

City Of Lodi

Bicycle Master Plan



June 2012



Harris & Associates

City of Lodi Bicycle Master Plan 2012
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1. INTRODUCTION

1.1 Purpose

The City of Lodi Bicycle Transportation Plan for the City of Lodi is intended to guide and influence bikeway policies, programs, and develop standards to make bicycling in the City of Lodi more safe, comfortable, convenient and enjoyable for all bicyclists. This document outlines goals, and regulatory requirements for Lodi's existing and proposed bicycle network.

Local governments and the public have realized bicycling is an important mode of transportation with the potential to replace motor vehicle trips. While motor vehicle trips cause congestion, air pollution and noise, bicycles are clean and quiet and take up relatively little space on roadways. With increasing awareness of air quality and congestion problems, many programs are being instituted to decrease motor vehicle trips, including those that support bicycling.

This plan will be used by the City to continue to implement bicycle facilities and bicycle programs as well as prioritize projects for construction as funds become available. There are several funding opportunities for bicycle facility improvements in Lodi and San Joaquin County such as funds from the Measure K Renewal Program, Impact Fee Program, Transportation Development Act Program, Safe Routes to School Program, and Measure K Maintenance Program.

1.2 Background

The current Bicycle Transportation Master Plan, prepared by Brady and Associates, Inc., was adopted November 16, 1994. The intent of this plan was to institute a bicycle network and programs and to prioritize projects for implementation as funds become available. Since 1994, several bicycle facilities have been installed within the city.

In 2002, the plan was updated and approved by City Council to include additional proposed bicycle facilities. This action allowed City of Lodi to receive funds for several bicycle facility projects. The City of Lodi 2010 General Plan approved by City Council included several bicycle policies that are incorporated in this document. In accordance with the General Plan policy number T-P22, the City's Bicycle Master Plan will be utilized as a comprehensive method for implementing bicycle circulation, safety, and facilities development, and updated for consistency. The 2012 Bicycle Master Plan updates the current Bicycle Master Plan and provides guidance to implement bicycle facilities.

1.3 Goals and Objectives

1. Provide bicycle facilities to serve the needs of all types of cyclists in Lodi.
2. Coordinate with bicycle facilities that exist and are planned for construction in unincorporated San Joaquin County.

3. Allow for priority use by cyclists on particular trails.
4. Provide a continuous network of bike lanes on the City’s arterial streets to allow for commuting to major destinations. These bikeways serve experienced cyclists who commute.
5. Provide a second continuous network of dedicated bike paths and designated bikeways on streets with low traffic volumes. These bikeways serve bicyclists who prefer quiet facilities with streets that have low traffic volume and speeds.
6. Provide facilities and programs that will support bicycling as a commuting option and recreational activity over the long term. These programs will serve and encourage all types of cyclists.

1.4 Bikeway Types

Design standards for bikeways have been developed by the American Association of State Highway and Transportation Officials (AASHTO) and the California Department of Transportation (Caltrans). The Caltrans Highway Design Manual, Chapter 1000: Bikeway Planning and Design provides design standards for all bicycle facilities in California. The Streets and Highway Code Section 890.4 allows local agencies to designate “Bikeways,” which are defined as facilities provided primarily for bicycle travel. The following summarizes key operating and design definitions:

Class I Bikeway

- Referred to as a bike path or multi-use trail.
- Provides for bicycle travel on a paved right of way completely separated from any street or highway.

Class II Bikeway

- Referred to as a bike lane.
- Provides a striped lane for one-way travel on a street or highway.
- These facilities are striped and include bicycle pavement markings and bicycle signage.

Class III Bikeway

- Referred to as a bike route
- Provides for shared use with pedestrian or motor vehicle traffic.
- Typically, these facilities are shared facilities with bicycle route signage only.

1.4.1 Bike Path (Class I Bikeway)

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. Bike paths are intended for exclusive use by bicyclists, though they are sometimes used by pedestrians. They have the following general characteristics:

- The minimum paved area for a two-way bike path is eight feet, with at least two feet of shoulder on each side. Where bicycle traffic is expected to be heavy, the paved area of the bike path should be greater than eight feet, preferable 12 feet or more. 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.
- Bike paths are physical separated from automobile traffic so that bicycles are not forced to travel opposite the direction of motor vehicles.
- Bike paths have relatively straight alignments that provide bicyclists good visibility and smooth turns.

1.4.2 Bike Lane (Class II Bikeway)

A bike lane, or Class II, is a bikeway that lies within the paved area of a road or street and shares the roadway with motor vehicles. Bike lanes are delineated by stripes. Bike lanes provide preferred but not exclusive use to bicyclists; for example, segments of bike lanes may share the pavement with vehicles making right turns. Bike lanes have the following general characteristics:

- Where no curb-side 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 three feet beyond the edge of the gutter. Gutters in older parts of Lodi are generally 15 inches wide, while gutters in newer areas are usually 24 inches wide. There are a few areas of the City with older “driveway” style curbs and gutters that are 40 inches wide. In all but the latter case, there is enough room in most areas of Lodi to accommodate both the gutter and a bike lane within a standard 5 foot width. Where gutters are 40 inches wide, it will be necessary to provide 6.5 foot bike lanes to accommodate the wider gutters.
- Where curb-side parking is allowed, the area delineated as a bike lane should be at least 13 feet wide to accommodate an 8 foot parking lane. However, if

absolutely necessary, a bike lane with parking can be narrowed to 11 feet with rolled curbing and 12 feet with vertical curbing.

- Bike lanes are delineated by 6 inch wide, continuous striping.

On arterial streets where parking is allowed and demand is high, a second stripe may be used to delineate the bike lane from the parking lane. In Lodi, typically a parking lane stripe is not installed in order to provide additional room for bicyclists to travel at locations with limited numbers of parked vehicles.

