Turlock Active Transportation Plan

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Project Number 13-64

CITY OF TURLOCK INC. 1908

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Plan Composition

The Turlock Active Transportation Plan is comprised of three volumes:

Volume I contains Chapters 1 through 7.

Volume II contains Chapter 8, the Implementation Plan.

Volume III contains the Appendices.

In addition, several companion volumes were developed in conjunction with the Active Transportation Plan and are available as separate documents. These include:

Volume IV: Turlock Safe Routes to School Report

Volume V: Suggested Routes to School Maps

Volume VI: Active Transportation Design Toolkit

Volume VII: Walk- and Bike-Friendly Turlock: Ideas to Encourage Walking and Biking

All volumes can be printed on standard 8.5 by 11 inch paper, except for volumes II and V which can be printed on 11 by 17 inch stock.

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1 Introduction

The City of Turlock and the Stanislaus Council of Governments (StanCOG) recognize that bicycling and walking are important parts of daily transportation for residents, commuters, and visitors to the city. This Plan is for all residents who desire to improve their level of daily physical activity or broaden their transportation choices by bicycling or walking to school, work, and other local destinations.

At the most basic levels, Turlock possesses a number of great assets that make it an ideal community for walking and bicycling. The temperate climate and short rainy season make being outside pleasant for much of the year. Most destinations within Turlock are within reach by bicycle—the town is a rough square about 5 miles across. Its grid street system makes it easy to navigate, even for visitors, and provides many route choices.

Getting more residents in Turlock to walk and bike for their everyday travel can address several interrelated challenges including traffic congestion and safety, improve public health and air quality, create a sense of community, and support a vibrant local economy. By creating an Active Transportation Plan to support walking and biking, Turlock can address these challenges and improve the quality of life for residents and visitors alike.

1.1 The Five E's

Communities that support high levels of walking and bicycling demonstrate achievement across five categories, often referred to as the Five E's.

Engineering

Creating operational and physical improvements to the infrastructure that reduce speeds and potential conflicts with motor vehicle traffic, and establish safer and fully accessible crossings, walkways, trails, and bikeways

One of the largest impediments to active transportation is a built environment that feels unsafe to pedestrians and bicyclists. Engineering projects can range from relatively low-cost improvements like painting crosswalks, trimming landscaping, or installing stop signs; to more costly projects like completing missing sidewalk connections, installing curb ramps, or building a bicycle/pedestrian overpass.

Education

Teaching children and adults about the broad range of transportation choices, instructing them in important lifelong bicycling and walking safety skills and launching driver safety campaigns

Bicycle and pedestrian safety trainings offer children and adults a safe space to learn the basic skills for navigating their communities on foot or by bike. Motorist education is an important component of a walk- and bike-friendly community.

Encouragement

Using events and activities to promote or incentivize walking and bicycling and to generate enthusiasm for active transportation throughout the community

Special events like Walk and Bike to School or Work Days can motivate people to try walking or biking for the first time. Contests or campaigns where people log miles, days, or trips taken using active transportation to be entered to win rewards are a fun way to kick-start data collection for Evaluation, which is discussed below. Other ways to encourage more people to walk or bike include arranging 'walking school buses' where neighborhood parents rotate the responsibility of walking multiple children to school, or working with large employers to offer incentives and facilities for employees who bike.

Enforcement

Partnering with local law enforcement to ensure that traffic laws are obeyed—including enforcement of vehicle speeds, yielding to pedestrians in crosswalks, and proper walking and bicycling behavior—and initiating community enforcement such as crossing guard programs

Enforcement helps ensure all road users are behaving respectfully and abiding by the rules of the road. Beyond issuing tickets or citations, police can increase their presence in the community or near schools to discourage unsafe driving. Working with your local police department to have officers patrol the city by bicycle can contribute to a deeper understanding of the challenges facing cyclists, and lend legitimacy to bicycling as a mode of transportation.

Evaluation

Monitoring and documenting outcomes, attitudes, and trends through the collection of data before and after the intervention(s)

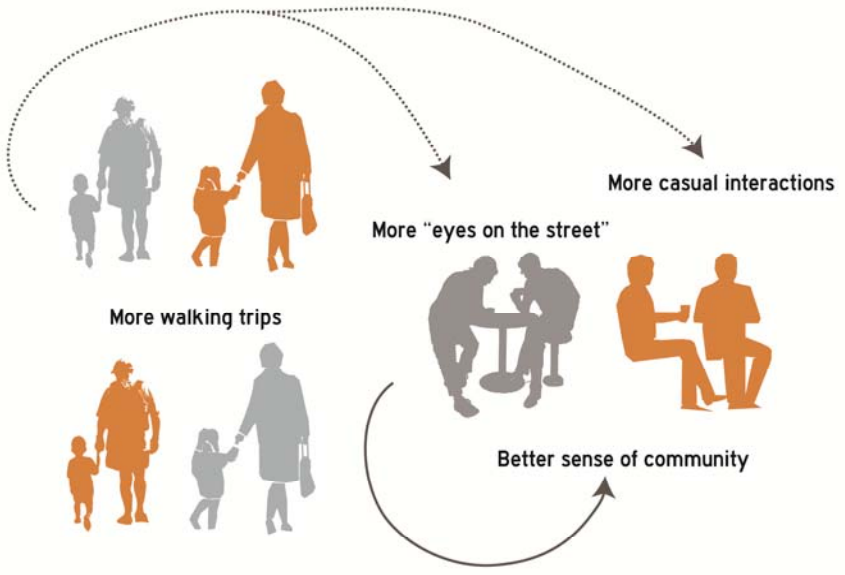
Evaluation efforts help reveal areas in the community where significant improvements are needed, and can point to strategies that have been particularly successful in increasing walking and bicycling. Evaluation methods may include bicycle and pedestrian counts, analysis of collision frequency or severity, and travel surveys.

1.2 Benefits of Walking and Biking

Walking and bicycling are healthy, efficient, low-cost modes of travel, available to nearly everyone. Walking is the most basic form of transportation. Everyone is a pedestrian at some point during a trip, whether you walk the entire way, walk to a transit stop to catch a bus, or walk from your car to your destination after parking. Pedestrians also include persons using skateboards and scooters, as well as wheelchairs and other mobility assistance devices. Bicycling is an inexpensive, active mode of transportation that can extend the range of trips for many people by allowing for faster travel than walking.

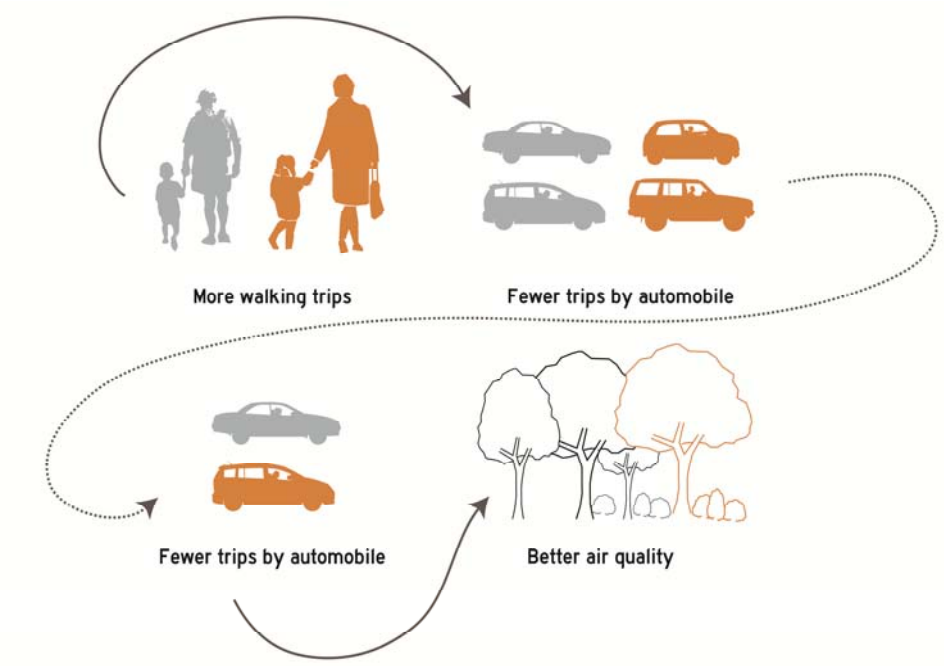
Walking and bicycling help develop and maintain "livable communities," make neighborhoods safer and friendlier, save on personal and public transportation costs, and reduce transportation-related environmental impacts, automobile emissions, and noise. They create transportation system flexibility by providing transportation choices, particularly in combination with transit systems, to people of all ages, abilities, and income status.

Streets that are busy with bicyclists and pedestrians are working at a human scale, fostering a sense of neighborhood and community. They create opportunities for chance encounters with neighbors, and put more "eyes on the street" to discourage crime and violence. Communities with high levels of walking and bicycling often have lower crime rates, and are generally attractive and friendly places to live.



The design of our communities directly affects our ability to reach the daily levels of recommended physical activity—30 minutes for adults and 60 minutes for youth. According to the Centers for Disease Control and Prevention, "physical inactivity causes numerous physical and mental health problems, is responsible for an estimated 200,000 deaths per year, and contributes to the obesity epidemic."[1] The increased rate of disease associated with inactivity reduces quality of life for individuals and increases medical costs for families, companies, and local governments. Creating places that support active transportation, on the other hand, can result in a 25 percent increase in the number of people who exercise at least three times a week.

In recent years, public health professionals and urban planners have become increasingly aware that the impacts of vehicles on public health extend far beyond asthma and other respiratory conditions caused by air pollution. Dependency on vehicles has also decreased the amount of physical activity incorporated into everyday life.



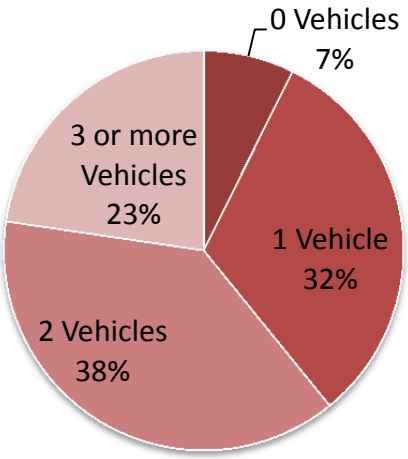
Walking and bicycling can improve the health of all those living and working in Turlock, not just those who walk or bike. People choosing to ride or walk may be replacing short automobile trips, which contribute disproportionately high amounts of pollution to the environment. Reducing these automobile emissions by shifting more trips to active modes of transportation may also save Turlock residents money in the form of lower health care costs.

Compared with driving, walking and bicycling are extremely affordable modes of transportation. According to the Pedestrian and Bicycle Information Center, the cost of operating a bicycle for a year is approximately $120. By comparison, AAA estimates the annual average cost to operate a car at $10,374.

[1] *U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. (1996) Physical activity and health: A report of the Surgeon General. Washington, DC: Government Printing Office.*

As Figure 1-1 shows, over 60% of households in Turlock have two or more vehicles—costing them just over $20,000 annually.

Figure 1-1: Household Vehicles Available in Turlock



Source: 2012 American Community Survey

In addition, bicycling and walking require less space and infrastructure compared with automobile facilities. Improvements made for bicyclists often result in better conditions for other transportation facility users as well. For instance, paved shoulders, wide curb lanes, and bicycle lanes not only provide improved conditions for bicyclists, but also create safe locations for disabled vehicles to pull over, can reduce traffic speeds, and provide additional turning room for large vehicles, among other benefits.

Walking and bicycling are also good choices for families. Bicycles enable young people to explore their neighborhoods and visit places without being driven by their parents, fostering a sense of independence and the freedom of personal decision-making. More children walking and bicycling can mean less traffic congestion around schools, and reduces the time parents must spend chauffeuring their children.

1.3 Active Transportation Program Compliance

To comply with California's Active Transportation Program, bicycle and pedestrian plans must contain a number of required items. These are listed in Appendix A, along with information on where in the plan each item is addressed.

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2 Existing Plans & Policies

Over the past decade, transportation policy in the Turlock region has become increasingly supportive of active transportation. Plans or policies that encourage walking and bicycling are present at every level from local government to the national scale.

This Active Transportation Plan is built on and consistent with local and regional plans and policies that affect walking and bicycling in Turlock. Those plans, policies, and practices that are most relevant to the Plan are depicted in Figure 2-1, with a focus on their impact on active transportation. A more in-depth review of relevant plans and policies is included in Appendix B.

Figure 2-1: Relationship of Active Transportation Plan to Existing Documents

3 Needs Analysis

3.1 Active Transportation Attractors and Generators

Throughout the Turlock community, there are a variety of destinations that may attract significant bicycle and pedestrian traffic. Improvements to the active transportation network near these destinations have great potential to increase walking and bicycling in Turlock, and these routes should be considered priorities for investments in sidewalks and bikeway facilities. A map of all activity generators can be seen in Figure 3-1.

3.1.1 Parks and Community Centers

Turlock has 25 park facilities including ball fields, BMX parks, playgrounds, and picnic areas that serve as recreational destinations for the community. In addition to the many neighborhood parks with playgrounds, picnic areas, and open space, the following parks may be destinations for cyclists and pedestrians in Turlock:

Bike Park: Located in the northwest corner of the Walnut/Christoffersen Storm Basin, the City of Turlock BMX Bike Park offers a variety of terrains and obstacles for riders. (0.5 acre)

Brandon Koch Memorial Skate Park: Located on Starr Avenue near N. Denair Avenue, the park offers 28 skating elements in addition to amenities such as shade trees and picnic areas. (1.25 acres)

Central Park: This park is also a layover site for the Stanislaus County Bus System, and is adjacent to the Chamber of Commerce Building on S. Golden State Boulevard. It offers shade trees, seating areas, and a water fountain. (0.5 acres)

Christoffersen Park/Basin: One of the largest parks in Turlock, it also serves as a storm basin. This park offers a large playground area, two large open space areas, picnic areas with barbeques, and shade trees. It is located at E. Christoffersen Parkway and Fosberg Road. (10 acres)

Columbia Park: Located at Columbia and Farr streets, Columbia Park includes a community building and swimming pool. The park also offers covered picnic areas with barbeques, a playground, horseshoe pits, basketball courts, and a field with soccer goals. (4 acres)

Crane Park: One of Turlock's oldest parks, it offers a large playground, tennis courts, horseshoe pits, public restrooms, basketball, picnic areas, and open spaces. It is located at Canal Drive and Berkeley Ave, and is one of the most popular parks in the city. (7.5 acres)

Donnelly Park: Opened in 1974, Donnelly Park is Turlock's premier community park. It covers one square mile, including a 10 acre storm basin, basketball courts, a playground, and covered picnic areas. It is located at Dels Lane and W Hawkeye Avenue. (40 acres)

Pedretti Park: At Tegner Road and Tuolumne Road, this sports complex offers a wide variety of recreational opportunities including softball fields, volleyball courts, a large covered picnic area, a tot playground, and a large open space with over 100 shade trees. (25 acres)

Summerfaire Park: At Soderquist Road and Fulkerth Road, this park offers a large expanse of open space in addition to a playground, picnic areas, and a storm basin. (16 acres)

Turlock Regional Sports Complex: This large park offers tournament facilities for the region in addition to local recreation opportunities. It includes 14 soccer fields, a playground, and a baseball diamond. (30 acres)

3.1.2 Schools

Children below driving age represent a large population of existing and potential bicyclists or pedestrians. There are fifteen schools in the city of Turlock that present opportunities for Safe Routes to School or other programs encouraging students, faculty, and staff to use active modes of transportation for their commutes. These schools are listed in Table 3-1.

Table 3-1: Turlock K-12 Schools

Turlock K-12 Schools		
Elementary Schools		
Brown	Earl	Osborn
Crowell	Julien	Wakefield
Cunningham	Medeiros	Walnut
Junior High and Middle Schools		
Turlock Junior High	Dutcher Middle School	
High Schools		
Turlock	Pitman	

Nestled into residential neighborhoods, many of the elementary schools should be considered priorities for 'model' programs because many children at those schools likely have short commutes that could be converted to walking or biking trips.

In addition to elementary, middle, junior high, and high schools, Turlock is also home to California State University (CSU) Stanislaus. As of fall 2012, CSU Stanislaus enrolled a total of 8,882 undergraduate and graduate students.

3.1.3 Retail and Employment Centers

Located in the southern portion of the city, Downtown Turlock is comprised of several blocks and features restaurants, retail shops, entertainment uses, and professional services. City Hall is also located downtown.

Major commercial centers are located along Geer Road from North Avenue to Monte Vista Avenue, at Monte Vista Avenue and Countryside Drive, and at various locations along Golden State Boulevard. Additional smaller retail clusters are scattered throughout Turlock.

Large retail developments such as the Monte Vista Crossings present a challenge for walking and bicycling with minimal or no sidewalks, large parking lots, and large distances between stores.

Major Employers

Over 8,000 people are employed by Turlock's top ten employers. Making walking and bicycling to work convenient through increased access to employment centers and City or privately sponsored encouragement programs can target this large pool of potential cyclists and pedestrians. Table 3-2 lists the top ten employers in Turlock.

Table 3-2: Top Ten Employers

Employer	Address	Number Employed
Turlock Unified School District[2]	1574 E. Canal Drive	2,200
Emanuel Medical Center	825 Delbon Avenue	1,549
Foster Farms	500 F Street	1,512
CSU Stanislaus	1 University Circle	1,100
Turlock Irrigation District	333 E. Canal Drive	495
Wal-Mart	2111 Fulkerth Road, and 2480 Geer Road	415
City of Turlock	156 S. Broadway	373
Varco Pruden	530 S. Tegner Road	245
Mid-Valley Dairy	2600 Spengler Way	205
Sensient	151 S. Walnut Road	180

[2] The Turlock Unified School District office is not considered a major activity generator because its employees are dispersed at school sites throughout the community rather than concentrated in a central office. Schools are all considered activity generators.

3.1.4 Transit

Public transit riders often face the "first and last mile" dilemma: how to connect their home and final destination with the actual transit route. For instance, a transit bus may take a passenger to within a mile of their employment site, but that might be outside the range of their walking capability or tolerance.

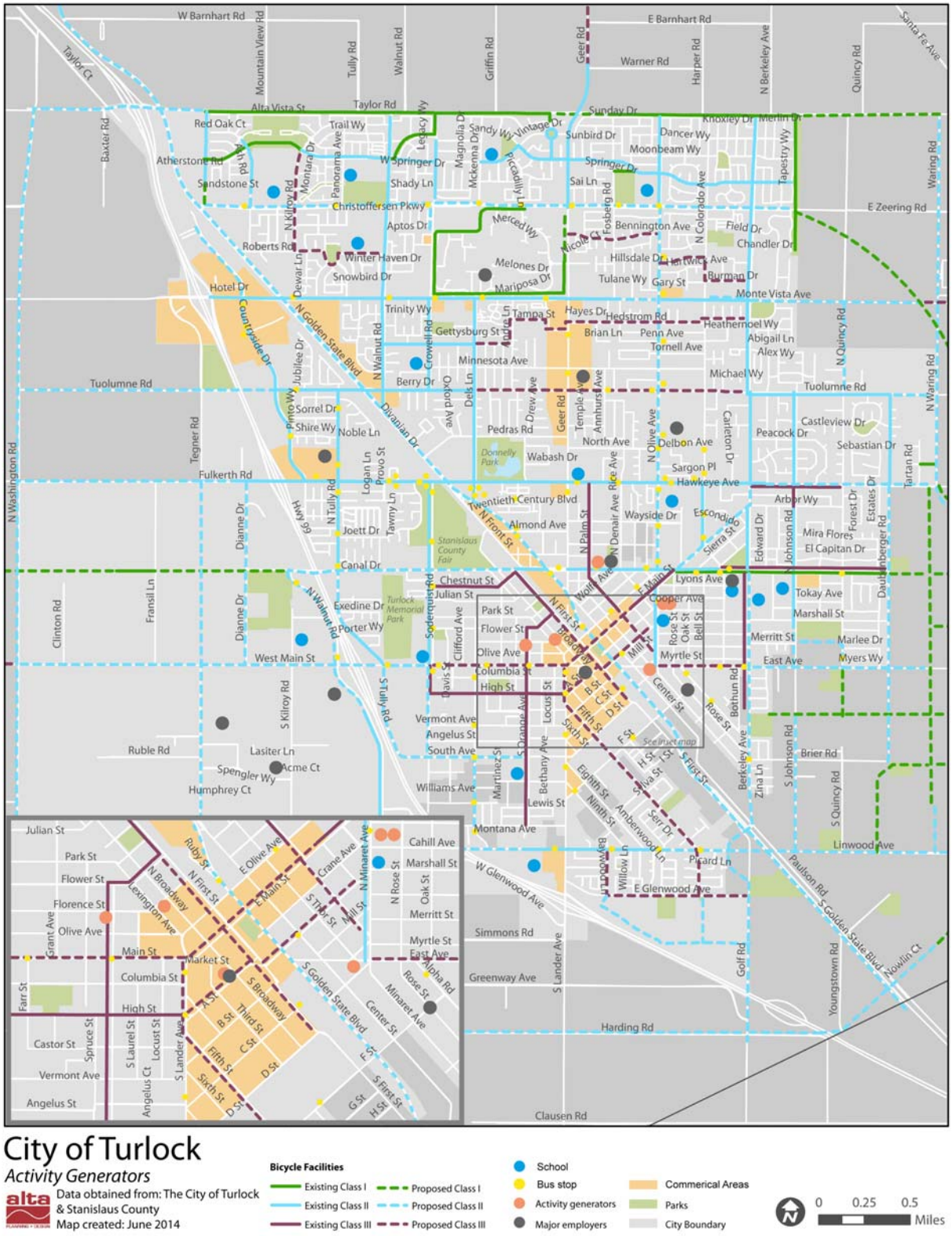
Bicycle racks on buses and bike parking at transit stops help ensure that bicycling is a complementary solution to the transit connectivity issue, and providing amenities like benches and shade structures can make walking to transit more comfortable. Most bus stops in Turlock provide shelters with seating and accessible sidewalks.

