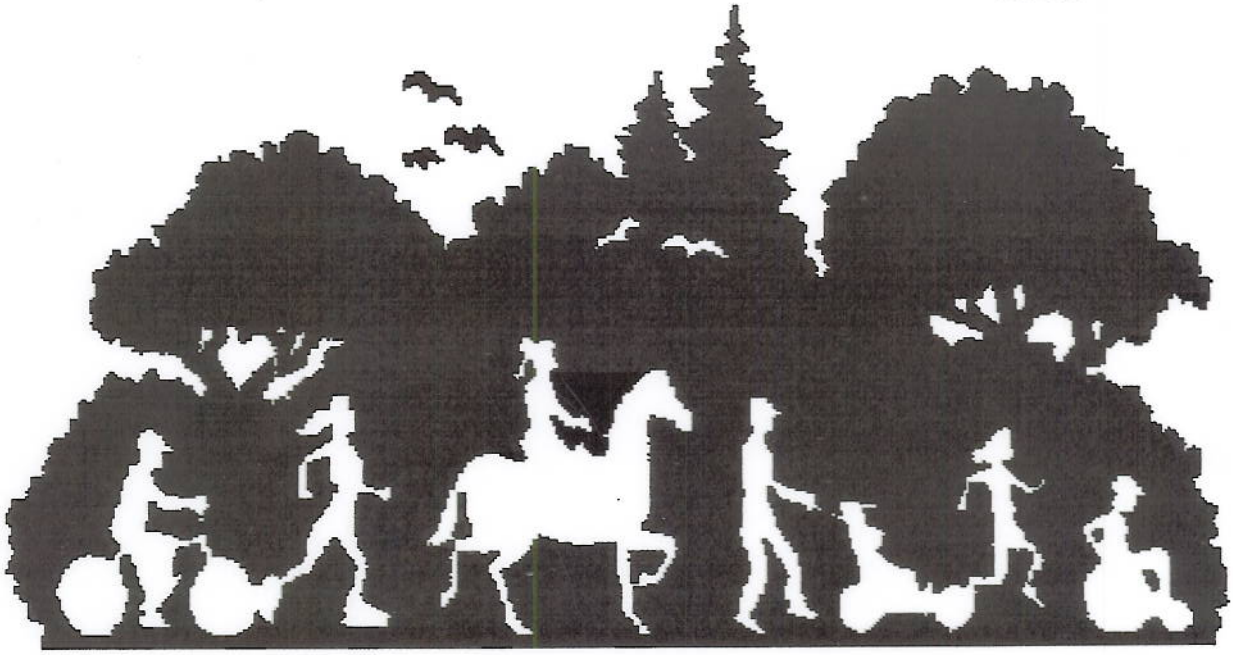
Tehama County Bikeways Plan

Tehama County Transportation Commission
Updated October, 2008
November, 2008- June, 2013



CITY OF CORNING
HOME OF THE QUEEN OLIVE

Welcome
CITY OF TEHAMA
EST. 1850 • INC. 1906
Little City of Big Trees

CITY OF RED BLUFF
CALIFORNIA · 1876

TABLE OF CONTENTS

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I. Introduction

The Tehama County Bikeways Plan originally prepared by the Northern California Planning and Research in 1999, and readopted in October of 2003, has been updated and prepared for re-adoption. The Bikeways Plan enables Tehama County and cities therein to be eligible to receive funding though state and federal bikeway trial funding programs. Bikeways Transportation Plan (BTA) adoption establishes eligibility for five consecutive Bicycle Trails Account funding cycles; the 2008-09, 2009-10, 2010-11, 2011-12 and 2012-13 fiscal years.

II. Purpose

The purpose of the Tehama County Bikeways plan is to provide a holistic approach to bikeways planning for bike and pedestrian facilities throughout the county. Alternative transportation improves the quality of life of citizens by providing modes of transportation that encourage exercise and reduces pollution.

II. Updated Items

Tehama County Transportation Commission has coordinated and solicited comments and documents from the public, Red Bluff Trails United, City of Red Bluff, City of Tehama, City of Corning, Tehama County and Caltrans. Documents and comments received were included in the Bikeways Plan. Updated pages or added pages include; Front Cover, Acknowledgments, Introduction, Countywide Priority Map (p.30), Red Bluff Long Range Routes Map (p.35), Short Range Implementation Plan (p.36), Countywide Short Range Priority map (p. 37, 37a, 37b), City of Red Bluff Priority Projects Description and map (p. 40, 41). Noteworthy changes are updated short and long-term priority maps for Red Bluff and Tehama County, updated list of priority projects for Tehama County and Red Bluff. The updated maps and project lists add additional trials to increase the connectivity to existing trails in Red Bluff. Also bikeways in the central county have been expanded to add connectivity between Proberta, City of Tehama, Los Molinos, and Dairyville.

III. Recent Projects Completed

Under the past Bikeways plan, the City of Red Bluff received two grants from the Bicycle Transportation Account to deliver projects identified in the plan. In 2003-04, Red Bluff received funding to Construct Class I Bikeway along Reeds Creek from Washington St. through River Park along Sacramento River to Pine St.; Class III on Ash St. from Jackson St. to Monroe St.; Class III on Monroe St. from Ash St. to Elm St.; Class II on Monroe St. from Elm St. to Encinal Dr.; Class II on Pine St. from Class I Bikeway to Rio St.; Class III on Rio St. from Pine St. to Walnut St.; Class III on Walnut St. from Rio St. to Paskenta Rd.

In 2006-07, additional money was received to fund the River Park Trail Extension Project. The extension was completed in 2007. Other sections of bikeway funded as part of the grant include; a Class II bikeway on Walnut Street from Paskenta Street to Monroe Street, and a Class III Bikeway on Walnut Street from Monroe Street to Rio Street. Construct a Class II Bikeway on Monroe Street from Ash Street to Walton Street and on Ash Street from Monroe Street to South Jackson Street. These two grants have helped to make much of Red Bluff accessible on bicycle and have been carried out by the efforts of Red Bluff Public Works and Red Bluff Trails United.

Additionally Tehama County received Safe Routes to School funding in March of 2008 to construct a bike path from Sebastian Court to Evergreen Middle School. This path will provide students and local residents access to the Middle School for sporting and community events. Future funding is needed to extend the path to the Bowman Road Park & Ride and has been incorporated into the updated bikeways plan. Additional projects will be completed as part of road improvement projects or as funding becomes available though various state and federal programs such as the Bicycle Transportation Account.

APPENDICES

Appendix A. Resolutions
Appendix B. Traffic Accident Data Maps
Appendix C. Red Bluff Trails United Map
Appendix D. Bicycle Parking Facilities
Appendix E. Land Use Maps
Appendix F. Letters of Support - Public Comments

GLOSSARY OF TERMS

BICYCLE FACILITIES
A general term denoting improvements and provisions made to accommodate or encourage bicycling including bikeways, bike parking facilities, lockers, etc.

BICYCLE TRANSPORTATION ACCOUNT (BTA)
Formerly Bicycle Lane Account (BLA), this statewide (California) program funds bicycle facility projects including bike paths, bike lanes, bike routes, bike racks on buses, bicyclist-sensitive traffic signals, planning and maintenance of bikeways, and bicycle parking facilities.

BIKEWAY
Any road, path, or route provided for bicycle travel.

CLASS I BICYCLE PATH
A bike facility that, "Provides a completely separated right of way for the exclusive use of bicycles and pedestrians with cross-flow minimized".

CLASS II BICYCLE LANE
A bicycle facility that, "Provides a striped lane for one-way bicycle travel on a street or highway".

CLASS III BICYCLE ROUTE
A bicycle facility, that "Provides for shared use with pedestrian or motor vehicle traffic".

COMMUTER CYCLIST
An individual who repetitively cycles over the same or similar route and uses a bicycle primarily for travel to and from work, school or shopping.

DESTINATION
Places where commuters travel such as schools, shopping areas, and workplaces.

MULTI-USE PATH
A facility that allows shared use by bicycles, pedestrians, roller-bladers, joggers, and other non-motorized vehicle transportation and is not a sidewalk.

ROADWAY
The portion of the street, including shoulders, designed for vehicle use.

TEHAMA COUNTY TRANSPORTATION COMMISSION (TCTC)
Tehama County's regional transportation planning agency charged with making transportation funding decisions through the Regional Transportation Plan (RTP).

TRAFFIC VOLUME
The number of vehicles that pass a given point during a given amount of time. For example, average daily traffic (ADT).

Chapter 1

Introduction

CHAPTER 1

1.1 Executive Summary

Summary

Northern California Planning and Research prepared this Tehama County Regional Bikeways Plan for the Tehama County Transportation Commission. A collaborative effort was undertaken to provide this comprehensive countywide planning document. Representatives from each jurisdiction formed the "Bicycle Advisory Committee" to guide the planning process. An extensive public participation component was conducted to identify local needs and values.

The Tehama County Bikeways Plan is intended to consolidate, into one comprehensive study, all background information related to bicycle transportation in Tehama County, and to present the community goals, objectives, and various implementation proposals for bicycle transportation enhancements for all jurisdictions of Tehama County.

Each city will have autonomy to pursue funding, implement projects, or develop programs identified in this plan. In the future this plan may be amended into local General Plans. In some cases non-governmental agencies, such as non-profit agencies or school districts, may also use the plan to pursue funding, implement projects, or develop programs.

Bicycle facilities, is a general term denoting improvements and provisions made to accommodate or encourage bicycling such as bike routes, bike lanes, and bike trails, as well as bicycle parking structures. Caltrans has specified definitions for bike lanes, routes, and trails:

Class I Bikeway (Bike Path). "Provides a completely separated right of way for the exclusive use of bicycles and pedestrians with cross-flow minimized".

Class II Bikeway (Bike Lane). "Provides a striped lane for one-way bicycle travel on a street or highway".

Class III Bikeway (Bike Route). "Provides for shared use with pedestrian or motor vehicle traffic". (For a more detailed description of Caltrans requirements and other design issues see Chapter 8, Design Guidelines.)

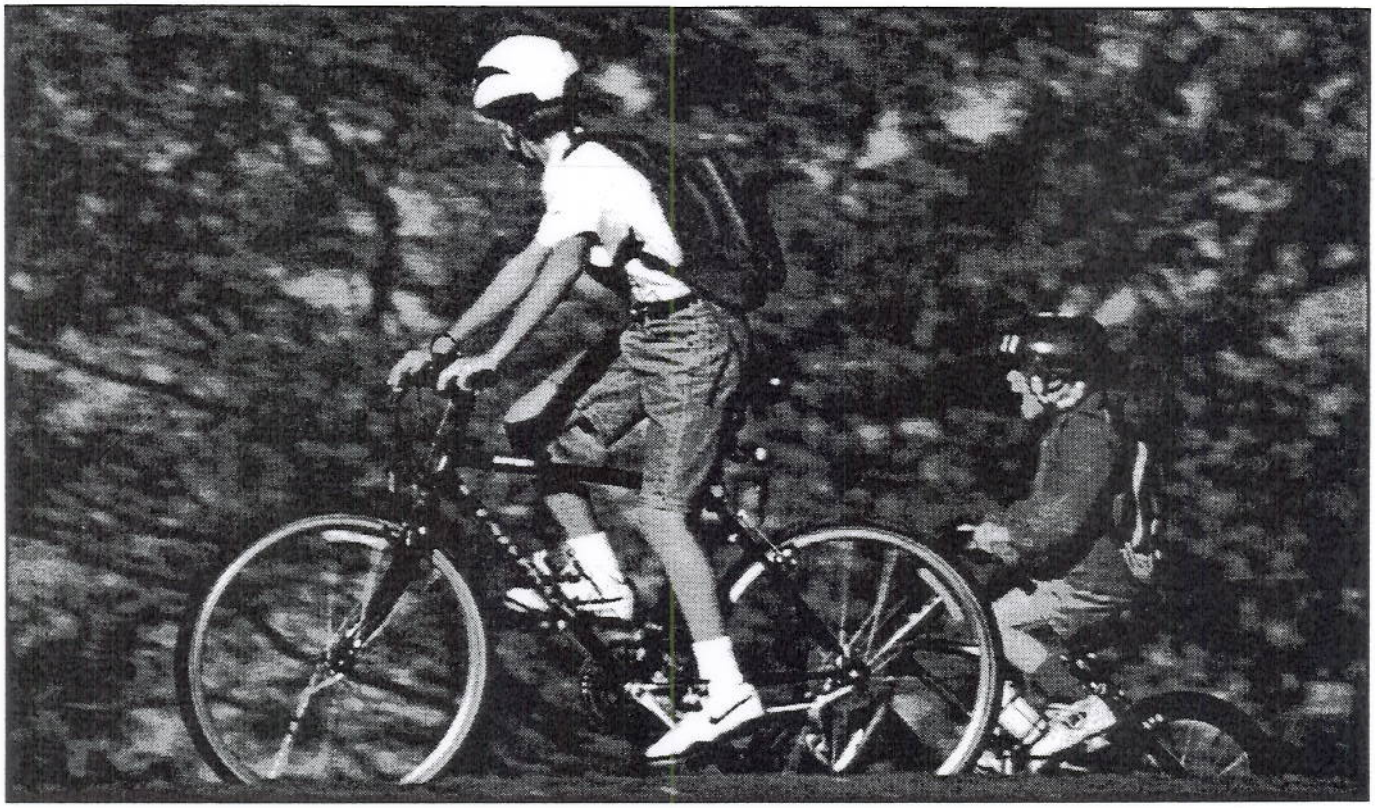
BICYCLE FACILITIES ARE DESIGNED TO IMPROVE ACCESS, SAFETY, AND CONVENIENCE FOR BICYCLISTS.

Bicycle facilities are designed to improve access, safety, and convenience for bicyclists. On road bicycling improvements are essential if bicyclists are to get to popular destinations such as school, the post office, stores, work, parks, and recreational destinations.

Typically, bicycling has been one of the least supported modes of transportation. This plan is intended to provide the framework to improve bicycling conditions in Tehama County.

An extensive public outreach program was conducted to determine problem areas, local values, and to generate ideas for solutions. Field research consisted of conducting an inventory roadway conditions and existing bicycling infrastructure, and identifying trip generators and destinations. This information was used to develop the *goals, objectives, and recommended actions* in Chapter 5, and the proposed bikeway network concepts in Chapter 6. The bikeway networks consist of the three classes of bikeway facilities. These networks will provide a framework for future bicycle transportation improvements

The proposed bikeway networks were analyzed to identify specific projects for short range implementation. The projects were identified using the following criteria: safety, access, cost-effectiveness, and ripeness (see Chapter 7. Priority Projects). While long term goals and projects are identified in this plan, the focus is on these short range (5 years) facility improvements.



This document adheres to the requirements of the California Bicycle Transportation Act which is included in the California Streets and Highways Code Section 890 through 894.2. Chapter 2 addresses these requirements. This document is consistent with the Goals and Policies of the Tehama County 1998 Regional Transportation Plan as well as other local plans (see page 15, Relationship to Other Land Use Plans).

Purpose

Bicycles have become a significant mode of transport in towns and cities that have provided access to quality places to travel. The growth and popularity of bicycling can be attributed to an increased recognition that bicycling is a viable alternative mode of transportation, particularly for short trips in urbanized areas. Bicycling has the benefit of providing transportation opportunities for segments of the population underserved by existing transportation services; namely children, seniors, and those who can not afford car ownership.

Bicycle touring and recreational riding have shown an increase in popularity due to the health benefits and general well being bicycling provides. It is often difficult to distinguish recreational riders from those who bicycle as a means of transportation. Bicycling, for whatever, purposes, offers fitness and enjoyment.

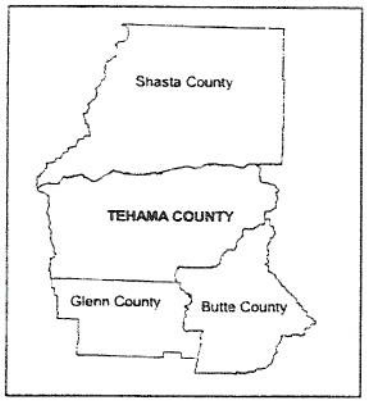
Bicycling can also contribute to quality of life improvements. By encouraging bicycling, communities can help to reduce air and noise pollution, traffic congestion, and generally make towns more desirable and livable.

1.2 Geographical Setting

Location

Tehama County is located approximately 200 miles north of San Francisco and 135 miles north of Sacramento at the northern end of the Sacramento Valley (see Location Map, Figure 1.1). Tehama County is surrounded by Shasta, Plumas, Butte, Glenn and Mendocino Counties. With the many streams, open spaces, rivers, woodlands, and abundant fish and wildlife, Tehama County has become an established recreational tourist destination. The Sacramento River flows southerly through the middle of the county and is one of the primary recreational attractions in the Sacramento Valley.

Location Map *figure 1.1*

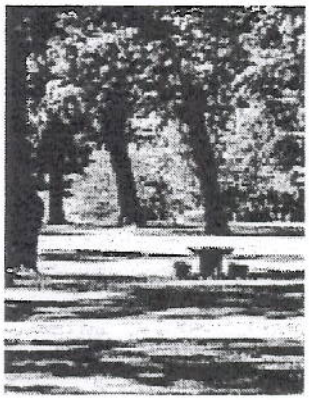


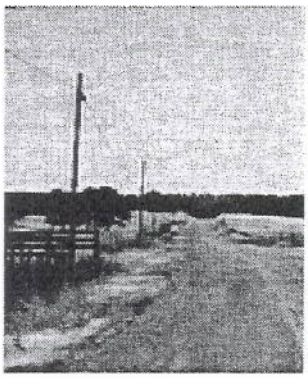
Tehama County has three incorporated cities, which range from regional centers to small farming and residential communities. Red Bluff, located along the Interstate 5 corridor at the northern end of the county, is the largest community in Tehama County, with a population of 13,828 (Dep. of Finance 2007 estimate). The City of Corning is located twenty miles south of Red Bluff and has a population of 7,226 DOF 2007. The smallest incorporated city in Tehama County is the City of Tehama. Tehama is nestled on the west bank of the Sacramento River in the southern end of the county and has a population of 429 (DOF 2007).

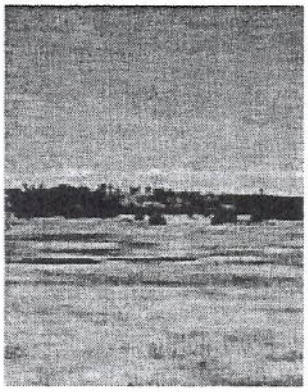
There are also a number of unincorporated communities of significance in the Tehama County planning area. Located just north of the Butte County line is the small community of Vina. Further north on SR 99E lie the communities of Los Molinos and Dairyville. Northwest of Tehama are the communities of Gerber and Proberta. North of Red Bluff south of the Shasta County line is the community of Bowman. The percentage of the total Tehama County population living in the unincorporated portions of the county is roughly

Topography

The Tehama County landscape is characterized by gentle, essentially flat topography. To the east of the valley is a gradual transition from the low elevation (300') agricultural landscape through rolling foothill landscape and eventually to high elevation mountainous terrain dominated by Mt. Lassen and other high mountain peaks. To the west the landscape gradually ascends through the oak woodlands and up the eastern flanks of the rugged coast range. This area of Tehama County is peaked by the Yolly Bolly Wilderness Area with elevations up to 7,800 feet.







Climate

Warm, dry summers, and cool, wet winters characterize the climate in Tehama County. Most precipitation occurs from November through April. During the summer months the average maximum temperature is approximately 95 degrees. Annual rainfall in the county ranges from 23 inches on the valley floor up to 55 inches or more in the remote mountain reaches of the eastern portions of the county. The valley floor occasionally experiences tule fog during the winter, which can be hazardous at times. Snowfall is rare in the populated regions of the county, although the higher elevations receive significant snowfall.

Character

Tehama County has a rich diversity of landscapes and land uses. The agricultural lands of the flat southern and valley areas are utilized for orchard crops, grazing land, and field crops. The communities that dot the landscape are generally rural in character. The rugged mountainous areas of eastern and western Tehama County are primarily public lands and recreational areas. The rural character of Tehama County is attractive to recreationalists, retirees, and many others seeking a quiet place to live.

LEGAL REQUIREMENTS

CHAPTER 2

CHAPTER 2

2.1 Legal Basis

The Tehama County Bikeways Plan has been prepared pursuant to the California Bicycle Transportation Act and is directed towards meeting the provisions of the Act and the California Street and Highways Code Chapter 517, Article 3, Sections 890 - 894.2. The Tehama County Bikeways Plan addresses these requirements through narrative, tables, and maps.

The BTA requirements are intended to provide a comprehensive framework for the development of bikeway improvements. Bikeway development considerations should include: the existing transportation system, present and future land uses (origins and destinations), coordination with other plans, bike safety programs, and past expenditures.

The California Bicycle Transportation Act places high importance on the promotion of bicycle commuting. Project evaluation for the Bicycle Transportation Account includes the following criteria:
The project should:

- Primarily be used by bicycle commuters
- Have the potential to increase bicycle commuting.
- Improve the continuity with existing bikeways.
- Provide a direct route to activity centers such as schools, employment centers, shopping districts, etc.

Below is the Streets and Highways Code 891.2, with a brief description of how, and in which chapter, this plan addresses specific requirements.

2.2 Streets and Highways Code 891.2

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

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.
See Chapter 3. Existing Conditions

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.
See Appendix E. Land Use Maps and chapter 6. Long Range Implementation Plan

A map and description of existing and proposed bikeways.
See Chapter 6. Long Range Implementation Plan and Chapter 7. Short Range Implementation Plan

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.
See Chapter 3. Existing Conditions and Chapter 7. Short Range Implementation Plan

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.
See Chapter 3. Existing Conditions and Chapter 7. Short Range Implementation Plan

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.
See Chapter 3. Existing Conditions (description only)

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.
See Chapter 3. Existing Conditions

A description of the extent of citizen and community involvement in development of the plan, including, but not limited to, letters of support.
See Chapter 4. Participation and Appendix F. Letters of Support

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.
See Chapter 3. Existing Conditions

A description of the projects proposed in the plan and a listing of their priorities for implementation.
See Chapter 7. Short Range Implementation Plan

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.
See Chapter 3. Existing Conditions and Chapter 7. Short Range Implementation Plan

EXISTING CONDITIONS

CHAPTER 3

CHAPTER 3

3.1 Bicycle Commuting in Tehama County

General Commuting Characteristics

Tehama County is a rural area with extended distances between population centers, and the existing commuting patterns favor automobiles. Great distances, and in some cases difficult conditions, make regional commuting by bicycle a challenge. The terrain in the populated areas of Tehama County, however, is relatively flat and well suited for travelling by bicycle.

Estimated and Projected Number of Bicycle Commuters

Table 3.1 shows the estimated number of bicycle commuters in the plan area (2000 Census). Census data does not include school children making trips. Field observations in Red Bluff, Corning, and Los Molinos show school children as the most numerous bicycle "users" in the County.

A field study was conducted in Red Bluff and Corning to determine the number of school children who bicycle. The field study was conducted on a mild-weathered day in March. The number of bicycles counted at local schools in Red Bluff and Corning was 162.

Combining the census data, school bike commuter data, and using the Department of Finance (DOF) 1999 population estimates, it is estimated that the number of bicycle commuters in Tehama County in the year 1999 is 414.

Using an increase of 15% for bicycle commuting, assuming full implementation of this plan, the estimated total bicycle commuters in Tehama County in the year 2020 will be 724.

3.2 Past Expenditures for Bicycle Facilities

City of Red Bluff

Expenditures for bicycle facilities have been limited in Tehama County. In 1994 the City of Red Bluff received $223,600 of State Proposition 116 (Safe Routes to School) funding. The funding helped enhance roadway conditions on South Jackson St. from Vista St. to Crosby Dr. and on Monroe St. from Breckenridge to Manzanita. Improvements included street widening and adding curbs, gutters, and sidewalks.

County of Tehama

Just outside the City of Red Bluff, off Sale Lane, is a Federal Recreation Area with an extensive network of recreational trails. The expenditures for these trails is not known. Some roadway improvements have been added to Sale Lane to provide connections to the recreational trails. However, these facilities were not built to Caltrans standards (only one side of the roadway has a lane). The cost for these improvements was $218,500.

TABLE 3.1 NUMBER OF BICYCLE COMMUTERS

Location	Bicycle Commuters
Tehama County	113
City of Red Bluff	42
City of Corning	22
City of Tehama	0
Gerber-Las Flores	0
Los Molinos	13
Total	190

Census of Population and Housing, 2000

3.3 Existing Bicycle Transport and Parking Facilities

Tehama County

Public transportation in Tehama County is provided by TRAX—Tehama Rural Area Express. All TRAX buses are equipped with bicycle racks to accommodate two bicycles, and drivers are available for loading assistance. The TRAX Diamond Express route loops from Red Bluff to Tehama on State Route 99E and 99W. The Starlight Express Route provides service between Red Bluff and Corning (see pages 9-10, Regional Transportation Opportunities). The Diamond Express line connects with the local bus service route —the Red Bluff Bull— at St. Elizabeth Community Hospital. The Starlight Express connects with the Check Out Corning inner city route at the transit center on Solano St.

Bicycle parking facilities are provided at some of the designated Starlight Express and Diamond Express Stops (see Table 3.2 Inventory of Bicycle Parking Facilities at Transit Stops). Caltrans bicycle plan requirements emphasize (see Chapter 2, Legal Requirements) the development of multi-modal transportation opportunities, such as providing bicycle parking at transit points.

In Table 3.2 stops that have connective significance have been identified. These stops are either transfer points to local serving transit or other transportation modes. These stops have been identified as being valuable in developing multi-modal opportunities for bicycle commuting. Some transit providers have found that they can extend their service area by 400% by including a radius of 2-3 miles from each stop. Bicyclists are willing to ride 2-3 miles to get to transit that is welcoming, comfortable, efficient, and convenient. Bicycle parking facilities have been recommended for all the stops identified as having connective significance (see Regional Bicycle Parking Maps, page 11).

Cities of Corning and Red Bluff

The Cities of Corning and Red Bluff have secure bicycle parking throughout town. Most of the bicycle parking "racks" are located at the local schools (see Local Bicycle Parking Maps pages 12-13). Bicycle parking facilities have been proposed for key destination points and intermodal sites in the Cities of Red Bluff and Corning.

TABLE 3.2 INVENTORY OF BYCICLE PARKING FACILITIES AT TRANSIT STOPS

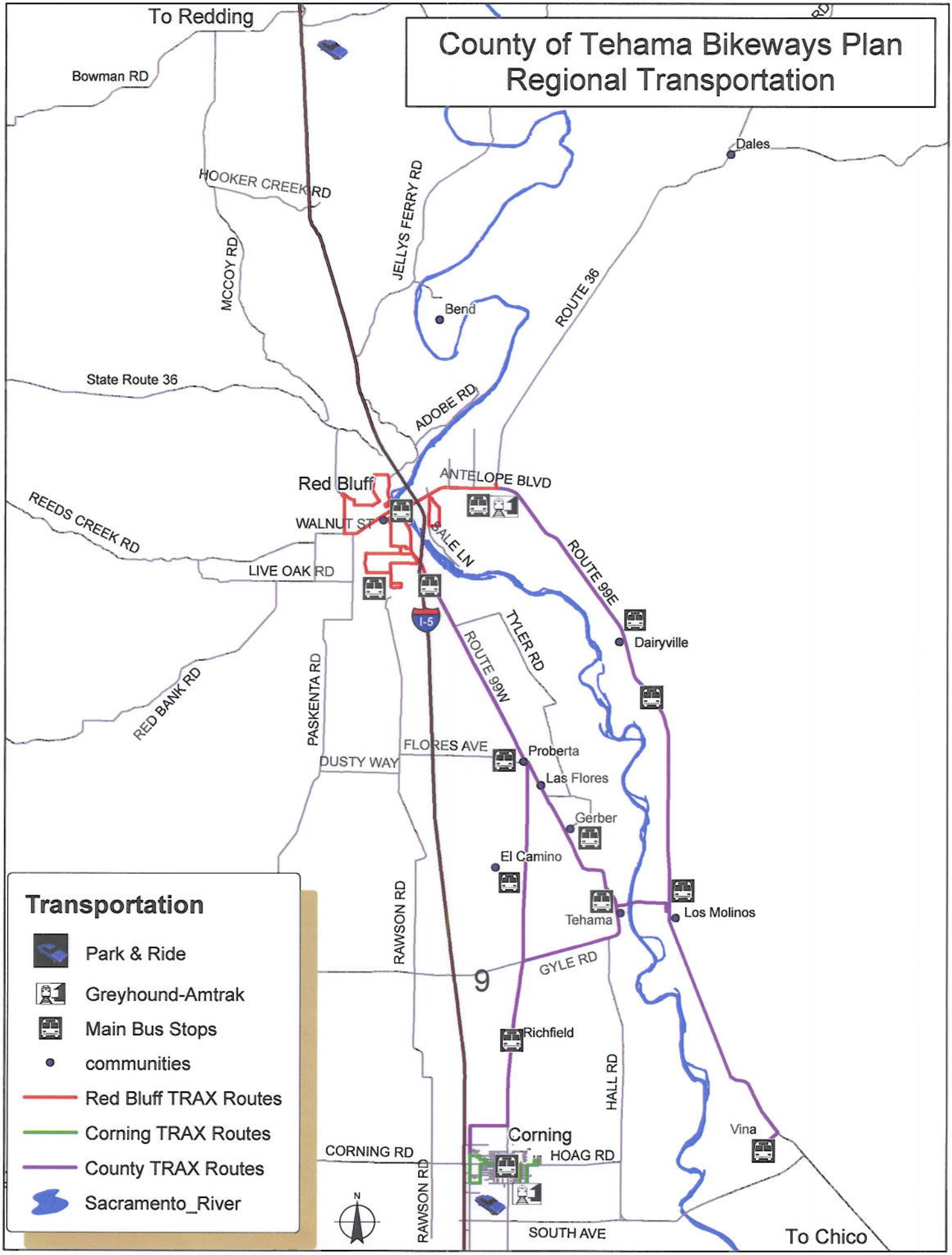
bold indicates connective significance

DIAMOND EXPRESS

	Bike parking Available
Harvey's Market,, Proberta	
Las Flores, @San Benito Ave	
Tehama County Public Works, Gerber	
Nu-Way Market, Gerber	
Tehama Museum @ C St.	
Los Molinos US Post Office	
Connections Real Estate, Los Molinos	
Dairyville @ SR 99E	
Los Robles Grocery, LOs Robles	
Holiday Market @ Antelope	•
Sacred Heart Church	
Baskin-Robins Ice Cream, Main St.	
Tehama County Courthouse @ Walnut	
Tehama Cnty Health Center @ Walnut	
Walnut St. @ Paskenta Rd.	
Paskenta Rd @ Luther Rd.	
Wiggley's @ Luther Rd.	
Raley's @ Main St.	
St. Elizabeth Community Hospital	
Sierra Pacific Industries @ Reading Rd	
Louisiana Pacific @ Reading Rd.	
Wal-Mart Distribution Center	•

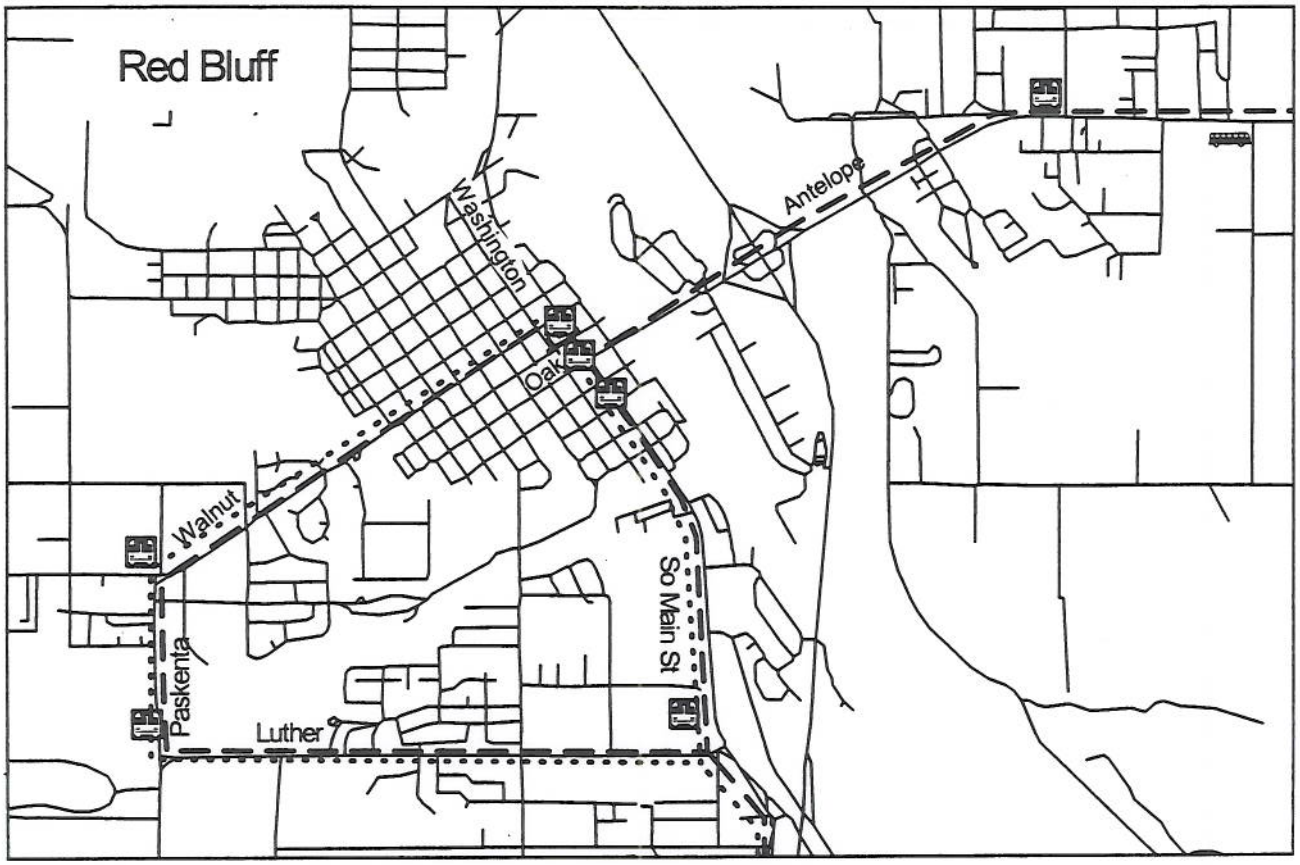
STARLIGHT EXPRESS

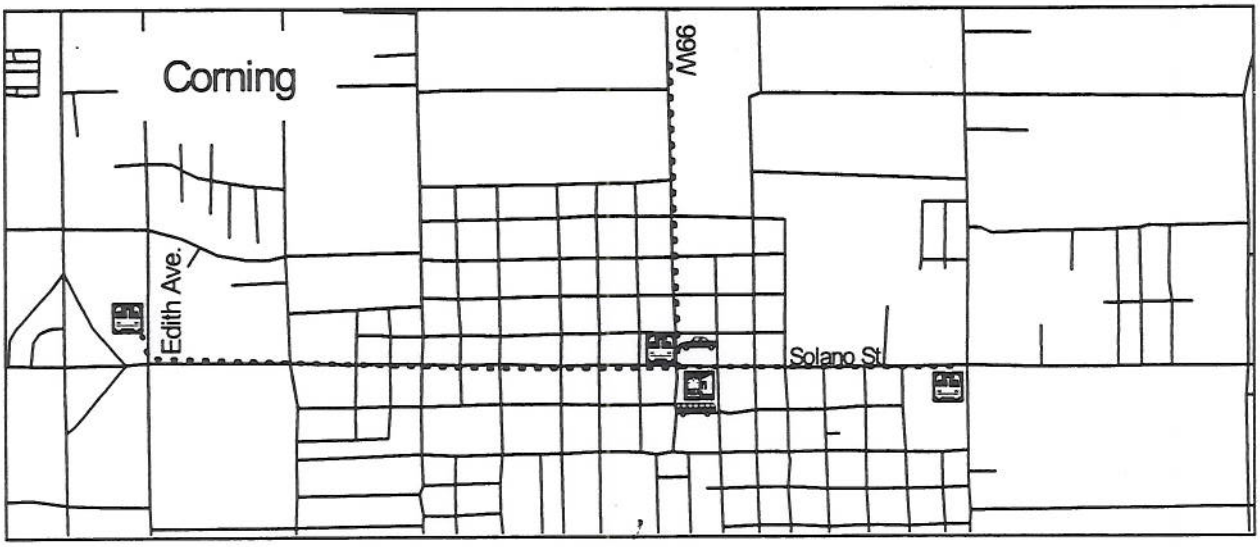
	Bike parking Available
Safeway @ Edith Ave., Corning	•
Corning City Hall @ Solano St.	•
Richfield Highway 99W @ Sonoma Ave.	
El Camino Irrigation District @ 99W	
Nu-Way Market, Gerber	
Tehama County Public Works, Gerber	
Harvey's Market	
Wal-Mart Distribution Center	•
Sierra Pacific Industries @ Reading Rd	
Louisiana Pacific @ Reading Rd.	
Tehama County Courthouse @ Walnut	
Walnut St. @ Paskenta Rd	
Paskenta Rd @ Luther Rd.	
PG&E @ Luther Rd.	
Raley's @ Main St.	•
St. Elizabeth Community Hospital	