It is often possible to restripe existing multi-lane streets to make room for bike lanes. Caltrans permits traffic lanes on state highways to be reduced to as little as 11 feet to accommodate bikes. In Lodi, 12 foot travel lanes are preferred; however, 10 foot lanes have been installed to accommodate bicycle lanes and parking.

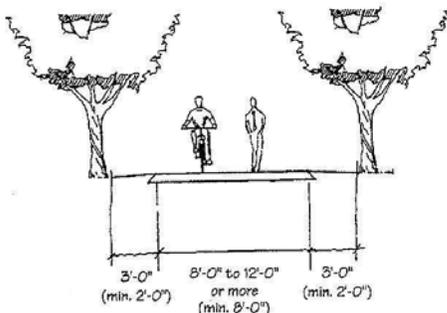
1.4.3 Bike Route (Class III Bikeway)

A bike route, or Class III Bikeway, is a bikeway that shares the street with motor vehicles or the sidewalk with pedestrians. It has signs but no stripes. California currently has no standard for the width of bike routes or shared roadways, since the acceptable width is dependent on many factors. Adequate width for 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 level of bicyclists using the road. As a rule of thumb, the American Association of State Highway and Transportation Officials *Guide for the Development of Bicycle Facilities* (1999) recommends an outside travel lane greater than 12 feet, with 14 feet preferred. If parking is permitted along a bike route street, the parking lane should be 7 feet wide, making the total distance from the curb to the center of the street 18 to 21 feet. This is several feet narrower than the dimension for a bike lane.

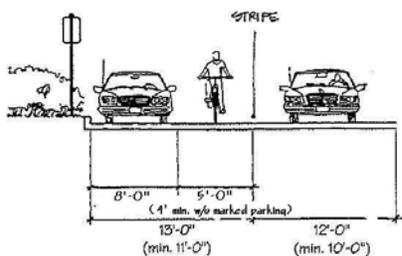
Bike routes do not offer the safety of bike lanes since no separation between bikes and motor vehicles is marked on the road. However, they can be installed in narrower spaces than bike lanes. Cyclists typically feel that marked bike routes are preferable to undesignated streets, since the signs help to alert motorists of bicyclists' presence and encourage bike use. Bike routes are also more practical to implement than bike lanes on narrow streets.

Graphic descriptions of Class I, II, and III bikeways are shown on the following page on Figure 1.

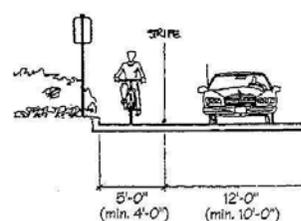
Figure 1: Types of Bikeways



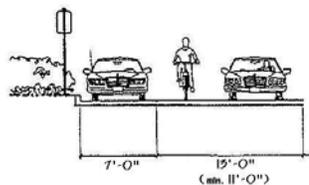
Bike path



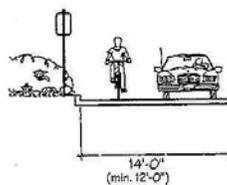
Bike lane with parking



Bike lane without parking



Bike route with parking



Bike route without parking

1.5 Bikeway Design Standards

The following Federal, State and local regulations guide the development and design of bikeways in the City of Lodi:

- The American Association of State Highway and Transportation Officials (AASHTO) Guide for the Development of Bicycle Facilities.
- The State of California Department of Transportation (Caltrans) Highway Design Manual Chapter 1000: “Bikeway Planning and Design.”
- The California Manual on Uniform Traffic Control Devices (Cal-MUTCD).
- The City of Lodi Standard Plans.

1.6 Regulatory Requirements

To be eligible for State funding, bicycle plans must comply with the provisions of the California Bicycle Transportation Act as follows:

A city or county may prepare a bicycle transportation plan, which shall include, but not be limited to, the following elements:

1. 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.
2. 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.
3. A map and description of existing and proposed bikeways.
4. 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.
5. 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.
6. 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.

7. 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.
8. A description of the extent of citizen and community involvement in development of the plan, including, but not limited to, letters of support.
9. 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.
10. A description of the projects proposed in the plan and a listing of their priorities for implementation.
11. 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.

The Lodi Bicycle Transportation Master Plan in is compliance with the provisions of the California Bicycle Transportation Act as follows:

Provision #1

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.

Based on the City of Lodi eTRIP Employee Commute Survey, conducted in December 2011 approximately 1.5% of City of Lodi employees reported bicycling or walking to work. Great Valley Center is currently conducting a city-wide survey, with results expected to be available in the near future.

Provision #2

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.

Analyses of land use and population density are an element of the City's General Plan, and presented in the Land Use Map found in Figure 2. The data analysis is incorporated into this Plan by reference.

Provision #3

A map and description of existing and proposed bikeways.

Proposed and existing bikeways are mapped in Figure 3.

Provision #4

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 of Lodi General Plan policy number T-P25 establishes standards requiring new commercial and mixed-use developments to provide parking facilities. In addition schools and major destinations within the city are mapped in Figure 4. All schools and City facilities have bicycle parking facilities and this Plan recommends that the City institute a program to ensure adequate parking at other facilities.

Provision #5

A map and description of existing and proposed bicycle transport and parking facilities for connections with and use of other transportation modes.

Existing and future transportation connections include:

- The existing park and ride lot near the intersection of Victor Road and Beckman Road on the East side of State Route 99.
- The existing multimodal station on Sacramento Street at Pine Street provides connections with several transit agencies such as SJRTD, Greyhound, SCT/Link and AmTrak.
- The future park and ride lot at Harney Lane/ State Route 99.

Bike lanes and/or routes connecting these facilities are included in the Plan. Both existing and proposed facilities require bicycle parking.

Provision #6

A map and description of existing and proposed facilities for changing and storing clothes and equipment.