The Bus Line Service of Turlock (BLaST) offers local service on weekdays and Saturdays throughout Turlock. Four fixed-routes provide residents with service to destinations including CSU Stanislaus, Emanuel Medical Center, downtown Turlock, and the Stanislaus County Fairgrounds. BLaST buses are equipped with racks to accommodate bicycles.

Stanislaus Regional Transit (StaRT) also provides connections to Modesto, Ceres, Patterson, Merced, and other destinations in the region.

According to the 2012 American Community Survey, only 0.32 percent of Turlock workers currently commute on public transit, but many more residents may use the local bus services to run errands, visit friends or family, or for other trips.

Figure 3-1: Active Transportation Activity Generators



3.2 Existing Bicycle and Pedestrian Facilities

The following sections offer a brief overview of the bicycle and pedestrian facilities in Turlock today. The City has a number of roadway projects moving forward in 2014, listed in Appendix C.

3.2.1 Pedestrian Facilities

In the City of Turlock, construction and maintenance of sidewalks and other frontage improvements are the responsibility of individual property owners. As a result, the connectedness of the pedestrian network varies widely throughout the community. Some blocks are mostly complete but missing one or two sidewalk segments, and other blocks have sidewalks only along one or two properties. The maintenance and repair status varies similarly. The City does not maintain an inventory of pedestrian facilities, though they do include them in designs for all new development projects.

Newer neighborhoods in northern Turlock tend to have more complete sidewalk networks than older developments southeast of Golden State Boulevard. Because sidewalks are provided by each property owner, the widths and amenities vary from 4' wide sidewalks adjacent to on-street parking, to broad 8' paths separated from the curb by a parkway strip.

Intersection treatments for pedestrians include marked crosswalks and pedestrian-activated signals. Curb extensions are present throughout the downtown area, reducing the crossing distance for pedestrians. There is often a long distance between marked crossings, however, which may contribute to some pedestrians choosing to cross midblock at unprotected and unmarked locations.

The Union Pacific railroad tracks present a major barrier to pedestrian travel in Turlock. Where sidewalks are present approaching the railroad, they often end short of the tracks, forcing pedestrians to walk in the gravel or the roadway. This presents a particular challenge for pedestrians in wheelchairs, using mobility devices, or for parents pushing strollers.

3.2.2 Bicycle Facilities

Turlock has a growing but discontinuous network of bikeways including Class I shared-use paths, Class II bike lanes, and Class III bike routes, shown in Figure 3-2. While this network spans much of the city, it lacks continuous bikeways through challenging arterial intersections and at places where the available right-of-way is entirely allocated to vehicle lanes or parking. Figure 3-3 shows the existing and proposed bikeway network in Turlock as adopted in the 2013 General Plan (see also Figure B-4 in Appendix B).

Class I bikeways, or shared-use paths, provide for bicycle and pedestrian travel on a paved right-of-way completely separated from any street or highway. These paths are commonly used by bicyclists, pedestrians, joggers, in-line skaters, and others. Shared-use paths are separated from roadways, paved, and preferably ten feet wide with two foot wide shoulders. The paths along the canals on Canal Drive and Taylor Road are popular among pedestrians and cyclists alike in Turlock, along with the path that partially encircles the CSU Stanislaus campus.

Class II bike lanes are striped lanes on roadways for one-way bicycle travel. Bike lanes are at least five feet wide, and include bike signage. There are bike lanes along many arterial roads in Turlock. Because they are adjacent to higher speed traffic, some cyclists may perceive these facilities to be uncomfortable or stressful to ride in. Pavement quality is poor in many locations, and debris and glass was observed—indicating a need for more regular sweeping. Bike lanes also frequently 'drop' to accommodate vehicle right-turn lanes at intersections, creating potential conflict points between bicyclists and cars.

Class III bike routes are roadways where bicyclists and motorists share a travel lane, and are designated by bike route signs or shared lane markings. Turlock's bike routes are primarily in the downtown area, where slower speeds make sharing the road more appropriate and comfortable. In the Circulation Element of the Turlock General Plan, additional bike routes are proposed on residential streets to connect other bike facilities in the community.

Bicycle parking is provided at some destinations in Turlock, though there is considerable community demand for additional bike parking in the downtown area, at parks, and other locations.

Figure 3-2: Bikeway Classifications

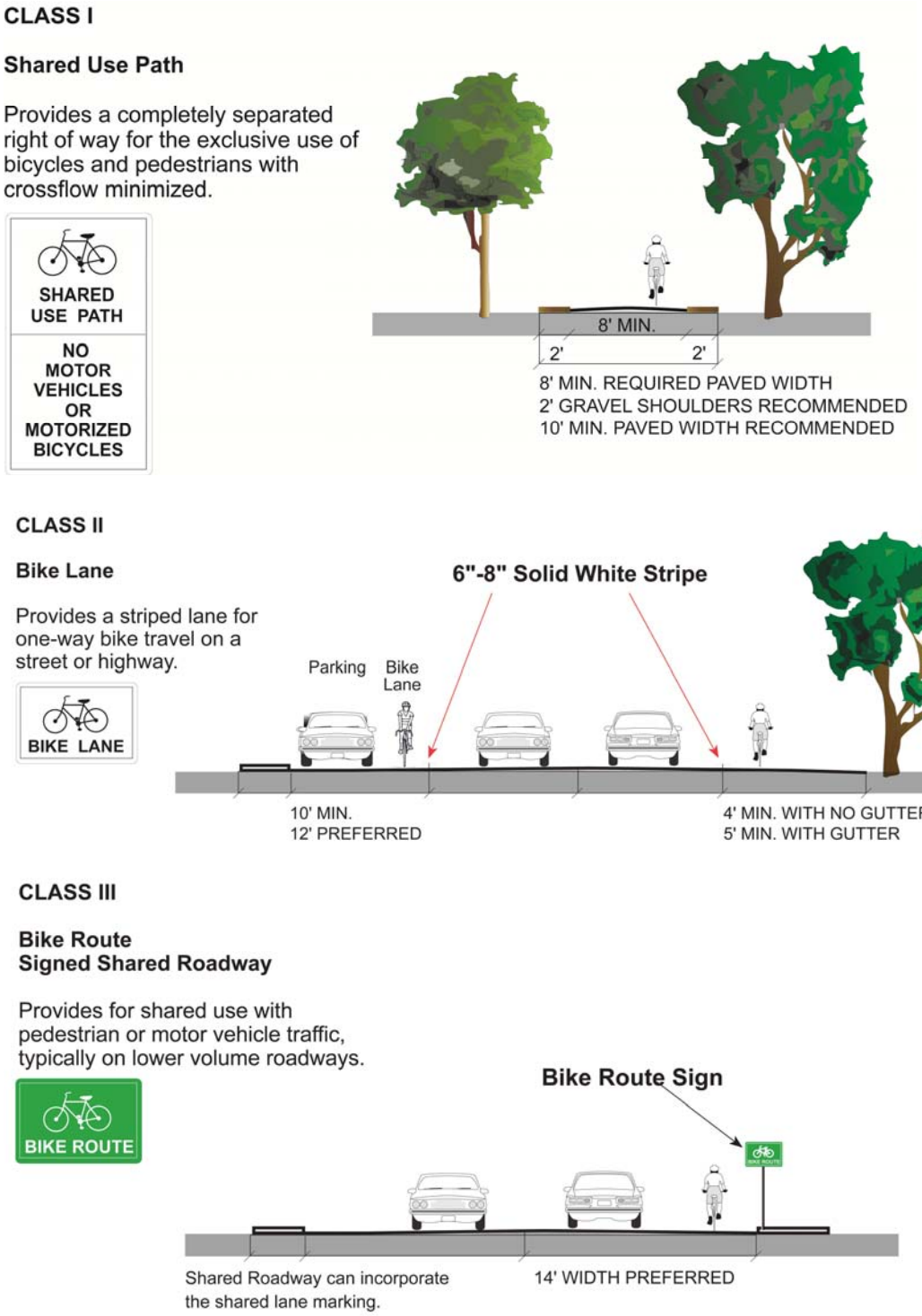
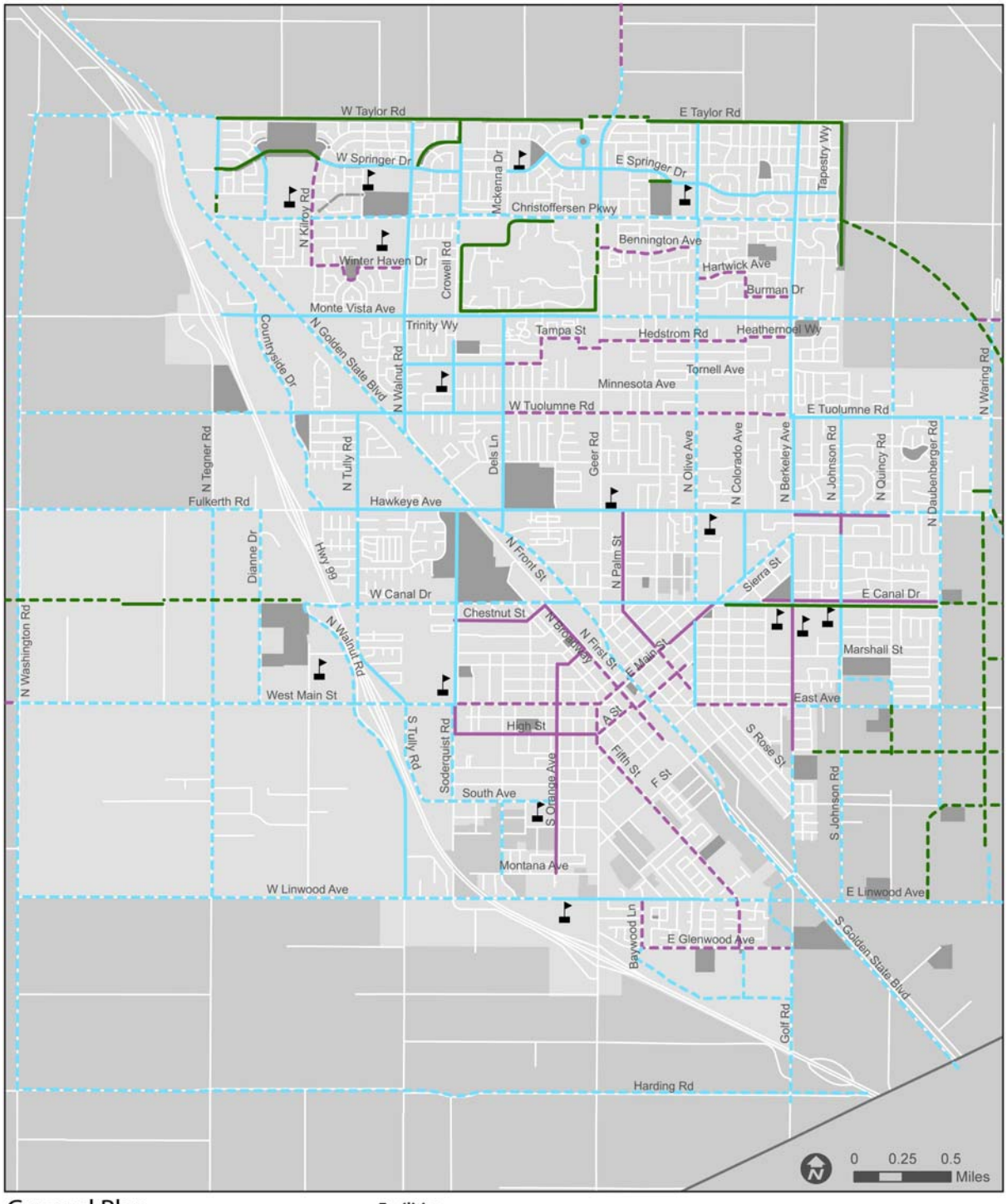


Figure 3-3: General Plan Existing and Proposed Bikeways



3.3 Existing Bicycle and Pedestrian Programs

3.3.1 Education

Bicycle Rodeos

As part of this planning process, bicycle skills rodeos were offered at four elementary schools in May 2014. The rodeos were open to all members of the community, and taught basic bicycle handling and safety skills including starting and stopping, signaling and turning, and yielding to other bicyclists.

3.3.2 Encouragement

No encouragement programs were documented.

3.3.3 Enforcement

Targeted Enforcement

Multiple schools in Turlock coordinate with local law enforcement, to include the motorcycle police officers of Turlock Police Traffic Safety Unit, on targeted enforcement efforts. These efforts, which occur periodically throughout the year, focus on encouraging safe driver, pedestrian, and bicyclist behavior in school areas.

Crossing Guard Program

Crossing guards monitor crosswalks at major intersections near all primary and secondary school campuses in Turlock, encouraging motorists to yield to pedestrians and bicyclists in the crosswalk and managing the large volumes of pedestrians near schools during arrival and dismissal times. Crossing guards are on duty during morning arrival and afternoon dismissal every school day, and are often parents or faculty.

3.3.4 Evaluation

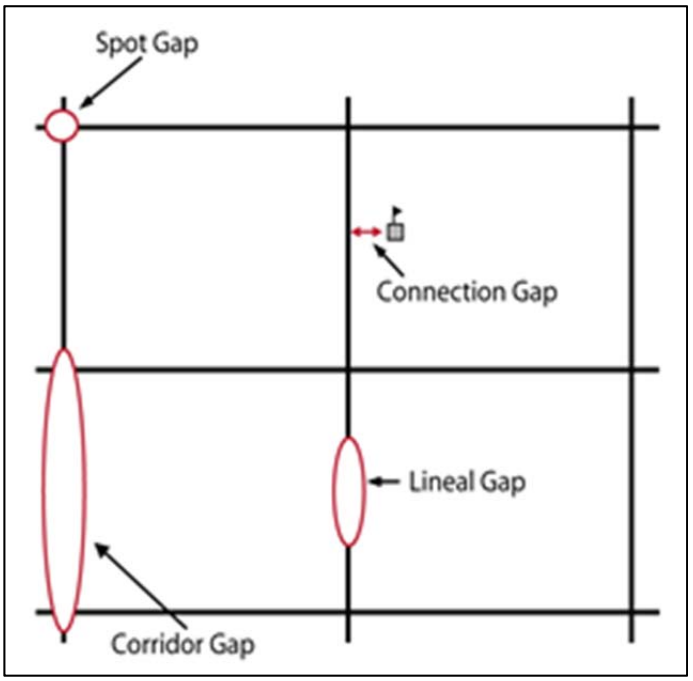
No evaluation programs were documented.

3.4 Gap Analysis

This section describes the five types of gaps that can occur in a bicycle and pedestrian network, and organizes gaps in Turlock into these categories. Identifying gaps will help prioritize which improvements should be prioritized to have the greatest impact on connectivity through the community. Figure 3-4 illustrates the various types of gaps we will discuss.

3.4.1 Types of Gaps

Figure 3-4: Types of Gaps



Spot Gaps

Spot gaps refer to point-specific locations lacking dedicated bicycle facilities, sidewalks, or other treatments to accommodate safe and comfortable travel. Spot gaps primarily include intersections and other conflict areas that pose challenges for bicyclists and pedestrians. Examples include bike lanes on a major street "dropping" to make way for right turn lanes at an intersection, or a lack of crossing safety measures as pedestrians cross a major intersection.

Connection Gaps

Connection gaps are missing segments (1/4 mile long or less) on a clearly-defined and otherwise well-connected bikeway or sidewalk. Major barriers standing between bicycle destinations and clearly defined routes also represent connection gaps. Examples include bike lanes on a major street "dropping" for a block to make way for on-street parking; a discontinuous sidewalk or shared-use path; or a freeway interchange along a bikeway route between homes and a school.

Lineal Gaps

Similar to connection gaps, lineal gaps are 1/4 mile to one-mile long missing links on clearly defined and otherwise well-connected bicycle or pedestrian facilities.

Corridor Gaps

Corridor gaps are missing links longer than one mile. These gaps will sometimes encompass an entire street corridor where bicycle or pedestrian facilities are desired but do not currently exist.

System Gaps

Larger geographic areas (e.g., a neighborhood or business district) where few or no bikeways or sidewalks exist are identified as system gaps. System gaps exist in areas where a minimum of two intersecting bikeways or sidewalks would be required to achieve the target network density. Gaps typically exist where physical or other constraints impede network development.

Neighborhood streets where traffic volumes and speeds are relatively low are not considered to be system gaps even if dedicated bikeways are not present. The roadway conditions make it safe and comfortable for bicyclists to share space with cars.

3.4.2 Analysis of Existing Network Gaps

Gaps in the pedestrian and bicycle network were identified based on input from Turlock residents at public workshops, through an online survey, and from observations and analysis by the consultant team. Mapped in Figure 3-5 and Figure 3-6, these gaps represent locations in Turlock where bicycle or pedestrian facilities are missing entirely from one or both sides of the roadway. These gaps will guide the development of recommended improvements to help target investments where they will have the greatest connectivity benefits.

Figure 3-5: Pedestrian Network Gaps

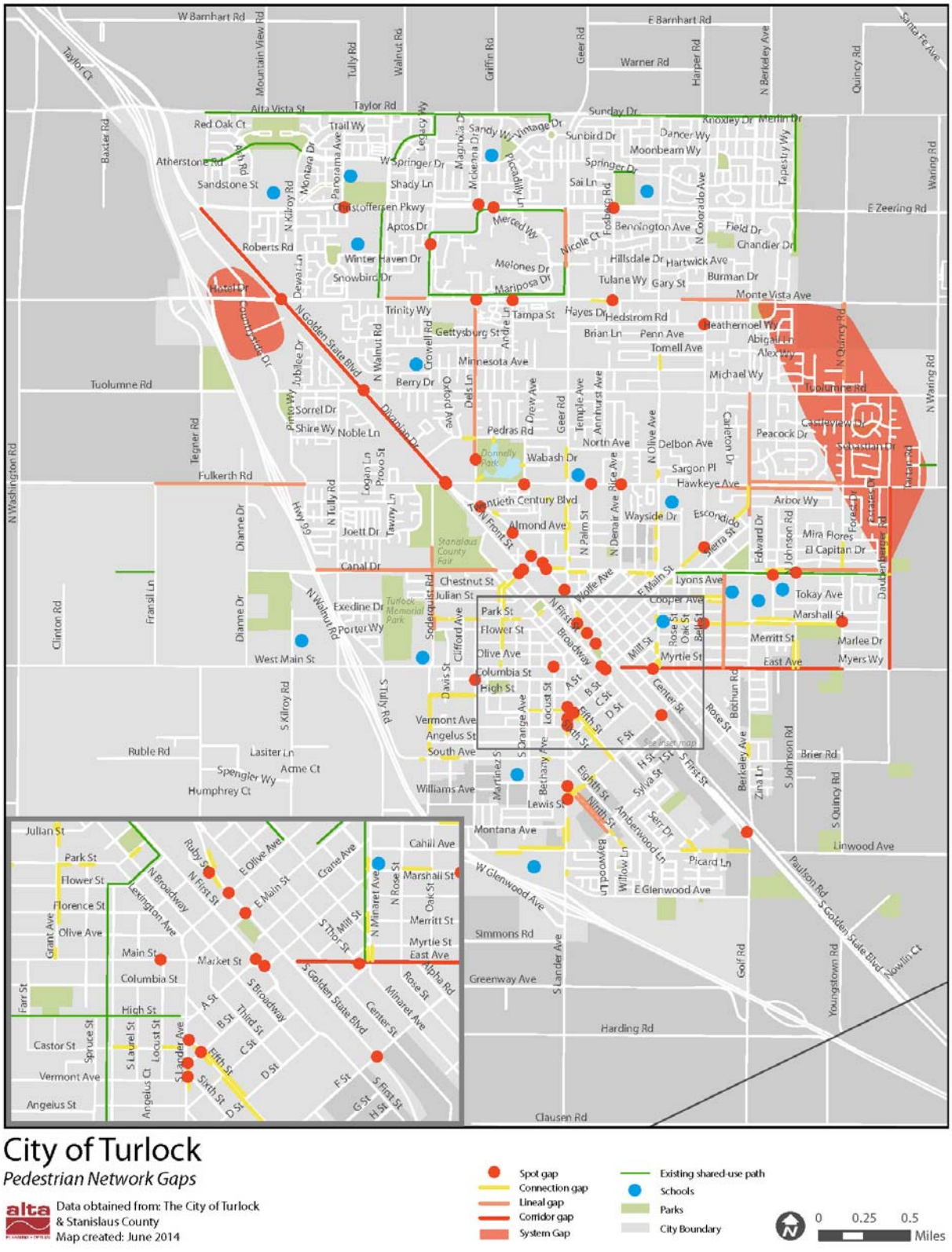
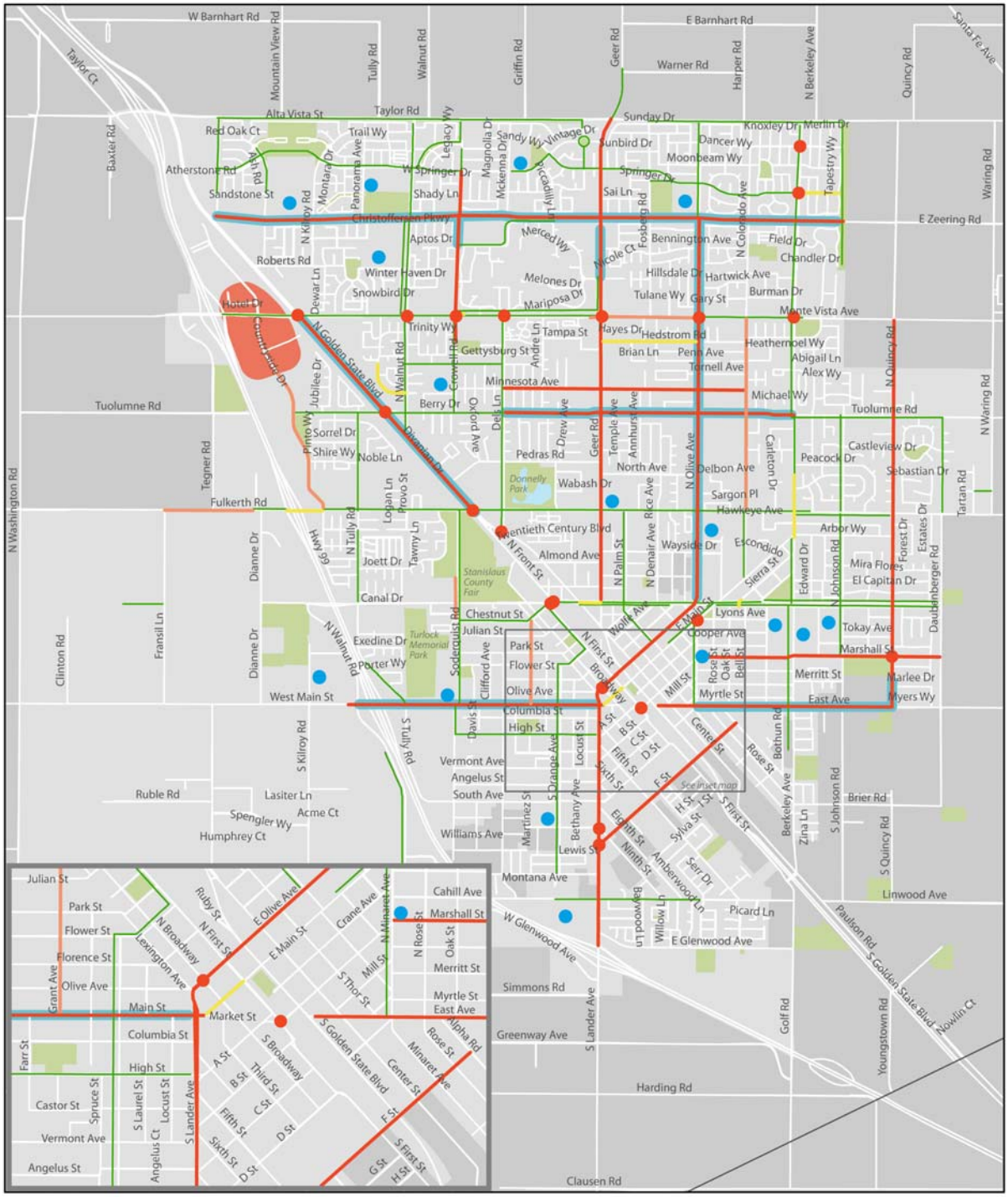


