Rd.</td>
<td>N Eucalyptus Ave.</td>
<td>3.5 WS</td>
<td>7.79</td>
<td>Proposed</td>
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<td>$2,726,500</td>
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<tr>
<td><strong>Total Tier 1 Priority Projects</strong></td>
<td></td>
<td></td>
<td></td>
<td>60.93</td>
<td></td>
<td></td>
<td>$20,915,076</td>
</tr>
<tr>
<td>S Santa Fe Ave.</td>
<td>E Hatch Rd.</td>
<td>Yosemite Blvd.</td>
<td>3</td>
<td>2.35</td>
<td>Proposed</td>
<td>2nd</td>
<td>$34,216</td>
</tr>
<tr>
<td>SR 33</td>
<td>Patterson City Limits</td>
<td>Newman City Limits</td>
<td>3.5 WS</td>
<td>10.33</td>
<td>Proposed</td>
<td>2nd</td>
<td>$3,615,500</td>
</tr>
<tr>
<td><strong>Total Tier 2 Priority Projects</strong></td>
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<td></td>
<td></td>
<td>12.68</td>
<td></td>
<td></td>
<td>$3,649,716</td>
</tr>
<tr>
<td>26 Mile Rd.- Rodden Rd.</td>
<td>SR 120</td>
<td>Orange Blossom Rd.</td>
<td>3.5 STR</td>
<td>19.51</td>
<td>Proposed</td>
<td></td>
<td>$327,768</td>
</tr>
<tr>
<td>28 Mile Rd.</td>
<td>Woodward Lake Dr</td>
<td>Rodden Rd.</td>
<td>3.5 STR</td>
<td>2.96</td>
<td>Proposed</td>
<td></td>
<td>$49,728</td>
</tr>
<tr>
<td>7th St.</td>
<td>Hughson City Limit</td>
<td>E Service Rd.</td>
<td>3.5 WS</td>
<td>0.58</td>
<td>Proposed</td>
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<td>$200,000</td>
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<tr>
<td>Beckwith</td>
<td>Hwy 99</td>
<td>Hart</td>
<td>3.5 STR</td>
<td>3.71</td>
<td>Proposed</td>
<td></td>
<td>$62,328</td>
</tr>
<tr>
<td>Brier Rd.</td>
<td>S Berkeley Ave.</td>
<td>S Daubengerber Rd.</td>
<td>2</td>
<td>0.76</td>
<td>Proposed</td>
<td></td>
<td>$25,536</td>
</tr>
<tr>
<td>Carpenter Rd.</td>
<td>Taylor Rd.</td>
<td>W Whitmore Ave</td>
<td>3.5 STR</td>
<td>4.59</td>
<td>Proposed</td>
<td></td>
<td>$77,112</td>
</tr>
<tr>
<td>Central Ave.</td>
<td>E Service Rd.</td>
<td>E Grayson Rd.</td>
<td>2</td>
<td>1.01</td>
<td>Proposed</td>
<td></td>
<td>$33,936</td>
</tr>
<tr>
<td>Class 1 Path</td>
<td>Albers Rd./Geer Rd.</td>
<td>Waterford City Limits</td>
<td>1</td>
<td>4.11</td>
<td>Proposed</td>
<td></td>
<td>$3,820,656</td>
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<tr>
<td>Class 1 Path</td>
<td>Ceres Main</td>
<td>Turlock City Limits</td>
<td>1</td>
<td>3.82</td>
<td>Proposed</td>
<td></td>
<td>$3,551,072</td>
</tr>
<tr>
<td>Class 1 Path</td>
<td>Dry Creek</td>
<td>Albers Rd.</td>
<td>1</td>
<td>4.77</td>
<td>Proposed</td>
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<td>$4,434,192</td>
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<tr>
<td>Class 1 Path</td>
<td>Moore Rd.</td>
<td>Tully Rd.</td>
<td>1</td>
<td>3.80</td>
<td>Proposed</td>
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<td>$3,532,480</td>
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<tr>
<td>Class 1 Path</td>
<td>Riverbank City Limits</td>
<td>Albers Rd.</td>
<td>1</td>
<td>8.12</td>
<td>Proposed</td>
<td></td>
<td>$7,548,352</td>
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<tr>
<td>Class 1 Path</td>
<td>Riverbank City Limits</td>
<td>Oakdale City Limits</td>
<td>1</td>
<td>2.94</td>
<td>Proposed</td>
<td></td>
<td>$2,733,024</td>
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<tr>
<td>Class 1 Path</td>
<td>TID Lateral No 4</td>
<td>Moore Rd.</td>
<td>1</td>
<td>5.76</td>
<td>Proposed</td>
<td></td>
<td>$5,354,496</td>
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<td>Class 1 Path</td>
<td>Semallon Dr.</td>
<td>Claribel Rd.</td>
<td>1</td>
<td>3.00</td>
<td>Proposed</td>
<td></td>
<td>$2,788,800</td>
</tr>
<tr>
<td>Class 1 Path</td>
<td>N Daubengerber Rd.</td>
<td>N Verduga Rd.</td>
<td>1</td>
<td>0.50</td>
<td>Proposed</td>
<td></td>
<td>$464,800</td>
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<tr>
<td>Claus Rd.</td>
<td>Claribel Rd.</td>
<td>Sylvan Ave.</td>
<td>3.5 STR</td>
<td>1.50</td>
<td>Proposed</td>
<td></td>
<td>$25,200</td>
</tr>
<tr>
<td>Coffee Rd.</td>
<td>Claribel Rd.</td>
<td>Modesto City Limits</td>
<td>2</td>
<td>0.76</td>
<td>Proposed</td>
<td></td>
<td>$25,536</td>
</tr>
<tr>
<td>Covert Rd.</td>
<td>Hammett</td>
<td>Toomes Rd.</td>
<td>3.5 STR</td>
<td>0.50</td>
<td>Proposed</td>
<td></td>
<td>$8,400</td>
</tr>
<tr>
<td>Segment Name</td>
<td>From</td>
<td>To</td>
<td>Bikeway Class</td>
<td>Length (Miles)</td>
<td>Status</td>
<td>Priority</td>
<td>Cost</td>
</tr>
<tr>
<td>--------------</td>
<td>------</td>
<td>----</td>
<td>---------------</td>
<td>----------------</td>
<td>--------</td>
<td>----------</td>
<td>------</td>
</tr>
<tr>
<td>Crawford Rd.</td>
<td>Coffee Rd.</td>
<td>Oakdale Rd.</td>
<td>2</td>
<td>1.00</td>
<td>Proposed</td>
<td>$33,600</td>
<td></td>
</tr>
<tr>
<td>Crows Landing Rd.</td>
<td>San Joaquin River Bridge</td>
<td>Grayson Rd.</td>
<td>2</td>
<td>3.63</td>
<td>Proposed</td>
<td>$121,968</td>
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</tr>
<tr>
<td>Crows Landing Rd.</td>
<td>SR 33</td>
<td>San Joaquin River Bridge</td>
<td>2</td>
<td>1.65</td>
<td>Proposed</td>
<td>$55,440</td>
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</tr>
<tr>
<td>Crows Landing Rd.</td>
<td>E Whitmore Ave.</td>
<td>W Grayson Rd.</td>
<td>2</td>
<td>2.00</td>
<td>Proposed</td>
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</tr>
<tr>
<td>Crows Landing Rd.</td>
<td>SR 33</td>
<td>W Grayson Rd.</td>
<td>3.5</td>
<td>13.95</td>
<td>Proposed</td>
<td>$4,882,500</td>
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<tr>
<td>Crows Landing Rd. Bridge</td>
<td>West of San Joaquin River</td>
<td>East of San Joaquin River</td>
<td>3</td>
<td>0.10</td>
<td>Proposed</td>
<td>$1,456</td>
<td></td>
</tr>
<tr>
<td>Del Puerto</td>
<td>I-5</td>
<td>county line</td>
<td>3.5</td>
<td>22.83</td>
<td>Proposed</td>
<td>$383,544</td>
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</tr>
<tr>
<td>E Hatch Rd.</td>
<td>Faith Home Rd.</td>
<td>Gilbert Rd.</td>
<td>1</td>
<td>0.30</td>
<td>Proposed</td>
<td>$278,880</td>
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<tr>
<td>E Keyes Rd.</td>
<td>Carpenter</td>
<td>eastern County line</td>
<td>3.5</td>
<td>23.81</td>
<td>Proposed</td>
<td>$400,008</td>
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<tr>
<td>E Las Palmas Ave.</td>
<td>Sycamore Ave.</td>
<td>San Joaquin River</td>
<td>3.5</td>
<td>2.01</td>
<td>Proposed</td>
<td>$703,500</td>
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</tr>
<tr>
<td>E Linwood Ave.</td>
<td>Paulson Rd.</td>
<td>S Johnson Rd.</td>
<td>2</td>
<td>0.11</td>
<td>Proposed</td>
<td>$3,696</td>
<td></td>
</tr>
<tr>
<td>E Linwood Ave.</td>
<td>S Johnson Rd.</td>
<td>S Verdugo Rd.</td>
<td>3</td>
<td>1.01</td>
<td>Proposed</td>
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</tr>
<tr>
<td>E Service Rd.</td>
<td>Moore Rd.</td>
<td>Faith Home Rd.</td>
<td>2</td>
<td>0.86</td>
<td>Proposed</td>
<td>$28,896</td>
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</tr>
<tr>
<td>E Service Rd.</td>
<td>Tully Rd.</td>
<td>Geer Rd.</td>
<td>3.5</td>
<td>1.25</td>
<td>Proposed</td>
<td>$437,500</td>
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</tr>
<tr>
<td>E Taylor Rd.</td>
<td>Turlock City Limits</td>
<td>N Waring Rd.</td>
<td>1</td>
<td>0.75</td>
<td>Proposed</td>
<td>$697,200</td>
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<tr>
<td>Finch Rd.</td>
<td>Mitchell Rd.</td>
<td>Codoni Ave.</td>
<td>3</td>
<td>1.19</td>
<td>Proposed</td>
<td>$17,326</td>
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</tr>
<tr>
<td>Fox Rd.</td>
<td>Tully Rd.</td>
<td>Geer Rd.</td>
<td>2</td>
<td>1.25</td>
<td>Proposed</td>
<td>$42,000</td>
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</tr>
<tr>
<td>Fullerth Rd.</td>
<td>N Washington Rd.</td>
<td>N Tegner Rd.</td>
<td>2</td>
<td>1.00</td>
<td>Proposed</td>
<td>$33,600</td>
<td></td>
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<tr>
<td>Garner Rd.</td>
<td>Yosemite Blvd.</td>
<td>Finch Rd.</td>
<td>2</td>
<td>0.91</td>
<td>Proposed</td>
<td>$30,576</td>
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<tr>
<td>Geer Road</td>
<td>Fox Grove Park</td>
<td>Santa Fe Avenue</td>
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<td>2.7</td>
<td>Proposed</td>
<td>$2,509,920</td>
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</tr>
<tr>
<td>Hammett</td>
<td>Hwy 99</td>
<td>Beckwith</td>
<td>3.5</td>
<td>3.02</td>
<td>Proposed</td>
<td>$50,736</td>
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</tr>
<tr>
<td>Harding Rd.</td>
<td>Washington Rd.</td>
<td>Golf Rd.</td>
<td>3.5</td>
<td>4.01</td>
<td>Proposed</td>
<td>$1,403,500</td>
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<tr>
<td>Hart</td>
<td>Beckwith Road</td>
<td>Paradise Road</td>
<td>3.5</td>
<td>4.99</td>
<td>Proposed</td>
<td>$83,832</td>
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<td>Hawkins Rd.</td>
<td>E Keyes Rd.</td>
<td>Lake Rd.</td>
<td>3.5</td>
<td>4.43</td>
<td>Proposed</td>
<td>$74,424</td>
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<tr>
<td>Hickman Rd. Bridge</td>
<td>Waterford City Limit</td>
<td>South of Tuolumne River</td>
<td>3.5</td>
<td>0.07</td>
<td>Proposed</td>
<td>$24,500</td>
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<td>Hills Ferry Rd.</td>
<td>Sherman Pkwy.</td>
<td>Edinburgh Way</td>
<td>1</td>
<td>0.24</td>
<td>Proposed</td>
<td>$223,104</td>
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<tr>
<td>Jennings Rd.</td>
<td>Main St.</td>
<td>Monte Vista Ave.</td>
<td>3.5</td>
<td>1.17</td>
<td>Proposed</td>
<td>$19,626</td>
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<tr>
<td>Lake Rd.</td>
<td>Montpelier Rd.</td>
<td>County Border East</td>
<td>3.5</td>
<td>16.03</td>
<td>Proposed</td>
<td>$269,304</td>
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<tr>
<td>Mariposa Rd.</td>
<td>Yosemite Blvd.</td>
<td>Finch Rd.</td>
<td>3</td>
<td>1.00</td>
<td>Proposed</td>
<td>$14,560</td>
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</tr>
<tr>
<td>McHenry Avenue Bridge</td>
<td>Stanislaus County line</td>
<td>San Joaquin County Line</td>
<td>3.5</td>
<td>0.07</td>
<td>Proposed</td>
<td>$24,500</td>
<td></td>
</tr>
<tr>
<td>MID Lateral No 1</td>
<td>Geer Rd.</td>
<td>MID Main</td>
<td>1</td>
<td>3.3</td>
<td>Proposed</td>
<td>$3,095,568</td>
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<tr>
<td>Milnes Rd.</td>
<td>N Santa Fe Ave</td>
<td>Crow Rd.</td>
<td>3.5</td>
<td>6.82</td>
<td>Proposed</td>
<td>$114,576</td>
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</tr>
<tr>
<td>Milton Road</td>
<td>County line north</td>
<td>Sonora Rd.</td>
<td>3.5</td>
<td>6.60</td>
<td>Proposed</td>
<td>$110,880</td>
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</tr>
<tr>
<td>Monte Vista Ave.</td>
<td>Turlock City Limit</td>
<td>N Grafton Rd.</td>
<td>3.5</td>
<td>1.11</td>
<td>Proposed</td>
<td>$388,500</td>
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</tr>
<tr>
<td>Montpelier Rd.</td>
<td>County Border South</td>
<td>Canal Bank Rd.</td>
<td>3.5</td>
<td>7.85</td>
<td>Proposed</td>
<td>$131,880</td>
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</tr>
<tr>
<td>Morrill Rd.</td>
<td>Coffee Rd.</td>
<td>Oakdale Rd.</td>
<td>2</td>
<td>1.00</td>
<td>Proposed</td>
<td>$33,600</td>
<td></td>
</tr>
<tr>
<td>N Quincy Rd.</td>
<td>E Taylor Rd.</td>
<td>Turlock City Limits</td>
<td>2</td>
<td>1.28</td>
<td>Proposed</td>
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</tr>
<tr>
<td>N Santa Fe Ave</td>
<td>Canal</td>
<td>Clauss Rd.</td>
<td>1</td>
<td>1.76</td>
<td>Proposed</td>
<td>$1,636,096</td>
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</tr>
<tr>
<td>N Verduga Rd.</td>
<td>N Waring Rd.</td>
<td>E Linwood Ave.</td>
<td>2</td>
<td>2.11</td>
<td>Proposed</td>
<td>$70,896</td>
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</tr>
<tr>
<td>N Waring Rd.</td>
<td>E Taylor Rd.</td>
<td>Turlock City Limits</td>
<td>2</td>
<td>1.28</td>
<td>Proposed</td>
<td>$43,008</td>
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<tr>
<td>Patterson Rd.</td>
<td>Albers Rd.</td>
<td>Langworth Rd.</td>
<td>3.5</td>
<td>3.01</td>
<td>Proposed</td>
<td>$50,568</td>
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<tr>
<td>River Rd.-Rodden Rd.-Orange Blossom Rd.</td>
<td>County Line West</td>
<td>Covered Bridge Rd.</td>
<td>3.5</td>
<td>17.99</td>
<td>Proposed</td>
<td>$302,232</td>
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</tr>
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<td>Rogers Rd.</td>
<td>Hwy 33</td>
<td>Fog Pond Lane</td>
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<td>West Main St.</td>
<td>W Monte Vista Ave.</td>
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<tr>
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<td>East Ave.</td>
<td>Brier Rd.</td>
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<tr>
<td>Segment Name</td>
<td>From</td>
<td>To</td>
<td>Bikeway Class</td>
<td>Length (Miles)</td>
<td>Status</td>
<td>Priority</td>
<td>Cost</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>-----------------------</td>
<td>-------------------------</td>
<td>---------------</td>
<td>----------------</td>
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<td>----------</td>
<td>------------</td>
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<tr>
<td>S Daubenberger Rd.</td>
<td>Brier Rd.</td>
<td>E Linwood Ave.</td>
<td>3</td>
<td>0.50</td>
<td>Proposed</td>
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<td>$7,280</td>
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<tr>
<td>S Riverside Dr.</td>
<td>Yosemite Blvd.</td>
<td>Mitchell Rd.</td>
<td>3</td>
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<td>Service Rd.</td>
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<td>2.77</td>
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<tr>
<td>Shiloh</td>
<td>Paradise Road</td>
<td>W Grayson Road</td>
<td>3.5 STR</td>
<td>3.99</td>
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<td>Sierra Railway Trail</td>
<td>E F St.</td>
<td>Eastern County Limit</td>
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<td>19.82</td>
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<tr>
<td>Stanislaus River Trail</td>
<td>Salida Bike Bridge</td>
<td>Orange Blossom Road</td>
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<td>28.29</td>
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<td></td>
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<td>Twildo Road</td>
<td>Unnamed</td>
<td>2</td>
<td>0.05</td>
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<td>$1,680</td>
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<tr>
<td>TID Lateral #4</td>
<td>W Bradbury Rd.</td>
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<td>0.74</td>
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<td>4.75</td>
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<td>TID Lateral No 4</td>
<td>Turlock City Limits</td>
<td>Crows Landing Rd.</td>
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<td>5.05</td>
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<td>Pelandale Ave.</td>
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<td>Stearns Ave.</td>
<td>End of Stearns Ave.</td>
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<td>Del Rio Ct.</td>
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<td>Washington Rd.</td>
<td>W Taylor Rd.</td>
<td>Harding Rd.</td>
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<td>5.05</td>
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<td>Whitmore Ave.</td>
<td>S Carpenter Rd.</td>
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<td><strong>Total Long-Term Proposed Projects</strong></td>
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<td></td>
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<td></td>
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<td><strong>All Proposed Projects</strong></td>
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<td></td>
<td></td>
<td>392.61</td>
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<td>$138,496,562</td>
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</tbody>
</table>


Class 3.5 WS = Class 3 bicycle route with wide shoulders. Class 3 STR=Class 3 bicycle route with “SHARE THE ROAD” signage.
<table>
<thead>
<tr>
<th>Segment Name</th>
<th>From/To</th>
<th>Bikeway Class</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boothe Rd.</td>
<td>Hatch Rd. to Whitmore Ave</td>
<td>1</td>
<td>Existing</td>
</tr>
<tr>
<td>Glasgow Dr.</td>
<td>Central Ave to Moffett Rd.</td>
<td>2</td>
<td>Proposed</td>
</tr>
<tr>
<td>Central Ave</td>
<td>River Rd. to Hatch</td>
<td>2</td>
<td>Proposed</td>
</tr>
<tr>
<td>Central Ave</td>
<td>Hatch Rd. to Academy Pl</td>
<td>2</td>
<td>Existing</td>
</tr>
<tr>
<td>Central Ave</td>
<td>Academy Pl to El Camino Ave</td>
<td>2</td>
<td>Proposed</td>
</tr>
<tr>
<td>Central Ave</td>
<td>Pine Ave to Grayson Rd.</td>
<td>2</td>
<td>Proposed</td>
</tr>
<tr>
<td>Eastgate Blvd.</td>
<td>Hatch Rd. to Kiwi</td>
<td>2</td>
<td>Existing</td>
</tr>
<tr>
<td>Eastgate Blvd.</td>
<td>Kiwi to Whitmore Ave</td>
<td>2</td>
<td>Proposed</td>
</tr>
<tr>
<td>Hatch Rd.</td>
<td>Herndon Rd. to Eastgate</td>
<td>1</td>
<td>Proposed</td>
</tr>
<tr>
<td>Hatch Rd.</td>
<td>Eastgate to Faith Home Rd.</td>
<td>2</td>
<td>Proposed</td>
</tr>
<tr>
<td>Service Rd.</td>
<td>Ustick Rd. to Faith Home Rd.</td>
<td>2</td>
<td>Proposed</td>
</tr>
<tr>
<td>Whitmore Ave.</td>
<td>Ustick Rd. to Blaker Rd.</td>
<td>2</td>
<td>Proposed</td>
</tr>
<tr>
<td>Whitmore Ave.</td>
<td>Blaker Rd. to Moore Rd.</td>
<td>2</td>
<td>Existing</td>
</tr>
<tr>
<td>Whitmore Ave.</td>
<td>Moore Rd. to Faith Home Rd.</td>
<td>2</td>
<td>Proposed</td>
</tr>
<tr>
<td>Fowler Road</td>
<td>Moffett Rd. to Boothe Road</td>
<td>2</td>
<td>Proposed</td>
</tr>
<tr>
<td>Helen Perry Rd.</td>
<td>Boothe Rd. to Monterey Pine Ave.</td>
<td>2</td>
<td>Existing</td>
</tr>
<tr>
<td>Helen Perry Rd.</td>
<td>Monterey Pine Rd. to Eastgate Blvd.</td>
<td>2</td>
<td>Proposed</td>
</tr>
<tr>
<td>Herndon Rd.</td>
<td>River Rd. to El Camino Ave.</td>
<td>2</td>
<td>Proposed</td>
</tr>
<tr>
<td>Magnolia St.</td>
<td>Central Ave to Rose Ave</td>
<td>2</td>
<td>Proposed</td>
</tr>
<tr>
<td>Moffett Rd.</td>
<td>River Rd. to El Camino Ave.</td>
<td>2</td>
<td>Proposed</td>
</tr>
<tr>
<td>Adjacent to Moore/Mitchell Road/TIO Main Canal</td>
<td>Hatch Road to Southern City Limits</td>
<td>1</td>
<td>Proposed</td>
</tr>
<tr>
<td>Rose Ave.</td>
<td>Fowler Rd. to Roeding Rd.</td>
<td>2</td>
<td>Proposed</td>
</tr>
<tr>
<td>Richland Ave.</td>
<td>River Rd. to Herndon Ave.</td>
<td>2</td>
<td>Proposed</td>
</tr>
<tr>
<td>Mitchell Road</td>
<td>Hatch Rd. to River Rd.</td>
<td>2</td>
<td>Proposed</td>
</tr>
<tr>
<td>Mitchell Road</td>
<td>River Rd. to Tuolumne River</td>
<td>1</td>
<td>Proposed</td>
</tr>
<tr>
<td>Roeding Rd.</td>
<td>10th St. to Rose Ave.</td>
<td>2</td>
<td>Proposed</td>
</tr>
<tr>
<td>10th St.</td>
<td>Roeding Rd. to Don Pedro Rd.</td>
<td>2</td>
<td>Proposed</td>
</tr>
<tr>
<td>Blaker Rd.</td>
<td>Whitmore Ave. to Grayson Rd.</td>
<td>2</td>
<td>Proposed</td>
</tr>
<tr>
<td>El Camino Ave.</td>
<td>Whitmore Ave. to Service Rd.</td>
<td>2</td>
<td>Proposed</td>
</tr>
<tr>
<td>Giddings St.</td>
<td>Herndon Rd. to Paramount Ave.</td>
<td>2</td>
<td>Proposed</td>
</tr>
<tr>
<td>Paramount Ave.</td>
<td>Giddings St. to Grand View Ave.</td>
<td>2</td>
<td>Proposed</td>
</tr>
<tr>
<td>Grand View Ave.</td>
<td>Paramount Ave. to Herndon Rd.</td>
<td>2</td>
<td>Proposed</td>
</tr>
<tr>
<td>Hacket Rd.</td>
<td>Morgan Rd. to Central Ave.</td>
<td>2</td>
<td>Proposed</td>
</tr>
<tr>
<td>Morgan Rd.</td>
<td>Whitmore Ave. to Grayson Rd.</td>
<td>2</td>
<td>Proposed</td>
</tr>
<tr>
<td>Pine St.</td>
<td>6th St. to Central Ave.</td>
<td>2</td>
<td>Proposed</td>
</tr>
<tr>
<td>Richard Way</td>
<td>Richland Ave. to Central Ave.</td>
<td>2</td>
<td>Proposed</td>
</tr>
<tr>
<td>River Rd.</td>
<td>Mitchell Rd. to Herndon Rd.</td>
<td>2</td>
<td>Proposed</td>
</tr>
</tbody>
</table>

