# Introduction

The Bicycle and Pedestrian Master Plan has been created through the diligent efforts of the City and citizens interested in improving the Ukiah pedestrian and bicycling environment. Representatives of the bicycling and walking community have spent many hours of volunteer time and effort to discuss and debate the best ways and means to achieve a more livable Ukiah. Through long discussion, numerous bicycle and walking tours, and constant advocacy at both the local and regional level, the Master Bicycle/Pedestrian Plan Steering Committee (MB/PPSC) addressed five key areas of concern: safety, accessibility, sustainability, beauty, and the absolute necessity for an effective implementation program. Without the MB/PPSC's sustained efforts, this Plan would not have been conceived and written.

### *Why does Ukiah need a Bicycle and Pedestrian Master Plan?*

Surrounded by the spectacular Coastal Range on all sides and nestled in the beautiful Russian River valley, Ukiah enjoys one the finest settings of any smaller city in California. Residents of the city have access to open space, the Mendocino National Forest, Lake Mendocino, the coast (about 50 miles by road to the west), as well as local cultural amenities including the Grace Hudson Museum and downtown Ukiah.

The City is also a transportation hub on the U.S. 101 corridor (a major tourist route to the Redwoods in Humboldt County and the Mendocino Coast via S.R. 20) and S.R. 20 to the east and S.R. 253 to the west. The City is connected to other regional centers by scheduled transit service provided by Mendocino Transit Authority. A general aviation airport is located within the City limits. Greyhound bus service links Ukiah to other cities and towns on the U.S. 101 corridor. Significantly, most goods movement (such as lumber) generated in Northwestern California moves through Ukiah on trucks or railroad cars.

Historically life in Ukiah has centered around the agricultural industry. In the 1960's and 70's, newcomers from the Bay Area and other cities seeking a rural lifestyle and including both young and retired people changed the flavor of the city and surrounding areas. With the closure of several major mills in the early 1990's and the emergence of smaller service and technology employers, life in Ukiah continues to change.

Why does Ukiah need a Bicycle and Pedestrian Master Plan? One reason is the continuing change from a manufacturing town to a service employment base oriented to visitors. Simply put, visitors desire to get out of their cars and walk, shop, eat, and possibly stay overnight. In order to attract and extend the stay of quality visitors, the walking and bicycling environment in Ukiah must be enhanced.

Another reason is the enjoyment and quality of life for the residents of Ukiah. Since walking and bicycling are two of the most popular forms of recreational activity in the United States (with 84 percent of Americans walking for pleasure and 46 percent bicycling for pleasure), we can assume that about 12,300 residents in Ukiah would like to walk and 6,700 would like to bicycle purely for pleasure. In addition, the increased ability to walk or bicycle reduces the amount of vehicular traffic, which reduces noise and air quality impacts.

Safety is a primary reason to improve bicycling and walking conditions in Ukiah. Concerns about safety are the single greatest reason people do not commute by bicycle, according to a 1991 Lou Harris Poll. Addressing those concerns for both bicyclists and pedestrians through physical and program improvements is another major objective of the Master Plan.

### *What are the Major Issues that Ukiah must address to become a Bicycle and Pedestrian Friendly City?*

Safety, access, quality of life, and effective implementation are imperative elements for Ukiah's success as a bicycle and pedestrian-friendly city.

- **Safety** is the number one concern of citizens, whether they are avid or casual recreational cyclists, bicycle commuters, joggers, roller skaters, pedestrian commuters, or strollers to the corner store. For the most part bicyclists can use back streets to avoid State Street, which is heavily traveled through the heart of Ukiah. However, a consistent bicycle network with either bike lanes or wider curb lanes and signing is generally lacking in the City. For pedestrians, the network of sidewalks, crosswalks, alleyways, and informal trails provides reasonable access throughout much of the city, but in many instances design decisions have been made to provide vehicular traffic or parking capacity and speeds at the expense of bicyclists and pedestrians. The following statistics bear this out.

  - *The average number of pedestrian accidents in Ukiah is higher than the statewide average*
  - *The majority of pedestrian related accidents are caused by drivers*
  - *The average number of bicycle accidents in Ukiah is higher than the statewide average*

- **Access** for pedestrians and bicyclists to shopping, work, recreation, school, and other destinations is somewhat hampered by the State Street and U.S. 101 corridors. For example, people moving from west to east Ukiah must cross or use State Street with its heavier traffic volumes, numerous parked cars, and wide unprotected crossing distances, and must cross U.S. 101 at busy interchanges. Movement across State Street is hampered by the sheer volume of traffic even at signalized intersections. Crossings of State Street continue to be a problem for pedestrians and bicyclists.