County of Tehama Bikeways Plan
Regional Transportation
To Redding
Bowman RD
HOOKER CREEK RD
MCCOY RD
JELLYS FERRY RD
Bend
Dales
ROUTE 36
State Route 36
ADOBE RD
Red Bluff
ANTELOPE BLVD
WALNUT ST
SALE LN
REEDS CREEK RD
LIVE OAK RD
I-5
ROUTE 99E
Dairyville
TYLER RD
ROUTE 99W
PASKENTA RD
RED BANK RD
FLORES AVE
DUSTY WAY
Proberta
Las Flores
Gerber
El Camino
Tehama
Los Molinos
RAWSON RD
GYLE RD
9
Richfield
HALL RD
Vina
Corning
CORNING RD
HOAG RD
SOUTH AVE
To Chico
Transportation
Park & Ride
Greyhound-Amtrak
Main Bus Stops
communities
Red Bluff TRAX Routes
Corning TRAX Routes
County TRAX Routes
Sacramento_River
N

County of Tehama Bikeways Plan

Regional Transportation Opportunities





Diamond Express

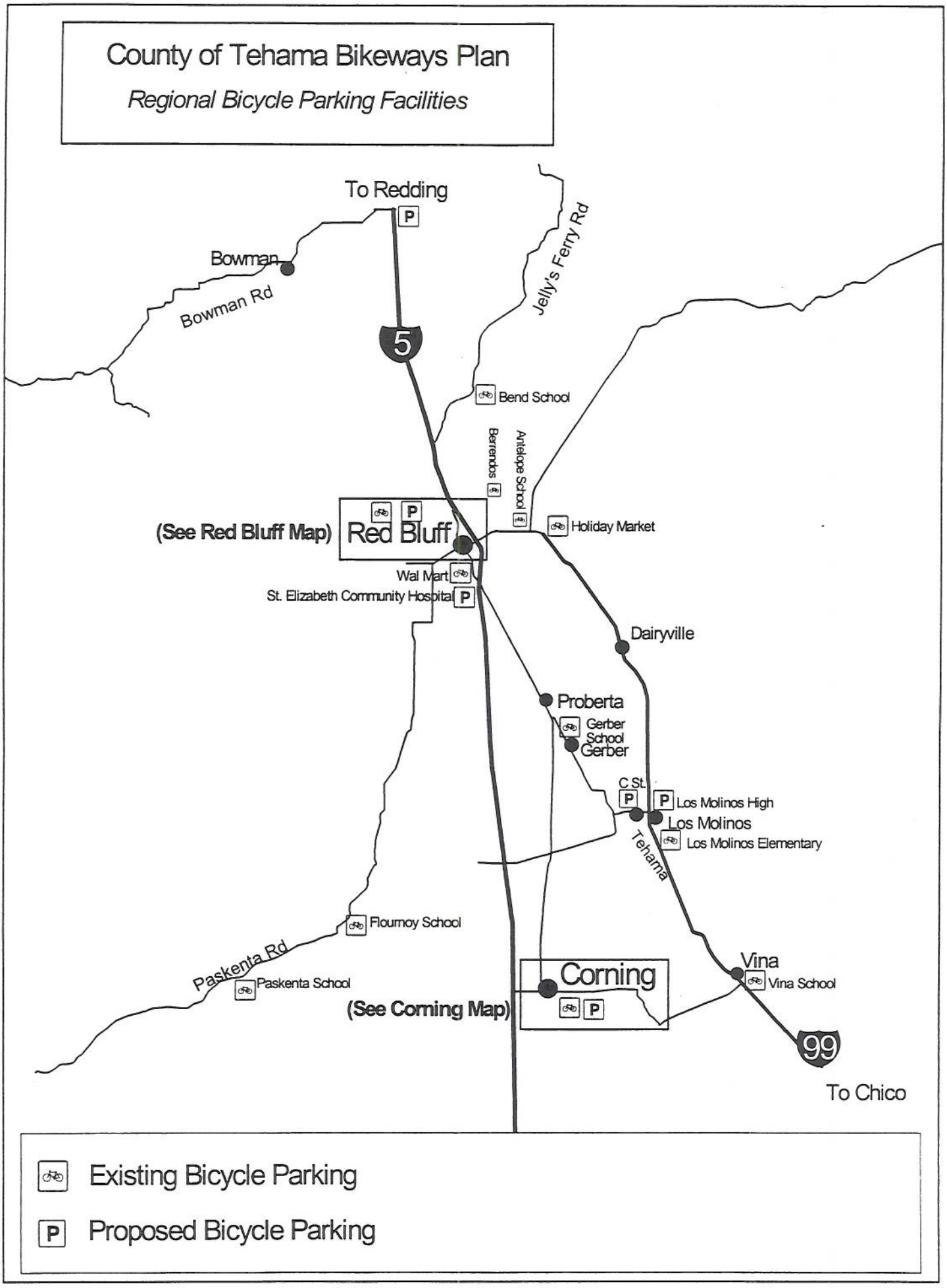
Starlight Express

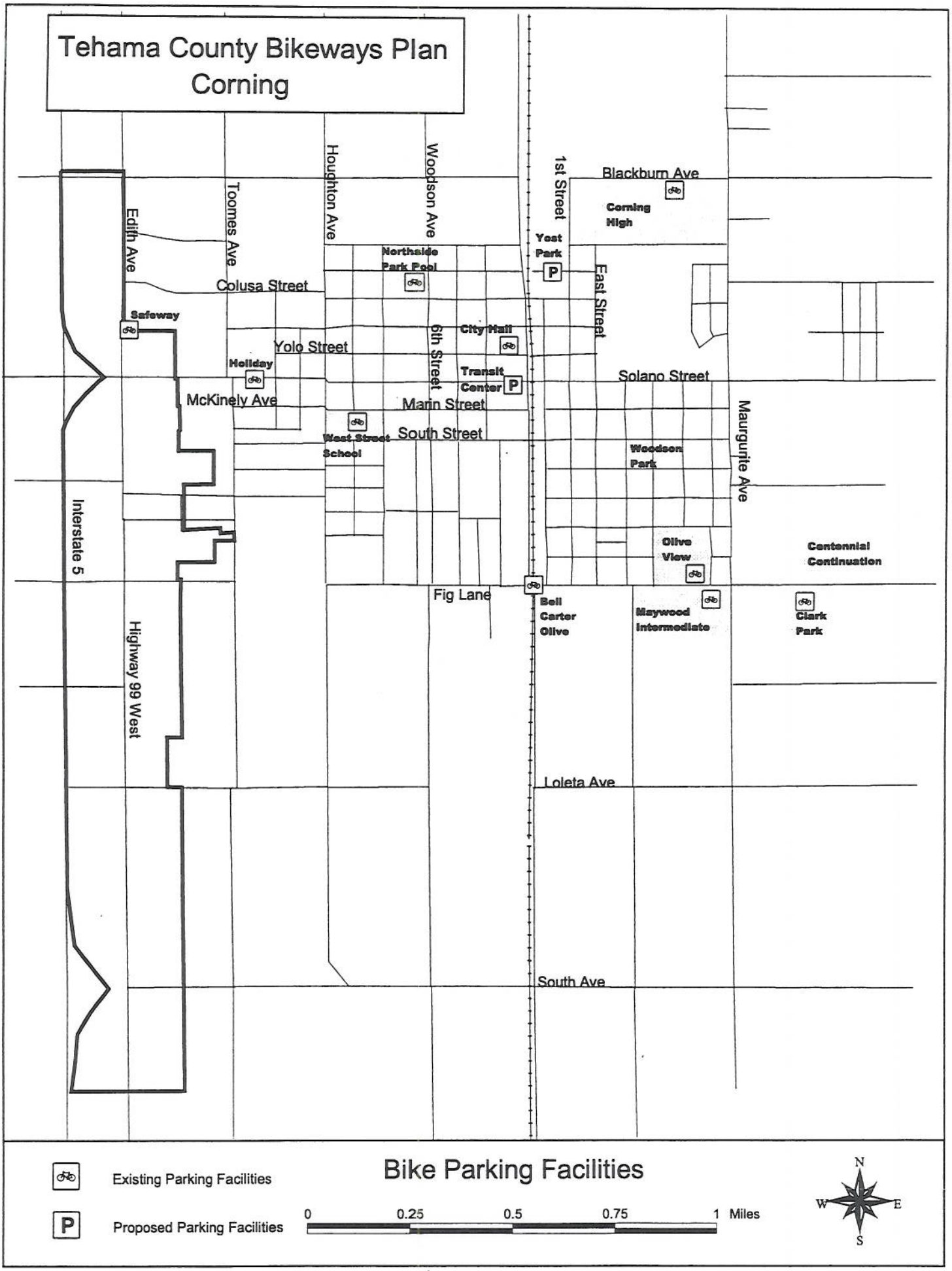
Bus Stops

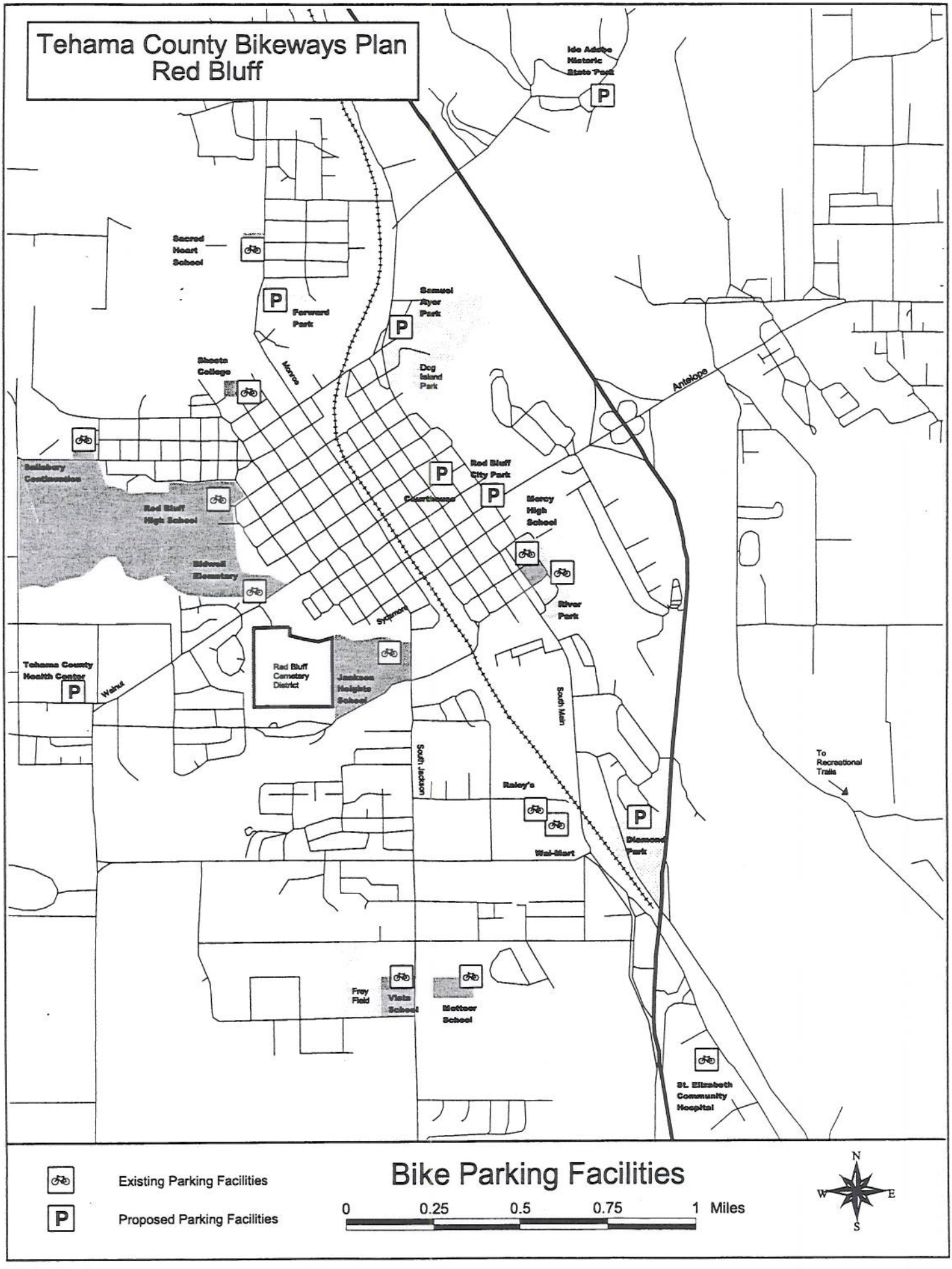
Transit Center

Park and Ride

Greyhound


County of Tehama Bikeways Plan
Regional Bicycle Parking Facilities
To Redding
P
Bowman
Bowman Rd
Jelly's Ferry Rd
5
Bend School
Berrendos
Antelope School
(See Red Bluff Map)
Red Bluff
P
Holiday Market
Wal Mart
St. Elizabeth Community Hospital
P
Dairyville
Proberta
Gerber School
Gerber
C St.
P
P
Los Molinos High
Los Molinos
Los Molinos Elementary
Tehama
Flournoy School
Paskenta Rd
Paskenta School
Corning
(See Corning Map)
P
Vina
Vina School
99
To Chico
Existing Bicycle Parking
P
Proposed Bicycle Parking


Tehama County Bikeways Plan
Corning
Edith Ave
Toomes Ave
Houghton Ave
Woodson Ave
1st Street
Blackburn Ave
Corning High
Yost Park
P
Northside Park Pool
Colusa Street
East Street
Safeway
City Hall
Yolo Street
6th Street
Holiday
Transit Center
P
Solano Street
McKinely Ave
Marin Street
West Street School
South Street
Woodson Park
Maurguite Ave
Interstate 5
Olive View
Centennial Continuation
Fig Lane
Bell Carter Olive
Maywood Intermediate
Clark Park
Highway 99 West
Loleta Ave
South Ave
Existing Parking Facilities
Proposed Parking Facilities
Bike Parking Facilities
0
0.25
0.5
0.75
1 Miles
N
W
E
S


Tehama County Bikeways Plan
Red Bluff
Ide Adobe Historic State Park
Sacred Heart School
Forward Park
Samuel Ryor Park
Shasta College
Morris
Dog Island Park
Antelope
Salisbury Continuation
Red Bluff High School
Eldwell Elementary
Red Bluff City Park
Courthouse
Mercy High School
River Park
Sycamore
Tehama County Health Center
Walnut
Red Bluff Cemetery District
Jackson Heights School
South Main
South Jackson
To Recreational Trails
Raley's
Wal-Mart
Diamond Park
Frey Field
Vista School
Mettaer School
St. Elizabeth Community Hospital
Existing Parking Facilities
Proposed Parking Facilities
Bike Parking Facilities
0 0.25 0.5 0.75 1 Miles
N
W
E
S

3.4 Existing and Proposed Facilities for Changing and Storing Clothes and Equipment

Countywide

There are no existing facilities for changing and storing clothes and equipment.

Due to the population levels of the County, and the infancy of the bikeway planning process, no such facilities have been proposed.

3.5 Bicycle Safety and Education Programs

California Highway Patrol

The California Highway Patrol in Tehama County has no formal bicycle education program, however they do provide safety presentations to schools or community groups as requested. The bicycle safety presentations are geared towards bicyclists 14 years and younger and are usually in the form of a "bicycle rodeo". Bicycle rodeos typically involve bicycle exhibits, setting up 6 to 10 skill stations testing riders' handling skills, and guidance from a law enforcement representative to teach in-traffic-riding behavior.

A mandatory bicycle helmet enforcement program (for children under 18) went into effect in January of 1995. Citations or verbal warnings are issued as needed.

City of Red Bluff Police Department

The City of Red Bluff Police Department has no formal bicycle safety education program, however there is a School Resource Officer available to give presentations as requested and bicycle safety pamphlets are available for distribution. The Red Bluff Police Department does offer a Bicycle Violators Program. This program educates violators of bicycle laws on proper etiquette and rules of the road. It is held on Saturdays for two hours and is focused towards bicyclists 14 years and younger.

The City of Red Bluff is currently working on obtaining grant money to develop a fully operational bicycle safety program. The bicycle helmet law is enforced with citations, issuance into the "violators program," or verbal warnings.

City of Corning Police

The City of Corning Police Department facilitated a series of Bicycle Saftey Education workshops for school age children in the summer of 1999. The workshops consisted of skills training and law enforcement education.

Tehama County Sheriffs Department

The Tehama County Sheriff's Department has no formal bicycle education programs. The Tehama County Sheriff's Department relies on the California Highway Patrol and cities within the county to cover bicycle safety issues for the county. The bicycle helmet law is enforced with citations or verbal warnings.

Red Bluff Elementary School District

The School District offers no formal bicycle education programs, however, it does work in conjunction with the Red Bluff Police Department, at schools' requests, to educate young bicyclists.

Several teachers in the elementary schools are actively working with their classes on bicycle safety issues. They emphasize the importance of helmets and proper bicycling techniques. In some classes bicycles are used as transportation on field trips.

Red Bluff Community Organizations

In the spring of 1999 a bicycle rodeo was held to teach children effective riding skills and rules of the road. Several groups were involved in the project including departments from the City of Red Bluff, Red Bluff Trails United, elementary school representatives, and other community groups.

3.6 Relationship to Other Land Use Plans

Bicycle transportation planning, like all transportation planning, is a regional effort. County and Municipal General plans in the region each have circulation elements pursuant to California Government Code Sections 65103 (f) and 65080 and are mandated to have no conflict with applicable state and regional transportation plans. The following section is an overview of the transportation goals set forth in relevant state, county and municipal plans.

Caltrans

California Transportation Plan

The California Transportation Plan is a long-range plan that provides direction for planning, developing, operating, and maintaining California's transportation system. The plan is required by the federal Intermodal Surface Transportation Efficiency Act of 1991, and was developed under SB 1435 (Chapter 1177, 1992 Statutes) and Governor's Executive Order W-36-92. It was developed by the California Department of Transportation in cooperation with other state agencies and departments, local governments, and interested members of the public and the private sector.

The California Transportation Plan includes Tehama County in the Sacramento Valley region. The Sacramento Valley includes Tehama, Glenn, Butte, Colusa, Yuba, Sutter, Yolo, Sacramento, and western Placer and El Dorado counties. Issues identified by the plan for this area are the accommodation of growth; providing for the competing demands of commerce, commute and recreational travel; transit services; equitably funded roadway maintenance; and funding of needed interregional highway improvements.

Following is selected policies that relates to bicycle transportation planning:

POLICY 3: TRANSPORTATION DECISIONS WILL PROTECT THE ENVIRONMENT AND PROMOTE ENERGY EFFICIENCY WHILE IMPROVING MOBILITY.

Objective A: Balance transportation, energy, economic, and environmental goals.

Objective C: Transportation decisions respect community values.

Bicycling Map, District 2

Caltrans District 2, has published a bikeway map including several routes through Tehama County. In Tehama County bicycling is prohibited on I-5 from the Butte County line to Adobe Road just North of Red Bluff. Caltrans identifies SR 99E as a north-south alternative from the Butte County line through Red Bluff. Bicycling is permitted on I-5 from Adobe Road to the Bowman Road/ Main Street interchange. The alternative route north at this point is Main Street through Cottonwood. The Tehama County Bicycle Corridors map on page 29 is consistent with the routes identified by Caltrans.

Tehama County

The County of Tehama enacted a comprehensive general plan in 1983, and the Circulation Element was last updated in 1997. The circulation and land use elements contain goals and policies for guiding the residential and commercial industrial growth in order to enhance the efficient use of lands and transportation, including non-motorized transportation.

Bicycle and pedestrian facilities in Tehama County exist in a few locations of pressing need in populated regions. As stated in the Tehama County General Plan, the rural nature of most of the communities precludes development of extensive non-motorized transportation facilities; however, a few statements in the General Plan encourage the development of bicycle facilities. There are numerous goals and objectives in the Tehama County General Plan and Regional Transportation Plan that relate to bicycle transportation. A brief summary of the primary goals and objectives in the General Plan, follows. For a detailed discussion regarding the implementation and policies that relate to the below goals and objectives, refer to the Tehama County Circulation Element, Revised April 29, 1998.

GOAL

- Encourage increased bicycle and pedestrian travel in the spheres of influence of the City of Red Bluff and the City of Corning, by economically feasible development of a safe and convenient system of bicycle routes, trails, terminal facilities and pedestrian walkways.

- Maintain environmental quality by decreasing air pollutants caused by the circulation and transportation system, and conserve energy used for transportation.

OBJECTIVE

- Develop a land use pattern which mitigates, where feasible, potential adverse air quality and energy consumption impacts of the automobile.

- Provide, where feasible, transportation alternatives to the automobile in urban areas.

- Increase the total mileage of safe bike routes, bike trails and pedestrian walkways within the urban spheres of the Cities of Red Bluff and Corning and within the County along selected State highways and County roads.

- Increase terminal bike facility parking security within the urban spheres at selected locations including schools, libraries, parks and other public facilities.

- Increase safety and ease of access for bikes and pedestrians to city and county schools.

Tehama County Regional Transportation Plan

A bicycle route system consisting of Class III facilities is identified for Red Bluff by the Regional Transportation Plan (1990).

Tehama County is in the process of updating the Regional Transportation Plan. It is expected that the goals in the Regional Transportation Plan will be compatible with the Tehama County Bikeways Plan.

City of Red Bluff

The Red Bluff General Plan is consistent with bicycle transportation goals of the region as the document encourages bicycle use, enhancing bicycle facilities, and bicycle safety.

GOAL

- High Degree of safety in all transportation modes

OBJECTIVES

- Promote the safety of pedestrians and cyclists on streets and roadways.

- Reduce Average Daily Traffic (ADT) trips

POLICIES

- Bicycle lanes shall be considered in construction or upgrade of roads, overpasses, and bridges.

- New bicycle lanes shall be connected with the existing bikeway system wherever feasible.

- Existing bicycle facilities should be maintained and upgraded, and new ones added if necessary

- Promote the use of bicycling and walking as an alternative to automobile use.

The Red Bluff Park System Plan Element of the City's General Plan (1974) identifies an ambitious trailway system circling the City and linking it to Ide Adobe State Park and the Sacramento River Discovery Center. The 1974 Plan was later included in the City's Circulation Element (1991). In 1999 a feasibility study of phase one of the trailway system was conducted to determine technical feasibility, costs, benefits to the community, and potential community concerns.

For several years a community group known as Red Bluff Trails United has been actively pursuing the development of this trailway system. Red Bluff Trails United is a local volunteer organization comprised of citizens from the local business community, school districts, and city officials with guidance from California

State University, Chico and the National Park Service. The Red Bluff Trails United proposed trailway has been included in the Long Term Implementation Plan, and "Phase One" of the proposed trailway have been integrated into the road network of priority projects (see Appendix C, Red Bluff Trails United Map and Chapter 7. Short Range Implementation Plan).

City of Corning

Corning's recent General Plan update contains the below references to bicycle planning issues and concerns.

GOALS

- Improve bicycle safety.
- Encourage transportation systems other than single driver automobile.
- Create an integrated network of bicycle and walking trails throughout the planning area.

POLICIES

- Encourage alternate forms of transportation other than the single automobile, and place a high priority on the use of bicycles within the Corning planning area.
- Take a proactive position in regional transportation issues that involve the Corning area.

TO IMPLEMENT THESE THAT RELATE TO BICYCLE PLANNING.

- Create and implement a Transportation System Management (TSM). Adopt a bicycle and walking trails plan to provide a contiguous path system for the City.
- Place bicycle racks in commercial areas and employment centers.

Tehama

A group from Chico State University developed a preliminary General Plan in 1997. At this time the document is being used as an interim General Plan. The circulation information in that report relating to bicycle travel recommends that the City of Tehama:

- Promote the use of bicycles in and around Tehama.
- Paint bicycle lanes and/or install signs warning motorists of the presence of bicycles.

Adjacent County Bikeway Plans

Adjacent county plans were evaluated for their potential to provide opportunities for interregional bicycle routes. Adjacent counties to the west and east have limited commuting and touring connection opportunities due to their mountainous and remote nature.

Shasta County

Shasta County to the North has identified selected routes as bicycle corridors. One such corridor is Balls Ferry Road from Cottonwood to Deschutes Road. Another corridor is Gas Point Rd. from Cottonwood to Redding. These corridors can be accessed either from the Main St. underpass at Bowman or from Jelly's Ferry Road.

Butte County

Butte County does not address interregional routes in its bicycle plan. It does, however, inventory the conditions along SR 99E in northern Butte County. According to the Butte County Bikeways Plan the road conditions for bicycling at the Tehama County/Butte County line are good.

PARTICIPATION

CHAPTER 4

CHAPTER 4

4.1 Community Involvement

An extensive public outreach and planning effort was designed to facilitate community involvement in the preparation of this plan. Four public meetings were held, from January 1999 through February 1999, in Red Bluff, Corning, Tehama, and the Bowman area. Newspaper ads were published and flyers were distributed to promote the events. About 80 people participated in the meetings.

The public meetings were designed to address the communities' needs and concerns. The public meetings consisted of a background slide show on bicycle planning and design concepts. Participants were then asked to help identify different bicycle users in their area, barriers to bicycle use, and opportunities for bicycle facility and program improvement.

The final draft of this plan was made available to the public at several locations. Participants were notified of the draft plan by a direct mailing and a newspaper ad. At the request of one of the participants, a bicycle "users" survey was developed and located in a bicycle store in Red Bluff. Unfortunately, only one person responded to the survey.

These public meetings led to the development of the goals, objectives, and recommended actions in Chapter 5.

4.2 Bicycle Advisory Committee

An advisory committee was established at the start of the project. The committee was established to provide direction and technical expertise in the formation of this document. (Recommended Action 1.2.1 recommends the continuation of the Bicycle Advisory Committee to facilitate the implementation of this plan.) The advisory committee consisted of the public works directors from the Cities of Corning, Red Bluff, and Tehama County, the mayor of Tehama, as well as staff from the Tehama County Transportation Commission and Red Bluff Community Development Department. An administrative draft of this plan was submitted to the bicycle advisory committee on May 19, 1999. Subsequent meetings were held with the bicycle advisory committee to discuss comments on the revisions of the administrative draft.

4.3 Public Meetings

CITY OF CORNING

On January 27, 1999, a public meeting was held at the City of Corning City Hall. The meeting consisted of a background slide show on bicycle planning and design concepts. Participants were then asked to help identify different bicycle users in their area, barriers to bicycle use, and opportunities for bicycle facility and program improvement. The following is a list of the notes recorded at the meeting:

BIKE USERS IN CORNING

- Recreational Users
- Students to school
- Commuters
- Exercise
- Errands

OBSTACLES/BARRIERS

- Main St/Solano traffic
- Side street traffic
- No stop signs in residential areas
- No defined routes to school
- Conditions of streets
- Residential traffic speeds
- Speed problems
- Highway 99 has no provisions for cyclists
- Back roads narrow
- All north/south streets are narrow
- Railroad tracks
- Crossings on Main St/Solano
- Schools have few parking spaces-leads to congestion
- Edith Ave. needs crosswalk
- No bike racks-Safeway, Holiday, etc.
- Toomes and ditches unsafe

SOLUTIONS/OPPORTUNITIES

- Make provisions for bikes in new projects
- Use specific plan to help build bikeways
- Use storm drain right of way north of town
- Explore trails along creeks
- Explore railroad right of way
- Explore future uses of railroad
- Need paths to Woodson
- Use cycling as tourist attraction
- Work with schools
- Keep good street standards
- Guide bicyclists away from narrow streets
- Use students to help to define routes
- Education at schools
- Enforcement-cite unsafe behavior
- Put police on bicycles
- Prioritize routes: 1. Kids 2. Commuters 3. Regional
- Limit routes to do what is "doable"
- Utilize regional recreation areas
- Protect creeks
- Set standards for development
- Need route S. Solano to High School
- Consider maintenance
- Explore trails from East side to City
- Designate route
- Consider security
- Check bike parking
- Explore one-way street options

RED BLUFF

On January 21, 1999, a public meeting was held at the City of Red Bluff City Hall. The meeting consisted of a background slide show on bicycle planning and design concepts. Participants were then asked to help identify different bicycle users in their area, barriers to bicycle use, and opportunities for bicycle facility and program improvement. The following is a list of the notes recorded at the meeting:

BICYCLE USERS IN RED BLUFF

- Advanced riders
- Commuters
- Kids- to and from school
- Senior populations- three wheelers
- Exercise riders
- Errands
- Tourists
- Recreational
- Organized event riders (Century 100)

OBSTACLES/BARRIERS

- Rural roads in bad condition with unraveling edges (Baker and Hwy 36, Wilcox)
- Small bridges outside of town do not accommodate bikes (99E)
- Freeway overramps do not accommodate bikes
- Cottonwood area has standing water after heavy rains
- Maintenance of trail (Sac River Discovery)
- Highway 36, between N. Main and Baker, no shoulder, heavy traffic, high speeds
- No left turns activated
- Lights don't change without autos on Main. Need activation for bikes.
- Hooker Creek Rd. narrow, trucks use as route
- S. Main no crosswalk (WalMart area)
- Hickory St. no stop signs either direction
- Need access from Antelope Valley and areas West of Main St. to River Park
- No "Bikes Belong" sign
- 99W no lanes, heavy traffic
- Road cleanliness is a problem
  –Antelope
  –Main St.
  –Walnut

SOLUTIONS/OPPORTUNITIES

- Need route from Bend to Red Bluff
- Involve Caltrans in planning
- Coordinate Caltrans work for Main St. project
- Get kids off road on bike trails
- I- 5, use as right of way hard pack trail
- Reduce parking, encourage biking
- Economic incentives, employees get tax break or bikes
- Private sector donations of easements
- City needs bike racks: "everywhere", downtown, shopping centers
- Use railroad right of way, possibly through tax incentives

- Education for kids
- Bike helmet programs
- Riverfront development for recreation
- Include trailways in bike planning efforts, connect parks—Adobe Park, Diamond Park
- Class I trails
- Mountain biking recreational opportunities
- Buttons at intersections
- Government employee incentives
- Explore funding opportunities, money may provide solutions
  –TEA
- Company clean ups roads (WalMart)
  –Adopt-a-Highway
- Improve bike routes in resurfacing projects
- Reclaim bike routes
- Maintain signs
- Night time lighting improvements
- Call boxes on rural roads

City of Tehama

On February 9, 1999 a public meeting was held at the City of Tehama Community Center. Participants, primarily council members, were asked to help identify different bicycle users in their area, barriers to bicycle use, and opportunities for bicycle facility and program improvement. The following is a list of the notes recorded at the meeting:

Bicycle Users in Tehama

- School Kids, Los Molinos Grammar School
- Racers

Obstacles/Barriers

- Puncture Vines
- Tehama Bridge: narrow and high speeds
- Speed on rural roads
- Narrow roads

Solutions/Opportunities

- Explore use of Tehama/Colusa Canal
- Develop regional route from Tehama to Red Bluff
- Slow traffic

Bowman Area/Northern Tehama County

On February 10, 1999, a public meeting was held at Evergreen School, in Bowman. Participants, were asked to help identify different bicycle users in their area, barriers to bicycle use, and opportunities for bicycle facility and program improvement. The following is a list of the notes recorded at the meeting:

Bicycle Users in Bowman Area

- Recreational riders
- Adult commuters
- School commuters are discouraged

Obstacles/Barriers

- Railroad Tracks, Union Pacific
- Logging trucks use Hooker Creek Rd. to circumvent the scales
- Road narrows on Bowman Rd.
- Park and Ride has no bike lockers
- Distance between destinations
- Roads are narrow, with heavy traffic and high speeds
- One lane bridge on Evergreen
- No bike racks at school (bikes are discouraged)
- No bike racks on high school buses
- No bike racks at bus stops
- Bowman Center is unsafe
- Rock hauling traffic near railroad tracks and Draper Rd.