Figure 3-6: Bicycle Network Gaps



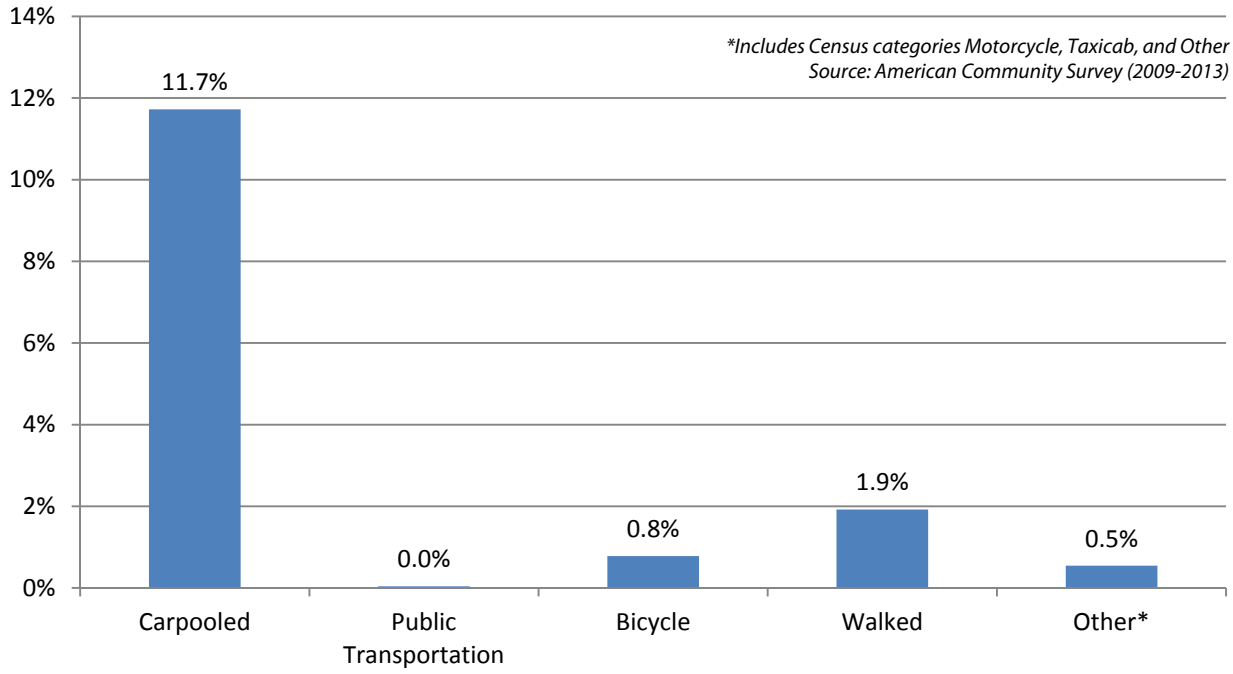
3.5 Current Commute Patterns

The United States Census collects information about the primary mode of transportation that residents use when commuting to work. While this provides important data about commute trips, these data only tell us about employed residents over 16 years of age, and how they typically travel to work. The data do not capture the many other walking trips Turlock residents take, including those to school, to shops, or for recreational purposes. Additionally, the Census does not capture walking or biking trips made after parking a car or in conjunction with public transit, nor does it capture visitors to Turlock.

Data tables are included in Appendix D.

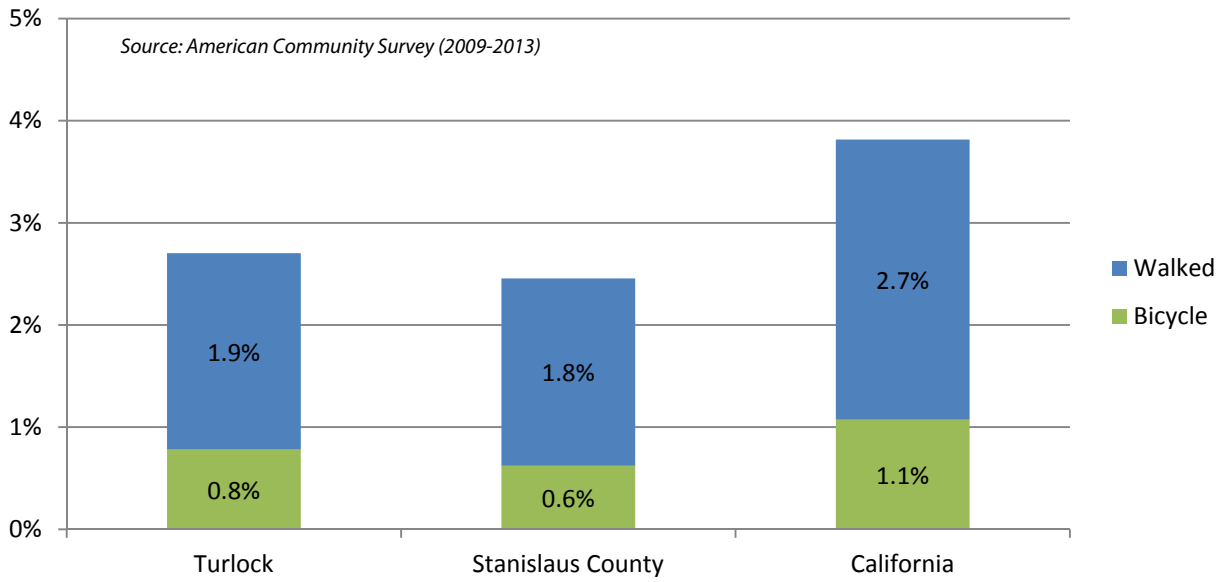
According to the American Community Survey (ACS) 2009-2013 estimates, an overwhelming majority of Turlock's workers commute by driving alone—among all workers 16 and over who did not work from home, 84.6 percent reported this as their primary mode of transportation to work. Carpooling is the second most-used mode of transportation, at 11.7 percent. All remaining modes— including walking, bicycling, riding public transportation, and others—together amount to fewer than 4 percent of commute trips. Of these "active transportation" modes, walking was the most frequent choice for Turlock workers at 1.9 percent. Figure 3-7 shows the percentages of Turlock workers who used modes other than driving alone as their primary commute method.

Figure 3-7: Mode of Transportation to Work Other than Driving Alone



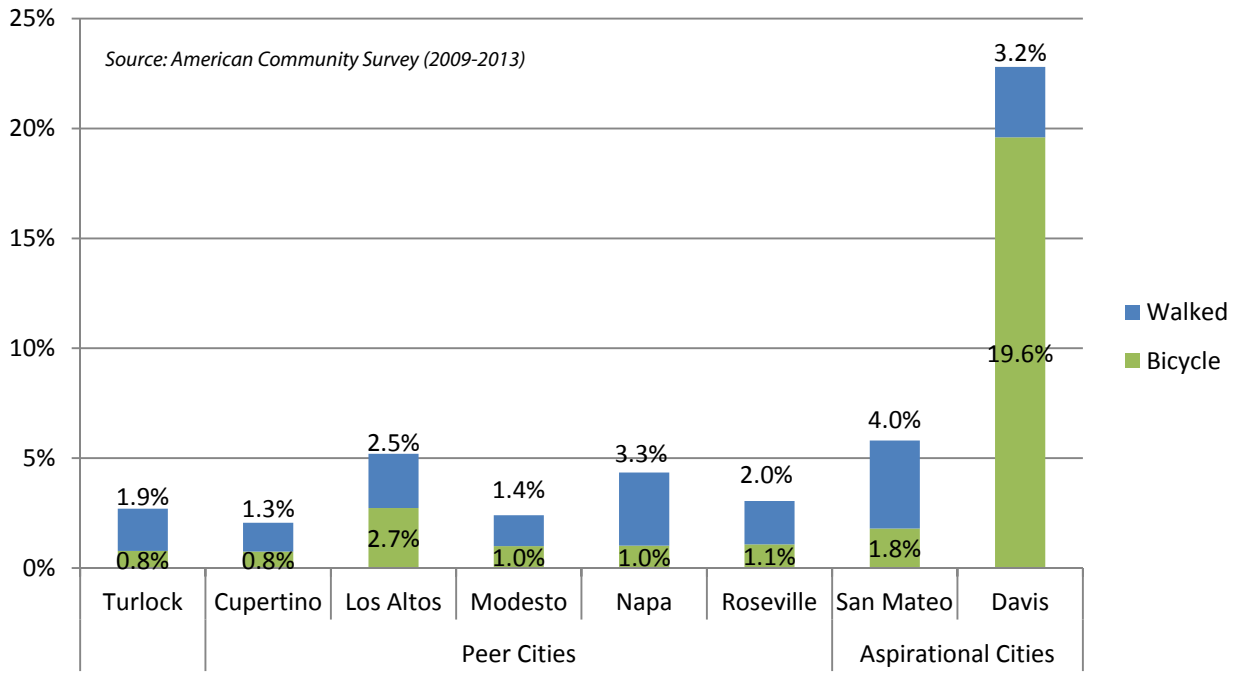
When compared to Stanislaus County and the state of California in Figure 3-8, a slightly higher percentage of commuters walk or bike to work in Turlock than in Stanislaus County, while fewer commuters in Turlock use active transportation compared to the state as a whole.

Figure 3-8: Walking and Bicycling Commute Trips in the County and State



Other communities in the Central Valley and East Bay have varying percentages of active transportation commuters, as shown in Figure 3-9. Cities like Cupertino, Los Altos, Modesto, Napa, and Roseville have similar commute patterns to Turlock, while San Mateo and Davis show that significantly higher levels of active transportation are achievable. Turlock and Davis share many similarities that bode well for high levels of walking and bicycling: they are both relatively compact communities with temperate climates, flat topography, and college campuses.

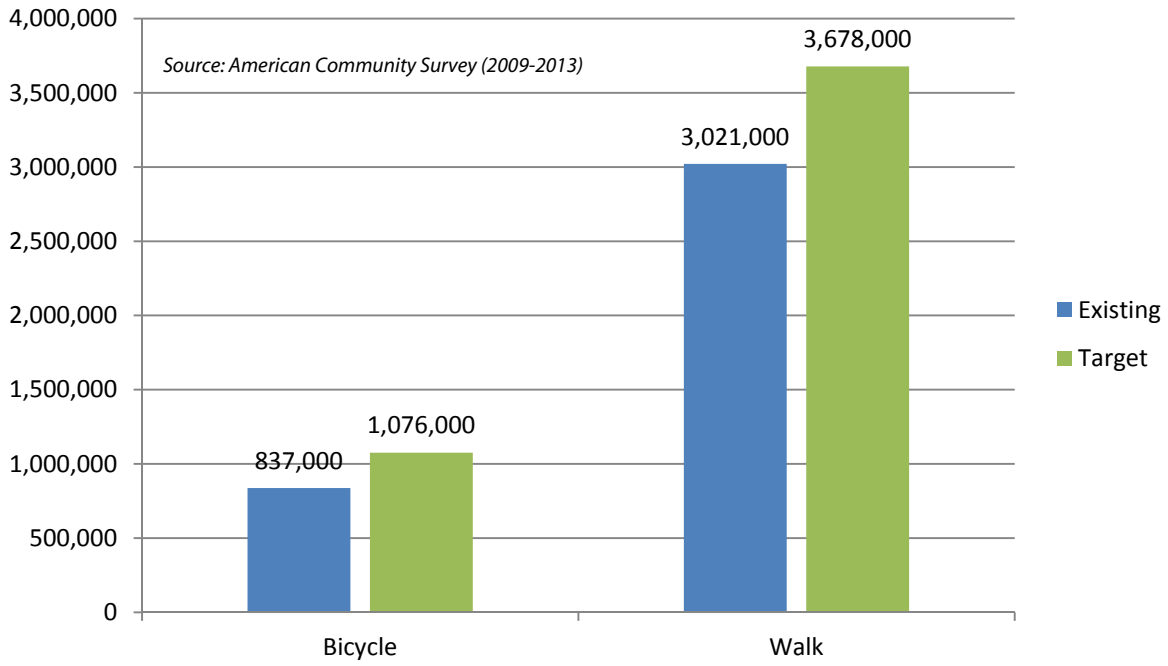
Figure 3-9: Walking and Bicycling Commute Trips in Peer and Aspirational Cities



Based on the difference between commute bicycle and pedestrian mode splits in Turlock and its peer cities (Cupertino, Los Altos, Modesto, Napa, and Roseville), target mode split numbers can be calculated. The difference between Turlock's existing bicycle commute share and the 25th percentile bicycle mode share of peer cities would result in a 0.21% higher target commute bicycle mode split (0.75% to 0.96%). The difference between Turlock's existing walk commute share and the 75th percentile walk mode share of peer cities would result in a 0.40% higher target commute walk mode split (1.84% to 2.24%).

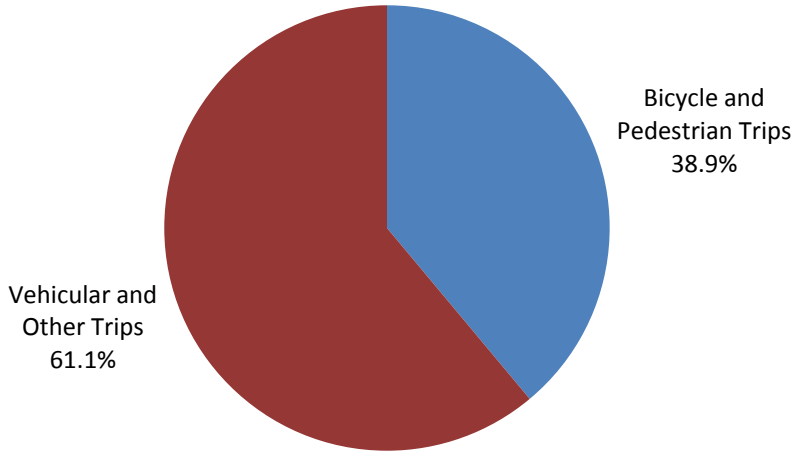
Using an impact model that calculates the benefits that could result from Turlock meeting these target bicycle and pedestrian mode shares, Turlock could experience 239,000 more bicycle trips and 657,000 more walk trips per year (See Figure 3-10). This is the equivalent of 310,000 more miles bicycled and 169,000 more miles walked each year, or 435,000 fewer vehicle-miles travelled.

Figure 3-10: Existing and Projected Annual Walk and Bicycle Trips



Commute trips only make up a portion of overall trips in Turlock. Not reflected in the ACS data are school, utilitarian, and social and recreational trips, among others. The 2009 National Household Travel Survey (NHTS) provides national-level estimates of non-commute trips from which trip ratios can be calculated. Using these ratios, for every commute trip that takes place in Turlock, approximately 1.6 bicycle and 4.3 pedestrian utilitarian trips are generated. Extrapolating from ACS commute data and NHTS non-commute trip ratios, the number of bicycle and pedestrian trips as a percent of all trips can be calculated. Figure 3-11 shows that approximately 38.9 percent of all trips in Turlock are by walking or bicycling.

Figure 3-11: Walking and Bicycling as a Percentage of All Trips

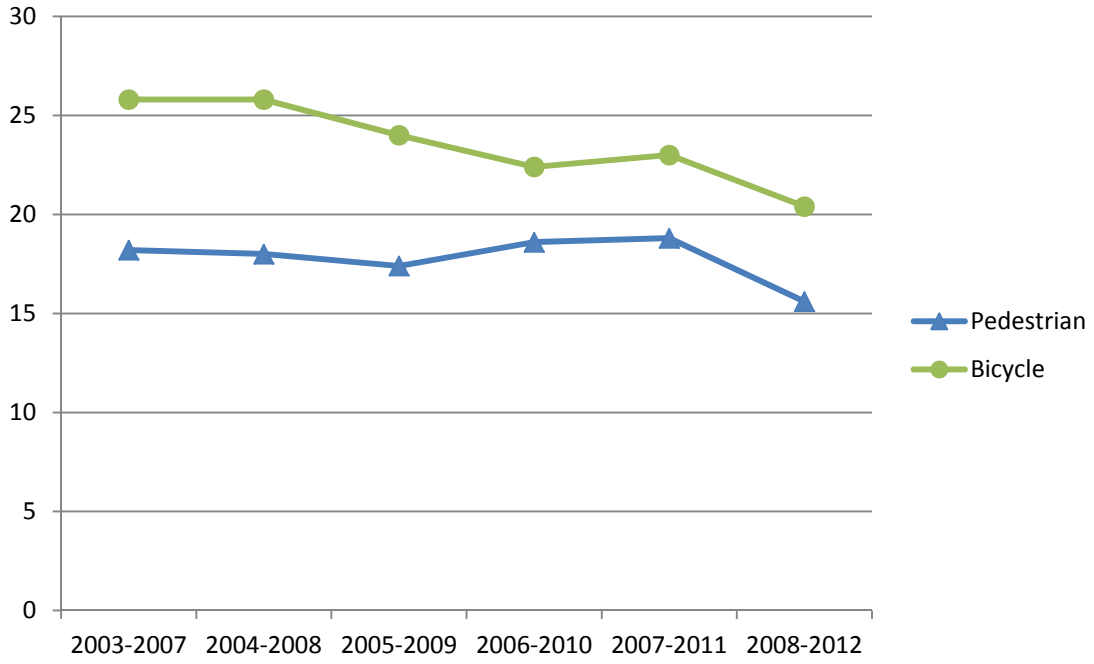


3.6 Bicycle- and Pedestrian-Involved Collisions

Analysis of bicycle and pedestrian related collision data provides the City of Turlock with a basis for infrastructure and program recommendations that can improve safety. Collision data comes from the Statewide Integrated Traffic Report System (SWITRS). Because this is a statewide repository for all police departments to submit records, data is sometimes incomplete due to varying reporting methods. While collision data is sometimes incomplete and does not capture the "near misses," it does provide a general sense of the safety issues facing bicyclists and pedestrians in Turlock.

Figure 3-12 shows the number of bicycle and pedestrian collisions in Turlock from 2003 to 2012, represented in five-year rolling averages. This allows us to better evaluate trends over time, rather than using annual totals that can vary considerably from year to year. Between 2003 and 2012, there were 169 total reported pedestrian collisions and 231 reported bicycle collisions.

Figure 3-12: Five-Year Rolling Averages of Bicycle- and Pedestrian-Involved Collisions

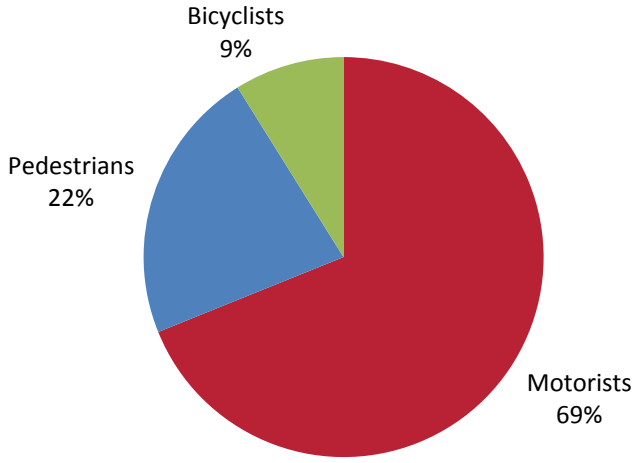


Source: SWITRS 2003-2012

Without additional data, such as trends in bicycle or pedestrian volumes over the same period, the downward trends in Figure 3-12 may not provide a complete picture of the bicycling and walking experience in Turlock—it may be the case that fewer people are walking for all trips.