**Source:** City of Ceres, 2013.
### Table E-3: Hughson Existing and Proposed Bikeway Network

<table>
<thead>
<tr>
<th>Segment Name</th>
<th>From</th>
<th>To</th>
<th>Bikeway Class&lt;sup&gt;1&lt;/sup&gt;</th>
<th>Length (Miles)</th>
<th>Status</th>
<th>Priority</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>6th St.</td>
<td>Fox Rd.</td>
<td>E Whitmore Ave.</td>
<td>2</td>
<td>0.50</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>Charles St.</td>
<td>Fox Rd.</td>
<td>Hughson Ave.</td>
<td>2</td>
<td>0.36</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
</tbody>
</table>

**Total Existing** | **0.86**

| 6th St. Fox Rd. | E Whitmore Ave. | 2 | 0.50 | Existing | Existing | $717,695 |
| Charles St. Fox Rd. | Hughson Ave. | 2 | 0.36 | Existing | Existing |          |

**Total First-Tier Priority Projects** | **3.5**

| 7th St. E Hatch Rd. | S Santa Fe Ave. | 2 | 2 | Proposed | 1<sup>st</sup> | $97,444 |
| S Santa Fe Ave. E Hatch Rd. | Geer Rd. | 2 | 3.13 | Proposed | 1<sup>st</sup> | $105,168 |

**Total Second-Tier Priority Projects** | **5.13**

| A St. Euclid Ave. | End of A St. | 2 | 1.42 | Proposed |          | $2,634  |
| Charles St. Hughson Ave. | S Santa Fe Ave. | 2 | 0.08 | Proposed |          | $8,559  |
| Charles St. Fox Rd. | Prelude Ln. | 3 | 0.25 | Proposed |          | $5,185  |
| E Whitmore Ave. West of Mountain View Rd. | Geer Rd. | 2 | 0.36 | Proposed |          | $61,836 |
| Ester Marie Ave. Flora Vista Dr. | Fox Rd. | 3 | 1.84 | Proposed |          | $561    |
| Euclid Ave. E Hatch Rd. | S Santa Fe Ave. | 2 | 0.04 | Proposed |          | $33,663 |
| Flora Vista Dr. NW End of Flora Vista Dr. | Ester Marie Ave. | 3 | 1.00 | Proposed |          | $4,913  |
| Flora Vista Rd. NW End of Flora Vista Dr. Proposed Class 2 | 3 | 0.34 | Proposed |          | $2,980  |
| Fox Rd. Ester Marie Ave. | Tully Rd. | 3 | 0.20 | Proposed |          | $3,363  |
| Hatch Road Santa Fe Ave. | Geer Rd. | 1 | 2.05 | Proposed |          | $1,905,680 |
| Hughson Ave. S Santa Fe Ave. | 7th St. | 2 | 0.23 | Proposed |          | $14,265 |
| Locust St. Orchard Ln. | Euclid Ave. | 3 | 0.42 | Proposed |          | $2,280  |
| Locust St. Tully Rd. | Mariposa Dr. | 3 | 0.16 | Proposed |          | $11,731 |
| Orchard Ln. Thomas Taylor Dr. | Locust St. | 3 | 0.81 | Proposed |          | $1,201  |
| Proposed Class 1 Mariposa Dr. | Orchard Ln. | 1 | 0.08 | Proposed |          | $90,540 |
| Thomas Taylor Dr. Morgan Lynn Ln. | Orchard Ln. | 3 | 0.10 | Proposed |          | $8,635  |
| Tully Rd. E Hatch Rd. | Fox Rd. | 3 | 0.59 | Proposed |          | $7,303  |
| Tully Rd. Fox Rd. | Hughson City Limit | 2 | 0.50 | Proposed |          | $25,218 |
| Tully Rd. Hughson City Limit | E Service Rd. | 3.5 | 0.75 | Proposed |          | $263,805 |
| Unknown E Hatch Rd. | S Santa Fe Ave. | 2 | 0.75 | Proposed |          | $8,559  |

**Total Long-Term Proposed Projects** | **8.75**

| Total All Proposed Bikeway | **15.35**
| Cost | **$2,462,910**


1. Class 3.5 WS = Class 3 bicycle route with wide shoulders. Class 3 STR=Class 3 bicycle route with “SHARE THE ROAD” signage.
<table>
<thead>
<tr>
<th>Segment Name</th>
<th>From</th>
<th>To</th>
<th>Bikeway Class¹</th>
<th>Length (Miles)</th>
<th>Status</th>
<th>Priority</th>
<th>Cost</th>
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</thead>
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<td>Semallon Dr.</td>
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<td>2.67</td>
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<td>S Morton Blvd.</td>
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<td>Coffee Rd.</td>
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<td>Tokay Ave.</td>
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<td>W Granger Ave.</td>
<td>Pearl St.</td>
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<td>Kodiak Dr.</td>
<td>Isabella Dr.</td>
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<tr>
<td>Blue Bird Dr.</td>
<td>Coffee Rd.</td>
<td>Rose Ave.</td>
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<td>0.50</td>
<td>Existing</td>
<td>Existing</td>
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<td>Morse Rd.</td>
<td>Carpenter Rd.</td>
<td>2</td>
<td>1.00</td>
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<td>Prescott Rd.</td>
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<td>W Rumble Rd.</td>
<td>Ulrich Ave.</td>
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<td>Laramie Dr.</td>
<td>Surrey Ave.</td>
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<td>0.22</td>
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<td>Existing</td>
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<td>Capistrano Dr.</td>
<td>Dry Creek</td>
<td>N Riverside Dr.</td>
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<td>1.88</td>
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<td>Carver Rd.</td>
<td>W Briggsmore Ave.</td>
<td>Grape Ave.</td>
<td>3</td>
<td>0.44</td>
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<tr>
<td>Celeste Dr.</td>
<td>N 9th St.</td>
<td>Bowen Ave.</td>
<td>1</td>
<td>2.11</td>
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<td>Chapparal Pl.</td>
<td>McHenry Ave.</td>
<td>Sunrise Ave.</td>
<td>3</td>
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<td>Chicago Ave.</td>
<td>Evergreen Ave.</td>
<td>Pearl St.</td>
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<td>Claremont Ave.</td>
<td>Sylvan Ave.</td>
<td>Floyd Ave.</td>
<td>3</td>
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<td>Class 2 Connector</td>
<td>Lucern Ave.</td>
<td>Downey Ave.</td>
<td>3</td>
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<tr>
<td>Claus Rd.</td>
<td>Downey Ave.</td>
<td>Santa Barbara Ave.</td>
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<td>Claus Rd.</td>
<td>Eastridge Dr.</td>
<td>Lillian Dr.</td>
<td>3</td>
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<tr>
<td>Codd Dr.</td>
<td>College Ave.</td>
<td>McHenry Ave.</td>
<td>3</td>
<td>0.61</td>
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<tr>
<td>Coldwell Ave.</td>
<td>Sunnyside Ave.</td>
<td>Rose Ave.</td>
<td>3</td>
<td>0.37</td>
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<tr>
<td>College Ave.</td>
<td>Kimble St.</td>
<td>Sunnyside Ave.</td>
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<td>Conant Ave.</td>
<td>W Orangeburg Ave.</td>
<td>Needham Ave.</td>
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<td>Covena Ave.</td>
<td>E Orangeburg Ave.</td>
<td>Surrey Ave.</td>
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<tr>
<td>Crater Ave.</td>
<td>W Fairmont Ave.</td>
<td>Helen Ave.</td>
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<td>Creekwood Dr.</td>
<td>Ulrich Ave.</td>
<td>Harvard Ave.</td>
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<td>Crows Landing Rd.</td>
<td>Prescott Rd.</td>
<td>College Ave.</td>
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<td>1.38</td>
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<td>Dale Rd.</td>
<td>Mills Ave.</td>
<td>Stoddard Ave.</td>
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<td>Dallas St.</td>
<td>Wylie Dr.</td>
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<td>Dragoo Park Dr.</td>
<td>Grape Ave.</td>
<td>Bronson Ave.</td>
<td>3</td>
<td>1.00</td>
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<td>Dry Creek</td>
<td>Edgebrook Dr.</td>
<td>Encina Ave.</td>
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<td>Floyd Ave.</td>
<td>Locke Rd.</td>
<td>3</td>
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<td>E Orangeburg Ave.</td>
<td>Center St.</td>
<td>South Ave.</td>
<td>3</td>
<td>0.36</td>
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<tr>
<td>Segment Name</td>
<td>From</td>
<td>To</td>
<td>Bikeway Class</td>
<td>Length (Miles)</td>
<td>Status</td>
<td>Priority</td>
<td>Cost</td>
</tr>
<tr>
<td>-------------------------</td>
<td>-----------------------------</td>
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<td>E Roseburg Ave.</td>
<td>Orchard Ln.</td>
<td>Euclid Ave.</td>
<td>2</td>
<td>0.16</td>
<td>Existing</td>
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<tr>
<td>E St</td>
<td>Encina Ave.</td>
<td>Haddon Ave.</td>
<td>3</td>
<td>0.27</td>
<td>Existing</td>
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<td>Eastridge Dr.</td>
<td>Kodiak Dr.</td>
<td>Hillglen Dr.</td>
<td>2</td>
<td>0.26</td>
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<tr>
<td>Edgebrook Dr.</td>
<td>Encina Ave.</td>
<td>Yosemite Blvd.</td>
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<tr>
<td>Edgebrook Dr.</td>
<td>Canal</td>
<td>Standiford Ave.</td>
<td>3</td>
<td>0.61</td>
<td>Existing</td>
<td>Existing</td>
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<tr>
<td>El Pasado Dr.</td>
<td>Standiford Ave.</td>
<td>W Orangeburg Ave.</td>
<td>3</td>
<td>1.90</td>
<td>Existing</td>
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</tr>
<tr>
<td>Encina Ave.</td>
<td>Modesto City Limits</td>
<td>Dry Creek</td>
<td>2</td>
<td>3.62</td>
<td>Existing</td>
<td>Existing</td>
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<tr>
<td>Evergreen Ave.</td>
<td>Oakdale Rd.</td>
<td>Roselle Ave.</td>
<td>2</td>
<td>1.00</td>
<td>Existing</td>
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<tr>
<td>Fine Ave.</td>
<td>Madison Ave.</td>
<td>Magnolia Ave.</td>
<td>3</td>
<td>0.79</td>
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<td>Floyd Ave.</td>
<td>Roselle Ave.</td>
<td>Claus Rd.</td>
<td>2</td>
<td>1.0</td>
<td>Existing</td>
<td>Existing</td>
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<tr>
<td>Floyd Ave.</td>
<td>Litt Rd.</td>
<td>Lauding Way</td>
<td>2</td>
<td>0.33</td>
<td>Existing</td>
<td>Existing</td>
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<tr>
<td>Floyd Ave.</td>
<td>La Force Dr.</td>
<td>Fine Ave.</td>
<td>2</td>
<td>0.49</td>
<td>Existing</td>
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<td>Floyd Ave.</td>
<td>Locke Rd.</td>
<td>Lucern Ave.</td>
<td>3</td>
<td>0.09</td>
<td>Existing</td>
<td>Existing</td>
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<td>Floyd Ave.</td>
<td>E Roseburg Ave.</td>
<td>E Fairmont Ave.</td>
<td>3</td>
<td>0.19</td>
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<tr>
<td>Floyd Ave.</td>
<td>Sierra Dr.</td>
<td>Center St.</td>
<td>3</td>
<td>0.12</td>
<td>Existing</td>
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<tr>
<td>G St.</td>
<td>Oakdale Rd.</td>
<td>Eastridge Dr.</td>
<td>3</td>
<td>0.74</td>
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<td>Gagos Dr.</td>
<td>McHenry Ave.</td>
<td>Bodega Ln.</td>
<td>3</td>
<td>0.75</td>
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<tr>
<td>Glenbrook Way</td>
<td>W Rumble Rd.</td>
<td>Mills Ave.</td>
<td>3</td>
<td>0.12</td>
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<tr>
<td>Grape Ave.</td>
<td>Blue Gum Ave.</td>
<td>Cummins Dr.</td>
<td>2</td>
<td>0.13</td>
<td>Existing</td>
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<tr>
<td>Grecian Ave.</td>
<td>Dale Rd.</td>
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<tr>
<td>H St.</td>
<td>Enslen Ave.</td>
<td>Magnolia Ave.</td>
<td>3</td>
<td>0.22</td>
<td>Existing</td>
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<tr>
<td>Hahn Dr.</td>
<td>Bronson Ave.</td>
<td>Sunrise Ave.</td>
<td>3</td>
<td>1.13</td>
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</tr>
<tr>
<td>Hammond St.</td>
<td>E Rumble Rd.</td>
<td>Oakland Rd.</td>
<td>3</td>
<td>0.31</td>
<td>Existing</td>
<td>Existing</td>
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<tr>
<td>Harris Ave.</td>
<td>Sisk Rd.</td>
<td>Hashem Dr.</td>
<td>3</td>
<td>4.81</td>
<td>Existing</td>
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<tr>
<td>Hashem Dr.</td>
<td>Lillian Dr.</td>
<td>Glenbrook Way</td>
<td>3</td>
<td>0.54</td>
<td>Existing</td>
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<td>Held Dr.</td>
<td>Rose Ave.</td>
<td>Oakland Rd.</td>
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<td>0.50</td>
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<tr>
<td>Helen Ave.</td>
<td>Litt Rd.</td>
<td>MacBeth Ct.</td>
<td>2</td>
<td>0.12</td>
<td>Existing</td>
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<tr>
<td>Hillglen Ave.</td>
<td>Dale Rd.</td>
<td>Claus Rd.</td>
<td>2</td>
<td>7.03</td>
<td>Existing</td>
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</tr>
<tr>
<td>Hillglen Ave.</td>
<td>Canal</td>
<td>W Orangeburg Ave.</td>
<td>2</td>
<td>1.42</td>
<td>Existing</td>
<td>Existing</td>
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</tr>
<tr>
<td>Keller St.</td>
<td>Floyd Ave.</td>
<td>E Briggsmore Ave.</td>
<td>2</td>
<td>0.81</td>
<td>Existing</td>
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<tr>
<td>Kimble St.</td>
<td>North of Sylvan</td>
<td>Sylvan Ave.</td>
<td>2</td>
<td>0.09</td>
<td>Existing</td>
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<tr>
<td>Kodiak Dr.</td>
<td>Oakdale Rd.</td>
<td>Claus Rd.</td>
<td>2</td>
<td>2.04</td>
<td>Existing</td>
<td>Existing</td>
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<tr>
<td>La Loma Ave.</td>
<td>Wycliffe Dr.</td>
<td>Claus Rd.</td>
<td>2</td>
<td>0.52</td>
<td>Existing</td>
<td>Existing</td>
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<tr>
<td>Laramie Dr.</td>
<td>Dale Rd.</td>
<td>McHenry Ave.</td>
<td>2</td>
<td>3.15</td>
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<td>Leveland Ln.</td>
<td>McHenry Ave.</td>
<td>Palmwood</td>
<td>2</td>
<td>1.62</td>
<td>Existing</td>
<td>Existing</td>
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<tr>
<td>Locke Rd.</td>
<td>Roselle Ave.</td>
<td>Millbrook Ave.</td>
<td>2</td>
<td>0.35</td>
<td>Existing</td>
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<tr>
<td>Lucern Ave.</td>
<td>Pelandale Ave.</td>
<td>Coldwell Ave.</td>
<td>2</td>
<td>3.27</td>
<td>Existing</td>
<td>Existing</td>
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<tr>
<td>Magnolia Ave.</td>
<td>Evergreen Ave.</td>
<td>Coffee Rd.</td>
<td>2</td>
<td>3.14</td>
<td>Existing</td>
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<td>McGuire Dr.</td>
<td>Riverside Dr.</td>
<td>Claus Rd.</td>
<td>2</td>
<td>1.48</td>
<td>Existing</td>
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<tr>
<td>Millbrook Rd./Belharbour Dr.</td>
<td>Sylvan Ave.</td>
<td>Roselle Ave.</td>
<td>2</td>
<td>1.04</td>
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<tr>
<td>Sylvan Avenue</td>
<td>Roselle Ave.</td>
<td>Millbrook Ave.</td>
<td>2</td>
<td>0.34</td>
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<tr>
<td>Virginia Railroad Trail</td>
<td>La Loma Ave.</td>
<td>Claus Rd.</td>
<td>1</td>
<td>4.24</td>
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<tr>
<td>W Briggsmore Ave.</td>
<td>Tioga Dr.</td>
<td>Mitchell Rd.</td>
<td>1</td>
<td>1.75</td>
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<td><strong>Total Existing</strong></td>
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<td><strong>87.73</strong></td>
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<tr>
<td>Segment Name</td>
<td>From</td>
<td>To</td>
<td>Bikeway Class</td>
<td>Length (Miles)</td>
<td>Status</td>
<td>Priority</td>
<td>Cost</td>
</tr>
<tr>
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</tr>
<tr>
<td>Limits</td>
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<tr>
<td>Oakdale Rd.</td>
<td>Merle Ave.</td>
<td>E Brigsmore Ave.</td>
<td>3</td>
<td>0.25</td>
<td>Proposed</td>
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<tr>
<td>Oakdale Rd.-Mitchell Rd.</td>
<td>Modesto City Limit</td>
<td>Ceres City Limit</td>
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<td>4.64</td>
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<td>$155,904</td>
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<td>Paradise Rd.</td>
<td>Grimes Rd.</td>
<td>Yosemite Ave.</td>
<td>2</td>
<td>2.3</td>
<td>Proposed</td>
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<td>$77,280</td>
</tr>
<tr>
<td>Yosemite Blvd.</td>
<td>14th St.</td>
<td>Riverside Drive</td>
<td>2</td>
<td>2.31</td>
<td>Proposed</td>
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<td>$77,616</td>
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<tr>
<td><strong>Total First-Tier Priority Projects</strong></td>
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<td></td>
<td></td>
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<td><strong>$405,318</strong></td>
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<tr>
<td>S 9th St.</td>
<td>S Morton Blvd.</td>
<td>E Hatch Rd.</td>
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<td>1.65</td>
<td>Proposed</td>
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<td>$55,440</td>
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<tr>
<td><strong>Total Second-Tier Priority Projects</strong></td>
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<td><strong>$55,440</strong></td>
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<tr>
<td>Aria Way</td>
<td>Sylvan Ave.</td>
<td>Hillglen Ave.</td>
<td>2</td>
<td>0.25</td>
<td>Proposed</td>
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<td>$8,400</td>
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<tr>
<td>Blue Gum Ave.</td>
<td>Carpenter Rd.</td>
<td>Culpepper Ave.</td>
<td>2</td>
<td>0.19</td>
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<td>$6,384</td>
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<tr>
<td>Briggsmore Ave.</td>
<td>SR 99</td>
<td>BNSF Railroad</td>
<td>2</td>
<td>7.05</td>
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<td>$236,880</td>
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<td>Caden Dr.</td>
<td>Hillglen Ave.</td>
<td>Kodiak Dr.</td>
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<td>$8,400</td>
</tr>
<tr>
<td>California Ave.</td>
<td>S Carpenter Rd.</td>
<td>S Jefferson St.</td>
<td>2</td>
<td>1.19</td>
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<tr>
<td>Canal</td>
<td>Coffee Rd.</td>
<td>Held Dr.</td>
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<td>3.42</td>
<td>Proposed</td>
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<td>$3,179,232</td>
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<tr>
<td>Class 1 Path - MID Lateral 1</td>
<td>Beard Ave.</td>
<td>Santa Fe Ave.</td>
<td>1</td>
<td>2.77</td>
<td>Proposed</td>
<td></td>
<td>$2,574,992</td>
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<tr>
<td>Class 1 Path - MID Lateral 4</td>
<td>Carpenter Rd.</td>
<td>SR 99</td>
<td>1</td>
<td>1.23</td>
<td>Proposed</td>
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<td>$1,143,408</td>
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<tr>
<td>Class 1 Path - MID Lateral 5</td>
<td>Carpenter Rd.</td>
<td>MID Lateral 4 Canal Path</td>
<td>1</td>
<td>1.48</td>
<td>Proposed</td>
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<td>$1,375,808</td>
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<td>Class 1 Path - MID Lateral 6</td>
<td>Carver Rd.</td>
<td>Virginia Corridor Trail</td>
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<td>1.18</td>
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<td>N 9th St.</td>
<td>Tully Rd.</td>
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</tr>
<tr>
<td>College Ave.</td>
<td>Stoddard Ave.</td>
<td>Needham Ave.</td>
<td>2</td>
<td>0.25</td>
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<td>Crows Landing Rd.</td>
<td>S 7th St.</td>
<td>E Whitmore Ave.</td>
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<td>Vivian Rd.</td>
<td>Hemdon Rd.</td>
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<tr>
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<td>La Force Dr.</td>
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<td></td>
<td>$16,800</td>
</tr>
<tr>
<td>Kodiak Dr.</td>
<td>La Force Dr.</td>
<td>Litt Rd.</td>
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<tr>
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<td>La Force Dr.</td>
<td>Litt Rd.</td>
<td>2</td>
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<td>MacBeth Ct.</td>
<td>Fine Ave.</td>
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<td>La Force Dr.</td>
<td>Oakdale Rd.</td>
<td>Iron Gate Dr.</td>
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<td>Kodiak Dr.</td>
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<td>Sharon Ave.</td>
<td>Merle Ave.</td>
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</tr>
<tr>
<td>Segment Name</td>
<td>From</td>
<td>To</td>
<td>Bikeway Class</td>
<td>Length (Miles)</td>
<td>Status</td>
<td>Priority</td>
<td>Cost</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>-------------------------------</td>
<td>-------------------------------</td>
<td>---------------</td>
<td>----------------</td>
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<td>Needham Ave.</td>
<td>Kiernan Ave.</td>
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<td>Hillglen Ave.</td>
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<td>Proposed</td>
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<td>Merle Ave.</td>
<td>Oakdale Rd.</td>
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<td>1.99</td>
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<td>Morse Rd.</td>
<td>Blue Gum Ave.</td>
<td>Kansas Ave.</td>
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<td>1</td>
<td>Proposed</td>
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<td>N 9th St.</td>
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<td>Canal</td>
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<td>1.02</td>
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<td>Blue Gum Ave.</td>
<td>Briggsmores Ave.</td>
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<td>0.25</td>
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<td>Cummins Dr.</td>
<td>W Hatch Rd.</td>
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<td>North Ave.</td>
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<td>E Briggsmores Ave.</td>
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<td>Natchez Way</td>
<td>Belharbour Dr.</td>
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<td>College Ave.</td>
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<td>Lincoln Oak Dr.</td>
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<td>Proposed</td>
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<tr>
<td>Orchard Park Way</td>
<td>Kodiak Dr.</td>
<td>Floyd Ave.</td>
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<td>0.25</td>
<td>Proposed</td>
<td>$8,400</td>
<td></td>
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<td>Pelandale Ave.</td>
<td>Madeline Way</td>
<td>Claus Rd.</td>
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<td>Snyder Ave.</td>
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<td>Roselle Ave.</td>
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<td>Scenic Dr.</td>
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<td>Roselle Ave.</td>
<td>Modesto City Limits</td>
<td>Scenic Dr.</td>
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<td>Roselle Ave.</td>
<td>Sylvan Ave.</td>
<td>Floyd Ave.</td>
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<td>Proposed</td>
<td>$25,200</td>
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<tr>
<td>S 7th St.</td>
<td>Tuolumne River</td>
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<td>S 7th St.</td>
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<td>Proposed</td>
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<td>C St.</td>
<td>Crows Landing Rd.</td>
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<td>S 7th St. Bridge</td>
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<td>3.5</td>
<td>0.05</td>
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<td>S Carpenter Rd.</td>
<td>Maze Blvd.</td>
<td>Modesto City Limits</td>
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<tr>
<td>Sharon Ave.</td>
<td>Millbrook Ave.</td>
<td>Fine Ave.</td>
<td>2</td>
<td>0.4</td>
<td>Proposed</td>
<td>$13,440</td>
<td></td>
</tr>
<tr>
<td>Snyder Ave.</td>
<td>Blue Bird Dr.</td>
<td>Tully Rd.</td>
<td>2</td>
<td>0.58</td>
<td>Proposed</td>
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<tr>
<td>SR 99</td>
<td>Paradise Rd.</td>
<td>Tuolumne River</td>
<td>1</td>
<td>6.24</td>
<td>Proposed</td>
<td>$5,800,704</td>
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<tr>
<td>Standiford Ave.</td>
<td>Dale Rd.</td>
<td>McHenry Ave.</td>
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<td>0.97</td>
<td>Proposed</td>
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<td>Claus Rd.</td>
<td>2</td>
<td>0.66</td>
<td>Proposed</td>
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</tr>
<tr>
<td>Sylvan Ave.</td>
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<td>Roselle Ave.</td>
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<td>0.99</td>
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<tr>
<td>Temescal Dr.</td>
<td>Kodiak Dr.</td>
<td>Floyd Ave.</td>
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<td>0.25</td>
<td>Proposed</td>
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<tr>
<td>Tully Rd.</td>
<td>Coldwell Ave.</td>
<td>SR 99</td>
<td>2</td>
<td>0.34</td>
<td>Proposed</td>
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<td>Tully Rd.</td>
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<td>Modesto City Limits</td>
<td>Tioga Dr.</td>
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<td>Needham Ave.</td>
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<td>Virginia Railroad Trail</td>
<td>Claribel Rd.</td>
<td>Granger Rd.</td>
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<td>Crows Landing Rd.</td>
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<tr>
<td>W Orangeburg Ave.</td>
<td>Evergreen Ave.</td>
<td>Carver Rd.</td>
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<td>0.59</td>
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<tr>
<td>Wood Sorrel Dr.</td>
<td>Sylvan Ave.</td>
<td>Hillglen Ave.</td>
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<td>0.25</td>
<td>Proposed</td>
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<td>Woodland Ave.</td>
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<td>N 9th St.</td>
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</table>

**Total Long-Term Proposed Bikeways** | 104.32 | **$47,864,012**

**All Proposed Bikeways** | 119.75 | **$48,324,770**
<table>
<thead>
<tr>
<th>Segment Name</th>
<th>From</th>
<th>To</th>
<th>Bikeway Class¹</th>
<th>Length (Miles)</th>
<th>Status</th>
<th>Priority</th>
<th>Cost</th>
</tr>
</thead>
</table>

Source: StanCOG, City of Modesto, Fehr & Peers, 2013.

