City of Merced

2013 Bicycle Transportation Plan

The City of Merced's 2013 Bicycle Transportation Plan is Online.

In an effort to conserve resources and to protect our natural resources, this document is available online at:

http://www.cityofmerced.org/depts/cityclerk/boards_n_commissions/bicycle_advisory_commission/merced_bike_plan.asp

CD's of the Plan are also available for purchase at the City of Merced Planning Department.

When printing, please print on recycled paper. We also hope that you will help us continue to be sustainable by sharing printed plans with friends and recycling when it is needed.

9 APPENDICES

ACKNOWLEDGMENTS

CITY OF MERCED BICYCLE ADVISORY COMMISSION

The City of Merced Bicycle Advisory Commission (BAC) was established by the Merced City Council through Ordinance No. 2323, which was introduced on February 2, 2009, and passed and adopted on February 17, 2009. Work of the BAC is guided by Chapter 2.52 of the Merced Municipal Code, which declares its purposes are to serve as an advisory body to the City Council on matters having to do with bicycle transportation within the City of Merced, with the intent to:

- Improve conditions for bicycles;
- Promote bicycling as a means of transportation;
- Improve safety conditions for bicyclists; and,
- Help implement policy, programs and bike routes for all ages.

To accomplish these purposes, the BAC was given several responsibilities:

1) Review and advise the City Council, as directed by the City Council or requested by staff, on the design of capital improvement projects, street improvements, and parking facility projects as they relate to bicycling, except for matters pertaining to pedestrian issues;
2) Review and advise the City Council, as directed by the City Council or requested by the staff, on changes and updates to the Bicycle Master Plan, General Plan, Municipal Code, and other policy documents which relate to bicycling;
3) Promote bicycling as a viable form of transportation;
4) Assist in the development and dissemination of bicycle safety awareness and education materials to the community;
5) Initiate requests to City Staff from the community on issues of concern related to bicycling; and,
6) Other duties as the City Council may proscribe.

Bicycle Advisory Commission Members (2013)

Patrick Bauer (Ex-Officio member)

Jules Comeyne

Lisa Kayser-Grant

David Guzzetta (Chairperson)

Kara Middlebrooks

David Noble

Julianne Sims-Culot

Robert Tyler

TECHNICAL ADVISORY COMMITTEE

Members of the *Technical Advisory Committee* consisted of Staff from the City of Merced and the Merced County Association of Governments (MCAG), and included:

Ty Phimmasone -- MCAG Planner (MCAG)

Matt Fell -- MCAG Transportation (MCAG)

Natalia Austin -- GIS Technician (MCAG)

Bill King -- Principal Planner (City-Development Services)

Kim Nutt -- Planning Technician (City- Development Services)

Julie Nelson – Associate Planner (City-Development Services)

Julie Sterling – Associate Planner (City-Development Services)

Isai Palma – Planning Department Intern

Haley Parker – Planning Department Intern

Mark Hamilton – Planner (former)

Ken Elwin -- City Engineer (City- Development Services)

John Sagin -- Senior Architect (City- Development Services)

Mike Conway – Assistant to the City Manager

Ruthanne Harbison – City of Merced, GIS Specialist

Nancy Lee – Secretary, Public Works Department

George Sanchez – Public Works Supervisor-Parks/Trees, Public Works Department

Mike Miller – Public Works Manager- Tax Services, Public Works Department

Norm Andrade -- City of Merced Police Chief

Vance Walker – Field Training Officer, Merced Police

AGENCIES AND COMMUNITY PARTNERS

Various agencies and community stakeholders have an interest in the outcome of the plan, and represent bicycle advocates, government entities that provide services to populations that utilize bicycle facilities; bicycle recreationalists; public health issues; and transportation providers. The stakeholders for the *City of Merced 2013 Bicycle Transportation Plan* (2013 BTP) include:

- Merced Bicycle Coalition
- Building Healthy Communities
- Merced/Mariposa Asthma Coalition
- UC Merced Transportation and Parking Services (TAPS)
- Merced County Public Health Department
- Merced City School District and Merced Union High School District
- Golden Valley Health Center

INTRODUCTION

CHAPTER 1

INTRODUCTION

1.1 OVERVIEW

1.2 SETTING

1.2.1 Land Use

1.2.2 Population

1.2.3 Area Climate

1.3 PURPOSE

1.4 PLAN DEVELOPMENT

1.4.1 Bicycle Transportation Plan Content Requirements

1.4.2 2003 Bicycle Transportation Plan

1.4.3 2008 Bicycle Transportation Plan

1.4.4 2013 Bicycle Transportation Plan

1.5 FUTURE PLAN NEEDS AND ACTIVITIES

1.1 Overview

The City of Merced will continue to face significant change over the next several years. Bike commuting interests and needs will likely increase due to its proximity to the University of California Merced campus, which had a student–body population of 5,760 in 2013 and is planning to expand to 10,000 students by 2020. Many local groups are engaged in healthy-living initiatives, which will encourage more bicycle riding in Merced. The potential high-speed rail station could also bring additional demand and opportunity for increased bicycle commute trips. These provide exciting opportunities for Merced to evolve with the changing regional environment. One of those opportunities is the potential for developing a more Bicycle-Friendly Community.

INTRODUCTION

Cities that provide comprehensive bikeways offer enormous benefits to both the cycling and non-cycling public. Bikeways and bicycle support facilities attract more bicyclists, bringing air, noise, and water quality benefits. The reduction of road maintenance costs results in a more efficient use of public dollars. The carrying capacity of the transportation system is increased. Bikeways improve safety for all users; bicyclists feel they have a safe space on the road and tend to be more law-abiding, while motorists drive with greater ease knowing where bicyclists are likely to be. Bikeways also create public awareness of bicyclists' right to share the road.

Over the course of the last 25 years, the City of Merced has shown a serious commitment to creating a bicycle friendly community investing over 4 million dollars in developing its bikeway system. The *City of Merced 2013 Bicycle Transportation Plan* (*2013 BTP)* continues that tradition by including over 100 potential projects for bikeways, support facilities, and other related activities and tasks. The *2013 BTP* accomplishes one step of several to fully realize the development of the listed projects. The ability to accomplish projects, however, is dependent upon a dynamic setting of funding and staff resources as they apply to all steps, which include: 1) describing the community vision (the BTP); 2) having available local funding sources; 3) the ability and success to compete for and being awarded state and federal grant funds; 4) completed environmental reviews; 5) completed engineering and design; and, 6) continued community support for projects. Thus, while the *2013 BTP* is a significant initial step toward realization of the City's intent to construct bikeways and support facilities, the scope and function of the *2013 BTP* is to identify the desired possibilities of the community which may be implemented during the 5-year life of the BTP.

1.2 Setting

The City of Merced is the largest urbanized area in Merced County, a predominantly agricultural county. The City of Merced is about 23 square miles in area, and measures approximately 7 miles in the north-south direction and 6.5 miles in the east-west direction. Unlike many San Joaquin Valley cities, Merced is fortunate to have several natural creeks running through the City. Merced is home to the Merced Community College, the ever-expanding UC Merced, and various technical training facilities.

Bicycles are an important mode of transportation in the community. Merced has utilized the natural creeks to construct bike paths alongside them, and has set up bike lanes and routes along major streets. Merced has both a favorable climate and a relatively-flat terrain to encourage the use of bicycles for both recreation and fitness, and for transportation.

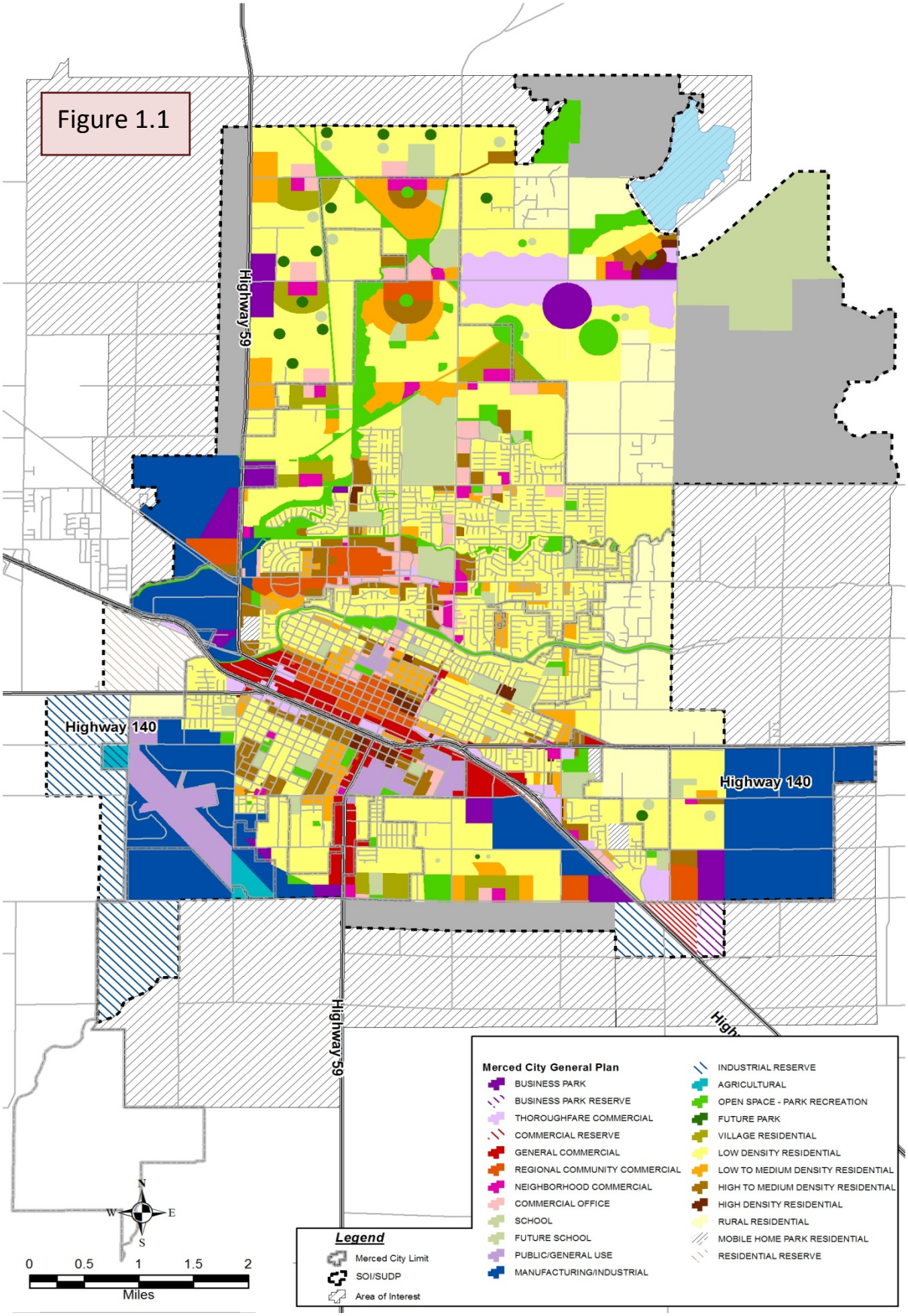
1.2.1 Land Use / Settlement Patterns

Merced residents enjoy Merced's compact size, its small-town feel, abundant shopping, pleasant neighborhoods, beautiful tree-lined streets, creek side bikeways, parks and historic structures, close proximity to the Merced College and the U.C., and surrounding agricultural and open space land. As envisioned in the City's General Plan in 2030, parks and open spaces will link residential, commercial, and employment centers in such a manner as to provide an attractive pedestrian and bicycle alternative to driving. Convenience, safety, and connectedness of bicycle bikeways and support facilities benefit bicycle usage. The City's Official Land Use Diagram in the *Merced Vision 2030 General Plan* (Figure 1.1) maps the existing and proposed land use and settlement patterns, showing residential neighborhoods, schools, shopping centers, public buildings, and major employment center locations, among others. Employment centers are typically focused in the City's commercial, industrial and business park land use designations. Maps in Appendix C show employment concentrations relative to existing and proposed bikeways.

The General Plan Land Use Diagram includes the growth area of UC Merced, the University Community Plan, as well as the Bellevue Community Plan area. The population in these areas is expected to have a higher than average use of bikeways and support facilities than the remainder of the City.

.

Figure 1.1

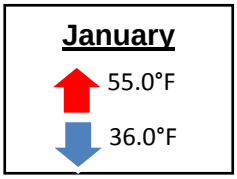

Highway 59
Highway 140
Highway 140
Highway 59
Merced City General Plan
BUSINESS PARK
BUSINESS PARK RESERVE
THOROUGHFARE COMMERCIAL
COMMERCIAL RESERVE
GENERAL COMMERCIAL
REGIONAL COMMUNITY COMMERCIAL
NEIGHBORHOOD COMMERCIAL
COMMERCIAL OFFICE
SCHOOL
FUTURE SCHOOL
PUBLIC/GENERAL USE
MANUFACTURING/INDUSTRIAL
INDUSTRIAL RESERVE
AGRICULTURAL
OPEN SPACE - PARK RECREATION
FUTURE PARK
VILLAGE RESIDENTIAL
LOW DENSITY RESIDENTIAL
LOW TO MEDIUM DENSITY RESIDENTIAL
HIGH TO MEDIUM DENSITY RESIDENTIAL
HIGH DENSITY RESIDENTIAL
RURAL RESIDENTIAL
MOBILE HOME PARK RESIDENTIAL
RESIDENTIAL RESERVE
Legend
Merced City Limit
SOI/SUDP
Area of Interest
N
W
E
S
0
0.5
1
1.5
2
Miles

1.2.2 Population

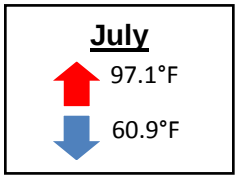
The City of Merced was incorporated as a Charter City in 1889. Since incorporation, the City has grown to a population of 80,542 in 2013. According to the *Merced Vision 2030 General Plan*, Merced's population may approach 117,000 persons by 2020, and 159,900 by 2030. These figures include students and faculty that attend or work at UC Merced and nearby neighborhoods.

1.2.3 Area Climate

The City of Merced has moderate climate, making year-round bicycling possible. Merced has wet, cool winters and hot, dry summers. Although thunderstorms may linger into the valley during the summer, they are normally dry.

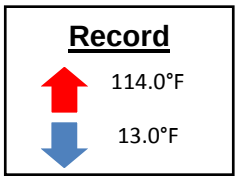


Average January temperatures are a maximum of 55.0°F and a minimum of 36.0°F.



Average July temperatures are a maximum of 97.1°F and a minimum of 60.9°F.

There is an average of 98.7 days with highs of 90°F (32°C) or higher and an average of 33.6 days with lows of 32°F (0°C) or lower.



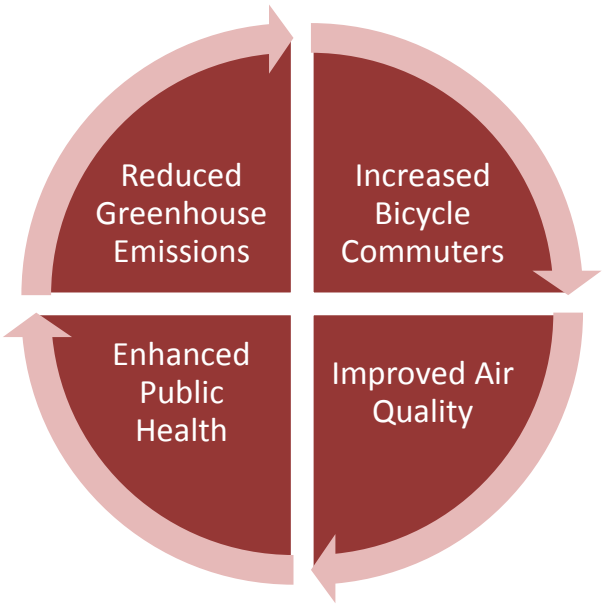
The record highest temperature of 114°F was recorded on July 24, 1902, and August 8, 1905. The record lowest temperature of 13°F was recorded on January 13, 2007.

Most of the rainfall occurs during the winter and averages 12.21 inches (310 mm) annually. There are an average of 48 days annually with measurable precipitation. In the winter, the area is susceptible to significant amounts of fog. The dense fog creates hazardous conditions for all types of commuters.

1.3 Purpose

The purpose of the *2013 BTP* is to provide City Staff and the community with a comprehensive, long-range view for the development of bicycle facilities and programs within the City of Merced. A certified BTP also qualifies the City to apply annually for State of California Bicycle Transportation Account funds through Caltrans. The implementation of this plan will result in a comprehensive, continuous, and well-maintained bikeway network, maximizing bicycling benefits to the area's cycling and non-cycling public.

BENEFITS:



1.4 Plan Development

The *2013 BTP* is a third generation plan, following Bicycle Transportation Plans prepared in 2003 and 2008. As with its predecessors, the *2013 BTP* contains minimum content requirements in order to be eligible to receive Bicycle Transportation Account (BTA) funds.

1.4.1 Bicycle Transportation Plan Content Requirements

In order to be eligible to receive Bicycle Transportation Account (BTA) funds, minimum content requirements guide the composition of BTPs; these are specified in the **STREETS AND HIGHWAYS CODE SECTION 891.2:** A city or county may prepare a bicycle transportation plan, which shall include, but not be limited to, the following elements:

a) The estimated number of existing bicycle commuters in the plan area and the estimated increase in the number of bicycle commuters resulting from implementation of the plan.	**e)** A map and description of existing and proposed bicycle transport and parking facilities for connections with and use of other transportation modes. These shall include, but not be limited to, parking facilities at transit stops, rail and transit terminals, ferry docks and landings, park and ride lots, and provisions for transporting bicyclists and bicycles on transit or rail vehicles or ferry vessels.	**g)** A description of bicycle safety and education programs conducted in the area included within the plan, efforts by the law enforcement agency having primary traffic law enforcement responsibility in the area to enforce provisions of the Vehicle Code pertaining to bicycle operation, and the resulting effect on accidents involving bicyclists.	**i)** A description of how the bicycle transportation plan has been coordinated and is consistent with other local or regional transportation, air quality, or energy conservation plans including, but not limited to, programs that provide incentives for bicycle commuting.
b) A map and description of existing and proposed land use and settlement patterns which shall include, but not be limited to, locations of residential neighborhoods, schools, shopping centers, public buildings, and major employment centers.	**f)** A map and description of existing and proposed facilities for changing and storing clothes and equipment. These shall include, but not be limited to, locker, restroom, and shower facilities near bicycle parking facilities.	**h)** A description of the extent of citizen and community involvement in development of the plan including, but not limited to, letters of support.	**j)** A description of the projects proposed in the plan and a listing of their priorities for implementation.
c) A map and description of existing and proposed bikeways.			**k)** A description of past expenditures for bicycle facilities and future financial needs for projects that improve safety and convenience for bicycle commuters in the plan area.
d) A map and description of existing and proposed end-of-trip bicycle parking facilities. These shall include, but not be limited to, parking at schools, shopping centers, public buildings, and major employment centers.			*The City's BTP was developed consistent with these guidelines, and such is certified by the Merced County Association of Governments (Attachment A).*

1.4.2 2003 Bicycle Transportation Plan

The *2003 Bicycle Transportation Plan (2003 BTP)* was originally developed over the course of five years with the input of a Technical Advisory Committee (TAC). The Committee consisted of: City of Merced staff representing the Parks and Recreation Department, Planning Department and Engineering Department; the Merced County Association of Government staff; an Education facility representative; and business leaders. The Committee focused on two main tasks.

Target Areas

The TAC identified five areas within the City of Merced as target areas. These areas around the City had been identified as major trip generators, which may be better accessed by additional bicycle facilities. The target areas included: The Western Industrial Park, Merced College, South Merced including Airport Industrial Park, Eastern Merced including Golden Valley High School, and Downtown Merced. The *2013 BTP* carries these target areas forward to emphasize the importance of this prior work.

Bikeway Needs Assessment

After determining the areas of Merced most likely to benefit from a bikeway infrastructure, the Committee evaluated existing bikeways for their safety and connectivity between residential areas and the target areas. Bikeway needs were identified in terms of route improvements, preferred projects, incentives to commute, safety concerns, and support facilities.

1.4.3 2008 Bicycle Transportation Plan

The *2008 BTP* elements utilized a simpler process that involved staff input and a public workshop seeking public comments. The *2008 BTP* carried forward the uncompleted projects of the *2003 BTP*.

1.4.4 2013 Bicycle Transportation Plan

Development of the *2013 BTP* is described in Chapter 8 of the *City of Merced 2013 Bicycle Transportation Plan*, and was the first to be developed under the guidance of the City of Merced Bicycle Advisory Commission. Highlights included: field surveys to determine facility presence and quality, extensive public outreach, additional projects, a quantitative prioritization methodology, and additional bikeway classifications.

1.5 Future Plan Needs & Activities

During the preparation of the *2013 BTP*, the development team identified several studies and assessments that could improve the quality of the planning process. These are listed here so that during future updates (or prior to), these can be performed.

- Prepare a detailed comparison of the City's Official Design Standards to the standards listed in Chapter 3 of the BTP, in order to identify potential need for amendments to the BTP or the design standards.
- In conjunction with the Engineering Department, continue to assess the potential for new bikeways based on existing street features such as width, rights-of-way, curb, gutter and sidewalk, and on-street parking.
- Prepare a "Bike Commuter Map" to guide citizens and visitors to navigate Merced bikeways.
- Create a map showing where it is illegal to ride a bike on City sidewalks.
- Create and post a survey to collect data regarding bike commuting patterns and concerns of local cyclists. The data could be entered into the City's Geographic Information System (GIS) as part of bike travel usage (location and extent) patterns, which in turn will be useful in the preparation of updates to the City's BTP. The Merced County Public Health Department has developed an initial survey that could be adjusted to suit the needs of the Bicycle Transportation Plan.
- Perform a complete survey of existing bicycle support facilities such as bicycle parking, showers, rest rooms, drinking fountains, etc.

Page Intentionally Left Blank

POLICY ELEMENT

CHAPTER 2

2.1 BICYCLE ADVISORY COMMISSION

2.2 COMPLETE STREET POLICIES

2.3 BICYCLE TRANSPORTATION PLAN CONSISTENCY ANALYSIS

2.4 BICYCLE TRANSPORTATION PLAN VISION, GOALS, AND POLICIES

2.1 Bicycle Advisory Commission

The City's Bicycle Advisory Commission was established by the Merced City Council through Ordinance No. 2323, which was introduced on February 2, 2009, and passed and adopted on February 17, 2009. The ordinance describes a three-fold purpose and jurisdiction of the BAC:

2.1.1 Improve Conditions for Bicyclists

- Reviewing and advising the City Council on the design of capital improvement projects, street improvements, and parking facility projects as they relate to bicycling, except for matters pertaining to pedestrian issues.
- Reviewing and advising the City Council on changes and updates to the Bicycle Master Plan, General Plan, Municipal Code and other policy documents which relate to bicycling.
- Initiate requests to City staff from the community on issues of concern (Liaison).

2.1.2 Promote Bicycling as a Means of Transportation

- Promote bicycling as a viable form of transportation.
- Initiate requests to City staff from the community on issues of concern (Liaison).

2.1.3 Improve Safety Conditions for Bicyclists

- Assist in the development and dissemination of bicycle safety awareness and education materials to the community.
- Initiate requests to City staff from the community on issues of concern (Liaison).

2.2 Complete Streets Policies

Multimodal transportation networks allow for all modes of travel including walking, bicycling, and transit to be used to reach key destinations in a community and region safely and directly. Jurisdictions can use *complete streets* design to construct networks of safe streets that are accessible to all modes and all users no matter their age or ability. *The California Complete Streets Act* (AB 1358), was passed and gives direction to local governments to address "complete streets" in their general plans. The Act states: "transportation planners must find innovative ways to reduce vehicle miles traveled (VMT) and to shift from short trips in the automobile to biking, walking, and use of public transit." [2]

The City's *Merced Vision 2030 General Plan* is a statement of the community's vision of its long-term or ultimate physical form, and is a guiding framework for land use decisions. While there are many *Complete Streets* Implementing Actions in the City's General Plan that apply to bicycle planning, the goal and related policies that guide the development of streets for use by all modes of transportation are presented on the next page.

Merced Vision 2030 General Plan Goal	
A Comprehensive System of "Complete Streets" Addressing all Modes of Transportation	
***COMPLETE-STREETS* RELATED**	
Policy T-1.1	Design streets consistent with circulation function, affected land uses, and all modes of transportation.
Policy L-3.1	Create land use patterns that will encourage people to walk, bicycle, or use public transit for an increased number of their daily trips.
Policy UD-1.2	Distribute and design urban villages to promote convenient vehicular, pedestrian, and transit access.
Policy UD-1.1	Apply transit-ready development or urban village design principles to new development in the City's new growth areas.
Policy L-3.3	Promote site designs that encourage walking, cycling, and transit use.
TRANSIT-RELATED	
Policy T-2.1	Provide for and maintain a major transit way along M Street and possibly along the Bellevue Road/Merced-Atwater Expressway and Campus Parkway corridors.
Policy T-2.2	Support and enhance the use of public transit.
Policy T-2.3	Support a safe and effective public transit system.
BIKE-RELATED	
Policy T-2.4	Encourage the use of bicycles.
Policy T-2.5	Provide convenient bicycle support facilities to encourage bicycle use.
Policy T-2.6	Maintain and expand the community's existing bicycle circulation system.
Policy OS-3.2	Maintain and expand the City's bikeway and trail system.
PEDESTRIAN-RELATED	
Policy T-2.7	Maintain a pedestrian-friendly environment.
Policy T-2.8	Improve planning for pedestrians.

In summary, the City's General Plan envisions that all streets should be designed as "Complete Streets" which address all modes of motorized and non-motorized transportation, including vehicles, transit, pedestrians, and bicycles. These goals and policies, together with the goals and policies of the *2013 Bicycle Transportation Plan*, form the foundation upon which to design, build, and construct bicycle facilities in the City of Merced.

2.3 BTP Consistency Analysis

The draft BTP was examined to assure consistency with other local plans and programs that provide incentives for bicycle commuting. The Merced County Association of Governments compared the *2013 BTP* with the *2011 Regional Transportation Plan*, while the City of Merced compared the *2013 BTP* with:

- The *Merced Vision 2030 General Plan*
- The *Martin Luther King Jr. Way Revitalization Plan*
- The *2012 Climate Action Plan*
- The *South Merced Community Plan*

The applicable excerpts of these plans' policies are located in Appendix B of the *2013 BTP*.

RELATED CITY POLICIES

A consistency check between the BTP policies and those of the *Merced Vision 2030 General Plan* and other related City bike-related policies was performed. For each topic area (Education, Encouragement, Engineering, Enforcement, Evaluation, and Equity), a listing of related policies is provided. The policies of the *2013 BTP* add direction and specificity to the broader guiding principles of these other policy documents. In those instances when policy-related language from these other plans add specificity not found in the *2013 BTP* Policies, those were added to the list of policies in Section 2.5, and are denoted in parenthesis by such policy and origin, for example, "CAP EM 1.3.9" from the City's *2012 Climate Action Plan*.

COMPLETE STREETS

Many of the bike-related policies of the *Merced Vision 2030 General Plan* support the concept of "Complete Streets." These policies are referenced under the "Equity" category, in recognition of bicycles as a transportation mode.

CODE AMENDMENTS

Merced Vision 2030 General Plan policies that mention the possibility of code amendments related to bike-related facilities are cited in the "Equity" Section.

2.4 BTP Vision, Goals, and Policies

2.4.1 Vision

The *2013 BTP* aims to inspire, educate, guide, and create a safe means of transportation throughout the community for all types of users.

The plan's goals and polices are framed around the six "E's" of bike planning, and include:

- Education
- Encouragement
- Engineering
- Enforcement
- Evaluation
- Equity

The sixth "E," Equity, is added to the list in recognition that the City considers bicycles a viable transportation mode in the community for many citizens.

The goals and policies of the *2013 BTP* are in addition to and support the goals, objectives, policies, and implementation actions of other plans, such as the *Merced Vision 2030 General Plan*, the *2012 Climate Action Plan*, and the *2011 Regional Transportation Plan*.

Policies from the *2008 BTP* were carried forward into the *2013 BTP*, and were adjusted based in part on the feedback from the *Fall 2011 Bicycle Friendly Community* assessment and public comments received in the preparation of the *2013 BTP.*

2.4.2 Education

Education, an integral part of a successful bike plan, will promote bicycling as a viable and attractive transportation mode, and may also lead to fewer bike-related collisions. All citizens engaged in riding bicycles could benefit from learning bicycle-related laws and safe-riding techniques. Motorists should also be reminded to be aware of and be respectful to bicyclists sharing the roadways or crossing intersections and driveways.

GOAL: Educate the public, specifically cyclists and motorists, of their responsibility to operate their vehicles in accordance with traffic laws. Education should encompass safety, bicycle handling skills, and traffic skills.

Policies:

- Promote bicycle safety programs in employment centers and local schools, and to adopt a more proactive approach to bicycle safety education, including holding yearly safety classes at local schools at the beginning of the school year.
- Seek to educate drivers and bicyclists by publicizing and promoting safe bicycle commuting.
- Consider the dedication of a new page on the City's website to bicycle transportation, recreation, and education; include links to the *2013 BTP*, bicycle laws, safety tips and other such helpful resources.
- Consider the use of the City's "Your City Connection" newsletter as a means of distributing bike safety information to the general public.

2.4.3 Encouragement

Encouragement includes ***partnering*** with local bicycling champions to support bicycling education and fun activities. The City of Merced, in a ***leadership*** example role, is doing its part as a major employer by implementing "eTrip" measures to encourage its employees to use alternative modes of transportation to get to/from work. ***Coordinating*** bicycle planning and implementation with the local interest entities, (i.e. employers, school districts, Merced College, UC Merced, commercial and industrial businesses), will build the sense of benefit through ownership. Educating the public of the financial, health, and environmental ***benefits*** of bicycling will provide further encouragement for this mode choice.

GOAL: Promote the financial, health, and environmental benefits of bicycle commuting.

Policies:

- Encourage and assist employers to implement bike-to-work incentive programs at the workplace.
- Continue to support cycling sports, family fun rides, and other cycling events in the City as a means to encourage bicycling.
- Encourage the use of bike transportation by providing students and school faculty with safe and direct bicycle facilities.
- List bike repair facilities on an updated bikeway map.
- Continue with programs that educate the general public on the health benefits of bicycling.
- Encourage large employers to promote carpooling and other ***transportation alternatives*** within their work force (GP T-1.6c)
- Seek to create an incentive-based program as a means to encourage employers to provide destination amenities required by bicyclists, including: safe, secure, covered bicycle parking; and showers and lockers at workplaces (CAP EM 1.3.7) – also see GP L-2.7 and T-2.5.

Related City Policies: (T-1.6, L-2.7,L-3.1, T-1.2, T-1.8, T-2.1, T-2.4, T-2.5, T-2.6, T-2.9, P-7.1, OS-3.4, SD-1.4, SD-1.5, SD-4.2 and EM 1.3.7.)

2.4.4 Engineering

Continuing to improve the bikeway system involves the coordination of the City's Planning and Engineering Departments with the public. This coordination addresses the major consideration to ***provide safe, convenient, and complete bikeway system access from residences to destinations***. For the existing bikeway system, measures could be implemented to optimize its attractiveness and usefulness.

GOAL: Strive to provide safe and convenient bikeway access and support facilities to all destinations within the City and other regional destinations, including the UC Merced campus.

Policies:

- Strive to provide bikeways that link residential areas with employment centers, downtown, schools, shopping centers, parks, and other major target areas.
- The bikeway system should fit the needs of commuters, while serving recreational and exercise purposes.
- Site bicycle support facilities such as bike racks, lockers, water fountains, etc., along bikeways and near destination areas, to the extent possible.
- Plan bicycle facilities in coordination with the development of UC Merced.
- Continue to integrate bicycling with the transit system.
- Promote the development of a “Bicycle Buddy” website.
- Design bikeways that integrate with the City’s Parks and Open Space Master Plan.
- To support those who choose to use bicycles as their sole means of transportation, try to design facilities that support riding at night.
- In order to better meet the needs of the anticipated increasing ridership and to install the best designs possible, continue to provide training in bikeway design to City staff involved in land use and infrastructure development.
- Use cities designated by the League of American Bicyclists (LAB) as Platinum or Gold cities as models to follow for the best bikeway designs and encourage staff to seek advice from other bikeway planning professionals through the use of professional organizations to use as resources.
- In addition to off-street Class I Bikeways and Class II Bike Lanes, explore designs and appropriate sites in Merced for bicycle use spaces to be located within street rights-of-way having limited exposure to vehicular traffic, such as sharrows, shared streets, and bike boulevards (CAP, EM1.3.8).

Related City Policies: UE-1.3, L-1.9, L-2.8, L-2.10, L-3.1, L-3.3, L-3.5, T-1.1, T-1.5, T-2.5, T-2.6, T-3.5, P-5.2, UD-1.1, OS-3.1, OS-3.2, EM 1.3.8, EM 1.3.5, EM 1.3.4, EM 1.3.2, and EM1.3.1.

2.4.5 Enforcement

Enforcement means more than just police officers handing out tickets for violations. Enforcement is also about ***implementing proactive measures*** to improve the safety of bicyclists. Increasing the public's awareness of bicyclists through education will enhance ridership safety; as such, many of the Education-related policies supplement and support the "Enforcement" policies listed below.

GOAL: Reduce the incidents of bicycle-related collisions with enforcement that emphasizes education, compliance, and proactive measures.

Policies:

- Continue to design bikeways that minimize conflicts between bicyclists, vehicles, and pedestrians to the extent practical.
- Design bikeways that conform to the Caltrans Design Manual standards for bikeway classifications.
- Consider a system whereby bicyclists can easily report bikeway maintenance issues (i.e. sweeping, overgrown vegetation, lack of support facilities, vandalism, etc).
- Consider the provision of police patrol on bike paths.
- Consider pros and cons of well-lit bicycle facilities when updating the City's Design Standards.
- Through site plan review and consideration of use on bike lockers, seek to minimize the occurrence of bicycle thefts in the community.
- Promote increased traffic safety with special attention to intersection operations and associated design, and hazards which could cause personal injury (GP, T-1.4c).
- Situations where ***bike paths*** are located along the back sides of homes with limited visibility should be avoided as much as possible. Open fencing along ***bike paths*** should be considered, especially adjacent to multi-family developments (GP, OS-3.2h).

Related City Policies: T-1.4, T-1.7, T-1.7, UD-1.2 and OS-3.2.

2.4.6 Evaluation

To determine the benefits and successes associated with implementing the measures addressed in the *2013 BTP*, routine assessments will need to be conducted. As funding is made available, coordination between various City Departments (Planning, Engineering, Parks and Recreation, Police, and Public Works), will ensure the implementation of the most beneficial, high priority improvements.

GOAL: Develop means to finance and implement the *2013 BTP*, and to consistently and accurately *measure bicycle use* for transportation purposes. Monitor and record bikeway facility and program successes.

Policies:

- Encourage surveys at schools and major employers to measure bicycle ridership from year to year.
- Seek to measure bicycle traffic at various areas along the bikeway system.
- Monitor the progress of the *2013 BTP,* and update as required.
- Utilize the *2013 BTP* to guide bike-related decisions and recommendations.
- Seek funding from various sources to implement the *2013 BTP.*
- Include the Bicycle Advisory Commission in the BTP monitoring and updating process.
- Strive to maintain and/or improve standing/ranking on the League of American Bicyclist's list of "Bike Friendly Communities."
- Update the BTP to reflect the Climate Action Plan, and to coordinate with Complete Streets and Safe Routes to School policies (CAP EM 1.3.6)

Related City Policies: T-1.2, T-2.6, T-2.9, SD-1.2 and EM 1.3.6.

2.4.7 Equity

When considering transportation needs to accommodate growth of the community, improvements to the City's bikeway system should be implemented alongside the consideration of enhancements to other transportation modes (i.e. vehicular, transit, and pedestrian). It is also important to make sure that bicycle system improvements benefit the community as a whole, not just a limited geography or population. Reaching out to all regions of the community in workshop settings will provide opportunities for the City's populace to address their comments and suggestions during the planning process.

Many of the policies under the “Encouragement” category, as they pertain to partnering and coordination, also apply to “Equity,” as a means to providing bike facilities throughout the City to most potential users.

GOAL: Work to encourage *use of bicycles* as a transportation mode throughout the community for the residents, visitors, students and employees of the City of Merced.

Poicies:

- Continue to include, where appropriate, an assessment of bike transportation issues in City reports of discretionary projects, and environmental reviews.
- Seek to update the Official City Design Standards to be consistent with the *2013 BTP*, the *Merced Vision 2030 General Plan* and the *Climate Action Plan*, by inclusion of facilities such as: traffic signal sensors that detect bicycles, and signs beside and on the street that alert motor vehicle drivers to the presence and appropriateness of bicyclists on the street (CAP EM 1.3.9).
- Seek to develop an off-street bikeway and trail system in South Merced (General Plan Policy T-3.2, Implementing Action 3.2.e) (CAP EM 1.3.3).
- Where consistent with City policies, consider adoption of a code amendment concerning bike-related facilities (L-2.10, L-3.5, L-3.3, and T-2.5).

Related City Policies: UE-1.2, L-2.7, L-3.3, L-3.6, T-1.1, T-1.6, T-1.7, T-2.1, T-2.2, UD-1.2, SD-1.2, SD-1.3, SD-4.1, EM 1.3.9, EM 1.3.3, and SM (OS-1.1).

Page Intentionally Left Blank

BIKE-RELATED STANDARDS

CHAPTER 3

3.1 STREET RELATED MANUALS

3.1.1 The “Green Book”

3.1.2 The California Highway Design Manual

3.1.3 The Manual on Uniform Traffic Control Devices (MUTCD)

3.1.4 The California Fire Code

3.1.5 CA Streets and Highways Code and CA Vehicle Code

3.1.6 Local Manuals and Street Design Standards

3.2 BIKE FACILITY DESCRIPTION

3.2.1 Introduction

3.2.2 Bikeways

3.2.3 Bike Support Facilities and Activities

3.2.4 Bike Route Signage Standards

3.3 BIKE-RELATED STANDARDS USED IN THE CITY OF MERCED

3.3.1 City of Merced Bicycle-Related Design Standards

3.3.2 Bikeways and Support Facilities in the City’s Design Manual

3.3.3 Public Review Process

3.4 RECOMMENDATIONS

3.4.1 Bicycle Design Standards

3.4.2 Road Standards Recommendation

3.4.3 New Development Standards

3.1 Street-Related Manuals

In response to the State mandate for complete streets, California cities, including the City of Merced, are looking at ways to adjust the way they design and construct their streets. Existing standards and guidelines may prevent them from making the changes they seek, however. There are various local, state, and federal road design standards and guidelines. The following discussion of street-related manuals is provided to remove any confusion that may exist as to:

- What the City of Merced must follow
- What is merely guidance
- When the City can adopt its own standards
- When the City can use designs that differ from existing standards

To plan and construct a successful bicycle system, it is critical to understand these standards and guides. The most important of those standards and guides are the following:

- The American Association of State Highway and Transportation Officials' (AASHTO) *A Policy on Geometric Design of Highways and Streets* (the "Green Book")
- The California *Highway Design Manual*
- The *Manual on Uniform Traffic Control Devices* (MUTCD)
- The California Fire Code
- The California Streets and Highways Code and California Vehicle Code
- Local manuals or street design standards

3.1.1 The "Green Book"

The Green Book, otherwise known as the *American Association of State Highway and Transportation Officials' (AASHTO) A Policy on Geometric Design of Highways and Streets* provides guidance for designing geometric alignment, street width, lane width, shoulder width, medians, and other street features. The Green Book applies only to streets and roads that are part of the National Highway System (NHS). These are Interstate Freeways, principal routes connecting to them, and roads important to strategic defense. Although the Green Book's application is limited to these streets, some cities apply its recommendations to all streets. [1]

3.1.2 The California Highway Design Manual

The *California Highway Design Manual* (HDM) applies only to State Highways and State Bikeways within local jurisdictions. If cities deviate from the minimum widths and geometric criteria for bikeways spelled out in Chapter 1000, they are advised to follow the exemption process or experimental process as applicable. The HDM does not establish legal standards for designing local streets. However, like the Green Book, some cities apply HDM guidance to all streets. [1]

3.1.3 The Manual on Uniform Traffic Control Devices (MUTCD)

The MUTCD provides standards and guidance for the application of all allowed traffic control devices including roadway markings, traffic signs, and signals. The Federal Highway Administration oversees application of the MUTCD. California cities must follow the California MUTCD, which generally mirrors the federal MUTCD, but not always. The rules and requirements for the use of traffic control devices are different than for street design criteria. Local agencies have limited flexibility to deviate from the provisions of the California MUTCD in the use of traffic control devices due to the relationship between the MUTCD and state law. [1]

3.1.4 The California Fire Code

The *National Fire Code* has been adopted by the State of California. This code includes a design requirement for a minimum of 20 feet of an unobstructed clear path on streets, unless exempted by the local fire department. [1]

3.1.5 CA Streets and Highways Code and CA Vehicle Code

The *California Streets and Highways Code* and the *California Vehicle Code* include laws that must be followed in street design. These are embodied in the California MUTCD. Changes to the Streets and Highways Code and the Vehicle Code may cause the California MUTCD to change. [1]

3.1.6 Local Manuals and Street Design Standards

Cities are authorized to adopt or modify their own practices, standards, and guidelines that may reflect differences from the Green Book and the HDM.

NOTE: See Discussion in Section 3.4 for a description of what bike-related standards the City of Merced uses.

3.2 Bike Facility Descriptions

3.2.1 Introduction

Bike Facilities is a generic term for all types of bike-related improvements. Bike facilities fall into one of two broad categories: 1) Bikeways; and, 2) Bike Support Facilities. Bikeways generally consist of linear areas used for bike travel, whereas support facilities include items located along these paths such as bikeway undercrossings (or other safe methods to cross a road), drinking fountains, parking, signage, and lights. The discussion that follows describes bike-related improvements in terms of definitions, characteristics, and standards.

NOTE: It is important to note that while Caltrans standards will be met, where appropriate, to the extent consistent with the City's fiscal priorities, and that can be accommodated within the financial constraints of the City.

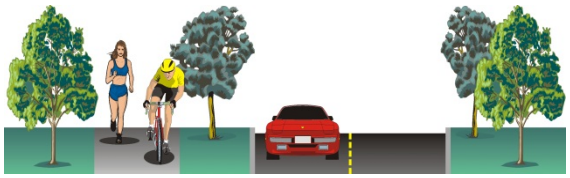
3.2.2 Bikeways

"Bikeway" is a generic term for any road, street, path, or way which in some manner is specifically designated for bicycle travel, regardless of whether such facilities are designated for the exclusive use of bicycles or are to be shared with other transportation modes. The *Caltrans Highway Design Manual (Chapter 1000)* provides specific design criteria for the different types of bike facilities.[3] Bikeways can be "off- road" or "on-road."

Off-road bikeways are trails and dedicated paths that are available to bicyclists which offer significant separation from motorized vehicle traffic

On-Road bikeways are located within or immediately adjacent to motorized vehicle travel lanes or on-street parking areas. Bicyclists riding on a roadway are granted all of the rights and are subject to all of the responsibilities applicable to the driver of a vehicle, with certain exceptions.

CLASS I – BIKE PATH



DEFINITION:

A bike path, or Class I bikeway, is a separate off-road bikeway that runs within its own right-of-way and does not share a road or street right-of-way with motor vehicles.

BICYCLE PATH CHARACTERISTICS:

- Bike paths are intended for the exclusive use of bicyclists, although they can also be utilized by pedestrians.
- Pathways are completely separated from motor vehicles by space or physical barrier, and have minimal cross-flow by motor vehicles (e.g. at driveways, roads and street intersections).
- Primarily used for recreational purposes along open space corridors, though they may be used for bike-related commuting too.
- Bike paths are physically separated from automobile traffic so that bicycles are not forced to travel in directions opposite the direction of travel of motor vehicles.
- Bike paths have relatively straight alignments that provide bicyclists good visibility and smooth turns.

BICYCLE PATH STANDARDS:

In many cases, an existing bike path or multi-use trail will not meet Caltrans design standards. For safety reasons and because most federal and state funding is geared towards transportation facilities, this master plan recommends that Caltrans standards be met wherever possible:

- The minimum paved area for a two-way bike path is eight feet, with at least two feet of shoulder on each side, although three feet is recommended. The preferred paved width of bike paths is at least 12 feet, especially where bicycle traffic is expected to be heavy. Widths greater than eight feet are also needed if significant pedestrian traffic is anticipated, although such dual use is undesirable; the preferred solution is to provide separate bicycle and pedestrian facilities.
- Consistency with the Americans with Disabilities Act (ADA).
- If equestrians and/or heavy equipment (including fire trucks) are expected to use the facility, the vertical clearance should be 12 feet minimum.
- Landscaping should be low maintenance and low water types. Use or preservation of native materials, especially along riparian habitats, is recommended. Lighting should be provided along bike paths if open after dusk. Lighting standards may be similar to street standards.
- Barriers (gates) should provide for disabled access (5 feet minimum between bollards). Barriers to prevent motorcycle entry onto bike paths should be constructed; all barriers should be removable by emergency vehicles.
- Provide striping and signing for speed limits, stop, slow warnings, and bike path.
- Construct bike path to accommodate maintenance vehicles (Note: Path sweepers may require more than 8 feet of vertical clearance. An evaluation should be performed on proposed undercrossings between the cost of providing additional headroom and the impact on sweeping operations).
- Direct pedestrians to unpaved path when opportunity exists.
- Provide adequate fencing (54-inch minimum) to protect privacy of neighbors.
- Provide at least 2 feet of unpaved shoulder for pedestrians where feasible.
- Provide trail head facilities (portable restroom, parking, drinking fountain) at appropriate locations.
- Maximum speed will be 15 mph unless otherwise posted.
- Minimum 5 feet of separation between bike path and adjacent roadway unless a barrier is provided.
- 2 percent cross slope should be provided for drainage.
- All curve radii, super elevations, stopping sight distances, and lateral clearances on horizontal curves should conform to Caltrans *Highway Design Manual,* Chapter 1000, specifications.

MULTI-USE PATH (SIDEWALK BIKEWAY)

{The following paragraphs about "Sidewalk Bikeways" is from Chapter 1000 of the California Highway Design Manual Index 1003.3 -Class III Bikeways]

In general, the designated use of sidewalks (as a Class III bikeway) for bicycle travel is unsatisfactory. It is important to recognize that the development of extremely wide sidewalks does not necessarily add to the safety of sidewalk bicycle travel, as wide sidewalks will encourage higher speed bicycle use and can increase potential for conflicts with motor vehicles at intersections, as well as with pedestrians and fixed objects.

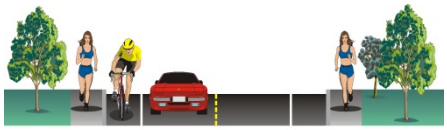
Sidewalk bikeways should be considered only under special circumstances, such as:

> *(a) To provide bikeway continuity along high speed or heavily traveled roadways having inadequate space for bicyclists, and uninterrupted by driveways and intersections for long distances.*
>
> *(b) On long, narrow bridges. In such cases, ramps should be installed at the sidewalk approaches. If approach bikeways are two-way, sidewalk facilities should also be two-way.*

Whenever sidewalk bikeways are established, a special effort should be made to remove unnecessary obstacles. Whenever bicyclists are directed from bike lanes to sidewalks, curb cuts should be flush with the street to assure that bicyclists are not subjected to problems associated with crossing a vertical lip at a flat angle. Also, curb cuts at each intersection are necessary. Curb cuts should be wide enough to accommodate adult tricycles and two-wheel bicycle trailers.