Solutions/Opportunities

- Improve route from Bowman to Cottonwood
- Provide routes for bikes, horses, and walkers
- Improve Bowman and Hooker for safety
- Tie nature trails into network
- Improve east side of freeway to accommodate future development there
- Explore right of way opportunities on Cottonwood Irrigation ditch
- Shasta College has bike racks on their buses

GOALS, OBJECTIVES & RECOMMENDED ACTIONS

CHAPTER 5

CHAPTER 5

5.1 Background

An extensive public outreach effort was designed to facilitate community involvement in the development of this plan. Through the public planning process, the local jurisdictions of Tehama County expressed specific interests and concerns relating to bikeway development (see Chapter 4, Participation).

In developing this plan, research was conducted to identify the existing conditions of bicycle commuting in Tehama County (see Chapter 3, Existing Conditions). Using the information from the public meetings and considering the existing conditions in Tehama County, a series of countywide goals, objectives, and recommended actions were developed.

This plan was developed with the goal of being project or program oriented (vs. a policy oriented plan). Recommended Actions, therefore, can be considered as a list of projects to achieve the stated goals. The advantage of this approach is that there is a greater likelihood of securing funding for a specific project or program if it is identified in the adopted plan. Some of the recommended actions listed in this chapter are not included in the priority project list (see Chapter 7, Short Range Implementation Plan). The priority project list is limited to physical bicycle infrastructure improvements. However, programmatic and educational recommended actions listed below should be given equal consideration by local agencies or organizations for project funding.

As in any policy document, the goals, objectives, and recommended actions should be considered in the present-day context. Available funding sources, political climate, and agency staffing could all affect the implementation of this plan.

5.2 Countywide Goals

County of Tehama

Goal 1.0

Develop a continuous countywide bicycle system that is part of the multi-modal regional transportation network.

Objective 1.1
Develop a bikeways plan that identifies regional bikeway routes in Tehama County.

Recommended Action 1.1.1
Approve a bikeways plan that identifies regional bikeway routes. (TCTC)

Recommended Action 1.1.2
Update Bikeways Plan every five years. (TCTC)

Objective 1.2
Continue the coordination and communication between all jurisdictions in Tehama County, the County Transportation Commission, and Caltrans.

Recommended Action 1.2.1
Hold bi-annual meetings of the Bicycle Advisory Committee (members from each jurisdiction and at-large membership yet to be determined).

Objective 1.3.
Coordinate the development of bicycle corridors and routes with adjacent counties.

Recommended Action 1.3.1
Identify inter-county routes and link Tehama County routes where possible. (Tehama County Bikeways Plan)

GOAL 2.0

Make the existing transportation system more "bicycle-friendly".

Objective 2.1
Remove barriers to safe bicycle access, wherever economically feasible.

Recommended Action 2.1.1
Improve railroad crossings that intersect routes, lanes, or corridors identified in this plan. (Union Pacific, Northern Pacific)

Recommended Action 2.1.2
Fund and build Class I trailways, wherever economically feasible, including the barrier on Aloha Street and Main Street. (City of Red Bluff)

Recommended Action 2.1.3
Improve safety conditions on major and minor arterials in the City of Red Bluff with Class II bicycle facilities. (City of Red Bluff)

Recommended Action 2.1.4
Improve safety conditions for bicyclists at the Solano and Sixth St. intersection with Class II lanes upon approach, and bicycle "loop" detectors at signals. (City of Corning)

Recommended Action 2.1.5
Improve safety conditions for bicyclists in the City of Corning by establishing Class II and Class III routes and controlling intersections with stop or yield signs. (City of Corning)

Recommended Action 2.1.6
Improve safety and access conditions for bicyclists and pedestrians on route between Tehama and Los Molinos by adding Class II bike facilities on Aramayo Way from SR 99E to Tehama. (County of Tehama)

Recommended Action 2.1.7
Improve safety in rural communities by enforcing existing truck regulations. (California Highway Patrol, County Sheriff)

Recommended Action 2.1.8
Improve safety conditions in Tehama by slowing traffic on C St. with cautionary signs. (City of Tehama)

Recommended Action 2.1.9
Separate children on bicycles from vehicle traffic where feasible. (City of Red Bluff)

Recommended Action 2.1.10
Fund and construct Class I trailway bikeways connecting schools and parks and commercial areas. (City of Red Bluff)

Objective 2.2
Maintain bikeways free of debris.

Recommended Action 2.2.1
Add bikeways maintenance to public works' priorities. (County of Tehama, City of Corning, City of Red Bluff, City of Tehama)

Recommended Action 2.2.2
Initiate volunteer groups to help maintain bikeways/trailways. (City of Red Bluff)

Objective 2.3
Provide Secure Bicycle Parking at local destination points.

Recommended Action 2.3.1
Purchase and place bicycle racks at the City of Red Bluff City Hall, Red Bluff and Corning post offices, and key downtown locations in Red Bluff and Corning. (City of Corning, City of Red Bluff)

GOAL 3.0

Promote bicycling as a part of the multi-modal transportation system.

Objective 3.1
Provide accommodations for bicyclists in the regional transportation system.

Recommended Action 3.1.1
Purchase and place bicycle parking facilities at the following regional destination points: the Corning Transit Center, I-5 Park and Ride on Bowman Road, the Tehama County Courthouse, St. Elizabeth Community Hospital, and the Tehama County Health Center. (County of Tehama)

Recommended Action 3.1.2
Produce a Tehama County transportation opportunities map that includes local public transportation routes, private transportation opportunities (Greyhound, Amtrak, etc.), and identifies safe bicycle routes. (County of Tehama)

Recommended Action 3.1.3
Continue the bike racks on buses programs throughout Tehama County. (County of Tehama)

Recommended Action 3.1.4
Continue to advertise the availability of bicycle facilities in transit brochures. (County of Tehama)

GOAL 4.0

Modify the transportation system to encourage safe and convenient bicycling.

Objective 4.1
Develop local policy to include the consideration of bicycle and pedestrian access as of a high importance.

Recommended Action 4.1.1
Adopt a policy statement stating that unless specifically excluded in a local plan or by funding limitations, all new bridges and those undergoing major reconstruction on established bike routes will provide safe, convenient access for bicyclists and pedestrians, as resources allow. (County of Tehama, City of Corning, City of Red Bluff, City of Tehama)

Recommended Action 4.1.2
Adopt policy statement stating that whenever arterials are widened along established bike routes, they will include Class II bike lanes if funding is available. (County of Tehama, City of Corning, City of Red Bluff, City of Tehama)

Objective 4.2
Expand project reviews to include bike access and safety considerations.

Recommended Action 4.2.1
Review local California Department of Transportation projects for their "bicycle friendliness." Where possible, make modifications to project plans in order to provide safe access for bicyclists. (County of Tehama, City of Red Bluff, City of Corning)

Recommended Action 4.2.2
Review all local development projects for their bicycle and pedestrian safety and access. (County of Tehama, City of Corning, City of Red Bluff, City of Tehama)

Recommended Action 4.2.3
Amend zoning codes to require safe bicycle parking at new work centers with 30 or more employees. (County of Tehama, City of Corning, City of Red Bluff)

Recommended Action 4.2.4
Amend zoning codes for multi-family development to require secure bicycle parking. (County of Tehama, City of Corning, City of Red Bluff)

Objective 4.3
Train project staff on bicycling planning, and design issues.

Recommended Action 4.3.1
Send project staff to bicycle planning workshops

periodically. (County of Tehama, City of Corning, City of Red Bluff)

Recommended Action 4.3.2
Provide incentives for city and county employees to commute to work by bicycle. (County of Tehama, City of Corning, City of Red Bluff)

GOAL 5.0

Train and encourage bicyclists and motorists to share the road network in a safe and cooperative manner.

Objective 5.1
Encourage the training of children aged 5-12 on the safe use of bicycles.

Recommended Action 5.1.1
Create a 1-day and a 1-hour bicycle workshop for all schools where bicycling is encouraged. (Local school districts)

Recommended Action 5.1.2
When developing signage for bike facilities, include arrows or other directional advice. In addition, add prohibitive signs to specific sidewalks where biking is a hazard or poses a threat to pedestrian safety. (County of Tehama, City of Red Bluff, City of Corning, City of Tehama)

Recommended Action 5.1.3
Enforce bicycle helmet laws. (California Highway Patrol, County Sheriff, City of Corning Police, City of Red Bluff Police)

Objective 5.2
Enhance the awareness of motorists' responsibilities in interacting with bicyclists and pedestrians.

Recommended Action 5.2.1
Purchase and place pedestrian warning signs and "share the road" signs at C St. in Tehama, along significant county bikeway corridors, and along Bowman Rd. (City of Tehama)

Recommended Action 5.2.2
Locate and distribute "rules of the road" brochures at schools, driver training courses, Departments of Motor Vehicles, and in other newsletters. (County of Tehama)

Recommended Action 5.2.3
When developing bicycle facilities use Caltrans standards in order to ensure a clear, understandable and consistent bicycle system. (County of Tehama, City of Red Bluff, City of Corning, City of Tehama)

GOAL 6.0

Integrate bicycle networks with existing and potential recreational opportunities.

Objective 6.1
Provide accommodations for bicyclists at major recreational facilities.

Recommended Action 6.1.1
Purchase and place bicycle parking facilities at the following recreational destination points: the Sacramento River Discovery Center, Ide Adobe State Park, and Jelly's Ferry Landing. (County of Tehama)

Recommended Actions 6.1.2
Purchase and place bicycle parking facilities at the following local recreational destination points: Yost Park in Corning, Halbert Park in Tehama, Diamond Park, Ide Adobe Historic State Park, Forward Park, and Samuel Ayer Park. (City of Corning, City of Red Bluff, City of Tehama)

Recommended Action 6.1.3
Purchase and place signs directing cyclists from I-5 to Jelly's Ferry Rd. (County of Tehama)

Objective 6.2
Emphasize local and regional connections to recreational facilities.

Recommended Action 6.2.1
Plan and design safe connections between off-road and on-road facilities in the City of Red Bluff. (City of Red Bluff)

Recommended Action 6.2.2
Make bikeway connections to the existing Class I trail at the Sacramento River Discovery Center a priority. (City of Red Bluff)

Recommended Action 6.2.3
Explore right of way opportunities for local, regional and recreational trail development on rail corridors, creeks and rivers, canals, and other private/public corridors. (County of Tehama, City of Corning, City of Red Bluff, City of Tehama)

GOAL 7.0

Develop bicycle facilities and programs that will enhance the County's appeal as a recreational destination.

Objective 7.1
Publicize key bicycle recreational opportunities.

Recommended Action 7.1.1
Update the Recreation Element of the Tehama County General Plan. (County of Tehama)

Recommended Action 7.1.2
Support local organized (recreational and/or competitive) bicycle rides. (County of Tehama)

GOAL 8.0

Explore all opportunities for funding bicycle projects.

Objective 8.1
Encourage the accommodation of bicycle facilities as a condition for new development projects.

Recommended Action 8.1.1
Establish funding mechanisms to pay for bikeway development. (County of Tehama, City of Corning, City of Red Bluff, City of Tehama)

Recommended Action 8.1.2
During project review identify proximate bikeway routes or trails for possible easement opportunities. (County of Tehama, City of Corning, City of Red Bluff)

Recommended Action 8.1.3
Train project staff on latest funding opportunities and techniques. (County of Tehama, City of Corning, City of Red Bluff)

LONG RANGE IMPLEMENTATION PLAN

CHAPTER 6

CHAPTER 6

6.1 Background

The implementation of this plan has been separated into two distinct chapters, the Long Range Implementation Plan and the Short Range Implementation Plan. The Long Range Implementation Plan is intended to present a long term plan for bicycle facility development throughout the county. The time frame for this implementation is about twenty years. The Short Range Implementation Plan, on the other hand, is intended to provide an immediate plan for bicycle facility improvements over the next five years.

With the established goals and objectives in hand, existing conditions were analyzed using traditional transportation demand analysis to produce a bikeway network concept (Long Range Route Maps). The Long Range Implementation Plan identifies significant bicycle corridors throughout unincorporated areas of the County and proposes specific trails, lanes, and routes in each jurisdiction. The Short Range Implementation Plan, specifically the Short Range Route Maps, identifies key development projects to implement the bikeways network concepts.

6.2 Network Concepts Development

Developing a bikeway network concept for the Tehama County Bikeways Plan consisted of three major tasks: data collection, developing goals and objectives, and analyzing travel demand corridors with knowledge of existing conditions. Data collection included traffic accident report data (see Appendix B), roadway inventories, existing facility inventories, review of relevant plans and studies, and data from public meetings. Goals and objectives were developed through the public participation process (see Chapter 4). With goals and objectives identified the existing conditions were evaluated and strategies for improving the conditions were developed into a network concept.

Here is one example of the process: The public meeting in Corning emphasized the need to provide safe routes for school children. Travel demand analysis helped to determine where school children travel. The conditions of these routes were evaluated. A network concept was developed to provide improved access to and from residential areas to schools. The strategy, a system of bike routes and lanes, includes considerations for roadway repair, traffic control, and minor infrastructure improvements.

6.3 Countywide Regional Transportation

One purpose of the Tehama County Bikeways Plan is to designate a regional bikeway system for Tehama County. The idea is to encourage the use of bicycles as an alternative form of regional transportation. "Regionally significant" bikeways would be those which provide connections between communities, connection to other forms of transportation, and access to major destinations. These corridors were identified through traditional travel demand analysis which includes identifying trip generators (e.g., residential areas), and identifying trip destinations, such as shopping centers. The following is a discussion of various land use and settlement patterns of Tehama County that influenced the development of regionally significant bikeways. Note: the following describes considerations for regional bikeways, specific trip generators and destinations in town centers are not mentioned. (They are, however, mentioned in the local discussions.)

Residential areas

For the purposes of this plan, each town within Tehama County is considered to be of regional significance. These areas are the City of Corning, the City of Red Bluff, the City of Tehama, and the unincorporated areas of Bowman, Gerber, Vina, and Los Molinos. Other smaller communities such as Proberta or Las Flores have been considered due to their location along significant demand corridors, such as San Benito and SR 99E.

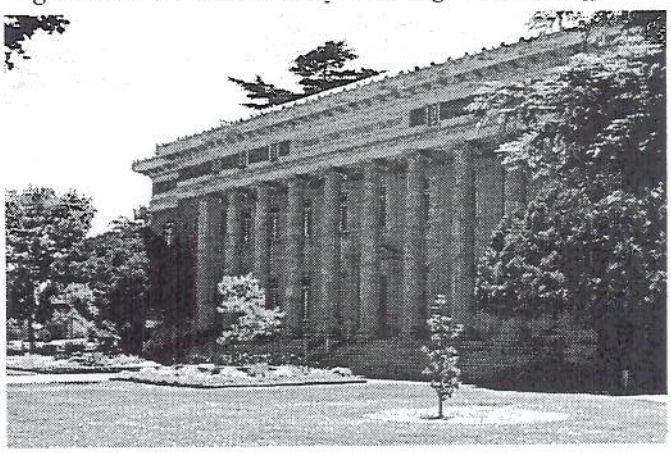
Schools

Regionally significant schools attract students from outside of the immediate vicinity. The regionally significant schools include Shasta College in Red Bluff, Mercy High School in Red Bluff, Los Molinos High and Jr. High, Lassen View Elementary, and Red Bluff and Corning High Schools.

Public Buildings

For the purposes of this plan, regionally significant public buildings include the County Courthouse in Red Bluff, the City Halls of Red Bluff and Corning, and the intermodal transit facility in Corning.

Regional destination: county buildings in Red Bluff



Major Employment Centers

Major employment centers include the Cities of Corning and Red Bluff, and the Wal-Mart distribution Center on 99W.

Recreational Areas

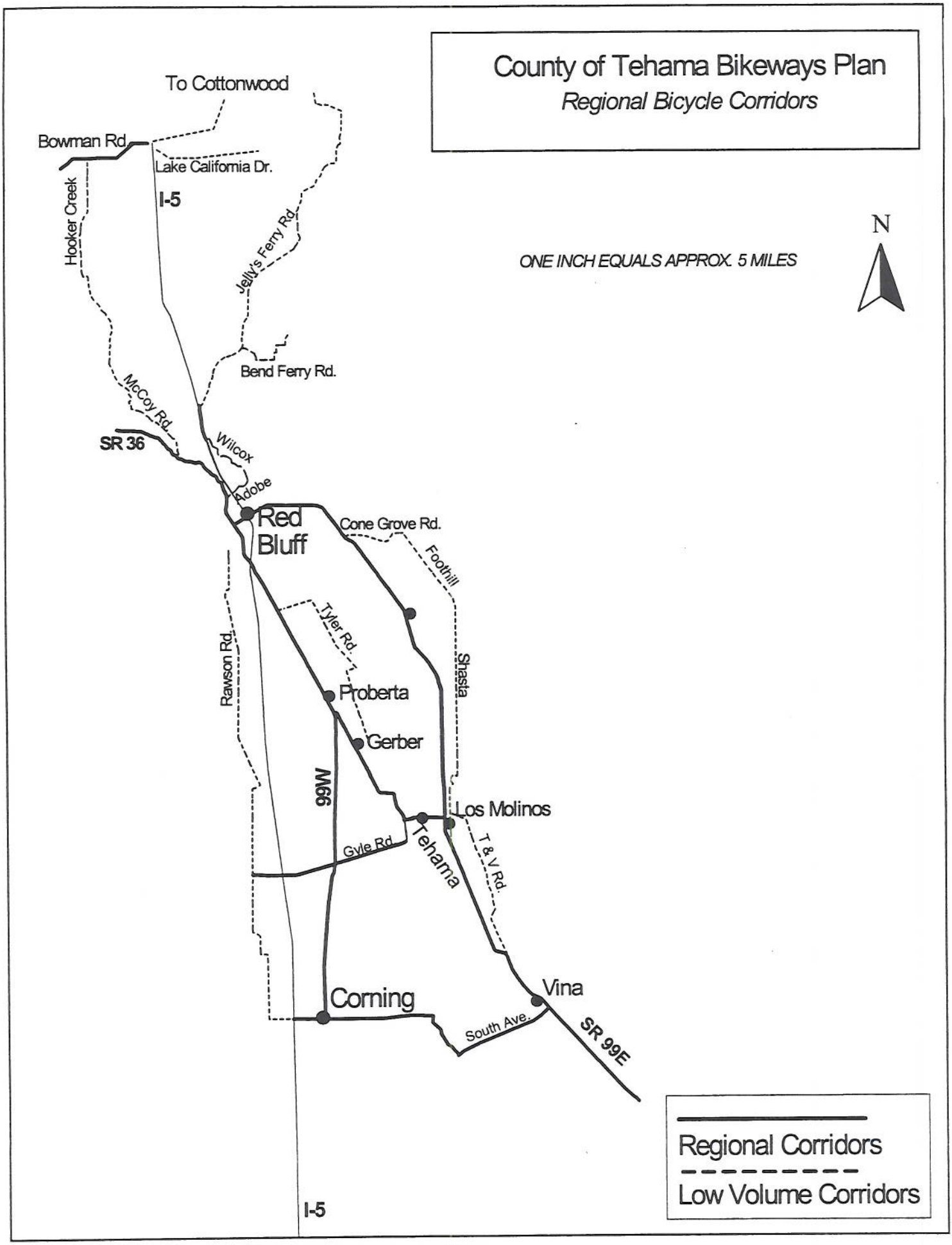
Tehama County contains numerous recreational destinations and opportunities. Regionally significant recreational sites include: Black Butte Lake Campground, Mendocino National Forest, Tehama State Wildlife Area, Woodson Bridge State Recreation Area, Ide Adobe State Park, Mill Creek Park in Los Molinos, and the Red Bluff Diversion Dam Recreation Area. The southern Paskenta Road area is also an established recreational and organized bicycling destination.

6.4 Bicycle Transportation Demand Corridors

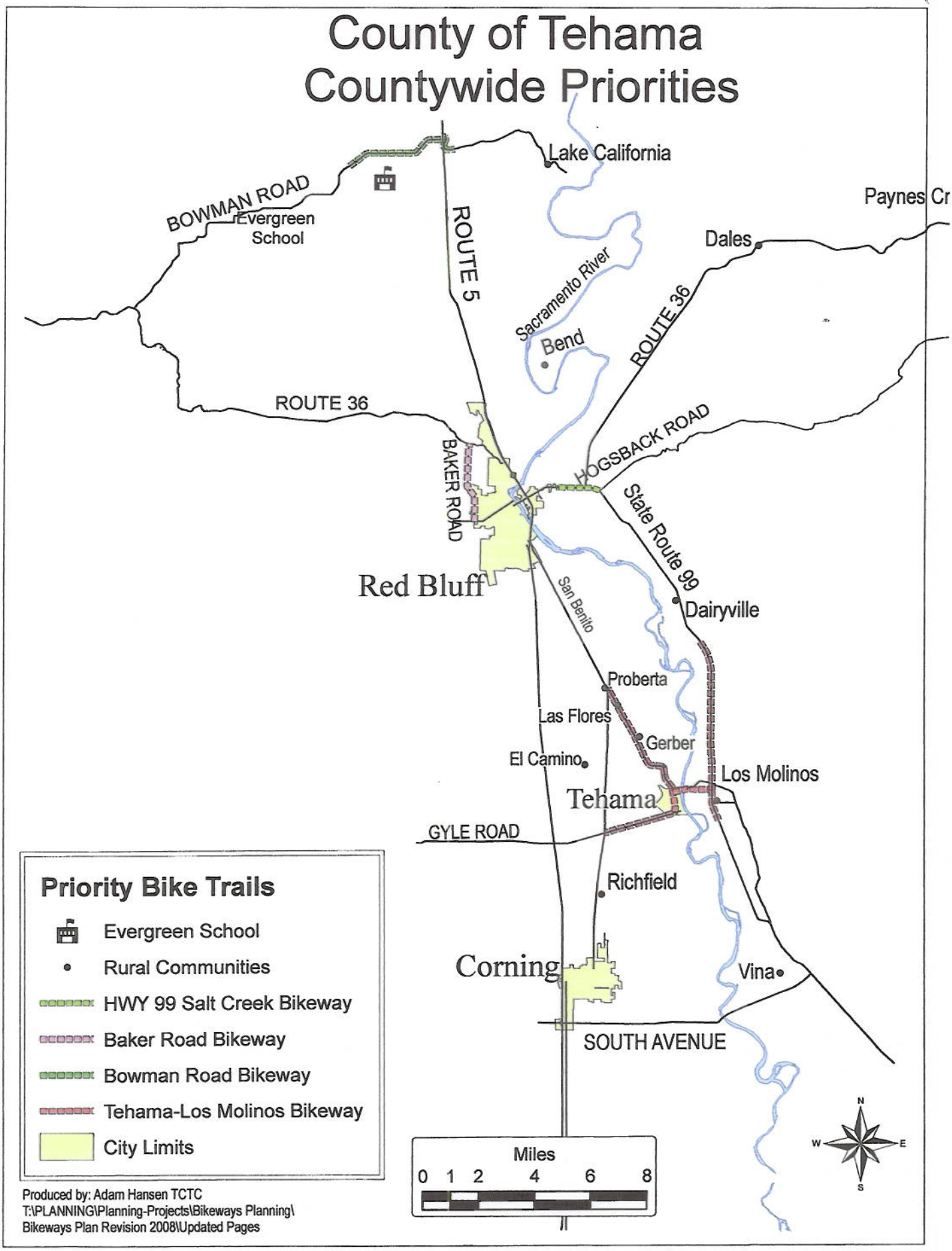
As a rural county with significant levels of the population living in remote unincorporated areas, the County of Tehama has several challenges in providing regional bicycle commuting opportunities. In addition to the long distances between communities, the established transportation corridors have high levels of interregional and even interstate automobile and truck traffic. The primary transportation corridors include I-5, SR 99E, and 99W. Often times these transportation corridors provide the only north/south route. Also problematic is the effect these corridors have upon local rural roads. Significant interregional traffic uses local roads as short cuts through the County. In addition, heavy truck traffic plagues several communities, such as along South Ave. and C St. in Tehama.

Another countywide concern is the growing traffic and generally unsafe conditions for bicycling on specific rural roads. These roads have become the transportation corridors for densifying rural areas. Yet the roads were originally designed to accommodate only rural conditions. Roads mentioned in the public participation process, as well as observed through field work, include: Bowman Road, Hooker Creek Road, and Baker Road. Future consideration should be made to improve these roads to accommodate the levels of traffic they are, or will be, serving.

The regional bikeway corridors have been identified on the Countywide Bicycle Corridors map on page 29 . High levels of traffic often preclude roads from addition into a regional transportation network. However, in Tehama County there is often no preferred alternative routes. For this reason it must be understood that the regional routes are identified not as safe or efficient routes, but rather as the only routes to certain destinations. In identifying regional routes it must also be understood that roadway improvements specifically for bicycle access are not likely given the population levels the projects would serve. That said, when major infrastructure improvements occur along the regional corridors, bicycling access and safety should be considered. The regional corridors map has also identified low volume alternatives to the major transportation corridors. These routes should also be considered for bikeway improvements as projects allow. More realistic regional improvements are proposed for roadways approaching the cities and towns in the county. Regional bikeway facilities have been proposed for connecting Los Molinos and Tehama, and improving roadway conditions in the Bowman area. These projects have been identified on the Countywide Priority Projects map (see Countywide Priorities Map, page 30). Bicycle parking facilities have been proposed for specific sites throughout the county. These sites were chosen by their significance to the intermodal transportation system, or their location at primary destinations (see Countywide Priorities Map, and Priority Route Maps for the Cities of Red Bluff and Tehama). Recommended designs for bicycle parking facilities are located in Appendix D.


County of Tehama Bikeways Plan
Regional Bicycle Corridors
To Cottonwood
Bowman Rd.
Lake California Dr.
I-5
Hooker Creek
Jelly's Ferry Rd.
Bend Ferry Rd.
McCoy Rd.
SR 36
Wilcox
Adobe
Red Bluff
Cone Grove Rd.
Foothill
Tyler Rd.
Rawson Rd.
Shasta
Proberta
Gerber
99W
Los Molinos
Gyle Rd.
Tehama
T & V Rd.
Corning
Vina
South Ave.
SR 99E
I-5
ONE INCH EQUALS APPROX. 5 MILES
N
Regional Corridors
Low Volume Corridors

County of Tehama
Countywide Priorities



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Bikeways Plan Revision 2008\Updated Pages

6.5 City of Corning

LAND USE

The City of Corning is a compact town of 6,175 people. The Bell-Carter food processing plant, located adjacent to the railroad on South St., is the most significant employer. School sites are scattered throughout the town, as are neighborhood stores. Solano St., downtown, remains the primary business district. Numerous roadside commercial businesses, primarily serving travelers from I-5, are located on the two freeway interchanges as well as on the adjacent 99W. Residential development is slowly expanding the City, mostly to the east (see Appendix E. City of Corning Land Use Map.)

EXISTING CONDITIONS

The grid pattern of streets facilitates the direct movement of all modes of transportation. The neighborhood streets in Corning have the potential to provide excellent bicycle routes. Unfortunately, the condition of some of the streets has deteriorated so that bicycling is often unsafe. Other perceived barriers to the development of a local-serving network are the uncontrolled intersections throughout Corning neighborhoods, speeding problems in neighborhoods, the heavy traffic of Solano St., and unsafe railroad crossings.

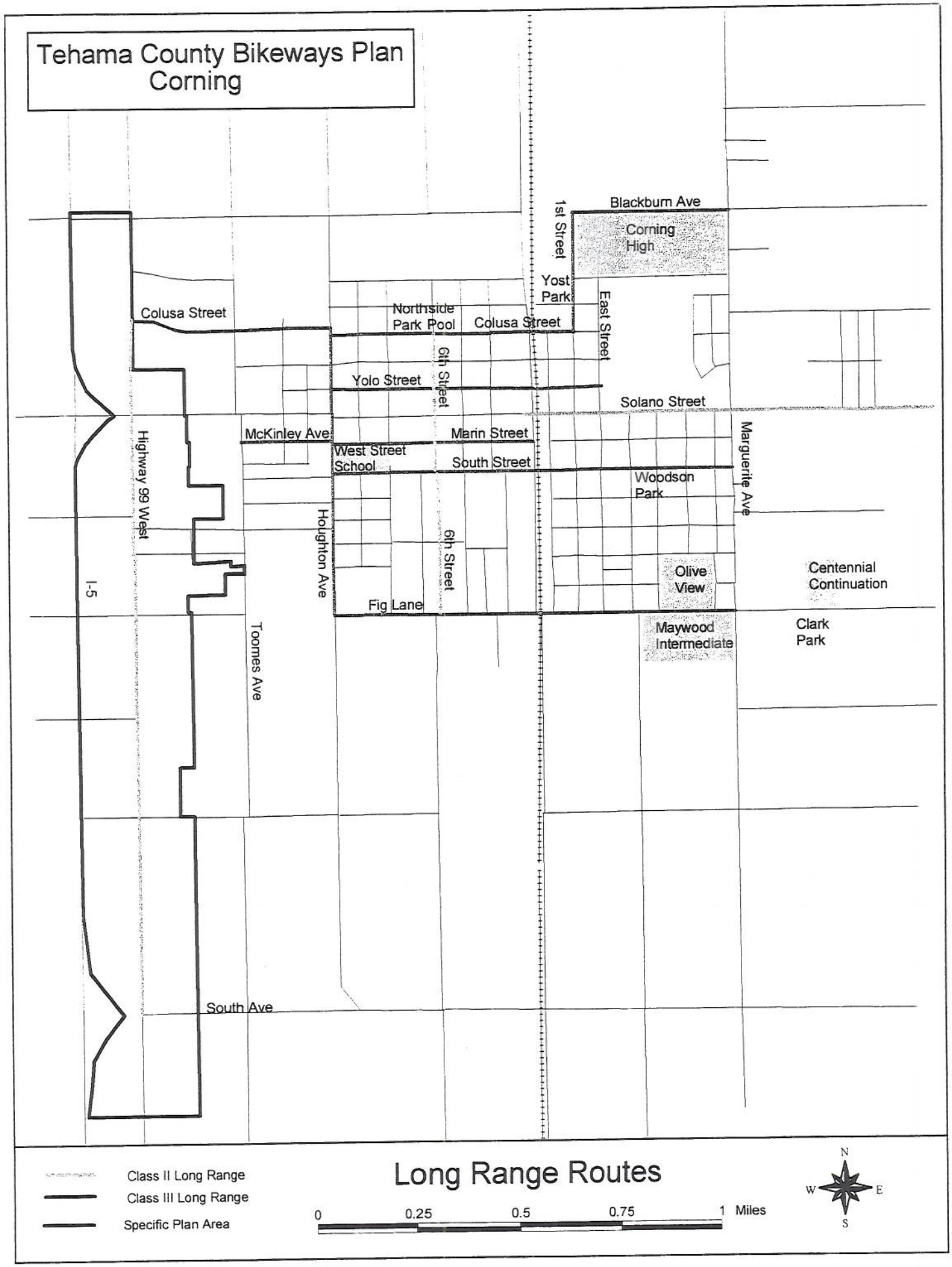
BICYCLE TRANSPORTATION DEMAND CORRIDORS

The development of safe north/south and east/west routes was identified as a top priority in public meetings. These routes will primarily accommodate school children. Potential bicycle transportation routes serving the north/south and east/west demand corridors exist throughout Corning. The following factors were considered in identifying these routes:

a) Safety of routes,
b) connectivity with greater transportation systems including intermodal transit center downtown,
c) long term planning for specific plan area.

The Long Range Routes map (see page 32) proposes a network of Class II and Class III facilities to provide safer travel on existing roadways. In most cases the facilities proposed are Class III. Low traffic volumes and wide shoulders provide adequately safe bikeways that make Class II facilities unnecessary.

The network identified should be useful not only in establishing specific facilities (such as the Short Range Implementation projects in Chapter 7), but also in integrating bicycle transportation into roadway planning. Often a roadway improvement, such as a resurfacing for bicycle safety, will also benefit other modes of travel.


Tehama County Bikeways Plan
Corning
Blackburn Ave
1st Street
Corning High
Yost Park
East Street
Colusa Street
Northside Park Pool
Colusa Street
6th Street
Yolo Street
Solano Street
McKinley Ave
Marin Street
West Street School
South Street
Marguerite Ave
Highway 99 West
Houghton Ave
Woodson Park
6th Street
I-5
Olive View
Centennial Continuation
Fig Lane
Maywood Intermediate
Clark Park
Toomes Ave
South Ave
Class II Long Range
Class III Long Range
Specific Plan Area
Long Range Routes
0
0.25
0.5
0.75
1 Miles
N
W
E
S

6.6 City of Tehama

Land Use

The estimated total population for the City of Tehama is 438 (DOF). The existing land use within the planning area of the City of Tehama is primarily single family residential. The platted area on the west side of town is currently utilized as agriculture, and the east side of the city is bordered by the Sacramento River. Businesses in the City of Tehama consist of a small market on C Street, and a tavern. Public land uses include a 2.3 acre city park at the north end of town, a 2.3 acre school site, a .6 acre lot utilized by the museum, and by the Postal Service.

Existing Conditions

Circulation through Tehama consists of County Road A8 from Los Molinos to Red Bluff (C STREET) and County Road A11 from the west. C street is commonly used as an alternate route for people traveling from points south of Los Molinos to Red Bluff. High volumes and speed have been noted as a barrier to bicycling. Other barriers include the narrowness of Tehama bridge and puncture vines.

Bicycle Transportation Demand Corridors

The major corridor for local travel is C St. Proposed bicycling improvements have been limited to this street. The local serving streets are generally adequate for safe shared usage with automobiles. (See Countywide Priority Projects Map, page 30).