1. Class 3.5 WS = Class 3 bicycle route with wide shoulders. Class 3 STR=Class 3 bicycle route with “SHARE THE ROAD” signage
Table E-5: Newman Existing and Proposed Bikeway Network

<table>
<thead>
<tr>
<th>Segment Name</th>
<th>From</th>
<th>To</th>
<th>Bikeway Class</th>
<th>Length (Miles)</th>
<th>Status</th>
<th>Priority</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acadia Ct.</td>
<td>City Limit</td>
<td>City Limit</td>
<td>2</td>
<td>0.12</td>
<td>Existing</td>
<td>Existing</td>
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<tr>
<td>Balsam Dr.</td>
<td>Sherman Pkwy.</td>
<td>Kern St.</td>
<td>2</td>
<td>0.62</td>
<td>Existing</td>
<td>Existing</td>
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<tr>
<td>Canyon Creek Dr.</td>
<td>Harvey Rd.</td>
<td>Upper Rd.</td>
<td>2</td>
<td>0.5</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>Cinnamon Teal</td>
<td>Edinburgh Way</td>
<td>Sherman Pkwy.</td>
<td>1</td>
<td>0.19</td>
<td>Existing</td>
<td>Existing</td>
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<tr>
<td>Driskell Ave.</td>
<td>M St.</td>
<td>Hills Ferry Rd.</td>
<td>2</td>
<td>0.6</td>
<td>Existing</td>
<td>Existing</td>
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<tr>
<td>Edinburgh Way</td>
<td>Cinnamon Teal</td>
<td>Hills Ferry Rd.</td>
<td>1</td>
<td>0.09</td>
<td>Existing</td>
<td>Existing</td>
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</tr>
<tr>
<td>Kern St.</td>
<td>T St.</td>
<td>L St.</td>
<td>2</td>
<td>0.1</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>L St.</td>
<td>Driskell Ave.</td>
<td>Merced St.</td>
<td>2</td>
<td>0.28</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>Merced St.</td>
<td>M St.</td>
<td>L St.</td>
<td>2</td>
<td>0.08</td>
<td>Existing</td>
<td>Existing</td>
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</tr>
<tr>
<td>Park Cir.</td>
<td>Yosemite Park</td>
<td>Acadia Ct.</td>
<td>2</td>
<td>0.28</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
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<tr>
<td>S St.</td>
<td>Yolo St.</td>
<td>Inyo Ave.</td>
<td>2</td>
<td>0.52</td>
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<tr>
<td>Sherman Pkwy</td>
<td>SR 99</td>
<td>Hills Ferry Rd.</td>
<td>1</td>
<td>1.35</td>
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</tr>
<tr>
<td>T St.</td>
<td>E Orestimba Rd.</td>
<td>Merced St.</td>
<td>2</td>
<td>0.47</td>
<td>Existing</td>
<td>Existing</td>
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</tr>
<tr>
<td>Yolo St.</td>
<td>Hardin St.</td>
<td>Scott Rd.</td>
<td>2</td>
<td>0.51</td>
<td>Existing</td>
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<td><strong>Total Existing</strong></td>
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<td>Kern St.</td>
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<tr>
<td>Merced St.</td>
<td>L St.</td>
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<tr>
<td>Merced St.</td>
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<td>M St.</td>
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<td>SR 33</td>
<td>Newman City Limits</td>
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<tr>
<td>1st St.</td>
<td>Inyo Ave.</td>
<td>Patchett Dr.</td>
<td>2</td>
<td>0.10</td>
<td>Proposed</td>
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</tr>
<tr>
<td>Barrington Ave.</td>
<td>Sherman Pkwy.</td>
<td>Driskell Ave.</td>
<td>2</td>
<td>0.52</td>
<td>Proposed</td>
<td>$17,472</td>
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<tr>
<td>Canal School Rd.</td>
<td>Hills Ferry Rd.</td>
<td>E Inyo Ave.</td>
<td>1</td>
<td>0.46</td>
<td>Proposed</td>
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<tr>
<td>Canyon Creek Dr.</td>
<td>Upper Rd.</td>
<td>Prince St.</td>
<td>2</td>
<td>0.49</td>
<td>Proposed</td>
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<tr>
<td>Ensen Rd.</td>
<td>SR 33</td>
<td>City Limits</td>
<td>3</td>
<td>0.54</td>
<td>Proposed</td>
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<tr>
<td>Eucalyptus Ave.</td>
<td>Sherman Pkwy.</td>
<td>Driskell Ave.</td>
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<td>0.53</td>
<td>Proposed</td>
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<tr>
<td>Fig Ln.</td>
<td>Newman City Limits</td>
<td>Fig Ln.</td>
<td>2</td>
<td>0.98</td>
<td>Proposed</td>
<td>$32,928</td>
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<tr>
<td>Harding Rd.</td>
<td>Orestimba Rd.</td>
<td>City Limits</td>
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<td>0.50</td>
<td>Proposed</td>
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<tr>
<td>Hills Ferry Rd.</td>
<td>Edinburgh Way</td>
<td>Driskell Ave.</td>
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<td>T St.</td>
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<td>1.25</td>
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<tr>
<td>Patchett Dr.</td>
<td>Upper Rd.</td>
<td>Prince St.</td>
<td>3</td>
<td>0.49</td>
<td>Proposed</td>
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<td>Prince St.</td>
<td>Inyo Ave.</td>
<td>Newman City Limits</td>
<td>2</td>
<td>0.51</td>
<td>Proposed</td>
<td>$17,136</td>
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<td>T St.</td>
<td>Merced St.</td>
<td>Inyo Ave.</td>
<td>2</td>
<td>0.04</td>
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<tr>
<td>Upper Rd.</td>
<td>Hoyer Rd.</td>
<td>Newman City Limits</td>
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<td>0.51</td>
<td>Proposed</td>
<td>$17,136</td>
<td></td>
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<tr>
<td><strong>Total Long-Term Proposed Network</strong></td>
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<td></td>
<td></td>
<td>7.68</td>
<td></td>
<td>$900,917</td>
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<td><strong>All Proposed Bikeways</strong></td>
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<td></td>
<td></td>
<td>11.15</td>
<td></td>
<td>$1,017,509</td>
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1. Class 3.5 WS = Class 3 bicycle route with wide shoulders. Class 3 STR=Class 3 bicycle route with “SHARE THE ROAD” signage.
### Table E-6: Oakdale Existing and Proposed Bikeway Network

<table>
<thead>
<tr>
<th>Segment Name</th>
<th>From</th>
<th>To</th>
<th>Bikeway Class</th>
<th>Length (Miles)</th>
<th>Status</th>
<th>Priority</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class 1 Connector</td>
<td>Edge of Shopping Center</td>
<td>Shopping Center Parking Lot</td>
<td>1</td>
<td>0.07</td>
<td>Existing</td>
<td>Existing</td>
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</tr>
<tr>
<td>Class 1 Connector</td>
<td>Irvin Ct.</td>
<td>Shopping Center</td>
<td>1</td>
<td>0.48</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>Crane Rd.</td>
<td>E F St.</td>
<td>South of Oakdale City Limit</td>
<td>2</td>
<td>0.70</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>E A St.</td>
<td>N 1st Ave.</td>
<td>Old Stockton Rd.</td>
<td>3</td>
<td>0.26</td>
<td>Existing</td>
<td>Existing</td>
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</tr>
<tr>
<td>E D St.</td>
<td>N 6th Ave.</td>
<td>N Maag Ave.</td>
<td>3</td>
<td>0.76</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>E G St.</td>
<td>S 6th Ave.</td>
<td>S Maag Ave.</td>
<td>2</td>
<td>0.78</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>E J St.</td>
<td>N Maag Ave.</td>
<td>S Yosemite Ave.</td>
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<td>0.91</td>
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<td>Existing</td>
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</tr>
<tr>
<td>N 1st Ave.</td>
<td>W A St.</td>
<td>E E St.</td>
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<td>0.36</td>
<td>Existing</td>
<td>Existing</td>
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</tr>
<tr>
<td>N 6th Ave.</td>
<td>E A St.</td>
<td>E D St.</td>
<td>2</td>
<td>0.27</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>N 6th Ave.</td>
<td>E G St.</td>
<td>E J St.</td>
<td>2</td>
<td>0.27</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>N Maag Ave.</td>
<td>Burchell Hill Dr.</td>
<td>E J St.</td>
<td>2</td>
<td>1.01</td>
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<td>Existing</td>
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</tr>
<tr>
<td>N Oak Ave.</td>
<td>Walnut St.</td>
<td>Poplar St.</td>
<td>3</td>
<td>0.25</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>N Yosemite Ave.</td>
<td>Stanislaus River</td>
<td>E A St.</td>
<td>1</td>
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<td>Existing</td>
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<tr>
<td>Parallel to E D St.</td>
<td>E C St.</td>
<td>N Maag Ave.</td>
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<td>0.52</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>Parallel to Railroad</td>
<td>Crane Rd.</td>
<td>S Yosemite Ave.</td>
<td>2</td>
<td>2.48</td>
<td>Existing</td>
<td>Existing</td>
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</tr>
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<td>Oakdale City Limits</td>
<td>N 1st Ave.</td>
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<tr>
<td>S Willowood Dr.</td>
<td>W F St.</td>
<td>Oakdale City Limits</td>
<td>2</td>
<td>0.52</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>S Yosemite Ave.</td>
<td>E J St.</td>
<td>Warnerville Rd.</td>
<td>2</td>
<td>1.06</td>
<td>Existing</td>
<td>Existing</td>
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</tr>
<tr>
<td>Ventanas Ave.</td>
<td>G St.</td>
<td>J St.</td>
<td>2</td>
<td>0.26</td>
<td>Existing</td>
<td>Existing</td>
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</tr>
<tr>
<td>W Greger St.</td>
<td>Crane Rd.</td>
<td>S Yosemite Ave.</td>
<td>2</td>
<td>2.48</td>
<td>Existing</td>
<td>Existing</td>
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<td>Warnerville Rd.</td>
<td>S Yosemite Ave.</td>
<td>Park Entrance</td>
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<td>Existing</td>
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<tr>
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<td>Maag Ave.</td>
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<td>J St.</td>
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<td>C St.</td>
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<tr>
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<tr>
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<td>Stanislaus River</td>
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<td>Stearns Rd.</td>
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<tr>
<td>Segment Name</td>
<td>From</td>
<td>To</td>
<td>Bikeway Class</td>
<td>Length (Miles)</td>
<td>Status</td>
<td>Priority</td>
<td>Cost</td>
</tr>
<tr>
<td>-----------------------</td>
<td>-----------------------</td>
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<td>---------------</td>
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<tr>
<td>Hi Tech Parkway</td>
<td>S Yosemite Ave.</td>
<td>Post Rd.</td>
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<td>Valley View Dr.</td>
<td>Oakland City Limits</td>
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<td>Kaufman Rd.</td>
<td>W Greger St.</td>
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<td>1</td>
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<td>Stearns Rd.</td>
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<td>Proposed</td>
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<td>W Greger St.</td>
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</tr>
<tr>
<td>N Oak Ave.</td>
<td>Poplar St.</td>
<td>Wood Ave.</td>
<td>3</td>
<td>0.61</td>
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</tr>
<tr>
<td>N Yosemite Blvd.</td>
<td>River Rd.</td>
<td>Stanislaus River</td>
<td>1</td>
<td>0.54</td>
<td>Proposed</td>
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<tr>
<td>Orsi Rd.</td>
<td>Sierra Rd.</td>
<td>Lando Dr.</td>
<td>2</td>
<td>0.7</td>
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<tr>
<td>Park Connector</td>
<td>Ash Ave.</td>
<td>S Oak Ave.</td>
<td>1</td>
<td>0.15</td>
<td>Proposed</td>
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</tr>
<tr>
<td>Pontiac St.</td>
<td>Oakland City Limits</td>
<td>N Lee Ave.</td>
<td>3</td>
<td>0.88</td>
<td>Proposed</td>
<td>$12,813</td>
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</tr>
<tr>
<td>Poplar St. Extension</td>
<td>Reed Rd.</td>
<td>Willow Glen Ave.</td>
<td>3</td>
<td>0.31</td>
<td>Proposed</td>
<td>$4,514</td>
<td></td>
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<tr>
<td>Post Ave.</td>
<td>Sierra Rd.</td>
<td>Hedberg Way</td>
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</tr>
<tr>
<td>Post Rd.</td>
<td>Class 1 Connector</td>
<td>Hi Tech Parkway</td>
<td>2</td>
<td>0.3</td>
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</tr>
<tr>
<td>Reed Rd.</td>
<td>Pontiac St.</td>
<td>Class 1</td>
<td>3</td>
<td>0.52</td>
<td>Proposed</td>
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</tr>
<tr>
<td>River Ave.</td>
<td>Walnut St.</td>
<td>W North St.</td>
<td>3</td>
<td>0.83</td>
<td>Proposed</td>
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<td></td>
</tr>
<tr>
<td>River Bluff Dr.</td>
<td>E A St.</td>
<td>Valley View Dr.</td>
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<td>0.84</td>
<td>Proposed</td>
<td>$12,230</td>
<td></td>
</tr>
<tr>
<td>S 1st Ave.</td>
<td>W North St.</td>
<td>E J St.</td>
<td>2</td>
<td>0.91</td>
<td>Proposed</td>
<td>$30,576</td>
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</tr>
<tr>
<td>S Maag Ave.</td>
<td>E J St.</td>
<td>Sierra Rd.</td>
<td>2</td>
<td>0.18</td>
<td>Proposed</td>
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<td></td>
</tr>
<tr>
<td>Stearns Rd.</td>
<td>F Street/SR 120</td>
<td>Sierra Rd.</td>
<td>2</td>
<td>1</td>
<td>Proposed</td>
<td>$33,600</td>
<td></td>
</tr>
<tr>
<td>Timberwood Dr.</td>
<td>Pontiac St.</td>
<td>Class 1 Path</td>
<td>3</td>
<td>0.3</td>
<td>Proposed</td>
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</tr>
<tr>
<td>Twildo Ave.</td>
<td>Stearns Rd.</td>
<td></td>
<td>3</td>
<td>0.2</td>
<td>Proposed</td>
<td>$2,912</td>
<td></td>
</tr>
<tr>
<td>Unknown (Future Roadway)</td>
<td>Crane Rd.</td>
<td>Reed Rd.</td>
<td>3</td>
<td>0.36</td>
<td>Proposed</td>
<td>$5,242</td>
<td></td>
</tr>
<tr>
<td>Unknown (Future Roadway)</td>
<td>Stearns Rd.</td>
<td>Sierra Rd.</td>
<td>3</td>
<td>0.9</td>
<td>Proposed</td>
<td>$13,104</td>
<td></td>
</tr>
<tr>
<td>Unknown</td>
<td>W Greger St.</td>
<td>Oakland City Limits</td>
<td>2</td>
<td>0.16</td>
<td>Proposed</td>
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<tr>
<td>Unknown</td>
<td>Class 1 Path</td>
<td>Poplar St.</td>
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<td>Proposed</td>
<td>$12,958</td>
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</tr>
<tr>
<td>Valley View Dr.</td>
<td>Stanislaus River</td>
<td>E C St.</td>
<td>1</td>
<td>0.3</td>
<td>Proposed</td>
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<tr>
<td>Valley View Dr.</td>
<td>Stanislaus River</td>
<td>E C St.</td>
<td>1</td>
<td>0.07</td>
<td>Proposed</td>
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<td></td>
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<tr>
<td>W G St.</td>
<td>Wood Ave.</td>
<td>S 6th Ave.</td>
<td>3</td>
<td>1.04</td>
<td>Proposed</td>
<td>$15,142</td>
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</tr>
<tr>
<td>W J St.</td>
<td>Crane Rd.</td>
<td>Ash Ave.</td>
<td>2</td>
<td>1.11</td>
<td>Proposed</td>
<td>$37,296</td>
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</tr>
<tr>
<td>W J St.</td>
<td>S Oak Ave.</td>
<td>Gilbert Ave.</td>
<td>2</td>
<td>0.5</td>
<td>Proposed</td>
<td>$16,800</td>
<td></td>
</tr>
<tr>
<td>W J St.</td>
<td>Gilbert Ave.</td>
<td>S 1st Ave.</td>
<td>3</td>
<td>0.34</td>
<td>Proposed</td>
<td>$4,950</td>
<td></td>
</tr>
<tr>
<td>Walnut Street</td>
<td>Del Rio Ct.</td>
<td>West Of City Boundary</td>
<td>3</td>
<td>0.14</td>
<td>Proposed</td>
<td>$2,038</td>
<td></td>
</tr>
<tr>
<td>Willowwood Dr.</td>
<td>Pontiac St.</td>
<td>E F St.</td>
<td>3</td>
<td>0.35</td>
<td>Proposed</td>
<td>$5,096</td>
<td></td>
</tr>
<tr>
<td>Wood Ave.</td>
<td>W G St.</td>
<td>W J St.</td>
<td>3</td>
<td>0.17</td>
<td>Proposed</td>
<td>$2,475</td>
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</tbody>
</table>

| Total Long-Term Proposed Bikeways | 30.57 | $9,105,721 |
| All Proposed Bikeways            | 35.63 | $10,139,361 |


1. Class 3.5 WS = Class 3 bicycle route with wide shoulders. Class 3 STR = Class 3 bicycle route with “SHARE THE ROAD” signage.
<table>
<thead>
<tr>
<th>Segment Name</th>
<th>From</th>
<th>To</th>
<th>Bikeway Class</th>
<th>Length (Miles)</th>
<th>Status</th>
<th>Priority</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>E Las Palmas Ave.</td>
<td>S 1st St.</td>
<td>S Hartley St.</td>
<td>2</td>
<td>0.38</td>
<td>Existing</td>
<td>Existing</td>
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<tr>
<td>E St.</td>
<td>Sperry Ave.</td>
<td>1st St.</td>
<td>2</td>
<td>0.84</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>N Salado Ave.</td>
<td>Ward Ave.</td>
<td>N El Circulo</td>
<td>2</td>
<td>0.51</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>N Hartley</td>
<td>Walnut Grove School</td>
<td>Walnut Rd.</td>
<td>2</td>
<td>0.27</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>Shearwater Dr.</td>
<td>Baldwin Rd.</td>
<td>James Burke Ave.</td>
<td>2</td>
<td>0.90</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>Sperry Ave.</td>
<td>S 9th St.</td>
<td>S Del Puerto</td>
<td>1</td>
<td>0.15</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>Sperry Ave.</td>
<td>Baldwin Rd.</td>
<td>S American Eagle Ave.</td>
<td>1</td>
<td>1.02</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>W Las Palmas Ave.</td>
<td>N 9th St.</td>
<td>S El Circulo</td>
<td>2</td>
<td>0.33</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>W Las Palmas Ave.</td>
<td>1st St.</td>
<td>Hartley St.</td>
<td>2</td>
<td>0.57</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
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<td>Sperry Ave.</td>
<td>Canal</td>
<td>1</td>
<td>0.59</td>
<td>Existing</td>
<td>Existing</td>
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<tr>
<td><strong>Total Existing</strong></td>
<td></td>
<td></td>
<td></td>
<td>5.56</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>W Las Palmas Ave.</td>
<td>N El Circulo</td>
<td>S 2nd St.</td>
<td>2</td>
<td>0.2</td>
<td>Proposed</td>
<td>1st</td>
<td>$6,720</td>
</tr>
<tr>
<td>W Las Palmas Ave.</td>
<td>S 2nd St.</td>
<td>S 1st St.</td>
<td>2</td>
<td>0.09</td>
<td>Proposed</td>
<td>1st</td>
<td>$3,024</td>
</tr>
<tr>
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<td>Ward Ave.</td>
<td>S 9th St.</td>
<td>2</td>
<td>0.23</td>
<td>Proposed</td>
<td>1st</td>
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</tr>
<tr>
<td><strong>Total First-Tier Priority Projects</strong></td>
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<td></td>
<td></td>
<td>0.52</td>
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<td></td>
<td>$17,472</td>
</tr>
<tr>
<td>SR 33</td>
<td>Ward Ave.</td>
<td>Bartch Ave.</td>
<td>3.5</td>
<td>2.54</td>
<td>Proposed</td>
<td>2nd</td>
<td>$889,000</td>
</tr>
<tr>
<td><strong>Total Second-Tier Priority Projects</strong></td>
<td></td>
<td></td>
<td></td>
<td>2.54</td>
<td></td>
<td></td>
<td>$889,000</td>
</tr>
<tr>
<td>American Eagle Ave.</td>
<td>Ward Ave.</td>
<td>Cliff Swallow Drive</td>
<td>1</td>
<td>0.54</td>
<td>Proposed</td>
<td></td>
<td>$501,984</td>
</tr>
<tr>
<td>American Eagle Ave.</td>
<td>Red Robin Dr.</td>
<td>Ward Ave.</td>
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<td>0.15</td>
<td>Proposed</td>
<td></td>
<td>$5,040</td>
</tr>
<tr>
<td>American Eagle Ave.</td>
<td>Ward Ave.</td>
<td>Sweet Blair Dr.</td>
<td>2</td>
<td>0.45</td>
<td>Proposed</td>
<td></td>
<td>$15,120</td>
</tr>
<tr>
<td>James Burke Ave.</td>
<td>Shearwater Dr.</td>
<td>Ward Ave.</td>
<td>2</td>
<td>0.18</td>
<td>Proposed</td>
<td></td>
<td>$6,048</td>
</tr>
<tr>
<td>M St.</td>
<td>Ward Ave.</td>
<td>N 1st St.</td>
<td>2</td>
<td>0.57</td>
<td>Proposed</td>
<td></td>
<td>$19,152</td>
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<tr>
<td>N 1st St.</td>
<td>Olive Ave.</td>
<td>E Las Palmas Ave.</td>
<td>2</td>
<td>1.00</td>
<td>Proposed</td>
<td></td>
<td>$33,600</td>
</tr>
<tr>
<td>N 9th St.</td>
<td>Ward Ave.</td>
<td>Sperry Ave.</td>
<td>2</td>
<td>0.68</td>
<td>Proposed</td>
<td></td>
<td>$22,848</td>
</tr>
<tr>
<td>N Hartley St.</td>
<td>Walnut Ave.</td>
<td>Chesterfield Dr.</td>
<td>2</td>
<td>0.72</td>
<td>Proposed</td>
<td></td>
<td>$24,192</td>
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<tr>
<td>Peregrine Dr.</td>
<td>Flicker Ln.</td>
<td>Heartland Ranch Ave.</td>
<td>2</td>
<td>0.41</td>
<td>Proposed</td>
<td></td>
<td>$13,776</td>
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<tr>
<td>Pipit Dr.</td>
<td>American Eagle Ave.</td>
<td>W Las Palmas Ave.</td>
<td>2</td>
<td>0.32</td>
<td>Proposed</td>
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<td>$10,752</td>
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<tr>
<td>S 1st St.</td>
<td>E Las Palmas Ave.</td>
<td>Patterson City Limits</td>
<td>2</td>
<td>0.66</td>
<td>Proposed</td>
<td></td>
<td>$22,176</td>
</tr>
<tr>
<td>S Del Puerto Ave.</td>
<td>S El Circulo</td>
<td>Poppy Ave.</td>
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<td>0.64</td>
<td>Proposed</td>
<td></td>
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<tr>
<td>S El Circulo</td>
<td>All</td>
<td>All</td>
<td>2</td>
<td>0.54</td>
<td>Proposed</td>
<td></td>
<td>$18,144</td>
</tr>
<tr>
<td>Shearwater Dr.</td>
<td>Baldwin Rd.</td>
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<td>$17,808</td>
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<td>Sperry Ave.</td>
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<td>Proposed</td>
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<td>$34,272</td>
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<td>Baldwin Rd.</td>
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<td>0.23</td>
<td>Proposed</td>
<td></td>
<td>$7,728</td>
</tr>
<tr>
<td>Sperry Ave.</td>
<td>S 9th St.</td>
<td>S Del Puerto Ave.</td>
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<td>0.15</td>
<td>Proposed</td>
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<td>$5,040</td>
</tr>
<tr>
<td>Sperry Ave.</td>
<td>S Del Puerto Ave.</td>
<td>S 2nd St.</td>
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<td>Sperry Ave.</td>
<td>Ward Ave.</td>
<td>S 9th St.</td>
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<td>0.35</td>
<td>Proposed</td>
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<td>Sycamore Ave.</td>
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<tr>
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<td>SR 33</td>
<td>Sperry Ave.</td>
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<td>1.51</td>
<td>Proposed</td>
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<tr>
<td><strong>Total Long-Term Proposed Bikeways</strong></td>
<td></td>
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<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td>15.13</td>
<td></td>
<td></td>
<td>$1,795,864</td>
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</tbody>
</table>