In residential areas, sidewalk riding by young children too inexperienced to ride in the street is common. With lower bicycle speeds and lower auto speeds, potential conflicts are somewhat lessened, but still exist. Nevertheless, this type of sidewalk bicycle use is accepted. But it is inappropriate to sign these facilities as bikeways. Bicyclists should not be encouraged (through signing) to ride facilities that are not designed to accommodate bicycle travel.

CLASS II – BIKE LANE



DEFINITION:

A Bike Lane, or Class II bikeway, is a bikeway established within the paved area of a road or street and shares the roadway with motor vehicles, demarked by painted stripes, pavement markings and signage. Bike lanes are intended to promote an orderly flow of traffic, by establishing specific lines of demarcation between areas reserved for bicycles and lanes to be occupied by motor vehicles. Bike lane signs and pavement markings support this effect. Bike lanes can increase bicyclists' confidence that motorists will not stray into their path of travel.

BICYCLE LANE CHARACTERISTICS:

- Bike lanes are appropriate on busy urban thoroughfares. They may also be used on other streets where bicycle travel and demand is substantial.
- Bike lanes provide preferred, but not exclusive use to bicyclists (see exceptions below).
- Motor vehicles or pedestrians are not allowed in bike lanes, but vehicle cross-flow is allowed to access on-street parking.
- Lane designated by solid white striping, and dashed striping at intersection approaches, where vehicles may cross to make turns.

BICYCLE LANE STANDARDS:

- Where no curbside parking is allowed, bike lanes should generally be 5 feet wide in each direction, as measured from the curb. Where the paved width is inadequate, bike lanes can be narrowed to 4 feet, but only if absolutely necessary.
- Bike lanes should extend at least 3 feet beyond the edge of the gutter.
- Where curbside parallel parking is allowed, the area delineated as a bike lane should be at least 13 feet wide to accommodate a 7-foot parking lane, a 3-foot buffer zone for opening car doors, and a minimum 3-foot bike lane beyond the door zone. However, if absolutely necessary, a bike lane with parking can be narrowed to eleven feet. Bike lanes are not recommended in areas where perpendicular or angle parking is allowed, due to the poor site lines for motor vehicles backing into the street.
- Bike lanes are to be delineated by 6-inch-wide, continuous striping.
- On arterial streets where parking is allowed and demand is high, a second stripe should delineate the bike lane from the parking lane.
- It is often possible to re-stripe existing multi-lane streets to provide space for bike lanes.
- Bike lane standards are well defined by Caltrans, and are the preferred on-street system for the *2013 BTP*. Caltrans has specific standards for Class II lanes such as striping (solid 6-inch white stripe), and signing (at the beginning of each bike lane, at the far side of each arterial crossing, and at change in directions). Wherever existing bike lanes do not meet Caltrans design standards, they should be improved. If improvements cannot be done, they should not be identified as an official Class II bike lane.

Bike lanes should conform to Caltrans standards on all existing and proposed roadways. Sub-standard bike lanes should be designated as Class III bikeways, unless they are programmed for upgrading to meet Caltrans Class II standards.

OTHER DESIGN STANDARDS INCLUDE:

- Bike lanes should be located on the right hand side of one-way streets. The ability to install all of these improvements is dependent on the available right-of-way and need, but should also apply to all new intersections along the proposed route.
- Where possible, four-foot pockets should be provided at intersections between the right turn only lane and the through lane.
- Signal loop detectors should be provided at major signalized intersections unless pre-timed signal coordination is in effect.

CLASS III – BIKE ROUTE

DEFINITION:

A bike route, or Class III bikeway, is a bikeway that shares the street with motor vehicles, but is located to the side of a travel lane, not within a travel lane as are sharrows (see below). A bike route contains signs, but no stripes. Class III bike routes, to be avoided if possible, are used only to connect or continue Class I or II facilities for short distances. In general, as discussed above under "Multi-use Path/Sidewalk Bikeway," the designated use of sidewalks as a Class III bikeway for bicycle travel is unsatisfactory.

BIKE ROUTE CHARACTERISTICS:

- Bike routes are common on neighborhood residential streets, on rural roads, and low-volume highways.
- Bike routes should be primarily used in small street segments that provide a connection from a discontinuous Class II bike lane.

BICYCLE ROUTE STANDARDS:

The decision to select and sign a bicycle route should be based on the advisability of encouraging bicycle travel in the corridor. Adequate width for a bike route depends on the volume, speed, and mix of traffic, the presence or absence of a paved shoulder, surface condition, grade, curves, sight distance, obstacles such as parked cars, and the skill of bicyclists using the road.

Bike routes should provide a higher level of service than other streets and roadways to bicyclists, as defined as follows:

- Provide for through and direct travel in bicycle-demand;
- Connect discontinuous segments of bike lanes;
- Access traffic control priority at intersections;
- Removal of parking in areas of restricted width;
- Correction of surface imperfections or irregularities; and,
- Maintenance at a higher standard than comparable streets.

Bicycle routes should be provided on the proposed system if any of the requirements described for Class II bicycle lanes cannot be met. Bicycle routes, while lacking striped lanes, should provide the following where practical:

- Detectors at signalized intersections;
- Curb travel lanes at least 14 feet wide (excluding parking), or 21 feet including parking;
- Warning signs to motorists;
- Directional signs to bicyclists; and,
- Adequate pavement conditions and maintenance.

SHARROWS

DEFINITION:

A shared lane marking, or Sharrow, is a bikeway with markings on the ground to: 1) show bicyclists the correct direction of travel; 2) remind bicyclists to ride further from parked cars to prevent "dooring" collisions; and, 3) alert road users of the lateral location bicyclists are likely to occupy within the traveled way.

The bike sharrows were introduced into the MUTCD 2009 edition and are still being studied. Based on guidance from the Bicycle Friendly Community, as well as many bike transportation professionals from local jurisdictions who have deployed this type of bikeway, it is strongly recommended that significant public outreach occur to inform the community of its meaning and use to bicyclists and operators of motor vehicles alike. Due to the lack of knowledge to motorists and bicyclists around the community about sharrows, education should be key in preventing potential accidents.

The Bicycle Friendly Community and the Oregon Department of Transportation provided much of the guidance and standards below:

SHARROW CHARACTERISTICS:

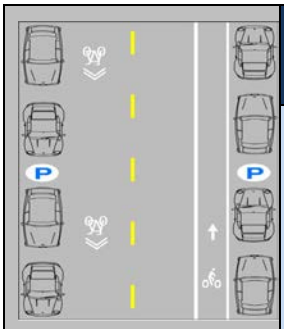
- Encourages safe passing of bicyclists by motorists
- Reduces the incidence of wrong-way bicycling

SHARROW GUIDANCE:

- Provide a lot of education
- Do not place on major arterials; if used, place on streets with low traffic amounts
- Use on streets with low speeds (20-35 mph)
- Place in rural or residential neighborhoods
- Place on narrow streets so motorists are encouraged to pass cyclist
- Place on roads with high bicycle demand
- On streets with posted 35 mph speeds or faster and motor vehicle volumes higher than roughly 3,000 vehicles per day (vpd), shared lane markings are generally not a preferred treatment. On these streets other bikeway types are preferred.

SHARROW STANDARDS

- Shared Lane Marking should be placed immediately after an intersection and spaced at intervals of 50 to 100 feet along busier streets and up to 250 feet in low traffic streets. [4]
- The Shared Lane marking in use within the United States is the Bike-and-chevron "sharrow," illustrated in MUTCD figure 9C-9.[5]
- Shared lane markings shall not be used on shoulders or in designated bicycle lanes.
- On streets with posted 25 mph speeds or slower, preferred placement is in the center of the travel lane to minimize wear and encourage bicyclists to occupy the full travel lane.

	**On-Street Parallel Parking**		**Diagonal Parking**
	The center of the marking should be at least 11 ft from the curb, or greater to assure marking is in the middle of the travel lane, unless waived.		**The center of the marking should be in the middle of the traffic lane. Where street width has space for bike lane in only one direction place marking in middle of lane. [8]**

BIKE BOULEVARD

DEFINITION:

A Bicycle Boulevard is a street that has been modified to prioritize through bicycle traffic and discourages motor vehicle traffic. Traffic calming devices control traffic speeds and discourage through trips by automobiles. Traffic controls limit conflicts between vehicles and bicyclist and give priority to through bicycle movement at intersections.

BIKE BOULEVARD STANDARDS:

- Select a direct and continuous street, rather than a circuitous route that winds through neighborhoods.
- This works best on a street grid system.
- Place motor vehicle traffic diverters at key intersections to reduce through motor vehicle traffic.
- Turning stop signs towards intersecting streets, so bicyclist can ride with few interruptions.
- Place traffic-calming devices on streets to lower motor vehicle traffic speeds.
- Place directional signs or markings to route cyclists to key destinations, to guide cyclists through difficult situations, and to alert motorists of the presence of bicyclists.
- Provide crossing improvements where the boulevard crosses high speed/high-volume streets like:
- Signals, where a traffic study has shown that a signal will be safe and effective and to ensure that bicyclists can activate the signal.
- Loop detection should be installed where bicyclists ride and/or a push button that won't require dismounting.
- Provide median refuges, wide enough to provide a refuge (8 feet min) and with an opening wide enough to allow bicyclists to pass through (6 feet). The design should allow bicyclists to see the travel lanes they must cross.

3.2.3 Bike Support Facilities and Activities

Several types of support facilities and activities can be deployed to encourage bicycle commuting to work, commercial centers, public offices, parks, colleges and schools. These include, but are not limited to:

Bike Support Facilities	
Undercrossing	Used to provide a safe crossing under the road for a Class I bikeway.
Parking	Include secure racks, lockers, storage rooms, and valet service.
Showers	Allow bicyclists to refresh themselves before starting work or school.
Lockers	For storing a change of clothes.
Water Fountains	Along paths for refreshment.
Lighting	Along bikeways to increase safety and security
Repair Depots	Along bikeways providing air, water, and basic tools for bicycle repair.
Transit Connections	Includes bike racks/storage at transit centers and bike racks on buses.
Bikeway Trailhead Facilities	Includes such items as restrooms, parking, and drinking fountains.
Bridges	Widened road bridge, pedestrian/bike over roads.
Bike Detection Loops/Video/Push-Button	
Bike Commuter Map	Guide citizens and visitors to navigate Merced bikeways.
Signs	Provide directional, way-finding, and safety information.
Bike Rodeos	Educate citizenry about traffic safety laws.
Bike to Work Week Events.	

3.2.4 Bike Route Signage Standards

BIKE ROUTE/PARKING SIGNS

G93

G93A

G93B

WHITE ON GREEN

G93C

GREEN ON WHITE

The BIKE ROUTE signs (G93) may be used to mark bicycle routes, lanes, or paths may be used on the right along designated bike lanes. At turns, the sign shall be supplemented with G33 directional arrows. Special guide signs indicating high demand destinations (e.g., “To Downtown” may be placed beneath the G93 sign.

The BEGIN and END plates (G93A, G93B) may be used to supplement the G93 sign.

The BIKE PARKING sign (G93C) may be used to identify bicycle parking at Park and Ride lots and should be used at other bicycle parking facilities. The sign is to be placed at or near the parking area, or in any case, where the sign can be easily seen by traffic on the adjacent street.

3.3 Bike-Related Standards Used in the City of Merced

Sections 3.2 and 3.3 discussed the *Street-Related Manuals* and *Bike Facility Descriptions*, respectively. In Section 3.5, application of bike related standards is discussed in an effort to clarify which bike-related standards are to be used in the City of Merced. The discussion also sheds light on opportunities to update the City's Official Design Manual, the *Standard Design of Common Engineering Structures.*

3.3.1 City of Merced Bicycle-Related Design Standards

Transportation-related improvements within the City conform to the Green Book as augmented by the City of Merced's local manual, *Standard Design of Common Engineering Structures*, and the *State of California: Business, Transportation and Housing Agency, Department of Transportation Standard Specifications*. The *Work Area Traffic Control Handbook* (WATCH) is adopted as supplementary referral.

The right is reserved by the City Engineer to modify the attached standards to fit individual situations. The local standards are a result of much seasoning and refinement. In many cases, they have been developed to their present state by continued use and modification over a period of many years. From time to time, new standards are added, and as need becomes apparent, we may revise those already in existence.

As with prior versions of the City's Bicycle Transportation Plan (BTP), the *City of Merced 2013 BTP* includes design standards for most bikeways and bike support facilities. The City's *Standard Design of Common Engineering Structures* includes standards for only some bikeways and support facilities, however. The standards provided in the *2013 BTP*, where absent from the City's *Standard Design of Common Engineering Structures,* and specifies the minimum or greater standards than state guidelines or standards, may be used in designing public and private improvements in the City of Merced until such time as the City's standard designs are updated.

Table 3.1 on the next page shows where the City's *Standard Design of Common Engineering Structures* does not address bikeways and support facilities, and where the standards in the BTP (Section 4.3), within the threshold described above, will be used to design public and private improvements in the City of Merced.

3.3.2 Bikeways and Support Facilities in the City's Design Manual

As part of the *2013 BTP*, a simple needs assessment was prepared showing whether or not the *City of Merced Standard Design Manual* included standards for bikeways and bike support facilities (by a ✓ mark) ; the results are presented in Table 3.1 below.

Table 3.1: Bicycle Facility Types Included in the City's Design Manual

Bicycle Facility Types		Bicycle Support Facilities
Bikeways		**Undercrossings**
Class I Bike Path	**(✓)**	**Bike Parking**
Offset Bikeway Access	**(✓)**	**Bike Showers**
Bikeway Barrier	**(✓)**	**Bike Lockers**
Class II Bike Lanes	**(✓*)**	**Water Fountains**
Class III Bike Routes		**Lighting for Class I Bikeway**
Sharrows		**Bike Repair Depots**
Bike Boulevard		**Bikeway Trailhead Facilities**
		Pedestrian/Bike Bridges
		Bike Detection Loops/Video/Push-Button
*** - An update is needed to reflect new policies in the City's General Plan.**		

3.3.3 Public Review Process

A wide range of public improvement types, locations, and settings occur in the City of Merced. Depending upon the nature of the improvement or site, the City could elect to broaden public outreach. Generally, identification and selection of projects, as well as election to seek grant funds for projects, are guided by established City policy and planning documents. The BAC has jurisdiction to review and advise the City on changes and updates to the *2013 BTP*, General Plan, Municipal Code and other policy documents which relate to bicycling.

Then, as part of the detailed design phase of a project, field surveys, engineering assessments, and public input will occur to create a detailed project description. As they relate to bicycling, the Bicycle Advisory Commission reviews and advises the City on the design of capital improvement projects, street improvements, and parking facility projects, not including matters pertaining to pedestrian issues.

Public meetings are held on even-numbered months where these topics are discussed by City Staff, the BAC, and interested members of the public.

3.4 Recommendations

Over the course of the last 25 years, the City of Merced has shown a serious commitment to creating a bicycle friendly community investing over 4 million dollars in developing its bikeway system. The *2013 BTP* continues that tradition by including over 100 potential projects for bikeways, support facilities, and other related activities and tasks. The *2013 BTP* accomplishes one-step of several to fully realize the development of the listed projects. The ability to accomplish projects, however, is dependent upon a dynamic setting of funding and staff resources as they apply to all steps, which include:

- ***Describing the community vision (the BTP)***
- ***Having available local funding sources***
- ***The ability and success to compete for and be awarded state and federal grant funds***
- ***Completed environmental reviews***
- ***Completed engineering and design***
- ***Continued community support for projects***

Thus, while the *2013 BTP* is a significant initial step toward realization of the City's intent to construct bikeways and support facilities, the scope and function of the *2013 BTP* is to identify the desired possibilities of the community which may be implemented during the 5-year life of the BTP.

3.4.1 Bicycle Design Standards

As new bikeways are planned for and constructed, the *Official City Design Standards* should be updated to include such bikeways. For example, standard designs are needed for sharrows and bike boulevards. The City's Standard Designs should also be amended to be consistent with the guidelines and standards in this section.

3.4.2 Road Standard Recommendations

TRAFFIC SIGNALS

Where bicyclists and pedestrians must cross roads with traffic levels high enough to warrant signals, seek to provide bicycle-activated signals at such intersections where bikeways are within the roadway, and push button signal activators where they are not within the roadway, but are on a separate path or on the sidewalk.

Priority sites for this upgrade include major intersections on the proposed bikeway network, and at locations where school children cross a busy street to gain access to school.

As intersections are upgraded, consider the installation of bicycle sensors at all signalized intersections in the bikeway system Sensors should be appropriately placed, and sensitive to detect most bicyclists.

In specific intersections where future bicycle vs. vehicle traffic volumes and resulting safety conflicts are expected to be high, such as near the UC Merced Campus when student attendance grows, consider installing bicycle signal heads at those crossings. Bicycle signal heads are commonly used in Europe and have proved their effectiveness in other college towns.

TRAFFIC CALMING

Serious consideration should be given to creating traffic calmed streets, which will provide safer conditions for bicycle riders. There are a variety of ways to slow and/or discourage traffic on certain residential streets. Traffic circles, chicanes, traffic diverters, and signs are just a few of the options for traffic calming.

ROAD SURFACES

Consider establishing standards regarding uniform pavement edges and pothole repair, particularly on roadways shared by bikeways.

Consider a bikeway improvement and maintenance system as an element of existing pavement management systems, in the local Department of Public Works, where all observed and recorded hazardous conditions are listed, and scheduled for replacement or repair.

Obstructions and potholes should be repaired as soon as possible after being reported. As a part of the City's current effort to develop citizen complaint tracking systems, include a link for cyclists to report problems and request maintenance services in specific areas.

DRAINAGE GRATES

Install drainage grates that have openings that run perpendicular to the direction of bicycle travel, and seek to replace grates that run parallel. Require grates with openings perpendicular to the direction of bicycle travel, or with "waffle" patterns that do not trap bicycle tires regardless of the direction in which they are installed or tire size.

RAILROAD CROSSINGS

Consider adopting specific guidelines for all railroad crossings and other potential hazards to bicyclists that meet Caltrans or other relevant guidelines. All railroad crossings will be at 90 degrees, preventing bicycle wheels from becoming lodged.

MAINTAIN CLEAR ZONES FOR BIKE TRAVEL

Where maintenance operations, roadway improvement projects, or other operations are likely to cause disruptions to bicycle facilities, require the provision and maintenance of a clear, safe passage to bicycles, as would be required for automobile traffic, including the placement of construction signs, equipment, and vehicles out of bikeways.

TRENCHING AND REPAIR

Where trenching or repair of roadway surfaces designated for bicycle traffic requires replacement or repair of roadway surfaces, require that such repairs or replacement of pavement extend the full width of the bicycle facility, in order to minimize joints, grooves, or other disruptions to bicycles.

SWEEPING

Consider establishing a regular schedule for sweeping bikeways that ensures that bikeway surfaces are clean and safe. Each Class I bikeway should be scheduled for sweeping at least four times per year, more frequently in areas where tree or other debris on paths tends to be a nuisance. Establish a volunteer maintenance program where the City organizes weekly work parties and provides support. Bike paths may be "adopted" by corporations or clubs and maintained by them, in exchange for public acknowledgment.

On-street bikeways are swept twice per month to control road debris hazards. Streets in the downtown maintenance district are swept three times per week. Enable the Public Works Department to schedule these and other areas at a higher frequency, as needs arise.

3.4.3 New Development Standards

Density

Plan for new residential, commercial, and employment development at a density and mix of uses that support bicycle, pedestrian, and other non-motorized forms of transport.

Continuous, Uninterrupted Bicycle and Pedestrian Systems

Plan for new development that allows full, continuous, and uninterrupted access for bicycle, pedestrian, and other non-motorized forms of transport at build-out. Limit dead-end cul-de-sacs, unless bicycle and pedestrian connections between such streets are provided to adjoining streets. Continuous access systems, such as the traditional grid or modified grid are preferred over cul-de-sacs. The street system should be clear, and paths and routes should be clear and clearly marked.

Consider placing directional signing, with approximate distances to certain points, for bicycle path users to help guide them towards their school, shopping, or work destinations.

Frequent, Safe Crossings

Plan roads that have frequent, safe crossings. Plan for bicycle-activated signals where bicyclists use the roadway or manually controlled traffic signals where they do not. Plan for clearly marked crossings.

Integrate Bicycle, Pedestrian Facilities And Systems, And Transit System Routes

Provide for bicycle and pedestrian access adjacent to all new public roads, and work in tandem with local public transit systems to find the most ideal transit stops, facilities, and designs in order to effectively integrate all modes of transportation. Also, other modes of transportation such as train stations should also be integrated with bicycle facilities, if possible.

Crime Prevention Through Design

Implementing Action P-3.2.h of the *Merced Vision 2030 General Plan* states, “Bike path designs should reflect security and other needs of the surrounding community.” If feasible, bikeways should be designed with multiple access points from surrounding neighborhoods so there is sufficient visibility from public roadways to facilitate surveillance by residents and police patrols. Where feasible, bike paths should be designed so that at least one side is open to a public street. Situations where bike paths are located along the back sides of homes with limited visibility should be avoided as much as possible. Open fencing along bike paths should be considered, especially adjacent to multi-family developments.

Bibliography

1. *Model Design Manual for Living Streets, Los Angeles County. 2011.*
2. Update to the General Plan Guidelines: Complete Streets and the Circulation Element. Governor's Office of Planning and Research. December 15, 2010
3. Chapter 1000 "Bikeway Planning and Design" *Highway Design Manual*. 6th edition June 26, 2006. 1000-1 - 1000-26.
4. Portland bureau of Transportation (2011) Wayfinding Sharrow Guidelines
5. Part 9 "Traffic Control for Bicycle Facilities*", Manual on Uniform Traffic Control Devices. 2009. 1349 –1395.*
6. San Francisco Department of Parking and Traffic. (2004) San Francisco's Shared Lane Pavement Markings: Improving Bicycle Safety.
7. The Center for Transportation Research, The University of Texas at Austin. (2010). Effects of Shared Lane Markings on Bicyclist and Motorist Behavior along Multi-Lane Facilities.
8. San Francisco Municipal Transportation Agency (SFMTA). (2008). Shared Lane Markings: When and Where to Use Them. Presented at Pro Walk/Pro Bike 2008.
9. Bicycle and Pedestrian Design Guide, Oregon Department of Transportation. 2011.
10. Shared Lane Markings, National Association of City Transportation Officials (NACTO),

Study Results

- Shared Lane Marking reduces the number of wrong way riders by 80%.[6]
- Shared Lane Marking reduces the number of sidewalk riders by 35%.[6]
- Shared Lane Marking shows better motorist behavior as seen through:

  More likely to change lanes when passing, less likely to pass, and less likely to encroach on the adjacent lane when passing, all indications of safer driving. [7]

EXISTING BIKE SYSTEM

CHAPTER 4

4.1 EXISTING BIKEWAYS / OVERVIEW

4.2 EXISTING BIKEWAYS / DETAILED DESCRIPTION

4.3 EXISTING BIKE SUPPORT FACILITES AND PROGRAMS

4.4 SAFETY AND EUCATION PROGRAMS

4.5 ENFORCEMENT

4.6 EXISTING MOBILITY CONNECTIONS

4.7 BIKE SYSTEM EXPENDITURES (2008 to 2013)

4.1 Existing Bikeways / Overview

The City of Merced has the most comprehensive bikeway system in the county. The Merced urbanized area has an extensive system of bicycle paths, lanes, and routes. Much of the area alongside the creeks has been developed as linear parks, with bike paths leading to residential and recreational areas, schools, and some commercial centers. Such environments are particularly ideal for the commuting and recreational aspects of bicycling. In addition to general use of streets and sidewalks, Merced's bikeway system consists of improved bike paths, lanes, and routes.

4.1.1 Class I Bike Paths

Class I bicycle paths are located along Bear Creek, Black Rascal Creek, Cottonwood Creek, and Fahrens Creek, with an intent in keeping the creek side environments as natural as possible, while still being user-friendly.

4.1.2 Class II Bike Lanes

Existing Class II bicycle lanes include many of the arterial streets within the City, including major sections of G Street, M Street, Yosemite Avenue, and McKee Road. Several other streets have shorter sections with designated bicycle lanes. These include R Street, V Street, West Avenue, Main Street, 18th Street, and 21st Street. Like the Class I path system discussed above, many sections of Class II lanes have been added as more parts of the City have been developed, further increasing and improving the City's overall bikeway connectivity.

4.1.3 Class III Bike Routes

Class III bicycle routes are located on sections of additional collectors and arterials including V Street, 26th Street, Glen Avenue, and Childs Avenue. The City of Merced has designated bicycle routes wherever bikeway connections are necessary, but no opportunity for lanes or paths exist. While bike routes are not the ideal, bike route signs remind drivers and cyclists to share the road.

4.1.4 Bike Riding on Sidewalks

SIDEWALK USE BY BICYCLISTS

While bicyclists are not encouraged to ride on facilities that are not designed to accommodate bicycle travel, there are instances where the City has placed signage to direct bicyclists onto sidewalks. These sites occur along Olive Avenue, between G Street and R Street; and along M Street near the Bear Creek Bridge. These areas have high traffic volumes, speeds, and narrow roads.

SIDEWALK BIKEWAY CRITERIA

In general, the designated use of sidewalks for bicycle travel is unsatisfactory. Sidewalk bikeways should be considered only under special circumstances. These circumstances are described in Section 3.3 (Bike Facility Descriptions) of this plan.

RIDING ON SIDEWALKS PROHIBITED IN SPECIFIC LOCATIONS

The California Vehicle Code [Local Regulations of Bicycles on Sidewalks & Public Property (21100)] allows bikes on sidewalks, but gives local jurisdictions control over where they specifically cannot ride, with proper signs. Cyclists in the City of Merced are allowed to ride on all sidewalks, except that they can't ride on the sidewalks of the specifically listed road segments, when signs are displayed.

The City of Merced Municipal Code, section 10.44.040 states: "When issued, bicycle licenses shall entitle the licensee to operate such bicycle for which the license has been issued upon all the streets, public highways and designated bicycle trails of the city. Bicycles may also be operated on all the sidewalks of the city except the following, when appropriate signs are displayed thereon:

- Main Street from G to V Street,
- 18th Street from Martin Luther King, Jr. Way to N Street,
- I Street from 16th to 18th Street,
- Martin Luther King, Jr. Way from 16th to 18th Street,
- K Street from 16th to 18th Street,
- L Street from 16th to 18th Street,
- M Street from 16th to 20th Street and N Street from 16th to 18th Street.

4.1.5 Existing Bikeway Maps

Existing bike paths, lanes, and routes are shown in Appendix C. These maps reflect, to the best of the City's knowledge the current locations of these bikeways.

4.2 Existing Bikeways / Detailed Description

4.2.1 Bear Creek Class I Bike Path

The Bear Creek Path was constructed in the mid 1970's in three phases originating from the western end near Snelling Highway (Highway 59). Phase I construction of this path consisted of approximately 2.25 miles between Applegate Park and "G" Street, including underpasses at "G" Street and "M" Street. Phase II extended the project up to the McKee Road bridge (city limits); County participation extended the bike path beyond City Limits. Phase II constructed three miles of bike path with about 50% having completely separate paths for east and west directions. Phase III is 1-¾ miles. The Bear Creek path travels in an east/west direction, providing access to Downtown and shopping areas, Applegate Park, hospitals, and medical clinics. It provides further connections with Class II bikeways on arterial and collector streets.

4.2.2 Black Rascal Creek Class I Bike Path

The Black Rascal path was constructed in the late 1970's originating at Snelling Highway (Highway 59) and extends east towards McKee Road. This section, built in two phases, is about 2-5/8 miles. The bike path is eight feet wide, with a three-inch thick asphalt layer and parallels the creek. Phase III, an extension from McKee Road to Lake Road that would have completely connected the Black Rascal Class I bike path system with the County's UC Merced/Lake Road Class I path, is now partially constructed, with only a small portion unfinished. West of G Street, the path runs along many residential areas and Merced High School, providing bikeway access to many commuters and a direct route to schools and medical offices. Further west, Black Rascal Creek path eventually is joined by the Fahrens Creek system.

4.2.3 Cottonwood Creek Class I Bike Path

The Cottonwood Creek Class I bike path, in its long-range conceptual form, would follow the natural course of the creek's path from its split at the fork of Fahrens Creek easterly up to the UC Campus connection at Lake Road. Currently, the completed section of this path runs easterly from Fahrens Creek to Gardner Road. The path provides easy access from residences to shopping, schools, medical and other offices, and a hospital.

4.2.4 Fahrens Creek Class I Bike Path

The Fahrens Creek Class I bike path system is approximately halfway completed, with finished sections running northward from the merging point of Black Rascal Creek and Fahrens Creek just east of Highway 59 at Buena Vista Drive to the area just north of Cardella Road. The remaining uninstalled section will continue the path northward to Bellevue Road, and then will continue in a northeast trend along Fahrens Creek to G Street. The remaining uninstalled portions north of Bellevue Road would be built as land is developed in those areas, which likely will not occur for many years to come.

4.2.5 Lake Road Class I Bike Path

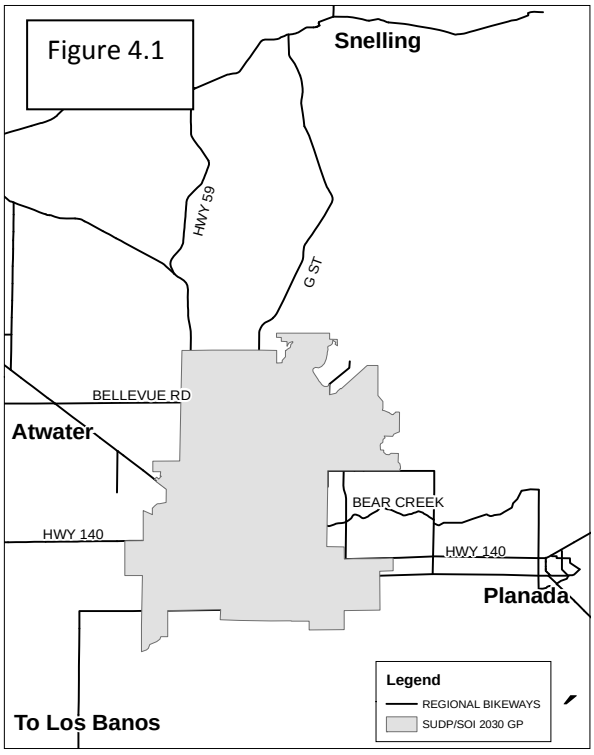
As aforementioned, another bicycle Class I path runs northward alongside Lake Road between Yosemite Avenue and Lake Yosemite, outside of the city limits. This path was recently upgraded by the County and will most likely connect with both the Cottonwood and Black Rascal Creek bike path systems to the south, at some future point in time.

4.2.6 Regional Bikeways

EXISTING REGIONAL BIKEWAY PROJECTS OUTSIDE THE CITY'S SPHERE OF INFLUENCE

The *2008 Merced County Regional Bicycle Transportation Plan* includes many proposed bikeways within and adjacent to the City of Merced. Figure 4.1 depicts the regional bikeways located outside the City's Sphere of Influence (SOI). Regional bikeways that connect with the City's Sphere of Influence (SOI) include:

- G Street
- Highway 59
- Bellevue Road
- Yosemite Avenue
- Kibby Lane
- Bear Creek
- Highway 140 (east and west)
- Childs Avenue
- Santa Fe
- Dickenson Ferry Road



The populations that are served by these external regional routes were established by Merced County; the responsibility of providing regional bikeway infrastructure located outside the City's SOI is with Merced County. To date, few regional projects outside the Merced city limits and Sphere of Influence (SOI) have been constructed, however.

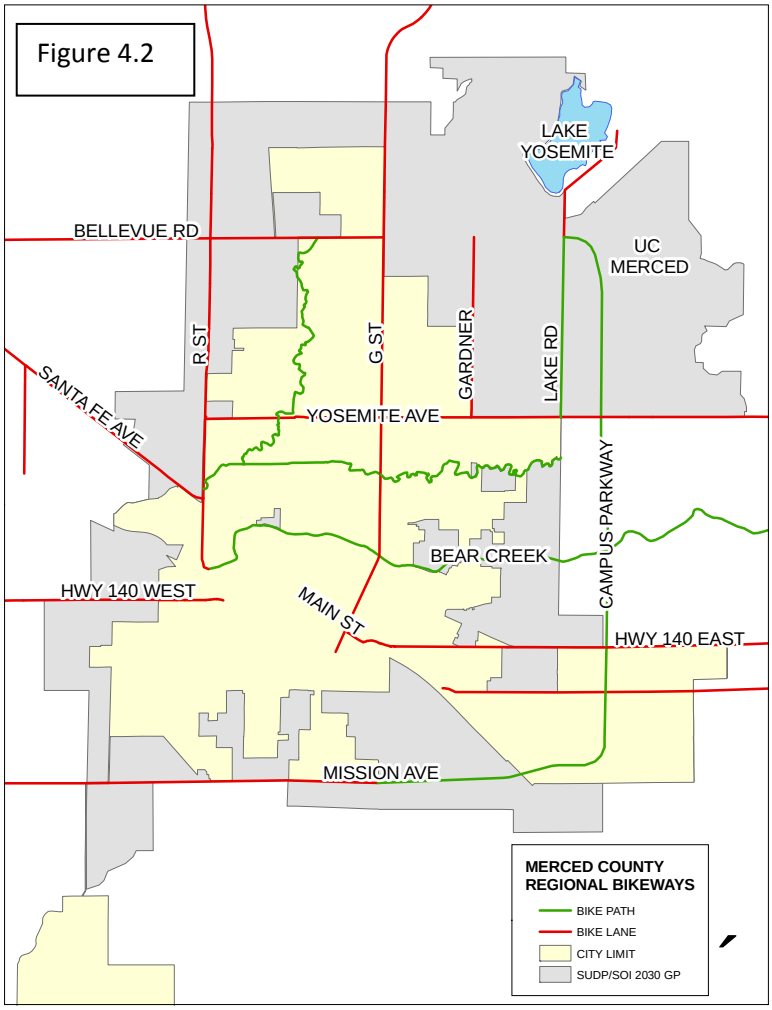
EXISTING REGIONAL BIKEWAY PROJECTS INSIDE THE CITY'S SPHERE OF INFLUENCE

The City of Merced BTP seeks to provide City bikeway connections to the regional bikeways that intersect with the City limit and SOI. It is important that bikeways within the City provide for a continuation of bicycle travel along these regional routes. Figure 4.2 depicts Merced County Regional Bikeways within the City's SOI that exist or are proposed for future development. The City should pursue partnerships with Merced County and others when developing bikeways that align with the regional bikeway network. An example of such partnerships is providing bicycle transportation improvements between the City of Merced and UC Merced and other high-demand routes between housing and employment or education centers. Recently, the Class I bike path along Lake Road from Yosemite Avenue to the UC Merced Campus was rehabilitated. Bike lanes were installed along Bellevue Road from Lake Road, (west of UC Merced) to G Street.

Only portions of the regional bikeway network located within the City's SOI have been constructed, and include segments along (See Existing Bikeways, Appendix C):

- Bellevue Road
- G Street
- Yosemite Avenue
- Highway 140 (east)

The remaining unconstructed segments of the regional bikeway are included in the Comprehensive list of all Proposed Bicycle Facility Projects (Appendix E), denoted by the letter R.



4.2.7 North-South Bicycle Transportation Corridor

In January 2012, the Merced City Council established a goal to designate a north/south street as a bicycle transportation corridor. In November 2012, a two-pronged evaluation of six north/south oriented streets (V St., R St., M St., G St., Parsons Ave., and McKee Rd.) were initiated by City Planning Staff. The evaluation determined whether a bikeway was present, and if so, whether or not it complied with commonly used standards for bicycle lanes and bicycle routes.

For the first question, the field survey was enough to determine the existence of bikeways. Any non-existent bikeways were removed from the Official Bike Map of Existing Bikeways (see Appendix C). For the second question, standards were gathered from various documents that describe standards that provide a safe and adequate bicycle travel. These documents include: 1) the City Design Standards Manual; 2) the *2008 BTP*; 3) the Manual on Uniform Traffic Control Devices (MUTCD); and, 4) Chapter 1000 of the Highway Design Manual. From these standards, a threshold was established and used in the field to determine the quality of the bike routes and bike lanes.

Bike Routes were removed from the *Official Bike Map of Existing Bikeways* if: 1) the route was positioned on an arterial street, or in an area of critical width impairment; or, 2) signs were not present.

Bike Lanes were removed from the *Official Bike Map of Existing Bikeways* if they did not meet any of the following standards:

- A minimum 5 ft. wide bike lane where parking stalls are marked and 6-inch-wide continuous striping delineated bike lane.
- A minimum 12 ft. wide bike lane where parking is permitted, but parking stalls are not marked and 6-inch-wide continuous striping delineated bike lane.
- A minimum 5 ft. wide bike lanes where parking is prohibited and 6-inch-wide continuous striping delineated bike lane.

**Note:* *Whether posted signage and floor markings per standards were present or not, did not affect the removal of the facility from the Official Bike Map of Existing Bikeways*.

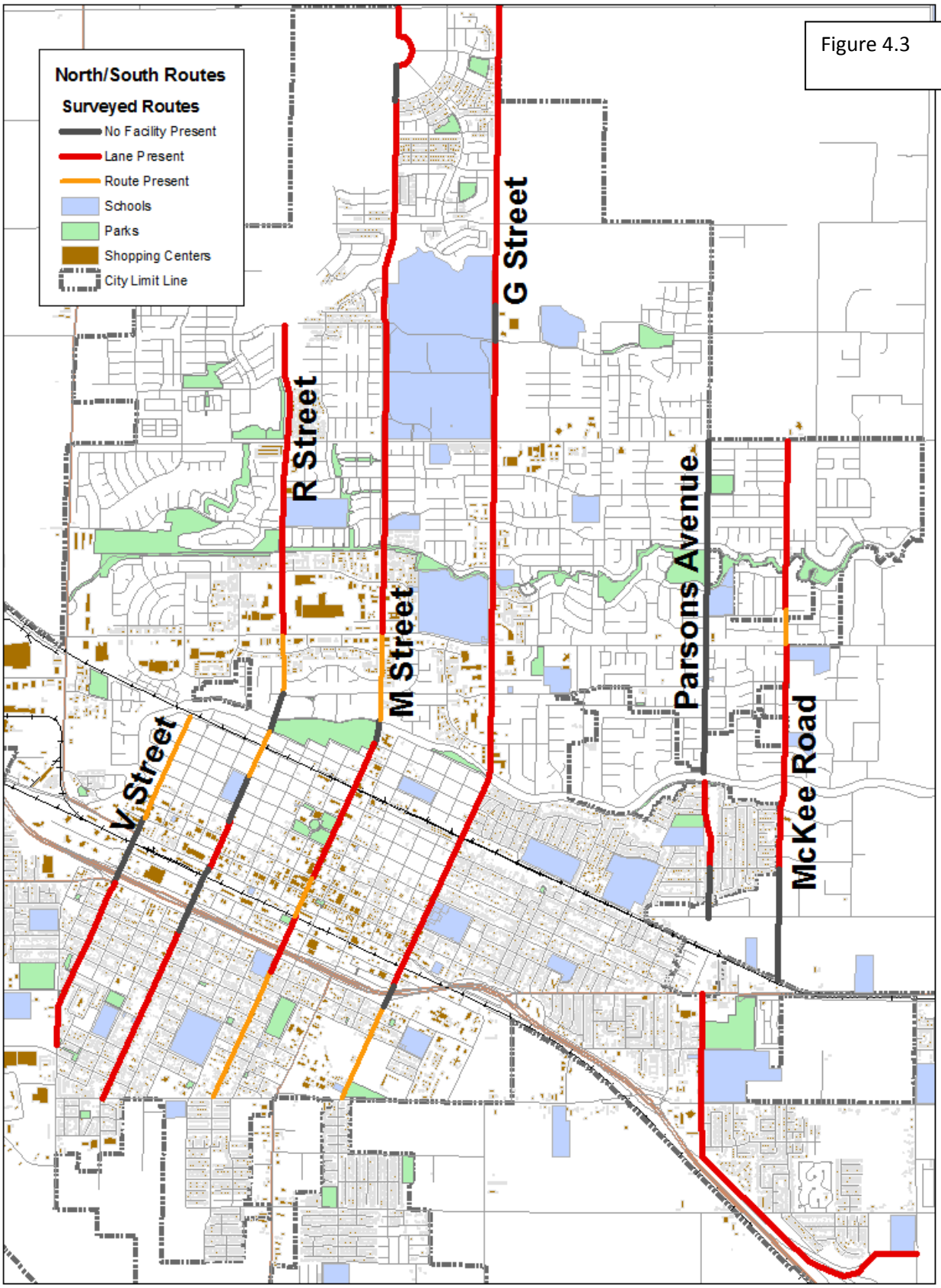
NORTH-SOUTH BIKEWAY SURVEY FINDINGS

All north/south streets evaluated were found to have deficiencies along its route, whether incomplete segments, sub-standard improvements, or missing pavement or posted signs. Figure 4.3 shows the north-south street corridors that were included in the survey, along with their bikeway types and identification of any missing segments. Details of the survey are provided in Appendix D.

Summary Findings of the Survey:

- Three north/south streets were determined to have significant barriers to bicycle transportation (V Street, R Street, and McKee Rd.);
- Two streets were determined to be generally suitable for bicycle transportation in the near-term (M Street and G Street), though improvements can be made; and,
- Parsons Avenue was a difficult road to classify as it only provides bikeways in two segments and does not provide a complete north/south connection at this time. Parsons Avenue has several positive aspects, and with future improvements, could be a good north/south alternate in the future.

Figure 4.3


North/South Routes
Surveyed Routes
No Facility Present
Lane Present
Route Present
Schools
Parks
Shopping Centers
City Limit Line
G Street
R Street
M Street
Parsons Avenue
McKee Road
V Street

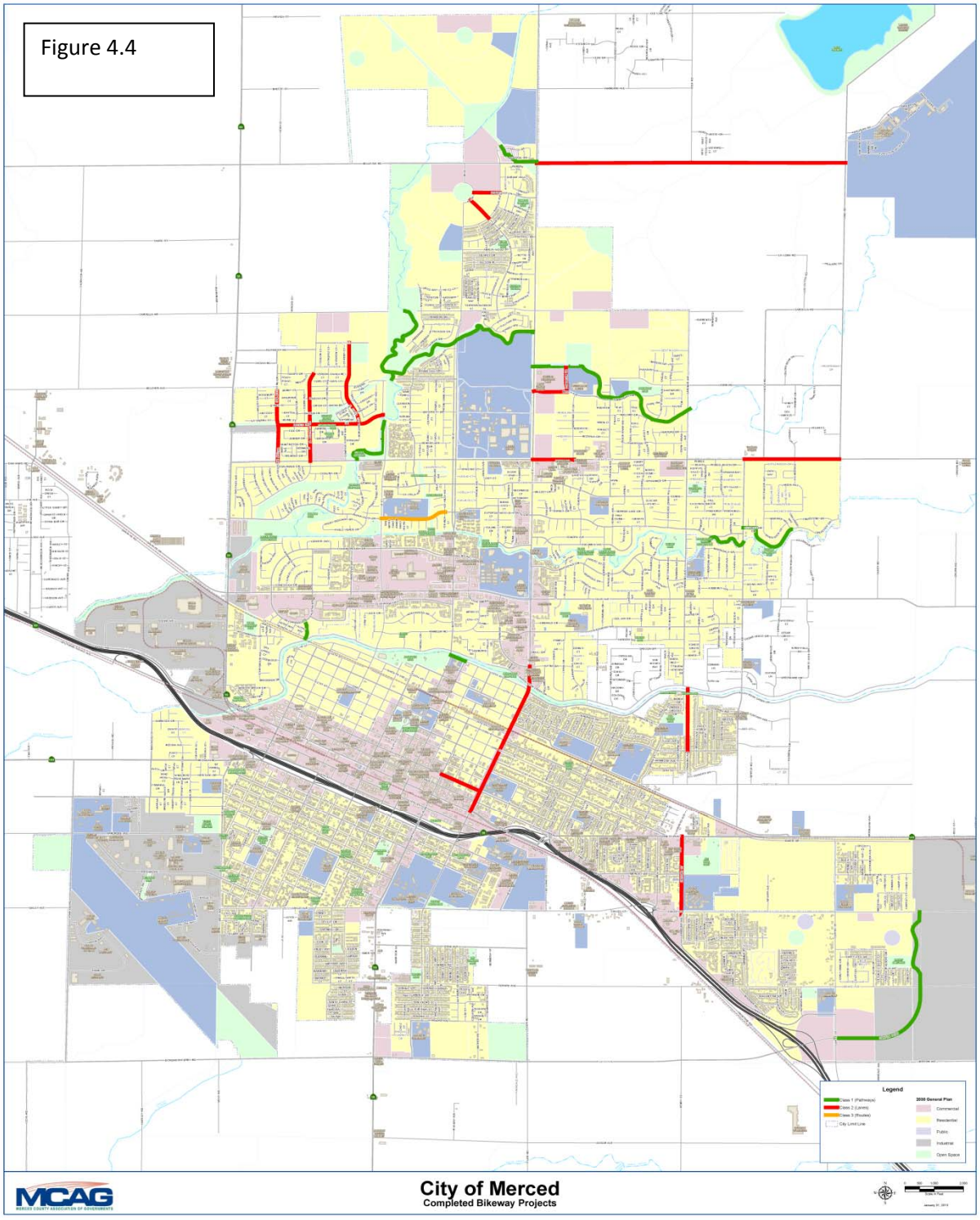
4.2.8 Completed Bicycle Projects

Over the past nine years the City of Merced has been able to receive grants to fund a total of 27 bike-related projects, which are listed (Table 4.1) and mapped (Figure 4.4) below. Those marked with an asterisk (*) were listed in the *2008 City of Merced Bicycle Transportation Plan*.