The City's Municipal Service Center and Public Safety building both provide City employees access to shower facilities. Major industrial employers also have these facilities. Section 5.4 of this Plan recommends that the City require all future commercial construction and renovation, with a specified number of employees, to provide showers for bicyclists and others. The City should also encourage existing businesses to provide showers.

Provision #7

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.

Section 5.7 of this Plan recommends that the City undertake a public awareness program, a children's safety program and other safety and education programs as part of the Plan. Existing safety programs and bicycle accident data are discussed in Section 2.2 of this document. The City will continue to seek Safe Route To School funding for bicycle safety awareness programs.

Provision #8

A description of the extent of citizen and community involvement in development of the plan, including, but not limited to letters of support.

A number of public workshops were held in review of the City of Lodi's 2010 General Plan, including review of the existing and proposed bicycle system. As part of the 2012 update, the City held a public Information Meeting on April 11, 2012 and received feedback on the proposed 2012 Bicycle Master Plan. The City contacted two bicycle clubs, one in Lodi and one in Stockton, seeking input. In addition, the City held a "call for comments" survey at the public library from May 16 through June 7, 2012. The agenda from the workshop, the comment form provided to the public, and a summary of the public responses are included in Appendix A.

Provision #9

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.

This Plan is consistent with and supports the City's long range transportation, air quality, and Climate Action plans. Local and County officials are coordinating efforts with San Joaquin Council of Governments to adopt a Regional "Bicycle, Pedestrian & Safe Routes to School Master Plan" by fall of 2012. The San Joaquin County Bicycle Master Plan Update is also incorporated in this Plan by Reference.

Provision #10

A description of the projects proposed in the plan and a listing of their priorities for implementation.

A map showing the proposed projects is shown in Figure 5. A list of the projects and estimated costs are shown in Table 3; the priority projects are listed in Section 4.4.

Provision #11

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.

Since the adoption of the 1994 Bicycle Master Plan, the City has constructed several bicycle facilities utilizing federal, state, and local funds. See Section 2.3 for a discussion on facility expenditures.

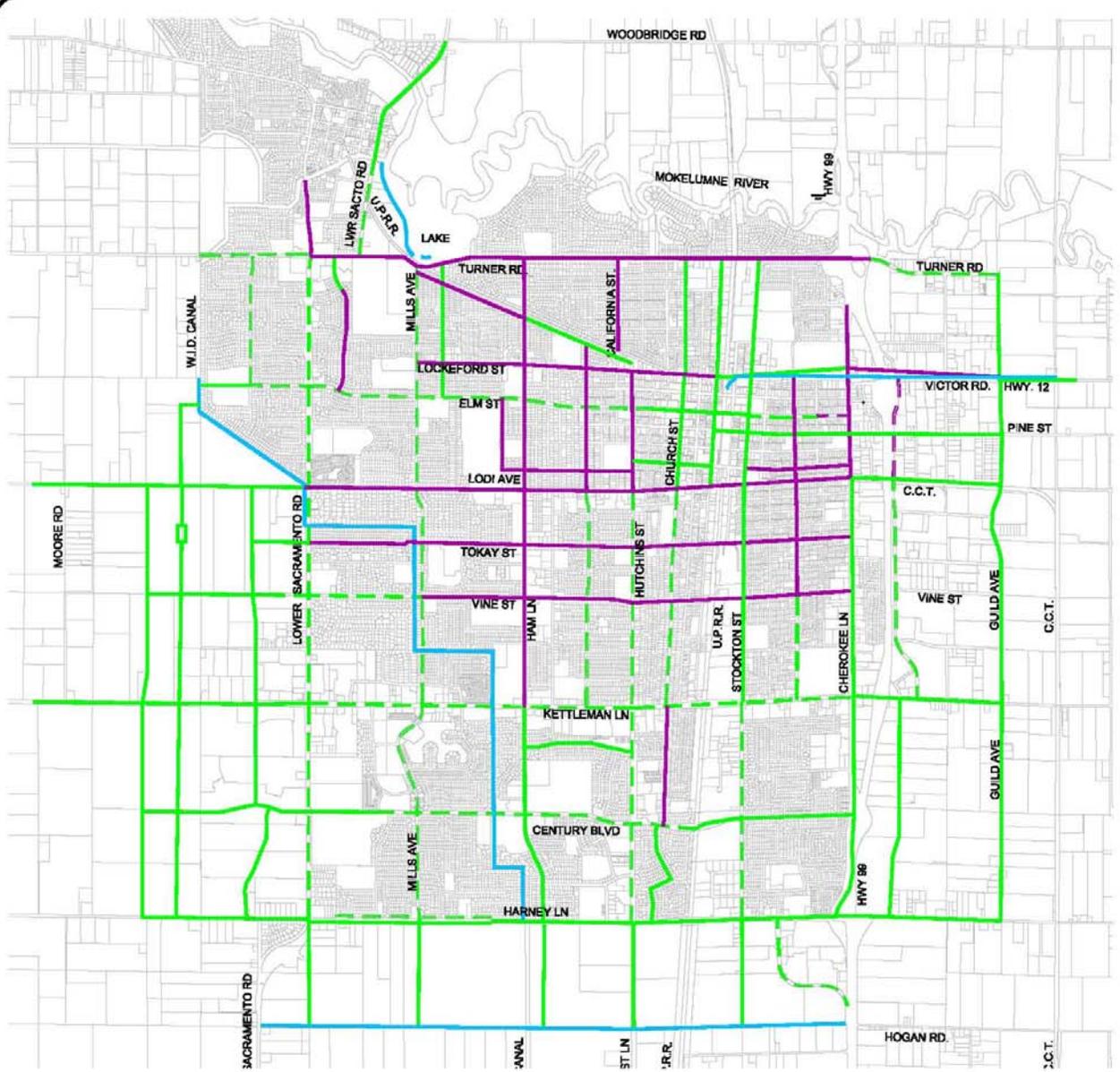
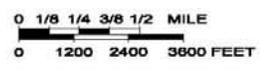