- This Plan urges Ukiah to take measurable steps toward the goal of improving every Ukiah citizen's **Quality of Life**, creating a more sustainable environment, reducing traffic congestion, vehicle exhaust emissions, noise, and energy consumption. The importance of developing a pedestrian and bicycle system that is attractive and inviting is a key element in making Ukiah a city where people want to live, work, and visit. The attractiveness of the environment not only invites pedestrians and bicyclists to explore Ukiah, but more importantly, a beautiful environment helps to improve everyone's positive feelings about the quality of life in Ukiah.

- Education, enforcement, engineering, and funding are the basic components of an **Effective Implementation** Program for this Master Plan. Education must be targeted to the bicyclist and pedestrian as well as to the motorist regarding the rights and responsibilities of the bicyclist, pedestrian, auto and truck driver. Comprehensive enforcement of existing traffic and parking laws, coupled with the implementation of sound design and engineering principles for bike and pedestrian focused areas and corridors are also critical. This plan also proposes systematic review of all new development projects, including public works efforts, to assure compliance with planning and building codes and the principles of this Master Plan. Finally, this plan proposes an aggressive strategy for obtaining grants and competing for other funding sources in order to realize the physical improvements identified as the highest priorities.

### *Expected Benefits of the Bicycle and Pedestrian Master Plan*

- Save lives. Implementation of the Master Plan is expected to dramatically reduce the accident rate for pedestrians and bicyclists through design standards and guidelines, education, and enforcement.

- Provide needed facilities and services. New facilities are needed to meet the demand and increase use of bicycles and walking as a means of travel around the city. With a goal of doubling bicycling and walking by 2010, the bicycle commute share would be 2 percent (including school children) and walking commuters 8 percent.

- Improve the quality of life in Ukiah. Designing and building people-friendly streets, paths, trails, and activity centers available to everyone, supports sustainable community development. By reducing traffic congestion, vehicle exhaust emissions, noise and energy consumption, the quality of life in Ukiah will be improved. Finally, visitors can be encouraged to stop and enjoy Ukiah on foot or bicycle.

- Maximize funding sources for implementation. This plan is meant to equip Ukiah to successfully compete for state and federal funding, by meeting the requirements of the California Bicycle Transportation Act and the Intermodal Surface Transportation Efficiency Act.

### *Major Recommendations of the Bicycle and Pedestrian Master Plan*

- A pedestrian/bike path along with Northwestern Pacific rail right of way from Ford Road to Norgaard Lane.

- The creation of a pedestrian/bicycle corridor along Clay Street - Peach Street -Gibson Creek Corridor through the NWP station redevelopment site.

- The extension of bike lanes on Gobbi Street from Riverside Park to Dora Street.

- The creation of a north-south signed bike route along the west side of Ukiah.

- Once Orchard Avenue is extended to Brush Street, the completion of bike lanes on Orchard Avenue from Gobbi Street to Ukiah High School.

- Formalization and improvements to the downtown pedestrian district.

- Enhancements of uncontrolled crosswalk locations on arterials throughout the City and especially on State Street.

- A Citywide program to provide sidewalks on "missing links."

- Pedestrian street enhancements on key corridors to connect the most vital pedestrian activity areas.

### *Relationship between this Plan and other Bicycle and Pedestrian Planning Efforts in Ukiah*

As an element of the General Plan, the Bicycle and Pedestrian Master Plan has the comprehensive scope and jurisdictional authority required to coordinate and guide the provision of all bicycle- and pedestrian-related plans, programs, and projects. Many current planning efforts provide recommendations regarding one element or aspect of the pedestrian and bicycle networks; the task of the Ukiah Bicycle and Pedestrian Master Plan is to ensure compatibility of all of these blueprints, while attending to planning for areas of the City not already

targeted by other studies. The studies or planning efforts listed below have been reviewed and consulted, studied for consistency, and where appropriate, folded into Ukiah's Bicycle and Pedestrian Master Plan.

- *Ukiah General Plan (including Circulation, Parks and Recreation, and Bicycle/Pedestrian elements)*
- *Mendocino County Bikeway Plan*
- *Mendocino County General Plan*

In addition, and most importantly, the Ukiah Bicycle and Pedestrian Master Plan includes an implementation program that aggressively targets grants and other funding sources to allow improvements, maintenance, and new facilities to be realized throughout the City of Ukiah.

# 1.0 Goals and Objectives

## 1.1 Goals of the Bicycle and Pedestrian Master Plan

Goals provide the context for the specific policies and recommendations discussed in the Bicycle and Pedestrian Master Plan. The goals provide the long-term vision and serve as the foundation of the plan. The goals are broad statements of purpose that do not provide details, but show the plan's direction and give overall guidance. Objectives provide more specific descriptions of the goal, while policies provide a bridge between general goals and actual implementation guidelines.

The following Objectives and Policies are intended to guide both Bicycle and Pedestrian planning in Ukiah.