Table 4.1: Completed Projects from 2004 to 2013

#	Bikeway Type	Roadway	From	To
1	Class I	Bellevue Road.	G Street	Portico Drive
2	Class I	Fahrens Creek	Cottonwood Creek	Heitz Way
3 *	Class I	Cottonwood Creek	Fahrens Creek	G Street
4	Class I	Cottonwood Creek	G Street	Gardner Avenue
5	Class I	Fahrens Creek	Yosemite Avenue	Pacific Drive
6	Class I	Black Rascal Creek	Parsons Avenue	McKee Road.
7	Class I	Black Rascal Creek	McKee Road.	Mariner Way
8	Class I	Bear Creek	25th Street	Devonwood Drive.
9	Class I	Bear Creek	M Street	Canal Street
10	Class I	Campus Parkway	Coffee Street	Childs Avenue
11	Class II	Bellevue Road	G Street	Lake Road.
12	Class II	Mandeville Lane	M St. Circle	Barclay Way
13	Class II	Bancroft Drive	M St. Circle	Barclay Way
14	Class II	San Augustine Drive	Yosemite Avenue	Cassis Drive
15	Class II	El Redondo Drive	Yosemite Avenue	Cassis Drive
16	Class II	Horizons Avenue	Pacific Drive.	Monaco Drive
17	Class II	Pacific Drive	San Augustine Drive	R Street
18	Class II	Mercy Avenue	G Street	Dominican Drive
19	Class II	Dominican Drive	Mercy Avenue	Cottonwood Creek
20 *	Class II	Yosemite Avenue	G Street	Mansionette Drive
21	Class II	Yosemite Avenue	McKee Road..	Lake Road.
22	Class II	Parsons Avenue	South Bear Creek	27th Street
23	Class II	Parsons Avenue	Yosemite Pkwy	Childs Avenue
24	Class II	18th Street	MLK Jr. Way	G Street
25 *	Class II	G Street	16th Street	Park Avenue
26	Class III	Buena Vista Drive	R Street	M Street
27*	Support	Traffic Signal	Hwy 59	Cooper Avenue

Figure 4.4



4.3 Existing Bike Support Facilities and Programs

4.3.1 Parking

Bicycle racks are the most common types of bicycle parking facility seen in Merced. Due to increasing popularity in bicycle commuting, bike racks are located at many sites throughout Merced including; various locations in the downtown area, the Merced Mall, all of the schools, Mercy Hospital, and several large employers. Bicycle lockers are available at the Merced Transportation Center.

In October 2009, a survey of existing bicycle racks and number of spaces was performed in the City of Merced. The bike parking survey is filed at the City of Merced Planning Division. The survey results are summarized in Table 4.2 below:

Table 4.2: Bicycle Parking Facilities

	Bike Racks	Bike Spaces
Retail	57	168
Office Buildings	14	28
Government Buildings	9	10
Schools	96	1,509
Libraries	4	24
Transit	118	197
Recreation Centers	5	27
Totals	**303**	**1,963**

To be consistent with the questions posed by the League of American Bicyclists, and to expand the City's knowledge of bike parking, the following bike-parking categories should be utilized in the next round of bike parking surveys:

- Schools
- Libraries
- Transit Stations
- Transit Vehicles (internal and external)
- Parks and Recreation Centers
- Government Buildings
- Office Buildings
- Shops/Retail
- Public Housing

In 2013, a draft parking ordinance was crafted for inclusion into the City's municipal code. If adopted, the City's Official Design Standards would also need to be updated so that the development community can easily install bike parking and storage features that are clearly and conveniently described. The *2013 BTP* Draft Bicycle Parking Guidelines and Bicycle Storage Facility Standards can be found at Appendix F. Given the possible adoption of a bike parking code (undergoing development and review process in 2013), and Official Design Standards for bicycle parking and storage, the next update to the City's BTP should reassess the need and purpose of Appendix F.

4.3.2 Showers and Clothing Lockers

Shower facilities for bicycle commuters in Merced are limited. Several schools have showers and lockers that could be used by faculty who choose to bicycle to work. A few businesses in the industrial parks, the hospital and public facilities also have lockers for employees. Both showers and lockers are provided at the Merced City Civic Center. Appendix C includes a map showing shower and clothing lockers for use by bicyclists. A database describing the types of facilities for large employers is kept at the Planning Department.

4.3.3 Bike Lockers / Long-Term Parking

Having safe, long-term bicycle security, such as the bicycle shelters at Mercy Hospital, the Transportation Center, and the Amtrak station may encourage bicyclists to use their bikes as their initial transportation to one of these storage areas before continuing their trip by train or bus. This long-term parking will be especially helpful for bicyclists wanting to take Greyhound, since Greyhound will not carry bikes.

4.3.4 Bike Support Facility Map

Existing bike support facilities are shown in Appendix C. These maps reflect, to the best of the City's knowledge, the current location of these support facilities.

4.4 Safety and Education Programs

4.4.1 Introduction

Possibly the City's greatest bike-related need, safety and education programs, will enable increased use of bike facility infrastructure. Education about cyclists'/drivers' responsibilities to share the road needs to be distributed and discussed, from school-aged children to adults. There are riders who are misinformed, apparent in the number of bikes seen on the sidewalk, running stop signs and red lights, and riding the wrong way, as well as the number of unhelmeted riders. Additionally, many drivers still believe that cyclists should not be on the road at all, must ride on the sidewalk, or believe that they can't drive out of their lane to maneuver around a cyclist, which results in close calls and a general fear of riding on the street.

4.4.2 Safe Routes to School Program

A Safe Routes to School program is an opportunity to make walking and bicycling to school safer and more accessible for children, including those with disabilities, and to increase the number of children who choose to walk and bicycle. Safe Routes to School programs can benefit communities by enhancing children's health, well-being, and academic performance; easing traffic congestion and air quality near schools; and improving community members' overall quality of life. The information and resources here will assist with starting and sustaining a range of Safe Routes to School activities.

California's SRTS efforts have many local champions. At the state level, SRTS is led by Caltrans Division of Local Assistance. Caltrans funds TARC to support the statewide California SRTS Program and Caltrans-funded non-infrastructure projects. California has two distinct Safe Routes to School Programs administered by Caltrans: a state program (SR2S) and a federal program (SRTS). Both programs work to increase the number of children walking and bicycling to school by removing barriers and facilitating opportunities for active transportation.

Successful SRTS programs include elements of each of the 5 E's: Education, Encouragement, Engineering, Enforcement, and Evaluation. Each of these E's is designed to remove barriers that prevent children from walking and bicycling to school.

***Education*:** For Safe Routes to School programs, students are taught bicycle, pedestrian and traffic safety skills, and educational campaigns aimed at drivers to be respectful at sharing the road.

***Encouragement*:** Events and contests such as walkathons are used to encourage walking, bicycling, or carpooling. These events are especially effective when they include participation by parents in an effort to change their travel behaviors as well.

***Enforcement*:** Law enforcement agencies use a variety of specialized enforcement tactics, such as pedestrian safety stings and speed radar trailers to enhance the ridership safety.

***Engineering*:** Signing, striping, and infrastructure improvements are put in place to create clearly delineated walking and cycling routes to schools.

***Evaluation*:** Helps determine whether the aimed improvements have been met and to assure that resources are directed towards efforts that show the greatest likelihood of success.

Merced has applied for and received SRTS grants, which have been used to fund traffic signals, flashing school warning lights, sidewalks and curbs, and gutters.

LOCAL PROJECTS

The Merced City School District and the Weaver Union School District have been recipients of funds to install traffic signals, flashing school warning signs, and curb, gutter and sidewalk projects. Within the City of Merced, there are 14 public elementary schools, 4 public middle schools and 5 public high schools. At this time, there does not appear to be any established Safe Route to School Programs.

SAFE ROUTES TO SCHOOL PROJECTS IN THE BICYCLE TRANSPORTATION PLAN

Special emphasis was made in the crafting of the *2013 BTP* to identify projects to create safe routes to school. Public input and support for bicycle facilities that would benefit local schools was invited and resulted in several recommended projects.

This plan also recommends that the City implement a comprehensive funding and improvement approach that includes an assortment of projects (bikeways, signage, enforcement and education) be focused near school sites on public rights-of-way, whose administrative, student and community members have established and are developing their *Safe Routes to School Program*.

4.4.3 Other Safe Bicycling Skills for Youth

Bike Clinics or Rodeos: Outside of schools, bicycling skills are taught through bike clinics or rodeos. Bike rodeos are held as part of the annual *Merco Credit Union* racing event by the Merced Police Department's Explorer Scouts.

Other opportunities to teach bicycle skills to the youth that could be explored include youth bike clubs, youth recreation programs, and helmet fit seminars.

4.4.4 Diversion Program for Cyclists and Motorists

If children are stopped by police for riding without a helmet or any other bicycle-related infraction, they are required to attend a four-hour Saturday bicycle safety class with their parents instead of paying a fine. Following this clinic, the youth would be given a free bicycle helmet. While the program and agreement with the probation department is still in place, there is currently no funding or staffing for it. Once funding is renewed to the program, it will restart, however. There is no diversion program for adult cyclists and motorists (other than regular traffic school).

4.4.5 "Share the Road" (Motorists and Cyclists) Publicity

Indicated below with a checkmark (✓), are publicity tools about motorists and cyclists sharing the road that have been utilized by the City and/or community.

Public Service Announcements

Community Newsletter Article

New Resident Packet

Utility Bill Insert

Bicycle Ambassador Program

Newspaper column/blog on bicycling

✓ Dedicated bike page on community website

Billboards

✓ Share the Road Signs

✓ Share the road information in driver's education

Dedicated Webpage: The City's Cycling Webpage includes the agendas, minutes, and reports of the Bicycle Advisory Commission, and a summary of the CA bike laws. The site includes links to excellent local websites: (1) the Merced County Association of Governments (MCAG) webpage on cycling: http://www.mercedrides.com/BIKE/rules.htm; and, (2) the Merced Bike Coalition's website: http//www.mercedbicyclecoalition.org.

Share the Road Signs: In 2008, Merced County installed "Share the Road" signs on a popular ride located outside of the City (G Street, from Old Lake Road to the community of Snelling).

4.4.6 Community Bike Safety Classes

Table 4.3 describes the frequency of various traffic safety classes that may be offered in the community. There are two League Cycling Instructors (LCI) in Merced.

Table 4.3: Frequency of Available Traffic Safety Classes

	Weekly	Monthly	Quarterly	Annually	Other
Traffic Skills 101					✶
Cycling Skills Classes					✶
Commuter Classes				✓	
League Cycling Instructor Seminar					✶

✶ Although not on an established regular basis, Merced's two LCI's have begun to hold classes in the area. As interest is received and classes are filled, they are given.

4.4.7 Professional Driver "Share the Road with Cyclist" Training

Training opportunities for professional drivers that includes information on sharing the road with cyclists exists in the checked (✓) category below:

City Staff	✓ School Bus Operators
Taxi Drivers	Delivery Drivers
✓ Transit Operators	

Transit Operators: Drivers must go through a 40-hour training program upon initial hire, which includes a segment on cyclists; rights to the road, use of bike lanes, and distances to stay away from cyclists when passing them.

School Bus Operators: Operators are trained from the "Instructor's Manual for California's Bus Driver's Training Course," which is developed and distributed by the California Department of Education. Drivers are informed that bicycles are vehicles and are expected to obey the same traffic laws as vehicles, but to driver defensively around them, as collisions are often fatal to the cyclist. Drivers are also taught to slow down and allow room when passing, and when passing is not possible, to keep the cyclist in front of them until passing is safe. Beginning in 2011, drivers are being re-taught "the basics" from the California Driver Handbook 2010, which focuses more on safety around bicyclists.

4.4.8 "Wheel Solutions" - Bike Repair Education

In 2011, the Merced County Community Action Board (MCCAB) launched "Wheel Solutions" – a program that accepts donations of used bicycles, shows homeless persons how to repair them, and gives bicycles away to the homeless. The intent is to provide an additional resource for transportation to a job. Between August 2010 and February 2011, 305 persons were trained in bicycle repairs and 56 bicycles were given away. While the program is no longer funded, MCCAB accepts donated bikes, and a clinic is held once a month to show local citizens how to repair bicycles.

4.5 Enforcement

4.5.1 Police Department Bike-Related Actions

The Merced Police Department (MPD) operates a limited bicycle safety program. Opportunities for the Police Department to interact with Merced's Cycling Community could include: 1) police officer involvement at the Bicycle Advisory Commission (BAC); and, 2) an identified law-enforcement point person to interact with cyclists.

4.5.2 Police Officer Training in Bicycle Traffic Laws

In Merced, training opportunities for police officers concerning traffic laws as it applies to bicyclists are noted by check marks(✓) below:

✓ Basic Academy Training

International Police Mountain Bike Association

Law Enforcement Bicycle Association Training

✓ National Highway Traffic Safety Administration Law Enforcement Training

Completion of Smart Cycling Course by Police

Presentation by League Cycling Instructor or local cyclist

Institute for Police Training and Development Bicycle Training

Other opportunities include *Basic Academy Training* and *National Highway Traffic Safety Administration Law Enforcement Training*.

4.5.3 Enforcement Campaigns

Enforcement campaigns can improve cyclist safety. The Merced Police Department provides services as indicated by the check marks (✓) below:

✓ Helmet/Light Giveaways

✓ Targeting motorist infractions

✓ Targeting cyclist infractions

Share the Road Campaigns

4.5.4 Bike Relate Collisions

CITY DATABASE

In Table 4.4 below, each incident of a bike-related collision is recorded once (priority-wise) based on the most serious condition. Collisions are ranked from highest to lowest priority, in the following order: Fatal, Hit and Run, Injury, Non-injury and Property Damage. *Hit and run* is more serious, so this is coded as a collision type. *Hit and run* could be *injury* or *non-injury*. Therefore, a collision labeled as *injury, non-injury* or *property damage* would not be *hit and run*. *Fatal* will always be classified as *fatal* even if it was a *hit and run*.

TABLE 4.4:- NUMBER OF "RECORDED" BIKE-RELATED COLLISIONS

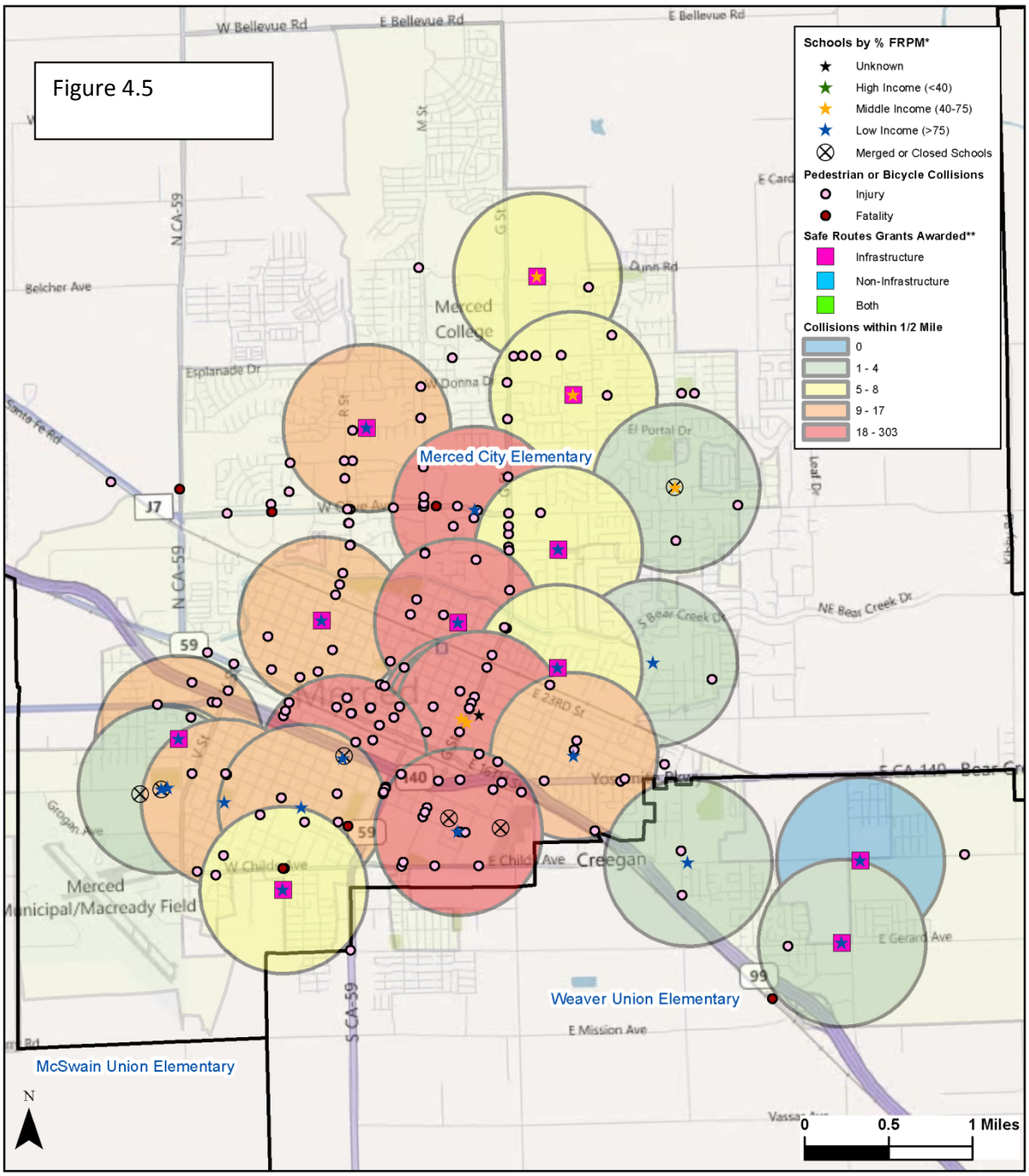
Count of Year	**Type**					
Year	**FATAL**	**HIT AND RUN**	**INJURY**	**NON-INJURY**	**PROP. DAMAGE**	**Grand Total**
2008			28	4	13	45
2009		4	23	5	4	36
2010	1	18	36	6		61
2011	1	11	31	7	1	51
2012		7	16			23
Grand Total	**2**	**40**	**134**	**22**	**18**	**216**

TRANSPORTATION INJURY MAPPING SYSTEM

TIMS (Transportation Injury Mapping System) is another source used by the City of Merced to depict bicycle collision data. TIMS was established by researchers at the Safe Transportation Research and Education Center (SafeTREC) at the University of California, Berkeley to provide data and mapping analysis tools and information for traffic safety related research, policy and planning. Figure 4.5, “Merced Pedestrian or Bicycle Collisions near School Sites (2007-2009),” shows the frequency and location of collisions near school sites throughout Merced.

Merced - Pedestrian or Bicycle Collisions Near School Sites (2007-2009)

Figure 4.5



*Schools classified according to percentage of students eligible for the Free/Reduced Price Meal Program (2010).
**Safe Routes to School awards include state and federal funding from 2005 - 2011.

CALIFORNIA ACTIVE COMMUNITIES

SafeTREC

Sources: California Public School Database; SWITRS 2007-2009; Bing Maps

4.5.5 Youth Citations

Since California passed Vehicle Code 21212 in 1997, which prohibits persons under 18 from riding or being a passenger on a bicycle without wearing a certified helmet, the Merced Police Department has issued 302 citations for breaking the code. Table 4.5 below, shows number of tickets given to persons under the age of 18 for not wearing a bike helmet (bicycles only, excludes motorcycles). See *Diversion Program for Cyclists and Motorists*, in Section 5.3.4 Education and Safety Programs.

TABLE 4.5: NUMBER OF TICKETS FOR YOUTH NOT WEARING A HELMET

Count of Year	
Year	**Total**
2008	30
2009	69
2010	21
2011	1*
2012	1*
Grand Total	**122**

* The drop in tickets issued could be due to the lack of a dedicated Traffic Unit, which was removed due to budget cuts.

4.5.6 Stolen Bikes

TABLE 4.6: NUMBER OF "REPORTED" STOLEN BICYCLES

Count of Year	
Year	**Total**
2008	139
2009	120
2010	152
2011	226
2012	158
Grand Total	**795**

4.6 Existing Mobility Connections

Mobility connections encourage bicycling. Figures in (Appendix C) show the existing bikeway system relative to: 1) the Merced County bus service; 2) Cat Tracks; 3) the Amtrak station; and, 4) the Merced Transportation Center, which is the hub location in Merced for the Merced County bus service, Yosemite Area Regional Transportation System (YARTS), and Greyhound Bus.

4.6.1 Merced County Transit Buses

The Merced County transit buses are equipped with bicycle racks; these features enhance the bicyclist's range of travel. For locations that the Merced County transit system does not service directly (slightly off the fixed-route system, i.e. residences), bicyclists could ride to those places from locations along the fixed-route bus transit system.

4.6.2 Cat Tracks

The Merced County bus service is run by the Transit Joint Powers Authority for Merced County. Cat Tracks is run and operated by UC Merced. The Cat Tracks buses are also equipped with bicycle racks.

4.6.3 Amtrak and on YARTS

Bicyclists could take along their bikes on Amtrak and on YARTS. Bikes are permissible on certain Amtrak trains as long as the passenger's bike is no more than 50 pounds (http://www.amtrak.com/bring-your-bicycle-onboard). A passenger can take a bike on a YARTS bus as long as space is available in the bus' undercarriage luggage compartment. Greyhound will not carry bikes.

4.6.4 Existing Mobility Connection Maps

Existing bike mobility connections are shown in Appendix C. These maps reflect, to the best of the City's knowledge the current location of these multi-modal connection points.

4.7 Bike System Expenditures (2008 to 2013)

Table 4.7: Bike Project Expenditures between 2008 and 2013

BIKE PROJECT	APPROXIMATE EXPENSE ($)
Bike Path Projects	
Cottonwood Creek - Phase I (E of G St N of hosp to Tanager) (Project #103045)	207,000
Cottonwood Creek - Phase II (Cottonwood Creek Commuter Bike Path)	120,457
Cottonwood Creek - Phase III (White Dove to Gardner & W of G St)	197,531
Campus Parkway bike path	*unknown*
Highland Park bike path	*unknown*
Black Rascal Creek bikeway (Parsons to McKee)	83,600
Barclay Way Bike Path (next to Bellevue Rd high school)	*unknown*
Fahrens Creek Bike Path (W of R St, N of Yosemite Av) (Project #101067)	458,465
Cottonwood Creek Bike Bridge to G Street (W of G over ditch)	25,669
* Black Rascal Creek - Moraga to Yosemite Ave/Lake Rd – ACTIVE	591,000
Black Rascal Creek Bikeway “G” to “M”	149,847
* Bear Creek Bike Path/Bridges CMAQ Grant - ACTIVE	1,674,000

Table 4.7: Bike Project Expenditures between 2008 and 2013	
BIKE PROJECT	**APPROXIMATE EXPENSE ($)**
Bike Lane Projects	
Yosemite Avenue bike lane @ G St / (Project #111061)	21,500
G Street Underpass (22nd St to 26th St) (Project #109052)	33,000
16th Street Overlay (on G St, from 16th St to 22nd St)	33,000
G Street Overlay (26th St to Park Ave)	33,000
Paseo-Merced (10 feet of pavement on G/Bellevue)	*unknown*
Moraga (bike lanes on Yosemite Ave)	100,000
Bike lanes on Mercy Ave @ hospital	*unknown*
W 18th Street restriping/resurfacing (G to N Streets)	33,000
* Bike lanes, Central & South Merced – ACTIVE	280,000
Parsons Avenue Extension (Project #112036)	5,000

Table 4.7: Bike Project Expenditures between 2008 and 2013	
BIKE PROJECT	**APPROXIMATE EXPENSE ($)**
Bicycle Support Facilities	
M Street Retaining Wall (Bear Creek @ Mercy Community) (Project #104006)	119,710
Mercy Hospital (employee bike cage) / privately installed	*unknown*
* Bike Racks / Bike Shelters (CMAC grant) – ACTIVE	202,100

Page Intentionally Left Blank

PROPOSED BIKE SYSTEM

CHAPTER 5

5.1 Bikeway Planning Considerations

It has been stated that Merced has a relatively extensive bikeway system, however, there are a number of areas within Merced that lack bicycle accessibility. Five target areas for improvements are:

- The Western Industrial Area;
- Merced College Area and UC Merced;
- South Merced, including the Airport Industrial Park;
- Southeast Merced, including Golden Valley High School, and,
- Local Government Centers in Downtown Merced.

Prior to installation of bike-related improvements in some of these areas, additional bikeway studies will be needed, (see Appendix C), and are discussed in sub-section 5.1.2.

5.1.1 Target Areas

WESTERN INDUSTRIAL AREAS

Providing access to the Western Industrial Park from the north is made difficult by the narrowness of State Route 59 and the expense of providing any potential grade separated crossing for bicycles of State Route 59 over Santa Fe Railroad. Bike lanes are needed on Cooper Avenue, providing bike commuters protection from the many delivery trucks that use the same route. The Cooper Avenue bike lane could be connected to Ashby Road, which parallels Highway 99 to Atwater. A bike lane along Ashby Road is proposed for the many commuters from the Atwater area.

Proposed Bikeway Improvements:

- Create safer crossing for bike and pedestrian traffic on the Bear Creek Bike Path where it is crossed by Bear Creek Drive.
- Bike lane on Cooper Avenue.
- Bike lane on Highway 59 from 16th Street to Olive Avenue.

MERCED COLLEGE AND UC MERCED

Merced Community College:. The Merced Community College campus is currently served by Class II bicycle lanes along M Street, along G Street, and along Yosemite Avenue. G Street and McKee Road bike lanes are feeders from several residential neighborhoods to the bike lanes in the college vicinity. Completion of Class I bicycle paths along Fahrens Creek to the north and Cottonwood Creek to the east have provided additional access to the campus.

UC Merced: The UC Merced campus is currently served by the Lake Road Class I bike path, which connects to a Class II bike lane on Yosemite Avenue. There is a current need to complete the Class II bike lane striping along Yosemite Avenue between McKee Road and Parsons Avenue and between Mansionette Drive and G Street.

Proposed Bikeway Improvements:

- Extend bike lane along Yosemite Avenue (on north side) between McKee Road and Parsons Avenue.
- Extend Fahrens Creek path to Old Lake Road.
- Complete Class II bike lane east on Bellevue Road to the Bellevue Bicycle Lane, which extends to the UC Merced Campus.
- Widen and reconstruct bike lanes on McKee Road from Yosemite Avenue to Black Rascal Creek.
- Create safe crossing of G Street on Cottonwood Creek Path.
- Widen and reconstruct bike lanes on Yosemite Avenue east of G Street to the eastern end of city limits.

SOUTH MERCED, INCLUDING AIRPORT INDUSTRIAL PARK

The Airport Industrial Park is currently accessed from Downtown by Class II bicycle lanes along V and R Streets. All other bikeways in the South Merced area (south of 16th Street) are Class III bike routes which should be upgraded to Class II.

Proposed Bikeway Improvements:

- Designate a five-foot bike lane on Grogan Avenue and install signs.
- Designate a five-foot bike lane on Wardrobe Avenue and install signs.
- Extend Childs Avenue bike lane to City limits.
- Installation of bike lanes on 13th and 14th Streets in conjunction with the Highway 99 off-ramp couplet projects.
- Extend M Street bikeway from Childs Avenue to Mission Avenue.
- Extend G Street bikeway from Childs Avenue to Mission Avenue.
- Extend V Street bikeway from Childs Avenue to Gerard Avenue.
- Install bike lane along Tyler Road.
- Install bike lane along Henry Road.

SOUTHEAST MERCED, INCLUDING GOLDEN VALLEY HIGH SCHOOL

There are currently bikeways available in southeastern Merced along Motel Drive, Glen Avenue, Bear Creek, parts of McKee Road, and parts of Parsons Avenue. These do not fully service the local schools, parks, and businesses in the area.

Proposed Bikeway Improvements:

- Extend Childs Avenue bike lanes to east City limit line. This would service the Golden Valley High school students and staff.
- Install bike lanes on Coffee Street. This would connect a local middle school and local elementary school to the Childs Avenue bike lane.
- Install bike lanes on Yosemite Parkway from Main Street to Parsons Avenue.
- Extend the Parson's Avenue bike lane to provide a north-south through bikeway connecting Parsons Avenue in the south to Old Lake Road in the north.
- Install bike lanes on Parsons Avenue from Yosemite Parkway to the southern end of city limits.
- Construct a bike-bridge across Bear Creek at Glen Avenue. This would add connection of northern and southern Merced.
- Install an undercrossing at McKee Road on the Black Rascal Creek Path.

LOCAL GOVERNMENT CENTERS IN DOWNTOWN MERCED

Merced's Downtown, like many American downtown areas, poses certain problems for bikeway planning. Because the downtown was built in an era when bicycle commuting was not taken into consideration, the street layout does not always lend itself to bikeways. Merced's planners and engineers have forged the best possible bikeways the downtown layout would allow. However, there are a few locations where bike facilities might be improved.

Proposed Bikeway Improvements:

- Construct the Canal Street Bike Boulevard from Bear Creek Path to Childs Avenue.
- Construct ramps and curb cuts at various locations.
- Widen bike lanes to five feet on major/divided arterials, where possible.
- Widen bike lanes on G Street south of Bear Creek (long range).

5.1.2 Bikeway Study Areas

Prior to designation of bikeway types on selected roadways, additional assessment and public input will be necessary. These areas are denoted in Appendix C. These areas include:

- Olive Avenue, between Hwy 59 and G Street;
- Alternative Bikeway to R Street between Olive Avenue and 19th Street. Alternatives to assess include: 1) Construct alternative routes that don't require using R Street from Olive Avenue to 19th Street, for example, taking Rambler Road to Ardell Drive and creating a bike/pedestrian bridge across Bear Creek to O Street, designing O Street into a bicycle boulevard; and 2) a modified R Street cross-section pertaining to travel lanes, parkway and sidewalks;
- Alternative Corridors linking North and South Merced in the area between O Street and K Street;
- Bikeways connecting Golden Valley High School with areas north of the Santa Fe Railroad;
- 16th Street, between V Street and Highway 140 (east); and,

In Appendix E, the ranking of several Study Areas are assigned the letter "A" for the study part of the project, and then letter "B" for the improvement component of the project, which may occur as part of the original grant, but more likely as a follow-up item after decisions have been made as to what improvements are selected.

The bike lane projects for both Olive Avenue and 16th Street, while scoring very high in the prioritization process, were also identified as being cost-prohibitive. The need for the study area reflects this high score, and the bike facility and feasibility studies for these roadways should include bike lanes (as an option) on these roadways.

5.1.3 Safe Route to School Projects

The *2013 BTP* encourages improving bicycle travel near schools through a comprehensive approach including construction of bikeways, support facilities and education at targeted school-sites in Merced. Improving bicycle access to local high schools was identified as a significant need in the community, and will be a focus of improvement during the implementation phase of the *2013 BTP*. The City will continue to work with community patterns to identify future safe-route to school needs, and may update the BTP in response to the need.

5.1.4 Regional Bikeways

Regional Bikeways extend through the City of Merced and beyond the City limits and Sphere of Influence to nearby communities. A detailed discussion of regional bikeways is located in Chapter 4 (Existing Bike System). Regional bikeways are included in the *2013 BTP* project list and are denoted by an "R" in Appendix E. Collaborating with Merced County to develop bikeways of mutual interest will be emphasized during the implementation phase of the plan, particularly to improve regional bikeways located between the Merced City Limits and its Sphere of Influence on high-demand bikeways, such as those that exist between the City and UC Merced and other significant bicycle commuter populations.

5.1.5 Education-Based Projects

All projects offer opportunities for an educational component, and should be planned and budgeted for in all grant applications. Additionally, there are some educational projects that "stand-alone" (see Recommended Project #8), and may include the following ideas and described in more detail below.

- Sponsor League Cycling Instructor (LCI) Training
- Safe Routes to School Courses
- Conduct Open Street Events
- Public Education and Enforcement Campaign
- Education at Bike-Related Events

SPONSOR LEAGUE CYCLING INSTRUCTOR (LCI) TRAINING

League Cycling Instructors (LCI's) are trained by the League of American Bicyclists to provide education in bicycle handling and traffic skills, safety, rules of the road, and safe routes to school.

Education Project: Sponsor LCI training seminars through the League of American Bicyclists, to improve the number and safety of bicyclists in Merced by increasing the capacity of the community to offer this education.

OFFER SAFE ROUTES TO SCHOOL COURSES

Assist area school districts to offer Safe Routes to School courses, taught by League Cycling Instructors, as part of physical education or after-school classes. This curriculum engages youth through multimedia and practical walking and bicycling activities, empowering them to travel effectively, independently, and make sensible and informed traffic decisions.

(source: http://www.bikeleague.org/programs/education/courses.php)

CONDUCT OPEN STREETS EVENTS

To encourage citizens to replace daily automobile trips with bicycling, walking, and public transportation at appropriate locations, the community is invited to develop "Open Streets" Events. Open Streets initiatives temporarily close streets to automobile traffic at appropriate locations, so that people may use them for just about any activity except driving. Open Streets events are now increasingly common in towns and cities seeking new and fun ways to achieve environmental, social, economic, and public health goals. Such programs also allow citizens to see and connect with their community in a new and exciting way while promoting the benefits associated with active transportation. *Open Streets* events differ from street fairs in that they explicitly support physical activity and the broadening of transportation choices. (source: "Open Streets Guide", http://openstreetsproject.org).

PUBLIC EDUCATION AND ENFORCEMENT CAMPAIGN

Conduct a three part bicycling education and enforcement campaign through the Police Department in collaboration with community partners and League Cycling Instructors.

- Part One: Educate the community in bicycling rules of the road using various forms of outreach, in collaboration with community partners such as the Merced Bicycle Coalition, Healthy South Merced Project, Building Healthy Communities, School Districts, and the County Health Department.

- Part Two: Police Department will conduct a warning campaign targeting bicyclists violating traffic and helmet laws and motorists violating bicyclists' rights, issuing warnings and educational literature instead of citations.

- Part Three: Police Department will conduct an enforcement campaign as in Part Two, issuing citations. Violators are offered the option of attending bicycling traffic rules class in lieu of paying a fine, to be conducted by League Cycling Instructors.

EDUCATION AT BIKE-RELATED EVENTS

Conduct bicycling education at community-wide bicycling events, in the form of rodeos or other on-bike courses for children and adults taught by League Cycling Instructors. Events such as the annual Merco Cycling Classic Community Fair and possible Amgen Community Fair and Open Streets events are well suited to bicycling education activities.

5.2 Prioritization and Estimated Costs

5.2.1 Project Objectives

In order to prioritize the identified projects, a prioritization methodology was utilized consisting of objective and ranking factors. The first element included identification of broad project objectives, and then for each objective, a set of project ranking factors was used to score each project. On Tuesday, March 26, 2013, the Bicycle Advisory Commission (BAC) met to discuss topics pertaining to the prioritization process for the recommended bike facility projects. The BAC was asked to complete a scoring sheet for the project objectives and asked to score the objectives on a scale of 1-5 (5 representing the highest value) to help guide City Staff to determine project ranking factors for use in scoring all proposed bicycle projects. The resulting BAC scores are listed for each objective below:

Bike Facility Project Objectives	Scores
Enhance Existing System	4.3
Project Readiness	3.7
Connection to Activity Centers	2.6
Transit Access / Support Facilities	2.3
Safety	2.1

5.2.2 Project Ranking Factors

The Project Ranking Worksheet (Appendix F) was utilized to score each project, resulting in a prioritization score, which is presented in Appendix E. Whenever possible, however, developers will be encouraged to provide bicycle facilities, that may or may not follow the order of the priority list.

5.2.3 Bikeway Rights-of-Way

Any bikeway proposed on property where the City does not have right of way, will have to be negotiated with those parties who do have right of way and/or ownership (i.e. canals, railroads, and private property). This bike plan, by its proposed projects, does not imply rights to property included in the plan area. Estimated costs for future rights-of-way are discussed in the next section.

5.2.4 Estimated Costs / Bikeways and Support Facilities

BIKE PATH (CLASS I)

- For asphalt paths, $65,000+/- per mile to grade and pave a 10-foot wide asphalt surface with 3-foot wide graded shoulder on each side.
- For concrete paths, $48,000+/- per mile to grade and construct an 8-foot wide concrete surface with graded shoulder on each side.

BIKE LANE (CLASS II)

Bike lanes have multiple potential cost factors that must be taken into consideration before a decision is made in regard to the type of improvements each street segment will have, and are presented in Table 5.1below.

Table 5.1: Estimated Costs for Bike Lanes

Improvement Scenario	Improvement Component (Both Sides of Road)	Improvement Cost (per mile)
1	Pavement Striping, Markings and Signage within Existing ROW	$50,000
2	5 Feet of Asphalt within Existing Right of Way	$150,000
3	If Needed, Rights-of-way	$250,000/res $500,000/com
4	Curb and Gutter Improvements	$100,000
5	Parkstrip and Sidewalk Improvements	$185,000

BIKE ROUTE (CLASS III)

- $22,000+/- per roadway centerline mile for signs on each side of the road.

BIKE/PEDESTRIAN BRIDGES

- $1,200+per foot per bridge with a width of 8’-0”.
- $1,500+ per foot per bridge with a width of 10’-0”.

STREET UNDERCROSSING

- For arterial streets, $250,000+ per tunnel with a width of 12’-0” and length of 70’.
- For collector streets, $150,000+ per tunnel with a width of 10’-0” and span of 40’.

OTHER

- **Bike Boulevards:** $235,000 per mile (no additional right of-way would be needed)
- **Bike Racks:** $720 per rack (includes install cost and would hold between 3 to 5 bikes)
- **Traffic Signal Sensors:** $1,500 per sensor (includes install cost)
- **Outdoor Bike Locker:** $2,000 per locker (includes install cost)

5.3 Proposed Projects

5.3.1 Context of the 2013 BTP and Project Develpment

The *2013 BTP* builds upon a comprehensive system of bikeways and support facilities that will enhance Merced's existing bikeways while setting the stage for effective connections between regional destinations.

Over the course of the last 25 years, the City of Merced has shown a serious commitment to creating a bicycle friendly community investing over 4 million dollars in developing its bikeway system. The *2013 BTP* continues that tradition by including over 100 potential projects for bikeways, support facilities, and other related activities and tasks. The *2013 BTP* accomplishes one-step of several to fully realize the development of the listed projects. The ability to accomplish projects, however, is dependent upon a dynamic setting of funding and staff resources as they apply to all steps, which include: 1) describing the community vision (the BTP); 2) having available local funding sources; 3) the ability and success to compete for and being awarded state and federal grant funds; 4) completed environmental reviews; 5) completed engineering and design; and, 6) continued community support for projects. Thus, while the *2013 BTP* is a significant initial step toward realization of the City's intent to construct bikeways and support facilities, the scope and function of the *2013 BTP* is to identify the desired possibilities of the community which may be implemented during the 5-year life of the BTP.

5.3.2 Comprehensive Project List

The proposed *2013 BTP* project list (Appendix E) was crafted from the following sources:

- *2008 BTP* Proposed Bikeway Project Map
- Listed Projects from "Target Areas" listed in Section 5.1
- 2008 Merced County Regional Bikeway Plan (projects within the City's Sphere of Influence).
- Projects currently in process of being developed
- Ideas expressed at the *2013 BTP* Community Public Workshops

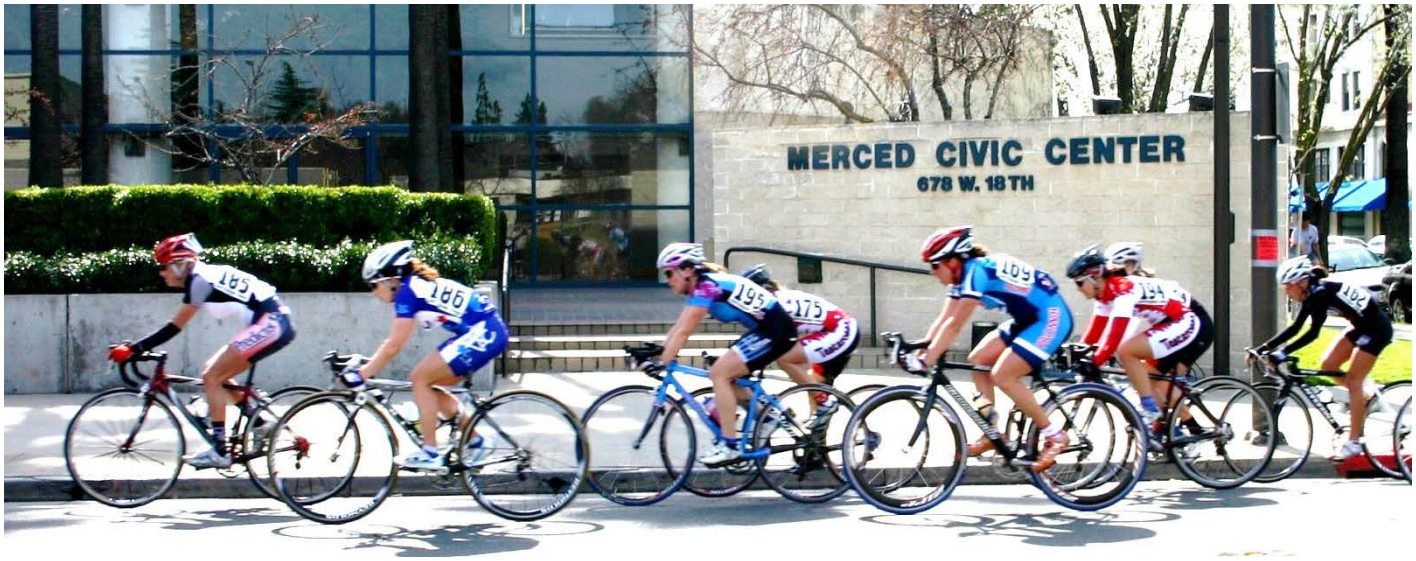
Appendix E includes a description of the *2013 BTP's* proposed bikeways and bike support facilities in priority order. Table 5.2 below describes in miles, the existing and proposed bikeway network. This data was generated from the ArcMAP-based maps of the City's existing and proposed bikeways presented in Appendix C.

Table 5.2: Miles of Bikeway Types

Bikeway Type	Existing Bikeways	Additional Bikeways Proposed in 2013 BTP
Class I - Bike Path	22.21	16.23
Class II – Bike Lane	29.48	47.00
Class III – Bike Routes	11.02	0
Bike Boulevard	0	1.36 (average)
Sharrows	0	3.25

While the list of recommended projects is large, the BAC spent considerable time identifying the top fifteen projects. Pursuit of funding for these top projects should be top priority. The remaining projects are included to give the City the ability to identify a project in cases where funding sources are selective. Given the extensive public, commission and staff involvement in preparing the plan, future projects should be selected from the *2013 BTP's* recommended project list. In the rare case when funds for a project are sought after, but the project is not on the prioritized list, then Staff will make every effort to discuss the merits and purpose of the project with the BAC before proceeding.

Page Intentionally Left Blank



FUNDING SOURCES

CHAPTER 6

6.1 BICYCLE FUNDING SOURCES

6.2 BICYCLE TRANSPORTATION ACCOUNT (BTA)

6.3 OTHER RECENT FUNDING AWARDS

6.1 Bicycle Funding Sources

There are many possible local, regional, state, and federal funding sources available for bikeway projects. The primary funding sources for bicycle projects and programs are described below and shown in the Table 6.1. Except for the local bicycle registration and licensing fees and the Surface Transportation Program, these funding sources are competitively-based grants.

6.1.1 Local

- ***Bicycle Registration and Licensing Fees***
- ***City of Merced Public Facilities Impact Fees***

6.1.2 Regional

- ***Reduce Motor Vehicle Emission Program*** (***REMOVE II***)
- ***Transportation Development Act*** (***TDA***) comes from the State and is distributed to the regions (MCAG). Transit is a priority for the Local Transportation Fund (LTF) monies. In the past, whatever remaining amounts after transit gets distributed to the local agencies for local streets and roads projects, which could include bike/pedestrian projects. However, in recent years and for future years, 100% LTF monies will very likely be used for "The Bus."

6.1.3 State

- ***California Bicycle Transportation Account*** (***BTA***) In order to apply, the local jurisdiction must have an adopted and certified Bicycle Transportation Plan within the past five years.
- ***State Safe Routes to School*** (***SR2S***)
- ***Environmental Enhancement and Mitigation*** (***EEM***)

6.1.4 Federal

- ***Surface Transportation Program*** (***STP)*** (federal) funds are annually exchanged for State-only dollars, which get distributed to the local jurisdictions for surface transportation projects.
- ***Congestion Mitigation Air Quality*** (***CMAQ)*** funds are federal-allocated and regionally-awarded. The Merced County Association of Governments (MCAG) receives about $3 million of CMAQ funds annually, which MCAG awards and programs to CMAQ-eligible projects. CMAQ funds are regionally competitive, when funds are not entirely expended on transit and cost-effective projects/programs. It is up to MCAG to determine which eligible project(s) receives funding.
- ***Highway Safety Improvement Program*** (***HSIP)***. This grant focuses on transportation safety improvements to reduce the number of traffic fatalities and major injuries.
- ***Office of Traffic Safety*** (***OTS)***. This grant is specifically for bicycle and pedestrian safety.
- ***Federal Safe Routes to School*** (***SRTS)*** is a federally-funded, competitive grant program, which previously existed under the prior Federal Surface Transportation Act, SAFETEA-LU. SAFETEA-LU was replaced by the new Federal Act, MAP-21, which has eliminated Federal SRTS. However, California has decided to continue funding Federal SRTS at similar levels from the new MAP-21 Transportation Enhancement program for the current Federal Fiscal Year (FFY) 2012/13. This State funding shift may or may not continue in future FFY's.

In February 2013, the *Merced County Association of Governments* received a notice from Caltrans about various funding programs. The notice stated that due to the Governor's budget proposal (announced January 10, 2013) at this time there will not be a Bicycle Transportation Account (BTA) Program "Call for Projects" in Fiscal Year 2013-14. The **"Active Transportation Program,"** proposed by the Governor will consolidate the *BTA* along with the *Safe Routes to School Program*, the *Environmental Enhancement and Mitigation Program* and two other programs into one program.

6.1.5 Public Facilities Impact Fees

Based on growth projections through 2030, the *2012 City of Merced Public Facilities Financing Plan* identifies public facilities that will be needed to maintain levels of service and accommodate the demands of the expanding population for roadways, bridges and railroad crossings, traffic signals, fire, police, and parks, recreation, and bikeways consistent with and in support of the City's General Plan. The development impact fee program is based on the 20-year time period through 2030 and the area of concern is the General Plan Specific Urban Development Plan (SUDP)/Sphere of Influence (SOI) Area (adopted January 2012).

QUIMBY ACT

Under the Quimby Act, the City may charge fees to acquire land for park facilities in-lieu of developers dedicating park land within their developments. While bikeways can utilize these "Park Fees" for a portion of their costs, not enough revenue is available to pay for all of those facilities so PFIF funds are also used.

The Parks and Recreation component of the 2012 PFFP includes five projects for a total of over $11 million, but only $7.4 million is being funded by the Public Facilities Impact Fees with other costs being covered by grants, private donations, and Quimby Act park fees. Of this $11 million, the 2012 PFFP estimates a cost of $2,035,000 for future bikeway projects.

FUNDING MIX

The funding mix for Parks and Recreation bikeways-related projects (Table 6.2) reflect the intention to aggressively pursue public-private ventures, particularly for youth-related facilities. Similarly, federal and state funding will be sought for bikeways and community parks development.

Table 6.2: Bikeway Funding Mix

Projects	2012 Cost Estimated	Federal & State Grants	Park Fees	2012 Public Facilities Impact Fees
Bikeways	$2,035,000	$508,750	$203,500	$1,322,750

USE OF IMPACT FEES FOR BIKEWAY PROJECTS

New growth cannot be required to pay for raising or upgrading the entire community's standard for a service or facility. Any improvements required to bring existing facilities up to standard, but not necessitated by new growth, may not be included in fee calculations. Below-standard facilities are referred to as "existing deficiencies." Existing deficiencies are excluded from the impact fee calculations in this report. Thus, fees collected through the PFFP program are limited to those projects that are directly related to new growth, and cannot be used to bring existing deficient facilities up to standard. Only Class I off-street bikeways are proposed for public facilities impact fee funding.