6.7 City of Red Bluff

LAND USE

The City of Red Bluff consists of a compact downtown with surrounding neighborhoods, and several surrounding stretches of development served by distinct arterials. The downtown core is a significant commercial destination and employment center. Strip development is located on the approach into Red Bluff on Antelope Blvd (from the southeast) and from South Main St. Growing residential areas on the perimeter of town are connected to central Red Bluff by South Jackson, Monroe to the north, and Walnut from the west (see Appendix E. Land Use Maps).

EXISTING CONDITIONS

While the grid network of residential streets in Red Bluff provides safe convenient bicycle access in most neighborhoods, the arterials offer significant barriers to longer commutes. These arterials have heavy traffic, limited traffic controls for safe crossing, and on-street parking.

Aloha Street provides a more direct route from the downtown core to South Jackson Street. The road narrows precipitously at an underpass at the railroad line. A non-standard bike lane has been added on one side of this street to make it safer for bicyclists and pedestrians. Unfortunately, the design of this lane compounds the safety issues. The facility has the following problems: while there is two-way bicycle traffic only one direction of the street is striped, there is no sidewalk for separating pedestrians and bicyclists, and pavement markers are placed on the inside of the white striped lane.

Other barriers to bicycle commuting include I-5, the Sacramento River, and the railroad tracks that intersect the town. These features limit transportation corridors, and force all travel onto the specific arterials mentioned above.

BICYCLE TRANSPORTATION DEMAND CORRIDORS

Potential bicycle transportation corridors are, for the most part, limited to the arterials in Red Bluff. Because of the higher traffic volume on these arterials, adjacent roads, where feasible, were considered for routes. Planned Class I recreational trails have also been integrated into the network. The following factors, determined from the public outreach program, were considered in identifying these routes:

a) Safe access to local schools,
b) connectivity to local recreational trails, and
c) consistency with downtown redevelopment priorities.

The proposed Long Range Routes (see page 35) consist of an extensive network of on and off-road facilities. The network identified should be useful not only in establishing specific facilities (such as the priority projects in Chapter 7), but also in integrating bicycle transportation into roadway planning. Often a roadway improvement, such as a resurfacing for bicycle safety, will also benefit other modes of travel. On segments of South Jackson and Monroe Streets proposed Class II facilities should be implemented as development occurs.


Tehama County Bikeways Plan
Red Bluff
Adobe Road
I-5
Monrovia
Walbridge Street
Park Ave.
Rio St.
Baker Road
Walnut
Reeds Creek
Luther Road
Airport Blvd.
Kimball Road
Vista Way
South Jackson
South Main
Diamond
Antelope
Sacramento River
Red Bluff High School
Shasta College
Jackson Heights
Class I Long Range
Class II Long Range
Class III Long Range
Existing Road Improvements
Long Range Routes
0
0.25
0.5
0.75
1 Miles
N
W
E
S

Chapter 7

7.1 Background

The Short Range Implementation Plan identifies key facility improvements to help develop the bikeway networks described in Chapter 6. The facility improvements should be considered high priority.

While intended for short term implementation (during the next five year), it should be noted that list of projects is ambitious. Project implementation is dependent on factors such as funding and political viability.

7.2 Methodology

The "priority projects" listed in this chapter have been identified from the long range implementation plan using the following criteria: safety, access, cost-effectiveness and ripeness.

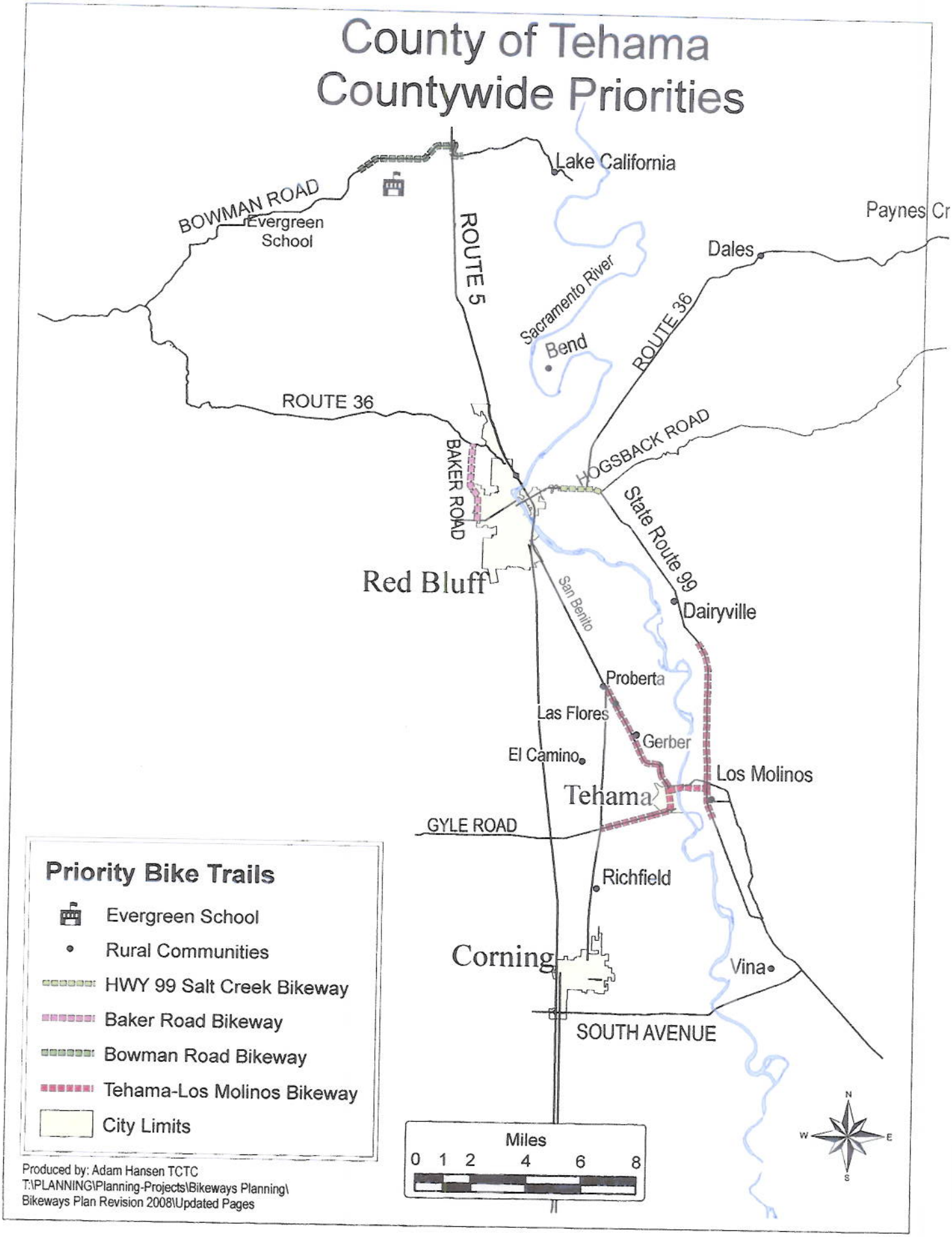
- **Safety**-Will this project eliminate a dangerous existing condition? Will this project improve safe conditions for bicyclists.
- **Access**-Does this project connect or create a regionally significant bikeway? Does this project serve a direct utilitarian purpose?
- **Cost Effectiveness**-Is this project a wise use of public funding? How many users will benefit per dollar spent?
- **Readiness**- Will the project be ready to go in the next five years?

Descriptions

The following are brief narrative descriptions of the projects' merits. The priority projects are listed in no particular order.

7.3 Countywide Priority Projects

Project	Class	Length (mi.)	Description
Bowman Rd. from I-5 to Sebastian Ct.	I, II	4	Links low-density residential areas to I-5 Park and Ride and provides residents access to the schools.
Salt Creek Bridges Trail	II	1.2	SR 99 from Hogsback Road to Red Bluff City limits to link residential areas to schools and downtown
Aramayo Way from the City of Tehama to SR 99	II	1.4	Provides better roadway sharing on this high volume, high speed roadway. Connects City of Tehama to Los Molinos' schools, parks and services.
Baker Rd. from SR 36 to Walnut St.	II	0.75	Future link between rural residential areas to Red Bluff trail system and services.
SR 99 from Lassen View School to Sherman Street	I, II	6.65	Supports multimodal transportation for county residents south of Los Molinos to goods and services. Provides a route through the community of Los Molinos. Provides access to Lassen View School for surrounding community.


County of Tehama
Countywide Priorities
Lake California
BOWMAN ROAD
Evergreen School
ROUTE 5
Paynes Cr
Dales
Sacramento River
Bend
ROUTE 36
ROUTE 36
BAKER ROAD
HOGSBACK ROAD
State Route 99
Red Bluff
San Benito
Dairyville
Proberta
Las Flores
Gerber
El Camino
Los Molinos
Tehama
GYLE ROAD
Richfield
Corning
Vina
SOUTH AVENUE
Priority Bike Trails
Evergreen School
Rural Communities
HWY 99 Salt Creek Bikeway
Baker Road Bikeway
Bowman Road Bikeway
Tehama-Los Molinos Bikeway
City Limits
Miles
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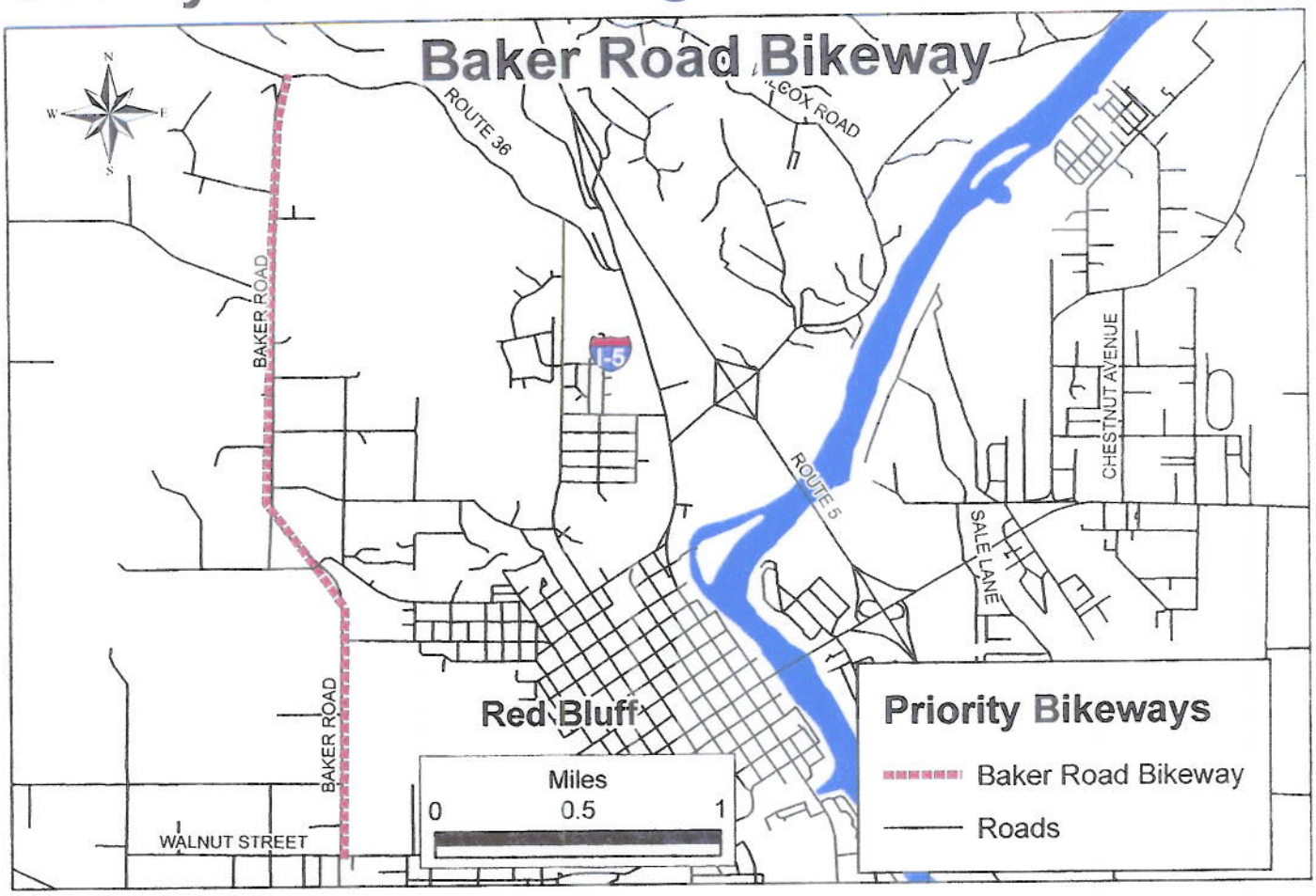
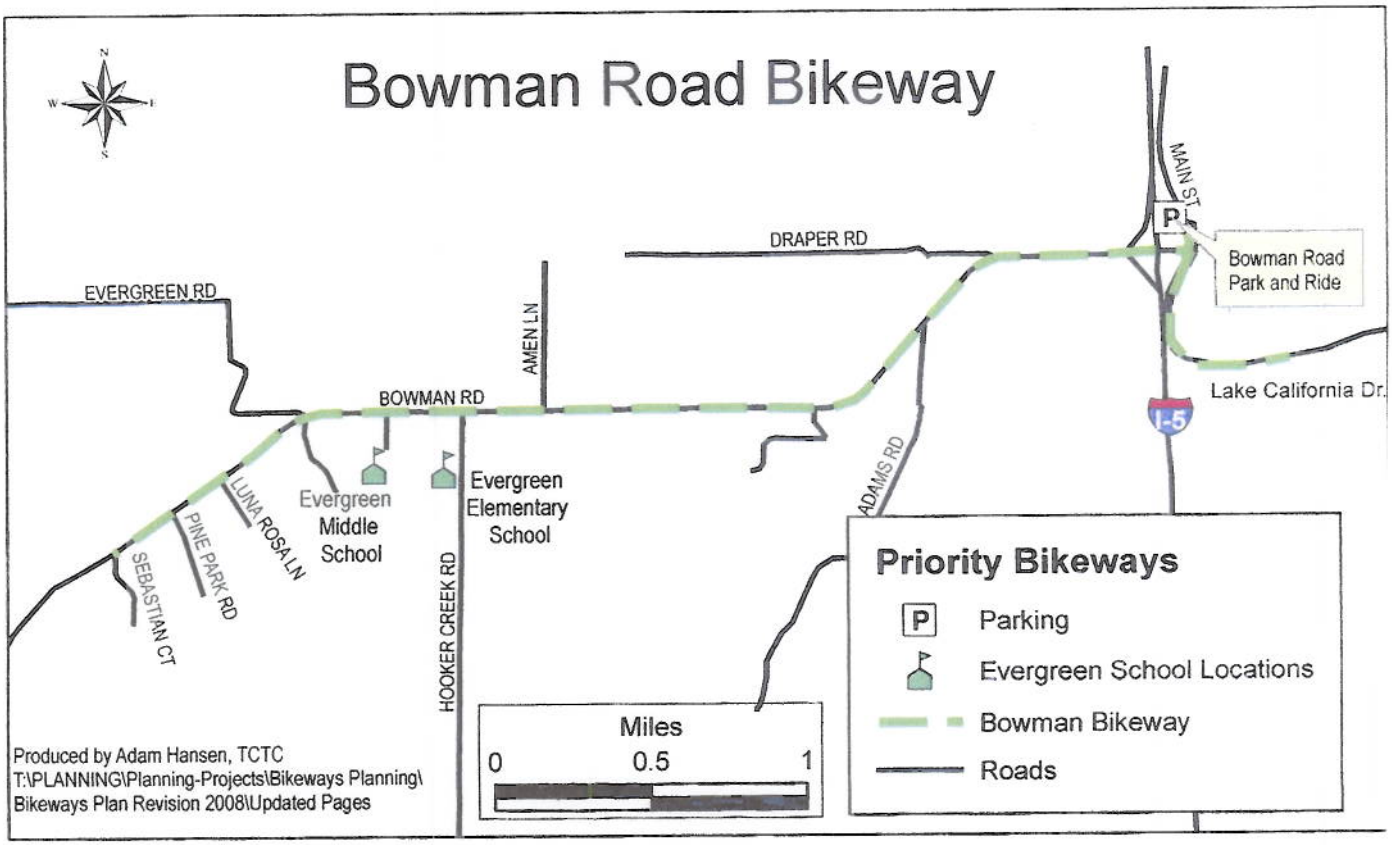
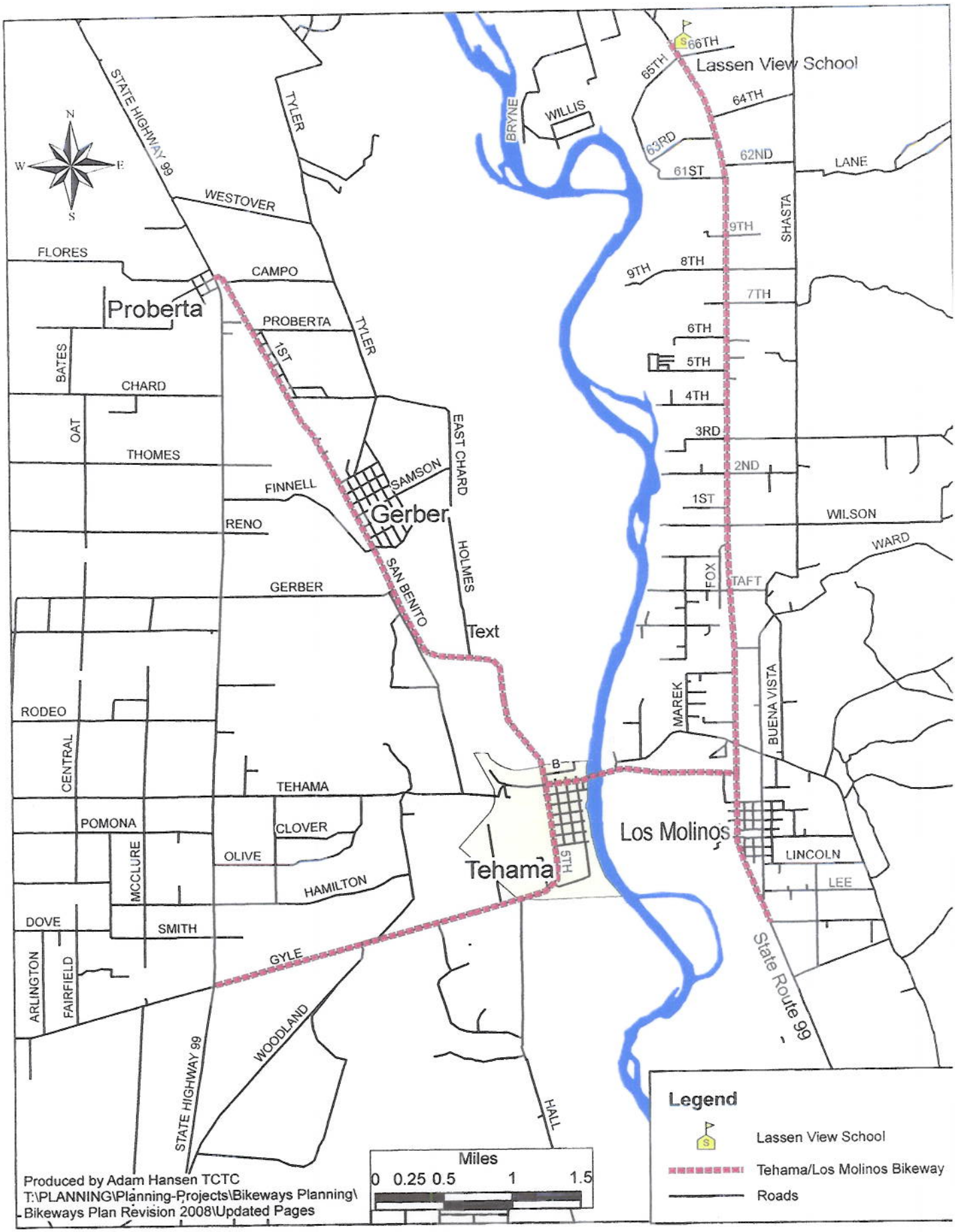
Countywide Short Range Priority Projects

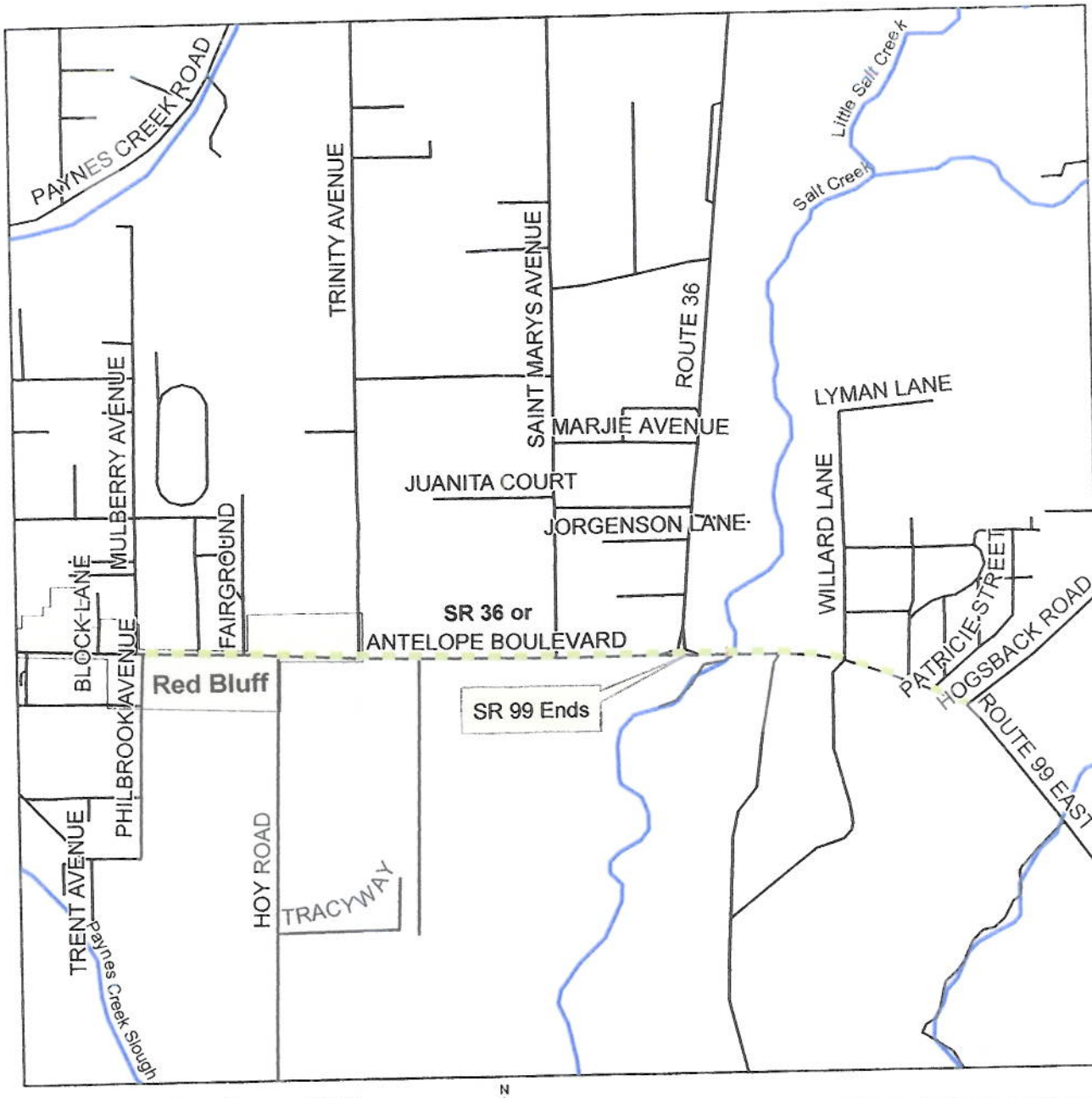




Tehama-Los Molinos Bikeway



State Route 36 and 99 Salt Creek Bikeway



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Priority Bikeways

- SR 36-99 Salt Creek Bikeway
- Roads
- Red Bluff City Limits

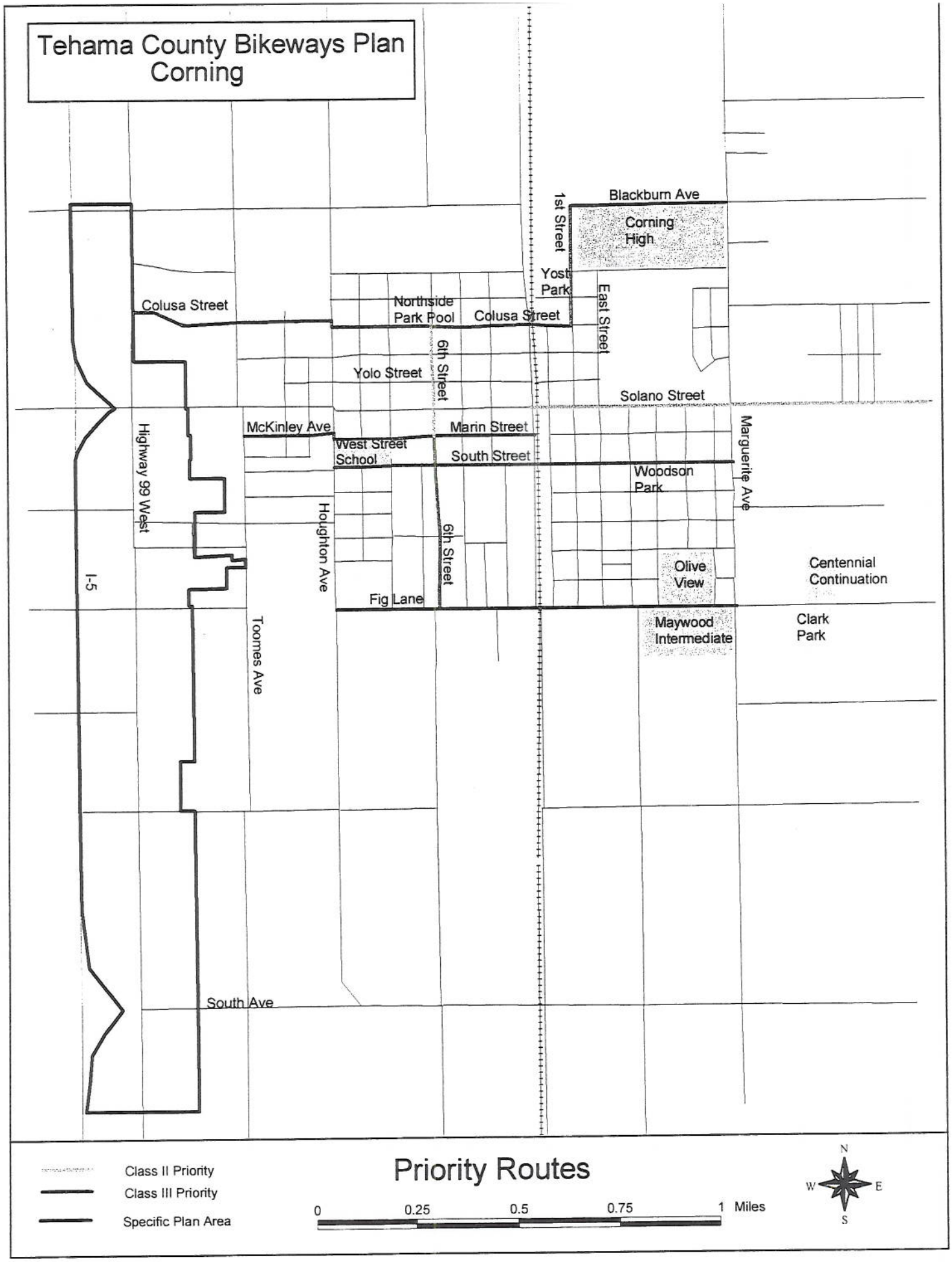
SHORT RANGE IMPLEMENTATION PLAN

CHAPTER 7

7.4 CITY OF CORNING PRIORITY PROJECTS

The priority projects are listed in no particular order.

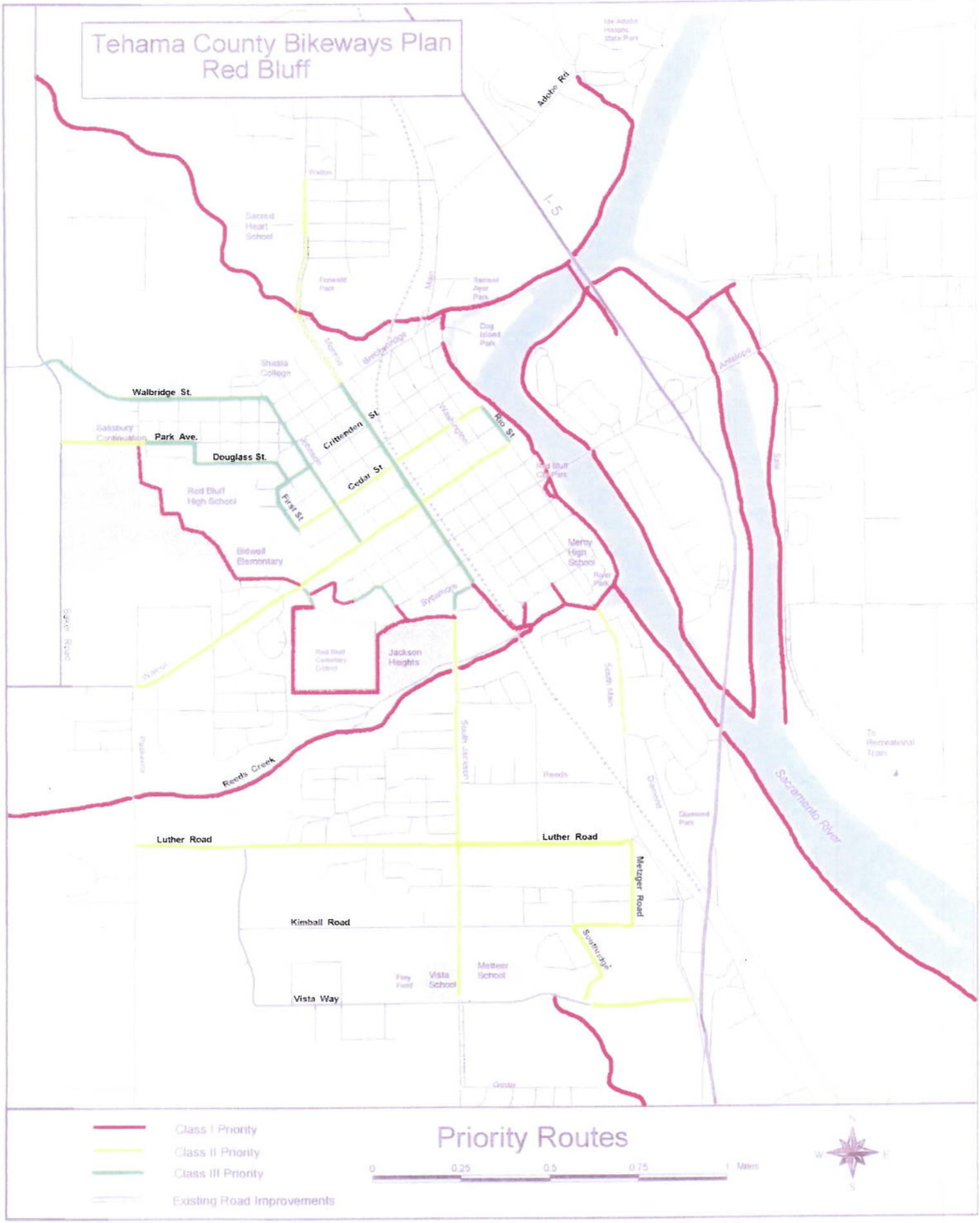
Project	Class	Length (miles)	Cost	
Solono St.Corning Medical Associates to Hwy 99W (Transit Center)	II	.7	31,107	*High demand corridor. Connects to Transit Center and downtown. Serves high density residential areas.*
South St from Marguerite to Houghton Ave.	III	1	48,682	*East/west Solano St. alternative. Serves West St School.*
Fig Ln from Marguerite Ave. to Woodson Ave.	III	.8	10,514	*East/west route serving Olive View and Maywood Schools. Links to 6th St. route. Right of way precludes use of Class II lanes.*
Marin Ave . from Hwy 99 and continuing on McKinley Ave. to Toomes Ave.	III	.65	43,387	*Serves West St. School. Wide right of way. Low volume street. Provides alternative to Solano (McKinley Ave). Low cost*
6th St from Fig Ln. to McKinley Ave. and class II bike lanes and intersection considerations from McKinley Ave. to Colusa St.	II,III	.75	3,264	*Provides north/south route. Utilizes existing intersection control. Improvements including bike-activated signals may encourage school children to use this safe crossing. Connects to popular northside pool.*
Colusa St. from Edith Ave. to First St. and Continuing on First north to Corning High School.	III	1.8	16,000	*Provides east/west route on the north side of Solano. Provides connection to high school. Improvements include retrofitting dangerous drainage grates.*
Bike parking facilities proposed for transit center downtown, Yost Park, and key downtown locations.		see appendix D		*Key destinations not presently served by parking facilities. Bike parking at transit center will improve multi-modal opportunities.*


Tehama County Bikeways Plan
Corning
Blackburn Ave
1st Street
Corning High
Yost Park
East Street
Colusa Street
Northside Park Pool
Colusa Street
6th Street
Yolo Street
Solano Street
McKinley Ave
Marin Street
West Street School
South Street
Marguerite Ave
Woodson Park
Highway 99 West
Houghton Ave
6th Street
Olive View
Centennial Continuation
I-5
Fig Lane
Maywood Intermediate
Clark Park
Toomes Ave
South Ave
Class II Priority
Class III Priority
Specific Plan Area
Priority Routes
0
0.25
0.5
0.75
1 Miles
N
W
E
S

.5 City of Red Bluff Priority Projects

Project	Class	Length (miles)	Description of Project
Bikeway from east end of Pine St., along the Sacramento River, to North end of River Park	I	0.26	Provide connections from Downtown to River Park. Provides a safe crossing of Antelope Blvd. Has recreation and economic development value.
Bikeway along Reeds Creek Easement from River Park to Jackson Heights Elementary School	I	0.69	Reduces existing hazard of Aloha St. Serves residential neighborhoods on path to River Park and to Jackson Heights. Has recreation and economic development value. Needs to be carefully designed since it is on street interface.
Bikeway from east side of Jackson Heights School, along Reeds Creek, to intersection of Cemetery Ln. and Walnut St.	I	.97-1.15	Links trailway segments creating extensive trailway network. Has recreation and economic development value.
Bikeway from Bidwell Elementary School to Red Bluff High School	I	0.37	Serves adjacent residential areas traveling to RBHS or Jackson Heights Elementary. Has recreation and economic development value.
Bikeway from south side of Bidwell School, through RBHS to intersection of Park Ave. and Bulkeley St.	I	0.6	Provides safe alternative to Baker Rd. Has recreation and economic development value.
Bikeway from South Jackson St. from Crosby to Sycamore.	II	0.6	Links So. Jackson bike lanes to Monroe St. bike route. Provides integration with planned trailway.
Bikeway along Walnut St. from Baker Rd. to Rio Street	II	1.4	High demand corridor and major east/west route. Serves residential areas to Bidwell Elementary and downtown destinations. Railroad precludes alternatives to this high volume arterial. Street improvements s may coincide with downtown redevelopment.
Bike parking facilities at Tehama County Courthouse, key downtown locations, key recreational centers, and the Tehama County Health Center.		See appendix D	Key destinations where bike parking is not available.
South Main St. from Diamond to Reeds Creek Bridge	II	0.5	Improves roadway sharing for this primary north/south route . High number of bicycle accidents in this area. No apparent alternative available.
Along Walbridge St. from Baker Rd. to Johnson St.	II, III	1.2	Links Walnut St. to Shasta College and Major Residential Areas
Bikeway along Park Ave. from Douglas to First Street	II, III	0.76	Links major residential areas with high school soccer fields.
Bikeway along Cedar St. from First Street across Main St. to bus terminal	II	0.61	Links Red Bluff High School with Bus Terminal
Bikeway along Luther Rd. from Paskenta to S. Main St.	II	1.51	Major east/west route between a variety of retail and residential areas.