While bicycling and walking together make up fewer than three percent of commute trips in Turlock, Figure 3-13 indicates they are grossly overrepresented in traffic fatalities. Between 2003 and 2012 in Turlock, over 30 percent of people killed in collisions were bicyclists or pedestrians.

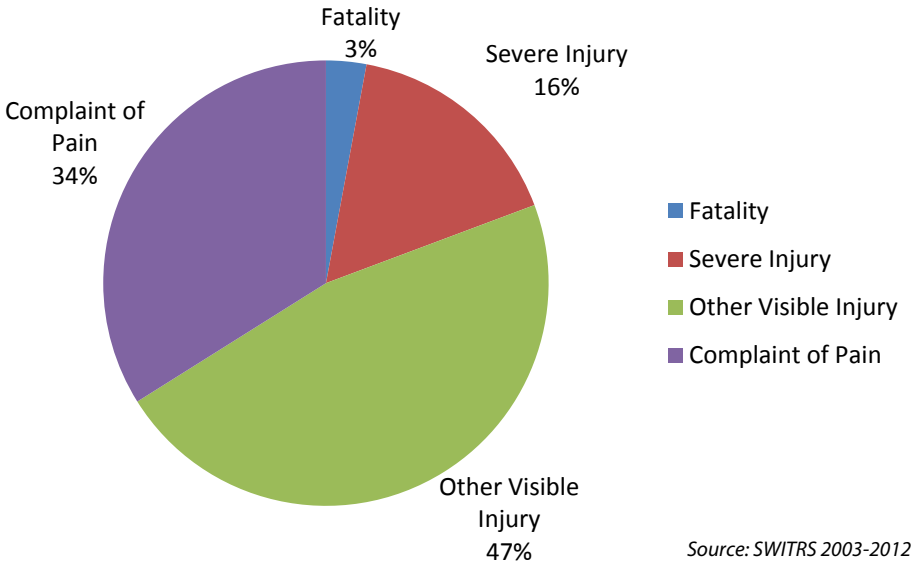
Figure 3-13: Traffic Fatalities by Victim Mode from 2003-2012



Source: SWITRS 2003-2012

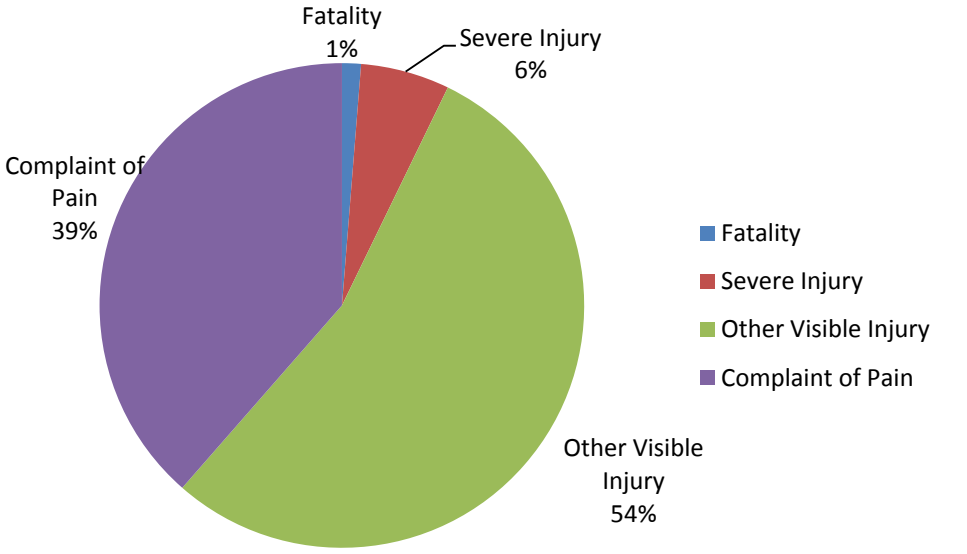
Pedestrians are more likely than bicyclists to sustain severe or fatal injuries in collisions, as illustrated in Figure 3-14 and Figure 3-15. Nineteen percent of pedestrian-involved collisions resulted in fatal or severe injuries in Turlock between 2003 and 2012, compared to seven percent of bicycle-involved collisions.

Figure 3-14: Pedestrian Injury Severity



Source: SWITRS 2003-2012

Figure 3-15: Bicyclist Injury Severity



Source: SWITRS 2003-2012

By taking a closer look at the locations in Turlock where high numbers of bicycle and pedestrian collisions have occurred over the last ten years, priority intersections and corridors emerge that should be studied for safety improvements. The red areas on the two maps—indicating the highest frequency of collisions—have significant overlap, indicating that both bicyclists and pedestrians face similar safety challenges in these areas. Table 3-3 shows the ten corridors with the highest number of bicycle and pedestrian crashes between 2003 and 2012. Many of the corridors have speed limits and widths that may create stressful environments for walking and bicycling, potentially leading to cyclists riding on sidewalks or against the flow of traffic. Both of these behaviors can increase the risk for collisions. As shown in Figure 3-16 and Figure 3-17, these collisions tend to be clustered in the central and southern parts of Turlock along Geer Road/Lander Avenue, Fulkerth Road, Main Street, and Canal Drive.

Table 3-3: Top Ten Collision Corridors

Street Name	Collisions			Speed Limit (mph)	Lanes
	Ped	Bike	Total		
Geer Rd	10	24	34	35-45	4
Main St	17	13	30	25-35	3
Golden State Blvd	10	19	29	30-50	6
Lander Ave	10	16	26	35-40	5
Olive Ave	9	12	21	30-35	5
Canal Dr	11	8	19	30-40	6
Hawkeye Ave	6	12	18	35-40	5
Monte Vista Ave	4	14	18	45	6
Walnut Rd	6	6	12	30-40	5
Fulkerth Rd	5	4	9	40	5

Figure 3-16: Heat Map of Bicycle-Involved Collisions from 2003-2012

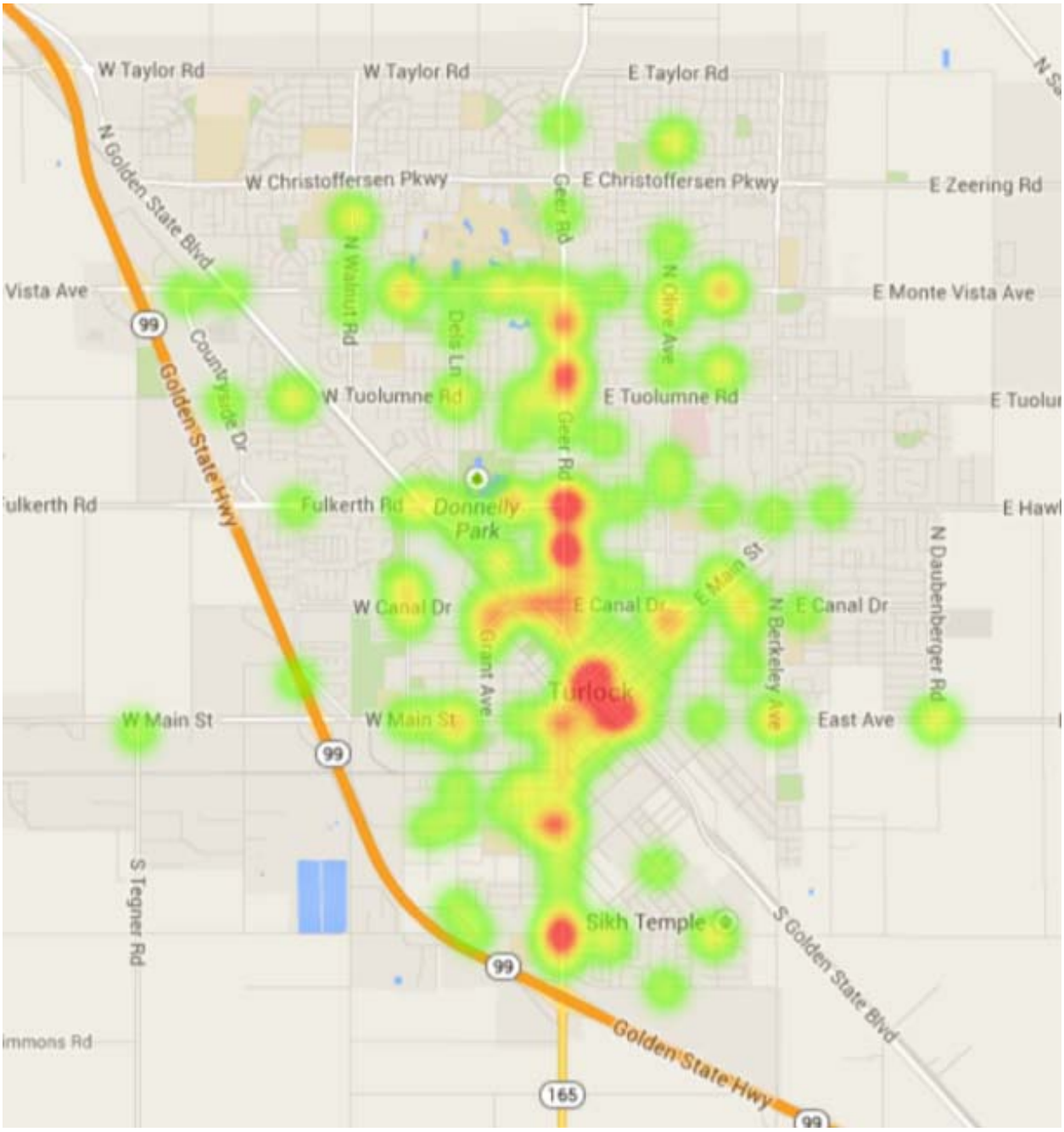
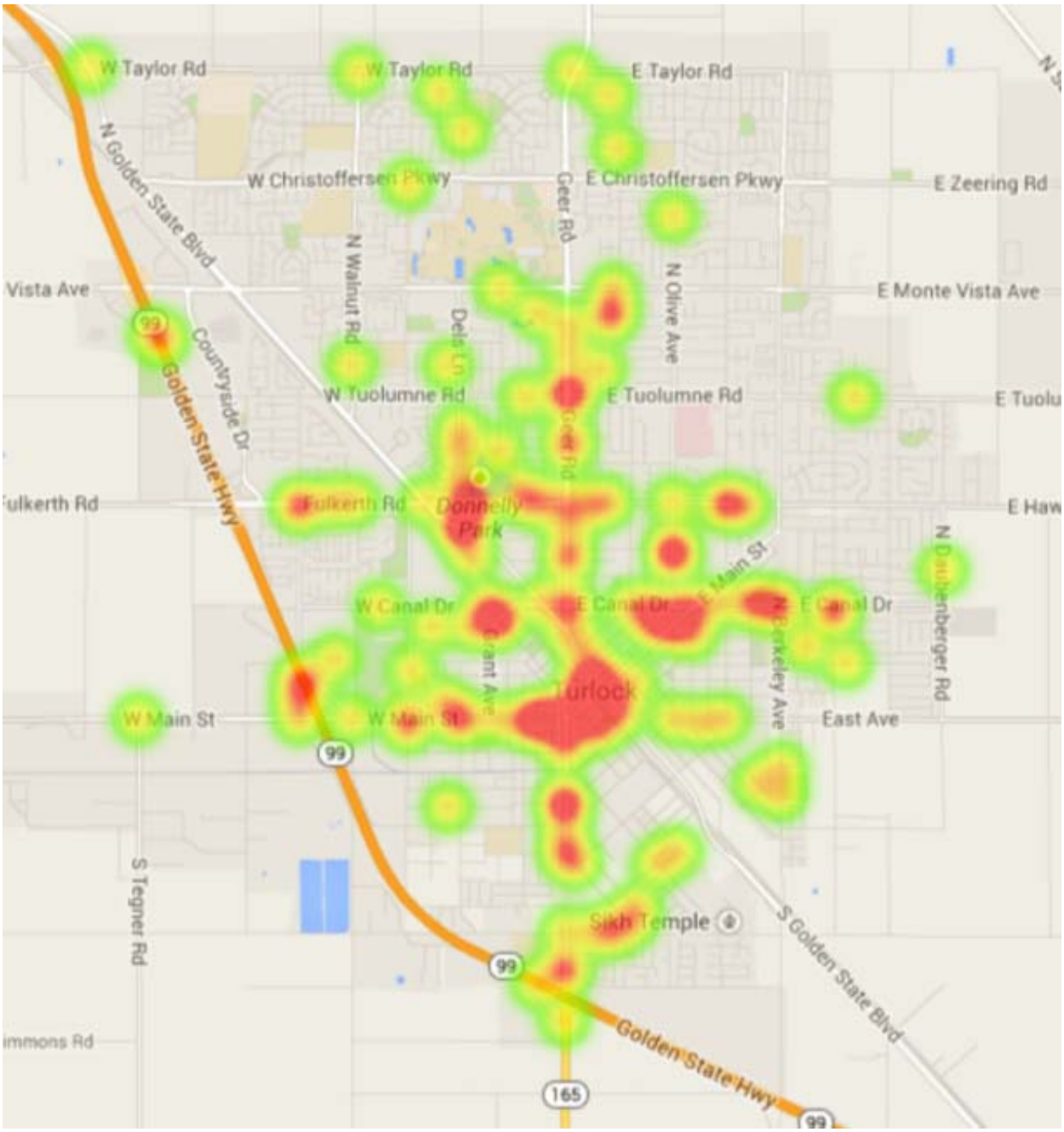


Figure 3-17: Heat Map of Pedestrian-Involved Collisions from 2003-2012



3.7 Bicycle and Pedestrian Counts

Between May 13 and May 28, 2014, a group of volunteers conducted bicycle and pedestrian counts at 15 intersections in Turlock. The counts were conducted at various times of day and days of the week, but all counts lasted at least two hours and were recorded in 15-minute intervals. From these intervals, the peak hour was selected with the highest total number of active transportation users counted. Bicyclists and pedestrians were recorded separately; additional information about bicyclists was collected at 14 of the count sites. This included gender and age, based on volunteer observations, as well as cyclists observed riding the wrong way. The weather was fair during all count sessions, ranging in temperature from cool mornings to hot and sunny afternoons. At all 15 intersections, peak hour counts totaled 762 pedestrians and 217 bicyclists. Counts for each intersection are listed in Table 3-4 and mapped in Figure 3-18 and Figure 3-19.

Table 3-4: Bicycle and Pedestrian Peak Hour Count Totals

Count Location	Pedestrians	Bicyclists
Canal Drive and First Street/Front Street/Chestnut Street	14	10
Christoffersen Parkway and Crowell Road	38	11
Christoffersen Parkway and Walnut Road	81	41
East Avenue and Minaret Avenue/Minerva Street	24	13
Main Street and Bonita Avenue/Lyons Avenue/Minaret Avenue	33	28
Main Street and Broadway	54	12
Main Street and Soderquist Road	161	7
Minnesota Avenue and Dels Lane	22	3
Monte Vista Avenue and Crowell Road	69	8
Monte Vista Avenue and Geer Road	46	11
Park Street and Grant Avenue	21	21
South Avenue and Lander Avenue	17	21
Tuolumne Road and Geer Road	34	12
Tuolumne Road and Golden State Boulevard	3	4
Wayside Drive and Olive Avenue	145	15
Total	762	217

The two locations with significantly larger pedestrian volumes—Wayside Drive and Olive Avenue, and Main Street and Soderquist Road—were counts that coincided with either morning arrival or afternoon dismissal at a nearby school. That the bicyclist counts are not also increased at these locations tells us that walking to school in Turlock is likely more common than biking.

The largest number of youth bicyclists was observed at Christoffersen Parkway and Walnut Drive, adjacent to Walnut Elementary School and Turlock Junior High. The same location also had the highest number of female bicyclists observed, shown in Table 3-5, which may suggest a large number of women collecting children from school by bicycle.

Table 3-5 : Bicyclist Demographics

Gender	**Male**	160	74.8%
	Female	54	25.2%
Age	**Adult**	170	79.4%
	Youth	44	20.6%
Wrong-Way Riding		50	23.4%

Gender of bicyclists can be a good indicator of the comfort level provided by a community's bicycle network. Experienced bicyclists will generally ride on almost any roadway, having the confidence to 'take the lane' when necessary to avoid hazards or make turning movements. Bikeways that offer greater separation from motorized traffic are generally more likely to attract a wider cross section of the public[3] and therefore generate a 'safety in numbers' effect.[4] Communities and countries with more protected bikeways have a more equal distribution of men and women riding bicycles.[5]

Of the cyclists counted, 74.8 percent were male, while only 25.2 percent were female. This indicates Turlock's current bicycle network may be appropriate for confident, fearless riders, but is not supportive of cyclists who prefer more comfortable bikeways with greater separation from vehicles.

Nearly one-quarter of the bicyclists observed were riding on the wrong side of the roadway, against the flow of traffic. This may lead to an increase in bicycle-involved collisions, since motorists are unlikely to anticipate bicyclists approaching from the wrong side.

[3] *Geller, R. (2009) Four Types of Cyclists. Portland: Office of Transportation.*

[4] *Jacobsen, P. L. (2003) Safety in numbers: More walkers and bicyclists, safer walking and bicycling. Injury Prevention, 9 (3), 205-209.*

[5] *Garrard, J., Rose, G., and Lo, S. K. (2008) Promoting transportation cycling for women: The role of bicycle infrastructure. Prev Med, 46 (1), 55-59; and Dill, J. and Gliebe, J. (2008) Understanding and Measuring Bicycling Behavior: A Focus on Travel Time and Route Choice. Portland: Center for Urban Studies.*

Figure 3-18: Pedestrian Counts

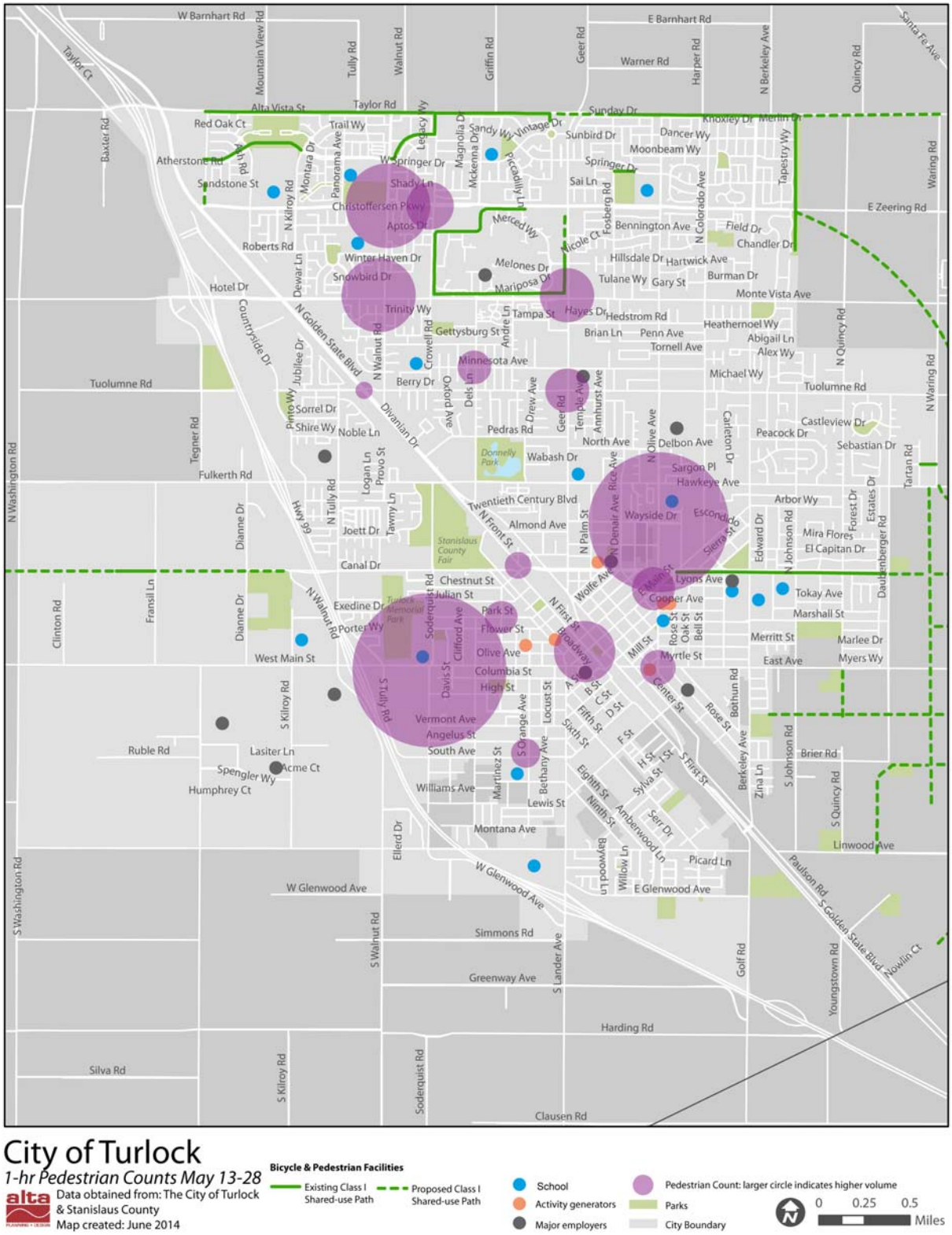
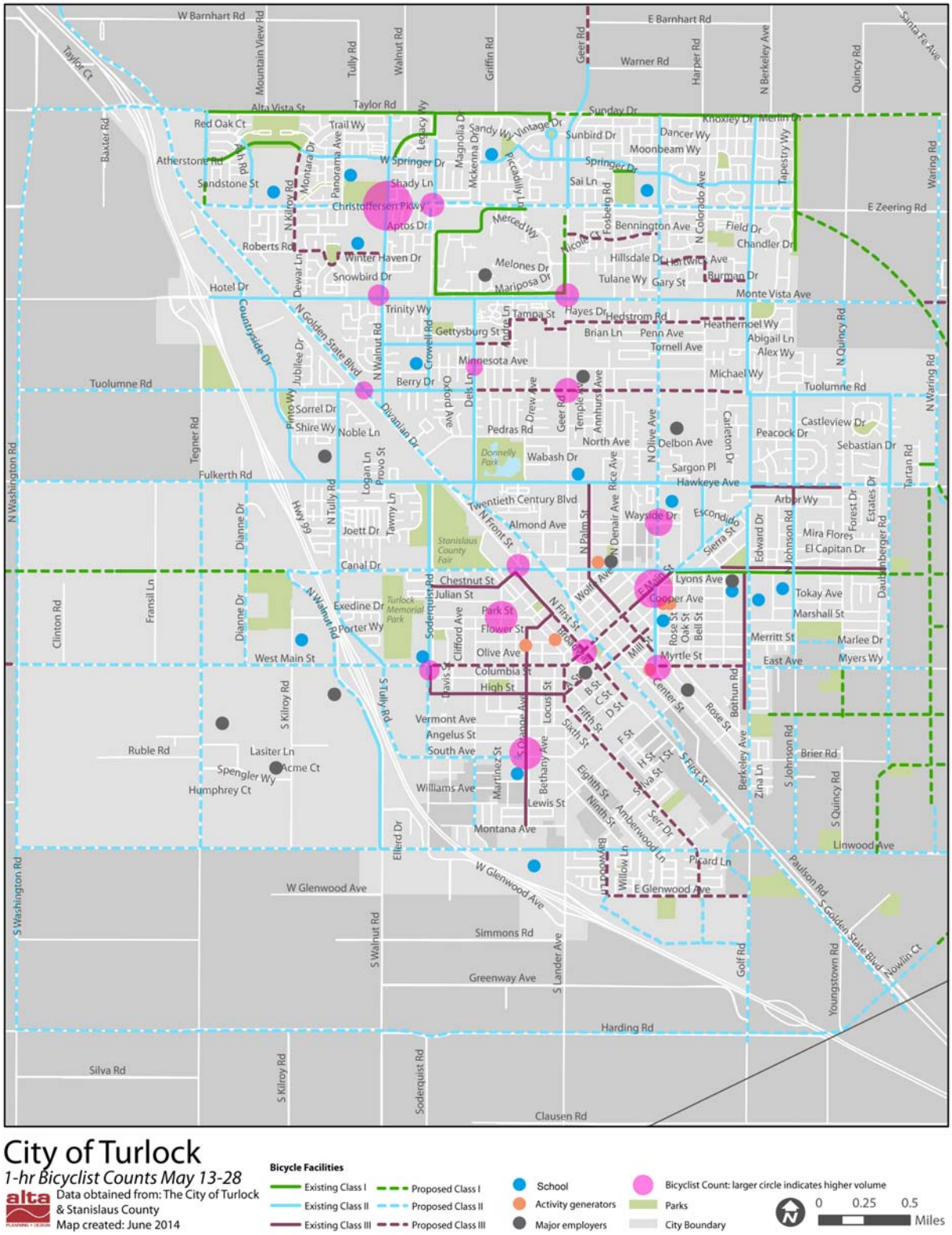