In the 2008 Bike Master Plan, an additional 26 miles of Class I bikeways were proposed to serve the General Plan build-out area. In the next 20 years (from 2012), the City projected the need for the construction of approximately 9 miles of new bikeways (along Fahrens, Cottonwood, and Black Rascal Creeks, and utility corridors), and 3 street undercrossings and 3 bridges.

6.1.6 Bicycle Registration and Licensing Fees

Fees to register and license bikes are charged to bike owners to enter a description of the bike and to issue a number into the statewide database for purpose of identifying lost and stolen bicycles. Fees are $5 to register and $2 to renew biannually. The total amount of fees collected recently were $179 in Fiscal Year 10/11; $225 in fiscal year 11/12 and $142 so far in fiscal year 12/13 (2/11/13).

6.1.7 Summary Table 6.1 of Bicycle Funding Sources

Table 6.1: Bicycle Funding Sources						
Funding Sources	Programming Agency	Approving Agency	Required Matching Funds	Application Deadline	Eligible Bikeway & Support Projects	2012 Public Facilities Impact Fees
Local						
Bicycle Registration & Licensing Fees	Local Jurisdictions	Local Jurisdictions	N/A	N/A	Bicycle Related Programs & Projects	Varies
Public Facilities	Local Jurisdictions	Local Jurisdictions	N/A	N/A	Bikeways for New Development	$1.3 M through 2030
Regional						
Reduce Motor Vehicle Emissions Program **(Remove II)**	San Joaquin Valley Air Pollution Control District **(SJVAPCD)**	**SJVAPCD**	Varies	Varies	Class I Bike Path Construction or Class II Bike Lane Striping	Grants Limited to: $150,000 for Class I or $100,000 for Class II
State						
Bicycle Transportation Account **(BTA)**	Caltrans	Caltrans	10%	Annual, April	Bikeways, Bike Safety, Storage & Planning	$7.2 M annually
State Safe Routes to School **(SR2S)**	Caltrans	Caltrans	10%	Annual, March	Bicycle & Pedestrian Projects	$24.25 M annually
Environmental Enhancement and Mitigation **(EEM)**	California Transportation Commission **(CTC)**	**CTC**	None	Annual, August	Roadside Recreation	$10 M annually, Grants Limited to $350,000
Federal						
Surface Transportation Program **(STP)**	**MCAG**, Local Jurisdictions	**MCAG**, Local Jurisdictions	None	Varies	State Roads, Bridges, Transit Capital, Bicycle and Pedestrian Projects	$200 M annually, Exchanged Annually for State-Only Dollars
Congestion Mitigation / Air Quality **(CMAQ)**	**MCAG**	**MCAG**, Caltrans & Federal Hwy. Admin.	11.47%	Varies	Bikeways & Support Facilities	Varies
Highway Safety Improvement Program **(HSIP)**	Caltrans	Caltrans	10%	Annual, July	Transportation Safety Improvements	Unknown; Minimum of $100,000; Maximum of $900,000
Offices of Traffic Safety **(OTS)**	**OTS**	**OTS**	Unknown	Annual, Anytime during the year	Bicycle and Pedestrian Safety	Varies
Federal Safe Routes to School **(SRTS)**	Caltrans	Caltrans	None	Annual	Bicycle and Pedestrian Projects	$23 M annually

6.2 Bicycle Transportation Account (BTA)

Caltrans' Bicycle Transportation Account (BTA) is one of several funding mechanisms the City uses to pay for bike-related projects. The state awards over 7 million dollars through this program each year to cities and counties throughout the state. During the last 10 years, grant awards have ranged in size from $5,000 to $1.2 million. The City of Merced is located in Caltrans District 10, which consists of eight counties and 29 cities in the northern San Joaquin Valley.

6.2.1 Local BTA Grant History

Since FY 2003/04, according to Caltrans online records, District 10 has only awarded 2 grants for local projects: 1) the Bellevue Road bike shoulders; and, 2) a reconstructed Lake Road bike path. During this period, BTA applications were submitted for bike path (Campus Parkway - Class I), and bike lane (Canal Street – Class I, and Downtown – Class II) projects, but no awards were granted.

Prior to this period, the City was awarded a BTA grant in FY 02/03 for the Cottonwood Creek Bike Path Project, as well as an overlay of the Bear Creek Path between McKee Road and G Street.

6.2.2 BTA Award Trends

A review of past BTA awards (2003 to 2012) was conducted to understand the scope and focus of successful bike project applications. To qualify for BTA funding, bike projects must be directly connected to needs of the bike commuter. The results revealed that the needs of the bike commuter are broad and can be described in five broad categories. The number of awards given this survey period per category is listed:

- Facility Preparation Activities ……..... 7
- Backbone Commuting Facilities…….305
- Parking Facilities……39
- Education/Safety……22
- Intermodal Connections……13

FACILITY PREPARATION ACTIVITES

- ROW/Engineering (4)
- Project Feasibility Study (1)
- Safety Study (2)

BACKBONE COMMUTING FACILITIES

***Linear Features (269),* such as:**

- Class I (pathways) (76)
- Bike Boulevard (4)
- Class II (lanes) (140)
- Class III (route) (30)
- Sharrow (5)
- Rehab Pavement and Markings (14)

Point Features (36), such as:

- Bridges [widened road bridge, pedestrian/bike over roads, under-crossing] (13)
- Drainage Grates (2)
- Bike Detection Loops/Video/Push-Button (15)
- Intersection Redesign (2)
- Lighting (4)

PARKING FACILITIES

- Bike Racks (18)
- Lockers (11)

EDUCATION / SAFETY

- Bike Rodeo (6)
- Fund Bike to Work Week (1)
- Bike Commuter Map (3)
- Signs [directional; way-finding; safety] (10)
- Traffic Calming (2)

INTERMODAL CONNECTIONS

- Bus Racks (5)
- Bike Transit Station/Facility (6)
- Bike Repair Site (2)

6.2.3 BTA Application Eligibility Checklist

The following list of key application elements is provided to inform the submittal of future BTA grant applications, and is derived from the checklist used by Caltrans to determine whether an application is complete and eligible for consideration of an award.

- Current BTP with RTPA letter
- Project is listed in current BTP
- Evidence of CEQA clearance (NOE or NOD)
- 10% Local Match and City Council Resolution of Support
- Complete Application containing minimal attachments, submitted by due date

BTA application rating factors and criteria are discussed below.

6.2.4 BTA Rating Factors and Criteria

The following list of key application rating factors and criteria is provided to inform the submittal of future BTA grant applications.

Eligible BTA projects are those that serve the functional needs of bicycle commuters. Accordingly, the BTA Evaluation Committee evaluates applications as Excellent, Good, Fair, Poor, or Ineligible according to the following criteria:

HOW WELL HAS THE APPLICANT DEMONSTRATED THAT THE PROJECT:

1. Will be used primarily by bicycle commuters?
2. Has the potential to increase bicycle commuting?
3. Is the best alternative for the situation?
4. Improves bikeways and/or amenities that support bicycle commuting e.g., bicycle parking, lockers, showers, lighting, call boxes, maps, and bicycle safety education programs.
5. Provides or improves bikeway continuity to activity centers such as public buildings, transit terminals, business districts, shopping centers, schools, etc.
6. Is consistent with the applicable BTP?

OTHER CONSIDERATIONS USED IN EVALUATING BTA PROJECT APPLICATIONS INCLUDE:

1. Citizen and community involvement
2. Cost of project and cost-effectiveness
3. Geographic distribution
4. Projects initiating a community bikeway network
5. Land use, population density, and settlement patterns
6. Local – State match ratio
7. Project readiness
8. Project type Class II & III (on-road) / Class I (off-road) / other
9. Prior funding and project implementation
10. Urban/Rural balance
11. Transportation interface with other modes of transportation
12. Trip purpose: work, school, shop, social / recreational, other
13. Is applicant willing to accept partial funding?
14. Does BTA project connect to or become a part of a larger project or facility with a design not meeting HDM standards?

15. Is facility open 24/7? If not what are the hours of use? And why isn't the facility always available?

6.3 Other Recent Funding Awards

In addition to the BTA funds, the City of Merced has recently obtained over $3 million for bike-related projects from other sources, which include:

6.3.1 Federal Safe Route to School (SRTS) Program

For the FFY 2012/13 SRTS is funding $980,900 for crosswalks, safety lighting, flashing beacons, sidewalks, and curb ramps.

6.3.2 Congestion Mitigation Air Quality (CMAQ)

CMAQ has approved $2.4 million in funding for five different bike-related projects from FY 2010/11 to 2013/14 (time frame includes both engineering and construction) for:

- Construct (Bear Creek) / Class I bike path
- Construct (Black Rascal Creek) / Class I bike path
- Install Class II Bike Lanes in Merced
- 50 New Bike Racks, and

- 3 New Bike Shelters

Approved CMAQ Bicycle Projects for City of Merced					
CTIPS ID	Project Title	Phase	Fund Source	Fund Amount	FFY
205-000-**0178**	Construct (Bear Creek) **Class I Bike Path**	PE	**CMAQ**	205,920	10/11
			LOCAL	28,080	
		CON	**CMAQ**	1,267,200	13/14
			LOCAL	172,800	
205-0000-**0177**	Construct (Black Rascal Creek) **Class I Bike Path**	PE	**CMAQ**	132,000	10/11
			LOCAL	18,000	
		CON	**CMAQ**	388,000	12/13
			LOCAL	53,000	
205-0000-**0195**	Install **Class II Bike Lanes** In Merced	PE	**CMAQ**	44,265	11/12
			LOCAL	5,735	
		CON	**CMAQ**	247,884	12/13
			LOCAL	32,116	
205-0000-**0202**	Merced to Purchase Fifty New Bike Racks	CON	**CMAQ**	32,844	13/14
			LOCAL	4,256	
205-0000-**0203**	Merced to Purchase Three New Bike Shelters	PE	**CMAQ**	22,132	13/14
			LOCAL	2,868	
		CON	**CMAQ**	123,942	
			LOCAL	16,058	

Sum of Net Increases by Fiscal Year	10/11	11/12	12/13	13/14
CMAQ for Non-Transit Projects	$337,920	$44,265	$635,884	$1,446,118
				$2,464,187

BENEFITS

CHAPTER 7

7.1 Bicycle Ridership

The City of Merced is a firm advocate for high quality of life for all its residents, and continues to develop its bikeway system. The University of California at Merced opened its newest campus just outside the Merced City limits, less than two miles northeast of Merced, in 2005. The University is considered a "Green" campus, which is highly committed to conservation of energy and the environment. With this level of commitment to the environment, the City expects a number of students and staff will use alternative modes of transportation while commuting to and from the campus. Merced hopes that with the addition of new bikeways and continued unyielding commitment to expand its bikeway network, as well as the anticipated influx of university students and staff, there will be a dramatic increase of bicycle trips.

7.1.1 Estimated Current and Increased Bike Ridership

From the U.S. Census 2006-2010 American Community Survey, there are an estimated 373 bicycle commuters in Merced, or 1.3% of the work force (these figures do not include students commuting to school).

The *Merced County Association of Governments* forecasts that implementation of the *2013 BTP* will expand and enhance the comprehensive, continuous, and well-maintained bikeway network, maximizing bicycling benefits to the area's cycling and non-cycling public; and will raise the percentage of bicycle commuters (employees and students). This increase will be supplemented by a ridership growth of other bicyclists (recreational, avid, short-trippers, shopping, commuting, etc.).

The Merced County Association of Governments (MCAG) prepared the estimated increase in bicycle ridership that would result from implementation of the *City of Merced 2013 Bicycle Transportation Plan*, and was primarily determined using a benefits methodology that has been widely used for evaluating Congestion Mitigation and Air Quality (CMAQ) projects. Most of these estimated increases are from "bicycle commuters."

The CMAQ benefits methodology was developed by the California Air Resources Board (CARB) in cooperation with Caltrans and the California Air Pollution Control Officers Association. The methodology relies on several factors including: (1) average daily traffic (ADT) volumes; (2) adjustment factors based on ADT and facility type (bike path or bike lane); and (3) adjustment credits for proximity to activity centers.

Applying this approach to the plan's prioritized projects numbered 1 to 9, an increase in bicycle ridership of 699 daily bicycle trips is estimated. A second estimate focused on the 5-year life of the plan that assumed implementation of prioritized projects numbered 1 and 2, resulted in an increase in bicycle ridership of 373 daily bicycle trips.

7.2 Improved Air Quality

Air quality is a major problem in the San Joaquin Valley. Being surrounded by mountain ranges, the Valley's bowl-shaped geography creates the unhealthy problem of pollution accumulation. This Valley bowl collects Valley-generated pollution and also some pollution that drifts in from the San Francisco Bay and Sacramento areas.

7.2.1 Annual Pollution from Vehicles

Table 7.1 shows the estimated annual pollution emitted by passenger vehicles.

Table 7.1

	Hydrocarbons (HC)	Carbon Monoxide (CO)	Oxides of Nitrogen (NOx)	Carbon Dioxide (CO_2)
Passenger Car	77.1	575	38.2	11,450
Light Truck	108.0	854	55.8	16,035
	Source: EPA, 2000. Annual Pollution Emitted in Pounds.			

As will be shown in the subsequent sections, mobile emissions from passenger cars and light trucks represent a significant portion of pollution that is harmful to people (poor air quality) and to our environment (global warming).

7.2.2 National and State Ambient Air Quality Standards

The Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) set national and state ambient air quality standards to assure healthy air for people to breathe.

Table 7.2		
Pollutant	Federal Standards	State Standards
Ozone - One hour	No Federal Standard	Nonattainment / Severe
Ozone - Eight hour	Nonattainment / Extreme	Nonattainment
PM 10	Attainment	Nonattainment
PM 2.5	Nonattainment	Nonattainment
http://www.valleyair.org/aqinfo.attainment.htm		

The San Joaquin Valley's emission levels for these pollutants are higher than the national and state standards.

These air quality standards affect transportation planning in that, if local regions are not successful in meeting the standards, then plans must be put in place that will provide measurable results in improving air quality. If adopted plans are not successful with improving air quality, then sanctions are imposed. The ultimate sanction is to freeze Highway funds designated to projects reducing traffic congestion and gridlock.

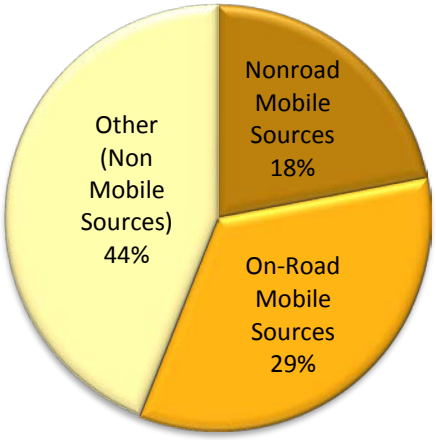
These plans mention measures to reduce vehicle trips by improving and promoting alternative modes of transportation, which include public transit and bicycling (i.e. 2008 PM2.5 PLAN: REMOVE II grant program allows for transit pass subsidies and construction of new bicycle facilities.). Bicycle commuting is definitely an important means of improving air quality.

7.2.3 Ozone

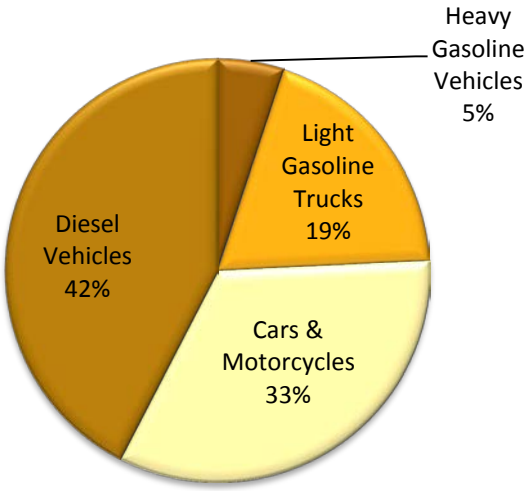
Nitrogen oxides, expelled to the atmosphere from mobile sources, could create ground-level ozone and smog from interacting with hydrocarbons and sunlight. Hydrocarbon emissions result from incomplete fuel combustion and from fuel evaporation. Ground-level ozone can irritate the respiratory tract, induce persistent coughing, cause chest pain, trigger asthmatic symptoms, and increase susceptibility to lung infection. Ozone also can damage trees and plants and reduce visibility. On-road mobile sources account for 34% of the Nitrogen Oxides emitted. On-road mobile sources account for 29% of the hydrocarbons emitted.

.

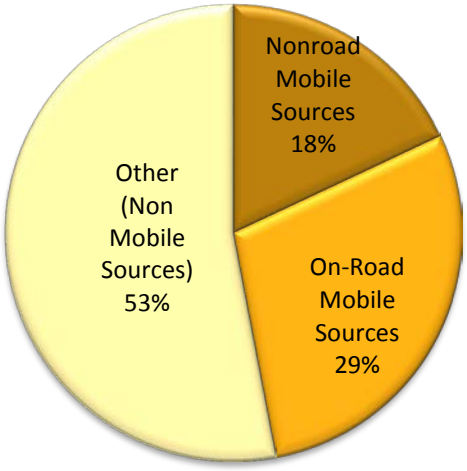
1999 National Emissions by Source: Nitrogen Oxides



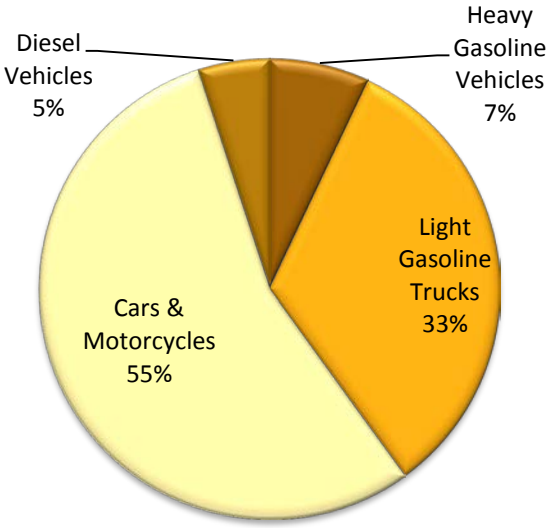
1999 National Emissions by Source: Nitrogen Oxides On-Road Mobile Sources



1999 National Emissions by Source: Hydrocarbons



1999 National Emissions by Source: Hydrocarbons On-Road Mobile Sources

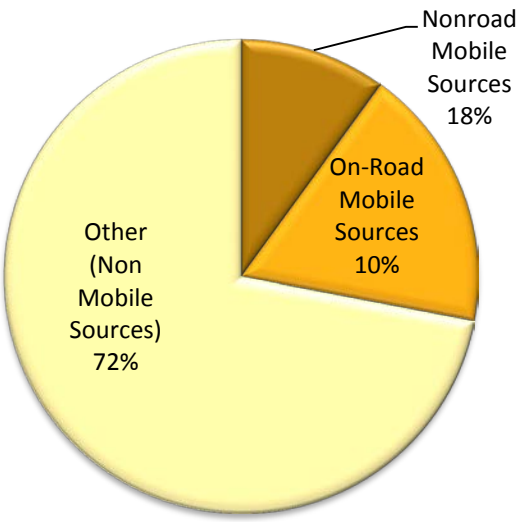


7.2.4 Particulate Matter

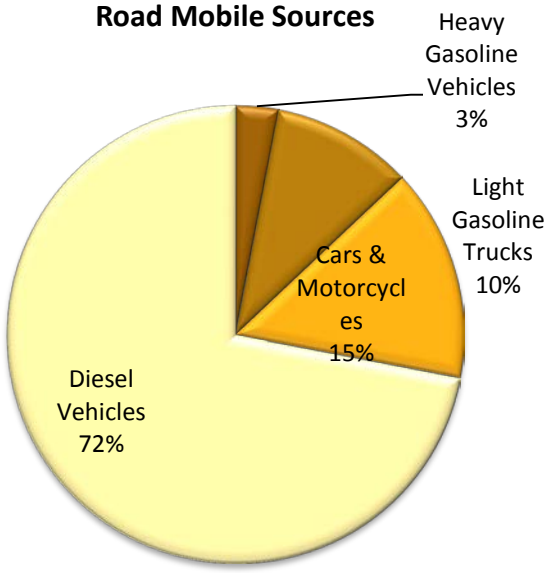
Particulate matter is the term for solid or liquid particles found in the air. These particulate emissions are differentiated by their diameter size in units of microns. PM2.5 refers to particulate matter that is less than 2.5 microns in diameter.

Particulate matter, 10 microns in diameter and smaller, is a health concern, because they can reach the deepest regions of the lungs and possibly into the bloodstream. Health effects may include respiratory symptoms (i.e. irritation of airways, difficult or painful breathing), decreased lung function, aggravated asthma, chronic bronchitis, nonfatal heart attacks, and premature deaths in people with heart/lung disease. Fine particulate matter associated with diesel exhaust is also thought to cause lung cancer. Young children, the elderly, and people with preexisting health conditions are the most vulnerable to particulate matter health risks. On-road mobile sources account for 10% of the PM2.5 produced.

1999 National Emissions by Source: Fine Particulate Matter (PM2.5)



1999 National Emissions by Source: Fine Particulate Matter (PM2.5) On-Road Mobile Sources



Note that "Nonroad Mobile Sources" include a wide variety of categories including industrial, lawn and garden, construction, recreational, and farm equipment. Also note that "Other (Not Mobile)" refers to stationary sources of emissions.

7.3 Enhanced Health Benefits

Bicycling is a great transportation means of getting you from point A to point B. Bike riding is also exercise with wonderful benefits, including the following:

- Improving your cardio-respiratory (meaning heart and lung) fitness and blood circulation. Regular exercise will work your heart and lungs, and will enhance the efficiency of blood circulation as these components pump oxygen and fuel to your muscles.
- Exercising without significant joint stress. Compared to walking and running, bicycling is a lower impact workout.
- Maintains muscle strength and bodily coordination. Bicycling primarily requires leg muscles, and coordination is in the legs (i.e. pedaling) as well as with your visual and upper body coordination (i.e. to make turns).
- Reduces risk of hypertension (high blood pressure) due to weight management and improved blood flow.
- Boosts energy level. As more blood and oxygen are being pumped through your body by the heart and lungs, your energy level rises as a result.
- Enhances immunity. Regular activity maximizes the efficiency of bodily functions.
- Prevents bone loss. Regular physical activity increases bone density.
- Helping to make you feel better: Regular physical activity reduces the level of depression and stress, improves mood, and raises self-esteem.
- Could be social and fun, especially if you ride with friends or with a group (i.e. Merced Bicycle Coalition).
- Decreasing risk for stroke and heart disease. Maintaining a healthy weight and maximizing the efficiency of blood flow through exercise decreases the risk for stroke and heart disease.
- Reducing risk for Type 2 Diabetes. Lack of physical activity increases the likelihood of obesity. Diabetes is being associated with obesity. The gage for obesity is the determination of a person's Body Mass Index (BMI). BMI is calculated based on a person's height and weight.

7.3.1 Obesity and Diabetes

In 2009, for Merced County, there were 41,000 (23.4%) obese adults and an additional 69,000 (39.1%) overweight adults. About 22,000 (12.3%) adults were diagnosed with diabetes. [1] The American Diabetes Association estimates the total cost of diabetes in California to be $24 billion, with $17 billion spent on direct medical care and $7 billion on the indirect associated costs. [1]

In 2012, twelve rural counties were included in a poll as part of an initiative funded by the Centers for Disease Control and Prevention, and the Public Health Institute. Ninety-two percent of county voters described obesity as a "serious problem," and 84 percent agree that neighborhoods play a role in people's risk for obesity, according to the poll. It found that voters strongly support community action to prevent obesity.[2]

For good health, the American Heart Association suggests at least 150 minutes per week of moderate exercise or 75 minutes per week of vigorous exercise (or a combination of moderate and vigorous activity). It is recommended that this be achieved by exercising for 30 minutes a day, five times a week. This weekly exercise will burn away the consumed calories to maintain a healthy weight or to lose the excess weight. Table 7.3 shows the approximate calories spent per hour by a 100-, 150- and 200- pound person doing a particular activity.

Table 7.3: Calories Spent by Various Individuals / Weight by Activity

Activity	100 lb	150 lb	200 lb
Bicycling, 6 mph	**160**	**240**	**312**
Bicycling, 12 mph	**270**	**410**	**534**
Jogging, 7 mph	610	920	1,230
Jumping Rope	500	750	1,000
Running, 5.5 mph	440	660	962
Running, 10 mph	850	1,280	1,664
Swimming, 25 yrds/min	185	275	358
Swimming, 50 yrds/min	325	500	650
Tennis, singles	265	400	535
Walking, 2 mph	160	240	312
Walking, 3 mph	210	320	416
Walking, 4.5 mph	295	440	572

Source: American Heart Association /

http://www.heart.org/HEARTORG/Getting Healthy/PhysicalActivity/Physical-Activity_UCM_001080_SubHomePage.jsp

7.4 Reduced Greenhouse Gas Emissions

Greenhouse gases from vehicles are carbon dioxide, methane, and nitrous oxide. On the other hand, commuting by bike does not generate any GHG emissions, and results in a reduction of GHG emissions that would otherwise occur. Twenty-one percent of the GHG Emissions targeted for reduction in the City's 2012 Climate Action Plan (CAP) are forecasted to occur through enhanced mobility programs and projects. Implementation of the BTP is an important part of that forecast.

Several projects in the *2013 BTP* align with the recommended actions of the CAP, and are listed in the Comprehensive List of all Proposed Bicycle Facility Projects (Appendix E).

A bike commuter GHG reduction calculator can be found at fedbike.org/calc.php, which tracks federal worker commuter reports. For example, 20,259 bicycle miles equates to a GHG reduction of 6.5 metric tons.[3]

BIBLIOGRAPHY

1. UCLA Center for Health Policy Research, *Ask*CHIS, 2009 data http://ask.chis.ucla.edu/]
2. *Merced Sun Star* Article, "Poll results show obesity a concern in Merced area, March 27, 2013.
3. *Fedbike.org/calc.php.*




COMMUNITY PARTICIPATION

CHAPTER 8

8.1 ROLE OF THE CITY'S BICYCLE ADVISORY COMMISION

8.2 BICYCLE TRANSPORTATION PLAN STAKEHOLDERS

8.2.1 Stakeholders

8.2.2 Stakeholders Letters of Recommendations

8.3 CITY SPONSORED PUBLIC WORKSHOPS

8.3.1 BTP Public Workshop #1

8.3.2 BTP Public Workshop #2

8.3.3 BTP Public Workshop #3

8.3.4 Formal Public Review

8.4 COMMUNITY-BASED PUBLIC WORKSHOPS

8.4.1 South Merced Bike Summit

8.5 2013 BTP DEVELOPMENT PROCESS

8.5.1 Plan Development Schedule

8.5.2 Narrative Description of the Plan Development Process

8.1 Role of the City's Bicycle Advisory Commission

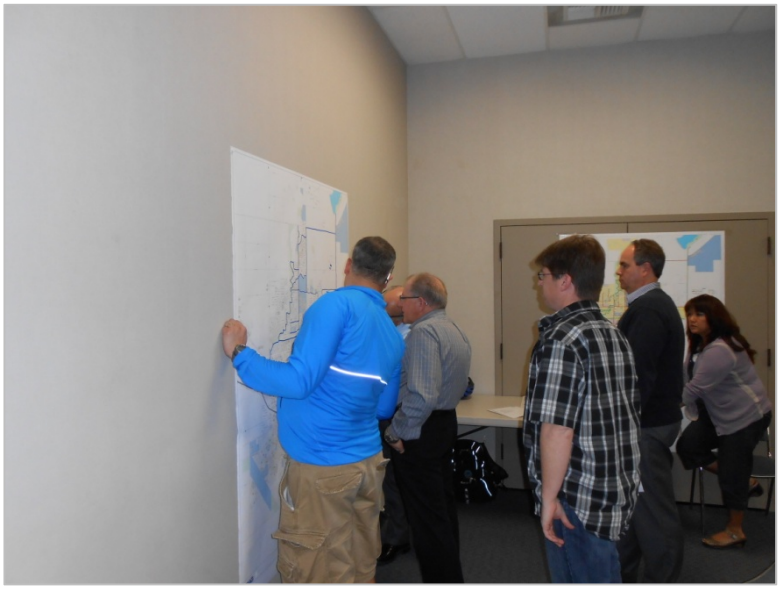
The City Bicycle Advisory Commission (BAC) served as the Project Committee and received inputs from plan stakeholders and City Staff. Input was in the form of public comments and staff reports, respectively, that were offered at regularly scheduled meetings of the BAC in 2012 and 2013. As the Project Committee, the BAC advised the Staff concerning the content of the BTP. The endorsement of the *2013 BTP* by the BAC was presented to the City's Planning Commission, who made the formal recommendation on the *2013 BTP* to the City of Merced City Council.

8.2 Bicycle Transportation Plan Stakeholders

8.2.1 Stakeholders

Stakeholders have an interest in the outcome of the plan, and represent bicycle riders and advocates, government entities that provide services to populations that utilize bicycle facilities; bicycle recreationalists; public health advocates; and transportation providers, and included:

- Merced Bicycle Coalition
- Building Healthy Communities
- Merced/Mariposa Asthma Coalition
- UC Merced Transportation and Parking Services (TAPS)
- Merced County Public Health Department
- Merced City School District and Merced Union High School District
- Golden Valley Health Center



8.2.2 Stakeholders Letters of Recommendation

Appendix A contains letters of support from the plan's stakeholders.

8.3 City Sponsored Public Workshops

In addition to the regularly scheduled meetings of the City of Merced Bicycle Advisory Commission, at which draft chapters of the sections the *2013 BTP* were presented and discussed, multiple community workshops were held to afford greater opportunity for the public to participate in the crafting of the plan. Public comments received at these workshops are included in Appendix H of the *2013 BTP*.

8.3.1 BTP Public Workshop #1

Public Workshop #1 was held on August 29, 2012. Public input concerning existing bikeways and bicycle support facilities was gathered. Public notice was sent as a press release and to groups and individuals who had previously expressed interest in bicycling issues in Merced. Public comments were received and incorporated into the *2013 BTP* as appropriate. The Merced County Association of Governments (MCAG) in coordination with Golden Valley Health Centers hosted the event at the Senior Health and Wellness Center (857 West Childs Avenue) from 6:00 p.m. to 7:00 p.m.

8.3.2 BTP Public Workshop #2

Public Workshop #2 was held February 13, 2013, in the Sam Pipes Room, Merced Civic Center, from 6 p.m. to 8 p.m. This workshop was hosted by the City of Merced with assistance from many stakeholders including: The Merced Bicycle Coalition, Building Healthy Communities, UC Merced, MCAG, and Golden Valley Health Centers.

At this workshop, the public provided information about their bicycling habits and needs by mapping: 1) where they ride; 2) what streets they avoid riding on; and, 3) by identifying where they would like to ride if improvements were made. Various City Staff were present to discuss road maintenance and traffic safety concerns. Bike Plan stakeholders participated as station facilitators and note takers.

Public notice was provided by flyers that were distributed throughout the City at locations frequented by bicyclists including numerous neighborhood shopping and dining areas, UC Merced, Merced College, Downtown Merced, the Merced Civic Center and local bicycle shops. A 30-second radio announcement in English and Spanish languages was played in the days preceding the event. Press releases were run in local newspapers. The event was also advertised in the City's monthly billing newsletter. Information about the workshop was posted on several websites including those of the City of Merced, MCAG, the Merced Bike Coalition, Building Healthy Communities and Golden Valley Health Centers.

Language interpretation service was made possible for Spanish and Hmong speakers through City Staff and Golden Valley Health Centers efforts.

8.3.3 BTP Public Workshop #3

Public Workshop #3 was held March 11, 2013, in the Sam Pipes Room, Merced Civic Center, from 6 p.m. to 8 p.m. This workshop was hosted by the City of Merced with assistance from many stakeholders including: The Merced Bicycle Coalition, Building Healthy Communities, UC Merced, MCAG, Golden Valley Health Centers, and the Merced County Public Health Department.

At this workshop, the public provided information about their bicycling habits and needs at three work stations including: 1) High School Bicycle Routes; 2) North / South Bikeway; and, 3) Fixing Existing Bikeways/Maintenance. A Bicycle Safety Class was also held. Bike Plan stakeholders participated as station facilitators and note takers.

Public notices and provision for language interpreters were performed as described in Workshop #2.

8.3.4 Formal Public Review

The Draft *2013 BTP* was presented to several appointed and elected bodies prior to being certified by the Merced County Association of Governments (MCAG), who then delivered it to Caltrans. These included:

- The City of Merced Bicycle Advisory Commission
- The City of Merced Recreation and Parks Committee
- The City of Merced Planning Commission
- The Merced City Council
- Plan Certified by MCAG

8.4 Community-Based Public Workshops

Independent of or in partnership with local governments, members and groups in the Merced community are actively engaged in bicycling issues. This section describes community-based public outreach efforts.

8.4.1 South Merced Bike Summit

On October 27, 2012, Golden Valley Health Centers and The Merced Bike Coalition co-hosted *The South Merced Bike Summit* at Tenaya Middle School. The event was filled with fun and informative activities for the whole family. Over 50 attendees had the opportunity to participate in the discussion about how to make South Merced more bicycle-friendly and how to increase the number of students who ride their bikes to school. They also had the opportunity to ask questions regarding safety and get some hands on training on how to change a flat tire.

Participants with a bike had the opportunity to take a bike tour of South Merced and experience what it is like to ride on the south side of town where there are fewer bike lanes and no bike paths.

At the end of the day the participants agreed on three priorities that would make South Merced a more bicycle friendly community:

- Teach bicycle safety in schools
- Connect bike lanes throughout the City and County
- Maintain streets clear of hazards (of all sorts)

8.5 2013 BTP Development

The development of the *City of Merced 2013 Bicycle Transportation Plan* (2013 BTP) was designed to be a dynamic process built on: 1) realistic assessments of past and future bike-related conditions; 2) consistency with the *Merced Vision 2030 General Plan* and other guiding documents; 3) local community engagement and comments; and, 4) professional planning and engineering guidance.

8.5.1 Plan Development Schedule

Table 8.1: City of Merced 2013 BTP Plan Development Schedule
Phase 1: Organize the Planning Process (June 2012)
1. Establish a Planning Process and Public Outreach Plan
2. Implement Planning Process and Public Outreach Plan
Phase 2: Describe the Existing Setting (July – December 2012)
1. Map and Describe Existing Land Uses, Bike Routes, Lanes, Paths, and Parking Facilities
2. List Past Bike Expenditures
3. Estimate Number of Current Bike Commuters
4. Assess Bike Plan Consistency with other Plans
5. Map and Describe “Mobility Connections” and “Changing and Storage Sites”
6. Describe Affect of Education and Enforcement on Bike-Related Accidents
Phase 3: Identify New / Adjusted Bike Facilities (January – April 2013)
1. Identify which 2003 Bike Plan projects were constructed or not
2. Map and Describe proposed Bike Routes, Lanes, Paths, and Parking Facilities
3. Map and Describe proposed “Mobility Connections” and “Changing and Storage Sites”
4. List anticipated Expenditures for Bike-Related Projects
5. Prioritize Bike-Related Projects
6: Estimated Increase in Number of Bike Commuters
Phase 4: Hearing Preparation Tasks (May 2013)
1. Prepare Admin Final Draft of Plan
2. Prepare CEQA Document
3. Collect Letters of Support
Phase 5: Formal Adoption Process
1. Plan Comments from Bicycle Advisory Commission (June 2013)
2. Plan Comments from Parks Commission (June 2013)
3. Plan Recommendation from Planning Commission (August 2013)
4. Plan Adoption by City Council (September 2013)
5. Plan Certified by MCAG (October 2013)
6. Submit Adopted and Certified Plan to Caltrans (October 2013)

8.5.2 Narrative Description of the Plan Development Process

The planning process narrative describes all required tasks to complete a plan in conformance with Streets and Highway Code Section 891.2 (see Section 1.4). The applicable code section, indicated by a letter in parenthesis, for example, (a), denotes how each planning step aligns with this Streets and Highway Code (see Section 6.2.3 of this plan). The narrative is arranged by phase and steps that describe how the order in which the plan was crafted. Responsibilities and public participation are also provided.

PHASE 1: ORGANIZE THE PLANNING PROCESS

Step 1: Establish a Planning Process and Public Outreach Plan.

MCAG and City Staff established a 5 Phase planning process and public outreach plan (see Section 8.5). A general overview of community involvement is included in the planning narrative. The BAC reviewed and commented on it at their June 26, 2012, public hearing. (h)

Step 2: Implement Planning Process and Public Outreach Plan.

In this ongoing task, MCAG, the City and plan stakeholders shared the task of providing public outreach to the community (see Chapter 8). MCAG also contacted local employers for the purposes of collecting plan-related data. The City of Merced posted public meeting notices of commissions who were engaged in the planning process, and posted draft sections of the plan on the City's website for public review and comment, (h).

PHASE 2: DESCRIBE THE EXISTING SETTING

Step 1: Map and Describe Existing Land Uses, Bike Routes, Lanes, Paths, and Parking Facilities.

MCAG created a map depicting several features of importance to bike transportation including, but not limited to:

- Existing and proposed locations of residential neighborhoods, schools, shopping centers, public buildings, and major employment centers (b);
- Location of existing bike routes, lanes, and paths (c) (based on inventory by MCAG); and,
- Existing end-of-trip bicycle parking facilities including, but not limited to, parking at schools, shopping centers, public buildings, and major employment centers. MCAG contacted local employers regarding bike programs and incentives, and bike parking (d).

A written description of these three features was crafted by City Staff (see Section 4.3) and accompanies the map in the plan. The general public and plan stakeholders were invited to review and comment on the map and description during a BAC regularly scheduled public meeting, (h).

Step 2: List Past Bike Expenditures.

A list of bike-related improvements that were installed since 2008 was crafted by City Staff (Table 4.7). For each project, the City Engineering Division applied a cost estimate, using actual costs when available (k).

Step 3: Estimate Number of Current Bike Commuters.

MCAG estimated the number of current bike commuters (see Section 4.2) (a).

Step 4: Assess Bike Plan Consistency with Other Plans.

The draft bike plan was examined to assure consistency with other local plans and programs that provide incentives for bicycle commuting. MCAG compared the bike plan with the regional transportation plan, and the City of Merced compared the bike plan with the: 1) *Merced Vision 2030 General Plan*; 2) *Martin Luther King Jr. Way Revitalization Plan*; 3) *2012 Climate Action Plan*, and 4) the *South Merced Community Plan*. A written description of how the bike plan is consistent with these plans was crafted and placed in the bike plan (see Chapter 2, Appendix B) (i).

Step 5: Map and Describe "Mobility Connections" and "Changing and Storage Sites."

MCAG crafted a map showing existing bike support facilities:

- Bicycle transport and parking facilities for connections with and use of other transportation modes including Greyhound, YARTS, the BUS, CatTracks, Amtrak, park and ride lots, etc. (e); and,
- Facilities for changing and storing clothes and equipment including, but not limited to, locker, restroom, and shower facilities near bicycle parking facilities (f).

A written description of these features was crafted by MCAG and accompanies the map in the plan. The general public and plan stakeholders were invited to review and comment on the map and description during a BAC regularly scheduled public meeting, (h).

Step 6: Describe Effect of Education and Enforcement on Bike-Related Accidents.

To document and assess bike accident prevention, City Staff drafted a written description of:

- Bicycle safety and education programs that were conducted in the plan area;
- Efforts by the law enforcement agency having primary traffic law enforcement responsibility in the area to enforce provisions of the Vehicle Code pertaining to bicycle operation; and,
- The resulting effect on accidents involving bicyclists (g).

PHASE 3: IDENTIFY NEW / ADJUSTED BIKE FACILITIES

Step 1: Evaluation of how much of the 2008 Bike Plan was implemented.

City Staff compared the project list with the list of bike facility projects to determine which projects were constructed or not. This list was utilized to identify bike facility projects for the *2013 BTP*.

Step 2: Map and Describe proposed Bike Routes, Lanes, Paths, and Parking Facilities.

The City hosted three well-attended public workshops to discuss and collect comments about existing and proposed bikeways and bicycle support facilities. Using data and public and stakeholder input, MCAG created a map depicting several features of importance to bike transportation including, but not limited to:

- Existing and proposed locations of residential neighborhoods, schools, shopping centers, public buildings, and major employment centers (b);
- Location of proposed bike routes, lanes, and paths (c, j); and,
- Proposed end-of-trip bicycle parking facilities including, but not limited to, parking at schools, shopping centers, public buildings, and major employment centers (d, j).

A written description of these features was crafted by City Staff (Appendix E) and accompanies the map in the plan. The general public and plan stakeholders were invited to review and comment on the map and description during regularly scheduled public meetings of the BAC, (h).

Step 3: ***Map and Describe Proposed "Mobility Connections" and "Changing and Storage Sites."***

Using data provided by the City, MCAG crafted a map showing proposed bike support facilities:

- Bicycle transport and parking facilities for connections with and use of other transportation modes including Greyhound, YARTS, the BUS, CatTracks, Amtrak, park and ride lots, etc. (e, j); and,
- Facilities for changing and storing clothes and equipment including, but not limited to, locker, restroom, and shower facilities near bicycle parking facilities (f, j).

A written description of these features was crafted by City Staff and accompanies the map in the plan. The general public and plan stakeholders were invited to review and comment on the map and description during regularly scheduled public meetings of the BAC, (h).

Step 4: List Anticipated Expenditures for Bike-Related Projects.

A list of bike-related proposed projects in the *2013 BTP* was crafted by City Staff. For each prioritized proposed project, the City Engineering Division applied a cost estimate (Appendix E), creating a description of future financial needs for projects that improve safety and convenience for bicycle commuters in the plan area (k).

Step 5: Prioritize Bike-Related Projects.

The BAC rated various objectives that were used to prioritize all projects. Staff performed a rating exercise for projects to be prioritized (Appendix F). The BAC assisted with adjusting their final prioritization, (h).

Step 6: Estimated Increase in Number of Bike Commuters.

MCAG estimated increase in the number of bicycle commuters resulting from implementation of the plan (a).

PHASE 4: HEARING PREPARATION TASKS

Step 1: *Prepare Admin Final Draft of Plan*.

Finalizing the preceding work, City Staff prepared an "administrative draft" of the *2013 BTP*, including any new information since the draft language was prepared (d).

Step 2: Prepare CEQA Document.

City Staff prepared a CEQA Notice of Exemption (NOE) for the bike plan.

Step 3: Collect Letters of Support.

Letters of support and resolutions were collected from Plan stakeholders, (h).

PHASE 5: FORMAL ADOPTION PROCESS

Step 1: Plan Comments from Bicycle Advisory Commission.

City Staff presented the administrative draft of the *2013 BTP* to the City's Bicycle Advisory Commission at its regularly scheduled public meeting to obtain a resolution of support (see Appendix A).

Step 2: Plan Comments from Recreation and Parks Commission.

City Staff presented the administrative draft of the *2013 BTP* to the City's Recreation and Park's Commission at its regularly scheduled public meeting to obtain a resolution of support (see Appendix A).

Step 3: Plan Recommendation from Planning Commission.

The BTP contains bike-related policies and the City's Official Bicycle Circulation Transportation Map, making it an extension of the City's *Merced Vision 2030 General Plan*. The update to the BTP is considered to be an amendment to the General Plan. In order for the City Council to act on changes to the General Plan, it must consider the recommendation of the Planning Commission regarding the plan and associated CEQA review. City Staff presented the administrative draft of the *2013 BTP* to the City's Planning Commission at its regularly scheduled public meeting to obtain a resolution of support (see Appendix A).

Step 4: Plan Adoption by City Council.

At its regularly scheduled public meeting, City Staff presented the administrative draft of the *2013 BTP* and associated CEQA document for formal adoption by resolution to the City of Merced City Council (see Appendix A).

Step 5: Plan Certified by MCAG

At its regularly scheduled public meeting, MCAG Staff presented the City of Merced City Council adopted *2013 BTP* to the MCAG Regional Planning Transportation Planning Authority (RPTA), locally known as the MCAG Governing Board, to certify the plan for "Completeness/Compliance" with Streets and Highways Code Section 891.2 (Appendix A).

Step 6: Submit Adopted and Certified Plan to Caltrans

Upon certification, MCAG Staff delivered the Plan to Caltrans for review and acceptance.

Appendix A
Evidence of Community Support

- **Merced County Association of Governments Certification**
- **City Committees, Commissions and Council Actions**
- **Community Letters of Support**

MERCED COUNTY ASSOCIATION OF GOVERNMENTS

PH: 209.723.3153
FAX: 209.723.0322
www.mcagov.org
369 W, 18th Street
Merced, Ca. 93540

PROOF OF CERTIFICATION OF COMPLETENESS

Bicycle Transportation Plan (BTP)

Merced County Association of Governments provides this letter as **proof of certification of completeness** for the **City of Merced 2013 Bicycle Transportation Plan**, as outlined in Sections 890.6 and 891.2 of the California Bicycle Transportation Act.

Section 890.6 of the California Bicycle Transportation Act specifies that county and city governments shall establish minimum safety design criteria for the planning and construction of bikeways and roadways where bicycle travel is permitted; and

Section 891.2 of the California Bicycle Transportation Act establishes that a county or city may prepare a bicycle transportation plan to assist in establishing such criteria, and which shall include the following elements:

a. The estimated number of existing bicycle commuters in the plan area and the estimated increase in the number of bicycle commuters resulting from implementation of the plan;
b. A map and description of existing and proposed land use and settlement patterns;
c. A map and description of existing and proposed bikeways;
d. A map and description of existing and proposed end-of-trip bicycle parking facilities;
e. A map and description of existing and proposed bicycle transport and parking facilities;
f. A map and description of existing and proposed facilities for changing and storing clothes and equipment;
g. A description of bicycle safety and education programs conducted in the area included within the plan, efforts by the law enforcement agency having primary traffic law endorsement responsibility in the area to enforce provision of the Vehicle Code pertaining to bicycle operation, and the resulting effect on accidents involving bicyclists;
h. A description of the extent of citizen and community involvement in development of the plan;
i. A description of how the bicycle transportation plan has been coordinated and is consistent with other local or regional transportation, air quality, or energy conservation plans;
j. A description of the projects proposed in the plan and a listing of their priorities for implementation;
k. A description of past expenditures for bicycle facilities and future financial needs for projects that improve safety and convenience for bicycle computers in the plan area.

The City of Merced, in collaboration with the Merced County Association of Governments, has prepared a Bicycle Transportation Plan that complies with state law as described above and with the Regional Transportation Plan (RTP).