Source: StanCOG, City of Ceres, Fehr & Peers, 2013.

1. **Class 3.5 WS** = Class 3 bicycle route with wide shoulders. **Class 3 STR**=Class 3 bicycle route with “SHARE THE ROAD” signage.
Table E-8: Riverbank Existing and Proposed Bikeway Network

<table>
<thead>
<tr>
<th>Segment Name</th>
<th>From</th>
<th>To</th>
<th>Bikeway Class*</th>
<th>Length (Miles)</th>
<th>Status</th>
<th>Priority</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atchinson St.</td>
<td>1st St.</td>
<td>7th St.</td>
<td>2</td>
<td>0.55</td>
<td>Existing</td>
<td>Existing</td>
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<tr>
<td>Claribel Rd.</td>
<td>Oakdale Rd.</td>
<td>Squire Wells Way</td>
<td>1</td>
<td>0.37</td>
<td>Existing</td>
<td>Existing</td>
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<tr>
<td>Claribel Rd.</td>
<td>Terminal Ave.</td>
<td>Claribel Rd.</td>
<td>2</td>
<td>0.41</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>Morrill Rd.</td>
<td>Oakdale Rd.</td>
<td>Roselle Ave.</td>
<td>2</td>
<td>1.00</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>Oakdale Rd.</td>
<td>Morrill Rd.</td>
<td>Patterson Rd.</td>
<td>3</td>
<td>0.5</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>Oakdale Rd.</td>
<td>Crawford Rd.</td>
<td>Claribel Rd.</td>
<td>1</td>
<td>0.50</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>Parallel to Crawford Rd.</td>
<td>Oakdale Rd.</td>
<td>Roselle Ave.</td>
<td>1</td>
<td>1.30</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
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<tr>
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<td>1st St.</td>
<td>Claribel Rd.</td>
<td>2</td>
<td>0.87</td>
<td>Existing</td>
<td>Existing</td>
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</tr>
<tr>
<td>Squire Wells Way</td>
<td>Morrill Rd.</td>
<td>Claribel Rd.</td>
<td>2</td>
<td>1.00</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
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<td>6.5</td>
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<td></td>
<td>0.13</td>
<td></td>
<td></td>
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<tr>
<td>1st St.</td>
<td>North of City Limits</td>
<td>Patterson Rd.</td>
<td>3</td>
<td>0.75</td>
<td>Proposed</td>
<td>1st</td>
<td>$10,920</td>
</tr>
<tr>
<td>8th St.</td>
<td>Santa Fe St.</td>
<td>Sierra St.</td>
<td>3</td>
<td>0.14</td>
<td>Proposed</td>
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<td>$2,038</td>
</tr>
<tr>
<td>Canal</td>
<td>Oakdale Rd.</td>
<td>Roselle Ave.</td>
<td>1</td>
<td>1.36</td>
<td>Proposed</td>
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<tr>
<td>Canal</td>
<td>Roselle Ave.</td>
<td>Riverbank City Limits</td>
<td>1</td>
<td>0.68</td>
<td>Proposed</td>
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<td>$632,128</td>
</tr>
<tr>
<td>Candlewood Pl.</td>
<td>Oakdale Rd.</td>
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**Source:** StanCOG, City of Riverbank, Fehr & Peers, 2013.

1. Class 3.5 WS = Class 3 bicycle route with wide shoulders. Class 3 STR=Class 3 bicycle route with “SHARE THE ROAD” signage.
<table>
<thead>
<tr>
<th>Segment Name</th>
<th>From</th>
<th>To</th>
<th>Bikeway Class</th>
<th>Length (Miles)</th>
<th>Status</th>
<th>Priority</th>
<th>Cost</th>
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<tbody>
<tr>
<td>Along Turlock City Limits</td>
<td>E Taylor Rd.</td>
<td>E Monte Vista Ave.</td>
<td>1</td>
<td>1.03</td>
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<td>Existing</td>
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<td>N Tegner Rd.</td>
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<td>N Front St.</td>
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<td>Paseo Del Sol</td>
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<td>Length (Miles)</td>
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**Total Existing**: 40.88

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<th>Status</th>
<th>Priority</th>
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**Total Tier-One Priority Projects**: 10.48

**$334,808**

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**Total Tier-Two Priority Projects**: 1.51

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<td>West Ave.</td>
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<td>2</td>
<td>0.53</td>
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<td>2</td>
<td>0.45</td>
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<td>$17,808</td>
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**Total Proposed**                                      | **63.7**                   |                             | $12,728,475  |

**All Proposed Bikeways**                               | **65.18**                  |                             | $13,105,085  |

Source: StanCOG, City of Turlock, Fehr & Peers, 2013.

1. Class 3.5 WS = Class 3 bicycle route with wide shoulders. Class 3 STR = Class 3 bicycle route with “SHARE THE ROAD” signage.
<table>
<thead>
<tr>
<th>Segment Name</th>
<th>From</th>
<th>To</th>
<th>Bikeway Class</th>
<th>Length (Miles)</th>
<th>Status</th>
<th>Priority</th>
<th>Cost</th>
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<td>F St.</td>
<td>3</td>
<td>0.08</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>Bentley St.</td>
<td>I St.</td>
<td>Yosemite Blvd.</td>
<td>3</td>
<td>0.02</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>Bentley St.</td>
<td>Tim Bell Rd.</td>
<td>Skyline Blvd.</td>
<td>3</td>
<td>0.70</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>Bonnie Brae Ave.</td>
<td>F St.</td>
<td>Canal</td>
<td>3</td>
<td>0.63</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>C St.</td>
<td>Bonnie Brae Ave.</td>
<td>Bentley St.</td>
<td>3</td>
<td>0.36</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>Connector</td>
<td>Tim Bell Rd.</td>
<td>Bentley St.</td>
<td>1</td>
<td>0.55</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>Connector</td>
<td>Waterford City Limits</td>
<td>Bonnie Brae Ave.</td>
<td>1</td>
<td>0.16</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>D St.</td>
<td>Bentley St.</td>
<td>Welch St.</td>
<td>3</td>
<td>0.09</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>Dorsey St.</td>
<td>Church St.</td>
<td>F St.</td>
<td>3</td>
<td>0.19</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>Dorsey St.</td>
<td>F St.</td>
<td>C St.</td>
<td>3</td>
<td>0.22</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>F St.</td>
<td>Waterford City Limits</td>
<td>Yosemite Blvd.</td>
<td>2</td>
<td>0.90</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>G St.</td>
<td>Bentley St.</td>
<td>Yosemite Blvd.</td>
<td>3</td>
<td>0.13</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>Hickman St.</td>
<td>Tim Bell Rd.</td>
<td>N Appling Rd.</td>
<td>3</td>
<td>0.07</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>Kadota Ave.</td>
<td>N Reinway Ave.</td>
<td>Church St.</td>
<td>3</td>
<td>0.43</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>N Appling Rd.</td>
<td>Yosemite Blvd.</td>
<td>Tuolumne River</td>
<td>3</td>
<td>0.18</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>N Reinway Ave.</td>
<td>Yosemite Blvd.</td>
<td>MID Canal</td>
<td>2</td>
<td>0.52</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>Pecan Ave.</td>
<td>N Reinway Ave.</td>
<td>Church St.</td>
<td>3</td>
<td>0.43</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>Riverside Rd.</td>
<td>S Western Ave.</td>
<td>Yosemite Blvd.</td>
<td>3</td>
<td>0.48</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
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<tr>
<td>Rose Way</td>
<td>Church St.</td>
<td>F St.</td>
<td>3</td>
<td>0.08</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>S Reinway Ave.</td>
<td>Washington Rd.</td>
<td>End of S Reinway Ave.</td>
<td>3</td>
<td>0.34</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>S Reinway Ave.</td>
<td>Yosemite Blvd.</td>
<td>Washington Rd.</td>
<td>3</td>
<td>0.19</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>S Western Ave.</td>
<td>Washington Rd.</td>
<td>Riverside Rd.</td>
<td>3</td>
<td>0.11</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>S Western Ave.</td>
<td>Yosemite Blvd.</td>
<td>Washington Rd.</td>
<td>3</td>
<td>0.18</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>Skyline Blvd.</td>
<td>Bentley St.</td>
<td>Yosemite Blvd.</td>
<td>3</td>
<td>0.32</td>
<td>Existing</td>
<td>Existing</td>
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<td>Stein Way</td>
<td>Kadota Ave.</td>
<td>Washburn Ave.</td>
<td>1</td>
<td>0.09</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>Tim Bell Rd.</td>
<td>Bonnie Brae Ave.</td>
<td>Welch St.</td>
<td>3</td>
<td>0.34</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>Tim Bell Rd.</td>
<td>Waterford City Limits</td>
<td>Bonnie Brae Ave.</td>
<td>3</td>
<td>0.15</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>Tim Bell Rd.</td>
<td>Welch St.</td>
<td>Hickman St.</td>
<td>3</td>
<td>0.24</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>Tuolumne River</td>
<td>N Appling Rd.</td>
<td>Coastal Ln.</td>
<td>1</td>
<td>0.57</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>Washington Rd.</td>
<td>S Reinway Ave.</td>
<td>S Western Ave.</td>
<td>3</td>
<td>0.37</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>Welch St.</td>
<td>D St.</td>
<td>Tim Bell Rd.</td>
<td>2</td>
<td>0.17</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>Welch St.</td>
<td>F St.</td>
<td>D St.</td>
<td>3</td>
<td>0.15</td>
<td>Existing</td>
<td>Existing</td>
<td></td>
</tr>
<tr>
<td>Total Existing</td>
<td></td>
<td></td>
<td></td>
<td>11.88</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yosemite Blvd.</td>
<td>Baker St.</td>
<td>N Appling Rd.</td>
<td>3.5</td>
<td>0.07</td>
<td>Proposed</td>
<td>1st</td>
<td>$24,500</td>
</tr>
<tr>
<td>Yosemite Blvd.</td>
<td>Center St.</td>
<td>Riverside Rd.</td>
<td>3.5</td>
<td>0.14</td>
<td>Proposed</td>
<td>1st</td>
<td>$49,000</td>
</tr>
<tr>
<td>Yosemite Blvd.</td>
<td>Hickman Rd.</td>
<td>S E St.</td>
<td>3.5</td>
<td>0.08</td>
<td>Proposed</td>
<td>1st</td>
<td>$28,000</td>
</tr>
<tr>
<td>Yosemite Blvd.</td>
<td>N Appling Rd.</td>
<td>City Limits</td>
<td>3.5</td>
<td>0.94</td>
<td>Proposed</td>
<td>1st</td>
<td>$329,000</td>
</tr>
<tr>
<td>Yosemite Blvd.</td>
<td>Riverside Rd.</td>
<td>Hickman Rd.</td>
<td>3.5</td>
<td>0.11</td>
<td>Proposed</td>
<td>1st</td>
<td>$38,500</td>
</tr>
<tr>
<td>Yosemite Blvd.</td>
<td>S E St.</td>
<td>Baker St.</td>
<td>3.5</td>
<td>0.14</td>
<td>Proposed</td>
<td>1st</td>
<td>$49,000</td>
</tr>
<tr>
<td>Yosemite Blvd.</td>
<td>S Eucalyptus Ave.</td>
<td>S Reinway Ave.</td>
<td>3.5</td>
<td>0.26</td>
<td>Proposed</td>
<td>1st</td>
<td>$91,000</td>
</tr>
<tr>
<td>Yosemite Blvd.</td>
<td>S Reinway Ave.</td>
<td>S Western Ave.</td>
<td>3.5</td>
<td>0.37</td>
<td>Proposed</td>
<td>1st</td>
<td>$129,500</td>
</tr>
<tr>
<td>Yosemite Blvd.</td>
<td>S Western Ave.</td>
<td>Bentley St.</td>
<td>3.5</td>
<td>0.08</td>
<td>Proposed</td>
<td>1st</td>
<td>$28,000</td>
</tr>
<tr>
<td>Yosemite Blvd.</td>
<td>S Western Ave.</td>
<td>Center St.</td>
<td>3.5</td>
<td>0.08</td>
<td>Proposed</td>
<td>1st</td>
<td>$28,000</td>
</tr>
<tr>
<td>Total First-Tier Priority Bikeways</td>
<td></td>
<td></td>
<td></td>
<td>2.27</td>
<td></td>
<td></td>
<td>$794,500</td>
</tr>
<tr>
<td>Connector</td>
<td>N Reinway Ave.</td>
<td>Kadota Ave.</td>
<td>1</td>
<td>0.20</td>
<td>Proposed</td>
<td></td>
<td>$185,920</td>
</tr>
<tr>
<td>Connector (MID Canal)</td>
<td>N Reinway Ave.</td>
<td>Eastern City Limits</td>
<td>1</td>
<td>2.29</td>
<td>Proposed</td>
<td></td>
<td>$2,129,000</td>
</tr>
<tr>
<td>Class 1 Path</td>
<td>Bentley St.</td>
<td>Eastern City Limits</td>
<td>1</td>
<td>0.60</td>
<td>Proposed</td>
<td></td>
<td>$557,760</td>
</tr>
<tr>
<td>Segment Name</td>
<td>From</td>
<td>To</td>
<td>Bikeway Class(^1)</td>
<td>Length (Miles)</td>
<td>Status</td>
<td>Priority</td>
<td>Cost</td>
</tr>
<tr>
<td>--------------</td>
<td>-----------------</td>
<td>----------------</td>
<td>----------------------</td>
<td>----------------</td>
<td>----------</td>
<td>----------</td>
<td>-------------</td>
</tr>
<tr>
<td>Class 1 Path</td>
<td>Tim Bell Rd.</td>
<td>MID Canal</td>
<td>1</td>
<td>0.57</td>
<td>Proposed</td>
<td></td>
<td>$529,872</td>
</tr>
<tr>
<td>N Western Ave.</td>
<td>Washburn Ave.</td>
<td>F St.</td>
<td>1</td>
<td>0.06</td>
<td>Proposed</td>
<td></td>
<td>$55,776</td>
</tr>
<tr>
<td>Stein Way</td>
<td>Kadota Ave.</td>
<td>Washburn Ave.</td>
<td>1</td>
<td>0.09</td>
<td>Proposed</td>
<td></td>
<td>$83,664</td>
</tr>
<tr>
<td>Tuolumne River</td>
<td>Waterford City Limits</td>
<td>Waterford City Limits</td>
<td>1</td>
<td>1.80</td>
<td>Proposed</td>
<td></td>
<td>$1,673,280</td>
</tr>
<tr>
<td>Washburn Ave.</td>
<td>Stein Way</td>
<td>N Western Ave.</td>
<td>1</td>
<td>0.25</td>
<td>Proposed</td>
<td></td>
<td>$232,400</td>
</tr>
<tr>
<td><strong>Total Long-Term Proposed Network</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>3.37</strong></td>
<td></td>
<td></td>
<td><strong>$5,537,672</strong></td>
</tr>
<tr>
<td><strong>All Proposed Bikeways</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>5.64</strong></td>
<td></td>
<td></td>
<td><strong>$6,332,172</strong></td>
</tr>
</tbody>
</table>


1. Class 3.5 WS = Class 3 bicycle route with wide shoulders. Class 3 STR=Class 3 bicycle route with “SHARE THE ROAD” signage.
APPENDIX F: COUNTYWIDE PRIORITY BIKEWAYS COST ESTIMATES
AND UNIT COST ESTIMATES
UNIT COST ESTIMATES

The planning-level costs for developing bicycle facilities provided in this Plan were developed using unit costs outlined in Table F-1. These unit costs were used to estimate the cost of bicycle facilities presented in Appendix E.

### TABLE F-1 ESTIMATED BICYCLE FACILITY BASIC UNIT COSTS

<table>
<thead>
<tr>
<th>Facility</th>
<th>Total per Mile Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class 1 Bicycle Path</td>
<td>$929,600</td>
</tr>
<tr>
<td>Class 2 Bicycle Lanes</td>
<td>$33,600</td>
</tr>
<tr>
<td>Class 3 Bicycle Route (signage only)</td>
<td>$14,560</td>
</tr>
<tr>
<td>Class 3.5 Bicycle Route with Wide Shoulders</td>
<td>$336,000</td>
</tr>
<tr>
<td>Class 3.5 Bicycle Route with &quot;Share the Road&quot; Signage</td>
<td>$16,800</td>
</tr>
</tbody>
</table>

Source: Fehr & Peers, 2012

Planning-level pedestrian unit cost estimates are presented on Table F-2.
<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity</th>
<th>Unit</th>
<th>Cost per Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Crosswalk Striping (assumes a crosswalk with a 60-100ft span)</td>
<td>1</td>
<td>EA</td>
<td>$1,500.00</td>
</tr>
<tr>
<td>High-Visibility Crosswalk Striping (assumes a crosswalk with a 60-100ft span)</td>
<td>1</td>
<td>EA</td>
<td>$3,800.00</td>
</tr>
<tr>
<td>Graded Dirt Shoulder (4ft wide) (includes clearing, grubbing, grading, soil preparation and sterilization)</td>
<td>1</td>
<td>LF</td>
<td>$10.00</td>
</tr>
<tr>
<td>Paved Asphalt Shoulder (4ft wide) (includes clearing, grubbing, grading, aggregate base, asphalt paving, striping, and soil preparation)</td>
<td>1</td>
<td>LF</td>
<td>$30.00</td>
</tr>
<tr>
<td>Concrete Sidewalk (5ft wide) (assumes the construction of a typical County sidewalk detail 3-D8 and includes clearing, grubbing, grading, aggregate base, concrete paving, and curb &amp; gutter)</td>
<td>1</td>
<td>LF</td>
<td>$120.00</td>
</tr>
<tr>
<td>Asphalt Curb (assumes the construction of a typical Caltrans Type F asphalt concrete dike)</td>
<td>1</td>
<td>LF</td>
<td>$15.00</td>
</tr>
<tr>
<td>Curb Ramp (assumes the construction of a typical County curb detail 3-D4A and includes clearing, grubbing, grading, aggregate base, concrete pavement and truncated domes)</td>
<td>1</td>
<td>EA</td>
<td>$3,000.00</td>
</tr>
<tr>
<td>Median Refuges (assumes the construction of a non-landscaped typical County median detail 3-N1 and includes bonding, staking, traffic control, sawcutting and demolition of existing asphalt, grading, concrete curb, cobble interior for two 8ft wide/10ft long medians with a 6ft wide concrete pedestrian refuge area between)</td>
<td>1</td>
<td>EA</td>
<td>$11,000.00</td>
</tr>
<tr>
<td>Curb Extensions (assumes the construction of an 8ft wide/20ft long bulb-out curb extension and includes bonding, staking, traffic control, sawcutting and demolition of existing asphalt, grading, concrete curb, import topsoil, planting, irrigation)</td>
<td>1</td>
<td>EA</td>
<td>$10,000.00</td>
</tr>
</tbody>
</table>


Detailed planning-level cost estimates were developed for the ten countywide priority bikeways. Those cost estimates are provided on the following pages.
<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
<th>Quantity</th>
<th>Unit</th>
<th>Cost</th>
<th>Item Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>A. Project Start Up</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>Mobilization, bonding, &amp; staking</td>
<td>ALLOW</td>
<td>3%</td>
<td>$24,754.00</td>
<td>$24,754.00</td>
</tr>
<tr>
<td>2.</td>
<td>Erosion &amp; stormwater pollution control</td>
<td>ALLOW</td>
<td>3%</td>
<td>$24,033.00</td>
<td>$24,033.00</td>
</tr>
<tr>
<td>3.</td>
<td>Construction signage</td>
<td>ALLOW</td>
<td>LS</td>
<td>$2,000.00</td>
<td>$2,000.00</td>
</tr>
<tr>
<td>4.</td>
<td>Traffic control</td>
<td>ALLOW</td>
<td>LS</td>
<td>$5,000.00</td>
<td>$5,000.00</td>
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<tr>
<td></td>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td>$55,787.00</td>
</tr>
<tr>
<td></td>
<td><strong>CLASS 2 REACH</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>B. Bike Lane Striping</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>32,884 LF</td>
<td></td>
<td></td>
<td>$1,75</td>
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<tr>
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<td><strong>Total</strong></td>
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<td></td>
<td></td>
<td>$57,547.00</td>
</tr>
<tr>
<td></td>
<td><strong>CLASS 3 REACH</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>C. Signage (1 per 1,000 ft.)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>20 EA</td>
<td></td>
<td></td>
<td>$450.00</td>
<td>$9,000.00</td>
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<tr>
<td></td>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td>$9,000.00</td>
</tr>
<tr>
<td></td>
<td><strong>CLASS 3.5 REACH</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>D. Demolition</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1. Clearing &amp; grubbing</td>
<td>103,248</td>
<td>SF</td>
<td>$0.10</td>
<td>$10,324.80</td>
</tr>
<tr>
<td></td>
<td>2. Sawcutting &amp; AC removal</td>
<td>17,208</td>
<td>LF</td>
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<td></td>
<td>$61,949.00</td>
</tr>
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<td><strong>E. Grading</strong></td>
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<td></td>
<td></td>
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<tr>
<td></td>
<td>103,248 SF</td>
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<td>$23,747.04</td>
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<td><strong>Total</strong></td>
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<td></td>
<td></td>
<td>$23,747.00</td>
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<td><strong>F. Site Construction</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1. Asphalt pavement (includes aggregate base)</td>
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## Estimate of Probable Project Costs