Figure 3-19: Bicyclist Counts

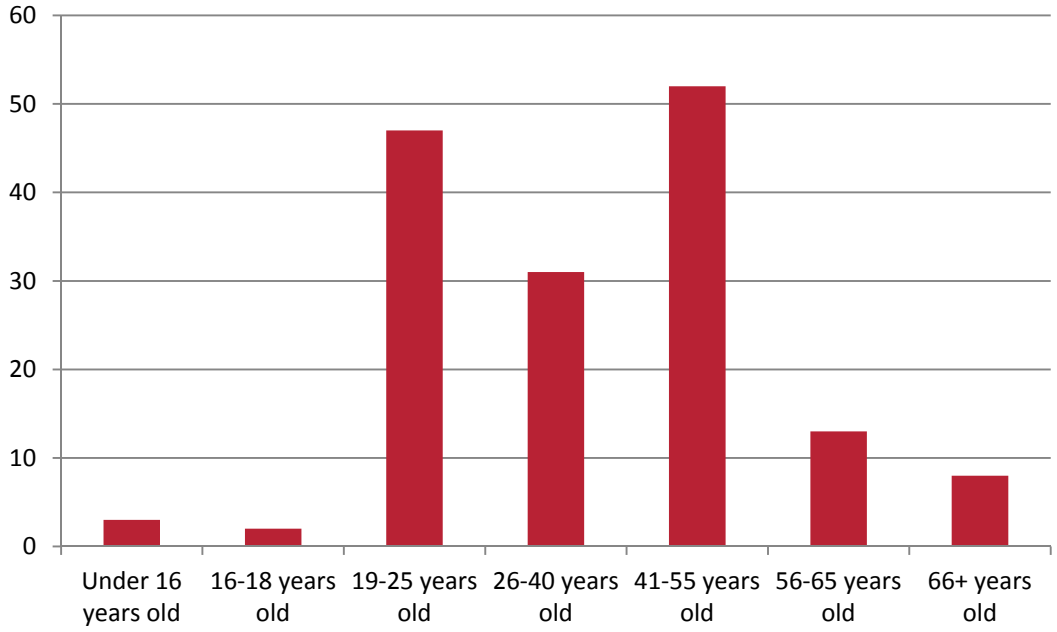


3.8 Online Community Survey

An online public survey tool was developed to gather input from Turlock residents, students, and business owners on the current state of active transportation in the community, and where they feel improvements to walking and biking facilities would have the greatest impact.

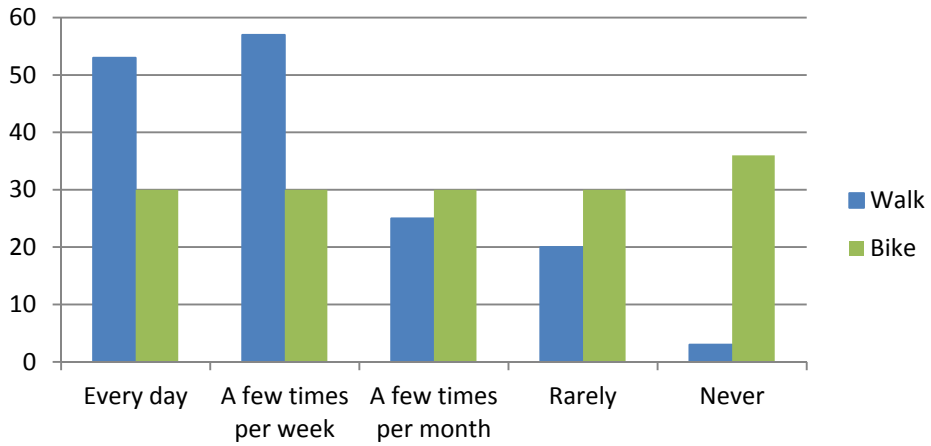
As of June 24, 2014, 168 people have responded to the survey. 143 of the respondents live in Turlock, 71 work in the community, and 61 attend school there. Four respondents own businesses in the community, and 92 of the respondents indicated that they shop in Turlock. As seen in Figure 3-20, respondents cover a broad range of age categories. 59 percent of the surveyed group is female, and 40 percent are male. Less than one percent of respondents declined to indicate their gender.

Figure 3-20: Age of Survey Respondents



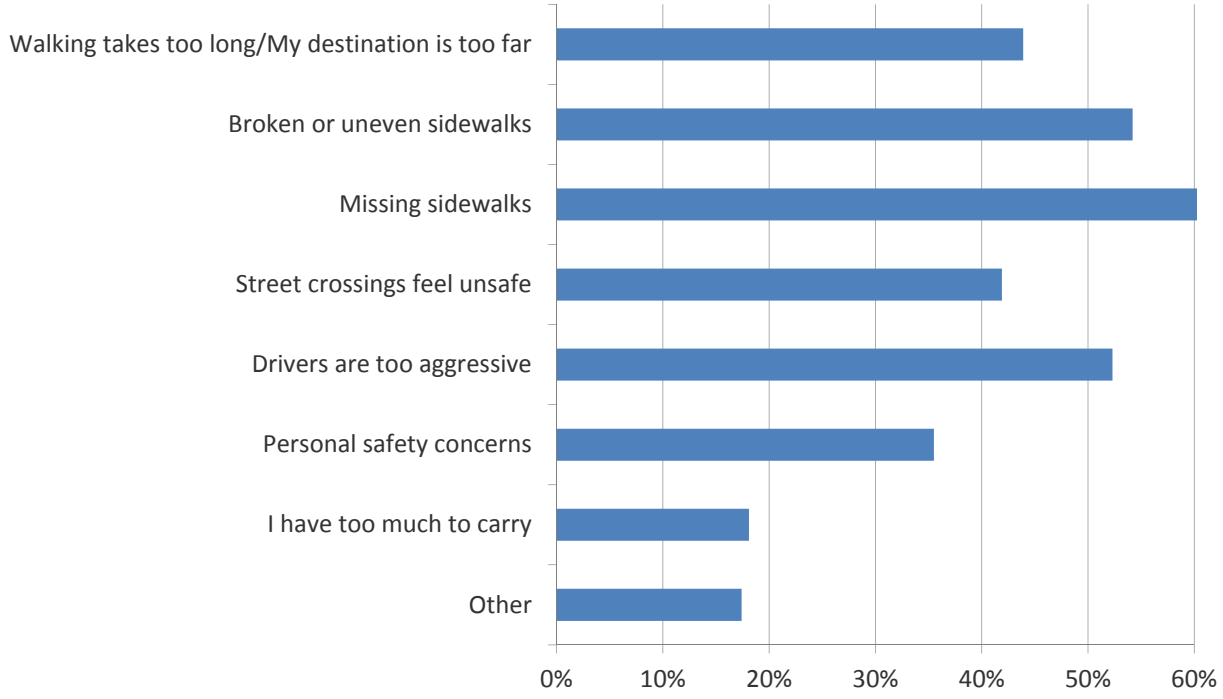
All of the respondents indicated that they walk in Turlock, with 53 walking on a daily basis and 57 walking a few times per week; fewer respondents indicated that they bike in Turlock, with just 30 biking daily and 30 biking a few times per week. See Figure 3-21 for all responses.

Figure 3-21: Active Transportation among Survey Respondents



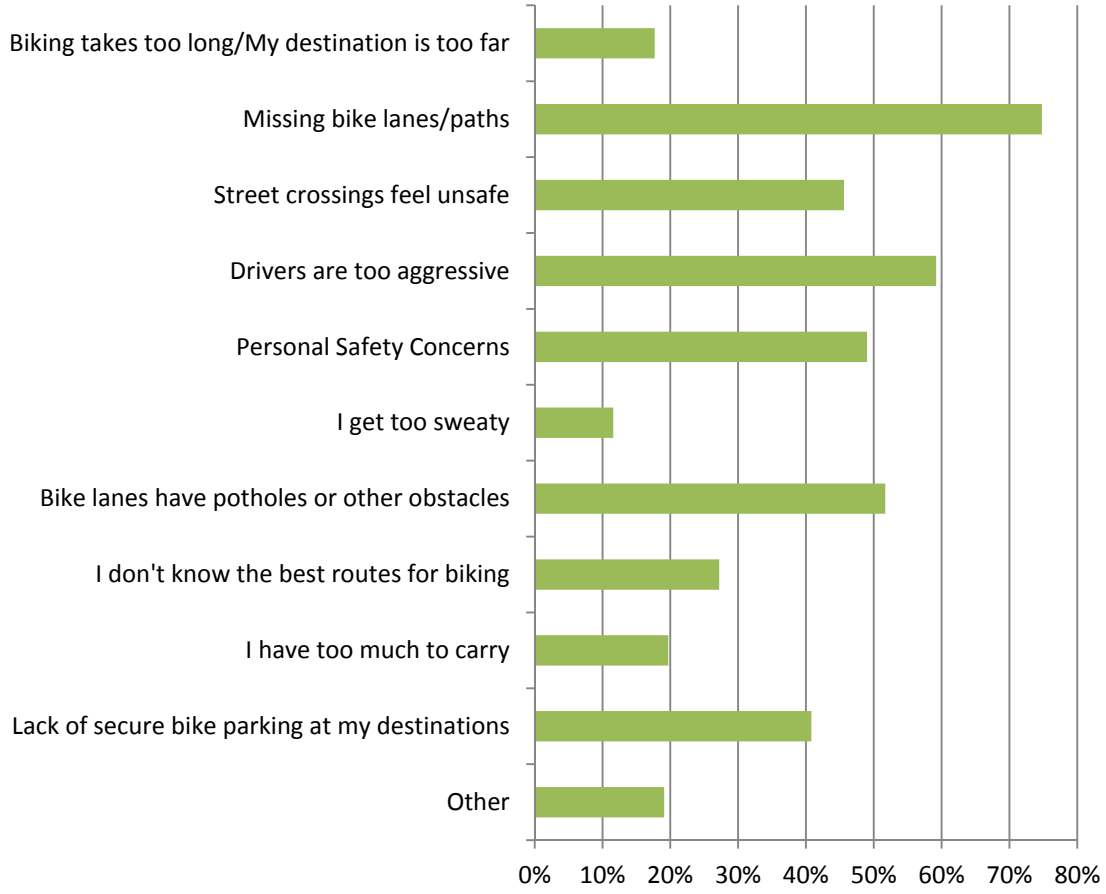
Factors that discourage walking in Turlock are listed in Figure 3-22; respondents were asked to select the five things that most affected their decision not to walk. The top three reasons people said they didn't walk more often were: drivers are too aggressive (52 percent), missing sidewalks (61 percent), and broken or uneven sidewalks (54 percent). This suggests that improving the quality of sidewalks in Turlock and filling in gaps in the pedestrian network could contribute to increased walking. Among the answers supplied by those who selected 'other' were concerns about heat and lack of shade, safety for small children, and fear of aggressive dogs not on leashes.

Figure 3-22: Factors that Discourage Walking in Turlock



When asked what discourages them from biking more in Turlock, respondents ranked a lack of bike lanes or paths as the factor that most influenced their decision not to bike—75 percent of respondents selected this answer (see Figure 3-23). Other factors that were selected by a large percentage of respondents were aggressive drivers (59 percent), potholes or other obstacles in bike lanes (52 percent), and personal safety concerns (49 percent).

Figure 3-23: Factors that Discourage Bicycling in Turlock



Respondents were also asked to identify and describe locations in Turlock they feel are particularly challenging, where they wish they could walk or bicycle. For both walking and bicycling, the three challenging locations mentioned most frequently by respondents were Monte Vista Avenue, Golden State Boulevard, and Geer Road.

When describing what makes these and other locations challenging for walking, respondents overwhelmingly mentioned three characteristics. Missing or broken sidewalks were identified in 83 responses, a lack of safe crossings was mentioned 38 times, and respondents said they felt uncomfortable with speeding traffic or aggressive drivers 32 times.

Conditions that respondents felt contributed to challenges for bicycling included a lack of adequate bike facilities, mentioned 98 times. Similar to pedestrian concerns, 29 responses also mentioned traffic moving too quickly or drivers being aggressive as a deterrent to bicycling. Roads that were too narrow or in poor condition were mentioned in 49 responses.

Several locations in Turlock were identified where respondents find it enjoyable to walk or bike, as well. The two most frequently mentioned locations for both walking and bicycling were the CSU Stanislaus campus, and the shared-use path along Canal Drive. Things respondents enjoyed about these and other locations included the presence of adequate sidewalks and bike lanes (mentioned 16 and 14 times respectively), lower traffic volumes (mentioned a total of 13 times), and shade trees or other greenery (mentioned a total of 7 times).

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4 Vision and Policies

4.1 Community Vision & Values

One of the core tasks of the Citizen Advisory Team was to develop a vision statement for walking and bicycling in Turlock. At their kickoff meeting on April 2, 2014, they generated the following aspirations for their community:

No one thinks of driving their child to school on a daily basis—walking or bicycling is the norm.

I can leave my house and have complete connectivity in bikeways to all my destinations.

Bicycling and walking are legitimate forms of transportation, no longer disrespected by motorists.

Children are independent, able to travel through the community without being chauffeured.

I don't have to teach my 9 year old how to be aggressive and ride in traffic, because there is always a safe route for him to ride.

Parents are unafraid of strangers and traffic, and there is 'safety in numbers' because the whole community rides.

Bike paths and walking trails are shaded and pleasant.

Schools aren't clogged with parent drop-off.

All road users are educated and have a thorough understanding of how to use & share the facilities safely.

Bike parking is convenient and available at all destinations.

Kids are excited about walking and biking, and parents are supported when they allow it by a safe street network.

Major bikeways provide access to each part of town.

With this valuable input in mind, the following vision statement was developed:

> Turlock is a place where people of all ages and abilities are comfortable walking and bicycling to school, work, shopping, and for recreation. A seamless walking and bicycling network is part of an integrated, sustainable transportation system that supports a high quality of life and a vibrant economy.

4.2 Policy Recommendations

In addition to the existing policies reviewed in Appendix B, the following policies should be considered for adoption.

- Create Land Use policies in the General Plan that support walking and bicycling, including reducing or removing minimum parking requirements, and amending setback requirements to place surface parking behind buildings that front onto the sidewalk.
    - Reducing parking requirements as trips shift from driving alone to modes of active transportation allows valuable land to be used for other purposes, including bicycle parking, pedestrian amenities, or small storefronts.
    - Creating setback standards that place parking in commercial areas behind buildings that embrace the sidewalk creates streets that are more inviting to pedestrians by providing continuous storefronts with visual interest along the sidewalks.
- Revise functional classifications of roadways to include bicycle and pedestrian facility standards as outlined in Chapter 5.
    - Defining the preferred bicycle and pedestrian facilities on each roadway typology will encourage consistent development of active transportation networks throughout the city.
- Adopt a bicycle parking policy with minimum bicycle parking requirements for the following uses, listed in Table 4-1. Consider allowing developers to substitute additional bicycle parking and remove some vehicle parking spaces.

Table 4-1: Recommended Bicycle Parking Guidelines

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

    - Providing adequate bicycle parking in convenient locations can encourage more people to ride their bicycle for daily transportation needs instead of driving.
- Consider recommended facilities in the Design Toolkit for adoption as standard practice throughout the city.
- Include proactive bike lane maintenance as part of routine city operations.
    - Currently, bike lanes are swept with streets, but pavement repairs and other maintenance are only performed in response to complaints from community members. Proactive maintenance can improve bicyclist safety by ensuring lanes are comfortable to ride in, thereby reducing the need for bicyclists to merge into vehicle lanes to avoid debris or potholes.

- Work with property owners to complete gaps in sidewalk networks. Develop a plan to provide street frontage improvements along undeveloped parcels.
    - Under current policies, property owners are required to provide improvements only when a parcel is developed. Some parcels may sit vacant for several years, contributing to a disconnected pedestrian network.
- Set targets to reduce bicycle- and pedestrian- involved collisions by 50 percent, and increase bicycling and walking trips by 50 percent.

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5 Street Typology

The Circulation Element of Turlock's General Plan organizes the city's network of roads into six 'functional classifications' that designate street width, configuration, and access restrictions. The General Plan text describing these classifications is provided as follows, with alternative active transportation facility types included as bulleted text below each class.

Typical cross sections have been adopted in the General Plan for each street type defined in this typology. The alternative active transportation cross sections are shown in Figure 5-2 through Figure 5-6, and may require deviations from the dimensions adopted in the General Plan. Where the illustrated cross sections deviate from the General Plan dimensions, the width shown is in standard font style text while the General Plan width is indicated in italics and parentheses below. The General Plan dimension shall be considered the starting point, with the alternative dimension a context-sensitive option that should be considered for new master plan areas.

The alternative cross section may also be considered within the existing built environment where: (1) adequate right-of-way is available; (2) impacts to adjacent land uses can be avoided or adequately mitigated to General Plan standards (see Policy 5.2-s of the General Plan); (3) the alternative transportation cross section is in harmony and compatible with the surrounding land use and transportation environment; and (4) implementation of the alternative transportation cross section provides for a continuous, consistent, and safe travel corridor for bicyclists and/or pedestrians.

Further information on planning and design details may be found in the Turlock General Plan and the Turlock Active Transportation Plan Design Toolkit.

5.1 Freeways

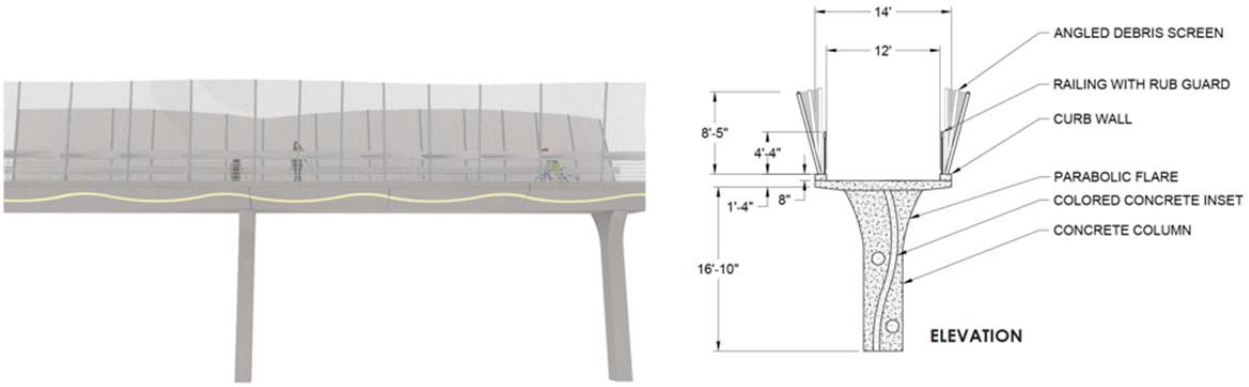
The General Plan describes Freeways as:

> Freeways provide for intra-and inter-regional mobility, generally having four to six lanes in the vicinity of the Study Area. Access is restricted to arterials and expressways via interchanges. Crossings are grade-separated, and continuous medians separate lanes traveling in opposite directions. Typical speeds are 55 miles per hour or higher. State Route (SR) 99 is the only freeway in the Study Area. No access is provided to adjacent land uses.