Marjie Kirn, Executive Director — 10/21/13 Date

City Committees, Commissions and Council Actions and Resolutions

- **City Parks and Recreation Committee**
  -- Recommended Approval on 6-24-13 (Minute Action)

- **City of Merced Bicycle Advisory Commission**
  -- Recommended Approval on 6-25-13 (Minute Action)

- **City of Merced Planning Commission**
  -- Recommended Approval on 8-21-13 (PC Resolution #3022)

- **City of Merced City Council**
  -- Approved on 9-16-13 (City Council Resolution 2013-44)

RESOLUTION NO. 2013-_44___

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF MERCED, CALIFORNIA, ADOPTING THE CITY OF MERCED 2013 BICYCLE TRANSPORTATION PLAN AND ADOPTING GENERAL PLAN AMENDMENT #13-01

WHEREAS, The Bicycle Transportation Plan bikeways map and text document has been amended with completed and future bikeways, current air quality information and standards, and other text changes, which are proposed to update the former plan, last updated in October 2008; and,

WHEREAS, The City of Merced expects an increase of recreation, carless, and commuter bicyclists as the City population and the University of California Merced attendance increases over the coming years; and,

WHEREAS, The City of Merced, recognizing the health and environmental benefits of bicycle use for recreation, carless, and commuter purposes in its City, is intent on continuing its commitment to improving its bikeways; and,

WHEREAS, The Recreation and Parks Commission, the Bicycle Advisory Commission, and the Planning Commission reviewed the amended Bicycle Transportation Plan at the public hearings, and recommended approval of the amended Bicycle Transportation Plan as updated; and,

WHEREAS, The Planning Commission reviewed and recommended approval of the amendments to the City's Merced Vision 2030 General Plan related to bike facilities as specified in General Plan Amendment #13-01; and,

WHEREAS, The City Council held a noticed public hearing on September 16, 2013 at which time all those interested in the matter were provided the opportunity to speak or to provide written or oral testimony regarding the amendments to the existing City of Merced Bicycle Plan and Merced Vision 2030 General Plan.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF MERCED DOES HEREBY RESOLVE, DETERMINE, FIND, AND ORDER AS FOLLOWS:

SECTION 1. Based upon the evidence and testimony in the record at the City Council public hearing, the City Council, exercising its independent judgment and review, hereby approves the 2013 Bicycle Transportation Plan, which amends and restates the City of Merced Bicycle Plan.

SECTION 2. By approving the 2013 Bicycle Transportation Plan, the City Council directs the City Manager to assist in carrying out the intentions, goals, and guidelines presented in the 2013 Bicycle Transportation Plan whenever possible and practical within the financial constraints and priorities of the City to further the quality of bicycling and bicycle commuting.

SECTION 3. Based upon the evidence and testimony in the record at the City Council public hearing, the City Council, exercising its independent judgment and review hereby approves General Plan Amendment #13-01, which updates Figure 4.9 of the Merced Vision 2030 General Plan depicting the City of Merced's Bikeway System and makes text changes in Section 4.3.8 of the Merced Vision 2030 General Plan relating to the Bicycle/Trail System.

SECTION 4. The City Clerk shall certify as to the adoption of this Resolution.

/ / /

/ / /

/ / /

/ / /

/ / /

/ / /

/ / /

PASSED AND ADOPTED by the City Council of the City of Merced at a regular meeting held on the 16th day of September 2013, by the following vote:

AYES: Council Members: BLAKE, DOSSETTI, MURPHY, RAWLING, LOR, PEDROZO, THURSTON

NOES: Council Members: NONE

ABSENT: Council Members: NONE

ABSTAIN: Council Members: NONE

APPROVED:

Mayor

ATTEST:
JOHN M. BRAMBLE, CITY CLERK

BY: _____
Deputy City Clerk

(SEAL)

APPROVED AS TO FORM:

6/24/13
City Attorney Date

N:\SHARED\Attorney\Resolutions\2013\Planning\Adopting 2013 Bicycle Transportation Plan.doc

Community Letters of Support

- **Merced / Mariposa County Asthma Coalition**
- **Merced County Department of Public Heath**
- **Merced City School District**
- **Merced Union High School District**
- **UC Merced Transportation, Parking and Fleet Services**
- **Building Healthy Communities**
- **Golden Valley Health Center**
- **Merced Bike Coalition**

Merced/Mariposa County Asthma Coalition
Controlling asthma through awareness and education

June 10, 2013

To Whom It May Concern:

The Merced/Mariposa Asthma Coalition supports the City of Merced Bicycle Transportation Plan (BTP).

Poor air quality is a concern for those living in the San Joaquin Valley. As noted in Chapter 7, Section 3, of the City's Bike Plan, "on-road mobile sources contribute to the levels of ground ozone and particulate matter, which could cause heart and respiratory problems." If people could be encouraged to bicycle and walk more, and drive their pollutant-emitting vehicles less, then perhaps, we'll see betterments to air quality and improvements to people's health.

The Merced/Mariposa Asthma Coalition strongly supports the City of Merced's efforts to seek appropriate funding for the types of projects that will promote more bicycling and fewer auto trips.

Sincerely,

Celeste Ramos
Past Chair
Merced/Mariposa Asthma Coalition

MERCED COUNTY

DEPARTMENT OF PUBLIC HEALTH

Kathleen Grassi, R.D., M.P.H.
Director

June 13, 2013

To Whom It May Concern:

The Merced County Department of Public Health (Department) submits this letter in support of the City of Merced's Bicycle Transportation Plan (Plan). The Department strongly supports the Plan and recognizes the effort the City of Merced has made in emphasizing the public health benefits of bicycling as a part of a healthy lifestyle.

The 2013 Plan update demonstrates a strong commitment to policies that will improve the overall health of the community. As described in the Plan, the public health benefits of bicycling include increased air quality and reduced greenhouse gas emissions. In addition, bicycling is an excellent form of physical activity for children and adults and can contribute to the reduction of the risks for chronic diseases such as obesity and diabetes.

The Plan supports the work of the Department's CA4Health initiative, particularly its efforts to improve safe routes to school. The Plan emphasizes educating the public on the health benefits of cycling, promoting bicycling as a means of transportation, improving safety conditions for bicyclists, and encouraging the use of bike transportation for students and school faculty with safe and direct bicycle facilities. These are all important goals that align with the Department's CA4Health initiative.

The Department is pleased to partner with the City of Merced on the Bicycle Transportation Plan implementation and supports the City of Merced's efforts to seek appropriate funding for Plan activities that will go far to promote healthy living for all Merced residents.

Sincerely,

Kathleen Grassi, RD, MPH
Director
Merced County Department of Public Health

KAG:sn

Merced City School District
444 West 23rd Street, Merced, California 95340
Phone (209) 385-6600 Fax (209) 385-6393

June 3, 2013

To Whom It May Concern:

On behalf of the students, faculty and staff of Merced City School District (MCSD), I would like to offer our support of the City of Merced Bicycle Transportation Plan (BTP). The safety of our students walking and/or bicycling to/from school continues to be a concern for the District, school administrators, and parents.

I appreciate the number of bike lanes proposed by the BTC that are near several of our school sites. These bike lanes will provide safer bikeways for our students to and from school. With safer conditions provided with these bike lanes, parents will feel more comfortable with allowing their children to ride their bikes to school.

Any measures that can be taken to create a safe environment for students and faculty bicycling each day to and from school are greatly appreciated. We fully support the projects and trust the BTP's proposed projects can be funded. If you would like to contact me regarding this matter, please feel free to call me at (209) 385-6343.

Sincerely,

Kraig Magnussen
Chief Operations Officer
Merced City School District

Creating 21st Century Learners
MUHSD
Merced Union High School District
Castle Commerce Center, 3430 A Street, Atwater, California 95301
Mailing: PO Box 2147, Merced, California 95344
www.muhsd.k12.ca.us 209-385-6400 (Fax 209-385-6442)

June 13, 2013

To Whom It May Concern:

Merced Union High School District (MUHSD) strongly endorses and supports the City of Merced Bicycle Transportation Plan (BTP).

The proposed improvements, including the new bike path and bike lanes on Childs Avenue for students bicycling to/from Golden Valley High School, would improve student safety tremendously and would encourage more students to bike to school. Currently, students would have to bike on dirt road shoulders on Childs Avenue on their way to the high school.

I am also greatly thankful for the proposed bike lanes on streets and roads that lead to our new El Capitan High School in North Merced. I am expecting a significant student population coming to school from the homes just south of our new school. With these bike lanes in place, more students will be encouraged to ride their bikes to school.

On behalf of the MUHSD, I strongly support the City of Merced's efforts to seek appropriate funding for the types of projects that will ensure the safety of our students.

Sincerely,

V. Scott Scambray, Ed.D.
Superintendent
Merced Union High School District

June 13, 2013

Mr. John Bramble
City of Merced
City Manager
678 West 18th Street
Merced, CA. 95340

Dear John,

Building Healthy Communities/ United Way of Merced County are pleased to support the Merced City Bicycle Transportation Plan (BTP) being submitted for funding thru Caltrans by Merced County Association of Governments (MCAG) to enhance the existing bikeway system in the Merced community. We strongly support the BTP and the focus it has on enhancement, education, and safety for bicycle commuters, through community outreach and collaboration.

A priority of our organization is the development of communities where kids and youth are healthy, safe, and ready to learn. The ultimate goal is to revolutionize the way we think about health; we believe that the BTP brings forth an array of potential positive changes. This plan mentions health benefits that arise from cycling like; reduction in obesity and type 2 diabetes, as well as a reduction of greenhouse gases. It also emphasizes the need for safety around schools by incorporating projects that help youth get to and from school, the enhancement of bikeway systems in an under-developed part of Merced, and the commitment to provide safety education.

We enthusiastically endorse the efforts that MCAG and the City of Merced have put together to seek external funding to sustain the Bicycle Plan design. We will continue to be an active participant of this community outreach effort conducted by the City – our community's comments and concerns, and their recommendations about the existing bikeway system have been incorporated into this plan very effectively. As an active community partner to the City of Merced we are very excited for the possibility that this proposal will be funded.

Sincerely,

Isaí Palma
Hub Administrative Coordinator

Tatiana Vizcaíno-Stewart
Hub Manager

Flip Hassett
Executive Director, United Way

UNIVERSITY OF CALIFORNIA

BERKELEY • DAVIS • IRVINE • LOS ANGELES • MERCED • RIVERSIDE • SAN DIEGO • SAN FRANCISCO

SANTA BARBARA • SANTA CRUZ

Transportation, Parking and Fleet Services

UNIVERSITY OF CALIFORNIA, MERCED
5200 N. LAKE RD
MERCED, CALIFORNIA 95341
(209) 228-8277

July 1, 2013

Mr. John Bramble
City Manager
City of Merced
678 W. 18th Street
Merced, CA 95340

Dear Mr. Bramble:

I am writing in support of the efforts by the Merced County Association of Governments and the City of Merced to update the 2008 City of Merced Bicycle Transportation Plan (BTP). An updated BTP will serve the growing community of Merced by developing a long range plan that will provide safe paths, facilities and programs to encourage and support bicycle transportation.

The University of California, Merced (UC Merced) is a growing institution in the Merced region, with a projected fall 2013 enrollment near 6,000 students and a goal of 10,000 students by 2020. With student, staff and faculty populations on the rise, more and more people from the UC Merced community will benefit from improvements to regional bike paths, bike lanes and facilities. UC Merced was built with a commitment to sustainability, including a goal to reduce our carbon footprint and provide incentives to campus commuters to increase the use of alternative modes of transportation. In addition, UC Merced is committed to continue to collaborate with the City of Merced to further develop sustainable transportation initiatives, including bicycle transportation. With updated BTP improvements in place, more students, faculty and staff will be encouraged to utilize bike transportation to and from the university and around the City of Merced.

I applaud the efforts of the Merced County Association of Governments, the City of Merced, and the supporting agencies on the new draft BTP and support the efforts of the City of Merced to seek appropriate funding for these types of bicycle transportation improvement projects.

Sincerely,

Karin Groth
Director
Transportation, Parking and Fleet Services

GOLDEN VALLEY
HEALTH CENTERS

CORPORATE OFFICE
737 West Childs Avenue • Merced, California 95341
209-383-1848 • Fax 209-383-0136 • www.gvhc.org

LOCATIONS
Ceres • Dos Palos • Gustine/Newman • Le Grand
Los Banos • Merced • Modesto • MOMobile
Patterson • Planada • Turlock • Westley

August 14, 2013

To Whom It May Concern:

On behalf of Golden Valley Health Centers I would like to express our support for the City of Merced's Bicycle Transportation Plan (BTP).

Golden Valley Health Centers is a Federally Qualified Health Center that has served patients in the Merced community for over 40 years and is accredited by The Joint Commission. Through our community health centers, we provide comprehensive primary medical, dental and behavioral health as well as health education and eligibility screening to an ethnically diverse population, including migrant and seasonal farm workers, Southeast Asian refugees and the homeless population of Merced and Stanislaus Counties.

Our organization understands that the health of our patients depends on more than a visit to the doctor's office; and a safe built environment is the foundation of a healthy community.

The BTP addresses the barriers that many of our patients who use cycling as a mode of transportation encounter every day. We are glad that implementation of the BTP will connect bikeways that will enable bicyclists to travel safely and conveniently between destinations without barriers or gaps in the route. The BTP will also address the importance of educating the youth in our community on safety by promoting bicycle safety programs in employment centers and local schools. We are also pleased the BTP takes into consideration implementing a system where bicyclists can easily report bikeway maintenance issues.

Golden Valley would like to recognize the BTP planning process which allowed the plan to be developed with considerable input from the community and we are proud to have hosted a public workshop at the GVHC Senior Health and Wellness Center, to help residents understand the Bike Plan update process and to hear their ideas and experiences so their concerns could be addressed by the Plan.

We look forward to continue our partnership with the city to improve the health and safety of our patients inside and outside of our clinic's walls.

Sincerely,

Christine Noguera
Interim CEO

Merced Bicycle Coalition
731 E. Yosemite Ave. Suite B, #427
Merced, CA 95340

Making our community safer, our air cleaner, and our citizens healthier
by promoting bicycling as a safe and normal means of everyday transportation and recreation

July 15, 2013

To Whom It May Concern:

It is with great enthusiasm that the Merced Bicycle Coalition expresses its support for the City of Merced's 2013 Bicycle Transportation Plan. We commend the City Planning staff, Bicycle Advisory Commission, associated community organizations, and community participants in open meetings for collaboratively developing a working document that reflects the city's collective support of bicycling. This document underscores the City's commitment to bicycling as a viable and accessible means of transportation, as a strategy for reducing greenhouse gas emissions from automobile travel, and as a vehicle for promoting the health and wellbeing of our citizens.

The U.S. Department of Transportation has found that half of all trips made by Americans are less than three miles, a distance comfortably within cycling range. A comprehensive approach to enhancing bicycling infrastructure, as supported by the Bicycle Transportation Plan, can encourage more cyclists to ride safely and securely. Projects that make bicycling even more convenient are popular, relatively uncomplicated to implement, and environmentally friendly—such that all of us, even if we don't ride, benefit from bicycle planning and infrastructure.

The mission of the Merced Bicycle Coalition is to make our air cleaner, our community safer, and our citizens healthier by promoting bicycling as a safe and normal means of transportation and recreation. We look forward to working with the City staff, Bicycle Advisory Commission, and other community groups to implement the Bicycle Transportation Plan bicycling policies.

Sincerely,

Dwight Miller Ewing
Chair, Merced Bicycle Coalition

Appendix B

Bicycle-Related Policies in Associated Planning Documents

- **Merced Vision 2030 General Plan**
- **2011 Regional Transportation Plan (RTP)**
- **2012 Climate Action Plan**
- **Martin Luther King Jr. Way Revitalization Plan**
- **South Merced Community Plan**

Merced Vision 2030 General Plan

Chapter 2 – Urban Expansion

Goal Area UE-1.1: Urban Expansion
Relevant goals:

- **A compact urban form**
- **Efficient urban expansion**

Policy UE-1.2: Foster compact and efficient development patterns to maintain a compact urban form.

"Through the promotion of compact urban form, the City of Merced can achieve several important environmental and community planning goals. Through the concentration of urban development within the City's SUDP/SOI, impacts on surrounding agricultural resource lands can be reduced and important prime soils preserved. Additionally, through compact urban development, efficient public transit systems can operate to protect the region's air quality and pedestrian and *bicycle* use is encouraged. Compact urban development also reduces public infrastructure development and maintenance costs to the City and its residents."

Policy UE-1.3: Control the annexation, timing, density, and location of new land uses within the City's urban expansion boundaries.

Implementing Action:

1.3.e The planning for land uses in newly developing areas should reflect a mix of land uses which will support a neighborhood, including a variety of residential densities and price ranges, neighborhood and convenience shopping facilities, job creation, and public facilities such as schools and parks.

The City will continue to promote the use of the mixed-use, pedestrian- and transit-friendly neighborhoods ("Urban Villages") in all new growth areas of the City as much as feasible.

Chapter 3- Land Use

3.4.4 RESIDENTIAL NEIGHBORHOOD GOALS, POLICIES, AND ACTIONS

Goal Area L-1: Residential & Neighborhood Development
Relevant goals:

- **Preservation and Enhancement of Existing Neighborhoods**

Policy L-1.9: Ensure connectivity between existing and planned urban areas.

Implementing Action:

1.9.a Ensure multiple points of access for all new development.

Maximizing access between new development and adjacent existing neighborhoods (or vacant land) promotes interaction between residents.

3.5.6 COMMERCIAL AND INDUSTRIAL GOALS, POLICIES, AND ACTIONS

Goal Area L-2: Economic & Business Development

Relevant goals:

- **Ready access to Commercial Centers and services throughout the City**
- **A distinguished Downtown**

Policy L-2.7: Locate and design new commercial developments to provide good access from adjacent neighborhoods and reduce congestion on major streets.

Implementing Action:

2.7.e Commercial developments shall be designed to encourage pedestrian, bicycle, and transit access.

Sidewalks, pedestrian accessways, *bike* racks and/or lockers, on-site transit stops, and transit shelters are among the design features that can be used in commercial areas to encourage alternative modes of access for their customers.

Policy L-2.8: Encourage a mixture of uses and activities that will maintain the vitality of the Downtown Area.

Implementing Actions:

2.8.c Ensure that the Downtown is connected to the rest of the City through improved bus service, better bicycle/pedestrian connections, and enhanced connections between Downtown and Merced College and the UC campus.

Attempts will be made to create unified store hours, recruit restaurants and apparel retailers, intensify the downtown promotion program, and cluster retail uses in a more compact area of downtown (generally bounded by 19th Street, O Street, the Southern Pacific railroad tracks, and Martin Luther King Jr. Way).

2.8.f Strengthen transportation systems to support Downtown's economic base

Creation of an internal Downtown transit system, improvements to the City transit system, and expansion of Downtown arterial street capacity would be sought.

2.8.i Create a superior ambiance and build a distinguished Downtown.

Efforts identified in the 2007 Downtown Strategy to achieve this goal include enhancing the pedestrian environment, enhancing lighting, increasing open space, creating gateway monuments, establishing a commercial recruitment program, addressing Downtown parking needs, encouraging outdoor dining, and creating a significant City Center anchor to complement the Mainplace Theater.

Policy L-2.10: Encourage Well-Planned Freeway-Oriented Developments

Implementing Action:

2.10.b Review and update the Zoning and Sign Ordinances as necessary to ensure quality freeway-oriented development.

In order to ensure that new freeway-oriented developments are built to high standards, the City should review and update the Zoning and Sign Ordinances as necessary to address architectural design, landscaping, pedestrian/*bicycle*/transit access, signage, etc., for such developments. Of particular note would be the possible use of "regional" freeway-oriented signs to consolidate signage for multiple parcels on one or two high-quality signs.

Goal Area L-3: Urban Growth and Design
Relevant goal:

- **Living environments which encourage people to use a variety of *transportation alternatives.***

Policy L-3.1: Create land use patterns that will encourage people to walk, *bicycle*, or use public transit for an increased number of their daily trips.

Implementing Actions:

3.1.a Encourage pedestrian or transit-friendly designs at suitable locations.

Most of the new growth areas in North and South Merced would be appropriate for pedestrian- and transit-friendly developments. Encourage the preparation of a specific or community plan for large scale new development which incorporates the goals and policies of the City's Urban Design Chapter.

3.1.b Work to preserve and enhance existing neighborhoods and commercial districts which have transit and pedestrian-friendly designs and protect them from development that is incompatible in design, scale, or use.

Pursue redevelopment projects to improve the image of pedestrian-friendly neighborhoods and shopping districts (pedestrian amenities, street trees, transit facilities, etc.). The City will need to make sure that existing pedestrian-friendly projects are not compromised by allowing developments within them or adjacent to them that do not fulfill the same principles.

3.1.f Work closely with school districts to help them choose school site locations that allow students to safely walk or bicycle from their homes.

When specific plans or subdivisions propose school sites for dedication, accept sites that emphasize the ability of students to safely walk or *bicycle* to school. Incorporate school sites into larger neighborhood activity centers where practical; this concept could include parks, day care facilities, and neighborhood commercial uses. Schools will be encouraged to locate adjacent to Village Core Residential Areas.

3.1.g Encourage regional shopping malls/centers at sites capable of support by a full range of transportation options.

Identify sites with access by freeway or major arterial and public transit. The site could be a regional transit hub and major pedestrian-oriented activity center to increase transit mode share.

Policy L-3.3: Promote site designs that encourage walking, *cycling*, and transit use.

Implementing Actions:

3.3.a Encourage project designs which increase the convenience, safety and comfort of people using transit, walking or cycling.

Review the City's Zoning Ordinance for possible amendment to include air quality design standards. Design standards must be general enough to apply under all but the most unusual circumstances to avoid the need for numerous zone variances and modifications. Some design measures like sidewalk widths and landscaping requirements are very appropriate for design standards. Design measures dealing with parking lot designs and building facades may be better left as guidelines because of site to site differences.

3.3.b Encourage all subdivision street and lot designs, commercial site plans, and multi-family site plans to improve access by transit, bicycle, and walking.

Review the City's development review procedures and modify, as appropriate, to include policies that accommodate access and internal circulation by alternative transportation modes. Develop design guidelines that illustrate preferred designs.

3.3.c Encourage all development projects proposed within 2,000 feet of an existing or planned light rail transit, commuter rail, express bus or transit corridor stop, to incorporate site design measures that improve accessibility to the transit system.

Analyze existing land use patterns and constraints around transit facilities to identify appropriate design measures

Policy L-3.5: Develop a Transit-Oriented Development Overlay Zone adjacent to the planned High Speed Rail Station in Downtown Merced

Implementing Actions:

3.5.a Develop a "Transit-Oriented Development" Overlay Zone for the area adjacent to the planned High Speed Rail Station in Downtown Merced.

The California High Speed Rail project will provide passenger service from Los Angeles to San Francisco at speeds which would rival air service. A proposed High Speed Rail Station is planned for Downtown Merced, which will serve as a major transition point between different legs of the High Speed Rail service--The Merced-Bakersfield segment, the Merced-San Jose segment, and the future Merced-Sacramento segment. Although the precise location has yet to be determined, several options are under consideration for this *multi-modal* transit facility.

Once the Station location is selected, the City will need to develop a "Transit-Oriented Development" overlay zone in order to take advantage of this opportunity to enhance and improve the Downtown area. Within this Overlay Zone, several concepts would need to be considered, including mixed-use development, increased residential and commercial densities, reduced parking requirements and managed parking strategies, an emphasis on pedestrian/*bicycle*/transit access, increased entertainment, retail, dining, hotels, research, and office facilities, and others. Some of the same principles and policies contained in the City's Urban Village model

(Chapter 6) may be utilized in the proposed "Transit-Oriented Development" overlay zone for the High Speed Rail Station, but a denser urban model would be needed to take advantage of the proposed ridership of the High Speed Rail.

Policy L-3.6: Require community plans for large new development areas within the City's SUDP/SOI prior to development.

Implementing Actions:

3.6.a Require the development of Community Plans for large-scale new developments within the City's SUDP/SOI prior to development.

As envisioned in this plan, a "Community Plan" may or may not conform with the requirements of Government Code Section 65450 for "Specific Plans.". The Community Plans proposed are intended to recognize specific projects that have undergone significant developer-driven planning efforts but need to fit in with the Merced Vision 2030 goals and objectives. These projects will undergo additional detailed planning and environmental review when formally proposed to the City for development.

The Land Use Diagram proposes the establishment of five new Community Plan areas (Figure 3.9). These areas are as follows:

1) The University Community Plan (*Section 3.7.3*);
2) The Bellevue Corridor Community Plan (*Section 3.7.4*);
3) South Thornton (or "Five Bridges") Community Plan (*Section 3.7.5*);
4) South Mission Community Plan (*Section 3.7.6*).
5) Yosemite Lakes Community Plan (*Section 3.7.7*)

In the above sections, each of these Community Plan areas will be described along with issues associated with the future development of these Community Plans. An illustrative plan of each of these Community Plan areas has been included in Section 3.10, Appendix. These illustrative plans are not adopted plans and are only included to inform the public of preliminary land use concepts under consideration in each of the Plan areas.

3.6.b Make use of guiding principles in developing Community Plans.

Community Plan Guiding Principles

The following guiding principles should be used in developing these community plans:

4) Community Plan areas need connectivity with existing and planned urban areas. This includes *all modes of transportation*, including vehicles, *bicycles*, public transit, etc.

Chapter 4—Transportation and Circulation

Goal Area T-1: Streets and Roads
Relevant goals:

- **An integrated road system that is safe and efficient for motorized and non-motorized uses**
- **A circulation system that is accessible, convenient and flexible**
- **A circulation system that minimizes adverse impacts upon the community**
- **A comprehensive system of "Complete Streets" which addresses *all modes of transportation***

Policy T-1.1: Design streets consistent with circulation function, affected land uses, and *all modes of transportation.*

Implementing Actions:

1.1.a Implement the General Plan Circulation Plan (Figure 4.1) as development occurs.

The City will implement the General Plan Circulation Plan as development occurs in new growth areas and in developed areas, as feasible. This may be accomplished through the dedication of needed right-of-way or transportation easements, the construction of roadway improvements, and/or the collection of fees, consistent with the impacts of new development.

1.1.b Whenever feasible, implement a system of arterials and higher order streets in new growth areas based upon the adopted concept of arterials/expressways and ensuring the development of "complete streets" which address all modes of transportation.

The adopted concept of arterials/expressways is designed to carefully separate streets by circulation function, and locate land uses consistent with these functions (Figure 4.1). Arterials and higher order streets will carry the higher-speed traffic to adjacent commercial, industrial and other major destinations.

Collectors and local streets will be designed for local, neighborhood traffic that is either traveling towards a neighborhood destination or is exiting the area. It is important to try to apply these same principles to the extent possible in planning partially developed areas that have incomplete road networks. All streets should be designed as "Complete Streets" which address all modes of motorized and non-motorized transportation, including vehicles, transit, pedestrians, and *bicycles.*

Policy T-1.2: Coordinate circulation and transportation planning with pertinent regional, State and Federal agencies.

Implementing Actions:

1.2.f Continue to work with federal, state, and regional agencies and stakeholders to expand opportunities for multi-modal transportation.

The City shall continue to seek funding for projects which complete transportation networks, utilize multiple modes of transportation, and provide, enhance, or sustain

amenities for non-motorized transportation, such as tree shading for *trails* and *bikeways*. Examples of available funding include, but would not be limited to, Measure C funds for Transit-Oriented Development, Caltrans grants for "walkable, livable, and sustainable communities," and other incentives found to be appropriate. As part of this overall strategy, the City shall support high-speed rail and shall guide siting of a station in Downtown Merced to be integrated into a *multi-modal* transportation network.

Policy T-1.4: Promote traffic safety for *all modes of transportation*.

Implementing Actions:

1.4.c Promote increased traffic safety with special attention to hazards which could cause personal injury.

Continue to maintain existing practices related to safety such as: maintain adopted sight-line requirements for signs, fences, etc. (line of uninterrupted vision along which a vehicle operator can see traffic, *bicycles* or pedestrians approaching from an intersecting street) at designated street intersections and driveways; continue to monitor street intersections to identify unusual levels of traffic accidents; etc. Evaluate ways to increase the effectiveness of traffic safety efforts.

1.4.e Continue as feasible to mitigate or reduce safety hazards, and program improvements to congested intersections before they become significant problems. It is important to implement improvements as feasible. It is also important to recognize that it is often more cost effective to avoid creating significant traffic conflicts than it is to attempt to reduce or mitigate them once they have become problems. The City should continue to review development applications to mitigate prospective concerns as they are identified.

Policy T-1.5: Minimize unnecessary travel demand on major streets and promote energy conservation.

Implementing Actions:

1.5.b Avoid whenever feasible neighborhood street system designs that make it more convenient for a local resident to use an arterial street to reach an in-neighborhood destination than to remain on the local street system.

Often local street circulation patterns, whether intended or not, include barriers to the local driver who seeks to go to certain nearby destinations. The result is often that the driver is forced to go onto the major street system in order to reach a destination adjacent to the local neighborhood. This usually means that a *bicycle* rider or pedestrian would have been forced into the same inconvenient, out-of-the way trip, which is often the reason such trips are only made by automobile. Where cul-de-sacs are proposed, consideration should be given to providing walk-through (or "open-end") cul-de-sacs to minimize walking distances to nearby destinations.

<u>Policy T-1.6</u>: Minimize adverse impacts on the environment from existing and proposed road systems.

***I**mplementing Actions:*

1.6.b Make a strong commitment to increase the number of people per vehicle so that the existing street system is utilized to its fullest.

Continue to support MCAG and City efforts to encourage and promote carpooling and *other alternatives* to single occupancy vehicles. Consider the use of HOV lanes if and when they become feasible to use in Merced.

1.6.c Consider ways to encourage employers to reduce impacts upon the existing street system.

Examples could include encouraging large employers to promote carpooling and other *transportation alternatives* within their work force, as well as encouraging, if feasible, staggered working hours.

1.6.f Ensure to the extent feasible that pedestrian, bicycle, and automobile connections are maintained in existing neighborhoods affected by transportation and other development projects.

When new transportation or development projects, such as a highway interchange or separated-grade crossing, are proposed, sometimes it is necessary to minimize access from adjacent streets or land uses. To the extent feasible, existing connections for *all modes of transportation* should be maintained unless safety issues take precedence.

<u>Policy T-1.7</u>: Minimize street system impacts on residential neighborhoods and other sensitive land uses.

Implementing Actions:

1.7.c Continue to implement the City's Neighborhood Traffic Calming Guidelines to address traffic impacts on residential streets.

In 2008, the City adopted Neighborhood Traffic Calming (NTC) Guidelines. These NTC guidelines were created to assist existing neighborhoods concerned about the traffic passing through their neighborhood, to assist the developer looking for guidelines to reduce the impact of a new project to existing and newly established areas, and lastly to help reduce potentially problematic speeds on the streets of the City of Merced. The guidelines seek to balance the desires of neighborhood residents with the needs of overall City circulation and public safety access.

<u>Goals of the NTC include</u>:
1) Promote safe and pleasant conditions for residents, motorists, pedestrians, and *bicyclists* on neighborhood streets;
2) Enable social interaction among neighborhood residents;
3) Control the amount of traffic that uses neighborhood streets and limit vehicle speeds to levels stipulated by the General Plan Circulation Element;
4) Preserve and enhance pedestrian and *bicycle* access to neighborhoods;

5) Provide a process that will equitably address request for action by neighborhood residents with needs of all users of City Streets;
6) An integrated road system that is safe and efficient; and,
7) A comprehensive system of safe and convenient pedestrian ways.

Policy T-1.8: Use a minimum peak hour Level of Service (LOS) "D" as a design objective for all new streets in new growth areas and for most existing City streets except under special circumstances.

Implementing Actions:

1.8.d Promote Transportation System Management (TSM) strategies in areas where LOS standards fall below the minimum.

Traffic signal timing or coordination, additional lanes at intersections, transit service enhancements, parking management and traffic management are all examples of transportation system management strategies which can be expected to be used in the future. Ridesharing programs, preferential treatment for High Occupancy Vehicles (HOV's), Park-and-Ride lots, one-way streets, the provision of *bicycle* facilities, and the promotion of variable work hours and telecommuting are also strategies which will be promoted by the City of Merced.

Goal Area T-2: Bicycles, Pedestrians, and Public Transit
Relevant goals:

- **An efficient and comprehensive public transit system**
- **A comprehensive system of safe and convenient *bicycle routes* (within the community and throughout the urban area)**
- **A comprehensive system of safe and convenient pedestrian facilities**
- **A comprehensive system of "Complete Streets" addressing *all modes of transportation***

Policy T-2.1: Provide for and maintain a major transitway along "M" Street and possibly along the Bellevue Road/Merced-Atwater Expressway and Campus Parkway corridors.

Implementing Actions:

2.1.d Cooperate with Merced County and other interested agencies outside the City to maintain a viable option for a Bellevue Road Transitway to provide regional public transit access to the University of California (UC) campus.

The Bellevue Road Transitway Corridor concept needs to be considered as part of any cooperative planning process for the future University of California (UC) campus and its environs. This may also include further evaluation to confirm viability of this concept for providing public transit access to the UC. The Bellevue Corridor and other important corridors should be designed using the "Complete Streets" concept, which emphasizes use of all forms of transportation on streets, including automobiles, pedestrians, *bicycles*, and public transit.

2.1.f Work cooperatively with Merced County and other interested agencies to review and evaluate development proposals in the vicinity of Bellevue Road that might conflict with the prospective Bellevue Transitway.

Bellevue Road is designated as both an "Arterial" and a "Transitway" on this General Plan's Circulation Map. It will be important to obtain full regional cooperation to protect the future right-of-way (ROW) for this corridor, and to mitigate prospective impacts from any development projects upon these potential functions of this major roadway. The City/County Revenue Sharing Agreement could be one method of coordinating *bicycle* facility planning between the City, the County, and UC Merced.

Policy T-2.2: Support and enhance the use of public transit.

Implementing Actions:

2.2.f Plan for multi-modal *transfer sites that incorporate auto parking areas,* bike *parking, transit, pedestrian and* bicycle *paths, and park and ride pick-up points.* Identify locations where transportation systems converge and designate such areas as potential multimodal transfer sites. One such location could be the future Downtown High Speed Rail Station, where bike-friendly routes to the station and short/long term bike parking facilities could be incorporated into the station design to assist bicycle commuting.

2.2.g Encourage park and ride lots at suitable locations serving long distance and local commuters.

4) Allowing developers to reach agreements with auto-oriented shopping center owners to use commercial parking lots as park and ride lots and multi-modal transfer sites.

Policy T-2.4: Encourage the use of bicycles.

Implementing Actions:

2.4.a Encourage area employers to promote bicycle use through incentive programs or other means.

For example, a number of governmental agencies are concentrated in the central portion of the City, which could lend itself to the use by the City and other large employers of successful methods for increasing bicycle ridership.

2.4.b Continue to support whenever feasible local efforts to promote cycling.

In recent years, private promotion has brought a series of special cycling races/events to the Merced area. The City should also pursue partnerships with local cycling advocacy groups, such as the Merced Bike Coalition and the UC Cycling Alliance, and local bike shops in efforts to promote cycling in Merced. These events have been worthwhile public relations for both the Merced area and for cycling, and have helped to promote public awareness of the potential for bicycle riding in this area.

2.4.c Seek to involve a cross-section of actual bicycle users in bicycle planning efforts and transportation-related bicycle activities through the City's Bicycle Advisory Commission.

In 2009, the City formed a new Bicycle Advisory Commission to serve as an advisory body to the City Council advising the City on matters relating to improving conditions

for bicyclists, promoting bicycling as a means of transportation with the associated benefits of improved air quality, and improving safety conditions for bicyclists. The Commission reviews capital improvement projects relating to bicycles, reviews changes and updates to the City's Bicycle Master Plan, General Plan, and the Municipal Code as they relate to bicycling, and promotes bicycling and assist in bicycle awareness and education. The Commission is made up of 7 voting members who must be City residents and 2 non-voting members who may be County residents and the Commission meets every even numbered month. Bicycle users are a valuable resource for bicycle-related planning efforts. It is important to remember that there are very different bicycle populations. There are recreational bicycle users, those who commute to work, and also the "semi-professional riders" who are intense cyclists. There may be large differences of opinion between these groups regarding various bicycle topics, and therefore, the Bicycle Advisory Commission should be made up of citizens representing all types of cyclists in order to obtain a reasonable array of information and usable advice.

Policy T-2.5: Provide convenient bicycle support facilities to encourage bicycle use.

Implementing Actions:

2.5.a Develop guidelines for public and private development relating to the design and location of bicycle parking facilities for both residential and non-residential uses and consider a bike parking ordinance.

It is not good enough to provide parking facilities merely for automobiles. If a bicycle rider is forced to park a bicycle in an inconvenient area, subject to bad weather, or walk just as far in inclement weather as someone using a car, the incentive is greatly reduced for the average rider. Bicycle parking needs to be protected, needs to be more convenient than that provided for cars, etc. There have to be special advantages granted to those willing to ride, to make bicycling a realistic option. The City should consider the adoption of a bike parking ordinance. Bicycle parking guidelines from the Association of Pedestrian and Bicycle Professionals (APBP) should be considered as a resource for developing such a bike parking ordinance. The City should also encourage employers to provide end-of-trip facilities, such as bike lockers, bike rooms, and shower facilities, to encourage bicycle commuting.

2.5.b Design criteria in the construction of all bicycle trails, lanes and routes (Class I, II, and III bikeways) should conform to the State of California "Planning and Design Criteria for Bikeways in California;" Class I bikeways should have grade separation with all major streets where possible.

The off-road bicycle/pedestrian trail system in the Merced region, financed in part by State and Federal funding, meets the construction standards required in order to obtain this assistance. Experience over many years with the existing standards has indicated a high level of public acceptance and satisfaction as well.

2.5.c Encourage The Bus system to continue to provide bicycle racks on buses.

Although the City does not operate the Bus system so it cannot mandate such, the City should encourage the transit provider to continue to provide bicycle racks on buses, which has proven to be an effective tool for promoting bicycle and transit use.

<u>Policy T-2.6</u>: Maintain and expand the community's existing bicycle circulation system.

Implementing Actions:

2.6.a Continue to coordinate implementation and planning of the Merced Bicycle Master Plan with the County of Merced and the University of California.

The City and County have a tradition of working together on off-road bicycle/pedestrian trails, as evidenced by the existing regional trail system tying together Merced and a significant portion of the greater urban area, including Lake Yosemite. Given Merced's flat terrain, there is potential for bicycle commuting to be a significant travel mode for the UC campus. A UC study suggested that bicycle usage is significant at all UC campuses for student commutes up to 5 miles, about the distance from Merced to the campus. Coordinating bicycle planning with the University is, therefore, critical, and should be incorporated into the development of the University's Long Range Development Plan, the University Community Plan, the Regional Bike Plan, and Merced Bicycle Plan. The City should update the Bicycle Master Plan, an implementing action of the General Plan, every four years to remain eligible for state funding. The South Merced Community Plan, as an implementing action of the General Plan, also includes various bicycle-related improvements, which should be incorporated into the Bicycle Master Plan for implementation. Through the South Merced Community Plan and the Bicycle Master Plan, the City will focus on adding and improving bicycle facilities in South Merced for recreation and commuting.

2.6.b Pursue all available revenue sources for implementing the City's Bicycle Master Plan.

The City has been very successful over many years in obtaining monies that have helped to put the existing bicycle/pedestrian trail system in place. These efforts should continue.

2.6.c Vigorously pursue and use state and federal funds earmarked for bicycle and transit improvements.

The City will work with Merced County Transit and others to seek funding for transit improvements and the City will seek grants to fund needed bicycle improvements throughout the City.

<u>Policy T-2.9</u>: Ensure that new development provides the facilities and programs that improve the effectiveness of Transportation Control Measures and Congestion Management Programs.

Implementing Actions:

2.9.b Work with employers and developers to provide employees and residents with attractive, affordable transportation alternatives.

Encourage new development to provide on-site facilities that encourage employees to use alternative transportation modes as air quality and transportation mitigation measures. Some examples include:

- Showers and lockers provided in office buildings
- Safe and secure bicycle parking areas
- On-site employee cafeterias and eating areas
- Convenient access to transit waiting areas from offices

The City may provide reduced parking requirements as an incentive for projects to incorporate measures proven to reduce employee commute trips or customer trips. Some methods developers/employers may use to encourage trip reduction and increased Average Vehicle Ridership include:

- Rideshare matching, transit subsidies, vanpool subsidies, flexible work schedules, compressed work weeks, telecommuting, shuttle services, parking management, and guaranteed rides home.
- Encouraging employers to provide preferential or subsidized parking for ride-sharing vehicles and low emission vehicles.
- Providing land use patterns and site designs that increase commuters' ability to walk, bicycle, or use transit to get to work.

2.9.d Complete the City's network of bicycle and pedestrian transportation routes and allow for new forms of non-motorized transportation.

The City should complete its network of on-street (bicycle lanes) and off-street bicycle routes and add sidewalks in areas where they do not currently exist. Examples of non-motorized transportation include "neighborhood electric vehicles" and others.

Goal Area T-3: Air and Rail Services

Relevant goal:

- **Air and rail systems that provide safe and convenient service to the community.**

Policy T-3.5 RAIL: Support enhanced railroad passenger service and high speed rail service for Merced.

Implementing Action:

3.5.c Plan the area around new commuter, passenger, and mainline rail stations to provide convenient and safe pedestrian and bicycle access and connections to the transit system.

Just as the City's Downtown Transpo Center is a primary transfer station for public transit and private bus services, the area around any high speed rail station or other commuter rail system should accommodate all modes of public and private transit. The City will continue to work with the High Speed Rail Authority and Amtrak to create and expand such facilities.

4.7 ISSUES REQUIRING FURTHER STUDY

4.7.3 Non-Motorized Transportation Plan

Merced, Atwater, and the County have developed an extensive off-road pedestrian/bicycle trail system. Much of this system has been planned and constructed along several creeks flowing through portions of the Merced region.

Because the creeks are located primarily in the City's northern portion, off-street trails are concentrated here. To create an attractive and usable extension to this system into other community areas will be a particular challenge because of the lack of natural waterways. Rights-of-ways for irrigation canals provide one opportunity.

Special care needs to be taken to obtain workable segments for such a system from any major future projects. Neighborhood garden sites could offer a way to involve the public in creating an attractive setting. A key to this will be developing a plan that, as a minimum, identifies what resources might be available for such an off-street system throughout the community. When this plan is updated, a pedestrian component should be added to create a non-motorized transportation plan.

The financing plan for circulation improvements should also include a funding mechanism for non-motorized transportation improvements.

Chapter 5—Public Services and Facilities

Goal Area P-5: Storm Drainage and Flood Control

Relevant goal:

- **An adequate storm drainage collection and disposal system in Merced.**

Policy P-5.2: Integrate drainage facilities with bike paths, sidewalks, recreation facilities, agricultural activities, groundwater recharge, and landscaping.

Implementing Actions:

5.2.a Provide drainage channels in transportation or canal easement areas to the extent feasible.

Reflect the planned regional street and open-space network to the degree possible when locating new future drainage facilities.

5.2.b Storm water facilities shall be designed and constructed in accordance with the standards in the Parks and Open Space Master Plan and the Storm Water Master Plan.

The City's Parks and Open Space Master Plan and Storm Water Master Plan include design criteria and standards for joint use facilities. Design criteria include the use of rounded or sculpted edges, natural materials, and abundant landscaping.

Goal Area P-7: Schools

Relevant goal:

- **Excellent cooperative relationships between the city, the school districts, and the development community.**

<u>Policy P-7.1</u>: Cooperate with Merced area school districts to provide elementary, intermediate and high school sites that are centrally located to the populations they serve and adequate to serve community growth.

Implementing Actions:

7.1.d. In general, schools should be located within residential neighborhoods near parks, bikeways*, and other open space amenities. Schools should not be located within industrial areas. In urban village areas, schools should be located adjacent to Village Core Residential (higher density) areas.*

Schools should be sited near open space areas such as parks and bikeways in order to promote joint use of facilities and good bicycle and pedestrian access. In urban villages, schools should be located adjacent to the "Village Core Residential" areas where densities are higher.

7.1.e. The City and the School Districts will work together toward circulation and transportation systems within the City that provide for the movement of students from homes to schools, including considerations for pedestrian, bicycle*, and overall safe routes to school.*

The City and the School Districts will work together to establish safe and convenient systems of public transportation and circulation linked to residential neighborhoods, business centers, parks, schools, and other public facilities which encourage walking or bicycling as an alternative to driving. Overall designs for access/egress to schools should include student/passenger drop-off and pick-up areas whenever possible.

7.1.h. Elementary school sites should be encouraged to locate on collector streets near but not directly on arterials.

New elementary school sites should not result in the creation of hazards for City residents or students. The City will assist by providing data as required by the school districts so the districts can ensure that safe, adequate access is provided to school sites. This will best be served by locating schools on collector streets where access is good but lower traffic speeds lead to a safer environment for students walking to school. At the same time, schools should be located near arterials but not on them, so that bus transportation to the school will not unnecessarily disrupt residential neighborhoods. Off-street passenger loading and unloading areas should be encouraged. Good pedestrian and bicycle access is also an important factor to be considered. Future school sites should have as many sides fronting on streets as possible.

Chapter 6--Urban Design

Goal Area UD-1: Transit Ready Development or Urban Villages
Relevant goals:

- **An integrated urban form**
- **Transit-ready community design**
- **Pedestrian- and bicycle-compatible neighborhoods**

Policy UD-1.1: Apply transit-ready development or Urban Village design principles to new development in the City's new growth areas.

Implementing Actions:

1.1.a The focus of new development will be the "Urban Village," which are mixed-use, pedestrian- and transit-friendly communities within a one-square mile area.

Villages should include a mixture of parks, shops, a variety of housing types, and civic uses. Villages combine these uses within a convenient distance, making it easier for residents and employees to travel by transit, bicycle or foot as well as by car. Village sites should be located on or near planned transit segments and provide a physical environment that encourages pedestrian and transit travel.

1.1.b Each village shall have a mixed-use "Core Commercial" area located immediately adjacent to Village Core Residential neighborhoods.

1.1.c "Village Core Residential Areas" (part of the "Inner Villages") shall include residences that are within a convenient walking distance from Core Commercial areas and transit stops, and are built at densities high enough to help support them.

1.1.d Each Village will have an "Outer Village" adjacent to it which includes lands no further than one mile from the Core Commercial area.

Site plans for the "Outer Village" street network must provide multiple direct street and bicycle connections to the center without use of an arterial street. Outer Villages may have lower density housing, public schools, community parks, limited areas of office uses, and park-and-ride lots.

1.1.e The location of parks, plazas, and trails *should be coordinated to distribute a variety of* recreation *opportunities throughout the area.*

The Urban Village area should contain a network of open space including community parks, neighborhood parks, village parks, village greens, plazas and an interconnected "greenway" trail system. Bicycle and pedestrian trails should be created along major creeks, high-voltage power lines, transitways, and along the abandoned Yosemite Valley Railroad (YVRR) railroad bed in North Merced to provide easy access to parks and schools that should be located along them.

<u>Policy UD-1.2</u>: Distribute and design Urban Villages to promote convenient vehicular, pedestrian, and transit access.

Implementing Actions:

1.2.a Villages should be located to maximize access to their Core Commercial areas from their adjacent neighborhoods without relying on arterials.

1.2.d The Village street system should provide multiple and parallel routes between the Core Commercial area and the rest of the Village. In no case shall trips which could be internal to a square mile bound by arterials be forced onto an arterial.

The collector street pattern should be simple and memorable. Winding roads, dead end streets and cul-de-sacs that cut off direct access to Village Centers should be discouraged in Village Core Residential Areas, but may be appropriate in some Outer Village areas. Streets should converge near common destinations that contribute to an area's unique identity, such as transit stops, Core Commercial areas, schools and parks.