The priority of projects are listed in no particular order.


Tehama County Bikeways Plan
Red Bluff
Adobe Rd
I-5
Walbridge St.
Park Ave.
Douglass St.
Crittenden St.
Cedar St.
First St.
Rio St.
Red Bluff High School
Bidwell Elementary
Jackson Heights
Merry High School
Reeds Creek
Luther Road
Luther Road
Metzger Road
Kimball Road
Vista Way
Vista School
Meteer School
Sacramento River
Class I Priority
Class II Priority
Class III Priority
Existing Road Improvements
Priority Routes
0
0.25
0.5
0.75
1 Miles

7.6 CITY OF TEHAMA PRIORITY PROJECT

Project	Class	Length (miles)	Cost	
Lane on C St. from 5th to Tehama Bridge.	II	.3	~7,500	*Provide better roadway sharing on this higher volume roadway. May reduce speed. Signage will alert motorists.*

See Countywide Priority Projects Map for project illustration

BICYCLE FACILITIES DESIGN GUIDELINES

CHAPTER 8

CHAPTER 8

8.1 Background

The following is a summary of the Caltrans 1995 publication Bikeway Planning and Design. In addition to outlining the Caltrans requirements and recommendations for the design of bicycle facilities, useful design considerations borrowed from other design manuals are included here (see the end of this chapter for references).

The Caltrans Highway Design Manual Figure numbers have been included on the figures in this summary to ease cross-referencing. Caltrans categorizes design standards as either mandatory, advisory or permissive. This report will adhere to the following Caltrans format and language regarding standards:

Mandatory Standards. Mandatory design standards are those considered most essential to achievement of overall design objectives. Mandatory standards use the word 'shall' and are printed in boldface type.

Advisory Standards. Advisory design standards are important also, but allow greater flexibility in application to accommodate design constraints or be compatible with local conditions on resurfacing or rehabilitation projects. Advisory standards use the word 'should'.

Permissive Standards. All standards other than mandatory or advisory, whether indicated by the use of 'should' or 'may', are permissive with no requirement for application intended.

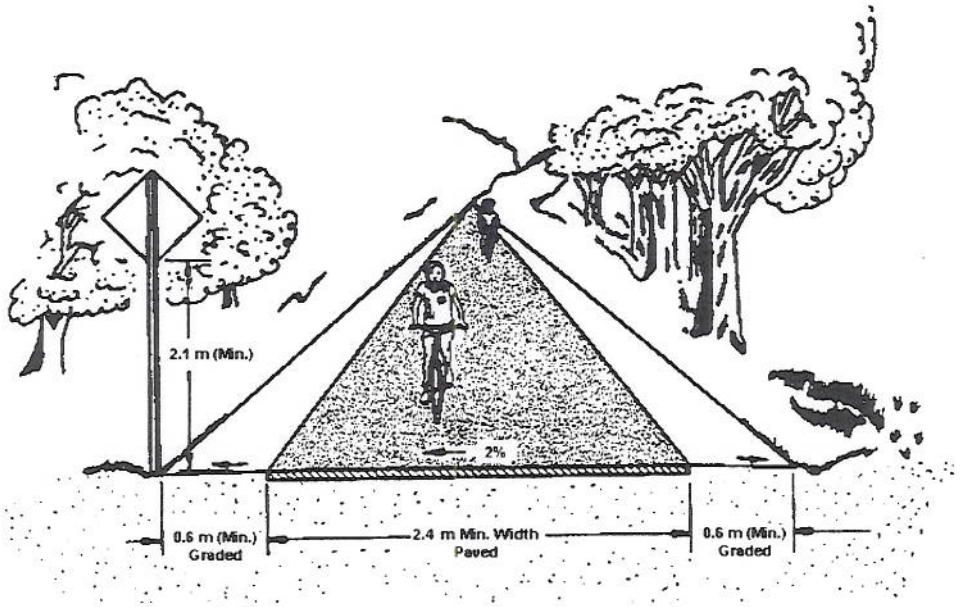
8.2 Design Criteria

Class I Bikeways (Separate Bike Paths)

Bike paths are facilities with exclusive right of way for non-motorized travel, with cross flows by motorists minimized. The Caltrans design manual highlights some inappropriate bike path designs. For example, "Bike paths in the median of highways are not recommended because they require movements contrary to normal rules of the road". Sidewalks should not be considered bike paths as bicyclists on sidewalks may cause conflicts with pedestrians.

If significant pedestrian use of a bike path is anticipated, Caltrans recommends separate facilities for pedestrians in order to minimize conflicts. Furthermore, "Where equestrians are expected, a separate facility should be provided". Caltrans recognizes that in some instances it may be appropriate to develop unpaved, multipurpose

Figure 8.1



recreational trails and only requires that such facilities be signed as a recreational trail and not a bikeway. Motorized vehicles and motorized bicycles (mopeds) are prohibited on bike paths by state law. Caltrans discourages the development of one-way bike paths due to the difficulties of enforcement. The estimated cost range for Class I bike paths is $19-$24 per linear foot (Caltrans Office of Bicycle Facilities).

WIDTHS

The Caltrans design guideline states that, **"The minimum paved width for a two-way bike path shall be 2.4m. The minimum paved width for a one-way bike path shall be 1.5m. A minimum .6m wide graded area shall be provided adjacent to the pavement (see Figure 8.1).** A 1.0m graded area is recommended... Where heavy bicycle volumes are anticipated and or significant pedestrian traffic is expected, the paved width of a two-way path should be greater than 2.4m, preferably 3.6m or more".

CLEARANCE TO OBSTRUCTIONS

In designing a bike path, appropriate clearance width must be given between the path and obstacles such as trees and signs. Caltrans states that, **"A minimum .6m horizontal clearance to obstructions shall be provided adjacent to the pavement (see Figure 8.1).** A 1m clearance is recommended... If a wide path is paved contiguous with a continuous fixed object (e.g., block wall), a 100mm white edge stripe, .3m from the fixed object, is recommended... **The clear width on structures between railings shall be not less than 2.4m.** A 3.6m clear width is preferable. Caltrans also requires that, **"The vertical clearance to obstructions across the clear width of the path shall be a minimum of 2.5m".**

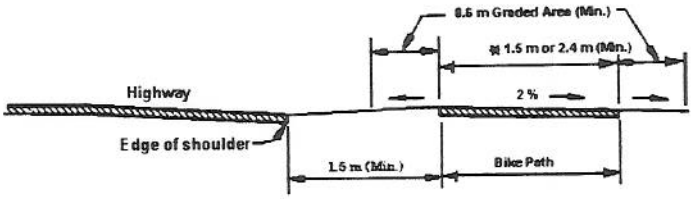
STRIPING AND SIGNING

Caltrans has found that a yellow centerline stripe is particularly beneficial when there is heavy use of a bike path, on curves with restricted sight distance and where the path is unlighted. A .9m stripe with a 2.7m space is the recommended striping pattern. Caltrans permits white painted word or symbol warning markings on the pavement to alert bicyclists to approaching hazards, such as sharp curves.

INTERSECTIONS WITH HIGHWAYS

Ideally, bike paths should have a minimal number of intersections with highways. While designing such intersections special precautions must be taken to clearly designate the crossing point and establish right of way. Caltrans recommends grade separations where motor vehicle cross traffic and bicycle traffic is heavy. Furthermore, "Where grade separations are not feasible (due to cost or where traffic is light), assignment of right of way by traffic signals should be considered. Where traffic is not heavy, stop or yield signs for bicyclists may suffice". The guidelines also state that, "When crossing an arterial street, the crossing should occur at the pedestrian crossing and stop or yield signs for bicyclists should be placed... When crossing at mid-block locations, right of way should be assigned by devices such as yield signs, stop signs, or traffic signals which can be activated by bicyclists... Where bike path signs are visible to approaching auto traffic, they should be shielded to avoid confusion. In some cases Bike Xing signs may be placed in advance of the crossing to alert motorists... Ramps should be installed in the curbs".

Figure 8.2



NOTE: See Index 1003.1(5).

SEPARATION BETWEEN BIKE PATHS AND HIGHWAYS

Bike paths immediately adjacent to streets and highways are not recommended because many bicyclists will find it more convenient to ride on the street as opposed to the bike path. On such routes consider developing a bike lane. Caltrans states, "A wide separation is recommended between bike paths and highways (see Figure 8.2). **Bike paths closer than 1.5m from the**

edge of the shoulder shall include a physical barrier to prevent bicyclists from encroaching into the highway. Suitable barriers could include chain link fences or dense shrubs". Low barriers are not recommended as bicyclists could fall over them.

DESIGN SPEED

Caltrans requires that, **"The minimum design speed for bike paths shall be 40km/h"**. The minimum design speed for bike paths on long downgrades (steeper than 4%, and longer than 150m.) is 50km/h. In addition, **"Installation of 'speed bumps' or other similar surface obstructions, intended to cause bicyclists to slow down in advance of intersections, shall not be used".**

HORIZONTAL ALIGNMENT AND SUPERELEVATION

See Figure 8.3 for Caltrans' requirements. Caltrans recommends increased pavement width on the inside of the curve when minimum curve radii are selected.

STOPPING SIGHT DISTANCE

See Figure 8.3 for Caltrans' requirements stopping sight distance. For two-way bike paths design will be for the descending conditions.

GRADES

Caltrans states that, "The maximum grade rate recommended for bike paths is 5%. It is desirable that sustained grades be limited to 2% if a wide range of riders is to be accommodated". Steeper grades can be tolerated for up to about 150m. In such cases the design speed should be increased and additional width provided.

STRUCTURAL SECTION

The structural section of a bike path should be designed in the same manner as a highway. Caltrans recommends a minimum pavement thickness of 50mm of asphalt concrete. It also recommends the use of type "A" or "B" asphalt concrete with a 12.5mm maximum aggregate and medium grading. Consideration should be given to increasing the asphalt content and sterilization of basement soil.

DRAINAGE

According to the Caltrans guidelines, "For proper drainage, the surface of a bike path should have a cross slope of 2%". When a bike path is constructed on the side of a hill, a drainage ditch of suitable dimensions may be necessary on the uphill side. In addition, "Where necessary, catch basins with drains should be provided to carry intercepted water across the path". One of the best standards for a typical bike path section has been developed by the City of Madison Engineering Division and is included in Figure 8.4.

BARRIER POSTS

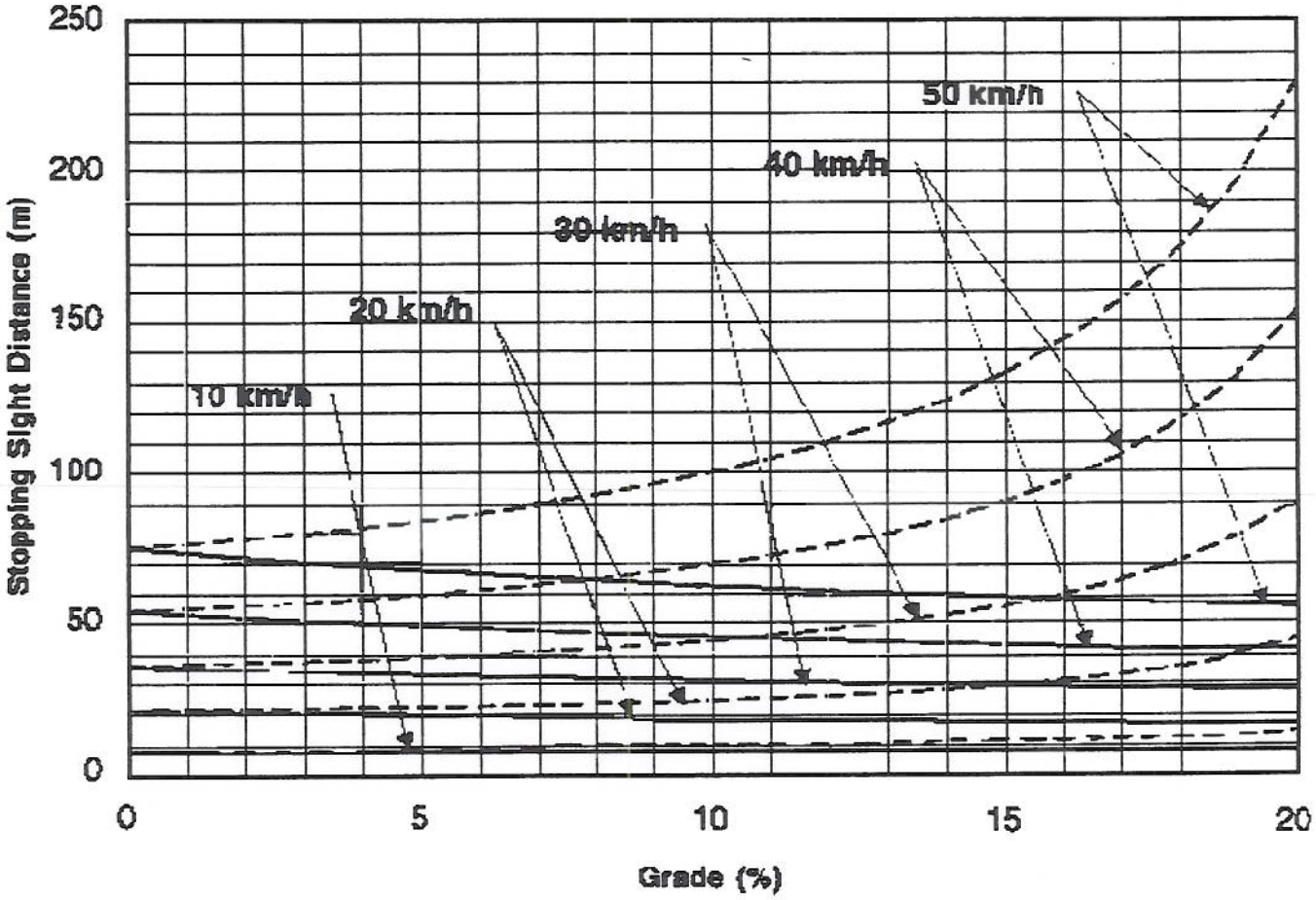
To prevent motor vehicles from entering bike paths it may be necessary to install barrier posts at the entrances. In such cases Caltrans recommends striping an envelope around the barriers. The guideline states, "If sight distance is limited, special advance warning signs or painted pavement warnings should be provided. Where more than one post is necessary...a 1.5m spacing should be used". An alternative, landscaped barrier has been refined by the Ohio DOT (see Figure 8.5). This type of barrier may be preferable in areas where heavy trail use may limit a cyclist's view of a center post.

Class II Bikeways (Bike Lanes)

Bike lanes are areas within the paved roadway that are reserved for bicyclist use. They are designated by bike lane stripes and signing. Bike lanes actively encourage bicyclist travel by creating safer conditions that increase bicyclists' confidence and decrease their level of stress. The estimated cost range for Class II bike lanes is $.66-.$.94 per linear foot for signing and striping only (Caltrans Office of Bicycle Facilities).

Bike lanes should be installed on each side of the street as Caltrans requires that, "Class II bikeways shall be one-way facilities". If bike lanes are to be located on one-way streets, Caltrans specifies that they should be placed on the right side of the street.

Figure 8.3


250
200
150
100
50
0
Stopping Sight Distance (m)
50 km/h
40 km/h
30 km/h
20 km/h
10 km/h
0
5
10
15
20
Grade (%)

WIDTHS

Caltrans' typical bike lane configurations are illustrated in Figure 8.6. Caltrans states that, **"Bike lanes shall not be placed between the parking area and the curb... As indicated, 8.3 or 3.6m (depending on the type of curb) shall be the minimum width of the bike lane where parking is permitted"**. If parking is substantial or turnover of parked cars is high, additional width is recommended. Where parking is prohibited with a normal 600mm gutter, Caltrans requires the minimum bike lane width to be 1.5m. Furthermore, "Where gutters are wide (say, 1.2m), an additional .4m must be provided because bicyclists should not be expected to ride in the gutter. Wherever possible, the width of bike lanes should be increased to 1.8m to 2.4m".

Caltrans also requires that, **"Striping bike lanes next to curbs where parking is prohibited only during certain hours shall be done only in conjunction with special signing to designate the hours bike lanes are to be effective"**. This type of lane is not encouraged however.

On highways where motor vehicle speeds exceed 66km/h additional bike lane width is desirable. Additional width increases distance between automobiles and bicyclists, partly adjusting for the increased stopping distances and decreased maneuverability of fast moving automobiles. Where automobile speeds exceed 66km/h additional width is also needed to decrease the anxiety level of bicyclists. Additional width should also be provided where unavoidable steep downgrades may create bicycle speeds greater than 50km/h.

The typical motor vehicle lane width next to a bike lane is 3.6m. Caltrans allows motor vehicle lane width to be narrowed to 3.3m in order to stripe a bike lane where traffic conditions do not demand a 3.6m lane.

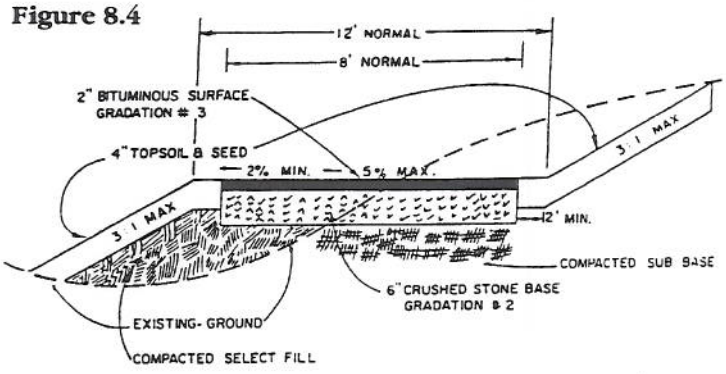
The American Planning Association's report, Bicycle Facility Planning, includes various typical roadway cross sections and the restriping and retrofitting options available in order to accommodate bike lanes (see Figures 8.7-8.9). In these diagrams, type A construction represents a protland cement concrete construction with no curb-and-gutter seam. Type B/C construction represents asphalt construction with a 2-foot concrete curb-and-gutter.

STRIPING AND SIGNING

The Caltrans guidelines require that, **"The R81 bike lane sign shall be placed at the beginning of all bike lanes, on the far side of every arterial street intersection, at all major changes in direction, and at maximum 1km intervals. Bike lane pavement markings shall be placed on the far side of each intersection, and may be placed at other locations as desired. Raised barriers (e.g., raised traffic bars and asphalt concrete dikes) or raised pavement markers shall not be used to delineate bike lanes".**

Caltrans also specifies that, "Bike lane stripes should be placed a constant distance from the outside motor vehicle lane... Bike lanes with parking permitted should not be directed toward the curb at intersections or localized areas where parking is prohibited". Caltrans' standard signing and pavement markings for bike lanes are shown on Figure 8.10 which also depicts the required markings through intersections.

Figure 8.4



Source: CITY OF MADISON, WISCONSIN, ENGINEERING DIVISION

INTERSECTION DESIGN

Caltrans suggests that bicycle-sensitive detectors be installed within the bike lane at intersections where there is a bike lane and traffic-actuated signal. Caltrans also recommends that detectors in left-turn lanes be sensitive enough to detect bicycles (see Figure 8.11 for bike left turn lane design). In 1985 the City of San Diego commissioned a study of various loop detectors

Figure 8.5

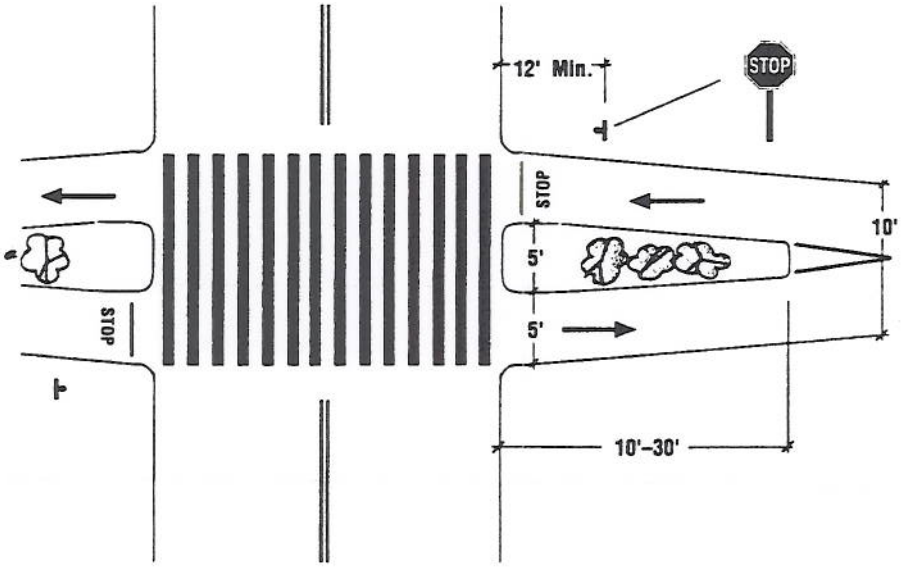


FIGURE 17. PHYSICAL BARRIER TO PREVENT UNAUTHORIZED MOTOR VEHICLES ON BIKE PATHS

Figure 8.6

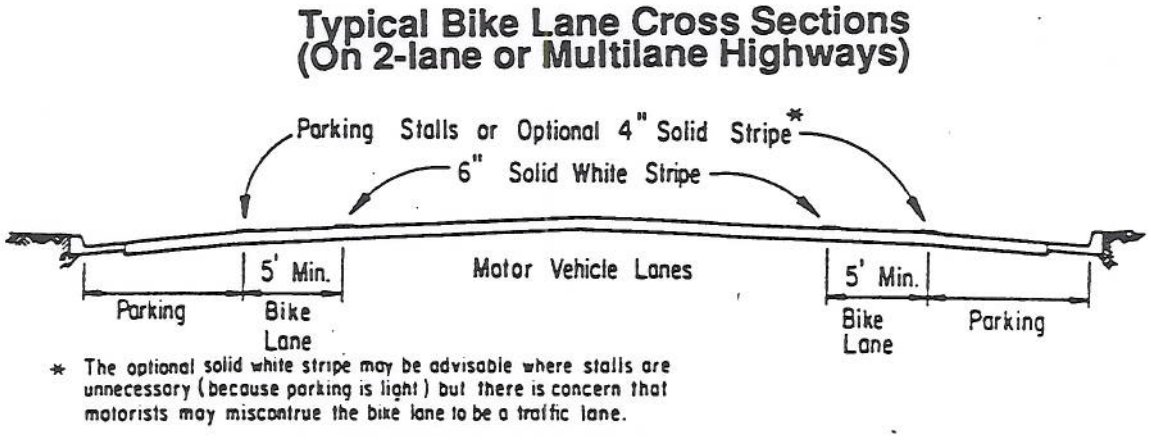


Figure 8.7

BICYCLE LANES ON STANDARD FOUR-LANE STREETS

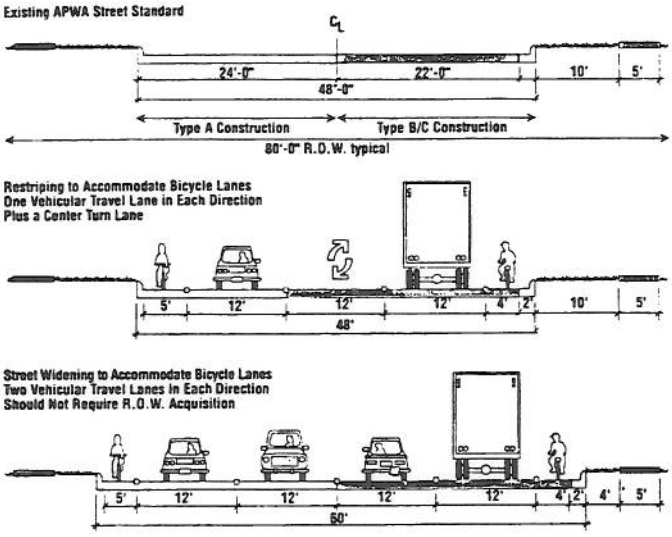


Figure 8.9

BICYCLE LANES ON FIVE-LANE THOROUGHFARES

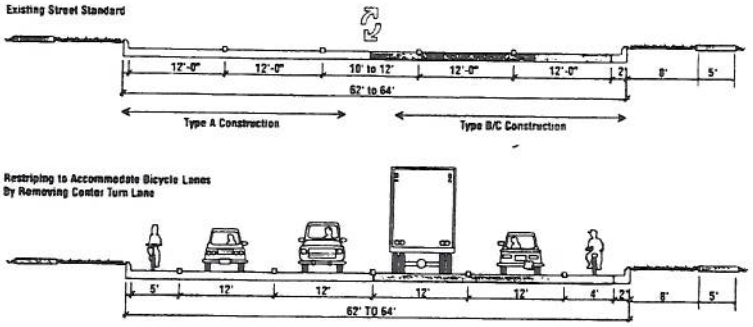
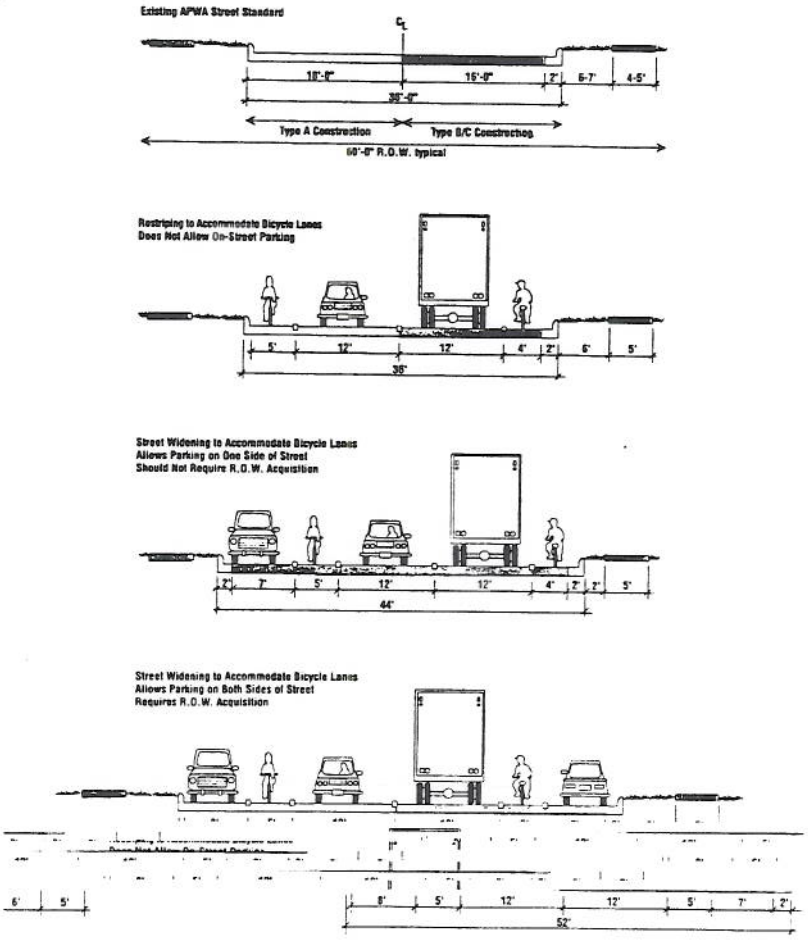


Figure 8.8

BICYCLE LANES ON RESIDENTIAL AND COMMERCIAL COLLECTOR STREETS



Diego commissioned a study of various loop detectors for bicycle sensitivity. Figure 8.12 depicts the top three loop designs recommended by the San Diego report.

A point of potential conflict occurs when a bicycle lane is crossed by a motorist right-turn-only lane. As some bicyclists are apt to assume they have the right of way, and may not check for right-turning motor vehicles, Caltrans does not recommend striping the bike lane through the right-turn-only lane. Caltrans notes that, "When confronted with such intersections bicyclists should signal and merge where there is sufficient gap in right-turning traffic". Figure 8.13 illustrates Caltrans' recommended striping patterns for bike lanes crossing a motorist's right-turn-only lane. To warn motorists of the potential for bicyclists crossing their right-turn-only lane, Caltrans permits a Bike Xing sign to be used.

Surface Tolerances

Bicycle tires can easily catch or be diverted on uneven surfaces. To facilitate the design of smooth surfaces, Caltrans has developed a table of recommended bikeway surface tolerances for bike lanes and routes (see Figure 8.14).

Class III Bikeways (Bike Routes)

Class III bikeways are shared facilities and are established by placing Bike Route signs along roadways. Bike routes are intended to provide continuity to the bikeway system. Bike routes are established along through routes not served by bike paths or bike lanes, or to connect bike lanes. Bike routes may also designate preferred (safe and direct) routes to high demand destinations. The estimated cost range for Class III bike routes is $.07-.$.09 per linear foot for signing only (Caltrans Office of Bicycle Facilities).

On-Street Bike Route Criteria

Bicyclists using a bike route expect it to offer a higher degree of service than alternative streets. Caltrans states that, "Routes should be signed only if some of the following apply:

1. They provide for through and direct travel in bicycle-demand corridors.
2. They connect discontinuous segments of bike lanes.
3. An effort has been made to adjust traffic control devices (stop signs, signals) to give greater priority to bicyclists, as compared with alternative streets.
4. Street parking has been removed or restricted in areas of critical width to provide improved safety. Surface imperfections or irregularities have been corrected.
5. Maintenance of the route will be a higher standard than that of other comparable streets".

The City of Seattle has developed a very successful maintenance program that enables citizens to report specific sites where they feel improvements are required. Improvement request forms are located throughout the city to encourage citizen input (see Figure 8.15).

Signing and Marking of Bike Routes

The Caltrans guidelines state, "Bike routes are established through placement of the G93 Bike Route sign. Bike route signs are to be placed periodically along the route. At changes in direction, the bike route signs are supplemented by G33 directional arrows". Typical bike route signing is shown on Figure 8.16.

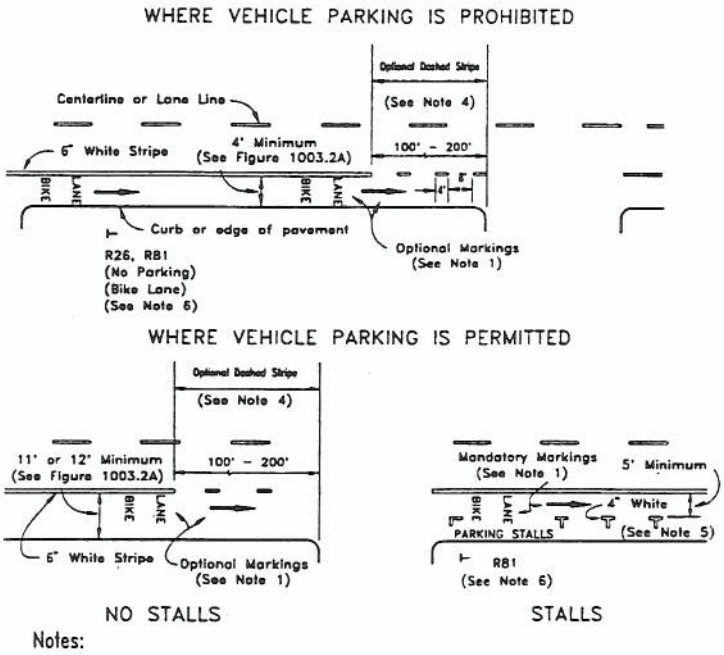
While bike routes do not require pavement markings, Caltrans permits a 100mm white edge stripe separating the traffic lanes from the shoulder in order to provide for safer shared use. Edge stripes may be especially beneficial on rural highways and on major arterials in urban areas where there is no vehicle parking.
For Bike Route signs to be more functional, Caltrans permits supplemental plates to be placed beneath them when located along routes leading to high demand destinations (e.g., "To Downtown").

Bicycles on Freeways

Caltrans permits freeways to be opened up to bicyclists if freeway conditions are found to be safe for bicyclists and no suitable alternative routes are available or could feasibly be developed.