Figure 3
 EXISTING & PROPOSED BICYCLE SYSTEM
 LEGEND

- CLASS I BIKE LANES (EXISTING)
- CLASS II BIKE LANES (EXISTING)
- CLASS III BIKE ROUTES (EXISTING)
- CLASS I BIKE PATHS (PROPOSED)
- CLASS II BIKE LANES (PROPOSED)
- CLASS III BIKE ROUTES (PROPOSED)*



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* OR CLASS II IN SOME CASES

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2. EXISTING CONDITIONS

2.1 Existing Bikeways

Today the City of Lodi has 47.5 miles of existing bikeways. Below is the distribution of bikeway miles based on bikeway classification:

Table 1: Distribution of Bikeway Miles

Bikeway Classification	Mileage
Class I Bike Paths	0.1
Class II Bike Lanes	46.4
Class III Bike Routes	1.0
Total	47.5

Class I Bikeways (Bike Paths)

Class I Bikeways are completely separate facilities designated for the exclusive use of bicyclists and pedestrians with minimal vehicle crossings. Currently there is a Class I Bikeway from the Lodi Lake swimming area to Turner at Mills, and a multi-use path around the lake that allows vehicle, bicycle and pedestrian use. In addition, the General Plan supports new multi-use paths along the Woodbridge Irrigation Canal right-of-way and along the Victor Road/Lockeford Street railroad right-of-way, between the City's eastern boundary and downtown.

Class II Bikeways (Bike Lanes)

Class II Bikeways are signed and striped lanes designated for the use of bicycles on a street or highway. Vehicle parking and vehicle/pedestrian cross-flow are permitted at designated locations. Class II bicycle lanes are provided on segments of Lower Sacramento Road, Mills Avenue, Elm Street, Kettleman Lane, Century Boulevard, Harney Lane, Stockton Street, Central Avenue, Crescent Avenue, and Vine Street.

Class III Bikeways (Bike Routes)

Class III Bikeways are routes designated by signs or pavement markings for bicyclists within the vehicular travel lane (i.e., shared use) of a roadway. Portions of Beckman Road and Elm Street are currently designated as Class III bicycle routes.

2.2 Bicycle Collisions

As shown below, there have been a total of 110 reported collisions between 2007 and 2011. The most common causes of collisions are right-of-way violation by automobile, bicyclists riding on the wrong side of the road, and running traffic signals or stop signs.

Table 2: Bicycle Collision Data

Year	Total Bicycle Collisions
2011	23
2010	18
2009	22
2008	25
2007	22
Total	110

2.3 Past Bicycle Facility Expenditures

Past bicycle facility expenditures have been approximately \$850,000, primarily constructed in conjunction with other major roadway projects. These facilities were constructed utilizing several funding sources including federal, state, local, and private development funds.

2.4 Bicycle Destinations

Bicyclists, like those who use other modes of transportation, go to a variety of destinations throughout Lodi, as shown in Figure 2-1. Workplaces in Lodi are concentrated in the Downtown, the industrial areas east of Highway 99, along the Union Pacific railroad tracks, and at the General Mills plant. Shopping is in the Downtown area, at the Raley's shopping center on Lower Sacramento Road, and along Kettleman Lane and Cherokee Lane.

Schools and parks are also important destinations for bicyclists. Safe bicycle access to schools is one of the highest bike planning priorities for Lodi residents.

There are people who commute to or from Lodi from Stockton, Clements and Galt. The Lodi Bicycle Master Plan is coordinated with the County Plan to ensure connections for these uses.

2.5 Sidewalks

Sidewalks are designed and intended for use by pedestrians, and are not appropriate facilities for bicyclists. Some people feel that cyclists, particularly children, should ride bicycles on sidewalks, but most traffic engineers and bicycle planners agree that it is better to create well-designed bicycle paths, lanes, routes and boulevards to ensure the greatest possible degree of bicycle safety.

Current City regulations permit riding bicycles on sidewalks outside of a business district. The City regulation requires persons operating bicycles on the sidewalks outside of the business district to yield the right of way to any pedestrian approaching and exercise due care for the safety of persons upon the sidewalk. However, cyclists on sidewalks cause a number of safety problems. They can easily run into pedestrians that they pass or overtake. At intersections, sidewalks generally have curbs, from which cyclists can fall. Most importantly, motorists do not look for quick-moving bicyclists on sidewalks, who may be stopped as they pull out of a driveway. Motorists can more easily hit cyclists in sidewalks than those traveling in a roadway. For these reasons, sidewalks are not recommended as bicycle facilities in this Plan.