The street system should allow autos, bikes, and pedestrians to travel on small local streets to any location in the Village. At no time should an arterial street be the only preferable route to and from the Inner Village and its Outer Village.

1.2.f Collector and local streets should connect the Inner and Outer Village to Core Commercial areas, schools, and community parks without the use of arterials.

In general, Collectors should be designed to carry moderate levels of local traffic smoothly, in a way that is compatible with bicycle and foot traffic. A network of collectors should provide alternative paths to destinations within the Village for neighborhood residents. The collector network should not provide a speedy through-route alternative to arterials. "T" intersections and "dog leg" alignments could be used to reduce through traffic and reduce speeds. The precise alignment of collectors will be determined as individual projects are designed.

Collectors should contain bikeways. Driveway cuts should be minimized and alley access to rear garages is encouraged to minimize potential conflicts among autos and bicyclists, and for the convenience of residents along collectors. Collectors and some local streets should be aligned along the edge of parks and open space to enhance the aesthetic character of the streets and sidewalks.

1.2.g The pedestrian and bicycle *system must provide clear and direct access to the Core Commercial area and the transit stop.*

Although the street and sidewalk system will accommodate many destinations within Villages, the primary destination will be the Commercial Core and transit stop. Direct paths to the transit stop should be lined with activities and be shaded. The configuration of parking, shopping and pedestrian routes should reinforce access to transit. A feeling of safety for pedestrians and bicyclists can be provided through the use of park strips between the curb and the sidewalk or bike path which provide separation from auto traffic.

MERCED URBAN DESIGN GUIDELINES
(excerpts pertaining to* bicycle *transportation and connectivity)

STREET DESIGN
Arterial Crossings:

Crosswalks across arterials should be provided at all signalized intersections. Undercrossings designed for pedestrians and bicyclists *should be provided at specified locations, where* greenways *cross arterials.*

Explanation: Crosswalks and underpasses should be provided for easy and safe pedestrian and bicycle movement across arterials. As part of the City-wide trail network, undercrossings should be provided where "greenways" and bikepaths cross arterials and in some cases, collectors, where feasible. Additional crossings should be provided at Core Commercial areas and signalized intersections.

Pedestrian Routes:

Primary pedestrian routes should be located along or visible from streets. Routes through parking lots or at the rear of residential developments should be avoided. Bordering primary pedestrian routes and bikeways *with rear yards and fences should be avoided. Where primary pedestrian routes cross arterials, undercrossings or signalized intersections should be provided.*

Explanation: Too often pedestrian paths have been separated from streets, giving a confusing message to pedestrians and creating safety concerns due to reduced visibility. Where possible, the primary pedestrian path system should coincide with the street system. Diagonal short cuts through parks, plazas and greens are an exception and should be encouraged. Paths through parking lots and away from streets should be used only where large setbacks from the street are permitted. Alternate routes around parks should be provided for night use.

Safe pedestrian crossings across arterials, and in some cases collectors, should be provided where major pedestrian movement is anticipated, such as along greenways and across from Core Commercial areas. Undercrossings or signalized intersections should be provided in these locations.

Bike Parking:

Bicycle parking *facilities should be provided throughout Core Commercial areas, in office developments, and at transit stops, schools, parks, and other special destinations.*

Explanation: Bike racks or other bike storage facilities should be provided at various shopping, employment, transit and recreational destinations in Villages. Bike parking may be shared between uses, but should be centrally located, easily accessible to building entries, protected from weather extremes, and visible from streets or parking lots.

Policy UD-1.5: Design and develop public and quasi-public buildings and uses utilizing Transit-Ready Development or Urban Village principles.

Implementing Action:

1.5.b School sites should be selected by their respective districts in a way that provides opportunities to use pedestrian trails *and* bicycle routes *to and from school and minimizes the need for students to cross arterial streets.*

Schools should also be designed to communicate their civic importance and located on or near a "greenway" bicycle and pedestrian trail to provide safe and convenient access to school. Elementary schools should be distributed so few students have to cross arterials. Junior high school and senior high schools should be distributed to minimize the need for busing. High school sites should be selected by their respective Districts so they can be served by transit.

Chapter 7—Open Space, Conservation, & Recreation

Goal Area OS-1: Open Space for the Preservation of Natural Resources
Relevant goal:

- **Maintenance of Merced's biological resources**

Policy OS-1.2: Preserve and enhance creeks in their natural state throughout the planning area.

Implementing Actions:

1.2.a Designate major creeks, streams, woodlands, and other appropriate areas in the City's SUDP/SOI as Open Space corridors.

Major creeks, riparian habitat, significant woodlands, and other sensitive environmental features should be conserved as open space amenities, when feasible. Significant stands of trees and knolls should also be preserved. Fencing and piping of creeks should be avoided. Open Merced Irrigation District channels should not be considered as Open Space corridors, but where MID canals have been undergrounded, MID is open to working with the City on establishing open space corridors (with limited landscaping).

Channelization of non-MID improvements should be naturalized. Whenever possible, in keeping with City standards and CEQA required mitigation measures, major creeks, riparian habitat, significant woodlands and other environmental features should be incorporated into the design of development.

1.2.b Continue to acquire a minimum 50-foot dedication from the centerline (or 25 feet from the crown, whichever is greater) of all creeks within the planning area in order to maintain these open space areas as natural riparian preserves and recreation *areas.*

Public access should be permitted, while important natural features and sensitive habitats are preserved. Corridor width shall be dictated by site specific circumstances of the creek, however, at least the established minimum setback shall be maintained as Open Space.

***Goal Area OS-3: Open Space for Outdoor* Recreation**
Relevant goals:

- **High-Quality recreational open space**
- **Adequate public recreation facilities**
- **Comprehensive urban trail and bike path system**

Policy OS-3.1: Provide high-quality park and open space facilities to serve the needs of a growing population.

Implementing Actions:

3.1.a Continue efforts to acquire new park sites within future growth areas in advance of development to meet the recreation *open space needs of an expanding population.*

Overall, a total of five (5) acres of parkland should be provided per 1,000 residents in the City, of which 1.5 acres should be in community park and 3.5 acres should be in various forms of neighborhood parks, including village greens, school parks and other neighborhood parks. "Greenway" trails should provide bicycle and pedestrian access throughout the City and its growth areas.

3.1.b Consider density bonuses for development proposals which offer extra park land dedications where needed.

Density bonuses on new development should be linked to park land needs for the area and exclude areas which must be set aside as wildlife preserves or left undeveloped for other environmental concerns. Land dedication for planned trails and bikeways are appropriate, but areas used for drainage facilities to serve a development would not be considered for parkland except those areas to be improved for park and open space use by the developer.

3.1.c Continue to implement the City's 2004 Parks and Open Space Master Plan and any subsequent updates.

The City's Parks and Open Space Master Plan (2004) provides specific system design and implementation standards for the development of the City's park system. This plan serves as a basis for requiring development recreation dedications as well as a guide for public facilities expenditures in the parks and recreation category. The 2004 Master Plan provides a road map for the acquisition and maintenance of the City's park and open space resources. The implementation measures and design and development policies contained within the Master Plan should be followed. This plan requires periodic update and will need to be revised to reflect the City's proposed SUDP/SOI and the parks and open space opportunities and needs resulting from development.

3.1.d Continue to encourage joint use agreements between the City and local school districts to combine the design and use of park and school facilities when feasible.

This policy supports and complements other joint use facility policies of the Public Facilities chapter of this General Plan. A 5- to 10-acre neighborhood park should be associated with each elementary and junior high school. These schools and school parks should be centrally located, placed at the edge of a Village or neighborhood

center and along *greenways* when possible. By designing both facilities at the same time, the functionality can be significantly improved.

3.1.e Use the City's Park Dedication Ordinance to develop the City's park system.

A strong effort should be made to use the following criteria to locate parks (a,c,d, and g omitted for irrelevancy):

b) Parks should be located adjacent to schools as much as feasible.

e) Park sites should be located so as to incorporate naturally-occurring open space features, such as significant stands of trees, riparian and wildlife habitat, scenic vistas, and creeks and drainage canals.

f) Park sites should be located adjacent to *bikeway* facilities.

h) Parks should have access to nearby subdivision and *greenways* by means of cul-de-sacs, access easements, etc.

Policy OS-3.2: Maintain and expand the City's *bikeway* and *trail* system.

Implementing Actions:

3.2.a Utilize the urban stream system in the planning and design of bikeways and trails.

It is the City's policy to acquire a minimum 50-foot dedication from the centerline (or 25 feet from the crown, whichever is greater) of all creeks within the planning area in order to maintain these open space areas as natural riparian preserves and *recreation* areas. Development of *bikeways* and *trails* in these open space areas can enhance the open space value of the urban stream system provided that the *trails* do not unnecessarily interfere with other open space goals and policies.

3.2.b Make use of creekside areas, utility line easements, abandoned railroad rights-of-way, and canal easements for bikeway purposes.

These areas are generally set aside as open space areas, and their use for *bikeway* and *trail* systems would enhance the public value of open space in addition to providing an important amenity to neighborhood residents.

3.2.c Provide links between parks, schools, and open space areas via the bikeway system.

The *bikeway* system can also be part of a greenway linking parks, schools, and other important open space areas.

3.2.d Provide a link between the City and County bikeway systems by establishing a connector to the Lake Road Bikeway Corridor out to Lake Yosemite.

This area will become an important *bikeway* link to the new U.C. Campus area and its surrounding development. Plans may be integrated with future development of the Campus Parkway and linear open space plans along drainage courses and irrigation canals.

3.2.e Develop an off-street bikeway and trail system in South Merced.

As part of the South Merced Community Plan process, an inventory of potential off-street routes was reviewed by neighborhood groups. A system was developed to link existing and planned future park areas and provide links to other open space and

school areas as well as being integrated into the rest of the City's *bikeway* system (see Figure 4.9), and this plan's Policy T-2.4.b. The City should explore using existing drainage facility easements to accommodate such a system. The planned system should be implemented within the resource constraints of the City.

3.2.f Expand the existing bikeway system to all new growth areas as development occurs.

As part of the development review process, *bikeway* dedications should be required, when appropriate, as a condition of permit approval.

3.2.g Explore the possibility of providing unpaved trails for equestrian and mountain bike use as part of the overall trail system.

These types of *trail* systems may be appropriate along the eastern fringe of the City where lower density Rural Residential development permits the keeping of horses and other livestock on large lots.

3.2.h Bike path designs should reflect security and other needs of the surrounding community.

When locating *bike paths* and *trails*, the design should be sensitive to the need for privacy and security of neighboring residents. If feasible, *bikeways* should be designed with multiple access points from surrounding neighborhoods so there is sufficient visibility from public roadways to facilitate surveillance by residents and police patrols. Where feasible, *bike paths* should be designed so that at least one side is open to a public street. Situations where *bike paths* are located along the back sides of homes with limited visibility should be avoided as much as possible. Open fencing along *bike paths* should be considered, especially adjacent to multi-family developments.

Policy OS-3.4: Develop a diverse and integrated system of park facilities throughout Merced.

Implementing Actions:

3.4.a Community parks should be distributed throughout the City.

There should be at least 1.5 acres of community park provided per 1,000 residents. Community parks are usually 15 acres in size or greater. Community parks are major *recreation* facilities and contain many ball fields, play lots, picnic opportunities and other facilities. They must be located along a greenway and should be at the junction of two *greenways* when possible. Greenways, streets and landscaping should be used to minimize and buffer residences from the noise and nighttime lighting associated with ball fields. Development of the Community Park at the northwest corner of Tyler and Mission in South Merced as described in the City's Park and Open Space Master Plan, should be a top priority.

3.4.c Greenways should be designed to connect various park sites, schools and other public places with paths exclusively for pedestrians and bicyclists.

Greenways weave through the residential neighborhoods connecting larger public uses (schools, open space, commercial uses, etc.) and provide many points of

physical and visual access to the park sites. Some *greenways* may also act as mini-parks because of play and exercise equipment placed along the paths. *Greenways* act as valuable greenbelts of open space through a neighborhood. *Greenways* should be designed in association with *bike paths*, *trails*, and pedestrian ways to follow creeks, canals, power line easements, etc.

Greenway design should emphasize access. Access has a major effect on whether a greenway is used. If a greenway is hidden, tucked away in a neighborhood, enclosed by high fences, and/or unmaintained, the public may avoid using them and they may become unsafe.

3.4.d In cooperation with Merced County and the Merced Irrigation District, evaluate the Lake Yosemite regional park to identify how it might adequately meet the needs of the City of Merced and the new growth areas in the region including the U.C. Merced campus.

Regional parks can serve many cities and are sometimes used as resting stops for travelers. Often their focal points are lakes, rivers or other natural resources. Typically, they are provided by counties and the state. Because of their distance from a city, their accessibility is generally limited to those who can drive there. Lake Yosemite Park is a regional park located in the northern expansion area of the City and operated by the County of Merced. Lake Yosemite Park is of special interest to Merced because of its water *recreation* opportunities and open space qualities in addition to the fact that it is within *bicycle* commute range for many residents.

Lake Yosemite will likely become more heavily used by City residents as Merced grows and the U.C. Merced campus expands and grows. As the City expands to the north and public transportation becomes more available in the area, Lake Yosemite Park will become even more accessible to local residents. As a result, additional space and facilities may be required to accommodate future growth. Some of the area around the park contains potential wildlife habitat which limits development options for land owners. The City and County might cooperate in developing a wildlife mitigation banking program for this area which would allow landowners to transfer development rights to other lands upon dedicating habitat and potential park land for public use. Consideration should be given to providing expanded public access and additional roadway entrances into the Lake Yosemite Regional Park.

Goal Area OS-4: Open Space for Public Health and Safety
Relevant goal:

- **A safe environment for Merced's citizens**

Policy OS-4.1: Preserve open space areas which are necessary to maintaining public health and safety.

Implementing Action:

4.1.b Utilize areas along railroad rights-of-way and under high-voltage power transmission lines as open space.
These areas could be used as *greenways* and open space areas which would provide scenic buffers from potential health hazards in addition to providing visual (and noise in the case of railroads) buffers to surrounding areas. These areas could also be developed with storm water retention basins, groundwater recharge basin or used as part of the municipal water or other utility systems where the risk of public exposure to health hazards could be minimized.

Chapter 8--Sustainable Development

Goal Area SD-1: Air Quality and Climate Change
Relevant goal:

- **Effective and efficient transportation infrastructure**

Policy SD-1.2: Coordinate local air quality programs with regional programs and those of neighboring jurisdictions.

Implementing Actions:

1.2.a Work with neighboring jurisdictions and affected agencies to address cross-jurisdictional and regional transportation and air quality issues. The City can create an environment that allows and encourages staff members to keep up with activities in neighboring jurisdictions and regional agencies. This may be accomplished by sending representatives to appropriate meetings, by contacting counterparts in other agencies when developing programs, and most important, by active participation in regional program planning.

The Planning Department, as required by law, maintains internal procedures to ensure that all affected jurisdictions and agencies are notified of development proposals. When another agency notifies the City of a pending project, air quality related issues, such as the following, should be examined:

2. Effects on the viability of transit and pedestrian-oriented developments in the area (i.e., approval of a low density development on the same transit corridor as a transit-oriented development could reduce the ability of the transit provider to provide reasonable headways);

3. Failure of the other jurisdiction to require the construction of a segment of a *bikeway* planned in the regional *bikeway* plan; and/or,

1.2.e In cooperation with the San Joaquin Valley Air Pollution Control District, examine potential sources of revenue to pay for air quality improvement measures.

The City may elect to participate in nexus studies to demonstrate the need for and benefit of revenue collected to combat air pollution, when such revenue could be used for implementing the following air quality-oriented programs:

3. Development of alternative modes of transportation such as *bike lanes/paths* and *trails*.

Policy SD-1.3: Integrate land use planning, transportation planning, and air quality planning for the most efficient use of public resources and for a healthier environment.

Implementing Actions:

1.3.a The City of Merced will consider air quality when planning the land uses and transportation systems to accommodate the expected growth in this community.

Develop coordinated land use and transportation plans to meet federal, state, and local air quality requirements. Ensure that land uses proposed in general plan updates and general plan amendments are supported by a *multi-modal* (auto, transit, *bicycling*, pedestrian, etc.) transportation system and that the land uses themselves support the development of the transportation system.

1.3.b Transportation improvement should be consistent with the air quality goals and policies of the General Plan.

Analyze project submittals for consistency. Examples of inconsistent projects are a road widening project that does not consider transit, *bicycling*, and pedestrian needs along the route or an intersection signalization project that does not involve the installation of signal actuators that can be activated by *bicyclists* or pedestrians.

1.3.e The City of Merced will work with Caltrans and MCAG, the Regional Transportation Planning Agency, to minimize the air quality, and mobility impacts of large scale transportation projects on existing neighborhoods.

Use existing rail right of ways where feasible. Provide safe pedestrian and *bicycle* connections between neighborhoods and shopping areas when they become separated by new rail or freeway projects.

Policy SD-1.4: Educate the public on the impact of individual transportation, lifestyle, and land use decisions on air quality.

Implementing Action:

1.4.a Work to improve the public's understanding of the land use, transportation, and air quality link.

The City should support the SJVUAPCD efforts to educate developers and the public on the benefits of pedestrian and transit friendly development and should participate in local programs that can reduce vehicle trips and miles traveled.

Policy SD-1.5: Provide public facilities and operations which can serve as a model for the private sector in implementation of air quality programs.

Implementing Action:

1.5.a Continue to support, encourage, and implement to the extent feasible innovative employer-based trip reduction programs for their employees.

Ensure that employment contracts negotiated with employee unions are flexible and allow workers to participate in programs that reduce commute trips, such as staggered work hours, incentives for using public transit, car pools, etc.

Policy SD-1.7: Develop and implement a Climate Action Plan for the City.

Implementing Actions:

1.7.c As part of the development of the Climate Action Plan and in the spirit of AB 32, The Global Warming Solutions Act of 2006, a variety of suggested measures from the California Climate Action Team Strategies and the Department of Justice Attorney General will be considered and evaluated by the City for possible future implementation.

The following measures shall be considered, although some of the items below have already been implemented by the City:

- Require new development to implement the following design features, where feasible *(note: excerpted for relevancy)*:
- Promote pedestrian, *bicycle* and transit modes of travel through informational programs and provision of amenities such as transit shelters, secure *bicycle* parking and attractive pedestrian pathways.
- Encourage mixed-use and high-density development to reduce vehicle trips, promote alternatives to vehicle travel and promote efficient delivery of services and goods.

Policy SD-1.8: Implement policies in other General Plan chapters to address air quality and greenhouse gas emissions reduction goals

Implementing Actions:

1.8.a Continue implementation of land use, transportation, urban expansion, urban design, open space, and public facilities General Plan policies that address air quality goals.

Many of these policies are presented in the Sustainable Development Chapter, but many of these policies are spread throughout the General Plan in the Urban Expansion, Land Use, Transportation, Public Facilities & Services, Urban Design, Open Space, and other chapters. Below is a list of topics addressed along with the General Plan policies found elsewhere in this document that relate to *both bicycles* and air quality goals:

Sustainable Development-Air Quality Policies:

- **Coordination with Air District (Policy SD-1.2)**

Urban Expansion Policies:

- **Establishment of urban limit lines (Policies UE-1.2 and UE-1.3)**
- **Encouragement of Compact and In-fill Development (Policies UE-1.2; Land Use L-2.8)**

Land Use Policies

- **Encouragement of Mixed-use Development (Policy L-2.7)**
- **Increased residential densities (Policy L-3.1)**
- **Encouragement of Transit-Oriented Development or the City's Village Concept (Policies L-3.1; Transportation T-1.5; Urban Design UD-1.1, UD-1.2, and UD-1.5)**
- **Pedestrian-oriented or pedestrian-friendly developments (Policies L-2.7, L-3.1, and L-3.3)**

Transportation Policies:

- **Dedicated transit corridors or "Transitways" (Policies T-2.1, T-2.2)**
- **An interconnected street system (Policies Land Use L-2.7 and L-3.3: Transportation T-1.2)**
- **Trip reduction measures (Transportation T-2.9, Sustainable Development SD-1.5)**
- **Encouragement of *bicycles* as a transportation option (Land Use L-3.3; Transportation T-2.4, T-2.5, T-2.6; Public Facilities P-5.2; Open Space OS-3.2)**
- **Development of *multi-modal* (all forms of transportation) developments, including highway-oriented developments (Policies Land Use L-2.10; Transportation T-1.5 and T-3.5 RAIL)**
- **Congestion management programs (Policies T-2.9)**

1.8.b Continue implementation of land use, transportation, urban expansion, urban design, open space, and public facilities General Plan policies that address greenhouse gas emissions reduction goals.

Many of these policies are presented in the Sustainable Development Chapter, but many of these policies are spread throughout the General Plan in the Urban Expansion, Land Use, Transportation, Public Facilities & Services, Urban Design, Open Space, and other chapters. Below is a list of topics addressed along with the General Plan policies found elsewhere in this document that relate to *both bicycles* and greenhouse gas emission reduction goals:

Urban Expansion Policies:

- **Establishment of urban limit lines (Policies UE-1.2, & UE-1.3)**
- **Encouragement of Compact and In-fill Development (Policies UE-1.2; Land Use L-2.8)**

Land Use Policies:

- **Encouragement of Mixed-use Development (Policy L-2.7)**
- **Increased residential densities (Policies L-3.1)**
- **Encouragement of Transit-Oriented Development or the City's Village Concept (Policies L-3.1; Transportation T-1.5; Urban Design UD-1.1, UD 1.2, and UD-1.5)**
- **Pedestrian-oriented or pedestrian-friendly developments (Policies L-2.7, L-3.1, L-3.3)**

Transportation Policies:

- **Dedicated transit corridors or "Transitways" and emphasis on public transit (Policies T-2.1 and T-2.2)**
- **An interconnected street system (Policies Land Use L-2.7 and L-3.3: Transportation T-1.2)**
- **Trip reduction measures (Transportation T-2.9)**
- **Encouragement of *bicycles* as a transportation option (Land Use L-3.3; Transportation T-2.4, T-2.5, T-2.6; Public Facilities P-5.2; Open Space OS-3.2)**

Goal Area SD-4: Healthy Communities

Relevant goals:

- **Healthy lives for community residents**
- **A healthy environment for all residents**

Policy SD-4.1: Create a healthy built environment.

Implementing Actions:

4.1.a Promote compact, mixed use, and transit-oriented development.

Through the City's Village Concept, which calls for the development of compact, mixed-use, pedestrian- and transit-friendly developments, the City can help to build a healthier community. Policies relating to the Village Concept can be found in the Land Use, Transportation, and Urban Design Elements.

4.1.b Plan neighborhoods with safe and attractive places for recreational exercise.

The City's Open Space Element (Chapter 7) has policies that promote neighborhood parks and *bikeways*. The Transportation Element (Chapter 4) has policies that promote the expansion of walking and biking facilities throughout the City.

4.1.c Create a balanced transportation system that provides for all modes of transportation.

The City's Transportation Element (Chapter 4) contains policies that promote a balanced transportation system that provides for *all modes of transportation*, including motorized vehicles, *bicycles*, transit, pedestrians, and air and rail transit.

Policy SD-4.2: Encourage increased physical activity of residents and healthier food choices.

Implementing Action:

4.2.a Increase biking and walking through street design.

By designing "complete streets" that accommodate *all modes of transportation*, as required in the policies in the Transportation Element (Chapter 4), residents will have access to safe and convenient biking and walking facilities. The City's policy of planting of trees along streets between the curb and the sidewalk help create a feeling of safety for pedestrians and handicap-accessibility is emphasized. *Bike* lanes are provided along most streets.

2011 Regional Transportation Plan (RTP)

The 2011 Regional Transportation Plan (RTP) for the Merced County region was adopted by the Merced County Association of Governments (MCAG) Board on July 15, 2010.
The 2011 RTP specifies the projects and programs necessary over a 20-25 year period to maintain, manage, and improve the region's transportation systems. The RTP addresses all relevant transportation modes for Merced County. Among those addressed is bicycle transportation.

Vision Section: Themes and Goals

The 2011 RTP Vision addresses Themes and Goals that directly and indirectly pertain to bicycle transportation systems.

- Promote an efficient, regionally-linked system of bikeways.
- Coordinate future land use patterns and transportation systems (air, rail, transit, bike and pedestrian, roads) to foster economic prosperity, environmental protection and mitigation, trip reduction, and the creation of efficient, integrated mixed-use communities.
- Encourage land use and growth patterns that enhance the livability of our communities and maximizes the productivity of transportation investments.
- Favor transportation investments that protect the environment including improving air quality, promoting energy efficiency, and enhancing the quality of life.

Action Section: Bicycle Mode

Local governments are responsible for the planning and development of bikeways within their jurisdictions.

The City of Merced has the most extensive, jurisdictional bikeway system in Merced County. The City of Merced adopted a Bicycle Transportation Plan (BTP) in 2008. The goal of the City's BTP is to create and maintain an integrated system of bikeways, which provide safe and convenient travel for bicyclists. Additionally, the City will encourage area employers to promote bicycle use and to support local promotional efforts and events. The City also approved the Bicycle Advisory Commission (BAC), which involves bicycle users in the bicycle planning efforts and bicycle-related transportation activities.

The Regional Bikeway Plan was adopted by MCAG in 2008. The plan's intent is to connect to the bikeway systems of local communities and to major destinations throughout Merced County. The plan also calls for development, maintenance, safety, and bicycle education.

MCAG makes efforts to promote walking and bicycling as viable commute alternatives. As the Transit Joint Powers Authority, "The Bus" offers bicycle racks on all its buses to accommodate its riders. MCAG encourages the local jurisdictions to pursue funding opportunities to implement local and regional bicycle plan projects. MCAG approves regional CMAQ monies to fund bicycle/pedestrian projects.

MCAG continues to encourage the local jurisdictions to incorporate sound bicycle and pedestrian planning in their General Plans, pursue "safe routes to school" fundings to improve pedestrian and bicycling safety near schools, and maintain existing bikeways and facilities. MCAG offers to assist local jurisdictions with their design, update, and implementation of local Bicycle Transportation Plans. MCAG works with local staff on the development of the Regional Bicycle Plan.

Funding Sources Section: Bicycle Mode

The State's Bicycle Transportation Account (BTA), the State's Safe Routes to School (SR2S) Program, the Federal Safe Routes to School (SRTS) Program, and the regional Federal Congestion Mitigation Air Quality (CMAQ) Program were identified as possible funding sources for bicycle projects.

- The Bicycle Transportation Account (BTA) has grown from $375,000 in 1999 to $7.2 million currently. BTA funds are competitive on a statewide basis. In order to apply, the local jurisdiction must have an adopted and certified Bicycle Transportation Plan within the past five years.
- The State's Safe Routes to School (SR2S) has made available over $24 million annually for projects.
- Even though the Federal Safe Routes to School (SRTS) continues to be funded this current federal fiscal year (FFY 2012/13), there is uncertainty about its continued funding in future years. The City of Merced has one current project awarded by the SRTS program.
- CMAQ funds are federal monies for air quality nonattainment areas to fund projects/programs that relieve congestion and improves air quality. CMAQ funds are regionally competitive, when funds are not entirely expended on transit and cost-effective projects/programs (i.e. diesel engine retrofits). It is up to MCAG to determine which eligible project(s) receives funding.

For the RTP period, it was anticipated that $1 million would be granted from the BTA and $5 million would be approved from the CMAQ Program for the region's bicycle projects.

For the past five cycles of BTA grants (http://www.dot.ca.gov/hq/LocalPrograms/bta/btaAprovedProject.htm), since the approval and certification of the 2008 Merced City Bicycle Transportation Plan (BTP), the City of Merced has been unsuccessful in winning awards from the statewide, annually-available $7.2 million pot.

Over the past few years, the City of Merced has benefited from the CMAQ Program, with close to $3.5 million approved by MCAG for the City's bicycle projects.

2012 Climate Action Plan

Bike-Related Policies:

STRATEGY: Dramatically Increase the amount of facilities that support bicycle transportation throughout the City.

ACTIONS FOR STRATEGY EM 1.3

EM 1.3.1: Utilize the urban stream system in the planning and design of bikeways and trails (General Plan Policy T-3.2, Implementing Action 3.2.a).

EM 1.3.2: Work with Merced County to establish connecting links to existing and planned inter-community bikeways. For example, provide a link between the City and County bikeway systems by establishing a connector to the Lake Road Bikeway Corridor out to Lake Yosemite (General Plan Policy T-3.2, Implementing Action 3.2.d).

EM 1.3.3: Develop an off-street bikeway and trail system in South Merced (General Plan Policy T-3.2, Implementing Action 3.2.e).

EM 1.3.4: Stripe 20 miles of bike lanes on existing City streets and 5 miles of Class I pathways by 2020.

EM 1.3.5: Implement the City of Merced Bike Plan, with particular focus on constructing safe, comfortable, continuous bike facilities that connect residential, workplace, commercial, school and recreation destinations.

EM 1.3.6: Update the *Bicycle Master Plan* to reflect the Climate Action Plan and to coordinate with Complete Streets and Safe Routes to School policies.

EM 1.3.7: Create an incentive-based program to encourage workplaces to provide destination amenities required by bicyclists, including: safe, secure, covered bicycle parking; and showers and lockers at workplaces.

EM 1.3.8: In addition to off-street Class I Bikeways and Class II Bike Lanes, explore designs and appropriate sites in Merced for bicycle use spaces to be located within street rights-of-way having limited exposure to vehicular traffic, such as sharrows, shared streets, and bike boulevards.

EM 1.3.9: Update the Official City Design Standards to be consistent with the Bicycle Master Plan, the *Merced Vision 2030 General Plan* and the *Climate Action Plan*, by inclusion of facilities such as: traffic signal sensors that detect bicycles, and signs beside and on the street that alert motor vehicle drivers to the presence and appropriateness of bicyclists on the street.

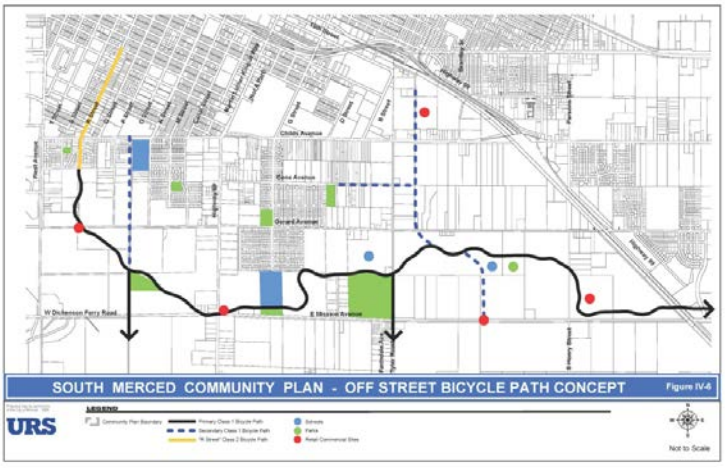
Martin Luther King Jr. Way Revitalization Plan

Action Item #5: Explore Design Options for Canal Street to be used as a Predominantly Pedestrian, Bicycle, and Transit Road.

Just as Martin Luther King Jr. Way provides for all transportation modes, but is utilized primarily by autos and trucks, this action item seeks to provide a transportation corridor in the Plan Area that emphasizes pedestrian and bicycle travel to northern and southern destinations. Anchored by one of the area's landmarks - McNamara Park, Canal Street with its relatively low-vehicle traffic and access under State Route 99 to Downtown, affords an opportunity that cannot be achieved on other plan area roadways. The intent of this action is for further analysis, public outreach and design options to be explored to answer whether or not the idea has merit, and if so, what ultimate design and travel options can be deployed.

South Merced Community Plan

Bike Related Policies:



Policy OS-1.1

Develop a Safe Pedestrian and Bicycle System with Routes Between Open Spaces, Schools, and Key Destinations in the Plan Area.

Implementing Actions:

1.1.a As development occurs, require construction of the Plan's primary and secondary Class I (off-street) bike/pedestrian path system. The primary route is distinguished from the secondary route by its width, additional open space, and preference to be located away from paralleling streets where possible. The secondary routes are narrower and located alongside collector roads. Figure IV-6 depicts a general alignment of the bike path. A more precise and specific alignment will be made at the Project-specific level, with the goal of limiting interfaces with vehicles at road crossings.

1.1.b The Class I bike/pedestrian path system between Henry Street and Tyler Avenue is envisioned to be a wide linear park whose primary feature is a storm-drain system with sinuous basins that simulate a natural water feature.

1.1.c As determined by City staff on a site-by-site basis, the width and design of the Class I bike/ pedestrian path system will vary throughout the Plan area depending upon adjacent land uses, use of stormwater basins, and traffic needs and impacts. An overall minimum width of 82-feet as depicted in Figure 6.1 of the *Merced Park and Open Space Master Plan* (page 6-50) should be assumed in the initial design of a project. Variations to this width are probable.

1.1.d Design arterial and collector street intersections and roadway segment cross-sections with wide medians and curb bulb-outs in order to:

(a) shorten the time a pedestrian or bicyclist is located in the travel lanes;
(b) create a safe-haven in the center median; and
(c) serve to calm traffic.

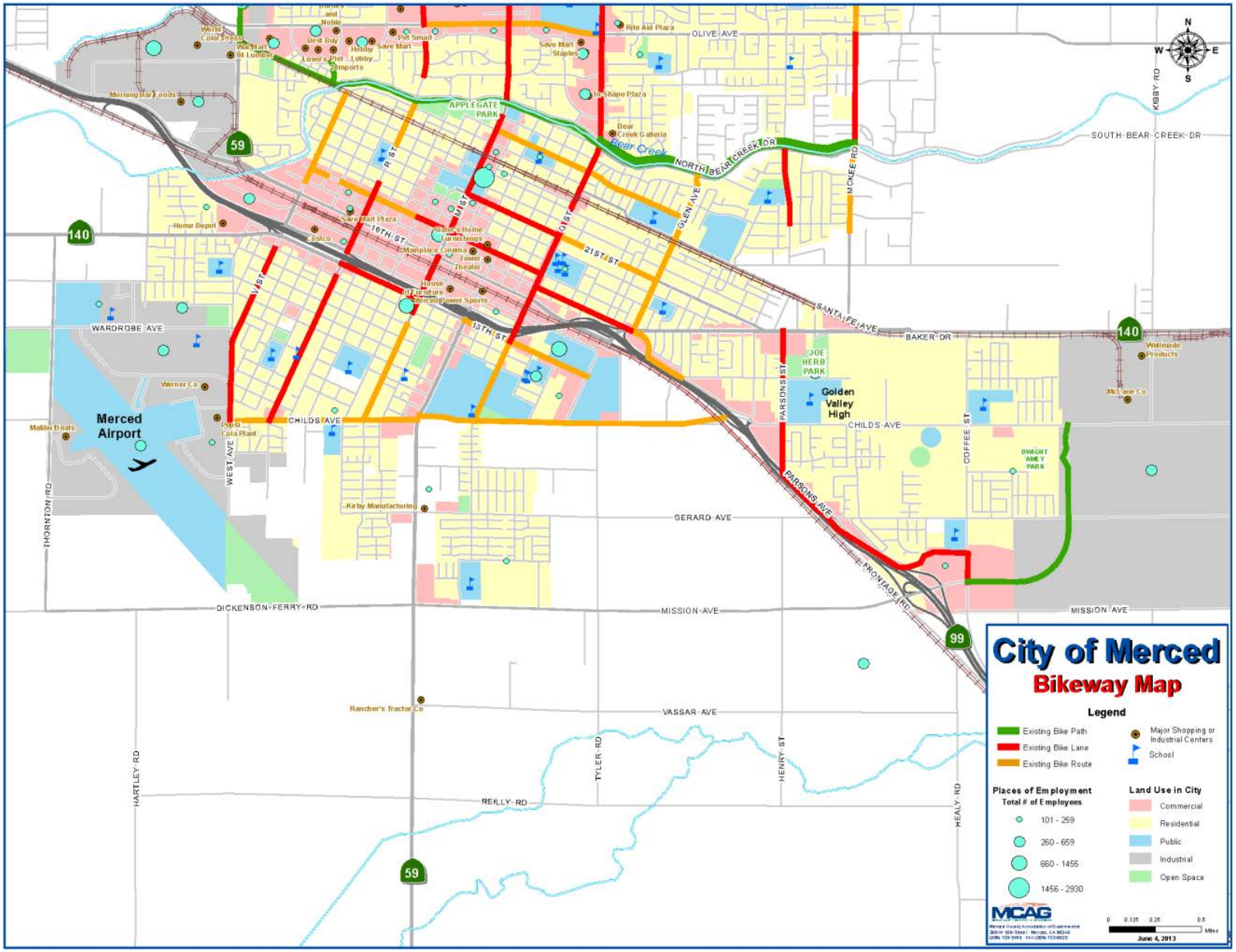
1.1.e In all situations, the Class I bike/pedestrian path system shall be designed and constructed to provide ample lighting and surveillance opportunities from adjacent land uses and streets. Where the pathway runs next to a cul-de-sac, broad vision-corridors (instead of narrow view sights between buildings and fences) shall be provided.

1.1.f As part of annexation proposals, conduct a study to determine where improvements are missing, then implement a program to install missing sidewalks, crosswalks, bike facilities, and lighting.

Appendix C
Bike Map Figures

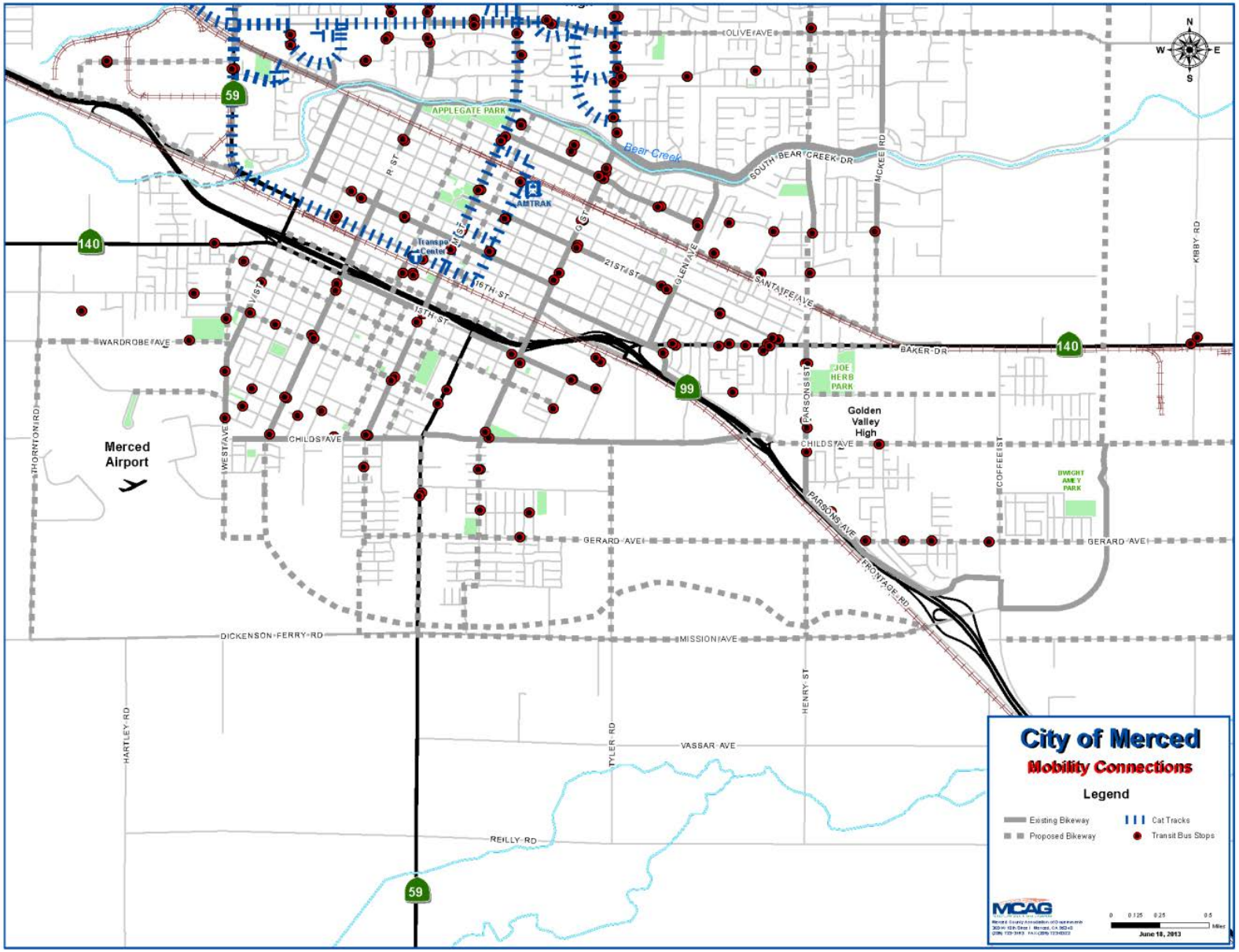
MAP FIGURES WITHIN THIS INDEX INCLUDE:

BIKE MAP FIGURES



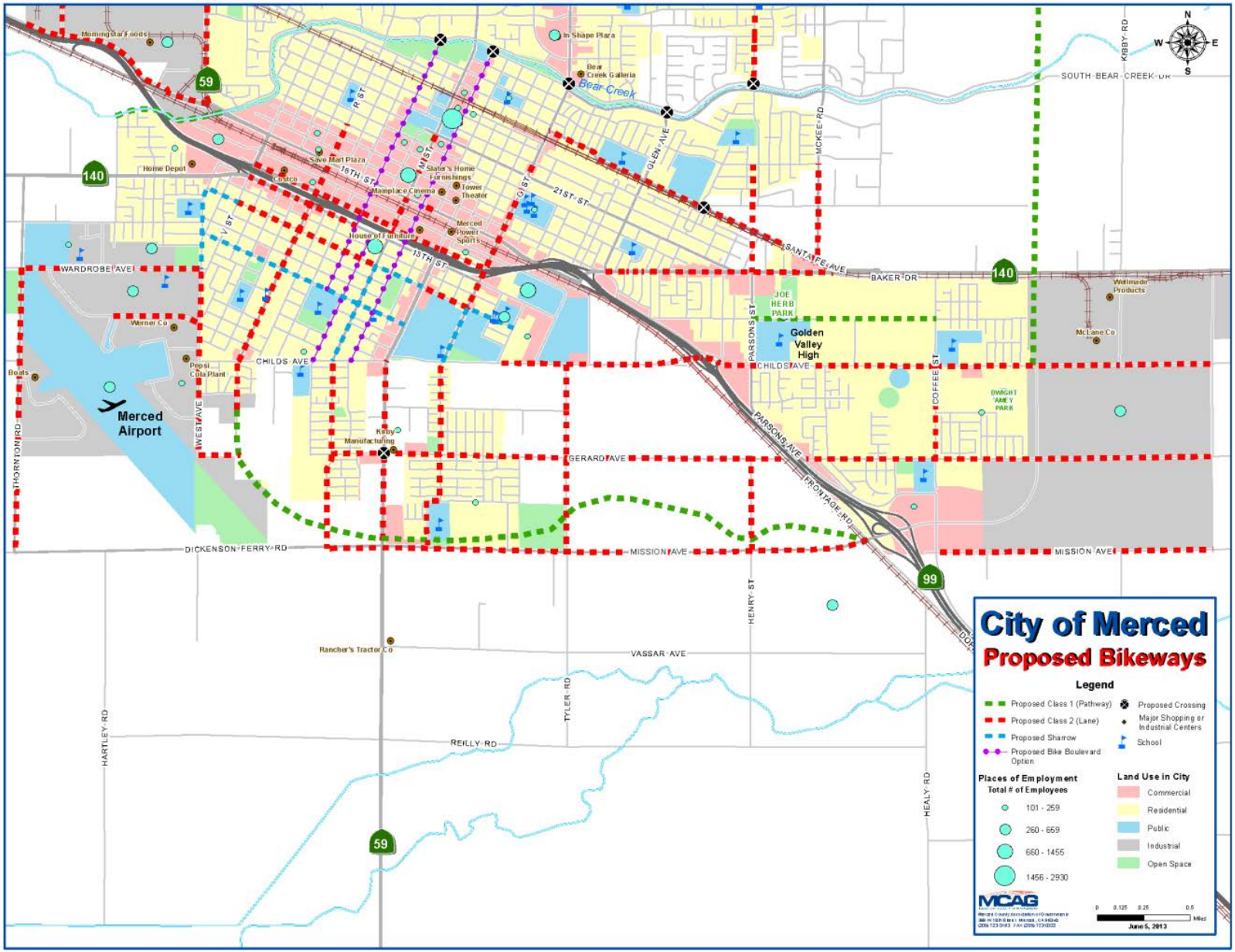
BIKE MAP FIGURES

City of Merced
Mobility Connections
Legend
Existing Bikeway
Proposed Bikeway
Car Tracks
Transit Bus Stops
June 19, 2013
MCAG
UC Merced
Lake Yosemite
Merced College
Merced High
Cottonwood Creek
Fahrens Creek
Black Rascal Creek
North Bear Creek
Lake Rd
Golf Rd
Old Lake Rd
Farmland Ave
Cardella Rd
Gardner Ave
McKee Rd
Olive Ave
Yosemite Ave
G St
M St
R St
Bellevue Rd
Elsworth Rd
Thornton Rd
Tahoe St
Belcher Ave
Santa Fe Dr
16th St
Applegate Park
Fahrens Park
59
99