***GOAL 1: IMPROVE SAFETY AND EDUCATION.***

To make the City's circulation system safer for all pedestrians and bicyclists, and enhance education for bicyclists, pedestrians, and motorists.

Safety and Education Objective 1:
Maximize coordination and responsiveness of the City agencies responsible for the identification, analysis, and resolution of bicycle and pedestrian issues.

*Ukiah lacks a "one stop" entity that attends to, coordinates, and addresses bicycle and pedestrian safety issues. Currently, every City agency has some measure of responsibility for bicycle and pedestrian safety issues, but there is no lead agency charged with bringing multi-faceted safety or connectivity issues to resolution.*

Safety and Education Policy 1-1:
Designate a responsible department and staff member for the identification, analysis and resolution of safety issues related to bicycle and pedestrian travel within the City of Ukiah. Oversight and guidance should be provided by a "Safety" Committee, such as the existing Traffic Engineering Committee, which includes representatives from the Public Works Department, Police Department, Planning Department, and other relevant departments and agencies. Alternatively, the City could create a part-time transportation planner position to assume these responsibilities.

Safety and Education Policy 1-2:
Expand and support school commute safety education, marketing, and physical improvements, including educational curriculum, on-bike training, safety handbooks, helmet subsidy programs, marketing materials on the benefits of walking/bicycling, and a 'toolbox' of physical measures to improve safety on school commute routes for pedestrians and bicyclists.

Safety and Education Policy 1-3:
Where possible, incorporate traffic calming techniques as described in published documents produced by organizations such as the Institute of Transportation Engineers, including measures to manage vehicle speeds and flows so as to maximize the safety of pedestrian and bicycle movement in residential and commercial neighborhoods.

Safety and Education Policy 1-4:
Educate adults on the rights and responsibilities of bicyclists and pedestrians through signage ('Share the Road'), public information, and education of drivers, cyclists, and pedestrians. Support adult bicycle training courses, and inclusion of bicycle and pedestrian laws as part of traffic school curriculum and

driving test questions. Produce a safety brochure that illustrates basic rules of the road and other good practices for distribution in schools and libraries.

Safety and Education Policy 1-5:
Coordinate with the Ukiah Police Department to enhance enforcement of existing bicycle and pedestrian laws.

Safety and Education Objective 2:
In conformance with Federal policy, double current levels of walking and bicycling in Ukiah by the year 2010 as a commute mode and reduce bicycle and pedestrian-related accidents by 10 percent from current levels.

Safety and Education Policy 2-1:
Monitor bicycle and pedestrian commute modes and accident statistics over the life of this plan to measure the effectiveness of improvements and achievement of stated objectives. Prepare annual summary reports on mode split (the percentage of various travel modes used by citizens for work trips, shopping trips, etc.) and accident data.

***GOAL 2: GREATER CITYWIDE ACCESS***.

To provide a system of paths, lanes, routes, and support facilities which enable and encourage convenient pedestrian and bicycle circulation for all transportation needs, including travel to work, school, shopping, or recreation activities.

Greater Citywide Access Objective 1:
Plan, design, implement, and maintain a comprehensive bicycle and pedestrian system in Ukiah.

Greater Citywide Access Policy 1-1:
Develop and maintain a city-wide system of paths, lanes, and routes which meets the needs of commuter and recreational users, helps reduce motor vehicle trips, and links residential neighborhoods with employment centers and with local and regional destinations.

Greater Citywide Access Policy 1-2:
Integrate the Ukiah bicycle and pedestrian network of lanes, paths, and routes into the regional system, including direct and transit connections to Willits, Cloverdale, and Healdsburg.

Greater Citywide Access Policy 1-3:
Explore the use of the Northwestern Pacific Railroad (NWP) and other natural and manmade corridors for the development of Class I bicycle and pedestrian pathways that connect major employment centers, shopping and recreation areas, and transit modes.

Greater Citywide Access Policy 1-4:
Review the allocation of public right-of-way to vehicular, bicycle, and pedestrian movement, and re-allocate sufficient space for bicycles and pedestrians on all streets, especially those identified as the primary corridors and areas in the Plan.

Greater Access Objective 2:
Coordinate bicycle and pedestrian improvements and funding efforts with other jurisdictions and regional agencies.

Greater Citywide Access Policy 2-1:
Work with Mendocino County and other public, private, and non-profit agencies to create a well-connected and easily accessible pedestrian and bicycle network for the region.

Greater Citywide Access Policy 2-2:
Work with Mendocino County to increase mutual gain when applying and competing for funding for projects that have inter-city or inter-agency benefits.

Greater Access Objective 3:
Use public open space to its greatest public advantage by capitalizing on existing or planned City amenities (such as the NWP Station Redevelopment Area) when completing or upgrading the bicycle and pedestrian facilities.