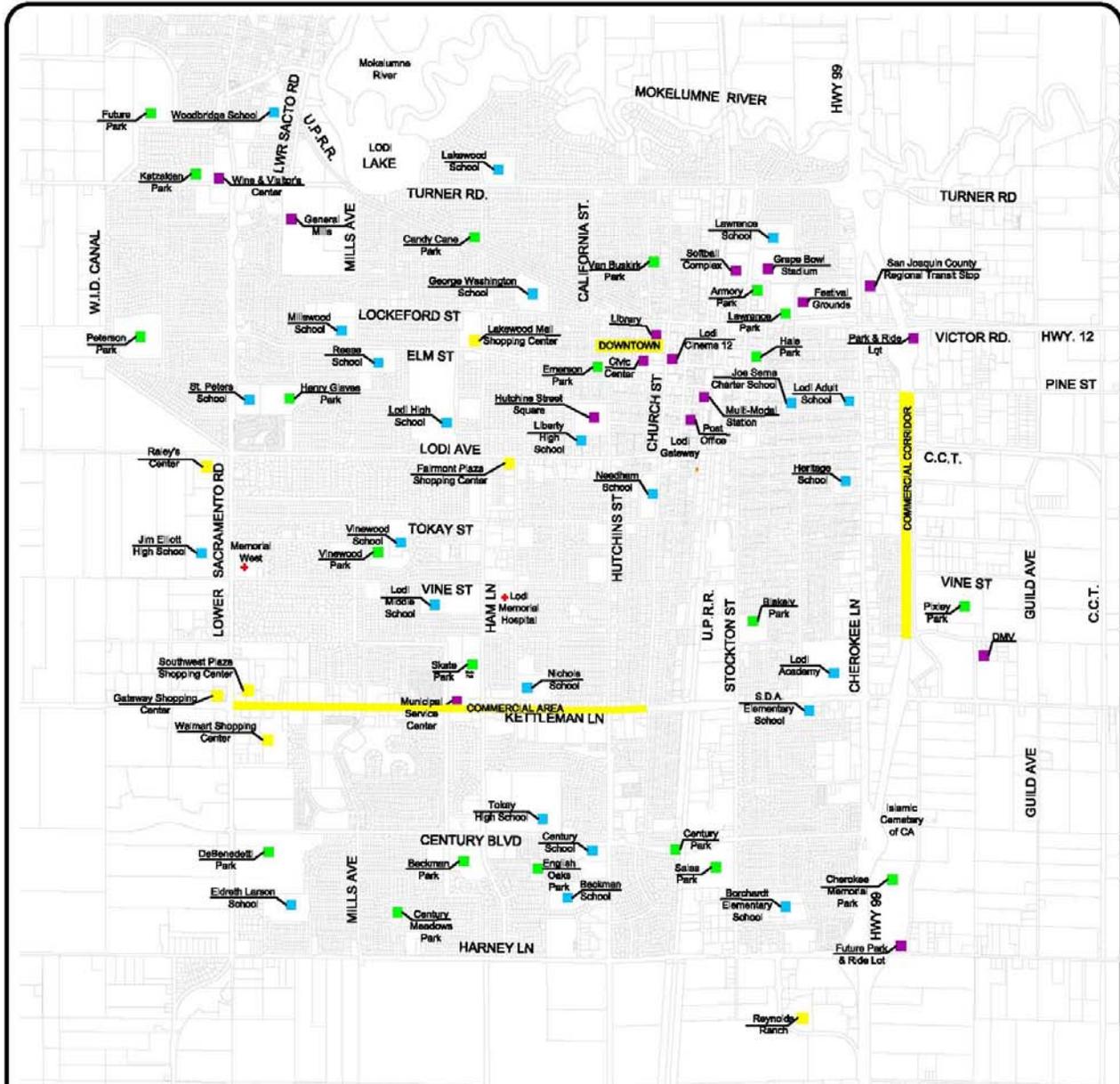
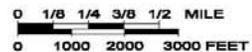


Figure 4
 BICYCLE DESTINATIONS
 AND PARKING FACILITIES

- LEGEND**
- + HOSPITAL
 - SCHOOL
 - PARK
 - PUBLIC INTEREST
 - COMMERCIAL BICYCLE PARKING



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3. COUNTY AND REGIONAL PLANS

3.1 County and Regional Plans

San Joaquin County General Plan 2010 (1992)

The San Joaquin County General Plan is made up of seven elements, one of which provides adopted policies directly relevant to this plan. The Community Development chapter seeks the orderly development of land and communities. The element refers to bicyclist accommodation as a means to achieve goals.

SJCOG Air Quality Conformity Analysis (2007)

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

Regional Congestion Management Plan (2007)

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

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

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

San Joaquin Valley Blueprint (2010)

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

3.2 Regional Bikeways

In accordance with the City of Lodi General Plan policy number T-P23, City Staff will continue to coordinate the connection of local bikeways and trails to regional bikeways identified in the San Joaquin County Bicycle Transportation Plan.

There are six regional bikeways adopted in the San Joaquin County Regional Bicycle Master Plan that will connect with or enter Lodi. They are:

- Lower Sacramento Road, north of Woodbridge Road
- Woodbridge Road
- Turner Road
- Davis Road
- Lower Sacramento Road, south of Harney Lane
- West Lane

There are several regional facilities proposed in the SJCOG Bicycle, Pedestrian, and Safe Routes to School Plan:

- Class III bike route from Lower Sacramento Road at Harney Lane south to City of Stockton.
- Class II bike lanes on West Lane from Harney Lane to City of Stockton City or County limits.
- Class III bike route on Turner Road west of Lodi City limits connecting to the County.
- Class II/III bike facilities on Victor Road east of Lodi City limits connecting to the County.
- Class II/III bike facilities on Kettleman Lane west of Lodi City limits connecting to the County.
- Class III bike route on Lower Sacramento Road north of Lodi City limits connecting to the County.

4. PLANNED BIKEWAY SYSTEM AND IMPLEMENTATION

To meet the goals of the Lodi Bicycle Transportation Master Plan, the proposed bicycle alignments provide access throughout Lodi.

The overall proposed bicycle plan for Lodi is shown in the map of Existing and Proposed Bicycle System (Figure 3). Alignments have been proposed based on the previous Bicycle Master Plan, General Plan, and comments from City Staff.

The overall system is made up of the three types of bikeways described in Chapter 2. Potential alignments for each type of bikeway are shown in Figure 5 and described in Table 3.

4.1 Maps Of Existing And Proposed Bikeways

Figure 3 depicts proposed bikeways in the City of Lodi that will achieve the desired connectivity within the City. The numbers on the map correspond to Table 3 which provides length and cost information.

4.2 Cost Summary

Table 3 shows the project costs for bikeways to be constructed under this Plan.