### StanCOG Bicycle & Pedestrian Master Plan Update

**#2 Claribel Road/Kiernan Avenue/Broadway Avenue**  
(Riverbank, County, Salida)

---

**Callander Associates Landscape Architecture, Inc.**

- **prepared on:** 12/03/12
- **prepared by:** JB
- **reviewed by:** SD/ES

---

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<th>Unit</th>
<th>Cost</th>
<th>Item Total</th>
<th>Subtotal</th>
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### Estimate of Probable Project Costs

**StanCOG Bicycle & Pedestrian Master Plan Update**

# 3 Hatch Road (Modesto, Ceres, County, Hughson)

prepared by: JB
reviewed by: SD/ES

---

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
<th>Quantity</th>
<th>Unit</th>
<th>Cost</th>
<th>Item Total</th>
<th>Subtotal</th>
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<td>A.</td>
<td>Project Start Up</td>
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</table>

**CLASS 1 REACH**

| B. | Clearing and grubbing | 121,280 SF |       | $0.10 | $12,128.00 |         |
|    |              |          |      |       |           | $12,128.00 |

| C. | Grading | 121,280 SF |       | $0.23 | $27,894.40 |         |
|    |              |          |      |       |           | $27,894.00 |

**D. Site Construction**

| 1. | Aggregate shoulders (4 in. depth, 2 ft. width) | 24,276 SF |       | $4.00 | $97,104.00 |         |
|    | Asphalt pavement (8 ft. width, includes aggregate base) | 97,104 SF |       | $6.00 | $582,624.00 |         |
| 2. | Striping | 12,128 LF |       | $0.83 | $10,066.24 |         |
|    |              |          |      |       |           | $689,794.00 |

**CLASS 2 REACH**

| E. | Bike Lane Striping | 25,580 LF |       | $1.75 | $44,765.00 |         |
|    |              |          |      |       |           | $44,765.00 |

**CLASS 3 REACH**

| F. | Signage (1 per 1,000 ft.) | 24 EA |       | $450.00 | $10,800.00 |         |
|    |              |          |      |       |           | $10,800.00 |

**CLASS 3.5 REACH**

| G. | Demolition |          |      |          |           |         |
| 1. | Clearing & grubbing | 173,748 SF |       | $0.10 | $17,374.80 |         |
| 2. | Sawcutting & AC removal | 28,958 LF |       | $3.00 | $86,874.00 |         |
|    |              |          |      |       |           | $104,249.00 |

| H. | Grading | 173,748 SF |       | $0.23 | $39,962.04 |         |
|    |              |          |      |       |           | $39,962.00 |

| I. | Site Construction |          |      |          |           |         |
| 1. | Asphalt pavement (includes aggregate base) | 173,748 SF |       | $6.00 | $1,042,488.00 |         |
| 2. | Striping | 28,958 LF |       | $0.83 | $24,035.14 |         |
| 2. | Signage (1 per 1,000 ft.) | 28 EA |       | $450.00 | $12,600.00 |         |
|    |              |          |      |       |           | $1,079,123.00 |

| J. | Subtotal |          |      |          |           | $2,138,472.00 |

| K. | Design Contingency | ALLOW 20% |       | $427,694.40 | $427,694.40 |         |
|    |              |          |      |       |           | $427,694.40 |

| L. | Inflation | ALLOW 5% |       | $128,308.32 | $128,308.32 |         |
|    |              |          |      |       |           | $128,308.32 |

| M. | Total Estimated Construction Costs |          |      |          | $2,694,475.00 |         |

| N. | Other |          |      |          |           |         |
| 1. | Design & Construction Documents | ALLOW 15% |       | $404,171.25 | $404,171.25 |         |
| 2. | Administration | ALLOW 10% |       | $269,447.50 | $269,447.50 |         |
| 3. | Environmental Documentation & Agency Permitting | ALLOW 5% |       | $134,723.75 | $134,723.75 |         |
|    |              |          |      |       |           | $808,342.50 |

| O. | Total Estimate Project Costs |          |      |          | $3,502,817.50 |         |

---

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# Estimate of Probable Project Costs

## StanCOG Bicycle & Pedestrian Master Plan Update

4 Yosemite Blvd./SR132 (Modesto, County, Waterford)

prepared by: JB  
reviewed by: SD/ES

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<tr>
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<th>Description</th>
<th>Quantity</th>
<th>Unit</th>
<th>Cost</th>
<th>Item Total</th>
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# Estimate of Probable Project Costs

### StanCOG Bicycle & Pedestrian Master Plan Update

**#5 Las Palmas/Mainstreet (Patterson, County, Turlock)**

**Prepared for:** Stanislaus Council of Government

**Prepared on:** 12/03/12

**Prepared by:** JB

**Reviewed by:** SD/ES

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
<th>Quantity</th>
<th>Unit</th>
<th>Cost</th>
<th>Item Total</th>
<th>Subtotal</th>
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<tr>
<td><strong>A. Project Start Up</strong></td>
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<td><strong>C. Signage (1 per 1,000 ft.)</strong></td>
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The above items, amounts, quantities, and related information are based on CA's judgment at this level of document preparation and is offered only as reference data. CA has no control over construction quantities, costs and related factors affecting costs, and advises the client that significant variation may occur between this estimate of probable project costs and actual project prices.
# Estimate of Probable Project Costs

## StanCOG Bicycle & Pedestrian Master Plan Update

### Stanislaus Council of Government

Callander Associates Landscape Architecture, Inc.
preparing on: 12/03/12
reviewed by: JB

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<th>Unit</th>
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## Estimate of Probable Project Costs

**StanCOG Bicycle & Pedestrian Master Plan Update**

**# 7 Geer Road/Albers Road**

(Oakdale, County, Hughson, Turlock)

---

### Item # Description |
<table>
<thead>
<tr>
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<tbody>
<tr>
<td><strong>A. Project Start Up</strong></td>
<td></td>
</tr>
<tr>
<td>1. Mobilization, bonding, &amp; staking</td>
<td>ALLOW 3%</td>
</tr>
<tr>
<td>2. Erosion &amp; stormwater pollution control</td>
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</tr>
<tr>
<td>3. Construction signage</td>
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<tr>
<td>4. Traffic control</td>
<td>ALLOW LS</td>
</tr>
<tr>
<td><strong>CLASS 2 REACH</strong></td>
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</tr>
<tr>
<td><strong>B. Bike Lane Striping</strong></td>
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</tr>
<tr>
<td>7,074 LF</td>
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<tr>
<td><strong>C. Demolition</strong></td>
<td></td>
</tr>
<tr>
<td>1. Clearing &amp; grubbing</td>
<td>950,664 SF</td>
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<tr>
<td>2. Sawcutting &amp; AC removal</td>
<td>158,444 LF</td>
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<tr>
<td><strong>D. Grading</strong></td>
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<tr>
<td>950,664 SF</td>
<td>$0.23</td>
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<td><strong>E. Site Construction</strong></td>
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<td>1. Asphalt pavement (includes aggregate base)</td>
<td>950,664 SF</td>
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<tr>
<td>2. Striping</td>
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<td><strong>H. Inflation</strong></td>
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<td><strong>J. Other</strong></td>
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<td><strong>K. Total Estimate Project Costs</strong></td>
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## Item # Description | Quantity | Unit | Cost | Item Total | Subtotal
--- | --- | --- | --- | --- | ---
### A. Project Start Up
1. Mobilization, bonding, & staking | ALLOW 3% | | $6,033.00 | $6,033.00 |  
2. Erosion & stormwater pollution control | ALLOW 3% | | $5,857.00 | $5,857.00 |  
3. Construction signage | ALLOW LS | | $2,000.00 | $2,000.00 |  
4. Traffic control | ALLOW LS | | $5,000.00 | $5,000.00 | $
### $18,890.00
### CLASS 2 REACH
B. Bike Lane Striping | 107,570 LF | | $1.75 | $188,247.50 |  
### $188,248.00
### C. Subtotal | | | | | $207,138.00
### D. Design Contingency | ALLOW 20% | | $41,427.60 | $41,427.60 |  
### E. Inflation | ALLOW 5% | | $12,428.28 | $12,428.28 |  
### F. Total Estimated Construction Costs | | | | | $260,994.00
### G. Other
1. Design & Construction Documents | ALLOW 15% | | $39,149.10 | $39,149.10 |  
2. Administration | ALLOW 10% | | $26,099.40 | $26,099.40 |  
3. Environmental Documentation & Agency Permitting | ALLOW 5% | | $13,049.70 | $13,049.70 |  
### $78,298.20
### H. Total Estimate Project Costs | | | | | $339,292.20

The above items, amounts, quantities, and related information are based on CA's judgment at this level of document preparation and is offered only as reference data. CA has no control over construction quantities, costs and related factors affecting costs, and advises the client that significant variation may occur between this estimate of probable project costs and actual project prices.
## Estimate of Probable Project Costs

### StanCOG Bicycle & Pedestrian Master Plan Update

### #9 Crows Landing Road (Modesto, County)

Prepared for Stanislaus Council of Government

Callander Associates Landscape Architecture, Inc.

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<tr>
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<th>Cost</th>
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<td>$245,371.50</td>
<td>$245,371.50</td>
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</tr>
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<td>3.</td>
<td>Environmental Documentation &amp; Agency Permitting</td>
<td>ALLOW 5%</td>
<td></td>
<td>$122,685.75</td>
<td>$122,685.75</td>
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<td></td>
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<td></td>
<td>$736,114.50</td>
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<tr>
<td>K.</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>$3,189,829.50</td>
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</table>

The above items, amounts, quantities, and related information are based on CA’s judgment at this level of document preparation and is offered only as reference data. CA has no control over construction quantities, costs and related factors affecting costs, and advises the client that significant variation may occur between this estimate of probable project costs and actual project prices.
## Estimate of Probable Project Costs

### StanCOG Bicycle & Pedestrian Master Plan Update

**# 10 Oakdale Road/Mitchell Road/Moore Road**  
(Riverbank, County, Modesto, Ceres)

Callander Associates Landscape Architecture, Inc.  
prepared on: 12/03/12  
prepared by: JB  
reviewed by: SD/ES

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
<th>Quantity</th>
<th>Unit</th>
<th>Cost</th>
<th>Item Total</th>
<th>Subtotal</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.</td>
<td>Project Start Up</td>
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</tr>
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<td>1.</td>
<td>Mobilization, bonding, &amp; staking</td>
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<td>$96,352.00</td>
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<td>$93,546.00</td>
<td>$93,546.00</td>
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<td>3.</td>
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<td>$2,000.00</td>
<td>$2,000.00</td>
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<td>4.</td>
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<td></td>
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<td><strong>$196,898.00</strong></td>
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<td><strong>CLASS 1 REACH</strong></td>
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<td>B.</td>
<td>Clearing and grubbing</td>
<td>148,128</td>
<td>SF</td>
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</tr>
<tr>
<td>1.</td>
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<td>F.</td>
<td>Demolition</td>
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<tr>
<td>1.</td>
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<tr>
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<tr>
<td>G.</td>
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<td>H.</td>
<td>Site Construction</td>
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</tr>
<tr>
<td>1.</td>
<td>Asphalt pavement (includes aggregate base)</td>
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<td>SF</td>
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<td>2.</td>
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<td>J.</td>
<td>Design Contingency</td>
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<td>20%</td>
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<tr>
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<td>$198,485.10</td>
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<tr>
<td>L.</td>
<td>Total Estimated Construction Costs</td>
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</tr>
<tr>
<td>M.</td>
<td>Other</td>
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<td></td>
</tr>
<tr>
<td>1.</td>
<td>Design &amp; Construction Documents</td>
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<td>$625,228.05</td>
<td>$625,228.05</td>
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<td>Administration</td>
<td>ALLOW</td>
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<tr>
<td>3.</td>
<td>Environmental Documentation &amp; Agency Permitting</td>
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<td>5%</td>
<td>$208,409.35</td>
<td>$208,409.35</td>
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<td></td>
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<td>N.</td>
<td>Total Estimate Project Costs</td>
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<td></td>
<td></td>
<td><strong>$5,418,643.10</strong></td>
</tr>
</tbody>
</table>

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APPENDIX G: RESULTS OF BPAC COMMUNITY SURVEY
PURPOSE OF REPORT

To report data and opinions from the general bicycling public regarding their uses of and feelings about bicycling as an element of non-motorized transport.

METHOD

The survey was developed by BPAC members--several of whom are cycling enthusiasts. This information was obtained through an on-line survey [created through Survey Monkey] which was linked to the StanCOG website, as well as linked to local bicycle-advocacy organizations. The collected data was compiled by StanCOG staff, and summarized and rendered into a summary format by the BPAC.

PURPOSE OF SURVEY AND DATA COLLECTION

The survey was designed and implemented to collect opinions from the general bicycling public regarding their uses of and feelings about such non-motorized transport.

The data collected is intended for members of the Bicycle Pedestrian Advisory Committee [BPAC] to use in making presentations to local city councils and the Stanislaus County Board of Supervisors. This information will show these governing bodies the level of cycling transport interest in each jurisdiction. Further, this information should shape the jurisdictions' planning for and expenditures on bicycle-related transport-related items as well as other non-motorized elements of the overall transportation plan.

DATA DESIRED

The survey questions were designed to elicit opinions regarding the ease or difficulty encountered by local residents in using bicycles for various transit needs and recreation, as well as the respondents' opinions regarding the local cycling infrastructure.

MISCELLANEOUS

This survey was designed and implemented solely as an on-line instrument. A flyer--inviting participation in the survey--was developed by BPAC and StanCOG staff and distributed to the Modesto Public Library, bicycle shops and organizations, Modesto and Ceres high school libraries, health food shops, sporting goods and outdoor shops, and fitness centers. Approximately 2000 flyers were distributed between April and October 2011. This report contains responses from 222 individuals--a return rate of about 11.1 percent.
The report was produced in two formats: Summary and Full.

<table>
<thead>
<tr>
<th>Summary Report</th>
<th>Full Report</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Data 1</td>
<td>This section shows the responses to the multiple-choice questions - Questions 1-7, and 10-13.</td>
</tr>
<tr>
<td>Overall Data 2</td>
<td>This section shows the aggregated results of the anecdotal questions - Questions 8, 9 and 14.</td>
</tr>
<tr>
<td>The final section, Appendices by Jurisdiction shows the individual responses to each of Questions 8, 9, and 14--separated by residence jurisdiction. They were not included in the body of the summary report for compactness. [Any of these page sets may be distributed along with the summary report as desired.]</td>
<td>The Appendices by Jurisdiction sections are contained in the body of the full report.</td>
</tr>
</tbody>
</table>

**OVERALL DATA 1**

<table>
<thead>
<tr>
<th>Respondents' Residences</th>
<th>Location</th>
<th>Percentage</th>
<th>Persons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ceres</td>
<td>Patterson</td>
<td>2.9%</td>
<td>6</td>
</tr>
<tr>
<td>Hughson</td>
<td>Riverbank</td>
<td>4.8%</td>
<td>10</td>
</tr>
<tr>
<td>Modesto</td>
<td>Turlock</td>
<td>10.1%</td>
<td>21</td>
</tr>
<tr>
<td>Newman</td>
<td>Waterford</td>
<td>1.0%</td>
<td>2</td>
</tr>
<tr>
<td>Oakdale</td>
<td>County</td>
<td>1.9%</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Other [outside County]</td>
<td>6.8%</td>
<td>15</td>
</tr>
</tbody>
</table>

From this, it can be seen that residents of Modesto, Turlock, and Oakdale accounted for the bulk of the responses [over 82 percent]. [All figures do not total 100 percent due to skipped questions and rounding of amounts.]

2) *Are you a member of a cycling club or bicycle advocacy organization?*
   a. Yes .................................................................39.1%
   b. No .................................................................60.9%

3) *Why do you bike? [check all that apply]*
   a. For health/exercise ..................................................93.6%
   b. For enjoyment ..........................................................88.1%
   c. For environmental and/or social reasons .........................40.8%
   d. To get to work ..................................................28.9%
   e. To get to school ..................................................6.9%
   f. To get to public transit ........................................4.8%

4) *Are a majority of your bicycle trips for*
   a. work .................................................................12.4%
   b. errands .............................................................7.8%
   c. recreational ..................................................79.8%

218/4
5] That are the average number of days per week that you ride?
   a. 1-2 .......................................................... 22.4%
   b. 3-4 .......................................................... 49.1%
   c. 5-6 .......................................................... 25.2%
   d. 7+ .......................................................... 3.3%

   214/8

6] What is the average distance of your rides [one way]?
   a. LT2 .......................................................... 12.8%
   b. 3-5 .......................................................... 22.5%
   c. 6-10 ......................................................... 18.3%
   d. 11+ .......................................................... 46.3%

   218/4

7] What prevents you from biking more? [check all that apply]
   a. I have too much to carry ............................................... 17.1%
   b. I travel with small children or passengers ............................ 9.0%
   c. Bikeways/roadways in poor condition .................................. 55.7%
   d. Absence of bike lanes/paths ........................................ 68.6%
   e. Insufficient parking or storage ...................................... 27.1%
   f. Destinations too far away ........................................... 15.7%
   g. Weather ........................................................................ 23.3%
   h. Erratic schedule, work "on call", or "work at night" .................. 14.8%
   i. I'm content, no change needed ......................................... 6.2%

   210/12

10] Would the following improvements influence you to bike more often? [check all that apply]
   a. More bike lanes [separate lanes] on major streets ....................... 85.1%
   b. More bike routes .................................................................. 72.1%
   c. More paved [off-street] bike paths ...................................... 67.4%
   d. Bicycle boulevards [shared roadways designed w/ priority to cyclists] ......... 56.7%
   e. Widen outside/curb lanes on major streets [easier to share lanes w/ cars]. .65.6%
   f. More on-road bike signage .................................................. 51.6%
   g. More education, encouragement, and enforcements programs .................. 56.3%
   h. Increase maintenance ........................................................ 39.5%
   i. More bicycle parking/storage ............................................. 31.2%
   j. Showers and lockers at work ............................................... 18.6%

   215/7

11] Have you participated in any of the following resources or programs? [check all that apply]
   a. Education programs for motorists ........................................ 40.0%
   b. Education programs for all levels of K-12 school students ........... 35.0%
   c. Education programs covering health benefits of cycling .................. 63.3%

   60/162

12] Please rate your level of interest in seeing these bicycling programs be developed [left = very interested, right = not at all interested]. ["Average" ratings shown as value based on 4]
   a. Education programs for motorists ....................................... 60.8% .................. 1.71
   b. Education programs for law enforcement personnel ............... 44.3% .................. 2.01
   c. Education programs for all levels of K-12 students ................ 58.9% .................. 1.63
   d. Public awareness campaign focused on bicyclists' rights. ........... 65.5% .................. 1.54
   e. User-friendly bicycle maps and guides .................................. 54.7% .................. 1.71
   f. Incentive programs to encourage cycling .............................. 54.6% .................. 1.74
   g. Cell phone or GPS-friendly route guides .............................. 34.5% .................. 2.20

   213/9
13) Please rate your level of interest in participating in the development of any of these bicycling programs.
   a. Highly interested ................................................................. 30.8%
   b. Interested ........................................................................... 35.1%
   c. Somewhat interested ............................................................ 23.6%
   d. Not interested ....................................................................... 10.6%

OVERALL DATA 2

The following tables show the condensed overall [all jurisdictions] results to Questions 8, 9, and 14.

8) Which Stanislaus County/City roads are not bike friendly or are unsafe?
The responses to this question were separated into two tables:
   Q08a Roads Seen as Dangerous to Cyclists [three pages]
   Q08b Street Conditions - Dangerous to Cyclists [one page]

9) Which Stanislaus County/City intersections/overpasses are not bike friendly or are unsafe?
   Q09 Bridges/Overpasses/Intersections - Dangerous [one page]

14) Other comments or suggestions regarding bicycle safety, education, environment, or resources.
   Q14 Suggestions for Improvement [one page]

[Overall Data 2 tables begin on the next page.]
Q 08a: ROADS SEEN AS DANGEROUS TO CYCLISTS

<table>
<thead>
<tr>
<th>Road Description</th>
<th>Safe or all width</th>
<th>Needs bike lane striping [or striping is erratic]</th>
<th>Trash, paving issues</th>
<th>Other safety, incl traffic</th>
<th>Total items</th>
</tr>
</thead>
<tbody>
<tr>
<td>09th St, Modesto</td>
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<td>2</td>
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<tr>
<td>26-mile Rd - Oakdale</td>
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<td>2</td>
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<tr>
<td>28-mile Rd - Oakdale</td>
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<tr>
<td>Albers Rd NOI</td>
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<td></td>
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</tr>
<tr>
<td>Albers Rd--McHenry to Escalon</td>
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<td></td>
<td>2</td>
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<tr>
<td>All roads</td>
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<tr>
<td>Bacon Rd--west end</td>
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<td></td>
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<tr>
<td>Bangs--McHenry to Carver</td>
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<td>Carver Rd NOI</td>
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<td>Ceres roads - all</td>
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<tr>
<td>Cities--all of them in the county</td>
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<td>Claus NOI</td>
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<td></td>
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<td>Coffee Rd NOI</td>
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<td>3</td>
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<tr>
<td>Del Puerto Canyon</td>
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<td>Diablo Grande</td>
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<tr>
<td>Donkin Rd - Patterson</td>
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<tr>
<td>East Ave--Quincy to Berkeley -Turlock</td>
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### Q 08b: STREET CONDITIONS - DANGEROUS TO CYCLISTS

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<td>Connecting roads between cities--not bike-friendly</td>
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<td>Cyclists ride wrong-way [in and out of bike lanes]</td>
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<td>Dogs loose/not on leash</td>
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<td>Drivers driving in bike lanes</td>
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<td>Drivers hostile, lack respect, discourteous</td>
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<td>Drivers ignoring rules and laws, reckless, sloppy</td>
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<td>Drivers inattentive--cell phones, radios, GPS, etc</td>
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<td>Drivers speeding--not enforced</td>
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<td>Drivers throwing objects at cyclists</td>
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<td>Drivers throwing trash on streets</td>
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<td>Paint-line bike lanes insufficient--need physical separation</td>
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<td>Parking for bikes, not safe/secure</td>
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<td>Pedestrian traffic controls not readily accessible to cyclists</td>
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<td>Police appear antagonistic toward cyclists</td>
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<td>Roadway--narrow</td>
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<td>Rubbish in streets/bike lanes--esp. sharp materials</td>
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<td>Sensors [for traffic lights] not tuned to bicycles</td>
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<td>Shoulders - none or too narrow</td>
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Q 09: BRIDGES/OVERPASSES/INTERSECTIONS--DANGEROUS

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## Q 14: SUGGESTIONS FOR IMPROVEMENT

<table>
<thead>
<tr>
<th>Issue</th>
<th>Comments</th>
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<tbody>
<tr>
<td>AB1358--implement it</td>
<td>1</td>
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<tr>
<td>Education - for all - all rules of the road</td>
<td>4</td>
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<tr>
<td>Education - no... Just separate bikes and cars</td>
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<tr>
<td>Education - school programs for bicyclists</td>
<td>4</td>
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<tr>
<td>Funding - seek grants for cycling-related items</td>
<td>1</td>
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<tr>
<td>Helmets - mandatory for all</td>
<td>2</td>
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<tr>
<td>Homeless - Clear-out from Dry Creek [assaults, etc]</td>
<td>2</td>
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<tr>
<td>Laws - enforce cyclists' rights, no cell phones, all laws</td>
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<td>Laws - need three-foot passing distance minimum</td>
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<tr>
<td>Locales to look at: Bay Area</td>
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<tr>
<td>Locales to look at: Boise, ID</td>
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<td>Locales to look at: Chico</td>
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<td>Locales to look at: Davis</td>
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<td>Locales to look at: Folsom</td>
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<td>Locales to look at: Fort Collins, CO</td>
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<td>Locales to look at: Livermore</td>
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<td>Locales to look at: Oregon</td>
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<td>Locales to look at: Pleasanton</td>
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<td>Locales to look at: Sacramento</td>
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<tr>
<td>Parking - in bike lanes - stop them</td>
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<tr>
<td>Parking - more bike lockers, secure bike racks</td>
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<tr>
<td>Parking - Park and Ride [bikes] at local churches</td>
<td>1</td>
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<tr>
<td>Police + cyclists must work together - no hostility</td>
<td>2</td>
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<tr>
<td>Projects - Bike routes to schools--well-marked</td>
<td>2</td>
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<tr>
<td>Projects - BMX park [Oakdale]</td>
<td>1</td>
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<tr>
<td>Projects - Bridge [ped/bike] over Tuolumne R at regional park</td>
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<td>Projects - favor transport over recreation in granting permits, etc</td>
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<tr>
<td>Projects - more bike lanes</td>
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<td>Projects - when repaving/resurfacing, widen road</td>
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<tr>
<td>Publish &quot;Share the Road&quot; campaign - for all</td>
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<tr>
<td>Publish [wider reach] all road rules [news, radio, schools]</td>
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<tr>
<td>Route needed: along Stanislaus R</td>
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<td>Route needed: along Tuolumne R</td>
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<tr>
<td>Route needed: bike lanes between Westley and Grayson</td>
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<td>Route needed: Ceres to Modesto</td>
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<td>Route needed: Kewin Park to Virginia Corridor</td>
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<td>Route needed: Modesto to Ripon</td>
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<td>Route needed: North-South across Modesto</td>
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<td>Route needed: Stan R Kerwin Park to Oakdale Rec Area</td>
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<td>Route needed: Use canal roads</td>
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<tr>
<td>Route needed: Virginia Corridor to North County</td>
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<tr>
<td>Signage - Virginia Corridor bike path needs improvement</td>
<td>2</td>
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<tr>
<td>Signage, improved, general--directed at motorists</td>
<td>2</td>
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<tr>
<td>Signals to allow bikes in intersection before cars</td>
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<tr>
<td>Streets - better clean-up</td>
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<tr>
<td>Streets - close some downtown streets to auto traffic</td>
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<tr>
<td>Streets - more one-way streets downtown Modesto</td>
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<tr>
<td>Streets - need more bike lanes</td>
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<tr>
<td>Tracking system--w/ cell-/smart phone/GPS for bus info</td>
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CERES APPENDIX

8] Which Stanislaus County/City roads are not bike friendly or are unsafe?