Greater Access Policy 3-1:
Designate State Street and/or other local downtown streets as a transit/bike corridor and pedestrian promenade, and facilities to encourage bicycle and pedestrian use should be incorporated in any public/private development or redevelopment.

Greater Access Policy 3-2:
Evaluate opportunities for mountain biking around Ukiah, especially for the potential to attract new visitors to the area.

Greater Access Objective 4:
Include facilities for bicyclists and pedestrians when contemplating any changes to the City street network in the City of Ukiah.

Greater Citywide Access Policy 4-1:
The City, Caltrans, Mendocino Transit Authority, and other affected agencies and cities should include the recommendations of this Plan and pedestrian/bicycle needs in general in addition to transit and auto commuters when designing any new freeway by-pass project or street project.

Greater Access Policy 4-2:
Incorporate bicycle and pedestrian facilities in public/private development and redevelopment plans in Ukiah.

***GOAL 3: A HIGH QUALITY OF LIFE***

Quality of Life Objective 1:
Foster a sustainable environment by increasing transportation options such as bicycling, and walking, recognizing that increased use of these methods of travel, and the associated reduced use of automobiles, are an essential component of a sustainable local and regional environment.

Quality of Life Policy 1-1:
Develop the showcases of Ukiah's bicycle and pedestrian network by identifying outstanding scenic rides, walks, trails, and destination points, thereby enhancing the character, livability, and attractiveness of Ukiah.

Quality of Life Policy 1-2:
Integrate the bicycle and pedestrian system and facilities with other travel modes as a vital and essential

part of the City's transportation system.

Quality of Life Policy 1-3:
Create a streetscape and path system in Ukiah that is not only physically adequate, but aesthetically pleasing and inviting to pedestrians and bicyclists alike.

*Designers of pedestrian and bikeway systems and facilities should strive to improve the physical quality of the system while maintaining elements that tell the story of Ukiah's history, character, and the aesthetic and cultural diversity of our city*.

Quality of Life Policy 1-4:
Incorporate aesthetically pleasing bicycle and pedestrian friendly design elements, both on and off the road system in new residential and commercial/ industrial development in Ukiah.

***GOAL 4: ESTABLISH AN EFFECTIVE IMPLEMENTATION STRATEGY***

To incorporate the needs of bicyclists and pedestrians into the City's existing programs, policies, plans, and operations, and to involve all aspects of the community and local agencies in planning and implementing improved opportunities for bicycle and pedestrian travel.

*Ukiah's residents want the planning efforts they invest in to become real. Implementation of this plan would result in the eventual completion of an interconnected network of paths and routes, an on-going and aggressive competition for grants and other funding mechanisms, and day-to-day oversight of the planning, building, and maintenance activities of the City with regard to pedestrian and bicycle facilities.*

Effective Implementation Objective 1:
Make bicycle and pedestrian improvements a high priority when allocating funding, reviewing development plans, and coordinating interagency and inter-jurisdictional transportation improvement efforts.

Effective Implementation Policy 1-1:
Assign Public Works and Planning Staff the responsibility of developing and managing a bi-annual maintenance and operations budget, preparing applications for grants and other funding, assisting with promotional and educational events, and otherwise driving implementation of the Master Plan. Alternatively, the City could create a part-time transportation planner position to assume these responsibilities.

Effective Implementation Policy 1-2:
Update the Bicycle and Pedestrian Master Plan every two years (per California State Law), and provide for an amendment process which includes review and recommendations by the MB/PPSC.

Effective Implementation Policy 1-3:
Implement a maintenance program insuring adequate upkeep of bicycle and pedestrian improvements and existing amenities.

Effective Implementation Policy 1-4:
Institute a private sponsorship and adoption program of the bicycle and pedestrian system to assist in maintenance and possibly construction, to be acknowledged with small signs where appropriate.

## 1.2 Bikeway Plan

The bikeway plan is composed of the goals, objectives, and policies that relate specifically to bicycling, the

physical bicycle network, and the implementation programs that support bicycle travel. Bikeway improvements include striping new bike lanes, re-striping streets to provide wider curb lanes, eliminating or reducing on-street parking or medians, making surface improvements, signing, and adding bike racks and lockers. The implementation of the bikeways portion of the plan is explained in greater detail in the Implementation chapter of this Plan.

**Bicycle Objectives and Policies**

These Objectives and Policies are specific to the proposed Bikeway improvements in the City of Ukiah.

***GOAL 1: IMPROVE SAFETY AND EDUCATION***

Bicycle Safety and Education Objective 1:
Improve street, path, signs, and signalization systems to increase the safety of bicyclists in Ukiah.

Bicycle Safety and Education Policy 1-1:
Adhere to Caltrans design standards or other supplementary standards for all bicycle improvements. Final design should be reviewed and approved by the Director of Public Works.