Bicycle and pedestrian crossings can be achieved through undercrossing tunnels, overcrossing bridges, or provision for walking and cycling along a general roadway crossing. Tunnels require less effort for bicyclists because downhill speed on the approach can be turned into uphill momentum on the departure. Particular attention should be given to lighting and an airy spaciousness to minimize personal security issues. This Active Transportation Plan recommends that:

- To minimize barriers for active transportation, grade separated crossings should be designed to accommodate bicycle and pedestrian travel.
- Consideration should be given to dedicated bicycle and pedestrian overcrossings or undercrossings where high volumes of bicycle and/or pedestrian traffic are expected.

Figure 5-1: Typical shared use path overcrossing of a roadway with desirable dimensions



5.2 Expressways

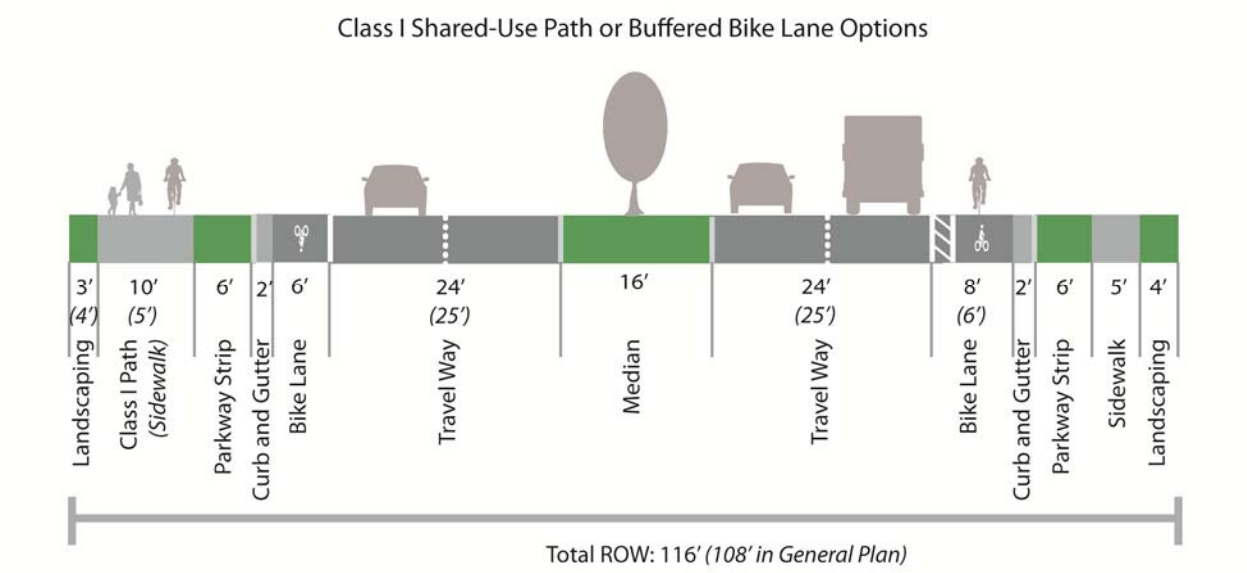
The General Plan describes Expressways as:

> Expressways provide for movement of through traffic both within the city and to other nearby regional locations. Parking is not permitted, and direct access is generally not provided to adjacent land uses. In those rare circumstances where access to an adjacent land use is required, access shall be by right turns only at prescribed intervals. In the Study Area, expressways generally range from two to four lanes, with some six-lane segments where necessary for operational purposes.

Intersections generally occur at one mile intervals. Collectors may intersect expressways at ¼ mile spacing, but with right-in and right-out only. Christoffersen Parkway and Golden State Boulevard are classified as expressways, and Geer Road is designated an expressway north of Christoffersen Parkway. This Active Transportation Plan recommends that:

- Given the relatively high speeds and traffic volumes anticipated on expressways, additional separation between nonmotorized and motorized users is preferred.
    - Class I paths should be provided where large volumes of young bicyclists are expected, as they offer the most separation from motor vehicles. On-street bike lanes should be provided as well, for confident bicyclists who may want to travel faster than a shared-space arrangement allows.
    - Where space for a Class I path is unavailable, buffered bike lanes can offer some additional separation for bicyclists.
- To minimize barriers created, marked crossings for bicyclists and pedestrians should be provided at all controlled intersections or by installing grade-separated overcrossings between intersections, where high volumes of bicycle and/or pedestrian traffic are expected.

Figure 5-2: Potential Expressway Cross Section (General Plan standard in italics)



5.3 Arterials

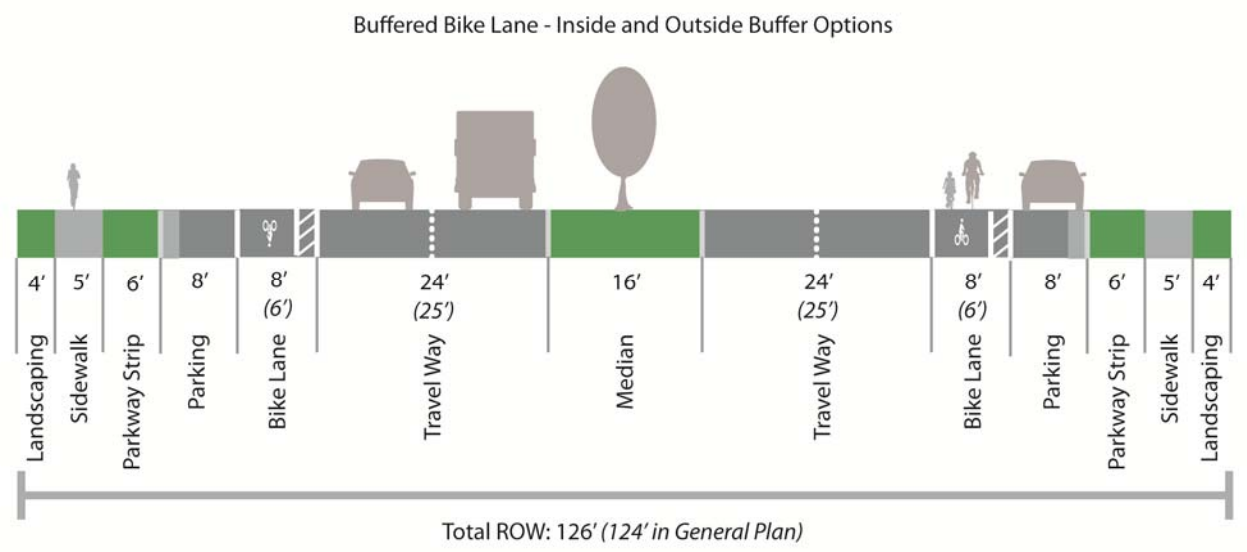
The General Plan describes Arterials as:

> Arterials collect and distribute traffic from freeways and expressways to collector streets, and vice versa. They also are designed to move traffic between adjacent jurisdictions. Major arterials in Turlock are four lane facilities and minor arterials are two lane facilities. Limited direct access may be provided to adjacent land uses, with a minimum driveway spacing of 300 feet.

This Active Transportation Plan recommends that:

- Continuous sidewalks should be provided on both sides of the street, and be buffered from moving vehicles by bike lanes, on-street parking, a planted strip, or some combination of these.
- Continuous bike lanes should be provided on both sides of the street, and be a minimum of 6 feet wide with gutter exclusion considered where width allows. Where feasible, bike lanes should be buffered from vehicle lanes and wide enough to allow bicyclists to ride outside the 'door zone' of parked cars.
- Safe and convenient crossings should be provided at controlled intersections.

Figure 5-3: Potential Arterial Cross Section (General Plan standard in italics)



5.4 Collectors

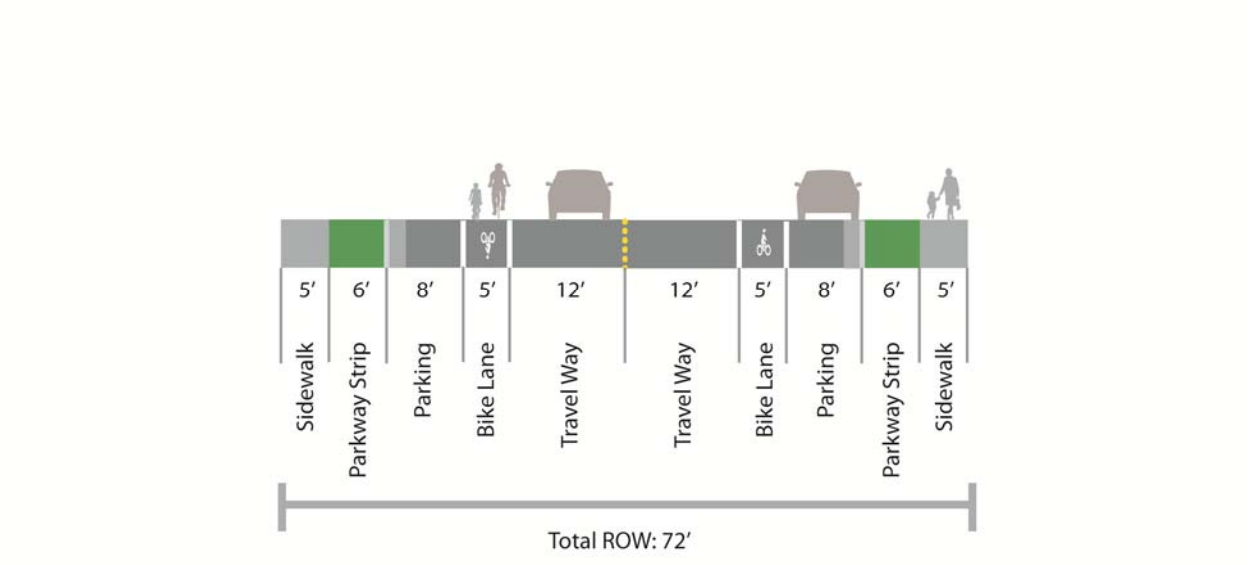
The General Plan describes Collectors as:

> Collectors provide a link between residential neighborhoods and arterials. Collectors typically provide two travel lanes, on-street parking, and bike lanes where identified in the General Plan. Collectors also provide access to adjacent properties. Direct access to adjacent land use is permitted, but, as these roadway classes are intended to funnel traffic from local streets to arterials and expressways, or carry larger amounts of traffic between major destinations within the City, driveways should be spaced at roughly 300 foot intervals in commercial and industrial areas. In residential areas, driveways may be provided to each parcel facing the collector.

This Active Transportation Plan recommends that:

- Continuous sidewalks should be provided on both sides of the street. Care should be taken to minimize conflicts and grade changes where sidewalks cross driveways.
- Continuous bike lanes should be provided on both sides of the street where identified in the General Plan, and be a minimum of 5 feet wide with gutter exclusion considered where width allows. Where this is not feasible, sharrows and/or traffic calming measures should be implemented to allow bicyclists to comfortably share the vehicle lane.
    - Along designated school routes, where right of way is limited, priority should be given to active transportation modes.
    - Although Figure 5-4 shows minimum widths, where bike lanes are adjacent to parallel parking, they should be a minimum of 6 feet wide wherever feasible to allow bicyclists to ride outside the 'door zone.' If sufficient space is available, a hatched buffer should be provided between the parking lane and the bike lane.
    - For narrow corridors, a shared use path option may be considered.

Figure 5-4: Potential Collector Cross Section



5.5 Local Streets

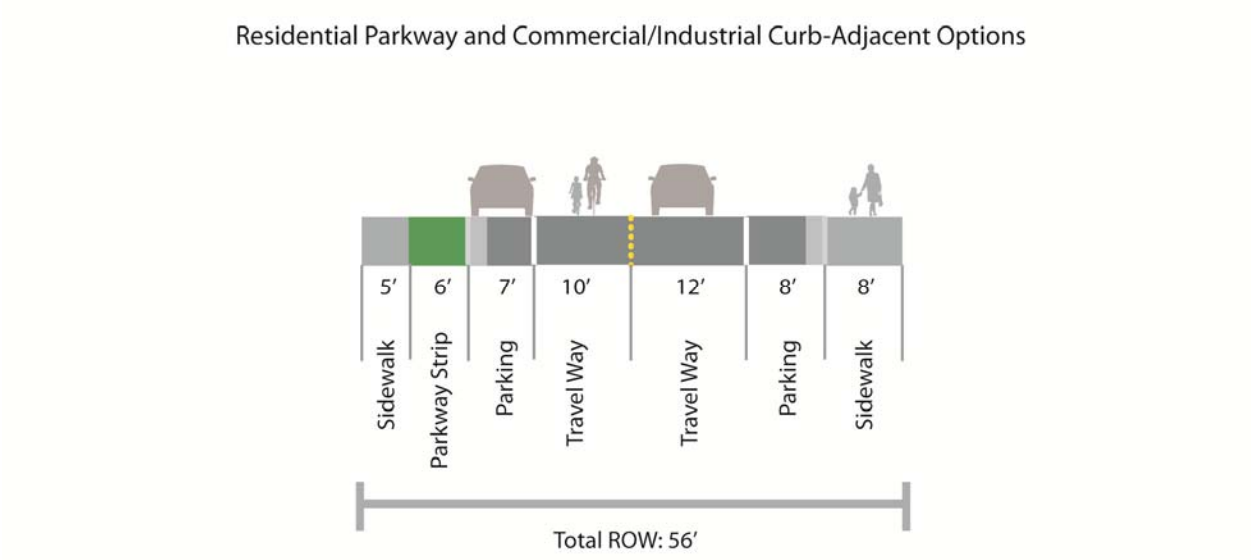
The General Plan describes Local Streets as:

> Local Streets constitute the largest part of Turlock's circulation system. They provide direct access to adjacent properties and have no access restrictions. Local streets provide two travel lanes, landscaped parkway strips, and sidewalks. While bike lanes are generally not required on local streets because of their low traffic volume, it is assumed that every local street is designed to be bike-friendly and may be informally treated as a Class-III bike route.

This Active Transportation Plan recommends that:

- A continuous sidewalk should be provided on both sides of the street wherever feasible. Where right of way is limited or no facilities currently exist, a continuous sidewalk should be provided on at least one side of the street.
- Where a landscaped buffer is provided, sidewalks may be a minimum of 5 feet wide.
- A crosswalk or other facility to enable a continuous path of travel should be provided where a local street intersects with a higher motor traffic volume class of roadway (i.e. collector or arterial).

Figure 5-5: Potential Local Street Cross Section



5.6 Industrial Streets

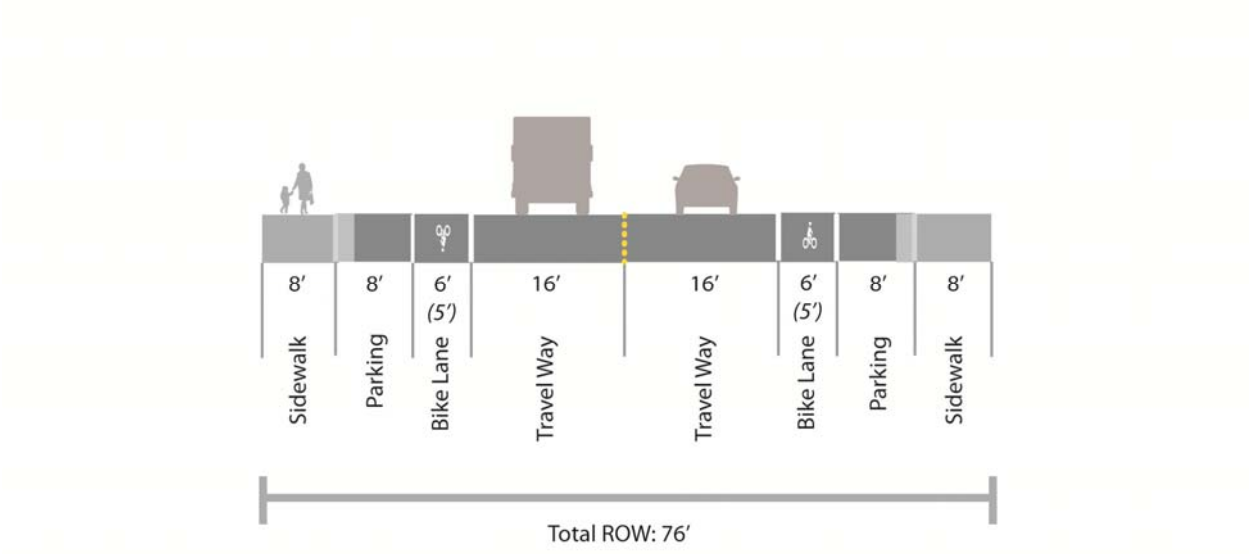
The General Plan describes Industrial Streets as:

> Industrial Streets are roadways designed to accommodate trucks serving industrial areas, and generally provide two travel lanes. They are primarily found in the Westside Industrial Park and in some older industrial areas south of Downtown. Their wide lanes are intended to accommodate multiple large trucks' turning movements. Access onto adjacent industrial properties is permitted, including multiple access points per parcel.

This Active Transportation Plan recommends that:

- To minimize barriers created, industrial streets should provide crossings for bicyclists and pedestrians at controlled intersections.
- Sidewalks should be provided along identified school routes, or where pedestrian destinations exist.
- Class II bike lanes should be provided where designated in the General Plan.

Figure 5-6: Potential Industrial Street Cross Section (General Plan Standard in italics)



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6 Infrastructure Recommendations

Recommendations in the following chapters were developed based on extensive community input through Citizen Advisory Team meetings, public workshops, and an online survey, along with an analysis of the existing bicycle and pedestrian network gaps.

Volume VI of this Plan is a Design Toolkit that presents infrastructure solutions the City may consider. The toolkit includes guidance on when to use treatments like high visibility ladder-style crosswalk markings or green pavement coloring at potential conflict points between motorists and bicyclists. The City will weigh the maintenance costs against safety benefits of such treatments on a case-by-case basis.

Draft recommendations were presented to the community and refined based on their feedback. For a list of comments received, see Appendix E.

6.1 Bicycle Infrastructure Projects

Proposed bikeways in the 2012 General Plan were carried forward as recommendations in this Plan, and additional recommendations for bikeways, intersection improvements, and pedestrian network improvements were identified to expand and enhance the bicycle and pedestrian environment.

Bikeways proposed in the General Plan are mapped in Figure 6-1. For a list of General Plan recommendations, see Appendix F.

This Active Transportation Plan adds to these recommendations the bikeways shown in Figure 6-2, and listed in Table 6-1 and Table 6-2. Priority projects are indicated in highlighted rows; for a discussion of the prioritization process see Chapter 8.1.

Projects originating in the General Plan are numbered with the prefix GP. Projects originating in the Active Transportation Plan are numbered with the prefix ATP. Because some projects were revised, reclassified, added, or removed during the iterative planning process, numbering may not be consecutive.

A map of these combined recommendations, representing the long-term vision for Turlock's bicycle network, is shown in Figure 6-3.