Figure 8.10

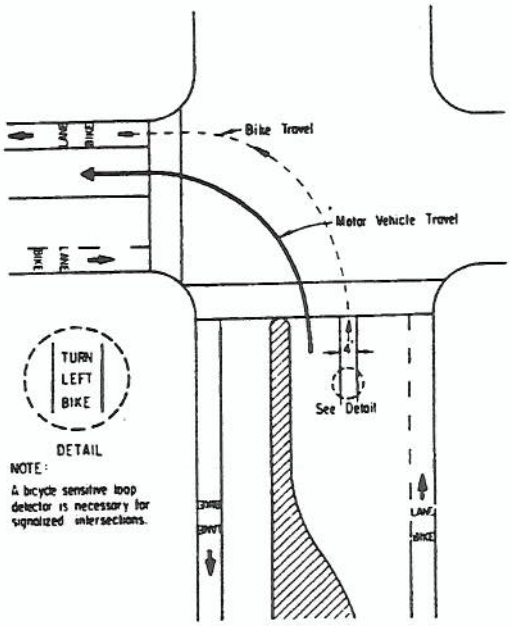
Bike Lane Signs and Markings



Notes:

Figure 8.11

Bike Left-Turn Lane

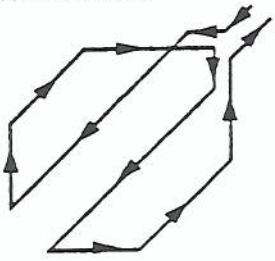


Source: PLANNING AND DESIGN CRITERIA FOR BIKEWAYS IN CALIFORNIA

Figure 8.12

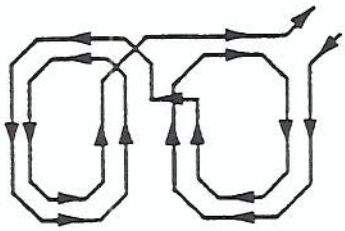
DIAGONAL QUADRUPOLE LOOP

- relatively sensitive over whole area
- sharp cut-off of sensitivity
- used in shared lanes



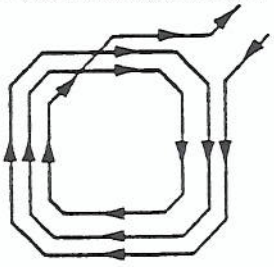
~~FIGURE 4~~. QUADRUPOLE LOOP

- detects most strongly in center
- sharp cut-off of sensitivity
- used in bike lanes



~~FIGURE 5~~. STANDARD LOOP

- detects most strongly over wires
- gradual cut-off
- used for advanced detection



Overcoming Obstacles

BRIDGES

One-way bike lanes on each side of the roadway is the best design for a bridge crossing. A two-way bike lane on one side of a bridge forces cyclists on the opposite side to cross traffic twice in order to cross the bridge and cyclists may choose to ride on the wrong side of the roadway as a result. If a two-way bike path on one side of a bridge is to be constructed Caltrans requires that, **"A physical separation, such as a chain link fence or railing, shall be provided to offset the adverse effects of having bicyclists traveling against motor vehicle traffic"**. Caltrans also recommends that, "Bikeway bridge railings or fences placed between traffic lanes and bikeways be at least 1.4m high to minimize the likelihood of bicyclists falling over the railings". If separate bicyclist overcrossings are to be developed, Caltrans requires that, **"Separate highway overcrossing structures for bikeway traffic shall conform to Caltrans' standard pedestrian overcrossing design loading of 12kg/m^2. The minimum clear width shall be the paved width of the approach bikeway".**
When a roadway narrows on a bridge, points of conflict may occur between bicyclists and motor vehicles. The City of New Jersey DOT recommends warning zebra striping to shift motor vehicle traffic away from the bridge parapet and provide additional priority pavement space for bicyclists (see Figure 8.17).

RAILROAD CROSSINGS

All new bike path railroad crossings must be approved by the California Public Utilities Commission. The best design for a bikeway railroad crossing is a straight approach, crossing the rails at a right angle. The bikeway should not narrow at the crossing. According to the Caltrans guidelines, "For on-street bikeways where a skew is unavoidable, the shoulder (or bike lane) should be widened, if possible, to permit bicyclists to cross at right angles (see Figure 8.18)". Where pavement widening is not possible, Caltrans recommends retrofitting to keep the flangeway depth and width to a minimum. Caltrans also mentions that maintenance may be necessary to prevent ridge buildup of pavement along rails. Where hazards to bicyclists can not be avoided, Caltrans recommends installing warning signs. The North Carolina DOT recommends a warning sign with the message, "BIKES CROSS AT RIGHT ANGLE", where crossings are not perpendicular to the rails.

DRAINAGE GRATES

Caltrans requires that, **"Drainage inlet grates on bikeways shall have openings narrow enough and short enough to assure bicycle tires will not drop into the grates (e.g., reticuline type), regardless of the direction of bicycle travel"**. Where existing grates can not be replaced with standard ones Caltrans suggests welding 25mm X 6mm inch steel cross straps to the grates at a spacing of 150mm to 200mm on center.

In order to assure a smooth surface for bicyclists, the City of New Jersey DOT requires that drainage grates be placed outside of the lane sharing area (see Figure 8.19).

DRIVEWAYS

Bicycle tires can catch when entering driveways at a flat angle if a significant vertical lip exists between the driveway and gutter. For this reason Caltrans discourages the construction of such lips and suggests that, where a vertical lip is deemed necessary, the height should be limited to 15mm.

CATTLE GUARDS

As cattle guards create significant surface variations for bicyclists, the Caltrans guidelines mention that they should be clearly marked with advanced warning.

HAZARD MARKINGS FOR OBSTRUCTIONS

Bikeways should be designed around obstructions. However, unavoidable obstructions that restrict the width of a bikeway (such as piers or abutments) should be clearly marked to warn bicyclists (see Figure 8.20 for

Figure 8.13

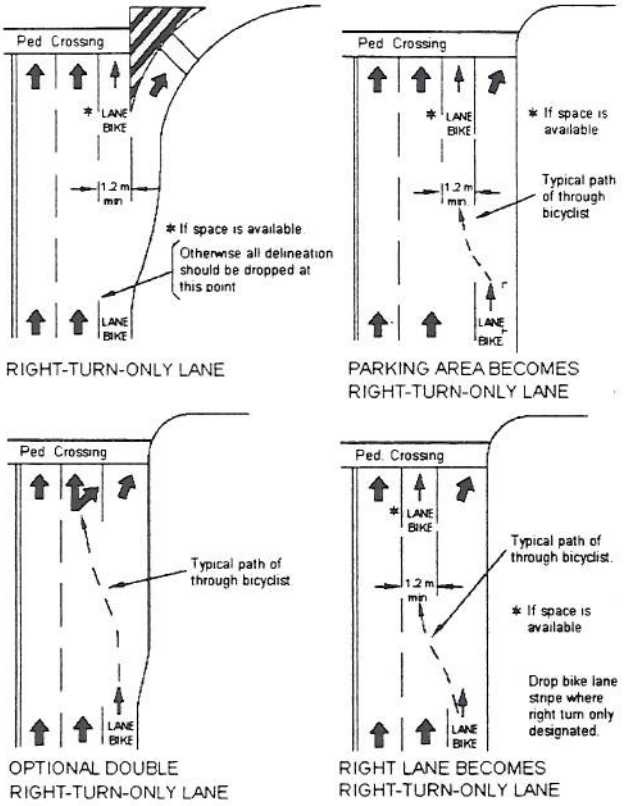


Figure 8.14

BIKEWAY SURFACE TOLERANCES

Direction of Travel	Grooves(1)	Steps(2)
Parallel to travel	No more than 12 mm wide	No more than 10 mm high
Perpendicular to travel	---	No more than 20 mm high

(1) Groove--A narrow slot in the surface that could catch a bicycle wheel, such as a gap between two concrete slabs.

(2) Step--A ridge in the pavement, such as that which might exist between the pavement and a concrete gutter or manhole cover; or that might exist between two pavement blankets when the top level does not extend to the edge of the roadway.

Figure 8.15

Improvement Request Form

CITIZEN BICYCLING IMPROVEMENT REQUEST
CITY OF SEATTLE BICYCLE PROGRAM

The Bike Spot program makes low cost improvements to enhance bicycle safety and access. We do maintenance work, signs and striping, and small construction jobs. Almost anything is possible!

LOCATION: Roadway Name _____
Landmarks (cross street, # of feet from curb, address). Be specific! _____

DESCRIPTION OF PROBLEM (What is it, and why is it a problem) _____

Where did you get this form? _____
REPORTED BY: Name _____ Day Phone _____
Address _____ Zip _____ Date _____

Return to: Seattle Engineering Department Bicycle Program
Room 1012 Municipal Building, Seattle, WA 98104

For further information contact Carla Black or Peter Lagerway at 625-5177

Caltrans' guidelines).

LIGHTING

Caltrans recommends the consideration of lighting along routes where nighttime riding is expected. Lighting may be especially important along commuter routes, at bike path crossings of streets, and for underpasses.

SHARED USE

Since all roadways, with the exception of some highways, can be expected to be used by bicyclists, designing and enhancing roadways for bicycle travel, regardless of the presence of a bikeway, is an important part of creating a "bicycle friendly" environment.

Caltrans' guidelines require that all new construction or reconstruction of a roadway accommodate shared use by bicyclists. The guidelines state, "On new construction, and major reconstruction projects, adequate width should be provided to permit shared use by motorists and bicyclists. **On resurfacing projects, the entire paved shoulder and traveled way shall be resurfaced. When adding lanes or turn pockets, a minimum 1.2m shoulder shall be provided.** When placing a roadway edge stripe, sufficient room outside the stripe should be provided for bicyclists". Caltrans also specifies surface qualities of new roads as follows, "For rideability on new construction, the finished surface of bikeways should not vary more than 6mm from the lower edge of an 2.4m long straight edge when laid on the surface in any direction".

The American Planning Association's Bicycle Facility Guidelines offers very helpful cross sections of various streets with options for retrofitting or restriping to accommodate shared use space for bicyclists (see Figures 8.21-8.23).

REFERENCES

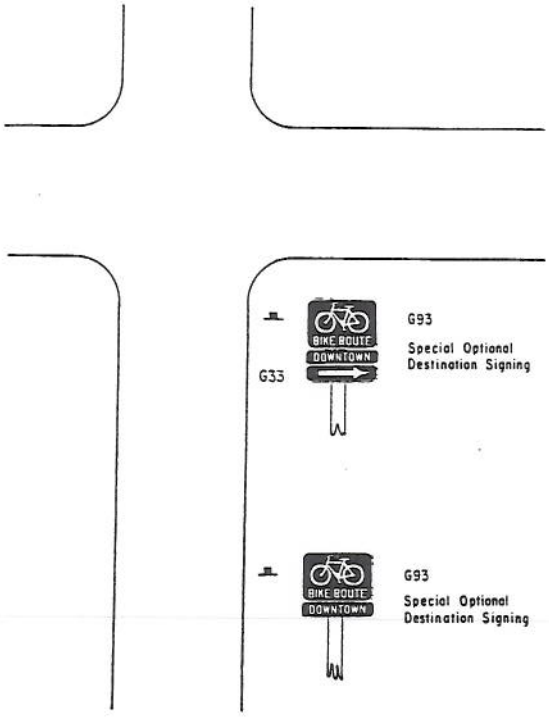
Pinsof, Suzan Anderson and Muser, Terri. 1995. *Bicycle Facility Planning*. American Planning Association, Planning Advisory Service Report Number 459.

U.S. Department of Transportation, Federal Highway Administration. 1992. *Current Planning Guidelines and Design Standards Being Used By State and Local Agencies for Bicycle and Pedestrian Facilities*. Publication No. FHWA-PD-93-006.

California Department of Transportation. 1995. *Bikeways Planning and Design*. 5th ed.

Figure 8.16

Bike Route Signing



The G93 Bike Route signs shall be placed at all points where the route changes direction and periodically as necessary.

Figure 8.17

WARNING STRIPING ON NARROW BRIDGE SHOULDERS

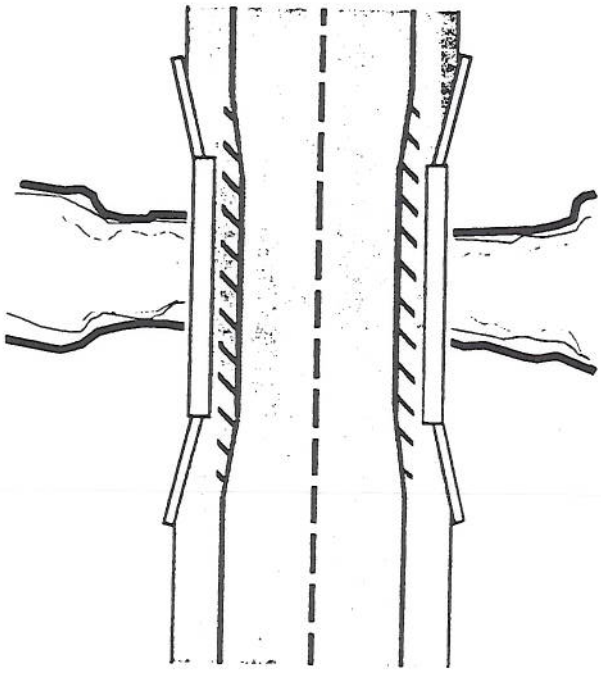
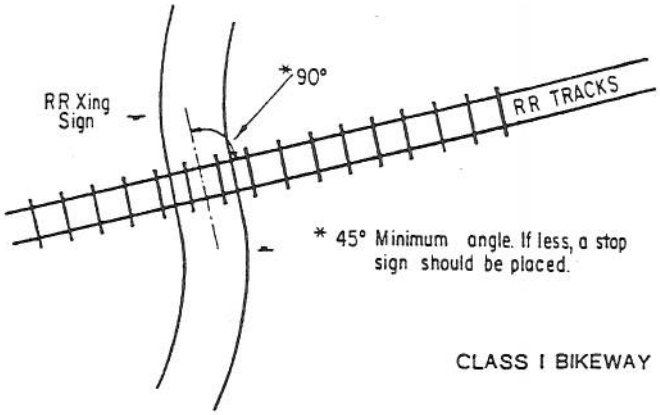


Figure 8.18

Railroad Crossings



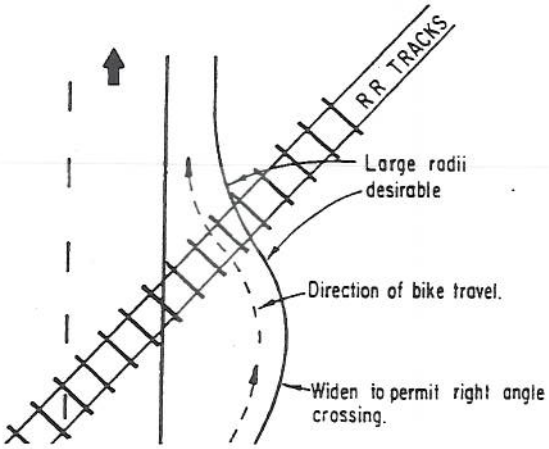
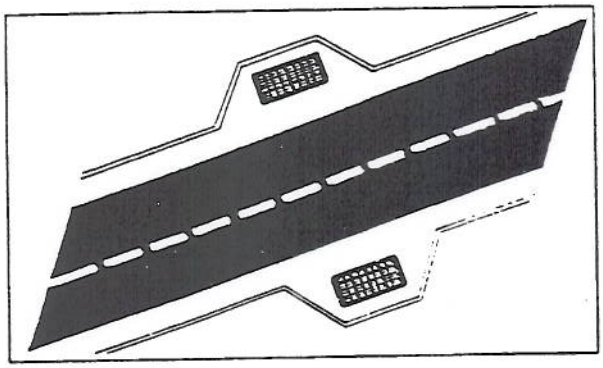


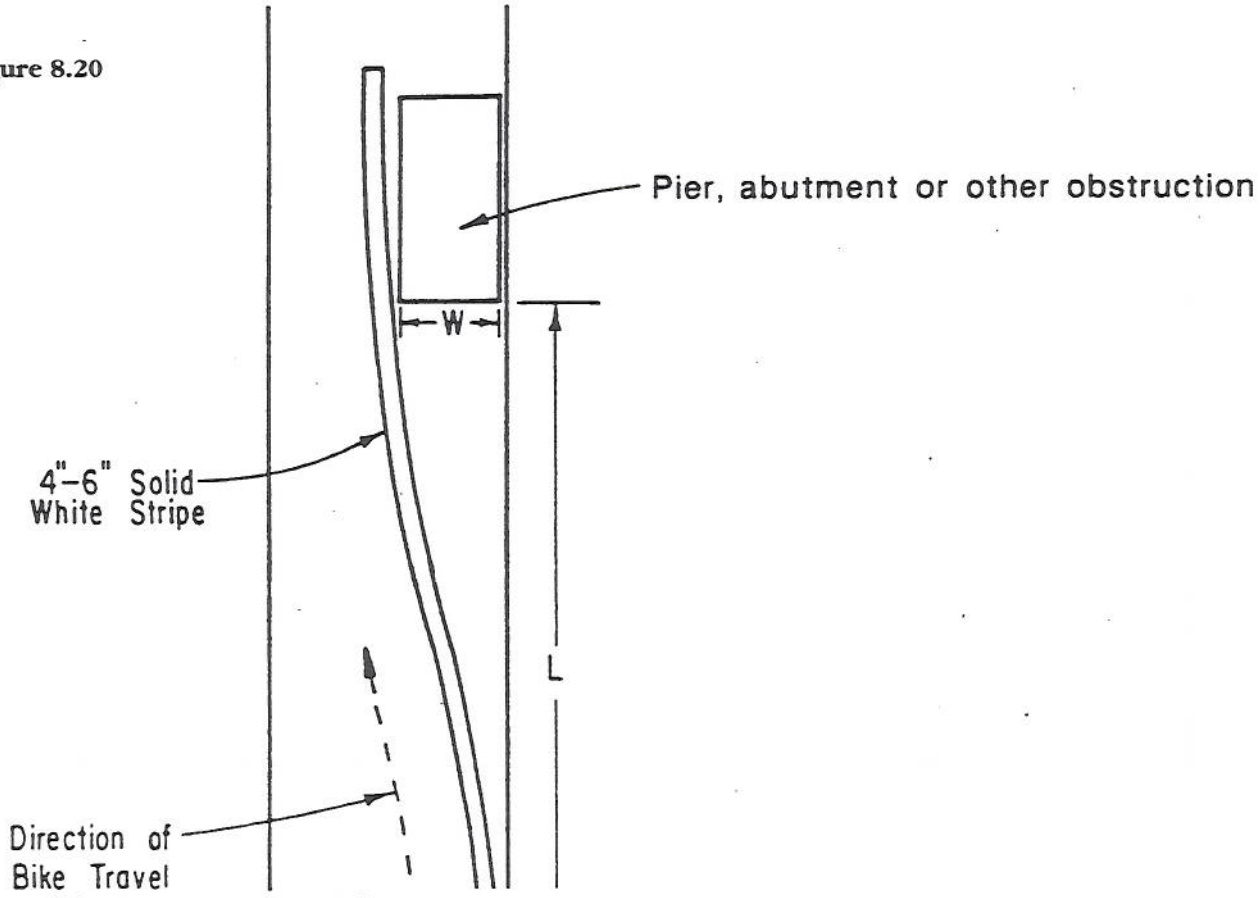
Figure 8.19

Bike Compatible Drainage Grate Placement



Source: NEW JERSEY BICYCLE COMPATIBLE ROADWAYS

Figure 8.20



Obstruction Markings

Figure 8.21

WIDE CURB LANES ON RESIDENTIAL AND COMMERCIAL COLLECTOR STREETS

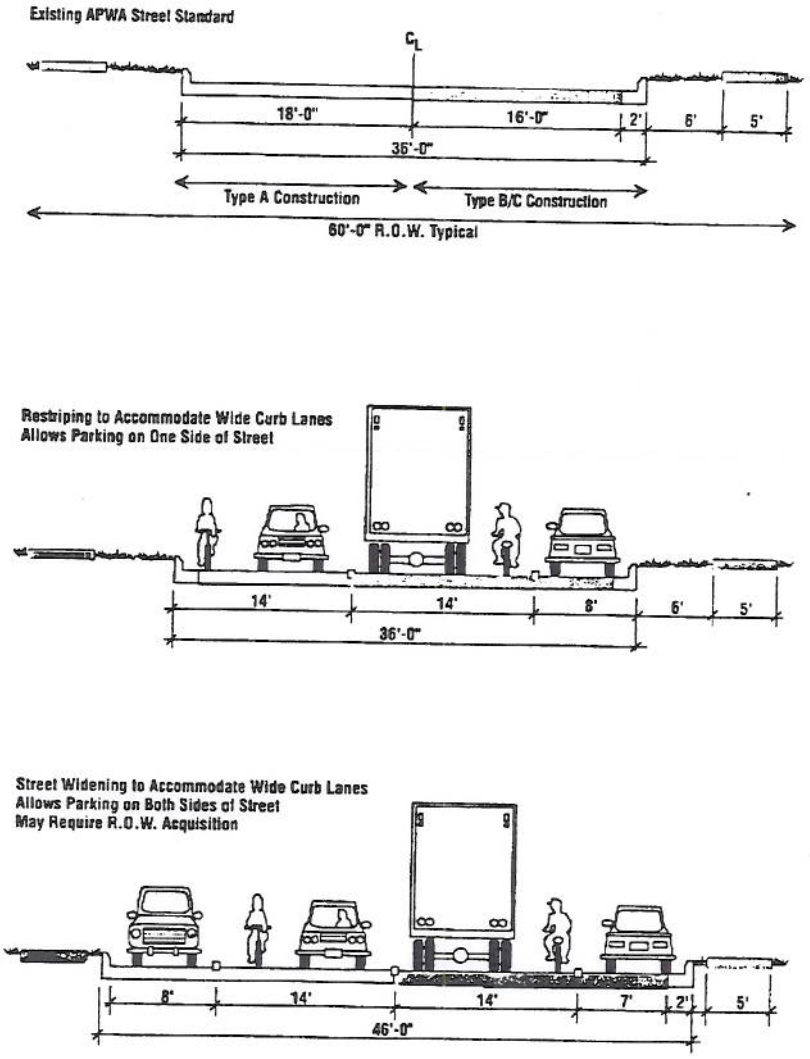
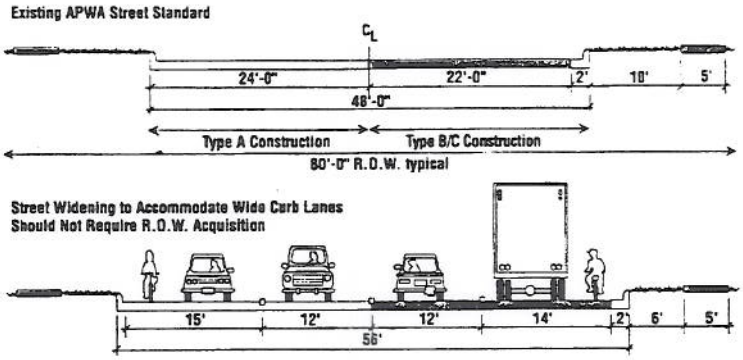
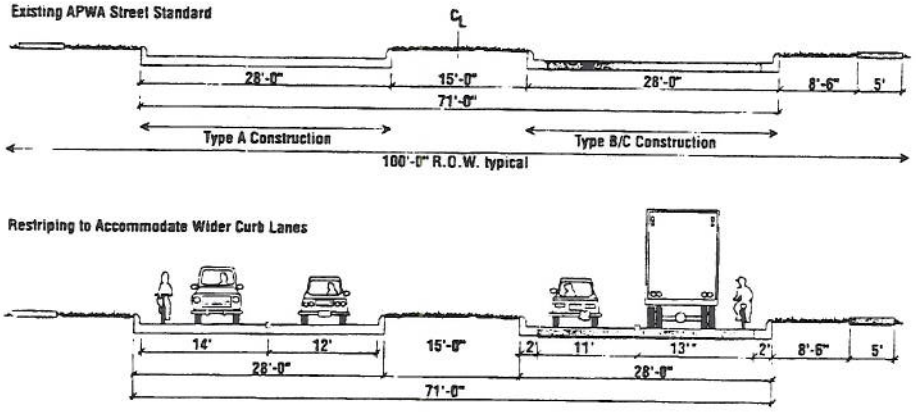


Figure 8.22

WIDE CURB LANES ON STANDARD FOUR-LANE STREETS



WIDE CURB LANES ON DUAL LANE FOUR-LANE THOROUGHFARES

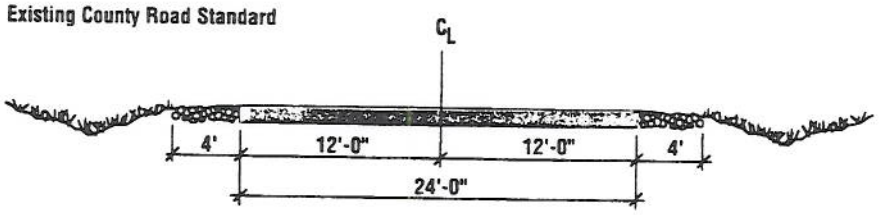


*14' (excluding curb and gutter) is desired on all new construction projects

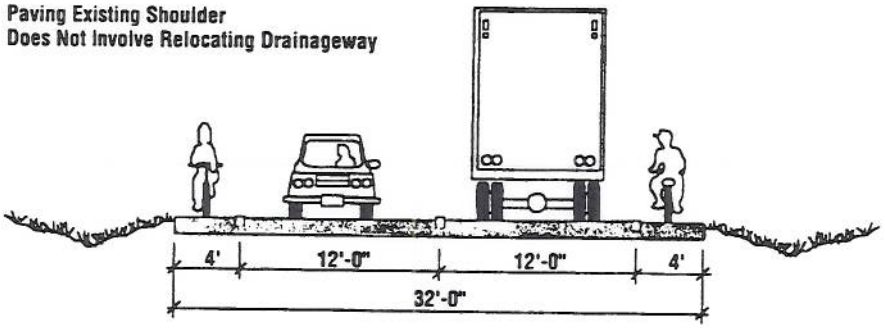
Figure 8.23

PAVED SHOULDERS ON RURAL COUNTY ROADWAYS

Existing County Road Standard

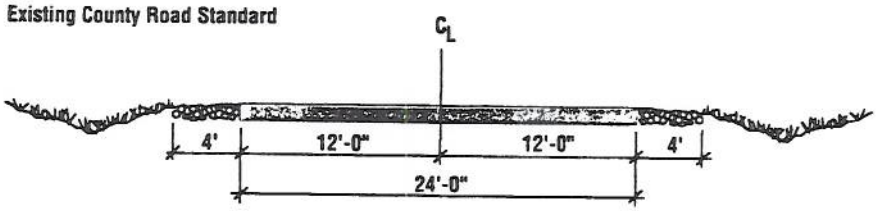


Paving Existing Shoulder
Does Not Involve Relocating Drainageway

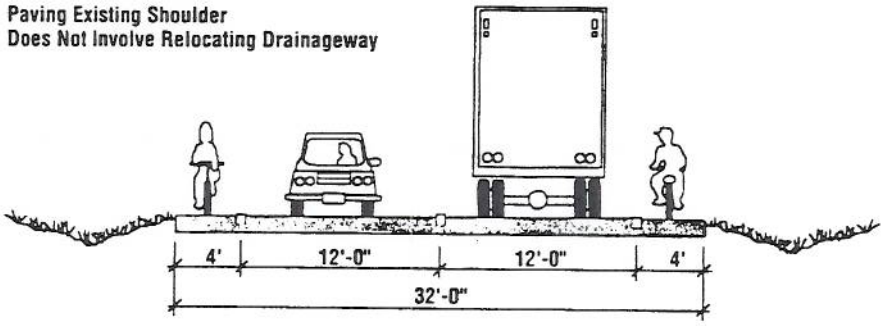


PAVED SHOULDERS ON RURAL COUNTY ROADWAYS

Existing County Road Standard



Paving Existing Shoulder
Does Not Involve Relocating Drainageway



LAND USE CONSIDERATIONS

CHAPTER 9

CHAPTER 9

9.1 Introduction

This bikeways plan is intended to provide a comprehensive approach to encouraging the safe and convenient use of bicycles as a form of transportation. Perhaps the greatest barrier to bicycle, or pedestrian travel, is the distance between destinations. This critical factor is dependent on the built environment in the towns of Tehama County. Land use considerations, therefore, are key to promoting safe, convenient bicycling. This chapter will discuss some of the land use strategies and policies local government's can utilize to promote bicycle- and pedestrian-friendly communities.

9.2 City Land Use Policies

URBAN GROWTH BOUNDARIES

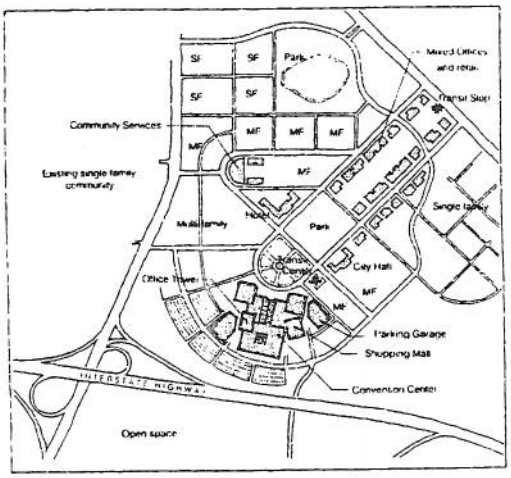
One of the major inhibitors to bicycle travel is the sprawling nature of conventional residential and commercial development. Establishing an urban growth boundary through the general plan and concentrating development inside that boundary can prevent urban sprawl while preserving farmland and open space. Individual city's urban growth boundaries should be incorporated into the county's general plan. Communication should be maintained with local agency formation commissions (LAFCOs) to ensure that annexations and urban service extensions are consistent with urban growth policies.

MIXED USE ZONING

A 1990 Federal Highway Administration study (Case study N. 1) found that pedestrian speeds average 3 miles per hour and bicyclist speeds avarage10-12 miles an hour. The average length of walking trips was .6 miles, and 2 miles for bicycle trips. It follows that if walking and bicycling are to become viable means of transportation, common destinations must be located within these distances of residences. Yet conventional, single-use zoning segregates commercial areas from residential ones. This separation is compounded by minimum density laws which further spread residential areas away from high demand destinations. Mixed use zoning, mixing residences with other commercial and public uses, is a land use strategy increasingly being employed to bring people closer to the destinations they commonly travel to.

The Ashland, Oregon Comprehensive Plan defines mixed use as,"A term describing a heterogeneous mixture of commercial, retail, residential and light industrial uses in individual or interconnected buildings". Where such mixed-use districts exist traffic is reduced and bicycling increases because distances between residences and daily destinations are short. In addition, workers may run errands in the same district where they are employed, further decreasing automobile trips. Figure 9.1 diagrams a model mixed use district.

Figure 9.1
Source: Snohomish County Transportation Authority. "Creating Transportation Choices Through Zoning" Volume II



TOOLS FOR CREATING MIXED USE DISTRICTS

Mixed-Used Districts such as the downtowns of Corning and Red Bluff provide ample opportunity for bicycling and walking. Creating, or enhancing these mixed-use districts often requires changes to use regulations and zoning ordinances. Several different approaches are available. City or county use regulations should be reviewed to see if the list of permitted or conditionally permitted uses could be expanded in order to reduce automobile trips. Reasonable conditions could be included as well. Two potential additional uses are home occupations and accessory dwelling units. (For a

detailed discussion of zoning regulations in Downtown Red Bluff see the Downtown Revitalization Plan.)

Separate zoning districts could be created for targeted areas. Overlay districts can also be used to apply additional standards where desirable. Identifying a planned development district with mixed-use design objectives could ensure that future development would be pedestrian and bicycle friendly. A specific plan could provide more detailed planning for a development area. See Figure 9.2 for examples of uses allowed in mixed-use districts.

Figure 9.2

EXAMPLES OF USES ALLOWED IN MIXED-USE DISTRICTS

High-Density Residential Zone

High-density residential uses
Retail sales and services such as:
- Florist
- Gift or jewelry store
- Newsstand or bookstore
- Grocery
- Restaurant

Personal services such as:
- Barber or beauty shop
- Dry cleaning pick-up station
- Laundry pick-up station
- Medical or dental offices
- Valet Shop

Source: Montgomery County, MD

Multi-Unit Residential Area

Permitted Uses:
- Multi-unit residential (minimum density 30 units per acre)

Accessory Uses:
- Customary home occupations
- Offices, incidental to allowed use
- Accessory uses or buildings

Provisional Uses:
- Local-serving retail and personal services, if part of a development of 200 or more units and less than 1,500 square feet
- Public halls, lodges and clubs
- Public and quasi-public uses
- Retail, personal service restaurants and other neighborhood-serving uses as allowed in the Neighborhood Commercial zone
- Additional uses determined by the Zoning Administrator to be supportive of those listed above

Source: Evelyn Avenue Corridor Precise Plan, Mountain View, CA

Business-Office Professional-Residential Transitional Zone

Any office or professional use permitted in an O-P zone.

Small-scale retail and service businesses with a maximum 2,000 square foot gross floor area, such as:
1. Barber and beauty shops
2. Small retail, specialty shops
3. Small-scale food markets and drugstores
4. Use resulting from any of the following professions: executive, administrative, professional, accounting, writing, clerical, stenographic, drafting, art supplies and sales.

Residential uses located above the ground or first floor of the structure, provided such use does not exceed 35 percent of the total square footage of the building

Source: Bothell, WA

Several additional measures can be taken to increase the effectiveness of mixed-use zoning. Housing should be densely clustered around mixed-use cores and a variety of housing should be represented in every neighborhood. Housing targeted to the incomes of workers employed locally should be encouraged. In addition, auto dependent uses, such as stores selling in bulk and car dealerships, should be clustered in auto oriented districts along major vehicle routes to decrease automobile congestion in mixed-use districts.

In "Making Better Communities by Linking Land Use and Transportation", a guide published by the Association of Bay Area Governments, the following example is given for additional requirements that could be applied to a "pedestrian neighborhood overlay district".

- Allowable uses. All uses allowed in the underlaying zone except land extensive or auto-oriented uses.
- Mix of housing types. On sites over 10 acres, require one-third of units to be in multifamily or attached single-family structures.
- Building setbacks. At least 25 percent of the structure shall be constructed to the building setback line and no minimum setback shall exceed 15 feet.
- Garage location. Garages shall be set back at least 18 feet from the front lot line.