The cost estimates are in 2012 dollars and are based on the following assumptions:

- Bike paths would cost about \$50.00 for every linear foot of path. This cost includes a 12 foot wide bike path with 3 foot wide gravel shoulders on each side. It also includes a 3 inch thick gravel base and 4 inch thick asphalt paving, which would allow it to carry light patrol and maintenance vehicles, as well as bicycles.
- Bike lanes, which require striping to delineate them, vary in cost depending on the amount of striping that needs to be changed to reconfigure traffic and parking lanes or added to adequately mark the bike lanes. Bike lanes on residential, collector, and arterial streets are marked by at least one stripe per direction. Bike lanes also require signs at the beginning of each designated bicycle lane, at major roadway changes, at every arterial street, at ½ mile intervals of each designated bicycle lane and in accordance with MUTCD traffic guidelines. In Lodi, bicycle signs are typically installed at major intersections. The minimum costs for a bike lane requiring only one stripe and signs and no changes to traffic or parking lanes would be about \$2.60/linear foot or \$5.60/linear foot for both sides of the street. These costs would be higher where traffic lanes would need to be restriped to accommodate bike lanes.
- Bike routes require signing only and cost approximately \$1.00 per linear foot. Similar to bike lanes, bike routes are installed on each side of a street, for a total cost of \$2.00 per linear foot of street.

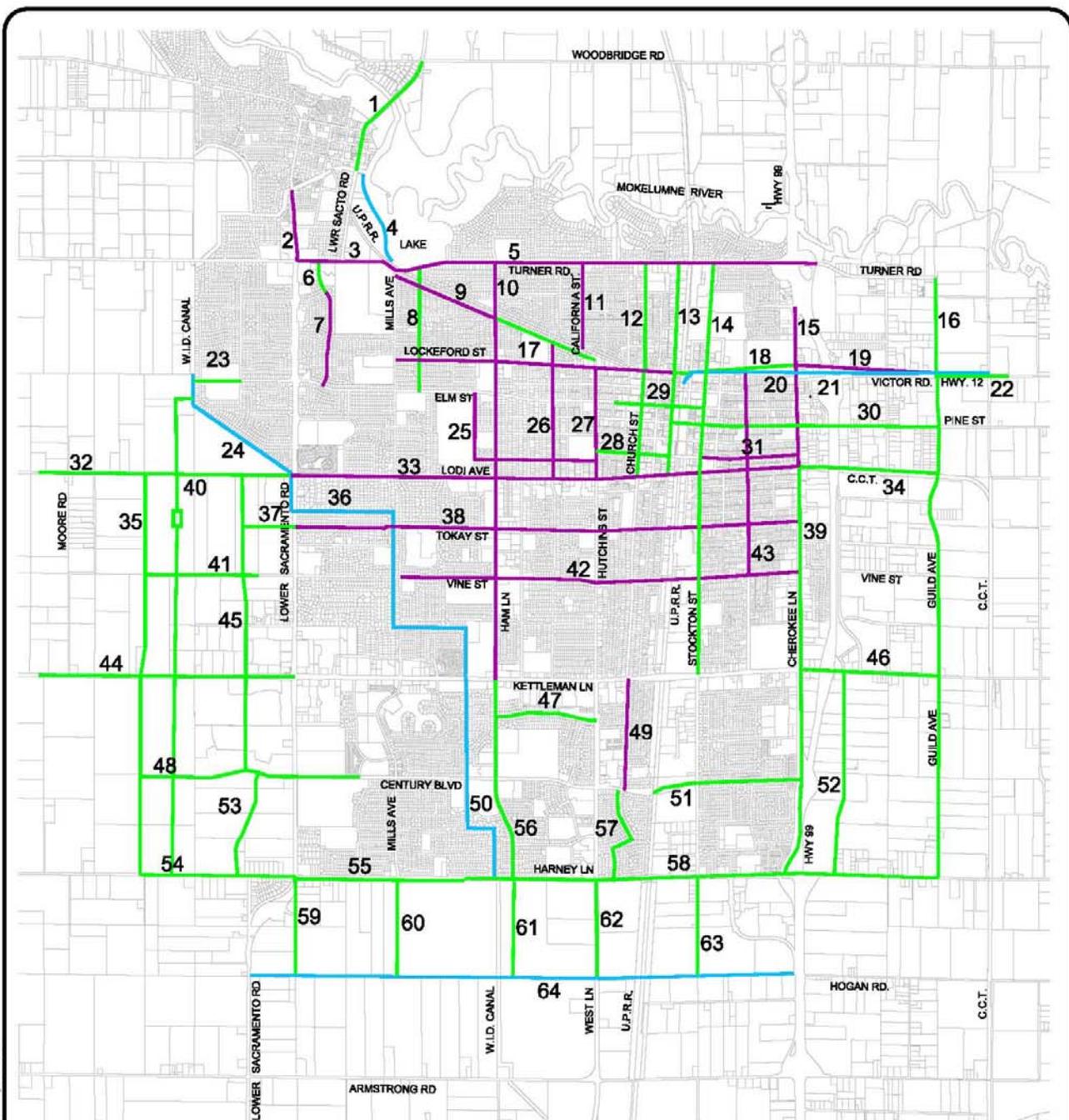
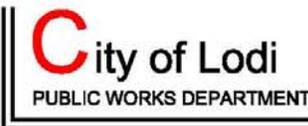
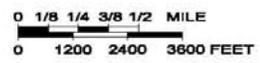
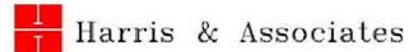


Figure 5
PROPOSED BICYCLE SYSTEM
LEGEND

- CLASS I BIKE LANES (PROPOSED)
- CLASS II BIKE LANES (PROPOSED)
- CLASS III BIKE ROUTES (PROPOSED)
(OR CLASS II IN SOME CASES)