Bicycle Safety and Education Policy 1-2:
Many recreational and less experienced cyclists prefer to ride on Class I bike paths rather than arterial streets. Make efforts to obtain, redevelop, or encourage private redevelopment of railroad, utility, and other rights-of-way as linked, multi-use Class I bike paths or trails. Pay special attention to safety at roadway and railroad crossings. Provide adequate width to accommodate a variety of trail users. Identify security and monitoring mechanisms such as lighting, call boxes, emergency access, and bicycle patrols, especially along isolated portions of the pathway.

Bicycle Safety and Education Policy 1-3:
Identify the cost, funding source, and agency responsibility of future maintenance and operation when contemplating the design of bike paths, bike lanes, or bike routes.

Bicycle Safety and Education Policy 1-4:
Maximize the separation between bicyclists and vehicles on all streets. Provide Class II bike lanes along the primary bikeway system where feasible. Provide a minimum of 14 foot wide curb lanes on the primary bikeway system where feasible and where bike lanes cannot be provided (Class III bike route). Feasibility of lanes and routes are to be determined through a specific set of planning and design steps listed in the Implementation Chapter.

Bicycle Safety and Education Policy 1-5:
Review intersections on the primary bikeway system for needed improvements, including signal loop detectors, bike lane pockets, curve geometry, striping, and signing.
Bicycle Safety and Education Policy 1-6:
Discourage the use of sidewalks or pathways parallel to roadways as bicycle facilities where there are numerous curb cuts or cross streets, limited visibility, a significant number of pedestrians and/or other available options such as bike lanes.

***GOAL 2: GREATER ACCESS***

Greater Bicycle Access Objective 1:
Plan, design, implement, and maintain a comprehensive bicycle system in Ukiah.

*A comprehensive, well-maintained system will meet the needs of both commuter and recreational bicyclists by providing a rational and consistent network of routes which provide a reasonable balance between connectivity, access, and traffic conditions.*

Greater Bicycle Access Policy 1-1:
Develop and maintain a city-wide bicycle system of paths, lanes, and routes that is integrated into the regional system of bikeways and which meets the needs of commuter and recreational users, helps reduce motor vehicle trips, and links residential neighborhoods with local and regional destinations.

Greater Bicycle Access Policy 1-2:
Provide alternate routes for less experienced bicyclists off the State Street/U.S. 101 corridors.

Greater Bicycle Access Objective 2:
Improve the quality and quantity of bicycle parking and support facilities in Ukiah.

Greater Bicycle Access Policy 2-1:
Secure, safe, and covered bike racks should be provided at all public destinations, including the library, parks, museum, schools, hospital, railroad station, and City Hall. Provide specific guidelines on the type of racks, the location, and the required storage capacity based on employees, visitors, etc.

Greater Bicycle Access Policy 2-2:
Work with the School District to facilitate the construction of bicycle corrals at the elementary, middle, and high school in Ukiah.

Greater Bicycle Access Policy 2-3:
Require all new commercial development or redevelopment projects to comply with zoning standards for bicycle parking.

Greater Bicycle Access Policy 2-4:
Work with Mendocino Transit Authority to provide bike racks on all bus routes that link with major recreational or commuting destinations.

**Planning Criteria for the Bikeway**

The selected routes were evaluated according to the following criteria.

*1. Coverage* Provide a balanced transportation system that is accessible from all neighborhoods.

*2. Connectivity and Directness* Provide direct connections to all major destinations and activity centers, and to existing and proposed regional routes. Avoid circuitous routes through local street networks that are unlikely to be used by cyclists because the routes are too slow or confusing.

*3. User Groups* Provide facilities to accommodate both experienced and inexperienced cyclists, people of various physical abilities and skills, and people with various trip purposes. Develop loop routes for recreational bicyclists.

*4. Implementation* Develop a system that can be reasonably implemented within the 20-year

time frame of the plan and consider physical, economic, and environmental constraints when selecting routes.

*5. Local Input* — Draw on the experience of local bicyclists to identify routes they recommend based on their experience, knowledge and needs.

*6. Funding Sources* — Consider the specific requirements of various funding sources when selecting a bicycle route. For example, most funding sources are oriented towards commuting (versus recreational) uses, and all require estimates of benefits and future usage. Typical sources include Transportation Development Act (TDA), and federal funding from the soon-to-be re-authorized ISTEA program.

**Bikeway Classifications**

The physical components of the bikeway system include paths, lanes, and routes, as classified by the California State Department of Transportation (Caltrans). Specific design standards are described in the Implementation chapter.

*Class I Bike Paths*

A bike path is a grade-separated, bi-directional and paved pathway at least 8 feet wide, to be used primarily by bicyclists but also by pedestrians and others. Bike paths are often located along waterfronts, railroad right-of-way (active or abandoned), or stream or river channels. In most cases sidewalks cannot be considered Class I bike paths, unless there is at least a 5-foot horizontal separation or a physical barrier.