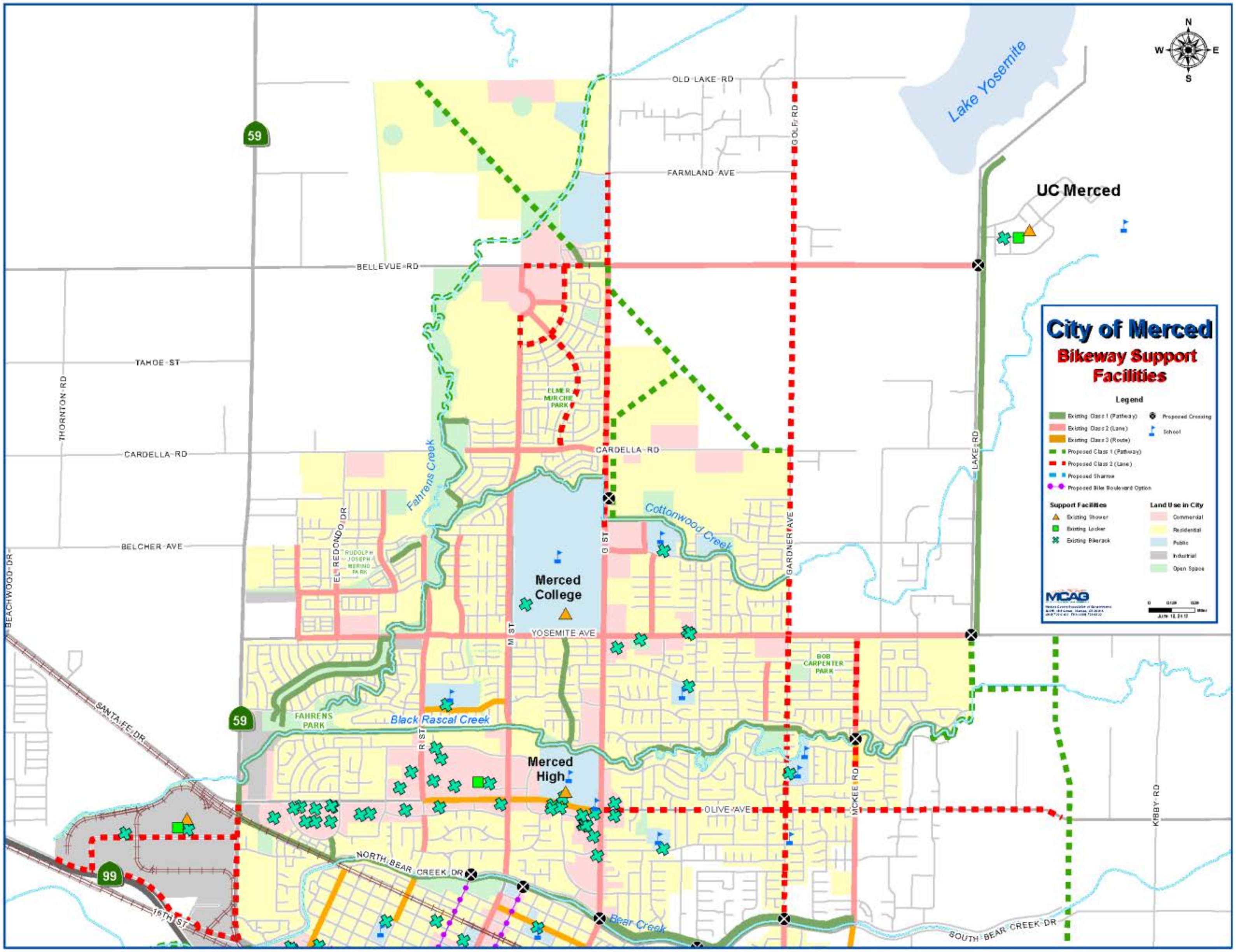


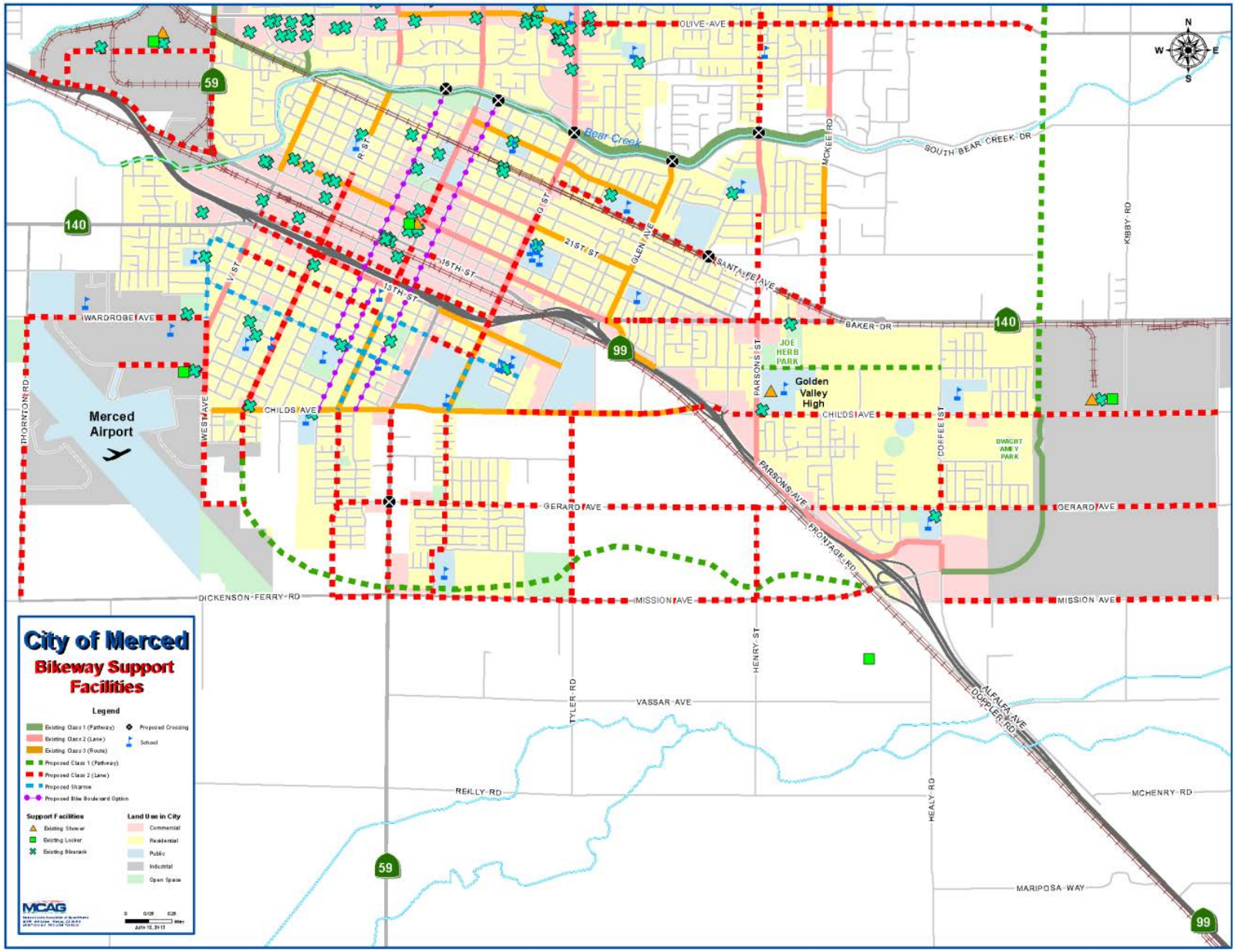
BIKE MAP FIGURES

BIKE MAP FIGURES

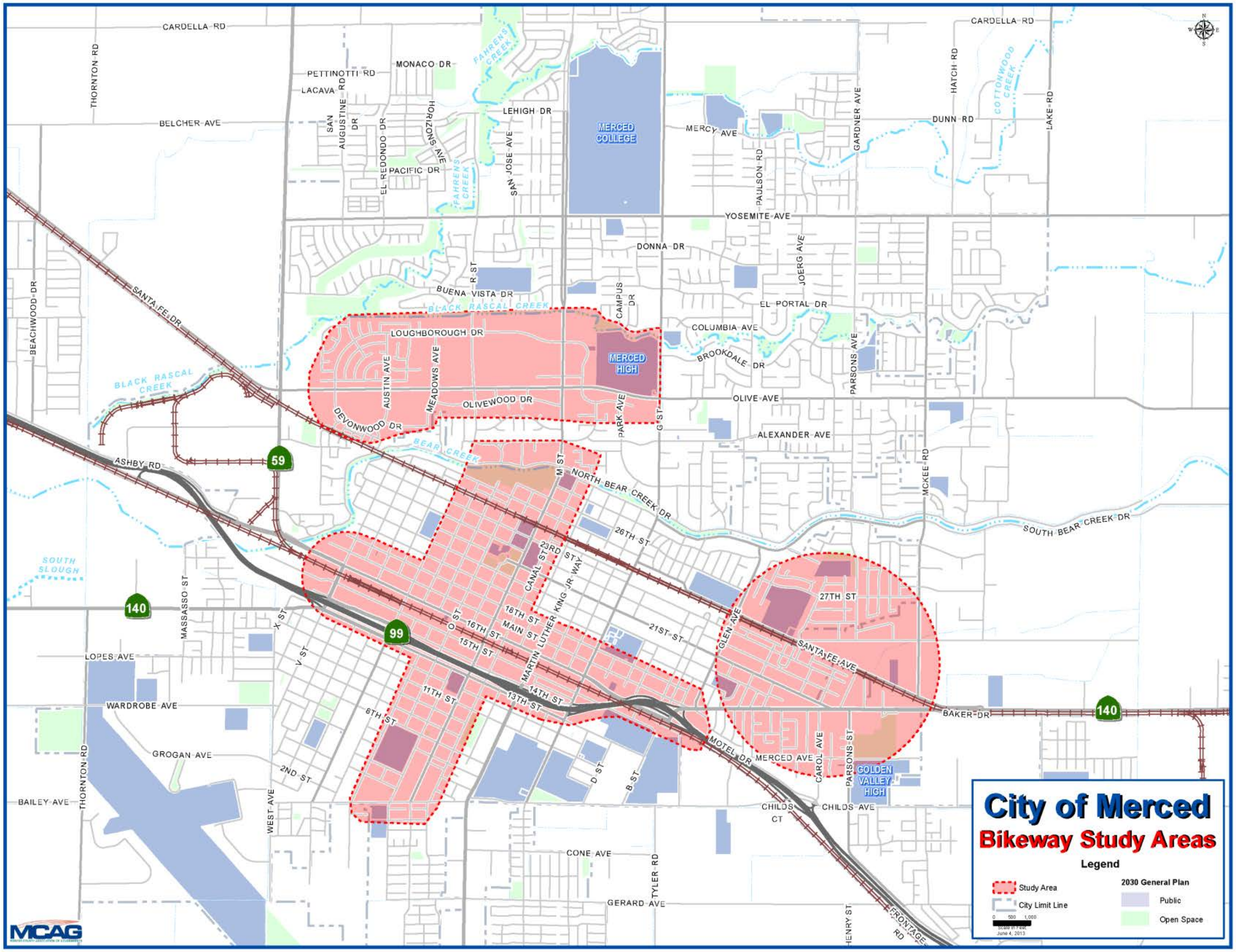


BIKE MAP FIGURES


City of Merced
Bikeway Support Facilities
Legend
Existing Class 1 (Pathway)
Existing Class 2 (Lane)
Existing Class 3 (Route)
Proposed Class 1 (Pathway)
Proposed Class 2 (Lane)
Proposed Sharrow
Proposed Bike Boulevard Option
Proposed Crossing
School
Support Facilities
Existing Shower
Existing Locker
Existing Bikerack
Land Use in City
Commercial
Residential
Public
Industrial
Open Space
MCAG
UC Merced
Lake Yosemite
Merced College
Merced High
OLD LAKE RD
FARMLAND AVE
GOLF RD
BELLEVUE RD
TAHOE ST
THORNTON RD
CARDELLA RD
BELCHER AVE
BEACHWOOD DR
LAKE RD
GARDNER AVE
G ST
M ST
R ST
YOSEMITE AVE
OLIVE AVE
MCKEE RD
KIBBY RD
NORTH BEAR CREEK DR
SOUTH BEAR CREEK DR
SANTA FE DR
16TH ST
EL REDONDO DR
Cottonwood Creek
Fahrens Creek
Black Rascal Creek
Bear Creek
ELMER MIRCHIE PARK
RUDOLPH JOSEPH MERINO PARK
FAHRENS PARK
BOB CARPENTER PARK
59
99



BIKE MAP FIGURES


City of Merced
Bikeway Study Areas
Legend
Study Area
City Limit Line
2030 General Plan
Public
Open Space
MCAG
MERCED COLLEGE
MERCED HIGH
GOLDEN VALLEY HIGH
CARDELLA RD
THORNTON RD
BELCHER AVE
PETTINOTTI RD
MONACO DR
LACAVA
SAN AUGUSTINE DR
EL REDONDO DR
HORIZONS AVE
PACIFIC DR
LEHIGH DR
SAN JOSE AVE
FAHRENS CREEK
MERCY AVE
PAULSON RD
GARDNER AVE
HATCH RD
DUNN RD
LAKE RD
COTTONWOOD CREEK
YOSEMITE AVE
DONNA DR
JOERG AVE
EL PORTAL DR
COLUMBIA AVE
BROOKDALE DR
PARSONS AVE
OLIVE AVE
ALEXANDER AVE
MCKEE RD
SOUTH BEAR CREEK DR
BEACHWOOD DR
SANTA FE DR
BLACK RASCAL CREEK
R ST
BUENA VISTA DR
CAMPUS DR
LOUGHBOROUGH DR
AUSTIN AVE
MEADOWS AVE
OLIVEWOOD DR
DEVONWOOD DR
PARK AVE
G ST
BEAR CREEK
ASHBY RD
59
M ST
NORTH BEAR CREEK DR
26TH ST
SOUTH SLOUGH
140
MASSASSO ST
23RD ST
CANAL ST
KING JR WAY
18TH ST
MAIN ST
MARTIN LUTHER
16TH ST
O ST
15TH ST
99
X ST
V ST
21ST ST
27TH ST
GLEN AVE
SANTA FE AVE
BAKER DR
LOPES AVE
WARDROBE AVE
11TH ST
14TH ST
13TH ST
6TH ST
GROGAN AVE
2ND ST
MOTEL DR
MERCED AVE
CAROL AVE
PARSONS ST
D ST
B ST
BAILEY AVE
WEST AVE
CHILDS CT
CHILDS AVE
CONE AVE
TYLER RD
GERARD AVE
HENRY ST
FRONTAGE RD

Appendix D

North-South Bikeway Corridor Study Findings

Finding 1: Three north/south streets were determined to have significant barriers to bicycle transportation (V St, R St, and McKee Road).

V Street:

- *Pros*
  - Provides safe crossing for railroad and highway overpass, two critical barriers this street crosses.
  - Connects to Bear Creek.
- *Cons*
  - Only provides bikeways from West Avenue and Childs Avenue to V Street and 24th Street which does not provide a north/south connection.
  - It does not provide bikeways from 13th Street to Main St due to the lack of right-of-way, not to mention the low surface conditions along this segment as well.
- *Remedies*
  - None applicable.

R Street:

- *Pros*
  - Provides bikeways from Childs Avenue to north of Pacific Drive.
  - Connects to 3 bike paths (Fahrens Creek, Black Rascal Creek, Bear Creek).
  - Provides safe crossing for railroad and highway overpass, three critical barriers this street crosses.
- *Cons*
  - From 19th Street to Olive Avenue bikeways do not meet standards for cyclist use and could be difficult for pedestrians as well.
- *Remedies*
  - Alternative Bikeway to R Street between Olive and 19th Street. Alternatives to assess include: 1) Construct alternative routes that don't require using R Street from Olive Avenue to 19th Street, for example, taking Rambler Road to Ardell Drive and creating a bike/pedestrian bridge across Bear Creek to "O" Street converting "O" Street into a bicycle boulevard; and, 2) a modified R Street cross-section pertaining to travel lanes, parkway and sidewalks.

McKee Road:

- *Pros*
  - Connects to 2 bike paths: Black Rascal Creek and Bear Creek.
- *Cons*
  - This road does not provide a north/south connection and only goes from Santa Fe Avenue to Yosemite Avenue.
  - Has three major segments that do not have bikeways.
  - Does not meet the commonly used standards.
  - Does not provide a connection to the population south of Yosemite Parkway.
- *Remedies*
  - Complete east side bike lanes from Yosemite Avenue to Black Rascal Creek.
  - Expand bikeway south of 27th Street to Santa Fe Avenue.
  - Street study for bikeways connecting Golden Valley High School with areas north of the Santa Fe Railroad.

Finding 2: There were two streets that were determined to be generally suitable for a bicycle transportation corridor at this moment (M Street and G Street), though improvements can be made.

M Street:

- *Pros*
  - Provides a bikeway system from Childs Avenue to Bellevue Road (Full north/south connection).
  - Has a connection to 3 bike paths: Cottonwood Creek, Black Rascal Creek, and Bear Creek. This street also provides a bike path in its median from Lehigh Drive to Buena Vista Drive.
  - Provides safe crossing for railroad and highway overpass, three critical barriers the street crosses.
- *Cons*
  - Has three minor segments which do not provide bikeways and one segment that is not classified as good or excellent.
  - Has surface condition problems that pertain to, potholes, asphalt cracks, etc.
- *Improvements*
  - Complete bike lanes from M St Circle to Barclay Way.
  - Fix surface conditions and handicap ramps.

G Street:

- *Pros*
  - Provides bikeway from Childs Avenue to Bellevue Road and it is the widest arterial out of all the roads that were surveyed.
  - Connects to three bike paths: Cottonwood Creek, Black Rascal Creek, and Bear Creek.
  - Recently restored bike lanes from 23rd Street to Park Ave (including Bear Creek bridge).

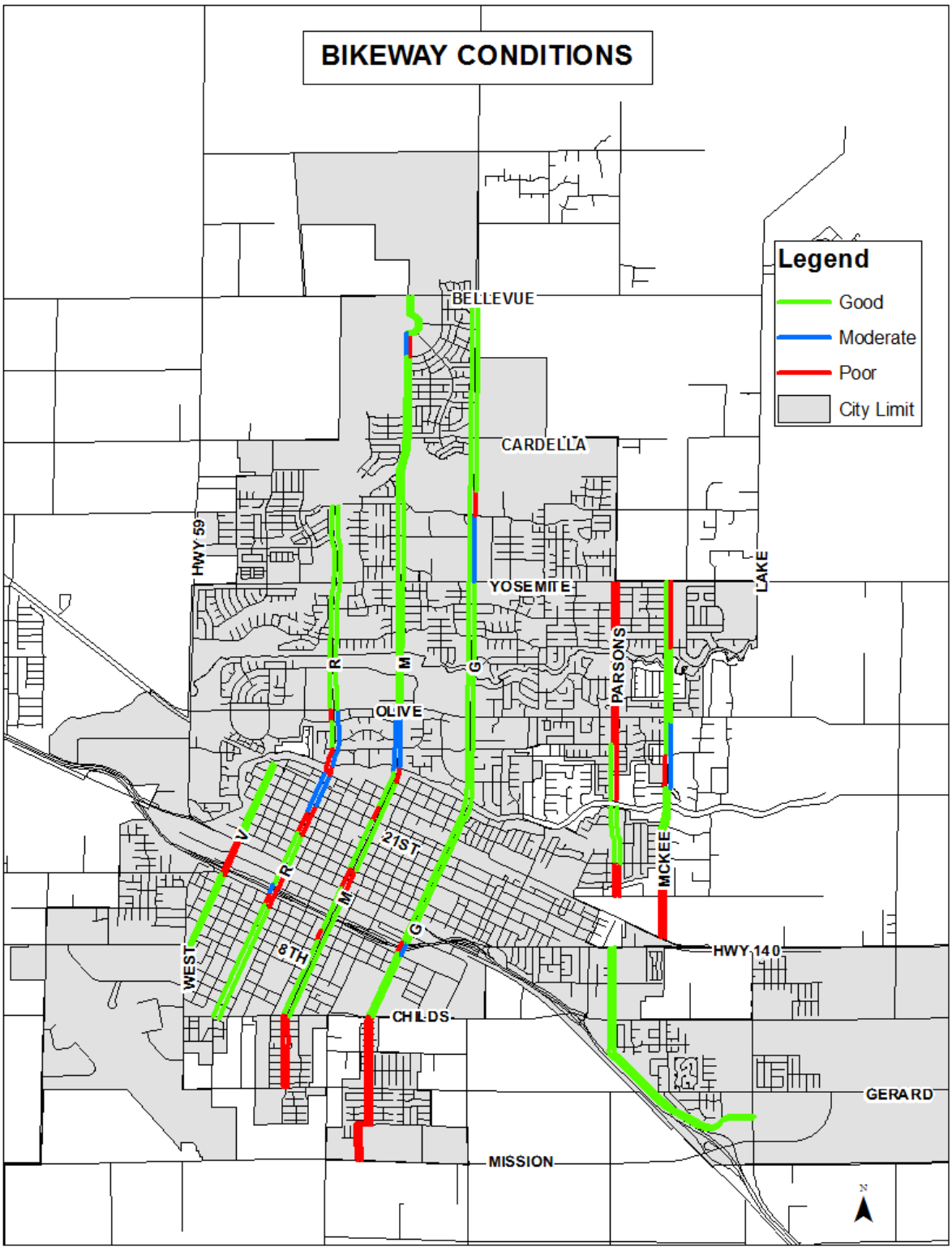
    - Provides a safe undercrossing for railroad tracks.
    - Provides safe crossing for railroad and highway overpass, two critical barriers the street crosses.
- *Cons*
    - Has one major segment that does not provide bikeway and two minor segments without bikeways.
- *Improvements*
    - Undercrossing for Cottonwood Creek Path
    - Complete east side bike lanes from Bellevue Road to Cardella Road

Finding 3: Parsons Avenue was a difficult road to classify as it only provides bikeways in two segments and does not provide a complete north/south connection at this time. Although this street did not meet required criteria, it has a lot of positive aspects that with improvements, it could be a good north/south alternative for the future.

Parsons Avenue:

- *Pros*
    - Has connection to two bike paths: Black Rascal Creek and Bear Creek.
    - Has a wide rights-of-way and roadway surface.
    - Provides a connection to Southeast Merced.
- *Cons*
    - Only has bikeways from Coffee Street to Childs Avenue and from 27th Street to South Bear Creek Drive. Provides connection to the southeast region of Merced.
    - Does not have a bridge pedestrian or vehicle over Bear Creek.
    - Currently no crossing of the Santa-Fe Railway.
- *Improvements*
    - Bike lanes from Yosemite Avenue to N. Bear Creek Drive.
    - Pedestrian or vehicle bridge.
    - Create a direct connection from Stretch Road to Yosemite Parkway.

These recommendations are based on all the data that was collected and analyzed from the criteria mentioned before for the specific goals of the north/south transportation corridor. It is important to note that this information does not include population density, safety of intersections, connection to major employment or shopping centers or any other important objectives.


BIKEWAY CONDITIONS
Legend
Good
Moderate
Poor
City Limit
BELLEVUE
CARDELLA
HWY 59
YOSEMITE
LAKE
PARSONS
MCKEE
OLIVE
R
M
G
V
21ST
8TH
WEST
HWY 140
CHILDS
GERARD
MISSION
N

Appendix E

Comprehensive List of all Proposed Bike Facility Projects

COMPREHENSIVE LIST OF ALL PROPSED BIKE FACILITY PROJECTS

Rank	#	Roadway	From	To	Location	Project Types	Priority	Length (mi)	Cost ($) Estimate	Scenario Factor
1	22	East side on G Street	Bellevue Rd.	Mercy Ave.	City/R	BL-(Rest)	14	1.36	34,000	1
1	21	M Street	M Circle	Barclay Way	City	BL	12.9	0.2	40,000	1,2
1	28	East side on McKee Road	Yosemite Ave.	Black Rascal Creek Path	City	BL	11.4	0.6	60,000	1,2
1	26 B	Parsons Avenue	Marie	Olive	City	BL	9.4	0.5	25,000	1
1	18 B	Bellevue Road	G St.	Barclay Ave	City/R	BL	9.4	0.25	12,500	1
1	18 A	Bellevue Road	Barclay Ave.	M St.	City/R	BL	9.4	0.25	50,000	1,2
1	19	Barclay Way	M St.	Bellevue Rd	City	BL	9.2	0.57	28,500	1
1	26 D	Parsons Avenue	Brookdale	Yosemite Ave	City	BL	8.1	0.75	37,500	1
1	20	Bancroft Drive	Cardella Rd.	Barclay Way	City	BL	8	0.69	34,500	1
1	26 A	Parsons Avenue	North Bear Creek	Marie	City	BL	8	0.13	26,000	1,2
1	32	Olive Avenue	G St.	Larkspur Ave.	City	BL	6.2	1.6	80,000	1
1	96	"G" Street (east side)	Bellevue Road	Farmland	City	BL	NP	0.5	50,000	1,2
1	50	Childs Avenue	Carol Ave.	Campus Parkway	City/R	BL	9.7	1.75	350,000	1,2

Rank	#	Roadway	From	To	Location	Project Types	Priority	Length (mi)	Cost ($) Estimate	Scenario Factor
1	60 B	Gerard Avenue	Coffee	Campus Parkway	City	BL	9.7	0.5	100,000	1,2
1	63	Coffee St.	Childs Ave.	Gerard Ave.	City	BL	7.5	0.5	100,000	1,2
2	40	13th Street	V St.	O St.	City	BL-(Rest)	15	0.8	20,000	1
2	39	14th Street	V St.	G St.	City	BL	10.3	1.4	35,000	1
2	56	G Street	Childs Ave.	Mission Ave.	City	BL	9.4	1.0	50,000	1
2	30	McKee Road	27th St.	Santa Fe Ave	County	BL	9.3	0.5	100,000	1,2
2	41	Yosemite Parkway	Main St.	Baker Dr.	City/R	BL	8.8	1.3	65,000	1
2	34	Highway 59	16th St.	Olive Ave.	City/R	BL	8.7	0.8	160,000	1,2
2	36	Santa Fe Drive	McKee Rd.	G St.	City	BL	7.9	1.7	340,000	1,2,4,5
3A	69	Alternatives to Olive Avenue	Hwy 59	G Street	City/R	Study Area	10	consultant	25,000	NA
3A	70	North Area Access to GVHS	Bear Creek	Childs	City	Study Area	---	consultant	25,000	NA
3A	68	Alternatives to 16th Street	Ashby Rd.	G St.	City/R	Study Area	6.5	consultant	25,000	NA
3B	103	Study Area Improvements	TBD	TBD	TBD	TBD	NA	TBD	TBD	NA
4	72	O St	8th St.	N. Bear Ck. Dr.	City	BB	9.3	1.48	347,800	NA

COMPREHENSIVE LIST OF ALL PROPSED BIKE FACILITY PROJECTS

COMPREHENSIVE LIST OF ALL PROPSED BIKE FACILITY PROJECTS

Rank	#	Roadway	From	To	Location	Project Types	Priority	Length (mi)	Cost ($) Estimate	Scenario Factor
5	95	Class I Bikeway Access to Roadways	NA	NA	City	Sidewalk Ramps	5.8	15 items	52,500	NA
6A	85	G St. & Cottonwood Ck	NA	NA	City	Study Area Safe-cross	6.2	consultant	25,000	NA
6B	104	Study Area Improvements						1 crossing	250,000	arterial tunnel
7	98	Amend Bike Lane Standards	NA	NA	City	B-STND	NP	consultant	30,000	NA
8	99	Education Programs	NA	NA	City	Education	NP	various	varies	NA
9	100	Bike Parking and Rest-related Projects	TBD	TBD	City	BSF	NP	200 bike racks	144,000	NA
10	92	Way finding signs [3]	Select Locations	Select Locations	City	Way finding signs	4	30 items	15,000	NA
11	91	Traffic Signal Sensors [2]	Select Locations	Select Locations	City	Traffic Signal Sensors	4.8	15 items	22,500	NA
12	90	Collector Street BL [1]	Select Locations	Select Locations	City	BL	8.5	10.0	500,000	1
13	60A	Gerard Avenue	Parsons Ave.	Coffee	City	BL	7.5	1.0	735,000	1,2,3,4,5
14	73	Canal Street	Childs Ave.	26th St.	City	BB	7	1.82	427,000	NA
15	35	Cooper Avenue	Ashby Rd.	Hwy 59	City	BL	7	1.0	300,000	1,2,4

Rank	#	Roadway	From	To	Location	Project Types	Priority	Length (mi)	Cost ($) Estimate	Scenario Factor
16	86	Bellevue Rd. & Lake Rd.	NA	NA	County	Safe-Crossing	6.9	NA	150,000	Collector tunnel
17	87	Green St & Santa Fe Dr.	NA	NA	City	Railroad Undercross	6.6	NA	150,000	Collector tunnel
18	37	Ashby Road	Cooper Ave.	16th St.	City	BL	6.6	0.7	140,000	1,2
19	42	Wardrobe Ave.	Thornton Rd.	West Ave.	City	BL	6.6	1.0	735,000	1,2,3,4,5
20	52	West Avenue	Childs Ave.	South city limits	City	BL	6.3	0.5	150,000	1,2,4
21	53	R Street	Childs Ave.	South city limits	City	BL	6.3	0.75	150,000	1,2
22	29	McKee Road	Black Rascal Creek	Olive Ave.	City	BL	6	0.4	120,000	1,2,4
23	26 C	Parsons Avenue	Olive	Brookdale	City	BL	5.9	0.25	183,750	1,2,3,4,5
24	25	Gardner Avenue	Cardella Rd.	Yosemite Ave.	City/R	BL	5.8	0.5	25,000	1
25	54	M Street	Childs Ave.	Mission Ave.	City	BL	5.7	1.0	50,000	1
26	88	Lake Rd. & Yosemite Ave.	NA	NA	County	Undercross	5.6	NA	250,000	Arterial tunnel
27	89	Glen Ave & Bear Creek	NA	NA	County	PB-Bridge	5.2	NA	262,500	175' by 10'
28	84	Black Rascal Creek & McKee Rd.	NA	NA	City	Safe-Crossing	5.1	NA	150,000	Collector tunnel
29	58	Gerard Ave.	M St.	Barroso Ave.	City	BL	4.5	1.25	62,500	1

COMPREHENSIVE LIST OF ALL PROPSED BIKE FACILITY PROJECTS

COMPREHENSIVE LIST OF ALL PROPSED BIKE FACILITY PROJECTS

Rank	#	Roadway	From	To	Location	Project Types	Priority	Length (mi)	Cost ($) Estimate	Scenario Factor
30	93	Employee Parking Program [4]	NA	NA	City	Employee Parking Program	4.2	50 outdoor lockers	100,000	NA
31	94	Gerard Ave. & Hwy. 59	NA	NA	County	Traffic Signal	4.1	1 item	250,000	NA
32	17	Bear Creek	16th St.	Massasso St.	City	Path (concrete)	4.1	0.7	33,600	NA
33	51	Thornton Road	Wardrobe Ave.	Dickenson Ferry	City	BL	3.7	1.0	200,000	1,2
34	10 1	Widen Class I Bikeways in High Use Areas	TBD	TBD	City	BP	NP	1.0	100,000	1,2
--	83	Parsons Ave. & Bear Creek	NA	NA	County	Undercross/V-Bridge	2.7	NA	NA	NA
--	27	Parsons Avenue	27th St.	Yosemite Pkwy.	County	BL	NP	0.7	NA	NA
--	23	Golf Road	Old Lake Rd.	Bellevue Rd.	County	BL	NP	1.0	NA	NA
--	24	Gardner Avenue	Bellevue Rd..	Cardella Rd	County/R	BL	NP	1.0	NA	NA
--	33	Olive Avenue	Larkspur Ave.	Campus Pkwy.	County	BL	NP	0.9	NA	NA
--	49	Childs Avenue	Delong St.	Hwy 99	County	BL	NP	0.5	NA	NA
--	55	S. Hwy 59	Childs Ave.	Mission Ave.	County	BL	NP	1.0	NA	NA
--	57	Tyler Road	Childs Ave.	Mission Ave.	County	BL	NP	1.0	NA	NA

Rank	#	Roadway	From	To	Location	Project Types	Priority	Length (mi)	Cost ($) Estimate	Scenario Factor
--	59	**Gerard Avenue**	Barroso Ave	Frontage Rd.	County	BL	NP	1.4	NA	NA
--	61	**Henry Street**	Gerard Ave.	Mission Ave.	County	BL	NP	0.5	NA	NA
--	64	**Mission Avenue**	M St.	Hwy. 59	County/R	BL	NP	0.3	NA	NA
--	66	**Mission Avenue**	Tyler Rd.	Frontage Rd.	County/R	BL	NP	1.6	NA	NA
--	1	**Fahrens Creek**	Heitz Ct.	Bellevue Rd.	City	Path-(Dev)	NP	1.21	NA	NA
--	2	**Fahrens Creek**	Bellevue Rd.	Old Lake Rd.	City/R	Path-(Dev)	NP	1.46	NA	NA
--	4	**PG&E Corridor**	G St.	Bandoni Pond	City	Path-(Dev)	NP	0.49	NA	NA
--	5	**PG&E Corridor**	N. Gardner Ave	G St.	City	Path-(Dev)	NP	1.48	NA	NA
--	6	**PG &E Power-Lines**	El Capitan High School	Nevada St.	City	Path-(Dev)	NP	1.19	NA	NA
--	7	**Campus Parkway**	Yosemite Ave.	Hwy 140	County/R	Path-(Dev)	NP	2.56	NA	NA
--	8	**Campus Parkway**	Hwy 140	Childs Ave.	City/R	Path-(Dev)	NP	0.49	NA	NA
--	10	**Black rascal Creek**	Lake Rd. (Extended)	Campus Pkwy	County	Path-(Dev)	NP	0.44	NA	NA
--	12	**Merced Avenue**	Parsons Ave.	City limit line	City	Path-(Dev)	NP	0.37	NA	NA
--	13	**Merced Avenue**	City limit line	Coffee St.	County	Path-(Dev)	NP	0.62	NA	NA

COMPREHENSIVE LIST OF ALL PROPSED BIKE FACILITY PROJECTS

COMPREHENSIVE LIST OF ALL PROPSED BIKE FACILITY PROJECTS

Rank	#	Roadway	From	To	Location	Project Types	Priority	Length (mi)	Cost ($) Estimate	Scenario Factor
--	14	**South of Gerard Avenue**	South R St. and Stuart	Hwy 59	County	Path-(Dev)	NP	1.2	NA	NA
--	15	**South of Gerard Avenue**	Hwy 59	Tyler Rd.	City	Path-(Dev)	NP	1.02	NA	NA
--	16	**South Of Gerard Avenue**	Tyler Rd.	Frontage Rd.	County	Path-(Dev)	NP	1.7	NA	NA
--	60 C	**Gerard Avenue**	Campus Parkway	Tower	City	BL-(Dev)	NP	1.0	NA	NA
--	67	**Mission Avenue**	Coffee St.	Tower Rd.	City	BL (Dev)	NP	1.5	NA	NA
--	65	**Mission Avenue**	Hwy 59	Tyler Rd.	City/R	BL (Dev)	7.1	1.0	NA	NA
--	9	**Black Rascal Creek**	Yosemite Ave.	Mariner Way	City/R	Path (IP)	NP	0.8	NA	NA
--	11	**North Bear Creek**	16th St.	25th St.	City/R	Path (IP)	NP	.77	NA	NA
--	43	**West Avenue**	Childs Ave.	Wardrobe Ave	City	BL (Rest-IP)	NP	0.5	NA	NA
--	44	**R Street**	Childs Ave.	19th St.	City	BL (Rest-IP)	NP	1.4	NA	NA
--	45	**M Street**	11th St.	21st St.	City	BL (Rest-IP)	NP	0.8	NA	NA
--	46	**G Street**	11th St.	21th St.	City	BL (Rest-IP)	NP	0.8	NA	NA
--	47	**11th Street**	V St.	M St.	City	BL (IP)	NP	0.8	NA	NA
--	48	**11th Street**	MLK Jr. Way	G St.	City	BL (IP)	NP	0.3	NA	NA

Rank	#	Roadway	From	To	Location	Project Types	Priority	Length (mi)	Cost ($) Estimate	Scenario Factor
--	62	**Grogan Avenue**	Macready Dr.	West Ave.	City	BL- (IP)	NP	0.5	NA	NA
--	71	**M Street**	16th St.	18th St.	City	BR (Rest-IP)	NP	0.15	NA	NA
--	74	**West Avenue**	X St	Wardrobe Ave.	City	SW (IP)	NP	0.44	NA	NA
--	75	**Childs Avenue**	West Ave.	D St.	City	SW (IP)	NP	1.64	NA	NA
--	76	**Childs Avenue**	Delong St.	Brantley St.	County	SW (IP)	NP	0.25	NA	NA
--	77	**M Street**	Childs Ave.	11th St.	City	SW (IP)	NP	0.57	NA	NA
--	78	**G Street**	Childs Ave.	11th St.	City	SW (IP)	NP	0.32	NA	NA
--	79	**8th Street**	West Ave.	MLK Jr. Way	City	SW (IP)	NP	1.2	NA	NA
--	80	**11th Street**	X St.	V St.	City	SW (IP)	NP	0.18	NA	NA
--	81	**11th Street**	M St.	MLK Jr. Way	City	SW (IP)	NP	0.27	NA	NA
--	82	**11th Street**	G St.	D St.	City	SW (IP)	NP	0.27	NA	NA
--	97	**Downtown Bike Parking**	TBD	TBD	City	BSF (IP)	NP	NA	NA	NA

COMPREHENSIVE LIST OF ALL PROPSED BIKE FACILITY PROJECTS

COMPREHENSIVE LIST OF ALL PROPSED BIKE FACILITY PROJECTS

Table Key

Project Types	Meaning
Path	Bike Path (Class I)
"BL"	Bike Lane (Class II)
"BR"	Bike Route (Class III)
"SW"	Sharrow
"BB"	Bicycle Boulevard
PB-Bridge / V-Bridge	Pedestrian and Bicycle Bridge / Vehicular Bridge
Undercross and Overpass	A proposed crossing of a highway, road, railroad, canal, or river through a lower level or a bridge for continuity for a Class I, II, or III bikeway system.
Safe Crossing	A proposed crossing of a highway, road, railroad, canal, or river through a lower level, a bridge, or at grade crossing for continuity of a Class I, II, or III bikeway system.
Employee Parking Program [4]	Workplace program where the focus is to establish safe, secure, and covered bike parking, showers, and lockers.
Restoration (Rest)	Refurbishing pavement markings and minor surface repairs of existing Class I, Class III, or Class III bikeways.
Way Finding Signs [3]	Placing signs around Merced's City limit that indicate where bikeways are located.
Collector Street Bike Lanes [1]	The City will work on striping 10 miles of collector streets that are wide enough to fit bike lanes.
Study Area	Areas being evaluated for proposed bikeway systems to be incorporated.
Traffic Signal Sensors [2]	Incorporate detectable bicycle sensors throughout the city limits.
BSF	Bicycle Support Facilities, such as bike parking.

Project Types	Meaning
Development (Dev)	These bike facilities will most likely be constructed as part of a future development project, or with major new road construction.
"IP"	In-Process Bikeway Project
"R"	Regional Projects
B-STND	Addition to or amendment of the City's Bike-Related Official Design Standards

NOTES:

COUNTY: For projects marked as being located in the County, collaborating with Merced County to develop bikeways of mutual interest will be emphasized during the implementation phase of the plan, particularly to improve regional bikeways located between the Merced City Limits and its Sphere of Influence on high-demand bikeways, such as those that exist between the City and UC Merced and other significant bicycle commuter populations.

NP: Many projects are marked NP ("Not Prioritized") in this table due to several factors, including: (1) projects are "In-Process", meaning that they are being worked on to implement; (2) the projects are in the county; or (3) the projects will most likely be constructed as part of a future development project (Dev), or with major new road construction. Forty-five projects were not prioritized.

Appendix F

Project Prioritization

Table F.1: Project Ranking Worksheet

Objectives	Project Ranking Factors	Factor Value
Connection to Activity Centers	Provide access to local and regional centers with high bicycle traffic (Schools, major shopping centers, major employment centers, etc.)	1.0
	Fills in void for areas that do not provide bikeway to: libraries, schools, parks and recreational facilities, downtown, etc.	1.2
	Provide direct access routes (Schools, employment centers, shopping centers, library, parks, etc.)	0.4
	Sub Total	*2.6*
Safety	Improves bikeways in areas of high or potential collisions	1.1
	Improves bikeways in areas of high population/ high industrial density	0.3
	Eliminates existing barriers	0.7
	Sub Total	*2.1*
Enhances Existing System	Improves existing floor markings or postage signs	2.1
	Connects to existing or proposed bikeways in the City or County.	0.8
	Bridging gaps in existing bikeways	1.4
	Sub Total	*4.3*
Transit Access / Support Facilities	Provide connection to public Transportation systems (Cattracks, The Bus , Amtrak, YARTS, etc.)	0.5
	Provide and connects to support facilities (bike racks, public restrooms, showers, drinking fountains, undercrossings, etc.)	1.8
	Sub Total	*2.3*
Project Readiness	Environmental Review documents are completed or are minimal	1.0
	Project is not affected by related but separate infrastructure needs	2.2
	Necessary collaboration agreements have been obtained	0.5
	Sub Total	*3.7*
	Total (Highest) Possible Score	**15**

Table F.2: Prioritization Scoring Matrix (Projects 17 to 37)

Prioritization Values			Bicycle Project Scores																				
Criteria	Ranking Factors	Potential Scores	17	18	19	20	21	22	25	26	27	28	29	30	31	32	34	35	36	37
Connection to Activity Centers	1	1	0	1	1	0	0	1	0	1	1	0	0	0	1	0	1	1	1	0
	2	1.2	1.2	1.2	1.2	1.2	0	0	0	1.2	1.2	0	0	1.2	1.2	1.2	1.2	1.2	1.2	0
	3	.4	0	0.4	0.4	0	0	0.4	0	0.4	0.4	0	0	0	0.4	0	0.4	0.4	0	0
	Sub-total	2.6	1.2	2.6	2.6	1.2	0	1.4	0	2.6	2.6	0	0	1.2	2.6	1.2	2.6	2.6	2.2	0
Safety	1	1.1	1.1	0	0	0	0	0	0	0	0	1.1	0	1.1	1.1	0	0	0	1.1	0
	2	.3	0	0	0.3	0	0.3	0	0	0	0	0	0	0	0.3	0	0.3	0.3	0	0.3
	3	.7	0	0	0	0	0.7	0.7	0	0	0	0.7	0	0.7	0	0	0	0	0	0
	Sub-total	2.1	1.1	0	0.3	0	3.1	2.8	0	0	0	3.9	2.1	1.8	1.4	0	0.3	0.3	1.1	0.3
Enhanced Existing Systems	1	2.1	0	0	0	0	2.1	2.1	0	0	0	2.1	2.1	0	0	0	0	0	0	0
	2	.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
	3	1.4	0	0	0	0	1.4	1.4	0	0	1.4	1.4	0	0	1.4	0	0	0	0	0
	Sub-total	4.3	0.8	0.8	0.8	0.8	4.3	4.3	0.8	0.8	2.2	4.3	2.9	0.8	2.2	0.8	0.8	0.8	0.8	0.8
Transit/Support Facility Access	1	.5	0	0.5	0	0.5	0	0	0	0.5	0.5	0	0	0	0.5	0.5	0	0	0.5	0
	2	1.8	0	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	0	0	1.8	1.8	0	1.8	1.8	1.8	1.8
	Sub-total	2.3	0	2.3	1.8	2.3	1.8	1.8	1.8	2.3	2.3	0	0	1.8	2.3	0.5	1.8	1.8	2.3	1.8
Project Readiness	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	2	2.2	0	2.2	2.2	2.2	2.2	2.2	2.2	2.2	0	2.2	2.2	2.2	0	2.2	0	2.2	0	
	3	.5	0	0.5	0.5	0.5	0.5	0.5	0	0.5	0	0	0	0.5	0.5	0.5	0	0.5	0.5	0.5
	Sub-total	3.7	1	3.7	3.7	3.7	3.7	3.7	3.2	3.7	1	3.2	3.2	3.7	1.5	3.7	1	3.7	1.5	1.5
Total	15	15	4.1	9.4	9.2	8	12.9	14	5.8	9.4	8.1	11.4	8.2	9.3	10	6.2	6.5	9.2	7.9	4.4

Table F.3: Prioritization Scoring Matrix (Projects 38 to 72)

Prioritization Values			Bicycle Project Scores																	
Criteria	Ranking Factors	Potential Scores	38	39	40	41	42	49	50	51	52	53	54	56	58	60	63	65	67	72
Connection to Activity Centers	1	1	1	1	1	1	1	0	1		0	0	0	1	0	1	0	1	0	1
	2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2		0	0	1.2	1.2	0	1.2	1.2	1.2	0	1.2
	3	.4	0.4	0	0.4	0	0	0	0.4		0	0	0	0.4	0	0.4	0	0.4	0	0.4
	Sub-total	2.6	2.6	2.2	2.6	2.2	2.2	1.2	2.6	0	0	0	1.2	2.6	0	2.6	1.2	2.6	0	2.6
Safety	1	1.1	0	1.1	1.1	0	0	1.1	0		0	0	0	0	0	0	0	0	0	1.1
	2	.3	0.3	0	0.3	0.3	0.3	0	0.3	0	0	0	0	0	0	0.3	0	0	0	0.3
	3	.7	0	0.7	0	0	0	0.7	0		0	0	0	0	0	0	0	0	0	0
	Sub-total	2.1	0.3	1.8	3.5	0.3	0.3	1.8	0.3	0	0	0	0	0	0	0.3	0	0	0	1.4
Enhanced Existing Systems	1	2.1	0	0	2.1	0	0	0	0		0	0	0	0	0	0	0	0	0	0
	2	.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8		0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0	0.8
	3	1.4	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0
	Sub-total	4.3	0.8	0.8	2.9	0.8	0.8	0.8	0.8	0	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0	0.8
Transit/Support Facility Access	1	.5	0	0	0.5	0.5	0	0	0.5		0	0	0	0.5	0	0.5	0	0	0	0.5
	2	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8		1.8	1.8	0	1.8	0	1.8	1.8	0	0	1.8
	Sub-total	2.3	1.8	1.8	2.3	2.3	1.8	1.8	2.3	0	1.8	1.8	0	2.3	0	2.3	1.8	0	0	2.3
Project Readiness	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
	2	2.2	0	2.2	2.2	2.2	2.2	2.2	2.2	2.2	0	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
	3	.5	0	0.5	0.5	0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0
	Sub-total	3.7	1	3.7	3.7	3.2	3.7	3.7	3.7	3.7	1.5	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	2.2
Total	15	15	6.5	10.3	15	8.8	8.8	9.3	9.7	3.7	4.1	6.3	5.7	9.4	4.5	9.7	7.5	7.1	3.7	9.3

Table F.4: Prioritization Scoring Matrix (Projects 73 to 95)

Prioritization Values			Bicycle Project Scores																	
Criteria	Ranking Factors	Potential Scores	73	83	84	85	86	87	88	89	90	91	92	93	94	95				
Connection to Activity Centers	1	1	1	0	0	1	1	1	0	1	0	0	0	0	1	0				
	2	1.2	1.2	0	0	0	0	0	0	0	0	0	0	0	0	0				
	3	.4	0.4	0	0	0	0	0.4	0	0	0	0	0	0	0	0				
	Sub-total	2.6	2.6	0	0	1	1	1.4	0	1	0	0	0	0	1	0				
Safety	1	1.1	1.1	0	0	0	0	0	0	0	0	1.1	0	0	1.1	1.1				
	2	.3	0.3	0	0	0	0.3	0	0	0	0.3	0.3	0.3	0.3	0.3	0.3				
	3	.7	0	0	0.7	0.7	0.7	0.7	0.7	0.7	0	0.7	0	0.7	0.7	0.7				
	Sub-total	2.1	1.4	0	0.7	0.7	1	0.7	0.7	0.7	0.3	2.1	0.3	1	2.1	2.1				
Enhanced Existing Systems	1	2.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
	2	.8	0.8	0.8	0.8	0.8	0.8	0	0.8	0.8	0.8	0	0	0	0	0				
	3	1.4	0	1.4	1.4	1.4	1.4	0	1.4	0	1.4	0	0	0	0	0				
	Sub-total	4.3	0.8	2.2	2.2	2.2	2.2	0	2.2	0.8	2.2	0	0	0	0	0				
Transit/Support Facility Access	1	.5	0	0	0	0.5	0.5	0.5	0	0	0.5	0	0	0.5	0	0				
	2	1.8	0	0	0	1.8	0	1.8	0	0	1.8	0	0	0	0	0				
	Sub-total	2.3	0	0	0	2.3	0.5	2.3	0	0	2.3	0	0	0.5	0	0				
Project Readiness	1	1	0	0	0	0	0	0	0	0	1	?	1	0	1	1				
	2	2.2	2.2	0	2.2	0	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2		2.2				
	3	.5	0	0.5	0	0	0	0	0.5	0.5	0.5	0.5	0.5	0.5	0	0.5				
	Sub-total	3.7	2.2	0.5	2.2	0	2.2	2.2	2.7	2.7	3.7	2.7	3.7	2.7	1	3.7				
Total	15	15	7	2.7	5.1	6.2	6.9	6.6	5.6	5.2	8.5	4.8	4	4.2	4.1	5.8				

Appendix G

Bicycle Storage Facility Guidelines and *Bicycle Parking Guidelines*

CAUTIONARY NOTE: Based on the guidelines below, along with other advisory resources, City Staff is in the process to develop bike storage and parking codes and standards, which will replace what is presented herein.