NOTE: NUMBERS SHOWN CORRESPOND TO TABLE 3



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**Table 3
Cost Summary**

Map Ref No.	Road Name	Classification	Length	Unit Cost	Segment Cost ¹
1	Lower Sacramento Rd.	Class II	3500	\$ 5.20	\$ 18,200
2	Woodhaven Ln	Class III	1880	\$ 2.00	\$ 3,760
3	W. Turner Rd.	Class III	3310	\$ 2.00	\$ 6,620
4	along Lodi Lake	Class I	2470	\$ 50.00	\$ 123,500
5	Turner Rd.	Class III	10470	\$ 2.00	\$ 20,940
6	Rutledge Dr.	Class II	870	\$ 5.20	\$ 4,524
7	Rutledge Dr.	Class III	2520	\$ 2.00	\$ 5,040
8	N. Loma Dr.	Class II	3280	\$ 5.20	\$ 17,056
9	Holly Dr.	Class III	5620	\$ 2.00	\$ 11,240
10	Ham Ln.	Class III	13610	\$ 2.00	\$ 27,220
11	California St.	Class III	2230	\$ 2.00	\$ 4,460
12	Church St.	Class II	5670	\$ 5.20	\$ 29,484
13	Sacramento St.	Class II	5590	\$ 5.20	\$ 29,068
14	Stockton St.	Class II	10870	\$ 5.20	\$ 56,524
15	Cherokee Ln.	Class III	4210	\$ 2.00	\$ 8,420
16	Guild Ave.	Class II	15930	\$ 5.20	\$ 82,836
17	Lockeford St.	Class III	7330	\$ 2.00	\$ 14,660
18	Victor Rd. ²	Class II	3240	\$ 2.60	\$ 8,424
19	Victor Rd. ²	Class III	3750	\$ 2.00	\$ 7,500
20	Victor Road	Class I	8200	\$ 50.00	\$ 410,000
21	Beckman Rd	Class III	710	\$ 2.00	\$ 1,420
22	Highway 12 ²	Class II	1860	\$ 2.60	\$ 4,836
23	Elm St. extension, WID to Evergreen	Class II	11300	\$ 50.00	\$ 565,000
24	along WID canal	Class I	4100	\$ 50.00	\$ 205,000
25	Pacific/Walnut Ave.	Class III	4950	\$ 2.00	\$ 9,900
26	Crescent Ave.	Class III	3560	\$ 2.00	\$ 7,120
27	Hutchins St.	Class III	2940	\$ 2.00	\$ 5,880
28	Walnut St.	Class II	1920	\$ 5.20	\$ 9,984
29	Elm St.	Class II	2370	\$ 5.20	\$ 12,324
30	Pine St.	Class II	7040	\$ 5.20	\$ 36,608
31	Walnut St. ³	Class II	2550	\$ 5.20	\$ 13,260
32	Lodi Ave.	Class II	6640	\$ 5.20	\$ 34,528
33	Lodi Ave.	Class III	13350	\$ 2.00	\$ 26,700
34	Lodi Ave.	Class II	3680	\$ 5.20	\$ 19,136
35	from Lodi to Harney	Class II	10660	\$ 5.20	\$ 55,432
36	along WID canal	Class I	9020	\$ 50.00	\$ 451,000
37	Tokay St.	Class II	1360	\$ 5.20	\$ 7,072
38	Tokay St.	Class III	13300	\$ 2.00	\$ 26,600
39	Cherokee Ln.	Class II	10830	\$ 5.20	\$ 56,316
40	N/S from WID to Harney Ln.	Class II	14580	\$ 5.20	\$ 75,816
41	Vine St.	Class II	2970	\$ 5.20	\$ 15,444
42	Vine St.	Class III	10550	\$ 2.00	\$ 21,100
43	Westgate Dr.	Class II	7760	\$ 5.20	\$ 40,352
44	Kettleman Ln.	Class II	6660	\$ 5.20	\$ 34,632
45	Central Ave.	Class III	5320	\$ 2.00	\$ 10,640
46	Kettleman Ln.	Class II	3700	\$ 5.20	\$ 19,240
47	Brandywine Dr.	Class II	2620	\$ 5.20	\$ 13,624
48	Century Blvd.	Class II	5840	\$ 5.20	\$ 30,368
49	Church Street	Class III	2860	\$ 2.00	\$ 5,720
50	along WID canal	Class II	2800	\$ 50.00	\$ 140,000

Map Ref No.	Road Name	Classification	Length	Unit Cost	Segment Cost ¹
51	Century Blvd.	Class II	4820	\$ 5.20	\$ 25,064
52	Beckman Rd.	Class II	5360	\$ 5.20	\$ 27,872
52	West Ln.	Class II	2460	\$ 5.20	\$ 12,792
53	N/S from Century to Harney	Class II	960	\$ 5.20	\$ 4,992
54	Harney Ln.	Class II	4070	\$ 5.20	\$ 21,164
55	Harney Ln. ³ (south side)	Class II	4470	\$ 2.60	\$ 11,622
56	Ham Ln.	Class II	5330	\$ 5.20	\$ 27,716
57	Aspen Grove/Vineyard/Banyan	Class II	2820	\$ 5.20	\$ 14,664
58	Harney Ln.	Class II	12450	\$ 5.20	\$ 64,740
59	Lower Sacramento Road	Class II	2530	\$ 5.20	\$ 13,156
60	N/S bet. Harney & Hogan	Class II	2510	\$ 5.20	\$ 13,052
61	Ham Ln. extension	Class II	2430	\$ 5.20	\$ 12,636
63	Stockton St.	Class II	2600	\$ 5.20	\$ 13,520
64	Hogan Rd.	Class I	14480	\$ 50.00	\$ 724,000
Total Construction:					\$ 3,066,386
Contingency					\$ 613,277
Design/Environmental					\$ 306,639
Construction Management					\$ 153,319
City Administration and Plan Check					\$ 153,319
Total Cost for Planned Bikeways					\$ 4,292,940

¹ For Class II & III bikeways, costs include both sides of the road unless otherwise noted.

² One side of the road only.