1. Service road is not really a safe place for biking riding although there is a bike lane. The problem is that when I ride my bike to school some parents decide to drop off their kids on the bike lane when traffic flow is heavy making it impossible for me to ride safely in the bike lane therefore making me try to squeeze through the cars. In addition, there is no bike lane going towards Blaker Rd. when riding on Service Rd. this is another concern because I don't feel safe using that side because there is no bike lane and I feel there are too many reckless drivers that won't pay attention to bike riders so I have to use the opposite side street or sidewalk.

Dec 1, 2011 7:15 PM

2. LaLoma Park need better control over runners and bike paths.

Nov 29, 2011 5:25 PM

3. Oakdale Rd. (unsafe) McHenry County roads, too many little bumps/dips

Jun 19, 2011 7:13 AM

4. Every road that DOES NOT have a bike lane is unfriendly. Bikes and cars should not share the same lane.

Jun 1, 2011 10:22 AM

5. 9th St. and Sisk Road. I bike commute to work in Stockton 1-2 times a week 30-35 miles each way depending on route.

May 27, 2011 7:23 PM

6. I can't think of any roads in Ceres that are safe.

May 27, 2011 2:39 PM

9] Which Stanislaus County/City intersections/overpasses are not bike friendly or are unsafe?

1. I usually don't go overpasses.

Dec 1, 2011 7:15 PM

2. My major reason above.

Nov 29, 2011 5:25 PM

3. County bridges over rivers are not wide enough, roundabouts not safe

Jun 19, 2011 7:13 AM

4. Any intersection that does NOT have a bike lane is unfriendly. Bikes and cars should not share the same lane.

Jun 1, 2011 10:22 AM

5. It would be nice if all traffic sensors were set sensitive enough for bicycles to activate or pedestrian crosswalk buttons were accessible from the curb.

May 27, 2011 7:23 PM
14] Other comments or suggestions regarding bicycle safety, education, environment, or resources.

1  I don’t believe education is the solution. Everyone knows how to ride a bike long before they ever drive a car. (Remember when you were a kid??) The solution is to keep bikes away from cars or give bikes more room to get away from traffic. 
Jun 1, 2011 10:22 AM

2  In locations where bike lanes are not physically possible, laws /rules that cyclists can use the entire lane or at least share the lane.
May 27, 2011 7:23 PM

HUGHSON APPENDIX

8] Which Stanislaus County/City roads are not bike friendly or are unsafe?

1  Most, lack of safe bike lanes throughout county.
Aug 27, 2011 5:35 PM

2  Santa Fe Hughson to Empire, mostly Bridge at Lakewood Cemetery. Whitmore Ave Ceres to Hickman Rd, I live on Whitmore & Sperry Rd a lot of bikers ride on Whitmore. Service Rd Hwy99 to Downey Rd Hughson. Lake Rd out of Hickman, Geer Rd from Hatch Rd in Hughson to Taylor Rd in Turlock
Aug 27, 2011 12:09 PM

3  Lack of bike lanes on the following, Santa Fe road at Stanislaus River, too narrow but needed for access to Modesto. Same issue on Geer at the Stanislaus River. Keyes Road from Turlock to Crows Landing, insufficient shoulder, high speed traffic. Whitmore from Hughson to Turlock Lake, not enough shoulder. River Road from Riverbank to Oakdale, not enough shoulder. Also, there is no safe route with bike lanes from downtown Modesto to Ripon.
Aug 23, 2011 5:08 PM

4  Major corridors from city to city. Geer/Albers, Hatch, Parker/Briggsmore, Claribel/Kiernan, Santa Fe. Bridges are dangerous and narrow. Roads generally have narrow shoulders. Lastly, it’s very difficult to go North/South across Modesto. MANY stops and MUCH traffic with little bike-friendly paths or room.
Aug 21, 2011 8:54 AM

5  McHenry Ave., Oakdale Road, Briggsmore Ave, Ninth Street Carpenter Road. All of these are major transportation routes that have not been properly planned for bicycles. With the exception of the Class I bikepath along parts of Hatch Road, the bicycle transportation network in Ceres is totally inadequate. There is really no safe route to cycle from Ceres to Modesto. One solution would be a dedicated pedestrian/bicycle bridge over the Tuolumne river at some location at the regional park.
May 27, 2011 6:15 AM

6  Scenic Road by cemetery, no shoulder
May 18, 2011 2:32 PM

9] Which Stanislaus County/City intersections/overpasses are not bike friendly or are unsafe?

1  Bridge on Santa Fe at Lakewood Cemetery, there is zero room for a bike to ride. This is my main way to get to Modesto, the most unsafe spot on my ride
Aug 27, 2011 12:09 PM
2 Service and Hwy 99, to narrow, to much traffic, no bike lanes.  
Aug 23, 2011 5:08 PM

3 Sante Fe bridge at Toulomne Rv. , Clarintina and ALL, All of Oakdale Rd., Anywhere on Keys Rd, Anywhere on Kiernan/Claribel (except newest part by Salida). There are few "safe" places to ride west of HW99, narrow shoulders and many intersections to negotiate.  
Aug 21, 2011 8:54 AM

4 The Briggsmore Ave and Kansas Ave. overpasses that provide important linkages over the Hwy 99 freeway have not been planned to accommodate bicycles.  
May 27, 2011 6:15 AM

5 Mitchell Hatch intersection lights are not good for bike or human cars turn right into people at crosswalk  
May 18, 2011 2:32 PM

14/ Other comments or suggestions regarding bicycle safety, education, environment, or resources.

1 Bridge on Santa Fe at Lakewood Cemetary, there is Zero room for a bike to ride. This is my main way to get to Modesto, the most unsafe spot on my ride  
Aug 27, 2011 12:09 PM

2 Service and Hwy 99, to narrow, to much traffic, no bike lanes.  
Aug 23, 2011 5:08 PM

3 Sante Fe bridge at Toulomne Rv. , Clarintina and ALL, All of Oakdale Rd., Anywhere on Keys Rd, Anywhere on Kiernan/Claribel (except newest part by Salida). There are few "safe" places to ride west of HW99, narrow shoulders and many intersections to negotiate.  
Aug 21, 2011 8:54 AM

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May 27, 2011 6:15 AM

5 Mitchell Hatch intersection lights are not good for bike or human cars turn right into people at crosswalk  
May 18, 2011 2:32 PM

MODESTO APPENDIX

8/ Which Stanislaus County/City roads are not bike friendly or are unsafe?

1 All west side Modesto roads, all north south Modesto roads except Coffee.  
Jan 14, 2012 5:55 PM

2 All of the City of Turlock! poor road conditions through out the city. Pelandale Ave in Modesto, east of Dale Rd.  
Dec 1, 2011 12:04 AM

3 Tully Rd , Briggsmore, Scenic Dr  
Nov 30, 2011 5:08 AM
4 Pelandale Ave between McHenry Ave and Oakdale Road. Oakdale Road from Sylvan to City of Riverbank. No bike path, busy streets make riding conditions unsafe. Nov 29, 2011 1:18 PM

5 Pelandale from Dale to Sisk-no bike lane; 3 lanes of speeding traffic. Standiford from Prescott to Dale-no bike lane heading west. And I could add all roads in the fall when people dump their leaves and debris in the street. Nov 24, 2011 12:25 PM

6 Dale road to Gregori high school. There is no bike lane and thorns all over the road. Cars whiz past us extremely close and we are always replace our tubes because of the thorns. Pirone Rd, too. Which is the road the school is actually on. Nov 20, 2011 6:38 PM

7 Tully Rd NB between Bowen and Rumble--root incursions and other obstructions Claratina--McHenry to Coffee--no bike striping, v. narrow lanes, Sisk from Briggsmore to Standiford/Beckwith--no bike striping, too-narrow lanes in part. Sisk north from Standiford--no bike striping, variable width, Sisk between Pelandale and Kiernan--erratic width and bike striping, Carver between Orangeburg and Briggsmore--no bike striping, Carver between Orangeburg and 8th St--erratic width, no bike striping. Nov 15, 2011 10:48 AM

8 Oakdale Road--no bike lanes, Albers Road--no bike lanes McHenry to Escalon--little or no bike lanes, Coffee Road--little to no bike lanes. Oct 12, 2011 12:06 PM

9 Modesto there are not many bike lanes. Oct 12, 2011 10:04 AM

10 Carver Rd, Orangeburg after McHenry Oct 12, 2011 7:35 AM

11 McHenry out toward Escalon, zero bike lane. Also roads out west towards Oakdale no bike lanes. Oct 11, 2011 11:34 AM

12 McHenry, ignorant folk. Sep 19, 2011 11:20 AM

13 not enough bike lanes or wide enough streets in Modesto. Sep 19, 2011 10:08 AM

14 Almost all the country roads are problematic due to lack of/very narrow shoulder combined with debris and poor pavement condition plus high speed traffic. Sep 18, 2011 11:15 AM

15 Too numerous to mention. Sep 17, 2011 10:09 PM

16 Sisk Road between Brenner Way and Conant Ave Sep 17, 2011 10:04 AM
17 I would like to find any road in this county or city other than Virgina Corridor that is friendly or safe. Besides no bike lanes, the condition of the roads is terrible.
Sep 12, 2011 1:52 PM

18 132 - narrow and no bike path although it is a state route McHenry Av. no bike path
Lots of others
Sep 9, 2011 9:26 AM

19 Most all of them, McHenry, River Rd, Orange Blossom
Sep 7, 2011 10:25 AM

20 Coming from the end of the Kewin/Moose Park bike trail through downtown by the Scenic turn-off and all the downtown one-way streets really need bike lanes.
Aug 28, 2011 8:15 AM

21 All of them. The bike lanes are a joke, it's just a place to put your yard waste.
Because very few us ride, the drivers in this area act like we're speed bumps.
Aug 27, 2011 9:04 PM

22 The east end of Scenic is scary to ride, even with a bike lane. I'm specifically speaking of the area where the rider was killed last year.
Aug 27, 2011 6:56 PM

23 Carpenter, Maze, the cars don't care
Aug 27, 2011 4:25 PM

24 There are few good/safe bike paths that will take you all the way North/South or East/West in Modesto or the County. Scenic has no bike lanes west of Oakdale Road. Orangeburg has no bike lane and there is too little room between traffic and parked cars. Even in the parts of the city where there are bike lanes, people park in them with impunity.
Aug 27, 2011 3:09 PM

25 Most of the roads are unsafe... too many drivers are texting while driving these days.
Aug 27, 2011 2:41 PM

26 Most- poor, lack of sufficient bike lanes
Aug 27, 2011 2:36 PM

27 No shoulder and the unused roads like litt are covered with trash. Roads like Roselle now have a speed limit, but it is rarely inforced.
Aug 25, 2011 1:37 PM

28 Most are challenging. People do not give cyclists a break and often are verbally hostile. I'm always surprised, as these folk probably rode bicycles as children and enjoyed the sense of freedom it gave them. More bike lanes needed.
Aug 23, 2011 8:40 PM

29 Oakdale, McHenry, Pelandale/Claratina East of McHenry, Scenic - very narrow roads no bike lane
Aug 23, 2011 9:30 AM

30 Oakdale road from Sylvan to Riverbank
Aug 22, 2011 7:15 PM
31 Virginia corridor bike trail has a lot of pedestrian traffic especially at evening commute, walkers are particularly unaware of their surroundings, could there be stencils or signs posted saying ‘please look behind you” or something of the sort. Tully road from Standiford to Mt. Vernon is scary, there is a linear crack in the pavement wide enough to upset a 23mm (road bike) tire that looks like a separation from an ancient widening project. Then from there to Briggsmore in the fall and spring the bike lane gets all the tree trimmings and lawn clippings to go along with the parked cars. Have not figured an alternate route from West/North side rural rides, without going all the way to Salida.
Aug 22, 2011 2:48 PM

32 Beckwith ave, Hammett Ave.
Aug 22, 2011 2:39 PM

33 No bike lanes
Aug 22, 2011 9:25 AM

34 River road... narrow. And Hammett Rd in Salida... horrible. Ladd, Patterson/108
Aug 22, 2011 9:20 AM

35 Most roads are in poor condition. Unsafe drivers.
Aug 22, 2011 9:12 AM

36 G Street downtown has no bike lane and is very poor condition. thin on Scenic has no bike lane. could go on but we need a lot of help.
Aug 22, 2011 8:50 AM

37 ALL of the roads in this town are unsafe for bicycles. The roads are not the total problem. The real problem lies with the drivers that just don’t care and are mean and cruel. I have been buzzed, honked at and have had trash thrown out just in front of me while riding. I would love to see SHARE THE ROAD SIGNS EVERY WHERE! Would also like to see a 3’ Foot law put in place for motorized cars to pass at a safe distance from riders!
Aug 22, 2011 8:40 AM

38 Many of the county roads are narrow and in poor condition but are preferable to many of our city streets because they have far less traffic. City streets have too few designated bike lanes.
Aug 22, 2011 8:03 AM

39 Oakdale area roads are dangerous, motorists there seem to have road rage towards cyclists.
Aug 22, 2011 7:48 AM

40 There are very few that are truly safe. But the majority of the problems are from drivers who are uninformed with the rules of the road. Also drivers who are inconsiderate and rude.
Aug 21, 2011 4:17 PM

41 Most streets in Modesto don’t have bike lanes. Orangeburg Rd has a bike lane part of the time, but it is under construction most of the time. Briggsmore Ave needs a true bike lane.
Aug 21, 2011 4:06 PM

42 most of them. Rural roads have little or no bike lanes or shoulders
Aug 8, 2011 12:30 PM
43    Scenic Drive along the cemetery.
Aug 2, 2011 11:10 AM

44    Which are friendly/safe should be the question.
Jul 28, 2011 12:56 PM

45    River Road
Jul 9, 2011 5:55 PM

46    Carpenter Road, McHenry, Kansas, Woodland, Emerald, Rosemore. All of these roads are too narrow and offer no space to ride except in the lane.
Jul 9, 2011 4:31 PM

47    Most of the west side due to the narrowness and no bike lanes
Jul 5, 2011 7:12 PM

48    Oakdale Road, Milnes Road, Claribel road
Jul 2, 2011 1:27 PM

49    Floyd No bike lanes mostly and too narrow. Too many parked cars.
Jul 2, 2011 9:20 AM

50    Standiford between McHenry and Tully.
Jul 1, 2011 4:03 PM

51    Maze Blvd. and Paradise Rd. too much speeding and accidents
Jun 17, 2011 6:27 PM

52    McHenry Avenue, not enough room for bikes, no bike lane.
Jun 16, 2011 3:45 PM

53    The list is really too long. Shoulders are narrow or nonexistent. We need country bike paths that are designed for fast riding
Jun 11, 2011 6:50 PM

54    which one's aren't? This is the worst place I've ever been a bicyclist. People drive like jerks and huge trucks and commercial/ag vehicles seem the norm. My wife wishes she could bike from Modesto to Ceres, but broken glass, unaware drivers, total road inconsistency don't allow it.
Jun 8, 2011 2:49 PM

55    Yosemite Ave
Jun 8, 2011 8:50 AM

56    All major roads are unsafe. The only safe ones are side streets through quiet neighborhoods.
Jun 5, 2011 10:03 AM

57    Most roads have no bike lane or inadequate or no shoulders...Milnes, Patterson, Claribel, to name three examples
Jun 4, 2011 1:11 PM
Mostly all city streets in Modesto are biker UNfriendly due to the fact that drivers here are impatient, unkind, reckless and unaware of cyclists and their needs of getting around an otherwise simple, adequate and nearby town.

Jun 4, 2011 12:36 PM

Patterson Rd: narrow shoulder, McHenry Ave: no bike lane, Oakdale Rd: no bike lane

Jun 4, 2011 8:16 AM

Highway 33 between Westley and Patterson due to wide farm implements taking up 2/3 of both lanes; not much shoulder.

Jun 2, 2011 2:30 PM

Dont know street names in downtown Modesto but the one way going up to Mchenry and one way coming Back down streets are damaged and have no bike lanes. [ed. G and H Streets]

Jun 2, 2011 10:00 AM

Milnes too much traffic not wide enough. West end of Bacon irregular surface/pot holes. Parts of Scenic no bike lane.

Jun 2, 2011 9:01 AM

I mountain bike only, very little road biking

Jun 1, 2011 11:07 PM

Mchenry,Oakdale Roads

Jun 1, 2011 8:10 AM

Oakdale Road from Riverbank to Yosemite, Bangs Avenue from McHenry to Carver, Milnes from Oakdale Waterford Highway to Claus, All of these roads have inadequate space outside of the fog line to bicycle out of the lane of traffic

Jun 1, 2011 8:07 AM

McHenry/Hwy 108, Tully Ave, Ave @Dale Rd & between McHenry & Colony, Claus Rd, Scenic West of Coffee, all of old downtown Modesto, country roads between Modesto & Riverbank/Oakdale, Patterson Rd East of McHenry, Yosemite/Hwy 132 East of Modesto out to Bonds Flat Rd, & Twenty Six Mile Rd from Hwy 120 North/West, sections of Orange Blossom Rd between Oakdale & Knights Ferry, Hwy 108/ F St East of downtown Oakdale, & more that I can’t think of at the moment.

Jun 1, 2011 7:47 AM

Oakdale Rd, Scenic Rd. Mc Henry

Jun 1, 2011 7:12 AM

There are numerous roads that could benefit with wider shoulders such as Milnes and Claratina.

Jun 1, 2011 6:18 AM

Better question - which roads are bike friendly & safe. Stanislaus County is a notably dangerous to bicycle relative to adjoining Counties & the Bay Area

Jun 1, 2011 6:16 AM
I would say most of them. The most dangerous are the roundabouts. Drivers do not always see riders and a lot of them ignore bikers. Drivers come up behind me with illegal sirens, revving up their vehicles and yelling to try and scare me into having an accident. Drivers also pass other vehicles while bikers are coming in the other direction. I have been flipped off a few times. People are very rude in this town. One guy even tried to coax me onto the road. You don't have all these problems in the Bay Area. Its very scary around here.