9.3 Creating Bicycle and Pedestrian Friendly Roadways

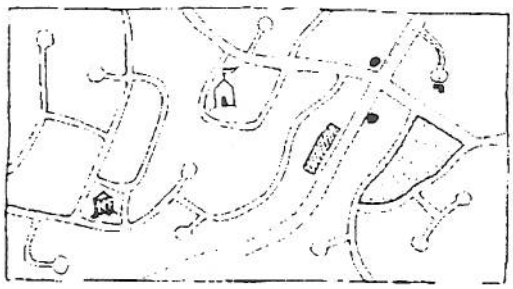
Grid Street Patterns

A grid street pattern enhances the pedestrian and bicyclist environment by providing many connectors and a wide choice in routes. Grid patterns defuse traffic throughout several routes instead of being concentrated on one large arterial. The resulting lower average daily trips on a given road also serves to enhance bicyclist and pedestrian safety. Conventional cul-de-sac street patterns can be retrofitted with bicycle and pedestrian paths (see Figure 9.3).

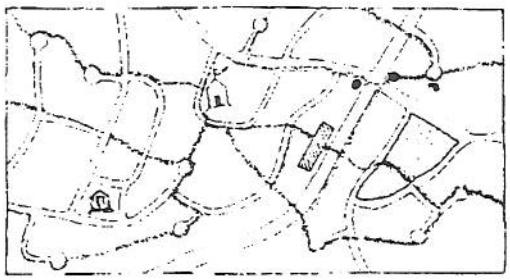
Minimizing Block Perimeters

In order to ensure the convenience of circulation for pedestrians and bicyclists that a grid street pattern creates, block perimeters of 1,200 to 1,600 feet are recommended. Smaller block perimeters also improve pedestrian safety by providing more frequent intersection crosswalks. Pedestrians are often tempted to cross in the middle of the street when blocks are too long.

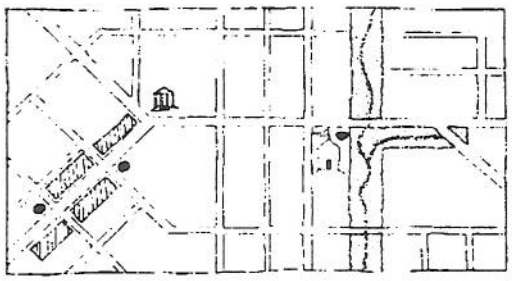
Figure 9.3



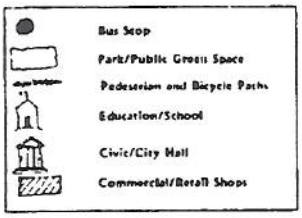
Typical cul-de-sac unintegrated street pattern



Retrofitted cul-de-sac street pattern



Integrated grid street pattern



Source: Association of Bay Area Governments "Making Better Communities by Linking Land Use and Transportation." Association of Bay Area Governments

NARROW STREETS AND TIGHT TURNING RADII

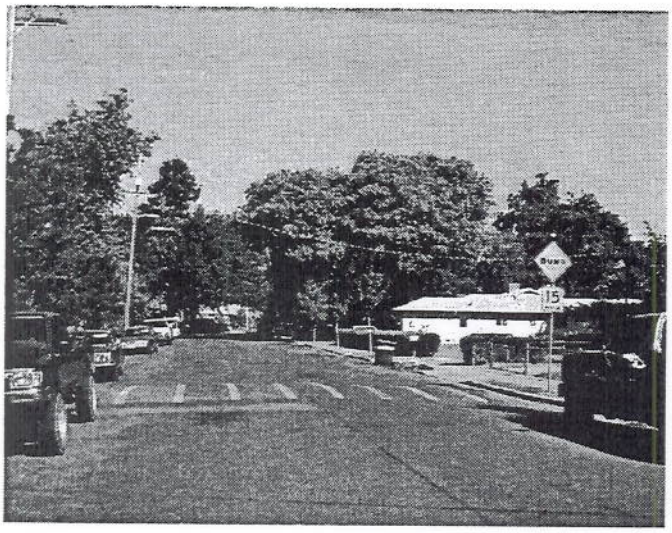
In an attempt to increase safety on the road, traffic engineers have designed wider and wider roadways. Simply put, the reasoning has been that the more distance between automobiles, stationary objects, and other automobiles, the less likely a collision will be. In an attempt to make driving more comfortable, curb radii were enlarged so that drivers would not slide in their seats when turning a corner. These two design practices have had the result of increasing speeds in residential areas. With wide streets and turning radii motorists feel it is safe to drive at increased speeds. However, increased automobile speeds decrease the perceived and actual safety of bicyclists and pedestrians. By decreasing the design speed of a road, in part through narrowing, motorists will not feel comfortable driving at increased speeds. In neighborhoods, decreased road widths and other traffic calming techniques slow automobile traffic to speeds that allow for safe shared use by bicyclists.

TRAFFIC CALMING

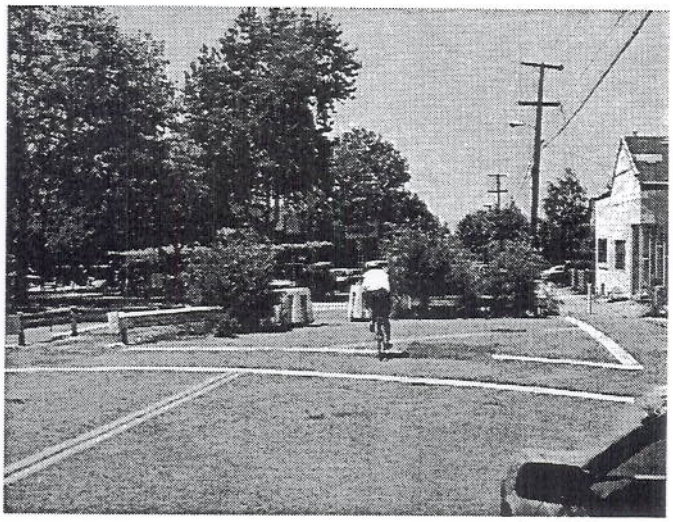
Slowing neighborhood traffic, referred to as traffic calming, increases bicyclist and pedestrian safety and helps to strengthen the sense of community in a neighborhood. The U.S. Department of Transportation report, "A study of Bicycle and Pedestrian Programs in European Countries," concludes that in neighborhoods where traffic calming techniques were employed the number of traffic fatalities involving pedestrian and bicycle collisions with automobiles decreased by almost 50 percent as a result of speed reductions from 50km to 30km (approximately 18 mph). In addition, with slower traffic speeds people find it more pleasant to spend time in their front yards and walk through their neighborhood, meeting more of their neighbors. With more people outside, neighborhood security is enhanced.

TRAFFIC CALMING TECHNIQUES

Speed Humps and Tables are areas that gradually rise to several inches above the roadway and decline again. Speed tables may continue for some distance and have a contrasting surface. Warning signs with advisory speed plates are recommended. Speed humps and tables are most effective at slowing traffic when they are spaced not more than 500-feet apart.



Speed Hump.
Chico, CA



Diverter
Berkley, CA

Traffic circles are small round islands centered in an intersection. Traffic is slowed as it prepares to move around the traffic circle. Traffic circles should be wide enough to actually slow traffic, not just divert it. A two-foot concrete apron can be placed around the edge of traffic circles so that emergency vehicles can run over them if necessary. Traffic circles also provide landscaping opportunities. Most traffic circles are landscaped by the city and then maintained by neighborhood residents.

A chicane creates a narrow curved path for vehicles to maneuver through by staggering barriers on alternate sides of the street. The barriers could be landscaped areas or diagonal parking bays.

Traffic diverters partly or wholly close roadways at intersections in order to reduces motor vehicle traffic in residential neighborhoods. Barriers may be placed diagonally through an intersection or across one lane. Gaps in the barrier should be provided for bicyclists along with signage indicating through bicycle access. Movable barriers or ones that can be driven over should be considered where necessary for emergency vehicle access.

BUFFERS FOR PEDESTRIANS

On street parking acts as a safety buffer for pedestrians and should be encouraged. Planting strips between car lanes and sidewalks also act as a buffer and have the added benefit of beautifying roadways. On street parking and planting strips can also result in reduced traffic speeds.

LOCATION OF PARKING

One of the most hazardous intersections for pedestrians and bicyclists is where automobiles enter driveways or parking lots. In addition, parking lots adjacent to sidewalks are unattractive and make walking and bicycling less enjoyable. On street parking should be encouraged to limit the size of parking lots or prevent the need for driveways. Driveways in commercial areas can be consolidated to lead to one shared parking lot in the rear of buildings (see Figure 9.4). In residential areas the use of a back lane to reach rear garage improves both pedestrian safety and the aesthetic environment in a neighborhood. Requiring parking lots to be located at the rear or side of buildings and to be separated from crosswalks with landscaping also enhances the pedestrian environment.

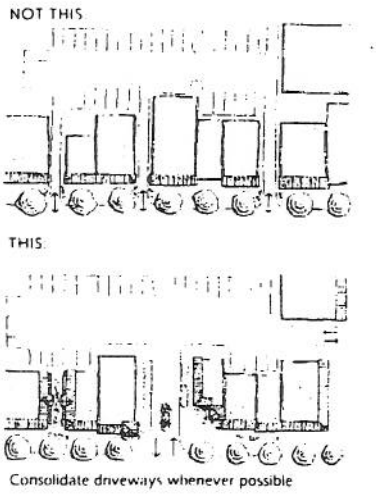
9.4 Tools for Regulating New Developments

TRANSPORTATION ELEMENT

The transportation element of the city plan may outline a detailed street network with many connectors or policies and standards for the development of new streets before land is subdivided. New developments should be encouraged to include several connectors. Gated communities and perimeter walls should be discouraged as they inhibit convenient pedestrian and bicyclist circulation.

Figure 9.4

Source: Association of Bay Area Governments "Making Better Communities by Linking Land Use and Transportation"



SUBDIVISION ORDINANCE

The Design standards of subdivision ordinances may also be modified to require transit-oriented and pedestrian friendly designs. The following six additional standards were suggested in "Making Better Communities by Linking Land Use and Transportation":

- Frequent street and pathway connections to adjoining properties.
- Short blocks and frequent intersections. Reduced pavement widths (no wider than 26 feet, including parking lanes, in lower-density residential areas and 32 feet it higher-density areas).
- Adequate sidewalks (at least five feet wide- at least eight feet in higher-density areas).
- Pedestrian pathways where cul-de-sacs are permitted, or alternative pedestrian routes needed.
- Transit streets providing non-circuitous routes for transit service connecting higher-density uses.

SITE PLAN REVIEW

Cities can also include bicycle considerations in site plan reviews for new developments. Even if a development is allowed to have a conventional cul-de-sac design, bicycle paths should be required in order to create through routes and linkages between developments for bicyclists. Bike lanes and parking facilities could be required and can be added by developers for little or no extra cost.

CEQA REVIEW

The California Environmental Quality Act (CEQA) lists potentially significant environmental impacts of proposed projects. Currently, removing existing pathways is cited as a significant impact. Cities and counties frequently add additional criteria to the CEQA review. Many of the transportation-oriented and pedestrian friendly design standards mentioned above could be added to the CEQA review.

REFERENCES

Ashland Comprehensive Plan. 1996. Chapter X. *Transportation Element*. Department of Community Development, City of Ashland, Oregon.

Association of Bay Area Governments. 1997. *Making Better Communities by Linking* Land Use and Transportation. Oakland, California.

Burden, Dan. 1999. *Street Design Guidelines for Healthy neighborhoods*. Center for Livable Communities. Sacramento, California.

Pinsof, Suzan Anderson and Musser, Terri. 1995. *Bicycle Facility Planning. American* Planning Association. Planning Advisory Service Report Number 459.

BIKE FUNDING OPPORTUNITIES

CHAPTER 10

CHAPTER 10

10.1 Introduction

The following is an overview of the funding opportunities available for bikeway facility improvements. While the list is extensive and encouraging, it should be noted that the application process for some funding may involve hidden costs such as environmental documentation and design requirements. These costs may preclude some local juristictions and agencies from applying for the funding. Funding opportunities and application details are subject to change and direct contact with the funding agency should be made before an application process is begun.

10.2 Federal Funding

Transportation Equity Act for the 21st Century (TEA-21)

TEA-21 is a Federal Program facilitated by Caltrans for the disbursement of $55 to $60 million dollars per year over a 6-year period.

REQUIREMENTS:

Projects must be over and above normal projects including mitigation and permit requirement. These projects may stand alone, or may enhance normal transportation projects. Transportation enhancement activities must have a direct relationship—by function or proximity—to the intermodal transportation system.

A match is required of non-federal transportation funds of 11.5 percent. Transportation Enhancement Activities are reimbursable projects. Up to 88 percent of the actual eligible expenditures - up to the ceiling of the federal funding share - will be reimbursed with each invoice. Applicants are expected to finance the project as it proceeds

Eligible projects:

- Provisions of facilities for pedestrians and bicycles.
- Provision of safety and educational activities for pedestrians and bicycles.
- Acquisition of scenic easements and scenic historic routes.
- Scenic or historic highway programs (including conversion and use thereof for pedestrian or bicycle trails).
- .Landscaping or other scenic beautification.
- Historic preservation.
- Rehabilitation and operation of historic transportation buildings, structures, or facilities (including historic railroad facilities and canals).
- Rehabilitation of abandoned railway corridors (including conversion and use thereof for pedestrian and bicycle trails).
- Control and removal of outdoor advertising.
- Archeological planning and research.
- Environmental mitigation to address water pollution due to highway runoff or reduce vehicle caused wildlife mortality while maintaining habitat connectivity.
- Establishment of transportation museums.

OVERVIEW

TEA funding for California is distributed among four agencies:

1) Regional Transportation Planning Agencies (RTPA),
2) Conservation Lands Program (selected by Caltrans and the Resources Agency),
3) Statewide Environmental Enhancement,
4) Caltrans.

Application deadlines vary by region.

Regional Transportation Planning Agencies receive 75% of TEA funds (about $270 million). Caltrans will receive $40 million to program stand-alone TEA projects and enhancements to normal transportation projects. The Statewide Environmental Enhancement and Mitigation (EEM) Program will receive $20 million or $30 million of federal funds. This share is programmed under the authority of the EEM program and not to be confused with EEM state dollars. The Conservation Lands Program received an initial $11 million, and will receive dollars from failed TEA projects programmed before 1998 and from rural county exchanges. Projects are programmed

under the authority of EEM, and an allocation vote by the California Transportation Commission is required for each project. According to the California Transportation Commission (CTC) the total TEA program shares for Tehama County based on actual and estimated federal apportionment is $1.178 million.

All questions concerning application procedures, eligibility of a certain project, or any other related information can be directed to the Transportation Enhancement Activities Branch at the phone number listed below.

A detailed TEA-21 discussion of application and selection processes is available in the Federal Highway Administrations Guidance on the Bicycle and Pedestrian Provisions of the Federal-Aid Program (February 1999). For more information please contact:
Transportation Enhancement Activities Branch
California Department of Transportation.
1120 'N' St., Mail Station 28
Sacramento, Ca. 95814
TEA Mailing list: (916) 654-5275, FAX (916) 654-3770

10.3 STATE FUNDING SOURCES

Clean Air and Transportation Improvement Act (Proposition 116)

Purpose

To improve transit facilities in non-urban areas by funding projects such as railroad grade-crossing improvements, and railroad soundwalls. Projects completed in District 2 have primarily been pedestrian walkways, and improvements for safe routes to school.

Eligible applicants are regional transportation planning agencies, counties, and cities.

ELIGIBLE PROJECTS

- Non-urban projects, railroad grade crossing improvements, and other local rail improvements for safety.
- Purchase of paratransit vehicles.
- Capital facilities for accessible public transportation such as bus terminals and "Park and Ride" lots associated with transit transfer.
- Separate bicycle paths and ways are eligible only if bicycle commuters will principally use the route.
- Bicycle storage facilities are eligible as part of a bus terminal.
- Bike racks are eligible as part of a transit bus procurement.
- Bicycle projects are eligible and include capital outlay for bicycle improvement projects that improve safety and convenience for bicycle commuters.

ELIGIBLE ACTIVITIES

Non-urban activities eligible for reimbursement include, but are not limited to:

- Alternatives analysis.
- Environmental studies.
- Direct project administration and management.
- Engineering.
- Construction.
- Right of way purchases.
- Acquisition or installation of equipment.

REQUIREMENTS

All projects shall be fully accessible to older persons, persons with disabilities (including wheelchair users), and be reasonably accessible to bicycles. All projects are required to be in compliance with the Americans with Disabilities Act (ADA). Applicants are required to demonstrate that non-urban county projects do not duplicate existing services and facilities and are coordinated with other transit services. Applicants are required to show that they have a financial and institutional capacity to accept legal liabilities and obligations.

Eligible applicants from eligible projects must meet the applicable statutory requirements including appropriate environmental clearance pursuant to CEQA.

Applicants prepare and submit an application to

Caltrans District 2 that includes regional transportation agency and local supporting resolutions and applicant status, environmental clearance, and bond certification. The application process varies and is dependent upon many factors.

For detailed information you may the RTPA at:
530-385-1462, or
Caltrans Local District office in Redding.
530-225-3426

1998/1999 Bicycle Transportation Account (BTA)

Purpose:

The California Legislature created the BTA program to provide funds for local agencies (cities and counties) for projects that improve safety and convenience for bicycle commuters. The California Streets and Highways Code defines a "bicycle commuter" as: "A person making a trip by bicycle primarily for transportation purposes, including, but not limited to, travel to work, school, shopping, or other destination that is the center of activity, and does not include a trip by bicycle primarily for physical exercise or recreation without such destination."

The 1998/1999 BTA Program is a competitive annual program that combines fiscal years 1998/99 and 1999/2000 and provides $1.78 million to local agencies. Project funding will increase annually to $5 million by the year 2004.

ELIGIBLE PROJECTS:

New bike paths, bike lanes, bike routes, bike racks on buses, bicyclist-sensitive traffic signals, planning and maintenance of bikeways, and bicycle parking facilities.

PROJECT REQUIREMENTS:

1. A bicycle transportation plan that addresses California Streets and Highways Code Sections 891.2 (a-k) prepared and adopted by the applicant and approved by the applicant's regional transportation planning agency or local transportation commission and the Caltrans Bicycle Facilities Unit (BFU). The plan should include copies of the local and regional resolutions adopting and approving the plan.
2. A local agency must provide a resolution certifying the availability of 10% of the total project cost.
3. Documentation of completed environmental clearance.
4. Under state law BTA projects must conform to the minimum design standards for bikeways in Chapter 1000 of the Highway Design Manual.
5. Applicants should show that the project:
    - Will be used primarily by bicycle commuters.
    - Has potential to increase bicycle commuting.
    - Is the best alternative for the situation.
    - Will improve the continuity with existing bikeways.
    - Will provide a direct route to activity centers such as schools, employment centers, shopping etc.
    - Is consistent with the bicycle transportation plan.

Applications should be submitted only for projects where the right of way is clear prior to award of the contract. BTA applications and approved bicycle transportation plans are due to the BFU by January 31 of each year.

WHO MAY APPLY:

City and County governments are eligible to apply for BTA account funding.

WHERE TO APPLY:

The Caltrans BFU in the office of Local Programs administers the BTA program in cooperation with the office of Local Assistance in each Caltrans district.

CONTACT:

Caltrans Bicycle Facilities Unit
1120 N St., MS#1
Sacramento, CA 95814
(916) 653-5656
For a detailed discussion of the BTA program and scheduling please refer to Local Assistance Program Guidelines, Chapter 21, "Bicycle Transportation Account."

California Environmental Enhancement and Mitigation Program (EEM)

Purpose:

The Environmental Enhancement and Mitigation (EEM) Program was established by the enactment of the Transportation Blueprint Legislation of 1989 (AB 471). This legislation states that it is the intent of the Legislature to allocate $10,000,000 annually to this program from fiscal year 1991-92 to Fiscal Year 2000-01.

ELIGIBLE PROJECTS

Applicants may apply for these funds to undertake environmental enhancement and mitigation projects which are directly or indirectly related to the environmental impact of modifying existing transportation facilities, or for the design, construction, or expansion of new transportation facilities. The following three categories are eligible for funding.

- **Highway Landscaping and Urban Forestry:** These projects are designed to help mitigate carbon dioxide emissions from automobiles through landscaping with trees and other plants. Projects may be within or outside the right-of-way of a related transportation facility. Reimbursement of grant funds on public road right-of-way for plant material is limited to trees.

- **Resource Lands**: This category includes the acquisition, restoration or enhancement of resource lands to offset the loss of resource lands falling within or near the right-of-way contracted for transportation improvements.

- **Roadside Recreation**: These projects allow funding for development of recreational opportunities on roadsides such as, roadside rests, scenic overlooks, snow-parks, trails, trailheads, and parks.

REQUIREMENTS

The related transportation facility must have been modified or constructed in 1991 or later and the EEM project must be over and above the required mitigation for the related transportation facility.

No matching funds or cost shares from the applicant or other funding sources are required to apply for an EEM grant. Grants are generally in the $200,000 to $400,000 range.

The funds available through the EEM program are 100% reimbursable, that is, the applicant spends the money first and then invoices the State for reimbursement.

WHO CAN APPLY:

Any local, state or federal agency or nonprofit entity may apply for and receive grants. Two or more entities may participate in the project.

HOW TO APPLY:

Applications are accepted in November of each year by the California State Resources Agency in Sacramento. The Resources Agency reviews and recommends a list of eligible projects to the California Transportation Commission (CTC) for funding consideration.

Application packets and detailed information can be obtained from:
The Resources Agency
EEM Program Coordinator,
1416 Ninth Street, Suite 1311,
Sacramento, CA 95814
(916) 653-5656 or FAX (916) 653-8102
Questions regarding the EEM program can also be directed to the EEM Program Manager at Caltrans in Sacramento at (916) 654-5505.

10.4 LOCAL FUNDING

Transportation Development Act and Local Transportation Fund

Purpose

The Transportation Development Act specifically allows up to 2% of the area apportionment (less administration and planning costs) to be allocated for pedestrian and bicycle projects. The TDA provides funds for the development and support of public transportation to meet the transit needs that exist in California, to improve the comfort of people using public transportation, to facilitate the movements of people, and to promote the exchange of public transportation patrons from one transportation mode to another. The Local Transportation Fund (LTF) revenues are derived from 1/4 cent of the general statewide sales tax. The LTF revenues are returned, by the State, to the counties in which they were collected.

ELIGIBILITY

The TDA provides two sources of funding the LTF and the State Transit Assistance (STA) fund. LTF funds are available for bicycle and pedestrian projects and the STA funds are not.

In counties with population under 500,000, TDA funds may be used (under a contract) to provide general transportation services or for services to special groups requiring special transportation assistance, as determined by the Regional Transportation Planning Agencies.

Other transportation activities eligible under TDA include the funding of pedestrians and bicycle facilities and, under certain conditions, roadways projects.

REQUIREMENTS

In order to be eligible to receive TDA funds, transit claimants and operators are required to maintain specific farebox revenues to operating cost ratios or meet local performance criteria as established by the RTPA.

The allocation of LTF funds are subject to the statutory and regulatory provisions of the TDA. Under the TDA, public transportation services (including rail) are provided to the general public by local transit operators or transit claimants, which may be cities, counties, regional agencies, or transit districts.

APPLICATION PROCEDURES

Regional Transportation Planning Agencies (RTPA) or local transportation commissions are responsible for the allocation of TDA funds at the local level. Transit claimants, transit operators or transit districts submit claims to the RTPA requesting TDA funds to provide transit services in the particular area they serve.
For more information you may contact the RTPA at: 530-385-1462, or
Caltrans Local District office in Redding. 530-225-3426

Resolutions

APPENDIX A

RESOLUTION NO. 109-2008

ADOPT UPDATED 2008 TEHAMA COUNTY BIKEWAYS PLAN

WHEREAS, the Tehama County Board of Supervisors and the Tehama County Transportation Commission (TCTC) coordinate on transportation matters; and

WHEREAS, TCTC has updated the 2008 Tehama County Bikeways Plan and checked it for consistency with existing regional planning documents including the Regional Transportation Plan, and General Plans of Tehama County and the incorporated cities; and

WHEREAS, the California Department of Transportation (Caltrans) requires a current regional Bicycle Transportation Plan (BTP) to be eligible for funding opportunities through the Bicycle Transportation Account; and

WHEREAS, the Tehama County Bikeway Plan must have been adopted no earlier than four years prior to July 1st of the fiscal year in which the Bicycle Transportation Account funds are granted; and

WHEREAS, the Tehama County Bikeways Plan was reviewed and adopted by the TCTC and the incorporated cities of Corning, Red Bluff and Tehama to function as the required Bikeways Plan from November, 2008 to June 30, 2013; and

WHEREAS, the Plan must be adopted by resolution by the local agency governing board, and must comply with state law and the adopted Regional Transportation Plan.

NOW, THEREFORE, BE IT RESOLVED, that the Tehama County Board of Supervisors does hereby approve and adopt the 2008 Tehama County Bikeways Plan.

The foregoing Resolution was offered by Supervisor Avilla seconded by Supervisor Warner and adopted by the following vote of the Board:

AYES: Supervisors Avilla, Warner, Willard, Russell and Williams
NOES: None
ABSENT OR NOT VOTING: None

STATE OF CALIFORNIA)
) ss
COUNTY OF TEHAMA)

I, BEVERLY ROSS, County Clerk and ex-officio Clerk of the Board of Supervisors of the County of Tehama, State of California, hereby certify the above and foregoing to be a full, true and correct copy of a Resolution made by said Supervisors on the 4th day of November, 2008

BEVERLY ROSS
County Clerk and ex-officio Clerk of
the Board of Supervisors of the
County of Tehama, State of California

By _____
Deputy

TEHAMA COUNTY TRANSPORTATION COMMISSION
RESOLUTION NO. 13-2007

TEHAMA COUNTY BIKEWAYS PLAN Update 2008-2012

WHEREAS, the Tehama County Transportation Commission is the Regional Transportation Planning Agency (RTPA) for the County of Tehama and the incorporated Cities of Corning, Red Bluff and Tehama; **and**

WHEREAS, the RTPA is the policy decision making board for transportation matters; **and**

WHEREAS, the California Department of Transportation (Caltrans) requires a current regional Bicycle Transportation Plan (BTP) to be eligible for funding opportunities through the Bicycle Transportation Account; **and**

WHEREAS, the plan must be adopted or certified by the local agency governing board and compliant with State law and the Regional Transportation Plan; **and**

WHEREAS, the Tehama County Bikeways Plan was initially adopted in September of 1999 and re-adopted in October of 2003 and has been updated for re-adoption in October of 2007; **and**

NOW THEREFORE BE IT RESOLVED, that the Tehama County Regional Transportation Planning Agency does hereby re-adopt the Tehama County Bikeways Plan for a period of five consecutive fiscal years. This BTP adoption establishes eligibility for the five consecutive BTA funding cycles 2008/2009, 2009/2010, 2010/2011, 2011/2012, and 2012/2013. The plan is to expire June 30, 2013 at the end of FY 2012-13.

BE IT FURTHER RESOLVED, that the RTPA Executive Director and Staff are authorized to execute and process any and all necessary documents for the re-adoption of the Tehama County Bikeways Plan.

The foregoing Resolution was offered by Commissioner Willard, seconded by Commissioner Warner, at a regular meeting in Red Bluff, California, on October 16, 2007 and adopted by the following vote:

AYES: Commissioners': Willard; Warner; Strack; Christison; Irving; Russell.
NOES: None
ABSENT OR NOT VOTING: None

ATTEST: Gary Antone, P.E., P.L.S
EXECUTIVE DIRECTOR

BY: _____
Linda Madea
Recording Secretary

ADOPTED October 16, 2007

_____
Chairperson

T:\TCTC\PACKET\2007\10-2007\Item #10 Bikeway Resolution.doc

RESOLUTION NO. 57-2008

ADOPT 2008 TEHAMA COUNTY BIKEWAYS PLAN

WHEREAS, the City, as a prerequisite to securing federal or state financing to construct bikeways, must readopt this Bikeway Plan; **and**

WHEREAS, the plan must be readopted or certified by the local agency governing board and compliant with State Law and the General Plan; **and**

WHEREAS, the Bicycle Transportation Plan (BTP) must have been adopted no earlier than four years prior to July 1 of the fiscal year in which Bicycle Transportation Account (BTA) funds are granted; **and**

WHEREAS, the Tehama County Bikeways Plan was previously adopted by the City in January 2004; **and**

WHEREAS, minor modifications have been made to the Long Range and Priority Route maps as identified in the new document with associated text that provide a consistent vision for the future of trails within the Red Bluff Planning Area along with Tehama County and Trails United; **and**

NOW, THEREFORE, BE IT RESOLVED, that the City Council of the City of Red Bluff does hereby adopt the Tehama County Bikeways Plan, to expire in June 2013.

BE IT FURTHER RESOLVED, that the City Manager is authorized to execute and process any and all necessary documents for the adoption of the Bicycle Transportation Plan (BTP).

The foregoing Resolution was adopted at a regular meeting of the City Council of the City of Red Bluff held on November 18, 2008 by the following vote:

AYES: Councilmembers: Brown, Byrne, Flynn, Irving and Moyer
NOES: None
ABSENT OR NOT VOTING: None

Forrest Flynn, MAYOR

ATTEST

Cheryl Smith, DEPUTY CITY CLERK

RESOLUTION NO. 05-13-08-03

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF CORNING ADOPTING THE 2008 – 2013 TEHAMA COUNTY BIKEWAYS PLAN

WHEREAS, the City of Corning, City of Red Bluff, City of Tehama, and the County of Tehama (TCTC) coordinate on transportation matters; and

WHEREAS, the Tehama County Transportation Commission has reviewed the 2008 Tehama County Bikeways Plan for consistency with existing regional planning documents including the Regional Transportation Plan, and General Plans of Tehama County and the incorporated Cities; and

WHEREAS, the California Department of Transportation (Caltrans) requires a current regional Bicycle Transportation Plan (BTP) to apply for and be eligible for funding from the Bicycle Transportation Account (BTA); and

WHEREAS, the Bicycle Transportation Plan must have been adopted no earlier than five years prior to July 1 of the fiscal year in which the BTA funds are granted; and

WHEREAS, the Tehama County Bikeways plan was reviewed and adopted by the Tehama County Transportation Commission in October 2007; and

WHEREAS, the Plan must be adopted by Resolution by all local jurisdictions and be consistent with State Law and the Regional Transportation Plan.

NOW, THEREFORE, BE IT RESOLVED that the Corning city Council does hereby adopt the 2008 – 2013 Bikeways Plan.

PASSED AND ADOPTED by the City Council of the City of Corning on this **13th** day of **May 2008** by the following vote:

AYES: Strack, Hill, Dickison, Zuniga and Turner

NOES: None

ABSTAIN: None

ABSENT: None

Gary R. Strack

Gary R. Strack, Mayor

ATTEST:

Lisa M. Linnet

Lisa M. Linnet, City Clerk

City of Tehama Incorporated

Post Office Box 70
Tehama, CA 96090
Phone: (530)384-1501
Fax: (530)384-1625

RESOLUTION 2008-4-2

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF TEHAMA
ADOPTING THE TEHAMA COUNTY BIKEWAYS PLAN Update 2008-2212

WHEREAS, the City of Tehama and the Tehama County Transportation Commission (TCTC) coordinate on transportation matters; and

WHEREAS, the TCTC has reviewed the 2003 Tehama County Bikeways Plan for consistency with existing regional planning documents, including the Regional Transportation Plan, and the General Plans of Tehama County and the incorporated cities; and

WHEREAS, The California Department of Transportation (CalTrans) requires a current regional Bicycle Transportation Plan (BTP) to be eligible for funding opportunities through the Bicycle Transportation Account (BTA); and

WHEREAS, the BTP was initially adopted in September of 1999 and readopted in October of 2003 and has been updated for re-adoption for five consecutive BTA funding cycles and will expire at the end of FY 2012-13; and

WHEREAS, the updated Tehama County Bikeways plan was reviewed and readopted by TCTC on October 16, 2007; and

NOW, THEREFORE, BE IT RESOLVED, that the City Council of the City of Tehama does hereby approve and adopt the updated 2003 Tehama County Bikeways Plan.