Draft Bicycle Storage Facility Guidelines

Bicycle storage facilities can increase bicycle usage if they perform at acceptable levels for bicyclists, and are conveniently located to entrances and other facilities attracting bicyclists.

BICYCLE STORAGE FACILITIES DESIGN

For bicycle storage facilities to best serve the needs of bicyclists they should:

- Support the frame of the bike, not only the wheels
- Allow at least one wheel to be locked to the rack
- Allow two bikes to be locked with one rack
- Allow all types of locks to be used
- Promote organized parking while minimizing space requirements

Bike Racks at UC Merced, *Half Dome* dorm

BICYCLE STORAGE LOCATIONS

The location of bicycle storage facilities is essential for optimum usage by bicyclists.

Bike storage locations should be:

- Located near main entrances
- Located in well-lit areas
- Located in well-shaded areas or enclosed
- Located where bicyclists can access the facilities from all sides
- Located along natural surveillance corridors where pedestrian traffic is heavy

Draft Bicycle Parking Guidelines

A standard automobile stall provides sufficient parking space for eight bicycles. Similar to bikeways, bike parking facilities are categorized as:

- Class I parking facilities include covered storage lockers that offer maximum theft and weather protection

- Class II parking facilities include steel bike racks to which a bicycle frame and at least one wheel can be locked

The following are recommended amounts of bicycle parking for several types of land uses.

1. Commercial, all zones, bicycle spaces numbering 8% of vehicle spaces otherwise required.

2. Provide bicycle spaces numbering 8% of vehicle spaces required, in addition to bicycle parking otherwise required for visitors. This parking may be separately located from the public parking, but should be at least as convenient as employee vehicle parking.

3. For public facilities such as municipal offices, parks, swimming pools, auditoriums, churches, and similar uses, provide bicycle spaces numbering 10% of vehicle parking normally required, or immediately available in the facility.

Experience has shown that modest amounts of bicycle parking at many dispersed locations is preferable to a few high capacity facilities. Cyclists tend to shun bike parking, unless the parking is a highly visible high pedestrian traffic area close to destination and there are facilities to securely lock the bicycle.

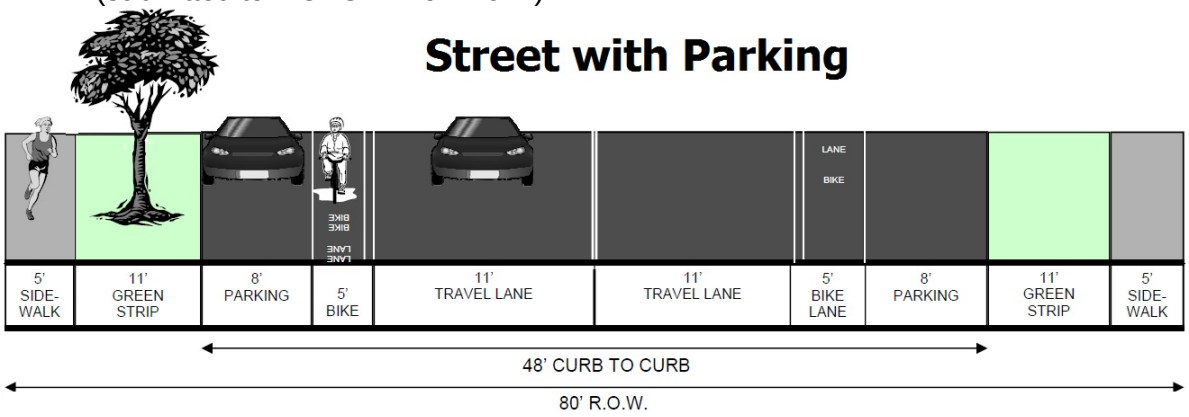
Appendix H

Public Workshop Comments

AUGUST 2012 PUBLIC WORKSHOP COMMENTS

- Government should "get serious" about bike transportation
  - Bike Plan should be a higher priority
  - Bike Plan should have a stronger **vision** and better follow-through (implementation)
  - Funding the improvements
  - Implementing design standards (currently for short- and long-term bike parking…need for bikeways)

- Co-use bike lanes (i.e. along M Street south of Yosemite Avenue and along 18th Street)
  - "No Parking" = Safer bike lanes
  - Allow for more width (change standard width) for "door zones"- currently at least 12' from curb to allow for car parking, door opening, and bikes…the following illustration depicts the standard, which was attached to Merced's CMAQ re-striping application (submitted to MCAG in Nov. 2011)



- Safer and connected for marginal cyclists
- Segments of M Street are not safe for cyclists
- Bike facilities support
  - Signal detector loops that "see" or detect bikes
  - Way-finding signs
- Safer crossings: Blinkers, narrower crossings, x-walks
- Retrofit older sidewalks with ramps and cutouts (i.e MLK, South Merced streets)
- More cutouts

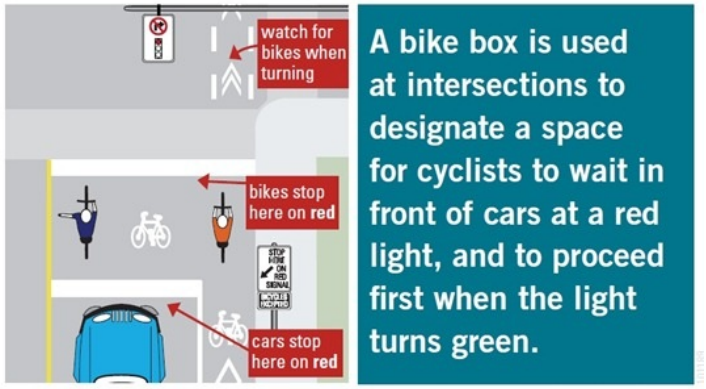
- Maintain bikeways
  - Especially along Bear Creek, streets
  - "M" Street…see maps
  - More frequent maintenance

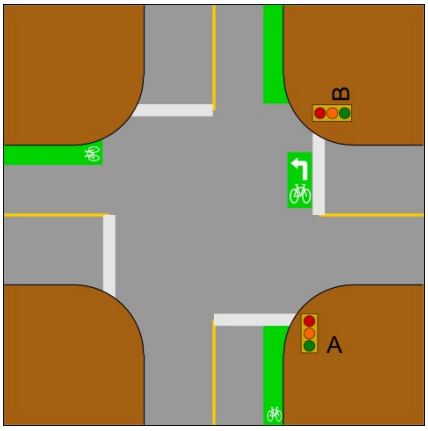
- Bike racks
  - Not enough
  - Replace deficient ones
  - Should be required at destinations (i.e. stores)
- Public "**Education**"
  - Seeing "wrong way" riders (educate bicyclists on laws and rules of road)
  - City utility bills could be used to educate public on bike-related matters
  - Educate motorists – DMV test questions
  - "Urban biking" education could be Ad-Hoc too

- Promotion ("**Encouragement**")
  - Weblinked app (www.saveagallon.org) to quantify benefits (i.e. health) of bicycling compared to costs associated with driving
  - Monetary incentives for biking (insurance, Dero ZAP (http://www.prweb.com/releases/Commuting_Bike/RFID_Dero/prweb8863082.htm))

- More funding for **Enforcement**

- "Bike Box" for through traffic and for left turns





- Schools should have "safe routes" designated (how students could bike to schools safely)
  - Bike lanes near schools
  - **Childs Ave**?

- $300K is too much for re-striping bike lanes
- Use B.A.C. as forum/line of communication to the City
- U.C. Merced connections / Bike alliance / Partner – David Noble
- Parsons Avenue would be best North-South thoroughfare for bikes- build a bike/pedestrian bridge over Bear Creek
- Close roads to cars on some days (i.e. Main Street on Sundays)
- Bicycle boulevards (like in Minnesota)

COMMENTS ON THE MAPS:

- Maintenance:
  - Fix Yosemite Avenue Bike Lane from Gardner Avenue to Lake Road
  - Maintain McKee Road north of Bear Creek
  - Maintain McKee Road near Bear Creek (pockets of County jurisdiction)

- Should not allow car parking in bike lanes on McKee Road north of Bear Creek

- Way-finding signs at Fahrens Park Bike Path, and on other bike paths

- Disapprove of extending Bear Creek Bike Path from 24th Street south to 16th Street

- Unsafe bicycle crossings at "V" and "R" Streets in proximity to Highway 99

- Install bicycle/pedestrian bridge on Parsons Avenue over Bear Creek, and add new bike lanes on Parsons Avenue

- Safe routes to school: Improve Childs Avenue on west side of Highway 99 to all for safe student traffic to schools east of Highway 99
  - Install sidewalks (and possibly bike lanes) from "B" Street to Highway 99. This would make a great "safe routes to school" project.

FEBURARY 13, 2013 PUBLIC WORKSHOP COMMENTS

Public Input Station #1

Which streets wouldn't you use? Can it be fixed?

Strong & Fearless Riders:

- G Street, south of Childs, needs bike lanes.
- Intersection of G & Childs Avenue – Some feel more scared riding in the City than in the Country.
- Some ride her bike as her sole transportation – her family does not own a car.
- Bear Creek Drive – G to 59 / from the tracks
- Access to G Street, going west, going to city center needed.
- He lives on the north side of Bear Creek, path is on South side, but he likes to ride the roads when he can.
- Bear Creek path gets congested.
- Bear Creek path – M to R Streets too narrow and need to send street cleaners out more often. There is glass & debris everywhere
- G Street and Olive Avenue
    - Congested intersection
    - Have to be on the sidewalk
    - Olive – G Street to R Street – dangerous
    - Bellevue Road
    - G Street – from Mercy Avenue. to Bellevue – there is housing on the west side, need to cross over to east side.
- Childs Avenue from Golden Valley High School – west – over the overpass to B / D Streets
- R Street from Olive Avenue – south
- G Street – south of the underpass all the way to 99. Traffic lights & bike lanes are too narrow.
- Glen Ave. – 99 to Bear Creek – too narrow
- V Street, south to 140 – freeway off ramp – there is no way to cross – no designated bike lane.
- V Street from South of 16th – very dangerous – on the west side, there is no crosswalk.
- North Bear Creek – G to R Streets – too rough
- Nowhere to cross from East G to West G near hospital – not safe - Safe connection needed between hospital, north of college property on G Street.
- Bellevue – G Street to Hwy. 59 – too narrow, cars go too fast, dangerous. Would like to ride to Atwater.
- Bike lane by new high school is too narrow.

- Concerned with how his daughter would ride from Cruickshank area to new high school taking safe routes.
- North Bear Creek – G to R Streets – too rough

Enthused and Confident Riders:

- Main Street – car doors opening
- City Center – G to M Streets
- He sees Merced as "Bicycle Theft Capitol of the World" – has had three bikes stolen in the one year he's lived here. His bikes have been stolen at the following areas:
    - Near Subway on G & 16th
    - Near Sears by the Mall on the Loughborough side
    - From his backyard – west side of G Street – G & 18th (He lives in the ally.)
- Black Rascal Creek – between G & McKee Rd. – Missing Access Poles – so there are 6" stubs that stick out of lane. Need to be painted. Safety issue.
- Cascade Creek – 1 block west of Parsons off of El Portal. Deadends on Awhanee. There are 8 signs between 18 houses. "This is a bike path that goes nowhere. Needs an extension."
- R Street, south of Olive – by Fremont School all the way to 21st
- M Street – need to ride on the sidewalk
- M Street could be marked better.

- She will NOT ride on R Street.
- She does not like riding on M Street either.
- Bike routes in general are not well-defined – need to color them green.
- Need more defined – when sharing street.
- Occasional reflectors too.
- Hwy. 59 – by Black Rascal
- The bridge near Black Rascal on Hwy. 59 – VERY unsafe to ride there. Even scary for cars.
- Hwy. 59 – narrow in the country
- Road to Snelling is too narrow – when you turn off of G Street and head to Snelling
- Childs between Weaver and Golden Valley High School – not kept clean.
- Too narrow on Childs Ave. by industrial park
- Coffee between Dinkey Creek to Childs – on the east side
- G Street underpass – bicyclists accelerate too quickly
- Coffee Rd. between Gerard & Childs
- Childs Ave. between Hwy. 99 & Coffee to the other side – to Tyler and D Street – too narrow, sometimes garbage cans are in the way.
- Childs – west of 59 – there should be a bike lane there.
- M Street – needs a bike lane from Childs Ave. to 13th – there are many parked cars there.

- M Street – have to ride in the gutter

Interested but Concerned Riders:

- Mission – He cannot wait for a class 1 bike path to be built.
- G Street and Olive
  - Congested intersection
  - Have to be on the sidewalk
  - Olive – G Street to R Street – dangerous
  - Bellevue
  - G Street – from Mercy Rd. to Bellevue – there is housing on the west side, need to cross over to east side.
- Concerned about kids riding on Childs Ave. from Hwy. 59 to GVHS – the dangerous intersection by Starbucks, Motel Drive, Freeway on-ramp/off-ramp, etc.
- Do our existing bike lanes meet state standards?

Public Input Station #2

Which streets do you use?

Strong & Fearless Riders:

- McKee towards Black Rascal Creek path and connect to Fahrens Creek. (3)
- G St. (N/S)
- Sub-divisions
- Paulsen Ave. - Donna Dr. - Yosemite Ave.
- Downtown
- Parsons to Bear Creek
- G St. from 26th to Gerard Ave.
- S. 59 to Mission Ave. (5x week)
- Olive Ave.(E/W) (sidewalk) (2)
- Mall to M St. and M St. to 26th
- Main St. to 16th St.
- Bear Creek Path (3)
- Black rascal Creek (West)
- Thornton Rd. – Wardrobe Ave. – V St. – M St.
- McKee Ave.(N/S) (2)
- R St. – 21st St. - Devonwood Dr.
- Old Lake Rd. – Golf Rd. – Lake Rd.
- G St. – Bellevue Ave. – Hwy 59 – Snelling
- Santa Fe (E/W)
- Yosemite Ave. to Planada – Arboleda Dr.
- 26th St. – G St.- Olive Ave. – Glen Ave. (to mall)
- Mission Ave. to Planada /Le Grand
- Childs Ave. (E/W)
- Hwy 140 (E/W)
- Parsons Ave. (N/S)
- Hwy 59 (N/S)
- All bike paths
- Olive to G St. (West)

Enthused and Confident Riders:

- Bear Creek (E/W) (2)
- Rascal Creek (E/W)
- Bear Creek to 59 loop to Bellevue and down to Cardella
- Lake Rd. (N/S)
- Fahrens Creek (N/S)
- G St. – Near college
- Lehigh Dr. towards Barclay
- Yosemite Parkway (E/W) (3)
- Mostly roads north of Bear Creek.
- Farmland
- Canal St. (N/S)
- Meadows Ave. – Loughborough Dr. – Devonwood Dr.
- Canal St- 23rd St.
- Rotary Cove
- Cone – Childs Ave. North towards Freeway
- Parsons (from Childs)
- Coffee St. (Gerard/ Childs)
- Childs Ave. to N St. to Downtown
- M St to College
- Main St from G St. to R St.
- Main St. to Canal St.
- Childs Ave. – R St. – West Ave.
- M St. (N/S)
- El Portal to Buena Vista Dr. and east to McKee Rd.
- Alexander Ave. – Park Ave. – College green
- University Dr.
- Martin Luther King way
- 12th St. – 16th St.

Interested but Concerned Riders:

- Farmdale School Area
- Tyler Rd. – Gerard Ave. – G St.
- Steven Leonard Park from R St. to V St. on 6th St.
- 8th St (E/W)

Public Input Station #3

Where do you want to go, but can't. Your fix is?

Strong & Fearless Riders:

- G St. both sides
- Connection between Cottonwood Creek path on G St.
- Childs Ave. bridge. (sidewalk issues)
- Bear Creek (east)
- Childs Ave. from B St. to Parsons Ave.
- Bellevue from M St. to Hwy 59
- Hwy 59 from Bellevue to Yosemite Ave.
- Bear creek to Hwy 99
- Bellevue Rd. connection to Lake Rd. Bike path
- Bridge on Glen Ave.
- G St. BL aren't being obeyed by traffic in the undercrossing.
- Childs remove parking and add BL
- Green St. tunnel improvement
    - Possible concern with Santa Fe street width.
- Parsons bridge over Bear Creek
- McKee to Cottonwood Creek
- Canal St. possible bicycle boulevard.

Enthused and Confident Riders:

- N. Bear Creek Dr. too much traffic.
- Fahrens Creek from Cardella to Barclay
- M St. from Barclay to M Circle.
- Olive Ave. (Olivewood possible alternative route)
- Bike loops at signals
- Connect Bear Creek South Rd. path from G St. southbound.

Interested but Concerned Riders:

- Childs Ave. Bridge (sidewalk issues)

Public Input Station #4

Maintenance concerns?

Concerns

- Bike paths need stencils or signs indicating that pedestrians are present (besides bikers) to prevent pedestrians from getting hit by bikers.
- Few drinking fountains along bike paths.
- Shamrock area need bike symbols. Little kids ride their bikes and don't read signs.
- "goat heads" present in every bikeway around the city.
- Parsons/ McKee/ Black Rascal Creek: weed problems, move closer to street for easy maintenance.
- Vehicles not slowing down for bicyclist.
- Where are ADA light censors located around Merced? Are we going to install more?
- Bear Creek to R St.: roots on path make it tough to ride on… what can we do?
- Concern with dogs on Cardella.
- "zig zaggers"
- Olive Ave.: how can Olive be made into an easier strip for bikers to use? Installing Bike lanes?? Concern is mainly in the W. Olive area (Wal-Mart area).

Suggestions

- Who's responsible for maintenance of creeks? (garbage in creeks)
- Olive towards Wal-Mart: install sign for bikes allowed on sidewalk.
- ADA light censors for bikes are neat and convenient.
- Cormorant & Paulson: irrigation washes dirt down to bike path/street, no existing vegetation in area. Put up concrete wall so dirt doesn't wash to bike path.

Investigate

- Is the BP on Campus Parkway in a maintenance district?
- Merced County Building, irrigation issues, is that County's or City's responsibility to maintain?
- E. Olive, G St. going out to McKee: is there an existing BP?

Work Order

- Campus Parkway BP needs maintenance.
- Water flows into the BP creating hazards for bikers.
- Bear Creek BP, northwest side, metal sticking up about 2" – remove metal.
- Olive (G St. to Hwy 59) class 2 BL not properly marked.
- Davenport Park/ Cormorant side: replace warped plank.
- Bear Creek to Wal-Mart BP: maintenance needed. There is a lot of broken glass, trash, and debris (homeless encampment site).
- G Street, from E. 26th St. to Glen Ave.: huge concrete missing along the street (possibly from the construction of the G St. underpass).
- Bridge at 25th Street & Bear Creek BP, closer to M Street side, cracked concrete – parallel to street. Will catch bike tire, should be looked into.
- Coffee St and Childs Ave. lights don't detect bicycles**.**

Public Input Station #5

Traffic safety concerns?

- Being "buzzed" by motorist, especially larger trucks with wide mirrors. McKee, commuting to University. Narrow lanes, insufficient or non-existent shoulders.
- Olive Ave.: rides on sidewalk, worries that isn't ok (officer advised that it is legal unless otherwise posted, i.e.: Main St.
- Bicycle doesn't trigger traffic signals, after waiting a cycle the rider goes against the red if it's clear (Olive Ave. by FoodMaxx, Coffee St., and Childs Ave.)
- Bicycle License: what is it for?
- Do we keep statistics for bicycles vs. car accidents?
- Rate of bike thefts? "HIGH, most unattended bikes"
- Do cyclists need both lights and reflectors at night?
- Place of concern: bridge over Black rascal on N. Hwy 59 – narrow.
- Concerned with number of young cyclist with no helmets. How often is this enforced?
    - Health dept. is concerned. Prefer bicycle education Saturday school to fines, loss of bike; reduce fine; get a helmet in completion. Could we have an option for youth to do an online bicycle education class? Have child research and write essay to turn in to Police dept. instead of fine?
- Is there a department directive to enforce the helmet law? (No). Guess about 50 helmet violation tickets last year.
- People riding the wrong way on the street; potentially very dangerous.
- How is it possible to educate schools on bicycle safety? (Officer Walker offered to talk to students at assemblies.
- Can you ride your bike in a crosswalk? ("vehicle is not supposed to be in a crosswalk") (Recently law spells out that cyclists can't be excluded from crosswalks…)
- On bike path by Hwy 59 crossing Olive Ave.: N. bound right-turning cars on Hwy 59 do not want to stop for cyclists using crosswalks, which are the BP's extension across Olive Ave. (Officer Walker: Cyclists do not have to walk in crosswalk) Could we install a sign, "yield to Cyclists"? Could cyclist be diverted into a straight thru lane to left of right turn lane?
- Dogs not on leash city limits: park behind McKee fire station.
- Safety on bike paths – human element; graffiti 13th St., vandalism to bollards, trash. (Because some paths are secluded behind fences).
- Bollards and the stumps of bollards, dangerous.
- Undercrossings – secluded spot for illicit activities. Need to be well-lit.
- West side of Dominican St. of Cruickshank school- people park in a bike lane no parking zone after school, and specially during sporting events.
    - Fix: either eliminate the no parking sign or bike lanes.
    - Officer Walker: Email complaints to Officer Matthews. This will spur an increase enforcement.
- Wrong way riding.
- Bicyclist speed past without warning.

- Drivers on cell phones/ distracted drivers causing accidents; right hooks.
- Drivers not checking for bikes on right before turing right, and/or deliberately turning in front of cyclists.
- Need to educate drivers. How?
- Bike theft, whether or not bikes are locked, and out of backyards.
- Difficult to lock to Merced Mall bike racks. A lot of locked bikes are stolen there.
- G St. with bike lanes straight thru with right-only lane to the right of bike lane. G St. and Alexander, southbound. Riders hit 3 times waiting or riding through this by cars turning right, crossing the bike lane into the auto right turn lane.
- Dogs unrestrained in the back of pickup trucks, stopped at lights beside cyclists.
- Cars parked in red zone blocking bike traffic (is there a bike lane there? G St. behind fairgrounds.

Written Public Comments Received:

Strong & Fearless Riders:

- Francisco wrote-
  - "It would be nice to see where the nearest water fountains are along the path maps. More actual fountains along the path would be nicer of course, but putting them on the map shouldn't cost much."

Enthused and Confident Riders:

- Tim
  - Would not ride on Main St., but all other streets he uses. Traffic Concerns include: Wrong side riding; and no helmets
  - Also, he is 50 years and riding; wants to further biking – recreation and transportation.

- Unknown – "When planning new bike paths:
  - Keep them open where people can see the path (instead of closed between 2 fences); and,
  - Include in plan – maintenance considerations (keep path close to creek with no big open spaces to maintain."

- Larry – West North Bear Creek is an asset to the city but is also extremely problematic as a traffic conduit. I have lived on that road for thirty-seven years I know that it is a very heavily traveled street, by pedestrians, bikers, and even those in wheel chairs, as well as by cars. Of course the road was made for autos and drivers enjoy speeding along the "country road," but that does not deter pedestrians, cyclists nor those in wheel chairs because it is the shortest route between commercial and residential areas in the vicinity. People will continue to use it despite the obvious danger to them. Since the city has allowed development which has led to this I feel it is a serious problem the city needs to address. I am very happy to hear that preliminary plans are being considered to meet this concern.

At one time several years ago the Merced Irrigation District was considering discontinuing maintenance of the canal that runs alongside (north) the road west of R Street. If MID does not use it and there is no demand for it as a canal that may allow that area to be used for a bike path.

I would imagine that you have considered seeking funds that relate to flood prevention, levee construction, etc. so that a bike path might be built on a levee to protect an area prone to flooding. The north and west banks have been sandbagged several times when flooding was predicted. These sandbags make walking even more difficult and dangerous.

Dealing with the railroad tracks and railroads is often extremely difficult so perhaps consider tunneling under the railroad tracks (as has been done under a canal near R St. in north Merced. Or, can a bridge-like structure be made to go underneath the tracks within the creek bed rather than an earth made path similar to G, M, and R streets?).

<u>Interested but Concerned Riders</u>:

- Stephanie wrote –
  - "I'm here representing the Merced Co. Public Health Department. I am a part of CA4 Health Grant that promotes safe/active transportation, specifically for children on the way to school (srts). We want to make sure bike paths are going along routes that school-aged children commonly take as they travel to school."
- Bob:
  - Include South Merced
  - Number off for groups
  - Handout for bike safety tips
  - Bike Safety Training/class
- Christine
  - "M" and "R" are very important issue and should be set as first priority in the Merced's BTP.
    - Conditions of exiting bikeways on "M" and "R" St. are extremely dangerous. To name a few , uneven surface with more than one inch of elevation change between gutter pan and road surface transition; overgrown tree branches obstruct the bike paths and bicyclist' visibility; bicyclist and pedestrian share the same narrow sidewalk with extremely steep rolling or vertical curb at street corner.
- Angelo
  - North Bear Creek Dr. to 16th St.
    - I would want this segment to be a high priority so that a bike lane could be installed in the near future.
    - The narrow and curving drive, in conjunction with the blind spots, compound the danger to vehicles, bicyclists and pedestrians.
- Chersa and Sou

    - Would want bike lanes along Hwy 59 from 16 to Bellevue and along the west end of Bear Creek.
- Unknown Riders:
    - Need to repair bike paths (tree roots – holes)
    - Need sign to warn pedestrians of approaching bikes.

MARCH 11, 2013 PUBLIC WORKSHOP COMMENTS

Public Input Station #1 / High School Bicycle Routes

Topic #1 – "Due to bus cuts, what are the safest ways to get to the various High Schools on a bike / what alternative routes can be taken?"

Resident Group #1
Golden Valley High School

- Many children utilize Childs, but it is very dangerous. Our children are utilizing Childs Ave. There aren't any "lines" to identify the bike routes. The bridge. There are no lines and there are no sidewalks.
- The overpass is not as safe as it could be and there is also not a traffic light.
- Issue is really about the bridge and when utilizing Childs, becomes the only way to cross over to GVHS…unless the youth bike up to Mission and then bike back north on Parsons.
- Identified the difference in signage on Childs since some areas are in the City limits versus the County boundaries.
- Childs Ave traffic issues involve speed limits.
- The City and County need to come to an agreement about the proposed solutions.
- City and County need to collaborate and work with the schools as key stakeholders to voice concerns. Schools also need to be part of identifying solutions.
- In south Merced, you get chased by dogs wherever you ride.
- Because most of our children take Childs Ave., a bicycle / pedestrian overpass at Childs Ave., near Hwy. 99 on/off ramps would be best.

Resident Group #2

Golden Valley High School

- Crosses highway 59 – was very scary to cross – scary to cross at Childs…
- RR track has a path – from Yosemite Parkway to Vassar to old highway…
- Need a sidewalk on southbound Childs… sidewalk ends by Sunnyside apartments – next to D Street – it stops before the cemetery
- The main problem is, we do not have any other options – Go up B Street to 15th Street –up to highway to get around on ramp
- GVHS – from Yosemite parkway to Main Street to G Street
- The curve on Mission to Coffee – very fast…
- Gerard to Taylor Rd – there's a canal bank to use

Merced High School

- Needs a rear entrance to Merced High School with gate and bike path onto the campus
- There are a lot of people there – they don't want people to go on to campus
- Possibly open the gate a couple of hours in the morning and a couple of hours in the afternoon
- Canal Street – the street ends on 16th, but there may be a way to create a bicycle boulevard
- Maybe a future SRTS route – because there is a lot of room and a lot of room for improvement –
- Right now – M Street is the best way to get from south Merced to MHS.

- Many college students take “O” Street, turns on 22nd to get to “M” Street
- Canal is really rough - - -
- If Canal were fixed, smoother, then would probably take that route…

El Capitan High School

- Most bicyclists would take G Street all the way out –best bike lane of all the bike lanes
- Bellevue as it crosses G Street – one side is good and one is bad.
- The east side of G Street – not paved properly, no proper signage, and no markings on the ground
- Northern part of Barclay & Bellevue – right before Bellevue – median is pinched – 25’ before you get to the light
- Bellevue – going to east – there’s no shoulder –the bike path is on the south side
- Mercy Hospital has a bike path but there is a divider heading south. Many want to get on the bike path to go behind hospital, but cannot take it because there is a divider there.
- Safer route is behind Mercy Hospital

Group #3

- There’s no education provided on where they should cross / how they should use bicycle facilities. It has to start somewhere. Starting with an educational program in the schools would be a good idea. We need some form of bicycle education in the schools.

Golden Valley High School

- From South Hwy. 59, kids have to ride north on 59, take a right on Cone, G Street to Childs Ave. They have to ride on left side – because there is a sidewalk – then nothing after Sunnyside apartments From B Street to Overpass- there’s no sidewalk. Complete the sidewalk.
- Lower the speed around the high school
- Maintain the streets more
- Childs Ave. needs sidewalks on both sides of the street
- McKee Rd. – half is nice, but the other half is not.
- Take streets that are parallel to busy streets. For instance, take 22nd Street (more residential) instead of 21st.
- City could paint green lines on road to indicate a safer street to take like other cities do

Merced High School

- One problem is getting the kids to use common sense when crossing the streets. At G Street, they just cross without looking. Needs some education for students.
- Takes ”M” Street – between Childs and 13th – there are bike lanes from 12th street 27th

Resident Group #4

Golden Valley High School

- Green Street to pedestrian bridge
- Go down McKee, take Bear Creek path to Parsons, Parsons to 27th to Green Street under the tracks to 22nd with less traffic

- City needs to maintain that undercrossing
- Childs going to Golden Valley – Childs needs to be expanded
- From Weaver and Pioneer – students go right up to Childs and cross Childs with no crosswalk to get to GVHS. Have to create a safer route. Widen the street and put a bike lane on each direction
- Childs Ave. east of High School, there's a canal that students walk on, but cannot cycle on it
- Need a wider road with markings.
- Houses south of high school need a path north
- There's a locked gate at Childs & Brimmer
- Need sidewalks on Coffee – for SRTS – link into the elementary schools – and eventually link to Campus Parkway bike path.
- Need a connection between Childs and Coffee
- McKee to Santa Fe, walk across the tracks – cross the tracks, go underneath and access Baker to Coffee…
- Childs east to Coffee, Coffee to Mission and Gerard, Baker to Bradley Bridge
- Parsons to Stretch through the empty lot with a dirt bike path that extends from Santa Fe to Parsons

Merced High School

- Black Rascal Creek is at the north end of MHS
- Loughborough is used more often than the bike path
- Santa Fe strip park between Black Rascal and Yosemite – Santa Fe strip park - - - (by San Jose and Yosemite – behind Rivera – lots of curbs)

El Capitan

- G Street. Take Mercy, go to continuation of Cottonwood Creek, take Bancroft, then to the high school
- From west side there are facilities present all along that lead to Bancroft & Cardella, but there is a median
- Need to finish Fahrens Creek bike plan.

Public Input Station #2 / North–South Bikeways

A map depicting barriers (State Route 99, Union Pacific RR tracks, 16th Street, Santa Fe RR tracks and Bear Creek), as well as the City's main north south routes (V Street, R Street, M Street, G Street and Parsons Avenue) was presented for discussion. Traffic congestion, speeds and existing narrow rights-of-way make it difficult for bicyclists to travel on several of these roadways. Discussions focused on identifying north-south alternative bicycle travel routes to connect downtown with neighborhoods located to its north and south. Two alternate routes: 1) "O" Street, from Tenaya School to N. Bear Creek Drive, and, 2) Canal Street, from Childs Avenue to N. Bear Creek Drive, garnered support from the attendees. These routes already have access through/across most barriers, and lack significant vehicular traffic, and are close to destination sites. These routes are straight and direct, which avoids the current need to jog from east to west to find a safe route. Challenges with these sites include: 1) the placement of bicycles in the downtown core that presently prohibits bicycles on sidewalks; and, 2) the pedestrian/bike bridge span across Bear Creek north of Canal is broad, and may be costly. These bike route concepts were discussed in broad-terms, recognizing that additional research and public input would be a necessary part of any future efforts to designate or improve these bike-friendly corridors.

Public Input Station #3 / Fixing Existing Bikeways/Maintenance

Group 1:

- East of R Street and north of Pacific Drive on the Bicycle Path near Storm Sewer #21, there's a drop in the bike path making it hard to ride over
- M Street at Northwood Drive there are 3 bumps that need to be smoothed down; (S on M/Northwood) – handicap ramp
- Main Street – bicycle route needed. Drivers are driving too fast.
- V Street from freeway 99 (near Carl's Jr.) to Southern Pacific R/R tracks pavement needs repaired
- Between M and R and between Olive Ave. and Bear Creek, garbage cans are continuously in the roadway. Not enough room or no room for bikes.
- Canal St. and Childs Ave. – need drainage system (SEC – grocery store site).
- MLK & Childs – drainage repairs needed – flooded area. Note: State owns lot.
- M St. at Olive Ave. to Loughborough Dr., bike lane needs improvements
- Near M St. by Applegate Park, there's a bump that needs smoothing out under the bridge
- Parsons at Childs Ave., there is a pedestrian crossing sign and yellow buttons, but cars are not stopping
- On the North side of Childs Ave. at V St. – unfinished sidewalk
- W. 16th St. to N. Hwy. 59 – too narrow for bicyclists

Group 2:

- Canal St. from Bear Creek to 18th St. – road improvements needed
- Black Rascal Creek bike path (behind Apts at 1279 – 1295) near pedestrian bridge – need to place a barrier (bollards?) so that people aren't able to dump mattresses and other unwanted items
- Santa Fe (Strip Park) between Black Rascal Bike Path and Yosemite Ave., place handicap ramps at Donna, Buena Vista, and Yosemite so that bicyclists don't have to jump the curb or use an adjacent residential driveway for access.
- Bear Creek Bicycle Path between M & R (at amphitheater) improvements needed
- Trash and debris on bike path behind Wal-Mart
- Parsons Ave., near Stretch Rd – dirt bike path (Is this City? John S. said we may have purchased the R-O-W)
- R St. and Rambler Rd. needs handicapped ramps at corners
- W. side of R St. at Bear Creek, roadway is narrow. Also check M St. also. There is an existing pole that is in the way of the bike path which needs to be removed (person states that she has to get off of her bike to work her way around it).
- West side of Parsons at Cottonwood Creek, a pipe is sticking out a few feet up – causing a hazard
- Childs Ave from Canal St. Bear Creek, asphalt needs repaired.
- Canal St. from Childs to ??? – stray dogs roam
- From Canal to MLK on W. 8th St., and on N St. by Tenaya Middle School, raised sidewalks due to tree roots
- Childs Ave. at Carol Ave., west over the overpass to B St – sidewalk needed
- By the flea market on G St. no sidewalk

- M and Canal St. on 6th St: trashy area, dirt path (needs pavement) *check with P.W.'s and Code Enforcement re: complaints
- Suggestion: Advertise in City Connections. Or, send out messages via Radio or TV regarding days that refuse is picked up and the street sweeping occurs. People need to remove containers after pick-up and vehicles for sweeping
- Post signs stating sweeping days so cars are removed.
- Black Rascal Creek – all underpasses need inspections for damaged pavement (G St. to Cherokee) and Parsons & Black Rascal Creek bike path.
- N St. from Childs Ave. to 13th St. – place more stop signs on N St.
- M Street and Bear Creek – need wider and shallower handicapped ramps.
- R Street – need for handicapped ramps to provide for increased sidewalk and bike use.

Public Input End Comments/ Contact Info

Minerva Perez
- Really good topics
- Would like a follow-up

Martha Serrano
- I do not ride a bike, but it's still a concern to me.

Edith Perez-Vargas
- Riding from south-side Merced towards the college is difficult. I do not like biking on M St., I prefer biking on N St. because it is calmer, there is not a lot of traffic, and has a beautiful view.

Armando P. Martinez
- It seems as if drivers in Merced are more aware of other vehicles in the summer months; May have something to do with the increase of motorcycles on the road.
- Most rides are incident free as those drivers are courteous towards cyclists; just a small percentage seems blissfully unaware of vehicles other than cars and trucks.

Julianne Sims-Culot
- Crossing Hwy 99 is a mess.
- Section #2
  - Utilize O Street as a way to cross the freeway at 16th safely…
- Section #3
  - M and R Street garbage cans on sidewalk are a hazard.
  - M Street from Loughborough to North Bear Creek improvements are needed on roadway (not smooth) and ramps are bumpy.

Julie Ekeland
- Thank you for keeping the bicycle paths clean.
  - There is glass along them sometimes though.
- The creeks are very trashy.

Harlan McCollum

- After a wind storm focus on blowing the debris of the bike paths.

Anonymous

- I utilize streets with less traffic for precautionary measures.
- At times I perceive traffic as a barrier since there are no lane markings for bicyclist.
- Keep adding routes!

Appendix I

Project Readiness Evaluation

Project ROW Space Needs Assessment								
Project	Curb/Gutter Present	Sidewalk Present	½ Street: Centerline to Pavement Edge	On-Street Parking Width	Travel Lane Width	Remaining Physical Road Space	Extra Right of Way Present	Improvement Scenario
18A-n	N	N	11	N	13	-2	Y	1,2
18A-s	N	N	11	N	13	-2	Y	1,2
18B-n	Y	Y	40	N	13	27	Y	1
18B-s	N	Y	12	N	13	-1	Y	1
19w	Y	N	23	7	12	4	NA	1
19e	N	N	23	7	12	4	NA	1
20w	Y	Y	23	7	12	4	NA	1
20e	Y	Y	23	7	12	4	NA	1
21e	Y	N	14	NP	12	2	Y	1,2
22e	N	N	18	NP	13	5	NA	1
25w	Y	Y	33	N	13	20	NA	1
25e	N	N	12	NP	13	-1	NA	1
26A-e	N	N	15	NP	13	2	Y	1,2
26B-w	Y	N	31	7	13	11	N	1
26B-e	Y	Y	33	7	13	13	N	1
26C-w	Y	Y	23	7	13	3	N	1,2,3,4,5
26C-e	Y	Y	22	7	13	2	N	1,2,3,4,5
26D-w	Y	Y	34	7	13	14	N	1
26D-e	Y	Y	34	7	13	14	N	1
27w	Y	Y	34	7	13	14	NO	1

Project ROW Space Needs Assessment								
Project	Curb/Gutter Present	Sidewalk Present	½ Street: Centerline to Pavement Edge	On-Street Parking Width	Travel Lane Width	Remaining Physical Road Space	Extra Right of Way	Improvement Scenario
27e	Y	Y	34	7	13	14	NO	1
28e	N	N	12	NP	12	0	Y	1,2
29w	Y	N	20	7	12	1	Y	1,2,4
29e	Y	N	20	7	12	1	Y	1,2,4
30e	N	N	11	NP	11	0	Y	1,2
30w	N	N	11	NP	11	0	Y	1,2
31	Y	Y	37	NP	13X3	-2	N	1,2,3,4,5
31	Y	Y	37	NP	13X3	-2	N	1,2,3,4,5
32	Y	Y	25	7	13	5	NA	1
32	Y	Y	25	7	13	5	NA	1
34	N	N	11	NP	13	-2	Y	1,2
34	N	N	11	NP	13	-2	Y	1,2
35	Y	N	21	7	12	2	N	1,2,4
35	Y	N	21	7	12	2	N	1,2,4
36A-n	Y	Y	18	7	12	-1	N	1,2,3,4,5
36A-s	Y	Y	18	7	12	-1	N	1,2,3,4,5
36B-n	N	N	18.5	7	12	-.5	Y	1,2,4,5
36B-s	N	N	10	NP	12	-2	Y	1,2
36C-n	N	N	18.5	7	12	-.5	Y	1,2,4,5
36C-s	N	N	10	NP	12	-2	Y	1,2

Project ROW Space Needs Assessment								
Project	Curb/Gutter Present	Sidewalk Present	½ Street: Centerline to Pavement Edge	On-Street Parking Width	Travel Lane Width	Remaining Physical Road Space	Extra Right of Way	Improvement Scenario
37	N	Y	15	NP	12	3	Y	1,2
37	N	Y	12	NP	12	0	Y	1,2
38	Y	Y	25	NP	13X2	-1	N	1,2,3,4,5
38	Y	Y	25	NP	13X2	-1	N	1,2,3,4,5
39	Y	Y	23	7	12	4	NA	1
39	Y	N	23	7	12	4	NA	1
40	Y	Y	23	7	12	4	NA	1
40	Y	Y	23	7	12	4	NA	1
41	Y	Y	24	7	13	4	N	1
41	Y	Y	24	7	13	4	N	1
42	Y	Y	21	7	12	2	N	1,2,3,4,5
42	Y	N	21	7	12	2	N	1,2,3,4,5
50A-n	Y	Y	22	7	13	2	N	1
50A-s	Y	Y	31	7	13	11	N	1
50B-n	Y	Y	22	NP	13	9	N	1
50B-s	Y	Y	21	NP	13	8	N	1
50C-n	N	N	16	NP	13	3	Y	1,2
50C-s	Y	Y	32	NP	13	3	Y	1,2
50D-n	N	N	14.5	NP	13	1.5	Y	1,2

Project ROW Space Needs Assessment								
Project	**Curb/Gutter Present**	**Sidewalk Present**	**½ Street: Centerline to Pavement Edge**	**On-Street Parking Width**	**Travel Lane Width**	**Remaining Physical Road Space**	**Extra Right of Way**	**Improvement Scenario**
50D-s	N	N	15	NP	13	2	Y	1,2
50E-n	N	N	13	NP	13	0	Y	1,2
50E-s	N	N	14	NP	13	1	Y	1,2
51	N	N	11	NP	12	-1	Y	1,2
51	N	N	15	NP	12	3	Y	1,2
52w	N	N	21	7	12	2	Y	1,2
52e	Y	N	21	7	12	2	N	1,2,4
53w	Y	N	19	7	12	0	NA	1,2
53e	Y	N	19	7	12	0	NA	1,2
54w	Y	Y	23	7	12	4	NA	1
54e	Y	Y	23	7	12	4	NA	1
56w	Y	Y	23	7	12	4	NA	1
56e	Y	Y	23	7	12	4	NA	1
58n	Y	Y	23	7	12	4	NA	1
58s	Y	Y	23	7	12	4	NA	1
59n	N	N	9.5	NP	9.5	0	Y	1,2
59s	N	N	9.5	NP	9.5	0	Y	1,2

Project ROW Space Needs Assessment								
Project	Curb/Gutter Present	Sidewalk Present	½ Street: Centerline to Pavement Edge	On-Street Parking Width	Travel Lane Width	Remaining Physical Road Space	Extra Right of Way	Improvement Scenario
60A-n	Y	Y	19	7	12	0	N	1,2,3,4,5
60A-s	Y	Y	19	7	12	0	N	1,2,3,4,5
60B-n	Y	Y	23	7	12	4	N	1
60B-s	N	N	12	NP	12	0	Y	1,2
60C-n	N	N	11	NP	12	-1	Y	1,2
60C-s	N	N	11	NP	12	-1	Y	1,2
63	N	N	10	NP	12	-2	Y	1,2
63	N	N	10	NP	12	-2	Y	1,2
65	N	N	10	NP	13	-3	Y	1,2
65	N	N	10	NP	13	-3	Y	1,2
67	N	N	10	NP	13	-3	Y	1,2
67	N	N	10	NP	13	-3	Y	1,2

Key:

Symbols

N – No

Y – Yes

NA – Not Applicable

N – North

s – South

e – East

w – West

NP – Parking not present

X2 – two travel lanes

Improvement Scenario

1. Pavement striping, markings and signage on both sides
2. Additional 5 feet of asphalt on both sides
3. Rights-of-way needed for 2 above
4. Curb and gutter and ROW needed
5. Parkway, sidewalk and ROW needed

Assumptions:

Lane Width

Local Road: 10-feet

Collector Road: 12-feet

Arterial Road: 13-feet

Parking Space Width

All Roads: 7-feet

Road Sections:

Project 31, Olive Avenue from R Street to Hwy 59 in City, see Project #69 in Appendix E.

Project 38, 16th Street from Ashby Road to G Street in City, see Project # 68 in Appendix E.

Santa Fe

36A-n: Santa Fe: G Street to 6th Street
36A-s: Santa Fe: G Street to 6th Street
36B-n: Santa Fe: 6th Street to Glen
36B-s: Santa Fe: 6th Street to Glen
36C-n: Santa Fe: Glen to McKee
36C-s: Santa Fe: Glen to McKee

Childs Avenue

50A-n: Childs Avenue: Carol to Parsons
50A-s: Childs Avenue: Carol to Parsons
50B-n: Childs Avenue: Parsons to GV High School
50B-s: Childs Avenue: Parsons to GV High School
50C-n: Childs Avenue: GV High School to Brimmer
50C-s: Childs Avenue: GV High School to Brimmer
50D-n: Childs Avenue: Brimmer to Coffee Street
50D-s: Childs Avenue: Brimmer to Coffee Street
50E-n: Childs Avenue: Coffee Street to Tower
50E-s: Childs Avenue: Coffee Street to Tower

Gerard Avenue

60A-n: Gerard Avenue: Parsons to Coffee
60A-s: Gerard Avenue: Parsons to Coffee
60B-n: Gerard Avenue: Coffee to Campus Parkway
60B-s: Gerard Avenue: Coffee to Campus Parkway
60C-n: Gerard Avenue: Campus Parkway to Tower
60C-s: Gerard Avenue: Campus Parkway to Tower

Bellevue Road

18A-n: Bellevue Road: “M” Street to Barclay
18A-s: Bellevue Road: “M” Street to Barclay
18B-n: Bellevue Road: Barclay to “G” Street
18B-s : Bellevue Road: Barclay to “G” Street

Findings:

• Seventeen (17) Pavement Marking Projects

18B, 19, 20, 22, 25, 26B, 26D, 27. 32, 39, 40, 41, 50A, 50B, 54, 56 and 58.

• Twenty-one (21) Additional Pavement Width plus Pavement Marking Projects

18A, 21, 26A, 28, 30, 34, 36B-s, 36C-s, 37, 50C, 50D, 50E, 51, 52-w, 53, 59, 60B, 60C, 63, 65, and 67.

• Three (3) projects with High Improvement Costs

29(p), 35(p) and 52e(p).

Those marked with (p) could be assessed to remove on-street parking in order to enable bike lanes for cost of pavement markings only.

• Eight (8) projects with Preventative Costs / 2 without options, and 6 with options to reduce cost.

26C (p), 31, 36A(p), 36B-n(p), 36C-n(p), 38, 42(p), and 60A(p).

Those marked with (p) could be assessed to remove on-street parking in order to enable bike lanes for cost of pavement markings only. Projects 31 and 38 already have on-street parking area removed, but still no space for bike lanes. Routes and sharrows are not appropriate for these sites either. Projects 31 and 38 may be infeasible.