May 31, 2011 5:44 PM

McHenry Avenue (needs bike lanes entire length), Scenic Drive (very narrow past hospital and cemetery)
May 31, 2011 1:33 PM

McHenry Ave, Oakdale Road, most of downtown: no bike lane, car traffic too fast
May 30, 2011 4:08 PM

Oakdale Rd has no bike lanes, Coffee Rd north of Mable, no bike lanes. Hard to ride to Riverbank because of lack of bike lanes
May 30, 2011 4:34 PM

Pelendale between Dale and Sisk. Dangerous drivers "buzzing riders". Milnes Rd east of Claus, poor shoulder. Yosemite road east of Empire, no shoulder.
May 28, 2011 2:46 PM

Modesto at Five Points, College Ave. near the JC, All of McHenry Ave.
May 28, 2011 10:42 AM

Claribel! But most roads do not have adequate bike paths
May 28, 2011 10:13 AM

There are plenty of roads in our county that are safe so long as all we want to do is to todder around in our respective neighborhoods. Our problems is that there are few functioning thoroughfares that are bike friendly. For those few streets that do have designated bike lanes, they are not connected so as to provide a network of bike friendly roads that allow cyclists to effectively navigate through our cities. To expand on that there are certainly no bike friendly roads that commute our cities with one another. Most of the roads that connect our cities have shoulders that are 18 to 24 inches wide, if that, and if a cyclists wishes to try to travel on these slivers of roadway, cars and trucks are whizzing by at 45 to 60 miles an hour inches away from one's side.
May 27, 2011 9:31 PM

almost all the country roads are too narrow, with no bike lanes, and many city streets, are the same.
May 27, 2011 5:36 PM

Oakdale Road, McHenry Avenue. If you bicycle on either of these roadways, sooner or later you will be buzzed by a vehicle. There are lots of services offered on these roads.
May 27, 2011 5:16 PM

May 27, 2011 3:37 PM
81    Staniford Ave, Scenic Ave East of Coffee Rd, Most Streets downtown. Many of these roads have high-levels of traffic and limited space, making it unsafe for bikers.  
May 27, 2011 12:21 PM

82    Scenic, Needham, G, H, Claus, East Pelandale, Coffee, dangerous cracks in pavement and lack of the most simple bike lanes.  
May 27, 2011 9:52 AM

83    Scenic, too narrow near cemetery.  
May 27, 2011 9:26 AM

84    Many of the roads within Modesto are bike friendly for portions but ultimately have sections that are not safe with traffic (ie North Sylvan, Oakdale Rd in entirety, Roselle in entirety, and McHenry Rd)  
May 27, 2011 9:02 AM

85    McHenry, Coffee Rd., Oakdale Rd (esp. near Scenic); too many to mention. Obviously, because there is no safe place to ride a bike on most major throughways. I can't believe you're asking this.  
May 27, 2011 8:46 AM

86    West Pelandale, east of Freeway  
May 27, 2011 4:36 AM

87    Claus Rd  
May 27, 2011 3:35 AM

88    I take Coffee down to Dry Creek trail which is an ok route for bikes. I also like Pelandale with the nice wide road side. The main stretch in Riverbank by the theater where the road narrows is too narrow for a car and a bike.  
May 27, 2011 12:18 AM

89    I would say most Modesto roads in that drivers, cyclists and pedestrians have an inability to co-exist. Neither understand their rights or the rights of others. Drivers don't stop for pedestrians. Cyclists have seemingly zero education on the most simple rule of the road: Ride with traffic. In terms of roads specific to my life, Scenic between Coffee and downtown is a road I would not venture. I work downtown, and if I chose to go there, I’d go as far as Coffee Road, head north for a couple of blocks and make my way toward downtown on side streets. Claus Road south of Briggsmore Avenue is awful, too. A lot of room, but it’s a speedway. I've ridden with my son to La Loma Park, but any road is dicey.  
May 26, 2011 10:27 PM

90    McHenry Avenue - not enough space between traffic lane and parked cars. Too difficult to press button at crosswalks and too long a wait for lights to change.  
May 26, 2011 3:15 PM

91    Many with narrow or no shoulders.  
May 19, 2011 2:36 PM

92    Scenic West of Coffee Rd.  
May 18, 2011 8:11 AM
93 Claus, Floyd, Rose Avenue, East Orangeburg....parked cars and no bike lane puts bikers directly in fast moving traffic.  
May 17, 2011 9:04 PM

94 Nearly all roads downtown.  
May 17, 2011 5:45 PM

95 Drivers drive in the bike lane, they play chicken with cyclists, they honk if we're in the street, there's trash in the bike lanes, bike lanes disappear like in front of Beyer High, streets are too narrow, streets in poor condition, stop lights aren't bike activated, bike paths are patchy. They start in LaLoma and only go 3 miles, then stop. Then the Hetch Hetchy goes only 2 or 2.5 miles and you have to cross Standiford. The stop lights don't have buttons that are close to the street and convenient for cyclists  
May 17, 2011 5:39 PM

96 Oakdale Road (how is that a bike route with the traffic?) Scenic (too much traffic) Most of the roads in Modesto (not contiguous bike routes to cross the city) Yosemite Blvd. (I felt endangered on my ride to Waterford)  
May 17, 2011 5:24 PM

97 Major roads between cities have insufficient shoulders or bike lanes. The high speed limits and vehicle speeds makes using these roads extremely dangerous. Bike lanes need to be physically separated. A white paint line is not enough.  
May 17, 2011 4:27 PM

98 Most of Oakdale Rd. and McHenry Ave. in Modesto, because they are not wide enough to safely accommodate bicyclists. Also Claribel Rd. and Pelandale Rd. east of McHenry. Also, Pirrone Rd. in Modesto/Salida is in very bad condition, and it is a popular road for cyclists heading to the bike bridge over the river to Ripon.  
May 17, 2011 3:55 PM

99 Most. Even with bike lanes I find drivers don't respectful and or courteous. They don't follow rules that a biker has. General lack of civility towards bikers.  
May 17, 2011 3:54 PM

100 A route from the western end of Dry Creek at Kewin/Moose Parks to Virginia Corridor would be nice.  
May 17, 2011 8:39 AM

101 Most of them. Roadways are inadequate to safely accommodate bicycles.  
May 17, 2011 7:58 AM

102 Scenic no bike lanes by cemetery  
May 17, 2011 7:57 AM

103 Orangeburg-safety and road conditions, Needham-road conditions, Pirrone-Road conditions, Oakdale-safety, road conditions  
May 17, 2011 6:57 AM

104 Scenic Rd  
May 10, 2011 11:39 AM
9) Which Stanislaus County/City intersections/overpasses are not bike friendly or are unsafe?

1. All freeway overpasses - Beckwith, Briggsmore, Pelandale, Jack Tone, Maze, Kiernan, Jan 14, 2012 5:55 PM

2. are you kidding!
   Nov 30, 2011 5:08 AM

3. Dale and Kiernan trying to get to Gregori high school. There is only a crosswalk on one side and again, it is very small and covered in thorns
   Nov 20, 2011 6:38 PM

4. Briggsmore and Tully Rd intersection -- confusing bike striping
   Briggsmore and Oakdale intersection
   Sisk/Orangeburg/Carpenter/Briggsmore intersection -- very crowded and unsafe
   Sisk/Standiford/Beckwith intersection -- high volume traffic, no good bike striping
   Carpenter bridge over 99 -- no striped bikes lanes, variable width
   Beckwith bridge over 99, eastern half -- no bike striping
   Pelandale bridge over 99 -- lane width, poor bike striping
   Broadway/Kiernan bridge over 99 -- no bike striping.
   Nov 15, 2011 10:48 AM

5. All of them. Drivers who run red lights, cut off cyclists, and flat out ignore cyclists are dangerous.
   Oct 12, 2011 12:06 PM

6. Prescott and Rumble, the lights change too fast
   Oct 12, 2011 10:04 AM

7. I have not noticed that they are not bike friendly, its more that drivers are more reckless or impatient with bikers.
   Oct 12, 2011 7:35 AM

8. Sylvan/Beckwith Briggsmore
   Oct 11, 2011 11:34 AM

9. cannot think of one specifically.
   Sep 19, 2011 11:20 AM

10. we need more bike lanes.
    Sep 19, 2011 10:08 AM

11. Again, too numerous to mention.
    Sep 17, 2011 10:09 PM

12. Again there is not one where I feel comfortable with.
    Sep 12, 2011 1:52 PM

13. Briggsmore Standiford
    Sep 9, 2011 9:26 AM

    Aug 27, 2011 3:09 PM
15 I ride off road the most, so can’t comment here.
Aug 27, 2011 2:41 PM

16 All
Aug 27, 2011 2:36 PM

17 We stay on the country roads on the East side of town—we do not ride into town. Claus Road has a good shoulder and is one of the best to ride, but lots of puncture vine.
Aug 25, 2011 1:37 PM

18 There are bike lanes in the city - though not enough. County roads are especially dangerous - not enough clearance for cyclists.
Aug 23, 2011 8:40 PM

19 Strangely, all light controlled intersections (including round a bouts, are more safe.
Aug 23, 2011 9:30 AM

20 Crossing J St on 14th in the morning the light goes yellow for J St traffic then goes back to green. Cyclists who don’t take the time to ride up on the sidewalk and push the walk button could be lured out expecting a green light that never happens—just something that happens to be on my morning commute route. Aug 22, 2011 2:48 PM

21 Briggsmore/Carpenter 99 overpass
Aug 22, 2011 2:39 PM

22 Orangeburg, McHenry, Old Oakdale
Aug 22, 2011 9:25 AM

23 Most ... because most people use the shoulder as a right turn lane. It’s the education piece more than anything. Round a-about are tough.
Aug 22, 2011 9:20 AM

24 Briggmore, Carpenter, clean the bike lanes and the sides of the road
Aug 22, 2011 8:50 AM

25 Modesto and other communities where not designed with bicycles. The bike lanes and current path at Dry Creek had all been added to existing infrastructure. I don’t think any intersection or overpass is safe for a bicycle. We just use them as they are, be they are not safe for us bicyclists.
Aug 22, 2011 8:40 AM

26 Briggsmore & Oakdale east to west. Very narrow on the west side. Scenic & Oakdale east to west for the same reason. Carpenter overpass on 99
Aug 22, 2011 8:03 AM

27 Briggsmore/99 overpass is a mess
Aug 22, 2011 7:48 AM

28 Paved bike paths within and around the city would be huge in helping out the bike community. And would get more people outside doing healthy things.
Aug 21, 2011 4:17 PM
All. I can’t think of one overpass that has bike lanes in Modesto. Riders are forced to ride in traffic on all overpasses with no bike lanes.
Aug 21, 2011 4:06 PM

most of them
Aug 8, 2011 12:30 PM

Briggsmore and Orangeburg for sure.
Aug 2, 2011 11:10 AM

See above. ALL of them.
Jul 28, 2011 12:56 PM

Albers and Milnes
Jul 9, 2011 5:55 PM

None of the current overpasses for 99 are safe for cyclists and this is a real problem for connectivity East and West.
Jul 9, 2011 4:31 PM

Briggsmore and Oakdale Scenic and Oakdale
Jul 2, 2011 1:27 PM

Left turns at all Briggsmore intersections are cheating death.
Jul 2, 2011 9:20 AM

Briggsmore and orangeburge
Jun 17, 2011 6:27 PM

some are just too heavy with vehicle traffic and a smart rider should just avoid them. At all intersections the under ground sensors will not recognize the weight of a biker and changed the signal. The pedestrian buttons are out of reach. If buttons that could be reached from the curb were installed it would help. In Holland the turn signals have bike turn signal that changes first allowing riders to safely move through the intersection before cars are permitted to enter the intersection. This is a great system.
Jun 11, 2011 6:50 PM

Again, I want to know which ones are? I guess the bridges over the river are fairly good.
Jun 8, 2011 2:49 PM

brigsmore road
Jun 8, 2011 8:50 AM

Well, Briggsmore is very tough to cross but the new bike overpass will help in that one area.
Jun 5, 2011 10:03 AM

Briggsmore over 99 is unsafe if there is any traffic due to lousy configuration, and unobservant drivers.
Jun 4, 2011 1:11 PM
43 All major overpasses crossing over HWY 99 are very unsafe, I bike to work over them. Any intersection near HWY 99 is unsafe due to enormous amounts of traffic. But the main problem is still the incompetency of automobile drivers to give bikers and pedestrians a right-of-way.
Jun 4, 2011 12:36 PM

44 Briggsmore/Carpenter overpass at 99: no bike lane
Jun 4, 2011 8:16 AM

45 Beckwith/Standiford very rough road surface especially on the eastbound lanes.
Jun 2, 2011 2:30 PM

46 Standiford @ Hwy 99, Sisk & Dale Rds-No bike lane, merging/turning traffic, very rough pavement w/ lots of debris; McHenry @5 Points-no bike lanes; any stoplight intersection due to lack of sensor for bicycles to change light, every stop sign intersection due driver &/or rider lack of education &/or attention for all on the roadways.
Jun 1, 2011 7:47 AM

47 Briggsmore overpass.
Jun 1, 2011 6:18 AM

48 Dale/Pelandale, Dale/Kiernan, Briggsmore/Dale, all North-South roads including McHenry, Oakdale, Tully eyec
Jun 1, 2011 6:16 AM

49 Any roundabout.
May 31, 2011 5:44 PM

50 Briggsmore/Carpenter overpass, Woodland overpass. Both are heavily used yet have no safe bike lane.
May 31, 2011 1:33 PM

51 Woodland Ave., Briggsmoore Overpass.
May 28, 2011 10:42 AM

52 I would suggest that the better question might be "what intersections of major thoroughfares or overpasses are bike friendly?"
May 27, 2011 9:31 PM

53 too many drivers that dont pay attention to bicyclists at any intersections, and disregard bicyclists right of way.
May 27, 2011 5:36 PM

54 Left turn onto Prescott from North bound Carpenter is always a thrill!!!!
May 27, 2011 3:37 PM

55 I can't think of a single intersection in this City that has detect sensors in the bike lanes. 5-points and Oakdale-Scenic are in dangerous condition for even a mountain bike, the craters are so large.
May 27, 2011 9:52 AM

56 n/a
May 27, 2011 9:02 AM
57  Briggsmore? It's not even safe car vehicular traffic ..... Why ask?
May 27, 2011 8:46 AM

58  downtown modesto
May 27, 2011 3:35 AM

59  Not sure. The corner of Millbrook Avenue and Floyd Avenue ... Crossing south on
Millbrook from the north side of Floyd to the south is awful. Cars go way to fast and don't
stop. To be honest, I don't venture much outside of cruising around the neighborhood.
May 26, 2011 10:27 PM

60  Woodland overpass over Hwy 99 - road surface in very poor condition.
May 26, 2011 3:15 PM

61  Scenic at Coffee. Even with lights and pedestrian crossings, I have almost been hit
three times by inattentive drivers turning right. I now drive to Dry Creek trailhead to ride,
rather than bike from my house which is only a few blocks away.
May 23, 2011 11:48 AM

62  Needham and College in Modesto
May 21, 2011 12:57 PM

63  No shoulders or bike lanes.
May 19, 2011 2:36 PM

64  5 Points.
May 18, 2011 8:11 AM

65  Standiford/McHenry, Sylvan/Oakdale, Briggsmore/McHenry, Five Points, Standiford
between Carver and McHenry when the bike lane disappears, Dale/Standiford, anyplace
around the Mall, Oakdale/Scenic
May 17, 2011 5:39 PM

66  Any of them,
May 17, 2011 5:24 PM

67  Roundabouts are always dangerous. Most overpasses are crossing 99. Sisk and
Standiford. Sisk and Briggsmore at Sisk are horrible intersections
May 17, 2011 4:27 PM

68  Most. Even with bike lanes I find drivers don't respectful and or courteous. They don't
follow rules that a biker has. General lack of civility towards bikers.
May 17, 2011 3:54 PM

69  Most of downtown is unsafe. I bike in via Dry Creek and come up La Loma just before
the bridge going over Morton Blvd. A number of times I've had close calls at Burney where
drivers think they have the right of way. I go with traffic, but I've even had it once where we
had a lead bike in the shoulder, someone in front of me biking in the crosswalk, and I was just
a bit behind on the shoulder - and someone laid on their horn and was about to run over our
middle biker *IN THE CROSSWALK*. While it should not need a bike lane there, perhaps that
would help.
May 17, 2011 8:39 AM
See 8. Bicycle loop detectors are needed--or the sensitivity of automobile loop detectors needs to be increased to detect bikes.
May 17, 2011 7:58 AM

n/a
May 17, 2011 6:57 AM

Briggsmore Ave
May 10, 2011 11:39 AM

14/ Other comments or suggestions regarding bicycle safety, education, environment, or resources.

1 Modesto has many cyclists, but has done little to encourage road-sharing. Drivers tend to be rude and unaware, and sometimes deliberately try to scare people on bicycles. Cyclists ride on sidewalks, through red lights, and generally disregard traffic laws. Meanwhile, it's difficult to find a safe place to park a bicycle, especially at night. Seats, lights and tools are likely to be stolen at any time of the day.
Nov 17, 2011 3:32 PM

2 Frequent public bulletins about bike laws and rights, as well as motor vehicle responsibilities: in the Modesto Bee, local radio stations, neighborhood news letters, school announcements, etc.
Nov 15, 2011 10:48 AM

3 Safety starts with parents putting helmets on their children, is reinforced in school by various educational programs, and continues into adulthood with public awareness campaigns.
Oct 12, 2011 12:06 PM

4 there should be more clubs
Oct 12, 2011 10:04 AM

5 police enforcing the law against cell phones while driving.
Oct 12, 2011 7:35 AM

6 exhaust is no fun.
Sep 19, 2011 11:20 AM

7 more bike lanes. education to drivers about bike safety, etc...
Sep 19, 2011 10:08 AM

8 City and County officials are the leaders in this community and they should lead by example. They should ride the bus and/or bike to work, because that's better for the environment and they get to speak with the residents who ride the bus or their bikes on a daily basis and relate to them more.
Sep 17, 2011 10:04 AM

9 We have all the elements to be a fantastic bicycle city if we only being to educate drivers and other bikers to the rules and respect for each other. I bike all over the bay area and Marin has a fantastic program that should be considered.
Sep 12, 2011 1:52 PM
10 I would love to ride more, but motorists (cars) and road conditions make it treacherous. In addition, there needs to be conditions so bikes are not stolen. Sep 9, 2011 9:26 AM

11 The City of Modesto MAX bus only carry two bikes. If I have two kids with me, we cannot all bike. Or if I have just one kid with me, if the bike rack already has one bike, we wait. Need to install bigger bike rack to hold 3 bikes on routes which often have bikers on them (25, 39). Aug 28, 2011 8:15 AM

12 Clean up the bums in Dry Creek. Aug 28, 2011 7:57 AM

13 Having a police presence in Dry Creek Park would be nice. There have been a number of “incidents” where bicyclists have been attacked or otherwise accosted. My wife cycles in Dry Creek almost daily, I’m moderately concerned for her safety. Aug 27, 2011 6:56 PM

14 none Aug 27, 2011 2:41 PM

15 Cars making a left hand turn tend to cut the lane. We have had cars come right at us cutting corners and one recently took me down in Riverbank. My husband has been riding for years and is very familiar with the area. He would probably be willing to talk to and share information with you. Aug 25, 2011 1:37 PM

16 One of the most dangerous times to be on a bike in traffic is when the bicyclist is at a dead stop and trying to start moving again. Often times the lack of rider safety is rider generated. Aug 23, 2011 9:30 AM

17 I ride 14th st from south to north every evening around six, am amazed at motorist’s aversion to nudging into the suicide lane to give me room to miss car doors. I suppose there is some traffic law that forbids using the turn lane under any circumstances but it seems a shame to have a 17 foot wide swath of pavement unused while I am pushed into a dangerous position. Aug 22, 2011 2:48 PM

18 Riding a bike is healthy and should be safe. It is very green and saves oil consumption! We just need it to be safer in Stanislaus County! Aug 22, 2011 8:40 AM

19 I do high mileage cycling for health and as an athletic endeavour but I would like to see a cultural transformation that moves people from car to bike in our urban environments. More bicycle commuting and family recreational riding translates to a healthier citizenry and environment. Aug 22, 2011 8:03 AM
20 Make downtown Modesto bike friendly by limiting car travel on certain streets. Make some two-way streets one way or shut them down to cars and encourage biking in the city center.
Aug 21, 2011 4:06 PM

21 Please help.
Jul 28, 2011 12:56 PM

22 please get drivers and cops on board. They both seem at war with bikes.
Jun 8, 2011 2:49 PM

23 I recently used two of the "bicycle boulevards" in Berkeley to attend a conference a few miles from our hotel, and these boulevards were great. The only cars were local to each block. These worked great. Very encouraging.
Jun 5, 2011 10:03 AM

24 Massive "Share the Road" campaign...signage signage signage...safety first, driver awareness, not toward cyclists, but for all types of travelers
Jun 4, 2011 1:11 PM

25 I feel the focus of this debate has been on the amount of bicycle lanes and roads/routes designated for biking. Modesto has adequate roads for biking on; we have the space for them, and most of the streets have bike lanes. The only problem with the actual roads is they can be filled with sharp objects dangerous to cyclists (and motorists). The problem, as I see it, is the motorists not giving a hoot about pedestrians and cyclists. They feel they do not need to share the road and look at cyclists as non-humans. The roads around town are dangerous because we fail as a community to respect pedestrians and cyclists rights of the roads. Impatient, unkind, degenerate, angry drivers - this is the problem with biking in Modesto, not the accessibility or adequacy of the bike lanes on the roads. I lived in Seattle for 5 years and their roads are old, cracked, narrow and wet all the time, but I never had any of the problems with motorists like I do here.
Jun 4, 2011 12:36 PM

26 Both motorists and cyclists need education: motorists need to recognize cyclists rights and cyclists need to act responsibly and obey traffic rules. Education and enforcement on all sides
Jun 4, 2011 8:16 AM

27 Personally, the most memorable lesson on road safety that still sticks with me today, was a visit by a Modesto Police Officer back in second grade (1972) while attending Garrison Elementary. Since the officer had a child in my class, he volunteered to lead the class on a group ride down Orangeburg to a nearby park for a picnic lunch. Prior to the ride, he instructed us to "ride with the traffic flow" as a bicyclist, and "walk against the flow" of traffic as a pedestrian. After this brief safety topic we demonstrated what we learned on the group ride. Looking back, it only cost a half days worth of salary to the city, but the impact it made on me, and I'm sure it with the other 25+ kids, has enabled me to ride confidently over the past 35 years. I think this would be the most cost effective way to educate all citizens in the long term since we all go through the public school system anyway. Kids in elementary school are a captive audience, and they're at the most impressionable stage of their lives.
Jun 2, 2011 2:30 PM

28 Look to the city of Folsom
Jun 1, 2011 11:07 PM
29 Ban cell phone use/texting/smart phone/GPS-Navigation/Video Screens in vehicles/excessively loud stereos. People are being killed for lack of attention to driving & high speeds.
Jun 1, 2011 7:47 AM

30 Study Pleasanton-Livermore, Sacramento, Chico etc.
Jun 1, 2011 6:16 AM

31 Drivers need to realize that one of these riders could be their friend or neighbor.
May 31, 2011 5:44 PM

32 Need to educate local government (especially City of Modesto!) on the economic benefits of and the return on investment in a bicycle-friendly infrastructure.
May 31, 2011 1:33 PM

33 thanks for the interest
May 30, 2011 4:08 PM

34 It is time to provide educational programs for bicyclists reminding them that they are first of all not driving an 18 wheel semi-truck when they are on the roads. Secondly, they need to be trained to appreciate their rights by obeying the traffic laws and not riding through red lights, on the sidewalk, back and forth across busy roadways and in general not recognizing how quickly their lives can be changed by their careless and illegal actions.
May 29, 2011 10:03 AM

35 I would suggest that the level to which we need to get our roads bicycle safe and friendly is that level at which mothers feel it is safe to allow their children to ride on those roads. Until we get to that level, there will be reluctance of participation from that group of people that will define the future of bicycle use in our community
May 27, 2011 9:31 PM

36 Use of the streetsweeper in Modesto seems to be at an all-time low. It would be helpful to remove some of the broken glass/debris from the roadway more often.
May 27, 2011 5:16 PM

37 The major confusion for motorists is that there are several types of cyclist out there. 1) the nervous cyclist. Rides slowly against traffic, never utilizes their right of way. Switches instantly to pedestrian at intersections. 2) The capable cyclist. Follows rules. Moves with traffic, utilizes their valid right of way. 3) The anti-social nothing to lose cyclist who never wears a helmet, cycles in defiance of traffic laws, demands the right of way from motorists. We need to find a way to explain that not all cyclists are to blame for the bad ones. We need to emphasise that cyclists should follow one set of rules..
May 27, 2011 3:37 PM

38 I feel like there are some wonderful places to bike in Modesto, but these places are too spread out. Also, I commonly feel unsafe riding in the bike lanes in Modesto. People often drive too fast and don't pay enough attention.
May 27, 2011 12:21 PM

39 Make Modesto actually committed, get federal grants, instead of this hypocritic involvement with Amgen trying to make Modesto appear in any way bike- friendly. And yes, I would like to hear a response, and be given a way to be productively involved as a volunteer.
May 27, 2011 9:52 AM
Bicycle lockers should be available to everyone, not just government workers.
May 27, 2011 9:26 AM

Thanks for your interest in this subject that will improve the health of residents, and the quality of life in our area.
May 27, 2011 8:46 AM

existing bike lanes are poor condition and covered with rocks
May 27, 2011 3:35 AM

We need to do something that goes simply beyond the time around the Amgen TOC. We almost have to have the city declare 2012 (or 2011-12 school year) the year of cycling education.
May 26, 2011 10:27 PM

I walk, don’t yet bike, but would be more likely if there were more bike areas. Is there a proposed bike path proposed for the North County Corridor? Could it connect with the Virginia Rail Corridor? That would really be a wonderful opportunity.
May 21, 2011 12:57 PM

Develope Bike/Pedestrian trails along Tuolome and Stanislaus Rivers
May 19, 2011 2:36 PM

Lots of people drive in to work in Modesto. Make park and ride parking lots available at churches. They aren't open during the week anyways. People can drive their car to a church near the Modesto boundary then ride their bike the rest of the way in.
May 18, 2011 8:11 AM

Modesto is becoming a big city. We need a long bike trail so you don't have to worry about cars.
May 17, 2011 5:45 PM