Figure 6-1: General Plan Bikeway Recommendations

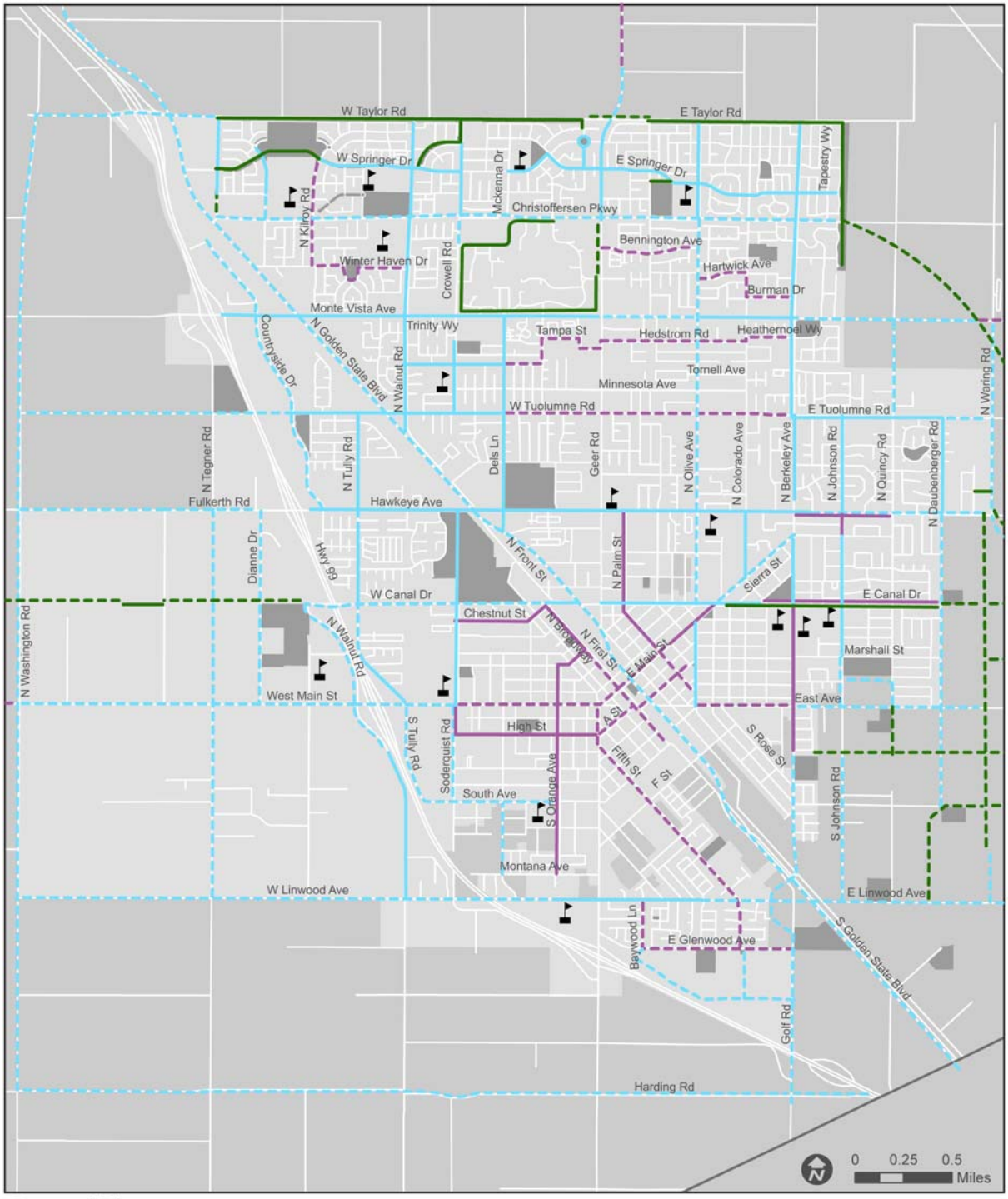


Figure 6-2: Active Transportation Plan Bikeway Recommendations

Active Transportation Plan Recommendations

alta Data obtained from: The City of Turlock & Stanislaus County
Map created: October 2014

Facilities
Existing / Proposed

- Class I Shared-use Path
- Class II Bike Lane
- Class III Bike Route
- Parks
- Schools
- Intersection Improvements

Figure 6-3: Long Term Bicycle Network Vision

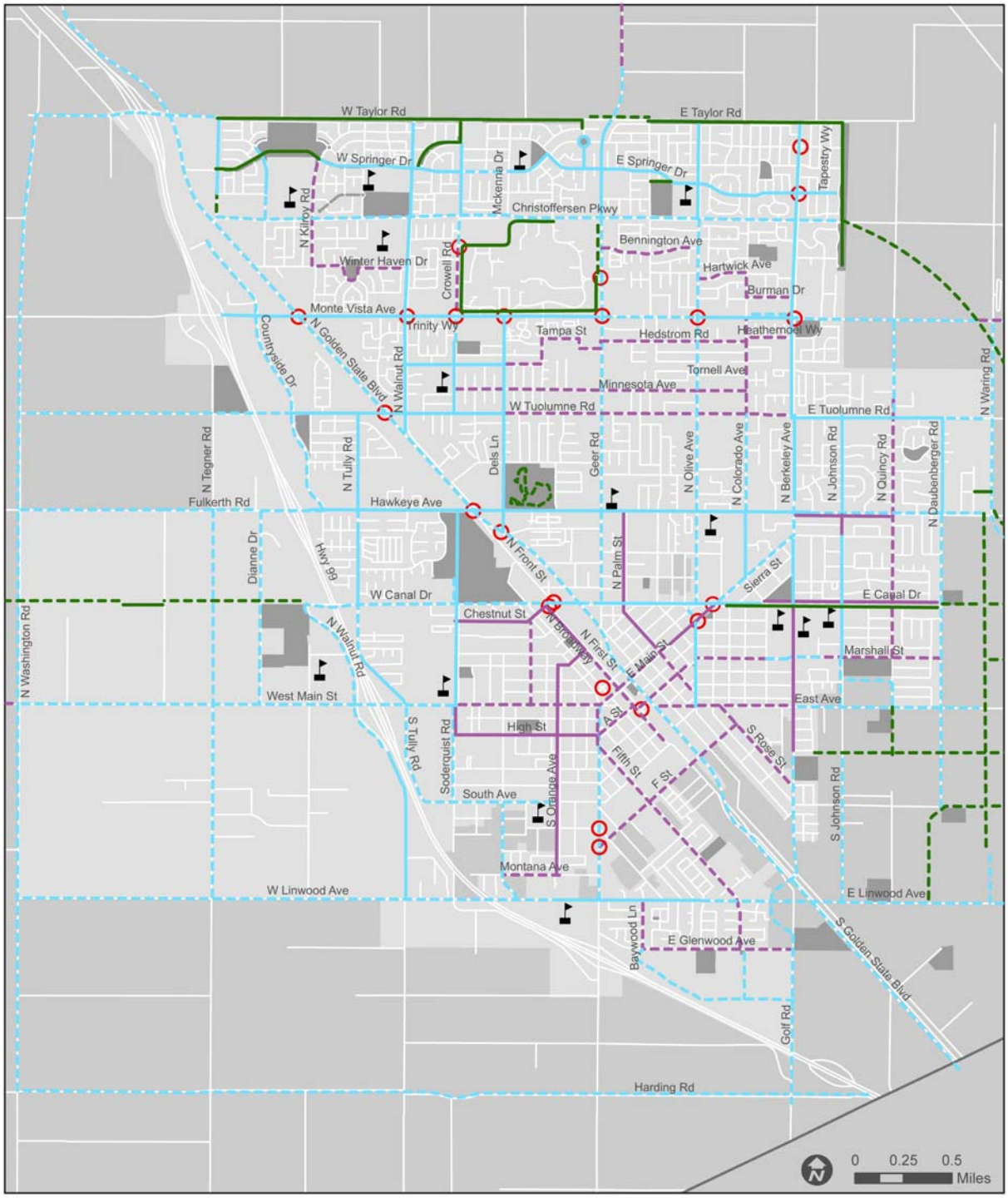


Table 6-1: Active Transportation Plan Bikeway Corridor Recommendations

ID#	Class	Corridor	Begin	End	Length (ft)	Notes
ATP-1	Class I	(Donnelly Park)	Lake edge		TBD	Path around the lake and around perimeter of park
ATP-2	Class II	Crowell Road	200 feet south of Rockhurst Lane	Monte Vista Avenue	670	
ATP-3	Class II	Geer Road	Christoffersen Parkway	Canal Drive	11,115	
ATP-4	Class II	Colorado Avenue	Tuolumne Road	Hawkeye Avenue	2,660	
ATP-5	Class II	Fulkerth Road	Highway 99 NB on/off ramps	350 feet east of Dianne Drive	1,325	
ATP-6	Class II	Lander Avenue	Main Street	Linwood Avenue	5,310	Supersedes General Plan recommendation
ATP-7	Class II	Marshall Street	Colorado Avenue	Wallace Street	1,420	
ATP-8	Class II	West Avenue	Montana Avenue	Linwood Avenue	805	Extension of General Plan recommendation
ATP-9	Class II	Soderquist Road	675 feet north of Canal Drive	Canal Drive	675	Only west side of road
ATP-10	Class II	Berkeley Avenue	100 feet north of Hawkeye Avenue	Main Street	715	
ATP-83	Class II	Springer Drive	Crowell Road	McKenna Drive	1,290	
ATP-84	Class II	Monte Vista Avenue	Colorado Avenue	Berkeley Avenue	1,300	Only north side of road
ATP-85	Class II	Canal Drive	Geer Road	Golden State Boulevard	500	
ATP-11	Class III	Minnesota Avenue	Crowell Road	Colorado Avenue	7,940	
ATP-12	Class III	Colorado Avenue	Monte Vista Avenue	Tuolumne Road	2,645	
ATP-13	Class III	Crowell Road	Christoffersen Parkway	Monte Vista Avenue	2,660	Implement with signs and sharrows
ATP-14	Class III	Quincy Road	Swan Park Drive	Marshall Street	12,260	
ATP-15	Class III	Grant Avenue	Chestnut Street	Main Street	2,260	Extension of General Plan recommendation
ATP-16	Class III	Marshall Street	Minaret Avenue	Colorado Avenue	1,900	
ATP-17	Class III	Marshall Street	Wallace Street	Daubenberger Road	3,345	
ATP-18	Class III	Alpha Road	East Avenue	Berkeley Avenue	2,980	
ATP-19	Class III	F Street	Lander Avenue	Alpha Road	5,020	
ATP-20	Class III	Montana Avenue	West Avenue	Orange Street	1,550	
ATP-21	Class III	East Avenue	Golden State Boulevard	Minaret Avenue	1,155	Extension of General Plan recommendation

Highlighted rows indicate priority projects.

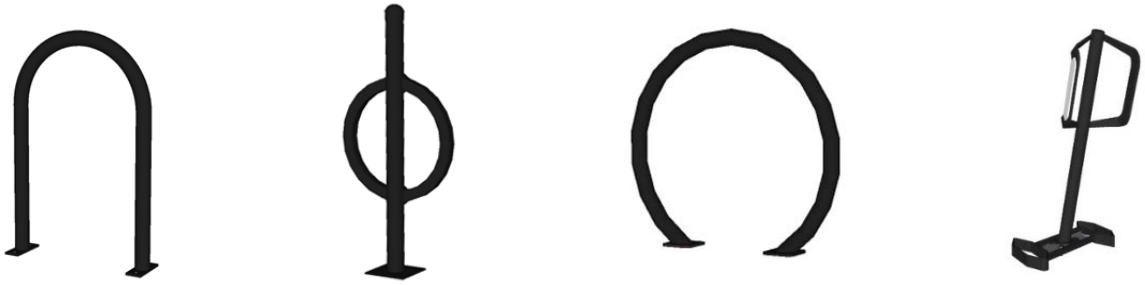
Table 6-2: Active Transportation Plan Bikeway Intersection Recommendations

ID#	Class	Street	Cross Street	Description
ATP-22	New	1st Street	A Street/Marshall Street	Construct connection on 1st Street between Class III facilities
ATP-23	Improve	Berkeley Avenue	Dancer Way	Remove bike lane stripes from traffic circle and curb extensions at sidewalks
ATP-24	Improve	Berkeley Avenue	Springer Drive	Remove bike lane stripes from traffic circle and curb extensions at sidewalks
ATP-25	New	Geer Road	Calaveras Way	Install traffic signal
ATP-26	Improve	Hawkeye Avenue	Golden State Boulevard	Extend westbound bike lane through right turn pocket
ATP-27	New	Lander Avenue	Bernell Avenue/9th Street	Will improve with proposed Class II on Lander
ATP-28	New	Lander Avenue	F Street	Improve with proposed Class II & III on Lander & F
ATP-29	New	Main Street	Canal Drive	Improve bike lane striping; provide new access to Class I path for westbound bicyclists
ATP-30	Improve	Monte Vista Avenue	Berkeley Avenue	Stripe westbound bike lane inside of right turn lane
ATP-31	Improve	Monte Vista Avenue	Olive Avenue	Stripe westbound bike lane inside of right turn lane
ATP-32	Improve	Monte Vista Avenue	University Circle	Recommend University stripes bike lanes
ATP-33	Improve	Monte Vista Avenue	Geer Road	Stripe eastbound bike lane inside of right turn lane
ATP-34	Improve	Monte Vista Avenue	Crowell Road	Stripe westbound bike lane inside of right turn lane
ATP-35	Improve	Monte Vista Avenue	Golden State Boulevard	Stripe westbound bike lane through right turn pocket
ATP-36	Improve	Tuolumne Road	Golden State Boulevard	Extend eastbound bike lane through right turn pocket
ATP-37	Improve	Walnut Road	Monte Vista Avenue	Stripe southbound bike lane inside of right turn lane
ATP-86	New	Crowell Road	Ansel Adams Boulevard	Install stop sign

Highlighted rows indicate priority projects.

Secure bicycle parking is an essential element of a functional bicycle network. Bicycle racks are a common form of short-term secure bicycle parking and can be installed in various locations, including sites adjacent to retail such as parking lots, as well as in the public right of way in the furnishings zone of the sidewalk. Figure 6-4 shows acceptable styles of bicycle racks. Racks are appropriate for locations where there is demand for short-term bicycle storage. Bicycle lockers provide secure and sheltered bicycle parking and are recommended in locations where long-term bicycle storage is needed, such as transit stations.

Figure 6-4: Bicycle Rack Styles

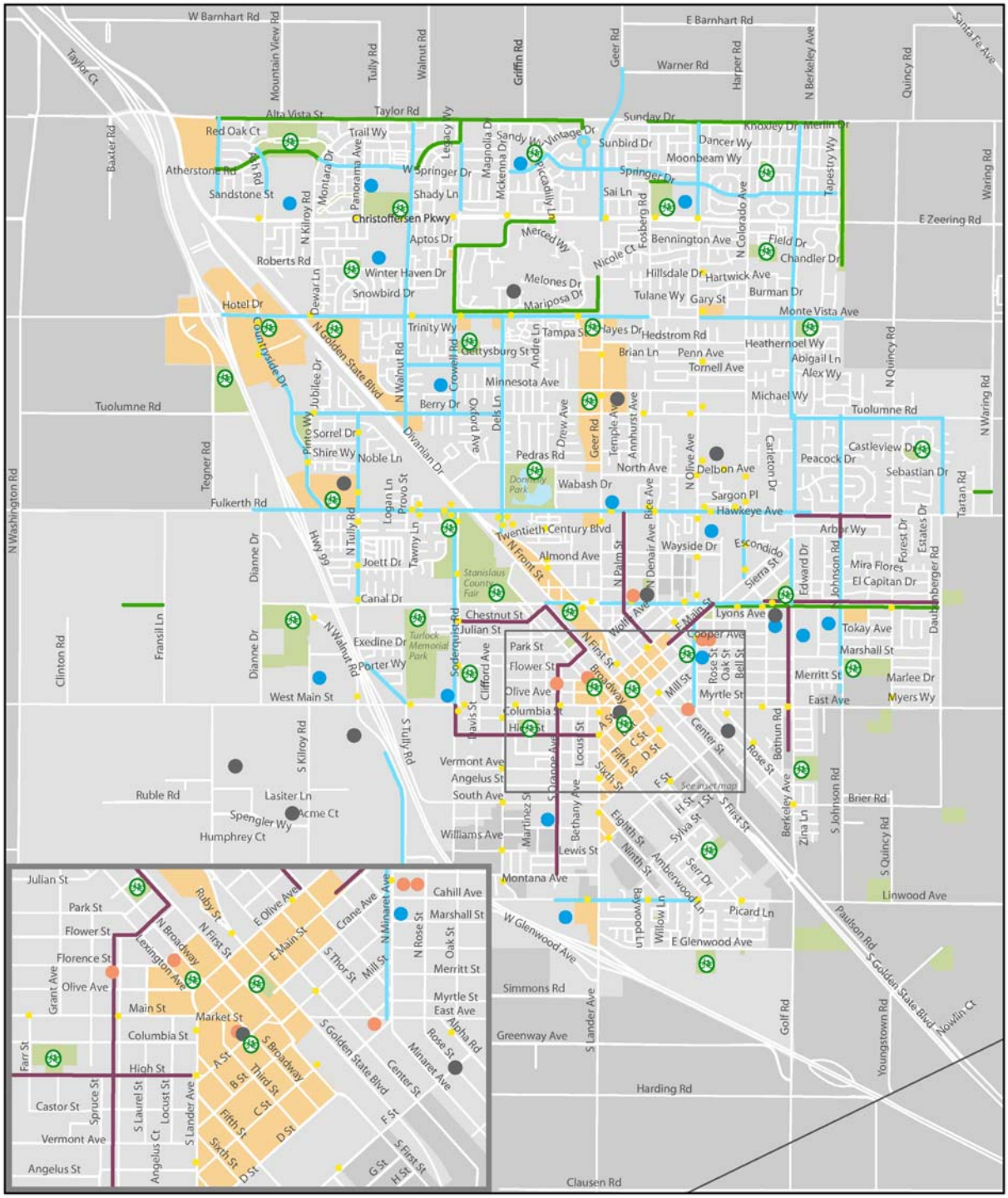


U-Rack ***Post and Loop*** ***Horseshoe*** ***Lightning Bolt™ Or Varsity Rack™***

Proposed locations in Figure 6-5 were based on community feedback and current best practices, and include bicycle parking at all public parks as well as key community destinations. At commercial centers, the city should work with property owners to provide bicycle parking on private property as desired.

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

Figure 6-5: Proposed Bicycle Parking Locations



6.2 Pedestrian Infrastructure Projects

Eleven corridors in Turlock were identified as priorities for pedestrian infrastructure improvements, including closing gaps in the sidewalk network and improving or providing new crossings at intersections. These corridors and a summary of the improvements recommended are provided in Table 6-3 and mapped in Figure 6-6.

Table 6-3: Pedestrian Project Corridors

ID#	Corridor	Begin	End	Length (mi)	Sidewalk Gaps (mi)	Crossing Gaps
ATP-38	Canal Drive	State Route 99	Daubenberger Road	1.88	1.29	4
ATP-39	Dels Lane	Monte Vista Avenue	Hawkeye Avenue	1.00	0.17	2
ATP-40	Geer Road	Pedras Road	Canal Drive	0.72	0.63	0
ATP-41	Golden State Boulevard	Christoffersen Parkway	F Street	3.77	2.98	14
ATP-42	Hawkeye Avenue	Golden State Boulevard	Quincy Road	2.17	1.11	4
ATP-43	Lander Avenue	Olive Avenue	Linwood Avenue	1.12	0.46	6
ATP-44	Main Street	Locust Street	Berkeley Avenue	1.40	0.18	4
ATP-45	Marshall Street	Minaret Avenue	Quincy Road	1.01	1.19	2
ATP-46	Monte Vista Avenue	Golden State Boulevard	Berkeley Avenue	2.57	1.36	9
ATP-47	Olive Avenue	Monte Vista Avenue	Canal Drive	1.48	0.30	3
ATP-48	Soderquist Road	Hawkeye Avenue	South Avenue	1.51	0.58	0

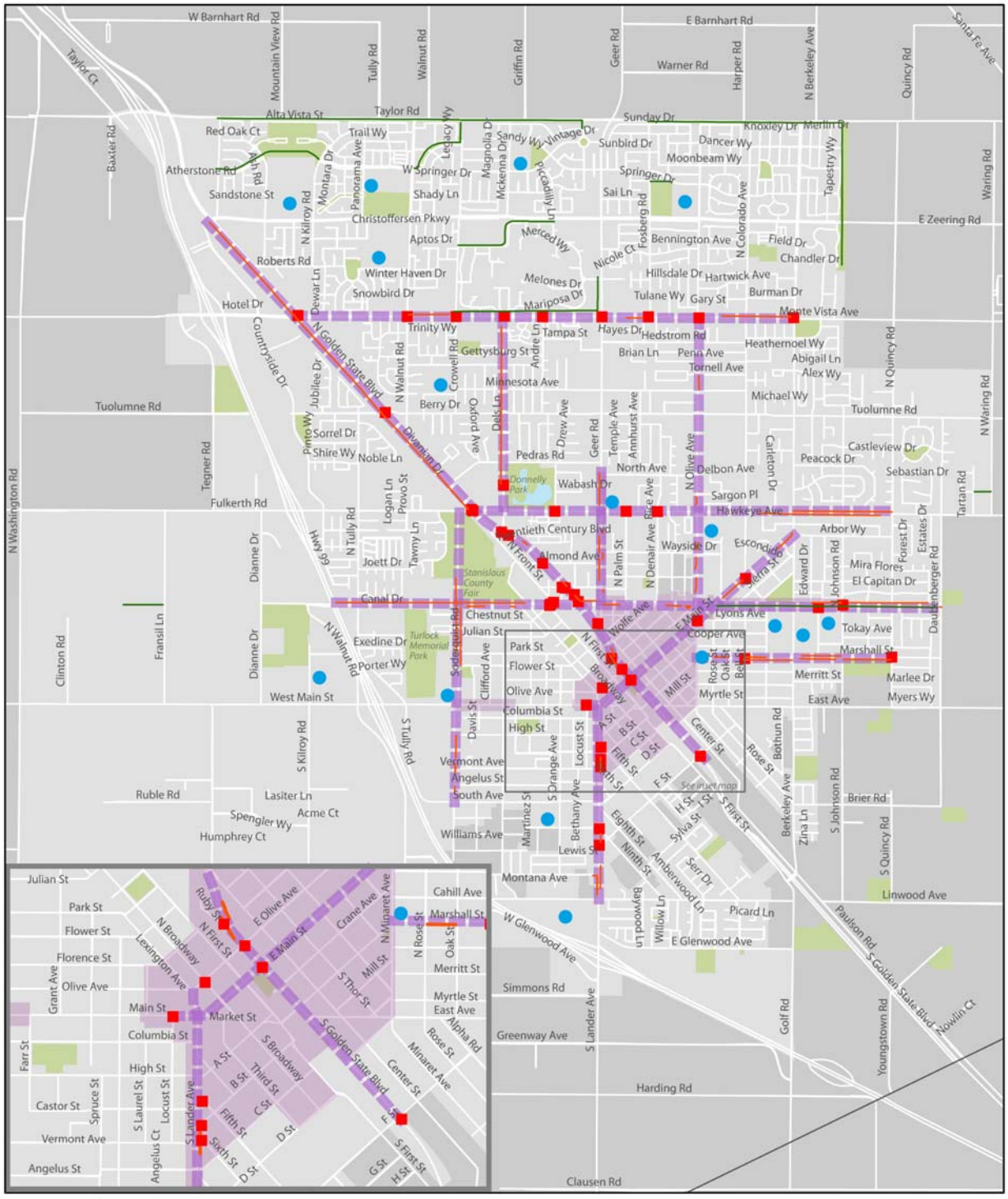
Note: corridor lengths are centerline measurements from start to end points; sidewalk gap lengths may represent gaps on both sides of a corridorand therefore have a maximum twice that of the corridor length.

Some specific pedestrian infrastructure improvements were identified during Safe Routes to School audits at each of the Turlock public schools. Some improvements fall on school district property, and will require coordination with the Turlock Unified School District to implement. This Plan recommends the City consider implementing the identified improvements on public right-of-way, listed in Table 6-4.