*Class II Bike Lanes*

Bike lanes are striped 4 or 5 foot wide one-directional lanes located on the right hand side of a travel lane, on both sides of a two-way street or both parts of a one-way couplet. Bike lanes have specific signing and striping requirements, and can be designed in a variety of ways for intersections. On-street bike lanes should be placed on all routes of the primary bicycle system with average daily traffic volumes (ADTs) over 5,000, where feasible.

*Class III Bike Routes*

According to Caltrans, bike routes are characterized by signing only and should provide a superior through route for bicyclists than other parallel routes. If bike lanes are not feasible on a proposed route, the City should follow a sequential order of implementation steps detailed in the implementation program to make other improvements such as widening curb lanes, eliminating on-street parking, and removing multiple turn lanes.

**Bikeway System Components**

In addition to the Caltrans classifications, there are a variety of physical improvements which could enhance the safety and attraction of streets for bicyclists. Hybrid types of improvements include enhanced sidewalks, shoulders, curb lanes, intersection treatments, and bicycle sensitive signal loop detectors or actuators. The

bikeway system also includes support facilities for bicyclists, such as racks, showers and air pumps. The major components of a bicycle system for Ukiah are briefly described here, while all bikeway components and specific design standards are described at length in the Implementation Chapter. Recommendations for use of these components at specific locations in the City are made in this Plan, but will typically require site specific study for implementation.

Following are examples of physical improvements which could enhance the safety and attraction of streets for bicyclists.

- Bicycle Boulevard: A Bicycle Boulevard is a street or alleyway directly parallel to a major commercial corridor that was designed to promote bicycle movement and discourage through vehicle movement.

- Sidewalks: The use of sidewalks as bicycle facilities is not encouraged by Caltrans or allowed by the City of Ukiah Municipal Code.

- Traffic Calming Techniques: Such techniques are implemented to moderate or reduce vehicle speeds and/or volumes on streets where traffic has a negative impact on bicycle or pedestrian movement, including actions such as installing traffic circles, intersection islands, partial street closings, 'bulb-out' curbs, pavement treatments, lower speed, signal timing, and narrowing travel lanes.

- Signing and Striping: Uniform signing and striping is an important part of the bikeway safety and network system, distinguishing commute routes from recreational routes as well as providing continuity with facilities in adjacent communities.

- Bicycle Parking: Bicycle parking facilities include bike racks and corrals and all should be anchored to the ground and allow bicyclists to lock both frame and wheels.

- Bike Racks on Buses: Providing bike racks on buses expands greatly a cyclists' ability to ride more challenging topography in the hill areas or more easily complete a two-stage commute trip.

**Bikeway System Map**

The primary bikeway system consists of commute routes for the more experienced cyclist who is looking for the most direct route between residential neighborhoods and local and regional employment centers, multi-modal terminals, schools, and recreational routes. The recreational or scenic routes are often more circuitous routes favored by the less experienced cyclist. These routes are typically located on lower volume residential streets and off-street bike paths. The recreational routes serve regional historic, cultural, and natural destinations. Both the commute routes and recreational routes are shown on the map.

The map shows the proposed citywide primary bikeway system. The proposed system is designed to serve as the primary system for development in the short to mid-term for the City, serving the broadest variety of user groups, levels of experience, age groups, destinations, and trip purposes possible. This primary bikeway system is not meant to accommodate every bicyclist and bicycle trip in the City, and bicyclists continue to have a legal right to use all public streets in the City. The City will also continue to make improvements and maintain facilities for bicyclists as needed throughout the City. The primary system merely allows the City to concentrate its limited resources on those corridors that benefit the greatest number of existing and potential bicyclists possible. The proposed bikeway system will be developed according to specific design and implementation standards outlined in the Implementation chapter.

## 1.3 Pedestrian Plan

The intent of the Pedestrian Plan is to create a tool that can be used by the City to address pedestrian activity throughout Ukiah. While streetscape plans and other detailed pedestrian improvement plans for the entire City of Ukiah is not within the scope of this effort, this Plan creates a framework for evaluating pedestrian conditions and gives guidance for how to address a variety of problems and deficiencies. The first part of this section describes the pedestrian planning criteria and pedestrian system components, followed by a matrix showing the relationship of these elements, and then pedestrian-specific Objectives and Policies. The Implementation section of this Plan provides direct guidance for prioritization of pedestrian projects, and more detailed information about system components, standards, and design guidelines is presented in the Implementation chapter.

**Pedestrian Planning Criteria and System Components**

The Plan provides a straightforward framework for evaluating and addressing pedestrian deficiencies based on criteria of safety, accessibility, quality of life, implementation, and the specific needs of different user groups. Pedestrian commuters, like bicyclists, are primarily concerned with connectivity and safety. The casual pedestrian is more interested in the immediate landscape, protection from the elements, visual interest, places to rest, and protection from traffic. Pedestrians in general benefit from a network that offers good connections and good conditions. One common attribute of popular pedestrian areas is that motor vehicle movement is either completely restricted or severely slowed down.