You have a typo--to encourage (missing the o) cycling. Modesto only pays attention to bikes one day a year during Amgen. The other 364 we're second- class citizens. Yet bikes and walkers are part of the solution to the valley's air pollution problem. I would ride my bike more if the motorists in this town weren't so ignorant about cyclists. I have lived in other towns, such as Fort Collins, Colo., where cycling is embraced rather than discouraged. Even in the Dallas Metroplex, cycling is much more popular. Why? better streets and friendlier motorists. I've been hit on my bike here in Modesto. Why, the woman made a right turn into me when I was on a through street. As she said, "I just didn't see you." Duh! Drivers just don't look for cyclists. That's part of the problem. The same goes for looking out for pedestrians. You need to really enforce these laws. The police are too busy chasing after robbers, shooters and knifers to be burdened with something as mundane as traffic enforcement and bicycle safety. Sacramento has great cycling, especially with the American River Bike Trail. I know--I lived there and used the trail frequently. The lack of bicycle facilities in Modesto is one of the many reasons why the areas has been ranked as one of the dismal places in the United States. Having lived all over the country, I would rank Modesto right down there with Waco, Texas, where I used to live. On the positive side, the Briggsmore overpass, when it gets done, will be a plus. But the slow pace of the entire Virginia Corridor is a minus. Don't say there isn't money. There are lots of federal grants to help improve transportation that will reduce pollution and aid with other bad air-related health problems. Go after those grants with a vengence.
May 17, 2011 5:39 PM
49 Modesto could be another Davis with regards to cycling. This community could benefit financially by a reputation for it being bicycle friendly.
May 17, 2011 4:27 PM

50 I really don't mean to be so negative. I am an Oregon transplant & my hometown is so bike friendly, it was quite a shock when moving here
May 17, 2011 3:54 PM

51 A cell phone/gps-friendly live system tracking map would be great. I don't know how many times I get to a bus stop a few minutes early and it is running 10 minutes late and I call in to check status on the bus. If you look at the number of teens who ride the bus with smart phones, you'll see that you'd already have a big audience. If you can keep them using the bus by making it more convinient to know where and when the buses are coming by, perhaps they'll continue on as adults.
May 17, 2011 8:39 AM

52 Use the 2001 plan. Earmark money for bicycle facilities and require agencies to submit plans and construct before REIMBURSING them for bicycle expenditures. Aggressively implement AB 1358 by increasing the amount of money available for bicycle projects. Favor transportation projects over recreation projects.
May 17, 2011 7:58 AM

53 keep fighting
May 17, 2011 6:57 AM

54 N/A
May 10, 2011 11:39 AM

NEWMAN APPENDIX

8] Which Stanislaus County/City roads are not bike friendly or are unsafe?
1 Claus Road, Orange Blossom, Milnes, Diablo Grande, Del Puerto Canyon, all are heavily used and not auto friendly
May 27, 2011 8:26 AM

9] Which Stanislaus County/City intersections/overpasses are not bike friendly or are unsafe?
No response

14] Other comments or suggestions regarding bicycle safety, education, environment, or resources.
No response

OAKDALE APPENDIX

8] Which Stanislaus County/City roads are not bike friendly or are unsafe?
1 Patterson Rd, 108, 120, Albers,
Nov 29, 2011 7:20 AM

2 Most are not very friendly; little shoulders, LOTS of debris therin. Flats are a regular occurance.
Oct 1, 2011 7:58 AM
3  Hwy 108/120 through Oakdale; too narrow and busy for bikes
   Sep 20, 2011 10:18 AM

4  All of them
   Sep 4, 2011 9:00 AM

5  rodden and orange blossom road...no shoulder and dangerous drivers
   Aug 27, 2011 4:15 PM

6  Wilms road. Very bumpy and potholes from 132 to just south of 108. It is a very good road for bikes because it is not heavily travelled by vehicles and is good distance between the highways for good exercise.
   Aug 23, 2011 1:03 PM

7  Some of the roads in rural Oakdale and Riverbank are too narrow, have no bike lanes, and this is where bicyclists have been hit. More bike lanes needed!
   Aug 22, 2011 8:57 AM

8  Orangeblossom, Route 120 through Oakdale
   Aug 22, 2011 8:12 AM

9  Rural roads are very dangerous to ride.
   Aug 16, 2011 11:37 AM

10 there are very few bike lanes in Oakdale. the few that are there are being used for parking car not riding bikes. Motorists very rarely stop for us so we end up being very restricted in our routes because I will not cross the highways with my child.
   Aug 5, 2011 2:33 PM

11 F Street through town. You have to ride on the sidewalk or get run over by a car. Yosemite/120 - Riding over the river on the bridge by Cost U less is impossible. Even the ramps are not functional it’s so dangerous but it’s our exit route when taking country rides. It is very scary.
   Jul 9, 2011 7:00 AM

12 Olive Street, Oakdale
   Jun 20, 2011 4:59 PM

13 26 Mile Road shoulder is not wide enough. Warnerville is dirt. Frankenheimer is dirt. 28 Mile Road at the north end is dirt. Pave all three of these.
   Jun 1, 2011 6:38 PM

14 all of them. Worst place I have ever ridden in terms of close calls with insane, homicidal drivers.
   Jun 1, 2011 8:43 AM

15 hwy 108 east out of Oakdale, east of lancaster is a death trap. Orange Blossom Rd has very little shoulder with a lot of traffic, and is extremely dangerous between west and east horeshoe rd. Also 26 mile rd has very little to no shoulder clear to hwy 4. Valley Home rd north to Dodds has no bike lane. These are all prime destinations that cyclists except great risk to ride on.
   Jun 1, 2011 6:45 AM
16. hwy 120 near rodeo grounds Oakdale way to narrow Patterson Road, no lane  
May 27, 2011 11:16 AM

17. most back roads, trying to get from Oakdale to Modesto. I experience drivers that 
seem to derive pleasure from deliberately crowding me, driving at excessive speed, imatience, 
etc. this community is not at all bike friendly, or even tolerant. I have had things thrown at 
me.  
May 25, 2011 7:30 AM

9/ Which Stanislaus County/City intersections/overpasses are not bike friendly or are unsafe?

1. ditto.  
Oct 1, 2011 7:58 AM

2. All of them  
Sep 4, 2011 9:00 AM

3. Scenic at Claus.  
Aug 22, 2011 8:57 AM

4. Yosemite and 120 Stearns and Yosemite  
Aug 22, 2011 8:12 AM

5. You can pick any that are not in the cities.  
Aug 16, 2011 11:37 AM

6. F/ yosemite. Righthand turners are a very real danger.  
Aug 5, 2011 2:33 PM

7. The bridge here in town by Cost U Less and River Rd/108 Yosemite. There are no clear 
paths for bikes here. Cars pay little to no attention and I have had numerous close calls. We 
moved to Oakdale from the Bay Area and I felt safer riding among 5 time's the amount of cars 
then I do riding here in town. There is no bicycle awareness.  
Jul 9, 2011 7:00 AM

8. Laurel Street and West F Street, Oakdale  
Jun 20, 2011 4:59 PM

9. Crane Road and 108 in west Oakdale does not have a crosswalk or ability to make the 
light go green. This is very dangerous as you must cross on a red with cross traffic not 
stopping.  
Jun 1, 2011 6:38 PM

10. all of them.  
Jun 1, 2011 8:43 AM

11. Same as above  
Jun 1, 2011 6:45 AM

14/ Other comments or suggestions regarding bicycle safety, education, environment, or 
resources.

1. Slow the cars down  
Nov 29, 2011 7:20 AM
2 I suggest development of a bmx bike park, more urban raved trails like the Virginia Corridor, and more trails like Dry Creek near the county's lakes and rivers.  
Oct 25, 2011 2:04 PM

3 Would love to see a bike/pedestrian trail along Stanislaus River through Oakdale connecting Kerr Park to Oakdale Recreation Area  
Sep 20, 2011 10:18 AM

4 As transportation becomes more expensive, I think it is in everybody's best interest to make it easier to travel by bicycle. It is cheap, good for the environment and very good for you. I believe more people would be riding if access to roads with cars were safer.  
Aug 23, 2011 1:03 PM

5 Bottom line= get more bike lanes, educate motorists about driving safely with bikes on the road.  
Aug 22, 2011 8:57 AM

6 Posting of Highly Visible diagrams of lane transitions and the bike path lane transition would help motorist realize that bicycles may now be either closer than before or they must share the lane because the bike lane is no longer defined. I have been run onto the shoulder countless time's because motorists think the entire lane is for them only.  
Jul 9, 2011 7:00 AM

7 When a road is resurfaced, plan and budget to widen it for safer cycling.  
Jun 1, 2011 6:38 PM

8 I was a 100 mile a week rider back east, and have almost quit riding since moving here. I have never experienced such a hostile/ ignorant driver population in my life . I have ridden all over the world and the central valley is a DEATH ZONE for cyclists.  
Jun 1, 2011 8:43 AM

9 believe it or not there are many different types of cyclists and it would be near impossible to make all groups agree on what is best. You may want to think about specific use areas rather than multi use areas as you will get great support for a specific area by specific groups. (families are not concerned about bike lanes on the hwy, because they are not going to have their kids out there with the semi trucks), however serious rd cyclists would. Mt bikers care greatly about single track dirt trails when the road cylists wouldn't think about taking their $8k bikes anywhere near the dirt. Neither serious rd cyclist or serious mt bikers want to ride in family areas as there would not be any enjoyment to riding a specific use bike in a multi use area. (you wouldn't drive your Ferrari in the 25mph school zone if you had a choice, and you definately wouldn't lobby for a more ferrari friendly 25mph zone.) Cycling can be and usually is use specific. If you are looking for community support you will have a greater number of supporters by addressing each type of rider rather than classifying cylists as a whole. Hope that helps.  
Jun 1, 2011 6:45 AM

PATTERSON APPENDIX

8] Which Stanislaus County/City roads are not bike friendly or are unsafe?  
Sep 25, 2011 6:00 PM

For example, hwv 33 does not have a wide enough shoulder.
2  Hwy 33 no bike lanes
Sep 6, 2011 5:25 PM

3  Rogers Road- no shoulder, poor road condition RainesRoad/ Donkin Road awful road conditions- road crumbling apart, most roads on the west side have pot hole issues
Aug 6, 2011 5:36 PM

4  Rogers rd, Hart, River, and many many more
Jun 1, 2011 5:57 AM

5  not much of a shoulder or area right of the fog line. many motorists arent aware of the rights of the cycling public.
May 31, 2011 9:12 PM

9] Which Stanislaus County/City intersections/overpasses are not bike friendly or are unsafe?

1  Modesto city college
Sep 6, 2011 5:25 PM

2  Briggsmore- no designated bike lane
Aug 6, 2011 5:36 PM

3  road/distance bicycles have the feet clipped in. many of the existing road ways arent designed for this type of travel.
May 31, 2011 9:12 PM

14] Other comments or suggestions regarding bicycle safety, education, environment, or resources.

1  Get Federal agency to open up canal routes, which are safer due to lack of motorized traffic. Add bike lanes on two lane roads such as between Westley and Grayson.
Sep 25, 2011 6:00 PM

RIVERBANK APPENDIX

8] Which Stanislaus County/City roads are not bike friendly or are unsafe?

1  There are no bike lanes on most of McHenry if any at all. Also on Claribel coming from Riverbank into Modesto, there are no bike lanes and the road is very narrow. Sometimes I've had people almost run me off the road with their car. Drivers need to be more considerate and pay attention to cyclists, pedestrians, and even motorcyclists. Most of the roads that I know of are no really marked for cyclists.
Nov 27, 2011 1:30 PM

2  No bike lanes on oakdale rd.between modesto & riverbank.  I ride this route often & it gets pretty scary at times.
Aug 28, 2011 3:54 PM

3  The majority of drivers in Stanislaus on the road seem to not want cyclists on them. They do not wait until it is safe to pass. They come too close to cyclist. It seems we have an anti- cycling communitiy.
Aug 23, 2011 1:57 PM
4 Oakdale Road Coffee Road. Both have no bike lanes from Riverbank to Modesto. 
Aug 22, 2011 10:50 AM

5 Rodden - blind curves and no/little shoulder, Milnes - no bike lane/little shoulder high traffic flow, Langworth - rough road/no shoulder/high traffic flow, Patterson between Coffee & McHenry - narrow shoulder and high traffic flow 
Aug 22, 2011 8:43 AM

6 Oakdale road Coffee road 
Jul 1, 2011 8:54 PM

7 El Vista Avenue, no room to ride. use it to get from Riverbank to Ceres. Orange Blossom Rd., narrow shoulders. Many bikes use it but cars don't give room or go too fast. Oakdale Road in Riverbank between Morrill and Patterson has debris in street that puncture tires. And holes in road that cause bike to crash. Oakdale Rd. between Riverbank and Modesto has no shoulder. Patterson Rd. between McHenry Rd. and Coffee Rd. has little shoulder to ride on and is very busy. this is a commonly used bicycle route for many. Patterson Rd. between Albers and Claus Rd. has little or no shoulder. 
Jun 1, 2011 9:43 AM

8 Most of the country roads with a fair amount of traffic and without a decent paved shoulder on which to ride. Milnes is just one example where a good friend was killed while riding on his bicycle. 
May 19, 2011 1:15 PM

9 River Road, Patterson, Milnes, Lone Tree, McHenry, Coffee, Oakdale etc. None of these have bike lanes or shoulders wide enough to ride on (except Coffee in city limits) 
May 19, 2011 10:24 AM

9/ Which Stanislaus County/City intersections/overpasses are not bike friendly or are unsafe? 

1 McHenry and Brigsmore, Coffee and Brigsmore. Practically all intersections and the overpass on Brigsmore. Same as McHenry Ave. 
Nov 27, 2011 1:30 PM

2 Many intersections have traffic lights that are not bike sensitive. 
May 19, 2011 10:24 AM

14/ Other comments or suggestions regarding bicycle safety, education, environment, or resources. 

1 I have started really getting into cycling the last couple of years and really enjoy it and encourage everyone who can do it, start doing it. I have been discouraged at times though due to the lack of cycle friendly roads as well as rude motorists. Even though Adults don't have to really wear a helmet when cycling, I thing it should be manditory for them to wear one. Just looking out for their safety. Also wearing reflective clothing, vests, or belts should be highly encouraged. As cyclists, we need to make ourselves as visible to motorists as possible. Also should educate and encourage cyclists to use the propper hand signals if riding on the road and obey traffic laws. Another issue I've had is being chased by dogs that are not on leashes or secured in their yards. There are a lot of hazards out there that cyclists should be educated on. And non-cyclists need to be educated on cyclists rights. People who don't follow the laws on keeping their dogs on leashes, etc need to be reeducated of the consequences and penalties of letting their dogs "roam free". 
Nov 27, 2011 1:30 PM
2 Please start an educational/advertising plan to educate the public on bicycle safety on the road with automobiles.
Aug 23, 2011 1:57 PM

3 I'm very excited about the Virginia corridor being expanded and the overpass at Briggsmore!
Jul 1, 2011 8:54 PM

4 Having Amgen TOC is great for increasing awareness.
May 19, 2011 1:15 PM

5 We need political leaders who give more than lip service to bicycles as legitimate modes of transportation and not just something for kids and the homeless to get around on.
May 19, 2011 10:24 AM

TURLOCK APPENDIX
8 Which Stanislaus County/City roads are not bike friendly or are unsafe?

1 The roads that I feel are most unsafe are roads west of highway 99. Lanes are too narrow and many people speed through without any regard for others.
Dec 22, 2011 12:20 AM

2 GoldenState Boulevard in Turlock is a main thoroughfare yet it is very dangerous for bikes and/or pedestrians. There are no bike lanes or safe shoulders to ride on. Geer Road is also dangerous with heavy traffic and street parking taking up most of the available biking area. It is hard to get from the University to the other side of town.
Sep 26, 2011 11:08 AM

3 Most of Modesto is brutal...Turlock is more safe because traffic moves slower in a lot of the areas I ride. Modesto is defiantly not safe with all the impatient drivers and far to relevant tweakers. I would say i feel the most at risk in the bike lane on Standiford.
Sep 18, 2011 2:10 AM

4 With a few exceptions very few county roads have a descent shoulder.
Aug 27, 2011 5:53 AM

5 Most county roads, which are the ones that are used most often. More so, the attitude of drivers.
Aug 22, 2011 11:34 AM

6 Most of the county roads are rough, and do not have a safe bike lane. Bike lanes needed county wide.
Aug 21, 2011 11:37 AM

7 Generic - drivers in cars don't share the road. Stop light controls don't "sense" the bike.
Jul 2, 2011 2:52 PM

8 Monte Vista; Golden State...........traffic is heavy and drivers show no regard for bikers
Jun 29, 2011 11:05 AM

9 Keyes Rd. The shoulder is too narrow.
Jun 14, 2011 4:58 PM
10  Daubenburger has high-speed traffic. Quincy is too narrow/poor condition between Tuolumne/Monte Vista.
Jun 3, 2011 1:50 PM

11  Keyes Road east of Hickman; any road that is in poor condition
Jun 2, 2011 9:46 AM

12  Hickman Rd., Fulkerth Rd., Main St.-Turlock, East Monte vista ave., keyes rd., no bike lanes on majority of roads around here - cars do not give ample space when passing
Jun 1, 2011 2:05 PM

May 30, 2011 8:36 PM

14  Crossing golden state anywhere between olive and Fulkerth is scary especially with kids in tow. Also east ave is not safe from Quincy to berkley because it is too narrow and cars go very fast. Many lights in Turlock do not recognize bikers and you have to wait for a car to come to get a green light. Canal from geer until broadway also is very dangerous for a biker bc of no lanes and fast cars.
May 29, 2011 6:52 PM

15  Geer Rd - congestion Montevista - no bike lane Other road where bike lane suddenly disappears
May 28, 2011 11:29 AM

16  In Turlock on Quincy between East Ave. and Marshall. They have been waiting to develop 1/2 the property (county) so the city won’t repave...Waiting for a developer to have to repave the whole thing...Very bad road. Also there is a yard 20 area at the corner of Crane and Minaret (in front of the dentist office)...Very very dangerous...Needs repaving bad!!
May 27, 2011 5:39 PM

17  It seems like a lot of the major feeder roads have very little room for bikes. Sometimes 12 inches or less.
May 21, 2011 7:36 AM

9/ Which Stanislaus County/City intersections/overpasses are not bike friendly or are unsafe?

1  Well I think it’s got to be riding down Standiford passing all the huge 4 way stops like Coffee, McHenry, Prescott, Carver, and Tully.
Sep 18, 2011 2:10 AM

2  Most. Very few have bike sensors to turn the lights. We either have to get off our bikes to hit the walk button or wait for a car to come.
Aug 27, 2011 5:53 AM

3  Keyes road, Dale road at Staniford, and Pelendale, etc
Aug 21, 2011 11:37 AM

4  Almost all intersections with stop lights - Stop light controls don’t "sense" the bike.
Jul 2, 2011 2:52 PM
5  Monte Vista/Golden State intersection.......not enough time to get across; cars in a hurry to turn and don't wait for bikers
Jun 29, 2011 11:05 AM

6  most of riding is done on country roads
Jun 5, 2011 9:38 PM

7  don't know
Jun 2, 2011 9:46 AM

8  See above. Also Quincy between canal and east ave is so bumpy my groceries often break or spill when I ride home from the store no matter how slow I go.
May 29, 2011 6:52 PM

9  Any 4 way stop intersection - some drivers try to give priority to bikers whereas others don't - this causes confusion.
May 28, 2011 11:29 AM

10  The corner of Golden State and Geer in Turlock...Death trap. If you are at Big 5 it is hard to get across. If you are at Cindys and am walking your bike toward the auto repair place (even in the cross walk) people will blast right through. They are trying to get from the Hilmar area to the CSUS area and shopping. You need a police speed trap (sting) for that corner.
May 27, 2011 5:39 PM

14/ Other comments or suggestions regarding bicycle safety, education, environment, or resources.
1  I'm a cycling purest so I can automatically blame motorists for all my problems, but I won't. The County needs someone who believes in healthy lifestyles, who has concern for the environment, who knows how positive cycling can be, and someone to stand up and require all of these wonderful commodities listed above. There is no doubt in my mind that Stanislaus County will be a much more desirable place to ride or better yet, a better place to live if we have some vision and progress in making all of these wonderful things happen.
Sep 18, 2011 2:10 AM

2  When paving new county roads an extra 6 to 9 inches of shoulder would help out greatly.
Aug 27, 2011 5:53 AM

3  the biggest issues I see are a lack of education/awareness on the part of motorists and poor road maintenance on city and county roads
Jun 2, 2011 9:46 AM

4  CA should institute some of Oregon’s bike laws pertaining to cyclist’s right-of-way at stop signs and signal controlled intersections.
May 30, 2011 8:36 PM

5  I think with information, improved lanes and community awareness we could be a town where a large population bikes to work/school.
May 29, 2011 6:52 PM

6  Safe, well-marked bike routes to schools, so more kids can more safely ride their bikes to school. Would encourage exercise and decrease car congestion at drop-off and pick-up times.
May 28, 2011 11:29 AM
Google Maps...Click on Bicycling. You get the local routes. Very few in Stanislaus Co. Look at Boise...Best bike city in the US!!

May 27, 2011 5:39 PM

WATERFORD APPENDIX

8/ Which Stanislaus County/City roads are not bike friendly or are unsafe?

1  waterford-oakdale highway too narrow milnes e/o albers too narrow
Dec 6, 2011 9:42 PM

2  hwy 132, hatch rd, whitmore av. It is completly unsafe to ride a bicycle to or from waterford to neighboring cities.
Aug 9, 2011 12:53 PM

9/ Which Stanislaus County/City intersections/overpasses are not bike friendly or are unsafe?

No response

14/ Other comments or suggestions regarding bicycle safety, education, environment, or resources.

1  previous funding of "SNAP" in Waterford was spent 100% on sidewalks, 0% on bike facilities - very bad.
Dec 6, 2011 9:42 PM

STANISLAUS COUNTY AND VISITORS APPENDIX

8/ Which Stanislaus County/City roads are not bike friendly or are unsafe?

County
1  River road between Riverbank and Oakdale.
Jun 1, 2011 8:36 AM

2  Almost all county roads. There are no bike lanes. Cars and trucks rush by. Very scary.
May 28, 2011 1:05 PM

Other
1  All of them actually. There are very few bike lanes and debris and pot holes are abundant.
Sep 6, 2011 11:44 AM

2  McHenry Ave. Needs bike lanes.
Aug 22, 2011 6:52 PM

3  Very few major routes within Modesto have sufficient bike lanes, and drivers within the area are not bike friendly for the most part. Two cyclists from our club have been struck by motorists within Stanislaus County within two weeks of each other, one of which was a hit and run. These were both experienced riders, following the rules of the road. Orange Blossom, and Rodden Roads are very popular with cyclists, as this is part of the Woodward Lake Loop. For the short term, share the road signs alone the route would be of great benefit. Long term improvements would include wider shoulders. Increased public awareness, and bicycle friendly drivers would be the most cost effective and rapid means to attain these goals.
Aug 22, 2011 1:25 PM
4 sisk road should have a bike shoulder/lane
May 28, 2011 10:00 AM

5 McHenry Ave, esp. N. or Kiernan, a necessary route to cross the Stanislaus to Escalon, very busy with fast cars, inadequate shoulder, no bike lane. Patterson Rd. from McHenry to Coffee. Same.
May 27, 2011 9:24 PM

6 Ones outside of the cities, need to have a shoulder for biking
May 20, 2011 12:07 PM

9] Which Stanislaus County/City intersections/overpasses are not bike friendly or are unsafe?

County
See responses to Nr 8 above

Other

1 Sperry Avenue / Interstate 5 interchange in Patterson. No bike lanes, visual obstructions, lots of trucks, etc.
Sep 12, 2011 11:28 AM

2 Same
Sep 6, 2011 11:44 AM

3 Brigsmore/Carpenter over 99 needs bike lane markings
Aug 22, 2011 6:52 PM

4 Not that I'd ever ride over, but the Briggsmore overcrossing comes to mind.
Aug 22, 2011 1:25 PM

5 p
May 28, 2011 10:00 AM

6 Most traffic circles; drivers don't yield. Anywhere you need to turn Left, esp. if more than one lane.
May 27, 2011 9:24 PM

14] Other comments or suggestions regarding bicycle safety, education, environment, or resources.

County
No response

Other
1 This should be a great area for bike commuting. Unfortunately, it's way too risky.
May 27, 2011 9:24 PM

2 Better shoulders!
May 20, 2011 12:07 PM