Table 6-4: Safe Routes to School Pedestrian Improvements

ID#	Corridor	Location	Recommended Improvement
ATP-50	Canal Drive	Johnson Road	Mark crosswalks with yellow high visibility markings. Install curb extensions on the south side of Canal Drive extending into the parking lane on Canal Drive. This will reduce the crossing distance for pedestrians without impeding bicycle travel.
ATP-51	Carrigan Street	Johnson Road	Provide yellow high-visibility crosswalk markings on all legs
ATP-56	Crowell Road	Minnesota Avenue	Provide ADA compliant curb ramp on west side of Crowell Road
ATP-57	Dels Lane	Georgetown Avenue	Convert to all-way stop
ATP-58	Georgetown Avenue	In front of Brown Elementary	Install sidewalk at loading zone; repair existing sidewalk to meet ADA standards
ATP-59	Georgetown Avenue	Brevard Lane	Install advance warning signs at crosswalk to meet CAMUTCD standards; mark crosswalk with yellow high visibility markings
ATP-60	Hawkeye Avenue	Palm Street	Install pedestrian hybrid beacon or RRFB at uncontrolled crossing
ATP-61	Linwood Avenue	Eastern edge of campus	Remove two angled parking spaces to widen walkway
ATP-62	Linwood Avenue	West of parking lot entrance	Provide midblock crosswalk with RRFB and sidewalk improvements along the north side of the street.
ATP-63	Linwood Avenue	School frontage	Repair damaged sidewalk.
ATP-64	Linwood Avenue	Lander Avenue	Provide curb ramps that meet ADA standards Repair broken pedestrian crossing signal
ATP-65	McKenna Drive	Woodland Drive	Consider providing crosswalk across McKenna Drive
ATP-66	North Avenue	Between Crowell Elementary driveways	Consider implementing a raised crosswalk with curb extensions
ATP-67	North Avenue	Near alleyway exit	Install flexible posts along North Avenue centerline to prevent left turns
ATP-69	North Avenue	Loyola Way	Install curb ramps at crosswalks to meet ADA requirements; mark crosswalks with yellow high visibility markings; install curb extensions. Install RRFB to increase motorist yielding.
ATP-70	Sandy Way	Memory Lane	Mark all crosswalks with high-visibility crosswalk markings
ATP-71	Soderquist Road	Osborn Elementary bus loop	Widen sidewalk
ATP-74	Soderquist Road	Julian Street to Osborn Elementary school frontage	Relocate utility poles that currently obstruct sidewalk, or provide sidewalk adjacent to utility poles that meets ADA standards
ATP-75	Soderquist Road	Main Street	Consider curb realignment to reduce crossing distance Prohibit right turns on red from southbound Soderquist Road to westbound Main Street
ATP-76	South Avenue	Wakefield Elementary school frontage	Consider removing diagonal parking and creating a Complete Streets based alignment including parking, bike lanes, and high visibility crosswalk markings
ATP-77	South Avenue	Martinez Street	Mark crosswalk with yellow high-visibility crosswalk markings
ATP-79	Springer Drive	Midblock crosswalk	Relocate crosswalk signage to planter area in curb extension to increase visibility Construct drainage inlet at low point to reduce water ponding
ATP-80	Wallace Street	Near Carrigan Street	Consider widening sidewalk to accommodate high volume of drop-off
ATP-82	Wayside Drive	Pioneer Avenue	Complete sidewalk gaps on Wayside Avenue to improve use of Pioneer Avenue school access

Figure 6-6: Pedestrian Improvement Corridors



6.3 Wayfinding

Wayfinding signage can encourage more people to walk and bicycle by advertising the presence of facilities and destinations accessible via those facilities.

6.3.1 Regional Routes

The Stanislaus County Non Motorized Transportation Plan (2013) proposes the following routes radiating from Turlock:

- Geer Road (Class III route) to Hughson
- N. Golden State Boulevard (Class II lanes) to Ceres
- Railway path parallel to N. Golden State Boulevard (Class I path) to Ceres
- West Main Street (Class III route) to Patterson
- E. Monte Vista Avenue (Class III route) to Denair
- South Golden State Boulevard (Class III route) to Delhi

Recommendation

The City should work with Stanislaus County to signpost the regional Class III routes with supplementary destination signs and a map display in downtown Turlock

6.3.2 Urban Routes

Bike route signs with supplementary destination plates can be positioned in places such as:

- Summerfaire Park: The pathway along the south edge of the Summerfaire Park to highlight connectivity between Soderquist Road and the residential neighborhoods accessed from Carousel Court
- East Canal Drive pathway
- Donnelly Park proposed pathways
- Principal Class III bike route corridors to major destinations such as CSUS, downtown, and schools

Recommendation

The City should add destination plates to existing Bike Route signs and install new signs at key locations on the bikeway network.

Sample wayfinding sign

7 Recommended Programs

Of the Five E's of bicycle, pedestrian, and Safe Routes to School planning, four are related to programs: encouragement, education, enforcement, and evaluation. Programs will complement engineering improvements (the fifth E) such as bike paths, lanes, and routes by giving Turlock students and adults the tools they need to safely and confidently travel by walking and bicycling.

The following section presents recommended programs to support the vision of this Plan. The recommendations include continuation of those the City currently administers and those identified by the community, as well additional programs that have proven to be popular and effective in other California cities.

7.1 Education

Education programs are important for teaching safety rules and laws as well as increasing awareness regarding walking and bicycling opportunities and existing facilities. Education programs may need to be designed to reach groups at varying levels of knowledge and there may be many different audiences: pre-school age children, elementary school students, teenage and college students, workers and commuters, families, retirees, the elderly, new immigrants, and non-English speakers. Education plays a key role for all these groups in reducing risk and the number of crashes.

Education programs can occur inside the classroom or in an assembly with transportation experts

7.1.1 Traffic Safety Campaign *(Priority Program)*

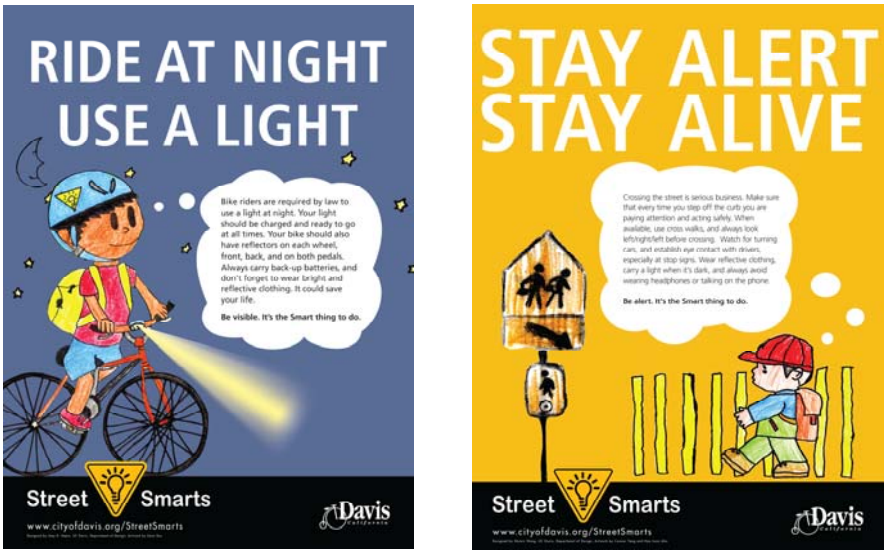
On a citywide scale, the City could start a StreetSmarts media campaign, similar to those in San Jose, Marin County, Davis, and other California cities. Developed by the City of San Jose, StreetSmarts uses print media, radio spots and television spots to educate people about safe driving, bicycling, skateboarding, and walking behavior. More information about StreetSmarts can be found at www.getstreetsmarts.org.

Local resources for conducting a StreetSmarts campaign can be maximized by assembling a group of local experts, law enforcement officers, businesspeople, civic leaders, and dedicated community volunteers. These allies could assist with a successful safety campaign goals based on the local concerns and issues. It may be necessary to develop creative media placement strategies to achieve campaign goals.

The Federal Highway Administration provides a resource on their website detailing the elements required to conduct a successful local safety campaign: http://safety.fhwa.dot.gov/local_rural/pedcampaign/guide.htm#2.

Recommendation

This Plan recommends the City consider implementation of a traffic safety program such as StreetSmarts.



Davis, CA StreetSmarts campaign posters designed by local students

7.1.2 Bicycle Resource Website *(Priority Program)*

Many cities in California host a bicycle resource website. These websites typically provide a bicycle map of the City, bicycle parking locations, and information about the local Bicycle and/or Pedestrian Committee and local advocacy groups.

The City of San Mateo dedicates a page of its website to bicycle information

Recommendation

This Plan recommends the City develop a resource website including the following components:

- Dynamic bikeway and bike parking map
- Walking map
- New bikeway announcements when implemented
- Bicycling tips, including how to:
    - Carry items using baskets and panniers
    - Properly lock a bicycle
    - Ride in the rain with help from fenders and rain gear
- The importance of bicycle lights and reflectors
- Bikeway maintenance and repair phone number
- Driver speed feedback sign request forms
- Bicycle and Pedestrian events calendar, including education and skills classes

This Plan also recommends that the City's website provide bicycle-related information in Spanish and other languages.

Sample websites:

- Los Angeles Department of Transportation Bicycle Services: http://www.bicyclela.org/
- Bike Santa Clarita: http://bikesantaclarita.com/
- City of San Mateo, CA: http://www.ci.sanmateo.ca.us/index.aspx?NID=2118

7.1.3 Bike Rodeos (Priority Program)

In conjunction with development of this Plan, the City and consultant team offered Bike Rodeos at four elementary schools using curriculum developed by the League of American Bicyclists. These after-school rodeos provided age-appropriate material about bicycling safety to children enrolled in Turlock schools, and included a bicycle safety check, a helmet fit check, and on-bike instruction on starting and stopping, avoiding obstacles, turning and signaling, and yielding.

More information on the Bike Rodeo process is included in Appendix G.

Recommendation

This Plan recommends the City offer bike rodeos on an annual basis at four schools minimum, rotating through all campuses in the district.

Students at Crowell Elementary School practice bicycle handling skills and traffic safety in an after school bicycle rodeo

7.1.4 Student Bicycle and Pedestrian Traffic Safety Education Classes

Student education programs are an essential component of a Safe Routes to School effort. Students are taught traffic safety skills that help students understand basic traffic laws and safety rules. Such education programs can occur inside the classroom with outside experts or in a school assembly. Potential pedestrian education curriculum elements include traffic sign identification and how to use a crosswalk.

Typical school-based bicycle education programs educate students about the rules of the road, proper use of bicycle equipment, biking skills, street crossing skills, and the benefits of biking. Education programs can be part of a Safe Routes to School program. These types of education programs are usually sponsored by a joint City/School District committee that includes appointed parents, teachers, student representatives, administrators, police, active bicyclists and engineering department staff.

Recommendation

This Plan recommends the City pursue a Safe Routes to School Program that includes annual youth pedestrian and bicycle safety education classes. The City should consider the need for multi-lingual instruction.

Sample programs:

- National Highway Traffic Safety Administration http://www.nhtsa.gov/ChildPedestrianSafetyCurriculum
- League of American Bicyclists: http://www.bikeleague.org/content/ride-smart-0
- Bicycle Transportation Alliance – Portland, OR: http://www.bta4bikes.org/resources/educational.php

7.1.5 Adult Bicycling Skills Classes

Community members can also particpate in private bicycling skills classes. The most common program is the League of American Bicyclists courses (including Traffic Safety 101, Traffic Safety 201, and Commuting), taught by League Certified Instructors. Courses cover bicycle safety checks, fixing a flat, on-bike skills, crash avoidance techniques, and traffic negotiation.

Recommendation

This Plan recommends that the City host or support adult bicycling skills classes on a bi-annual basis, at minimum. The City may also highlight local or nearby courses in outreach materials. The City should advertise the coursed in multiple languages and use responses to the advertisement to determine the need for multi-lingual instruction.

Sample programs:

- League of American Bicyclists: http://bikeleague.org/programs/education/courses.php

7.1.6 Diversion Class

Diversion classes are classes offered to first-time offenders of certain traffic violations, such as running a stoplight. The classes can be aimed at pedestrians, bicyclists, and/or motorists. In lieu of a citation and/or fine, individuals can take a one-time, free or inexpensive class. For example, in Marin County (www.marinbike.org/Campaigns/ShareTheRoad/Index.shtml#StreetSkills), interested citizens can take the class even if they did not receive a ticket.

This program is a good way to educate road users about rights and responsibilities, and can also increase public acceptance of enforcement actions against pedestrians.

Recommendation

This Plan recommends the City consider offering diversion classes for first-time offenders of minor traffic violations.

7.2 Encouragement

7.2.1 Safe Routes to School Program *(Priority Program)*

Helping children walk and bicycle to school is good for children's health and can reduce congestion, traffic dangers and air pollution caused by parents driving children to school. Safe Routes to School programs use a "5 Es" approach; using Engineering, Education, Enforcement, Encouragement, and Evaluation strategies to improve safety and encourage children walking and biking to school. The programs are usually run by a coalition of city government, school and school district officials, and teachers, parents, students, and neighbors.

A Turlock Safe Routes to School program will be a key element to implementing this Plan, especially considering Turlock's system of neighborhood schools that places most students within walking or bicycling distance of their school.

Recommendation

This Plan recommends that the City pursue grant funding to develop and implement a Safe Routes to School program.

Resource Guide: National Center for Safe Routes to School: http://www.saferoutesinfo.org/

7.2.2 Walking School Bus *(Priority Program)*

Walking school buses and bike trains are organized groups of children walking or biking to school with an adult. They address parental concerns about children walking or biking to school alone, which were expressed during community outreach conducted for this Plan. Parent or teacher volunteers can lead walking school buses for students, and can engage middle- or high-school students to help younger students get to school safely.

In addition, shifting parents away from driving to school may reduce congestion, improve air quality, and encourage active communities.

Recommendation

This Plan recommends the City support the development of walking school buses.

http://guide.saferoutesinfo.org/walking_school_bus/index.cfm

Walking school buses led by a parent or school volunteer can help address personal safety concerns

7.2.3 Bike to Work Day (Priority Program)

Bike to Work Day is a region wide event promoting bicycling to work and is typically the third Thursday in May. Among the most popular components of Bike to Work Day are energizer stations, where volunteers set up a table with promotional items, coffee, and snacks along popular bicycle commuting routes during the morning and afternoon commute hours.

Sample program: the Atlanta Bicycle Coalition organized energizer stations throughout the month of May offering snacks and beverages to cyclists, and partnered with a local bike shop to provide complimentary quick tune-ups as well.

Recommendation

This Plan recommends that the City consider sponsoring a Bike to Work Week. The week's lineup of events can include a Bike to Work Day celebration downtown with Pedal Pools (group rides), raffles and prizes, and speeches from Council Members or the Mayor. The type of events held can be developed through community input.

Bike to Work event hosted by a local business

7.2.4 Launch Party for New Bikeways *(Priority Program)*

When a new bikeway is built, some residents will become aware of it and use it, while others may not realize that they have improved bikeway options available. A launch party is a good way to inform residents about a new bikeway and can also be an opportunity to share other bicycling materials (such as maps and brochures) and answer questions about bicycling. It can also be a media-friendly event, with elected official appearances, ribbon cuttings, and a press release that includes information about the new facility, other existing and future facilities, and any timely information about bicycling.

Sample Program: When a new bikeway is built, the City of Vancouver throws a neighborhood party to celebrate. Cake, t-shirts, media and festivities are provided and all neighbors are invited as well as city workers (engineers, construction staff, planners) who participated in project planning and implementation.

Recommendation

This Plan recommends that the City host a launch party for all high priority projects recommended in this plan as well as inform the public of all new bikeways through its website and social media outlets.

7.2.5 Monthly Walk and Bike to School Days

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

Recommendation

This Plan recommends the City support the development of monthly walk and bike to school days.

7.2.6 Bicycle Helmet Giveaway

In several cities, the local police department and their respective Police Activities League (PAL) host free bicycle helmet giveaways for children. Some departments even give helmets to children who are observed bicycling without one, provided they have their parents sign and return a "citation" issued by the officer. The State of California's Office of Traffic Safety offers grants to purchase bicycle helmets for giveaways.

The Police Activities League (PAL), a non-profit organization within the Police Department, continues to give away helmets from the same OTS grant. PAL's intention is to reinforce laws requiring safe bicycle use and promote trust between police officers and children.

Recommendation

This Plan recommends that the City coordinate with the local PAL to secure funding and organize a Bicycle Helmet Giveaway.

7.2.7 Employer-Based Encouragement Programs

Though the City cannot host these programs, it can work with or provide information to employers about commuting by bicycle. Popular employer-based encouragement programs include hosting a bicycle user group to share information about how to bicycle to work and to connect experienced bicyclists with novice bicyclists. Employers can host bicycle classes and participate in Bike to Work day.

Recommendation

This Plan recommends that the City collaborate with employers to implement bicycle related programs.

7.2.8 City Walking Map

City Walking Maps can help to make pedestrians more aware of existing opportunities and facilities for walking within the City of Turlock.

Recommendation

The Plan recommends the City provide a walking map that includes major destinations, trails, and approximate walking times between locations. The map could be made available on the City website.

7.3 Enforcement

7.3.1 Parent and Student Valet

School loading areas often become congested and disorderly without supervision. At the same time, expecting teachers or school staff to manage all the loading zones of a school can be infeasible. Training parent and student volunteers to manage traffic and assist in loading can significantly improve safety and the traffic flow around schools.

Under a valet program, parents and students are trained in how to keep traffic moving in a loading zone, how to properly assist students in and out of vehicles, and how to properly discourage unsafe or undesirable habits in the loading zone. Volunteers are often outfitted with florescent vests to increase their visibility and denote their role as a school representative.

While valet duties are not suitable for young children, students in the 4th grade and above can act effectively as valets when under adult supervision. Such programs also provide responsibilities and valuable character-building opportunities for students.

Recommendation

This Plan recommends the school district consider a parent and student valet program.

7.3.2 Targeted Enforcement

Targeted enforcement is focused efforts of police officers. For example, the Police Department conducts pedestrian stings at locations where pedestrians and motorists conflict and do not comply with traffic signals. Similar strategies may be applied to areas with bicycle traffic.

Recommendation

This Plan recommends the City coordinate with and/or consider funding the Police Department to conduct targeted enforcement stings at locations known for noncompliance with traffic laws and at high conflict or high bicycle-related collision areas.

7.3.3 Speed Feedback Signs

Speed feedback signs display the speed of passing motor vehicles, assuming that motorists will slow down if they are aware of their speed.

Recommendation

This Plan recommends that the City include information on how to request a speed feedback sign on its bicycling resource website.

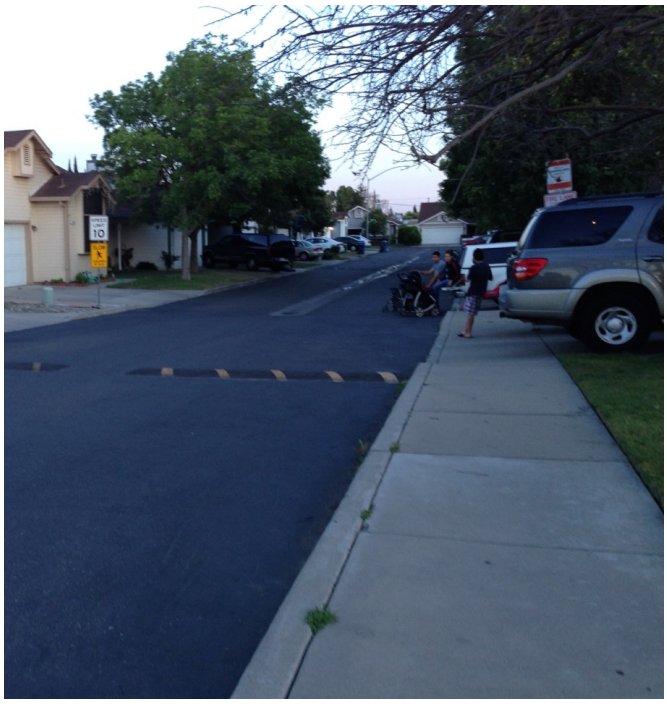
Speed Feedback signs can be an education and enforcement tool

7.3.4 Parking Enforcement

It is illegal to block the sidewalk or crosswalks with a motor vehicle. Vehicles parked on sidewalks or crosswalks impede pedestrian travel, particularly those who use wheelchairs and strollers, and force pedestrians to travel in the street to pass. Similarly, vehicles parked or stopped in bicycle lanes or blocking access to shared-use paths can force bicyclists to move into the vehicle lane, or make unpredictable movements to avoid the obstruction.

Recommendation

This Plan recommends the City increase its parking enforcement efforts.



7.4 Evaluation

7.4.1 Student Hand Tallies and Parent Surveys *(Priority Program)*

While distributing and collecting parent surveys is very time- and labor-intensive, student hand tallies are relatively easy to collect and can be analyzed quickly. The National Center for Safe Routes to School provides Student Hand Tally and Parent Survey forms and will enter the data from those forms. This can be a cost effective way to understand how families get to and from school and the reasons for their mode choice.

Recommendation

This Plan recommends the City and School District conduct student hand tallies and parent surveys every other year.

http://www.saferoutesinfo.org/data-central/data-collection-forms

7.4.2 Counts Program

Establishing an annual count program would help track trends and measure the success of projects and programs. The program should tally the number of pedestrians and bicyclists at key locations around the community, particularly at pinch points, in downtown, near schools, and on greenway trails. This will provide the city with information on walking and bicycling activity levels

It is recommended that the data collection program use methods developed by the National Bicycle and Pedestrian Documentation Project (NBPDP). Counts should be performed in the second week in September; one weekday count (from 5-7 PM on a Tuesday, Wednesday, or Thursday) and at least one Saturday count (12 noon – 2 pm) should be completed. Counters can be city staff or volunteers, as long as proper training is provided. The NBPDP website includes count and survey instructions, forms, and participant training materials:

http://www.bikepeddocumentation.org

Manual counts are inexpensive to implement and help gather behavioral data (gender, age group, sidewalk versus roadway riding). However, they necessarily gather a very small sample size and are subject to significant variability, and are therefore not statistically robust. Manual counts should be one part of a complete evaluation program that also includes automatic machine counters. New and increasingly affordable technologies including active infrared, inductive loops, and pneumatic tubes that exclude motor vehicles in mixed traffic environments can produce much larger and statistically significant datasets. A limited number of automatic counters can be rotated around the city in a mobile counting program and in many cities is funded out of the city's existing motor vehicle count budget.

http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_797.pdf

Recommendation

This Plan recommends the City develop a program to conduct bicycle and pedestrian counts on a regular basis.