After safety, access is the most important issue for encouraging pedestrian activity. Access to all areas of the city, for abled and disabled alike, is essential in creating a pedestrian friendly Ukiah and an improved quality of life. Access for the pedestrian does not just include physical access and an absence of barriers, but also choices in routes, activities and views, and chances to interact with other people and engage in the urban environment. A pedestrian accessible environment should allow for a high level of access to basic and accessory daily needs, including commercial areas and services, restrooms, the downtown, educational facilities, community facilities, recreation areas, restaurants, cultural activities, and social gathering places. Access can be divided into four broad categories: safety, directness, sensory stimulation, and interface with other transportation modes.

- Safety: minimizing and managing conflicts with vehicular traffic, while providing access where needed.
- Directness: providing direct connections between activity areas, overcoming obstacles such as roadways, freeways, waterways, railroads, etc..
- Sensory Stimulation: promoting, in a commercial setting, a variety of street-scale storefronts, sidewalk dining areas, landscaping, artwork, historic markers, public spaces, alleyways, etc.
- Interface with Other Modes of Travel: increasing the ease with which a pedestrian can interface with other modes promotes pedestrian activity.

Components of the Pedestrian System can be designed and manipulated to create a safer, more accessible Ukiah. The following components summarized here are discussed in greater detail in the Implementation chapter.

**Pedestrian Area Classifications**

Pedestrians must compete for scarce public right-of-way with moving and parked automobiles, trucks, transit, and bicycles. At one end of the scale, every street in Ukiah should provide a bare minimum in pedestrian facilities to maintain accessibility and safety. At the other end of the spectrum, streets can be closed off to automobiles entirely and pedestrians given the full area for movement. Pedestrian areas in Ukiah are classified from minimal features that should be applied throughout the city to specific improvements for residential neighborhoods, commercial strip areas (South Main St.), public use facilities (parks, schools, library, senior centers, community center), to Downtown Ukiah. The following matrix provides guidance to the type of improvement by area, with details provided in the Implementation chapter. These are goals which may be possible in some areas, but may also not be possible in others due to physical and other operational restrictions.

Table 1
Pedestrian Improvements by Area Type

| *Pedestrian Area* | *Type of Improvement* |
|---|---|
| Citywide (minimum standard) | 5-foot sidewalk on at least one side of the street (may not be practical in some older residential areas)<br>Street lighting at intersections and crosswalks.<br>Crosswalks at every signalized intersection.<br>ADA curb ramps at all intersections.<br>Modify high speed right turns.<br>Provide adequate pedestrian crossing time given street width.<br>Provide push buttons/pedestrian signals at all crossings where warrants are met. |
| Residential neighborhoods | Use traffic calming techniques in an attempt to limit average daily traffic to 5,000 on residential streets and 10,000 on collector streets.<br>Limit travel speeds to 25 mph on residential streets through design (necking down intersections, installing roundabouts) and consistent enforcement.<br>5-foot minimum sidewalks on both sides of the street where feasible.<br>Enforce no parking on sidewalk ordinance.<br>Plant and maintain street trees.<br>Provide new linkages where neighborhoods are bisected by manmade or natural barriers.<br>Provide sidewalks and crosswalks to parks, transit, schools, shopping areas, and other destinations.<br>Adequately maintain all crosswalks and sidewalks. |
| Downtown Ukiah | 8-foot sidewalks on both sides of street.<br>Re-organize traffic, turning, and parking lanes for sidewalk expansion areas to be used for outdoor dining, landscaping, artwork, and other features.<br>Provide crosswalks at least every 1,000 feet.<br>Widen sidewalk areas at all transit stops for additional benches and waiting room.<br>Identify off-street parking opportunities for longer-term parkers to lessen demand for on-street parking.<br>Provide bulb-outs at crosswalks.<br>Encourage a mix of land uses and storefronts.<br>Develop alleyway connections to parking and residential neighborhoods. |
| | |

| Table 1<br>Pedestrian Improvements by Area Type | |
|---|---|
| Commercial Strips | Require new development to provide connections to parking areas to sidewalks and bus stops.<br>Encourage storefronts to be located on the street with parking in the rear.<br>Minimize the number of curb cuts.<br>Require landscaping, parking, and other obstructions to be at least 25 feet from all curb cuts.<br>Plant and maintain street trees.<br>Develop corridor 'entrance features' to define area and add identity.<br>Eliminate unnecessary travel, turning, and parking lanes, and widen sidewalks and/or provide bulb-outs. |
| Public Use Areas | Implement school educational, marketing, and physical improvements detailed in this Plan.<br>Fund crossing guards where needed on school commute corridors.<br>Manage school drop-off and pick-up areas and traffic at schools.<br>Install properly designed crosswalks and protection (as warranted) on all major access routes to school, library, community center, park, or library.<br>Separate pedestrians, roller skaters, and bicyclists in recreational areas where volumes are high.<br>Adjust signal timing near senior centers to allow additional crossing time. |

**Pedestrian Objectives and Policies**

These Objectives and Policies address pedestrian issues and should also be viewed in conjunction with the combined Bicycle and Pedestrian Goals, Objectives, and Policies in the first section.