The foregoing Resolution was adopted at a regular meeting of the City Council of the City of Tehama, Tehama County, of the State of California on April 8, 2008, by the following vote:

AYES: Mitchell, Christison, Bacquet, Celano, Himes
NOES: None
ABSENT OR NOT VOTING: None

Robert Mitchell
Robert Mitchell, Mayor

ATTEST:

Carolyn Steffan
Carolyn Steffan, City Clerk

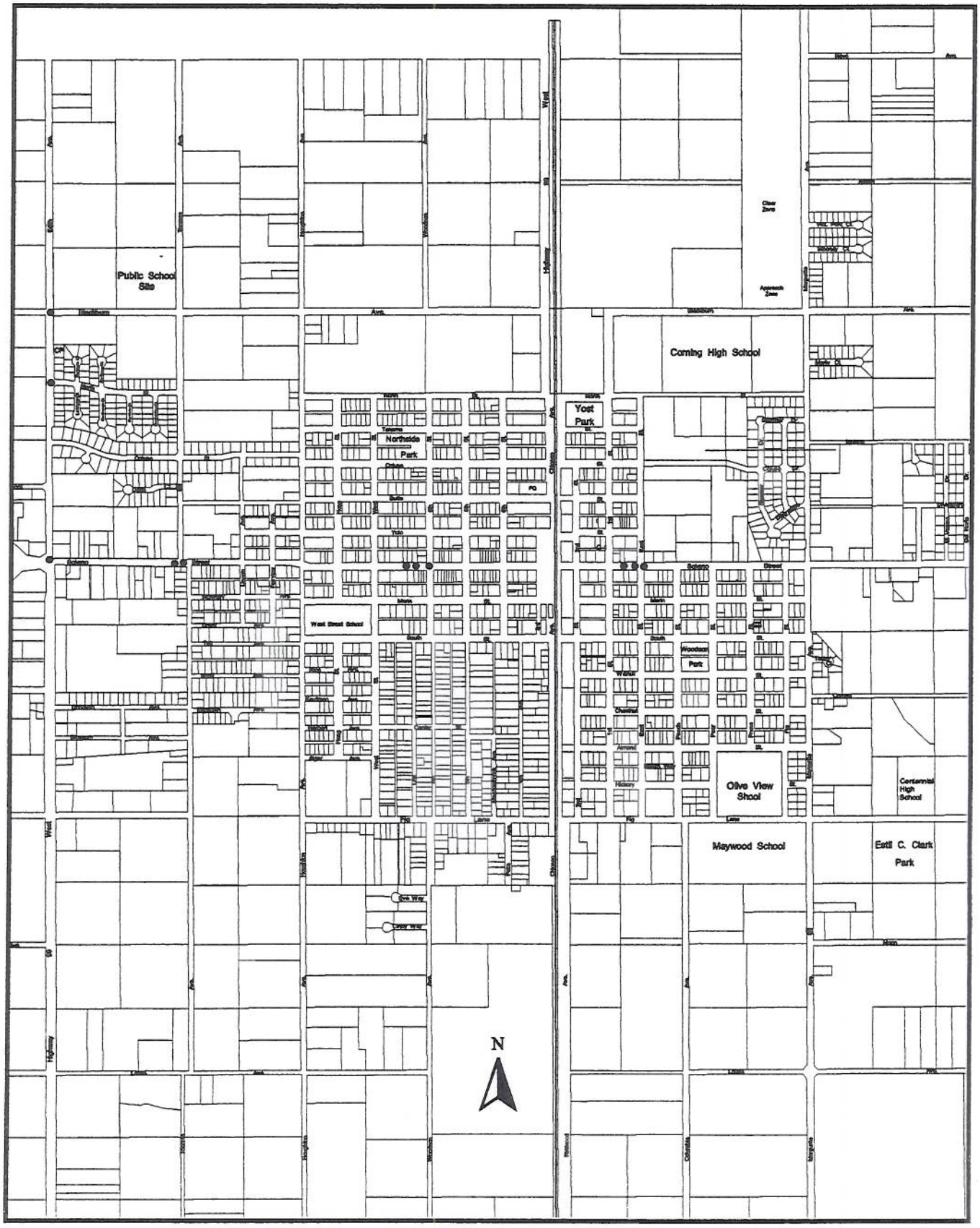
TRAFFIC ACCIDENT DATA MAPS

APPENDIX B

City of Corning Bicycle and Pedestrian Accident Sites

From 1995-1998

● Accident Sites



Source: Corning Police Department

City of Red Bluff Bicycle Accident Sites

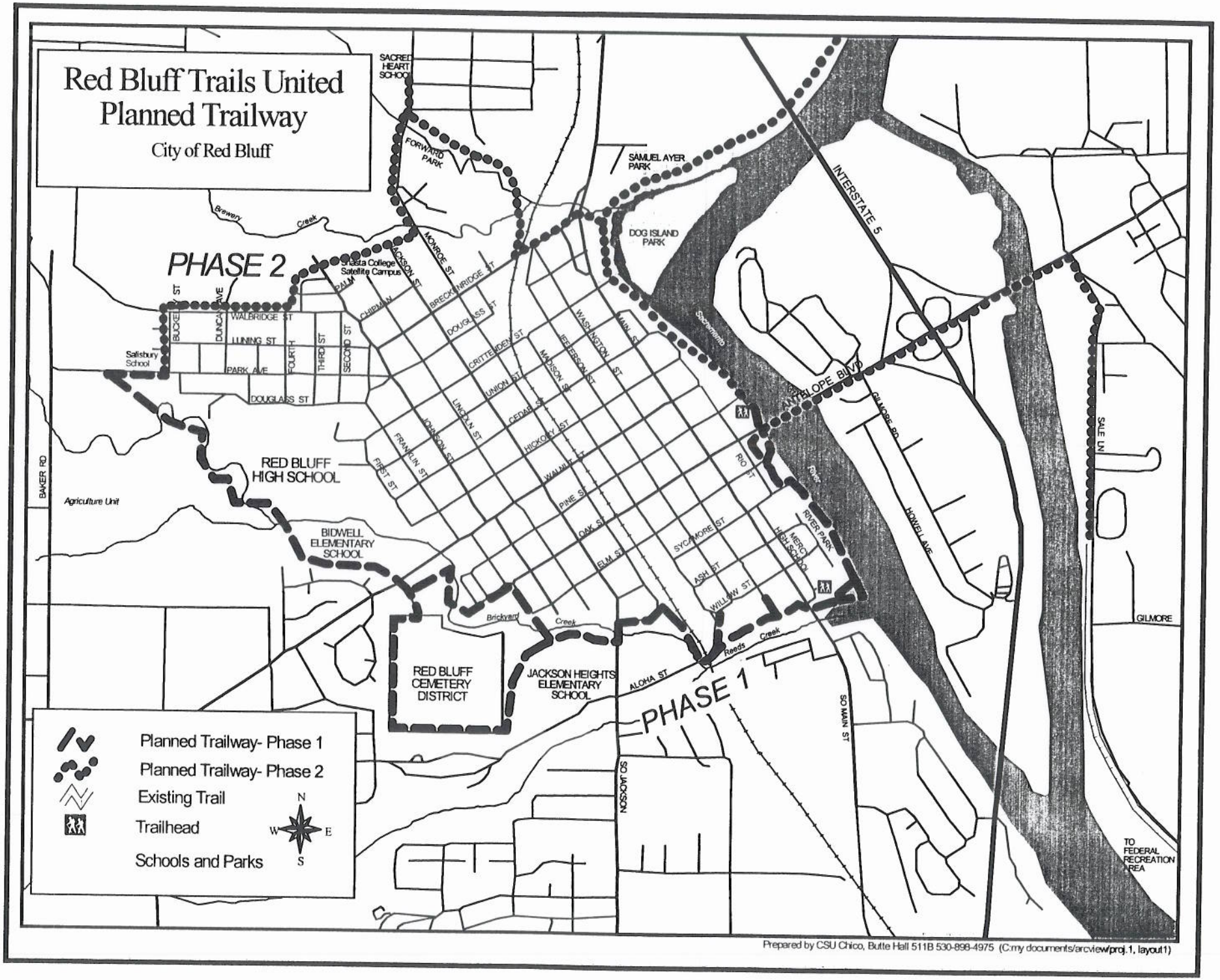
From 1987 to 1997

• Accident Sites

Source: Department of Transportation

RED BLUFF TRAILS UNITED MAP

APPENDIX C



Prepared by CSU Chico, Butte Hall 511B 530-898-4975 (C:my documents/arcview/proj.1, layout1)

BICYCLE PARKING FACILITIES

APPENDIX D

APPENDIX D.

Bicycle Parking Facilities

Background

To encourage increased bicycle use, it is recommended to plan thoughtfully for convenient, secure, and plentiful bicycle parking. This guide is intended to provide information to agencies wishing to enhance bicycle-parking facilities.

Lack of bicycle parking facilities and fear of theft are the most common deterrents for bicyclists. The basics of effective bicycle parking are a good rack and a good location. To ensure that bicycle parking will be used it is important to locate the parking facility in places that are convenient enough to encourage cycling, and secure enough to reasonably safeguard against bicycle theft.

Many communities recognize secure bike parking as the first and most important improvement to enhance the viability of a bicycle transportation system. Factors of appropriate bicycle parking facilities are security, adequate support for the bicycle, ease of use, durability, visibility of site, convenience to destination, shelter from weather, and cost. Bicycle parking facilities are usually manufactured according to three broad categories depending on the frequency and duration of use, security needs, and cost. Figure D.1 shows examples of the basic bicycle parking designs discussed in this report.

High Security Facilities

Bike Lockers

High security facilities are commonly rectangular enclosures that hold one or two bicycles each. Several factors determine the locker security, durability, and cost: material and finish; type of construction; hardware materials and locking mechanism; and installation features. Bicycle lockers are intended for repeated use of day-long or longer bicycle storage.

Bicycle lockers are usually reserved or rented for an extended period of time, therefore a management program must be implemented and periodic maintenance and repair is needed. Appropriate places for these facilities are transit access points, and park and ride facilities.

Double Wheel Racks

The second group of bicycle parking facilities is racks that allow for the frame and both wheels to be secured without the removal of the front wheel. Parking facilities such as these are appropriate for places where repeated short-term to day-long use is common. This would include places of employment, schools, transit access points, and other places where there is a minimum of supervision.

Single Wheel Racks

The third category of bicycle parking facilities is recommended for high turnover/short-term bicycle parking. The primary advantages of this rack style are great siting flexibility and ease of use. The popular "ribbon" rack is used extensively for its attractiveness and ease of installation. When combined with other amenities, such as shelter from the weather, this type of bike rack can function well for long-term bicycle parking.

Locating bicycle parking

A primary consideration in planning for bicycle parking is finding a good location. Bicycle facilities should be located to meet the needs of potential users. Most bicycle end of trip destinations are schools, recreation sites, employment centers, public areas, and commercial centers. Therefore, ample bicycle parking should be made available at those places. Since six to eight bicycles can be parked in the space of one car, converting automobile parking spaces to bicycle parking should be considered. Choosing sites with high visibility adds security to the parking facility.

Short-term bicycle parking provides shoppers, commuters, and recreationists a convenient and readily accessible place to park bicycles. General requirements of short-term bicycle parking:

- Locate within 50 feet of a main entrance - short-term parking should be near the entrance cyclists will be using.
- Distribute short-term parking - where there is more than one building on a site, or where a building has more than one main entrance, the parking should be distributed to serve all buildings or main entrances.
- Locate parking in visible and prominent locations - if cyclists are unaware of the parking it won't be used.
- If possible, locate parking in areas where there is high pedestrian activity - Having lots of eyes and ears nearby adds to cyclists' perception of security.
- Isolation does not work! - A bicycle rack that is visually or physically isolated will not be used and is a target for thieves.

Long-term bicycle parking provides employees, students, residents, commuters and others who generally stay at a site for several hours a secure and weather-protected place to park bicycles. The measure of security for long-term bicycle parking must be greater than that provided by short-term parking. General Requirements of long-term bicycle parking:

Security can be achieved in at least one of the following ways:

1) in a locked room or area enclosed by a fence with a locked gate;
2) within view or within 100 feet of an attendant or security guard;
3) in an area that is monitored by a security camera; or
4) in a location that is visible from employee work areas.

- Locate on site or within 750 feet of the site Daily bicycle commuters are generally willing to walk a short distance, about three blocks, if they are confident the parking is secure.
- Cover at least 50% of long-term bicycle parking
- Install lockers in areas where security is in question or where there is limited opportunity to provide weather protection, enclosed bike lockers are the best solution.

Other Considerations

Cyclists should be able to securely lock their bicycles without undue inconvenience and their bicycles should be reasonably safeguarded from intentional or accidental damage.

- Each parking space must be accessible without moving another bicycle - generally, allow for 2 feet by 6 feet for each bicycle parking space.
- Provide an aisle at least 5 feet wide behind all bicycle parking to allow room for maneuvering - just as automobile drivers need additional space to maneuver in and out of parking spaces, so do bicyclists.
- Staggered racks - some bicycle racks can be staggered on 17 inch centers allowing room for more bicycles to be parked.
- Take advantage of existing overhangs or awnings - this is a creative, low-cost way of providing some weather protection.

Signs can help cyclists find parking if it is not immediately visible or direct long-term users to intended long-term parking, keeping more short-term parking open for short-term use.

A sign should be posted at main building entrances indicating the location of the parking. This will help cyclists locate parking facilities if they are not visible from the street or main entrance.

THERE ARE SEVERAL TECHNIQUES THAT ARE NOT RECOMMENDED FOR MOST PUBLIC LOCATIONS:

- Installing bicycle racks too close to a wall or too close to each other - installing racks improperly can cut capacity as much as 90%.
- Installing bicycle racks too close to car parking - motorists will seldom leave sufficient room for bicycles to park and maneuver if bicycle parking is not sufficiently separated from car parking.
- Old-fashioned racks that hold only the wheel of the bicycle can cause damage, are not cost effective, and many cyclists will find other alternatives for parking.
- Complicated signing schemes - if a complicated signing scheme is needed to find bicycle parking, a better location may be needed.
- Partial cover or cover that is too high - cover is intended to protect bicycles from rain and sun as well as protect cyclists from rain when they are locking or unlocking their bicycle
- Signs that discourage bicycling

COSTS:

The costs of bicycle parking facilities are difficult to summarize because of the variation in models. The following is an approximate range for most storage facilities:

- High security lockers that hold one to two bicycles cost approximately $400 to $1300 per bike, depending on the manufacturer and the materials used.
- Medium security, long-term rack costs range from $70 to $150 per bike.
- Secure frame/one wheel short-term racks are $35 - $70 per bike.

KEY REFERENCE DOCUMENTS

American Association of State Highway and Transportation Officials (AASHTO), Guide for the Development of Bicycle Facilities.

These national guidelines and minimum design criteria have been published by AASHTO to provide information on the development of new facilities to enhance and encourage safe bicycle travel.

U.S. Department of Transportation, Federal Highway Administration, Manual on Uniform Traffic Control Devices.

This manual contains unified national standards for signs, signals and markings and devices on all streets highways open to public travel.

U.S. Department of Transportation, Federal Highway Administration, Selecting Roadway Design Treatments to Accommodate Bicycles.

This manual was published by FHWA in 1994 to assist transportation planners and engineers in selecting roadway design treatments to accommodate bicycles. It offers guidelines on the desirable width for various types of design treatments based on the anticipated types of bicycle users and various types of traffic operational factors.

Manufactures of Bike Parking Facilities:

A A A Ribbon Rack Co.
Division of Brandir International
521 Fifth Avenue, 17th floor
New York, NY 10175
212-505-6500
Fax: 212-505-6813
AAA is the maker of the Original Ribbon Rack.

American Bicycle Security Company
P.O. Box 7359
Ventura, CA 93006
Phone: 800-245-3723
Phone: 805-933-3688
Fax: 805-933-1865
A B S makes Viper racks and Bike Shell bike lockers.

Belson Outdoors, Inc.
111 North River Road
North Aurora, IL 60542
Phone: 630-897-8489
Phone: 800-323-5664
Fax: 630-897-0573

Bike Security Racks Company
R.R. #1, Box 467-B
Rumney, N.H. 03266
Phone: 800-545-2757
Fax: 603-786-9652
Bike Security Racks makes the Bike Hoop, and Bike Stanchion (ribbon-style).

Bike Lokr
P.O. Box 720005
Norman, OK 73070
Phone: 800-245-3565
Phone: 405-360-6999
Fax: 405-360-6644
Bike Lokr makes a variety of bike lockers.

Cora Bike Rack, Inc.
Phone: 800-354-8624
Fax: 800-354-8640
Creative Pipe, Inc.
2629 Manhattan Avenue
Hermosa Beach, CA 90254-2447
Phone: 310-376-9536
Phone: 800-644-8467
Fax: 310-798-1785

Cycle-Safe USA, Inc.
478 Arrowhead SE
Grand Rapids, MI 49546
Phone: 616-954-9977
Toll free: 888-950-6531
Fax: 616-954-0290

Function First Bike Security
P.O. Box 44137
Tucson, AZ 85733-4137
Phone: 602-322-9626

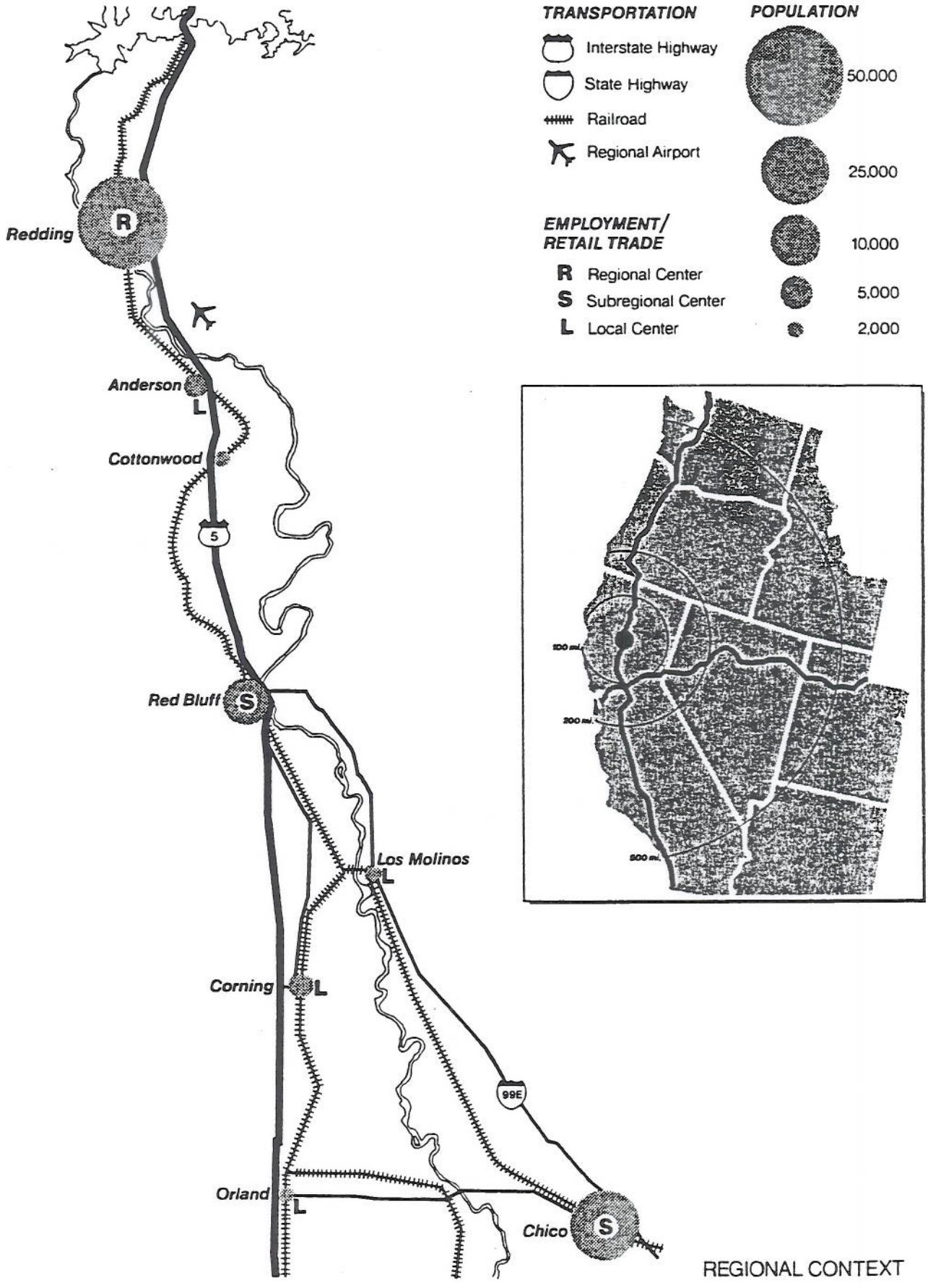
Gr‰ber USA
5253 Verona Road
Madison, WI 53711
800-783-7257
Fax: 608-274-1702
Madrax
2210 Pinehurst Drive
Middleton, WI 53562
608-831-9040
Fax: 608-831-7623
East: 800-448-7931
West: 800-722-2453

Sunshine U-Lok Corporation
31316 Via Colinas
Suite 102
Westlake Village, CA 91362
Phone: 818-707-0110

Super Secur Manufacturing
A Division of Acorn Engineering Company
P.O. Box 3527
City of Industry, CA 91744
Phone: 818-333-2543
Fax: 818-333-4109

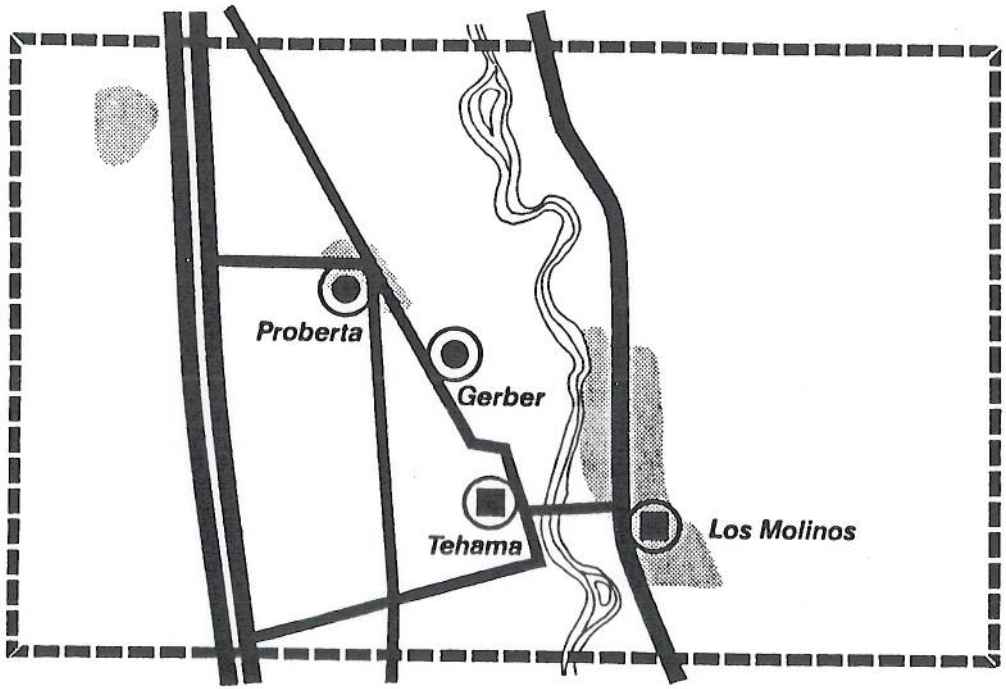
LAND USE MAPS

APPENDIX E



REGIONAL CONTEXT

CENTRAL I-5 PLANNING AREA POLICY

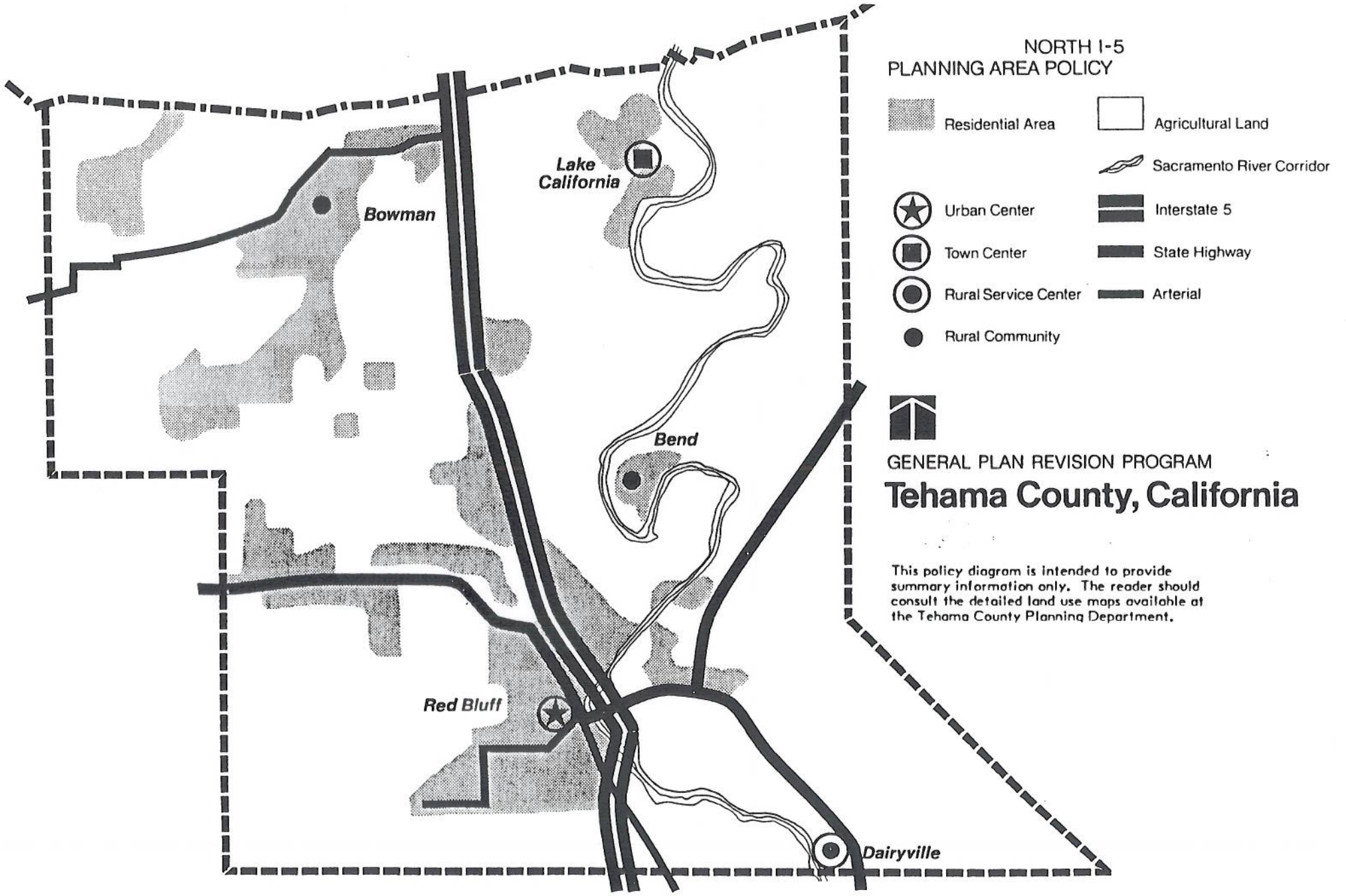


This policy diagram is intended to provide summary information only. The reader should consult the detailed land use maps available at the Tehama County Planning Department.

- Residential Area
- Agricultural Land
- Sacramento River Corridor
- Urban Center
- Interstate 5
- Town Center
- State Highway
- Rural Service Center
- Arterial
- Rural Community

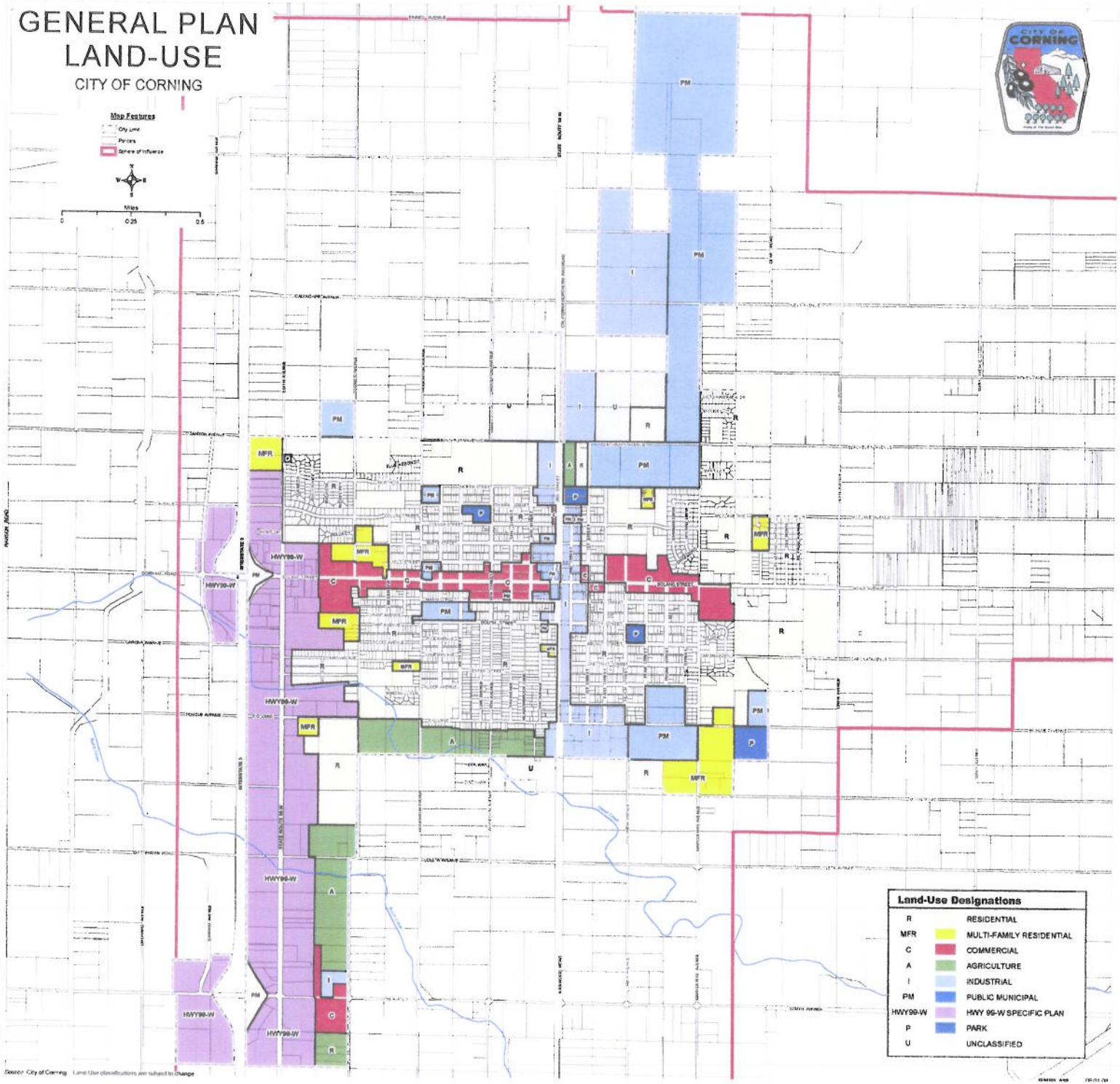
GENERAL PLAN REVISION PROGRAM

Tehama County, California


NORTH I-5
PLANNING AREA POLICY
Residential Area
Agricultural Land
Sacramento River Corridor
Urban Center
Interstate 5
Town Center
State Highway
Rural Service Center
Arterial
Rural Community
Lake California
Bowman
Bend
Red Bluff
Dairyville
GENERAL PLAN REVISION PROGRAM
Tehama County, California
This policy diagram is intended to provide summary information only. The reader should consult the detailed land use maps available at the Tehama County Planning Department.

GENERAL PLAN LAND-USE

CITY OF CORNING



LETTERS OF SUPPORT

APPENDIX F

Laura Calkins- Tehama County resident

Phone conversation comment on update of the bikeways plan received by Adam Hansen, Transportatin Planner.

April, 2008

Laura Calkins an avid bicyclist and fan of the sport of cycling. Mrs. Calkins stated that she didn't have any problems with the bike routes in the City of Corning, just at more effort should be put into implementing the planned routes. Her main objective was to point out that there needs to be more/better interregional bike routes. Currently there was no designated bikeway connecting the City of Corning to the City of Red Bluff the two main population centers in the county. More attention was needed to long distance bike routes for both commuters and recreational cyclists. She also stated that she was willing to help in any way she could to implement the pan and further the development of bikeways in Tehama county.

FROM THE DESK OF
JAY THIEL

April 15, 2008
Adam Hansen
Transportation Planner
Tehama County Public Works
9380 San Benito Ave.
Gerber CA 96035

Dear Mr. Hansen,

I am writing to you in reference to the Daily News notice requesting input on the countywide bicycle plan.

I am a long time Red Bluff resident. I work nights at the Wal-Mart distribution center. I have often wanted to ride my bicycle to work, but highway 99W is just not a safe place to ride. I have spoken with other Wal-Mart associates from both Red Bluff and Corning who feel the same way.

I strongly urge you to include a bike path on 99W between Corning and Red Bluff in your updated bicycle plan. With the rising cost of fuel, even this short commute makes an impact on my personal budget. There are many other businesses along the corridor whose employees would benefit from such a path. This path could help reduce traffic congestion often encountered on the highway. There would be an obvious health benefit for those who chose to use the bike path.

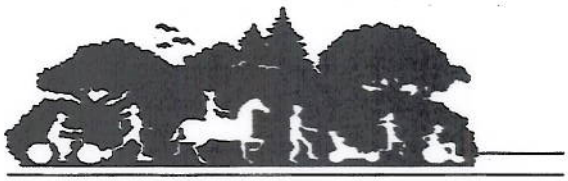
Please make a serious consideration of this issue.

Sincerely yours,

Jay Thiel

1021 Lincoln St.

Red Bluff Ca. 96080



Red Bluff Trails United

P O Box 525 Red Bluff, Ca 96080

September 20, 2008

The **City of Red Bluff** is the primary coordinator of this project. California State University, Chico has been and will continue in an advisory role, providing faculty and graduate students from several different departments as consultants.

Red Bluff Trails United is a citizens coalition of numerous fragmented efforts to build a trail system in our community. Our membership is a very diverse group of individuals - all with a common purpose.

The proposed project connects **all city parks**, a State Historic Park, **grade schools**, Red Bluff's Shasta College campus, the Red Bluff Union High School campus, Mercy High School , a Federal and State Recreation areas, and Historic Downtown Red Bluff.

The **schools** are also at a point where appropriate ecosystem management of the streams in their backyard is necessary. Trails are an integral part of California **recreation** and **transportation** system, thus improving the quality of life for residents and attracting **tourists** and visitors.

Red Bluff is at a stage in its growth where the trail system can be central to its economic growth, revitalization and development of a more attractive historic downtown.

We are excited by the prospect of this project making a very significant change to our community

HAPPY TRAILS.....!!!
Dan Backstrom, Chairman

United States Department of the Interior

NATIONAL PARK SERVICE
Pacific West Region
1111 Jackson Street, Suite 700
Oakland, California 94607-4807

IN REPLY REFER TO:

Date: August 24, 2007

To: Rich Holman and the Red Bluff Trails Community

From: Martha Crusius, National Park Service

Congratulations from the National Park Service to Rich Holman and all the people who have pursued the vision of a great trails system in Red Bluff.

The National Park Service's Rivers, Trails and Conservation Assistance Program is proud to have been a part of the early trail planning efforts in Red Bluff, but it is your enthusiasm and persistence that have put the trail on the ground and provided lasting benefits to the community.

As we concluded in the trail feasibility study that we worked on together in 1999,

> *"The proposed trail will be a community asset, and will contribute to the quality of life of the residents of Red Bluff. It has strong potential to contribute to regional economic vitality, community safety, public health, environmental quality and recreational and educational opportunities."*

Red Bluff is lucky to have people like you as part of the community. I enjoyed working with you so many years ago, and I continue to spread the word about the assets of Red Bluff and Tehama County. I look forward to using the trail and underpass on my next visit to Red Bluff.

Martha Crusius

Martha Crusius
Park Planning and Environmental Compliance Program

TAKE PRIDE® IN AMERICA