³ May be constructed as Class III

4.3 Finance and Implementation Plan

Construction of bicycle facilities will be dependent upon the rate and pattern of development, and availability of funding sources. The improvement cost and financing of the improvements shall be determined as part of the 2012 Impact Mitigation Fee Program (IMFP) that is being adopted concurrently with this report. Financing alternatives include, but are not limited to, developer financing on a pay-as-you-go basis or through a new City-wide development impact fee program.

There are several funding opportunities to support this Bicycle Master Plan and bicycle facility improvements in Lodi and San Joaquin County such as funds from Measure K Renewal Program, Measure K Maintenance Program, Transportation Development Act Program, Safe Routes to School Program, and impact fees.

4.4 Priorities

The City recently submitted applications for Measure K Renewal funds for the priority bicycle facilities listed below:

- Central Avenue
- Tokay Street at Union Pacific Railroad
- Century Boulevard at Union Pacific Railroad
- Victor Road/Rails to Trails from east of City limits to downtown
- Harney Lane Grade Separation
- West Lane from Harney Lane to Eight Mile Road

Community feedback indicate the top public priorities are bikeways along the W.I.D. Canal, Ham Avenue, Harney Lane and Tokay Street.

5. BICYCLE PROGRAMS

Besides creating bicycle routes, the City can also institute a number of policies and programs to support and encourage cycling. These programs are important if bicycle commuting is to become a viable alternative to the automobile. These programs will be implemented by the City when funding is available.

5.1 Bicycles on Transit

The City should support efforts by Lodi GrapeLine bus service to accommodate bicycles on public transportation vehicles. All GrapeLine buses are equipped with bike racks.

5.2 Public Bike Parking

The City should institute a program to provide adequate public bicycle parking at important public facilities, such as City Hall, parks, libraries, and schools. Specific standards should be developed for the number of parking spaces required based on land use and square footage. The City of Lodi 2010 General Plan policy number T-P24 requires the placement of bicycle racks or lockers at park-and-ride facilities.

5.3 Private Bike Parking

Adequate bicycle parking could be a requirement for all new commercial construction and renovations. The City could develop specific standards for the numbers of bike parking spaces per square foot based on type of land use. Standards of 0.5 to 2.0 bike parking spaces for every 1,000 square feet are generally appropriate, with lower numbers for office and standard retail uses, and higher numbers for restaurants, theaters and public buildings. The City zoning code could be amended to include these standards. In addition, the City could consider allowing one or two of a development's required vehicle parking spaces to be used for bicycle parking or to allow bike parking in lieu of some vehicle parking spaces.

5.4 Showers and Lockers

All future commercial construction and renovations should be required to provide showers and lockers for employees allowing bicyclists to change into work clothes at their destinations. The City should also encourage existing businesses to provide showers.

The City will consider amending the zoning code to include this requirement. The City of South San Francisco adopted a similar requirement, which is applicable to all projects over 25,000 square feet and projected to accommodate 30 or more employees.

5.5 Bikeway Map

The City has created a map of all bikeways in Lodi, which will be kept up to date as improvements are made. The map is made available to the public free of charge through City offices, schools, transportation management programs, community organizations, bike shops and bike clubs.

5.6 Public Awareness Program

The City should develop and institute a public awareness program to encourage and facilitate bicycling in conjunction with San Joaquin County, the San Joaquin Council of Governments, and private entities in the County. The program could include public service announcements on television and radio, mailings, advertisements, and other media to tell people about new bicycle facilities, to promote safety, and to encourage bicycling.

5.7 Education, Encouragement, and Enforcement Program

The City, working with the Police Department, Lodi Unified School District, and private schools, should continue to enhance the existing bicycle safety programs in schools.

5.8 Feedback Program

The City should have a system to receive feedback from bicyclists regarding bicycle facilities and needed improvements. Pre-addressed, postage-paid cards could be made available at City offices, schools, the library, transportation management programs, community organizations, bike shops and bike clubs that would allow people to mail in ideas as to where improvements could be made or where they feel maintenance is necessary.

Appendix A

Community Involvement Documents



Utility/Bicycle Master Plans

Welcome to the Public Information Meeting

Wednesday, April 11, 2012
6:00 p.m. – 8:00 p.m.
P.D. Community Room
215 W. Elm Street

Tonight's Agenda

6:00 p.m. ~ 6:30 p.m.
Exhibits and Refreshments

6:30 p.m.
Presentation

Presentation of Master Plans

Chris Boyer, Assistant Engineer
Development Services, City of Lodi

6:45 p.m. ~ 8:00 p.m.
Exhibits, Refreshments and
Citizen Comments



City of Lodi

Bicycle Transportation Master Plan Update

COMMENT SHEET

Thank you for participating in the City of Lodi's Bicycle Transportation Master Plan Update. The City is interested in knowing your **top three priorities** for bicycle facilities in each direction (north-south and east-west). These may be bike paths, bike lanes or bike routes. Please write down your priorities and comments in the space provided below.

North-South Priorities

- 1)
- 2)
- 3)

East-West Priorities

- 1)
- 2)
- 3)

Other Comments:



City of Lodi

Bicycle Transportation Master Plan Update

COMMENT SUMMARY

Based on comments received during the call for comments period, the following locations were listed as the priority projects:

North-South Priorities

- 1) along WID canal
- 2) Ham Lane
- 3) Sacramento Street
- 4) Church Street
- 5) Westgate Drive
- 6) Holly Drive
- 7) Mills Avenue
- 8) Loma Drive
- 9) Cherokee Lane
- 10) Stockton Street

East-West Priorities

- 1) Harney Lane
- 2) Tokay Street
- 3) Century Boulevard
- 4) Lockeford Street
- 5) Turner Road
- 6) Lodi Avenue

Other Comments:

Generally the public is in support of the Bicycle Master Plan and encourages the use of public transportation fund for non-motorized transportation facilities.