***GOAL 1. IMPROVE SAFETY AND EDUCATION***

Pedestrian Safety Objective 1:
Transform City streets and enforcement systems to increase safety for pedestrians in Ukiah. Improving pedestrian safety is paramount for Ukiah. Ukiah must work diligently to ensure safe travel for its children, parents, friends and neighbors.

Pedestrian Safety Policy 1-1
Crosswalks should be provided where needed on all access routes to schools, parks, shopping areas, libraries, community centers, and transit stops. Provide new signals and other improvements where warranted.

Pedestrian Safety Policy 1-2:
Alter traffic signal phasing to accommodate the pedestrian needs over the vehicle in key pedestrian-oriented locations such as downtown, near schools, senior centers, recreation centers, entertainment and cultural destinations, and neighborhood commercial areas.

Pedestrian Safety Policy 1-3:
Improve school area pedestrian safety through joint efforts with the School District and other interested parties by using methods such as: identifying hazardous routes or conditions, analyzing accident data, observing traffic

circulation near the schools, and surveying students who walk or ride to school, and then acting promptly to correct the problem.

Pedestrian Safety Policy 1-4:
Reduce traffic speeds below 25 miles per hour, install flashing lights, increase enforcement, and use other feasible means of slowing traffic near areas where children and seniors are active.

***GOAL 2. GREATER ACCESS***

Greater Pedestrian Access Objective 1:
Identify locations and facilitate the creation of easily identifiable activity centers along the State Street corridor that can serve as safe, inviting, and memorable public gathering places.

Greater Pedestrian Access Policy 1-1:
The City should focus attention on creating and improving the State Street corridor where needed by residents and visitors. The corridor should be pedestrian-friendly and pedestrian-oriented, using guidelines developed in the Implementation chapter for this Plan.

Greater Pedestrian Access Policy 1-2:
When contemplating development or street improvements, consider the range of options outlined in the Implementation chapter for improving pedestrian access and pedestrian traffic flow.

# 2.0 Existing Conditions

## 2.1 Existing Bicycle Facilities and Activity Areas

There are very limited formal bikeways in the City of Ukiah, with major parts of the city having no facilities at all. There are currently Class II bike lanes on Dora Street, Bush Street, Low Gap Road, and Walnut Avenue and a short bike path segment leading to the U.S. 101 pedestrian bridge. Nearby regional bicycle facilities include bike lanes (shoulders) on North and South State Street and Talmage Road.

The lack of an 'official' bikeway network does not mean that people are not riding. The bicycling community, ranging from experienced club riders to school children, has developed their own system of streets and routes which provide connectivity and safety for their purposes. For example, bicyclists ride on east-west streets such as Washington Avenue, Mill Street, and Empire Drive despite the absence of bike lanes.

Some key observations on existing bicycling conditions are as follows.

- Ukiah is an ideal bicycling environment. The small size, climate, and topography mean that virtually all residents are within a few minutes' bicycle ride of all destinations, whether for work or pleasure.

- Local bicyclists include experienced adult riders and school children.

- The elementary schools, middle school, and the high school are located such that many students who walk or ride a bicycle must cross State Street, Perkins Street, and/or Talmage Road. Observations of students also revealed a substantial number of bicyclists riding on the wrong side of the street and crossing major streets at unprotected locations.

- Secondary streets in Ukiah such as Dora Street, Low Gap Road, Clay Street, Bush Street, and Orchard Avenue generally provide good bicycling alternatives to more heavily traveled roadways such as Perkins and State Streets.

- Oak Street, School Street, and other streets off of State Street in downtown Ukiah are already relatively pedestrian- and bicycle-friendly, with slower moving traffic and lower volumes. This could be supplemented by other improvements such as providing traffic calming measures, enhanced sidewalks, and bike racks and lockers near destinations such as shops, medical offices, and public uses which do not already have bike racks.

A map showing Bicycle Activity Corridors in Ukiah is shown in Figure 1.

## 2.2 Existing Pedestrian Facilities and Activity Areas

The City of Ukiah has an excellent network of sidewalks for pedestrians. The downtown and surrounding neighborhoods provide amenities which tend to encourage pedestrian trips including narrow streets, tree coverage, close building proximity to the street, short crossing distances on public streets, and a mix of office and commercial uses. Although more auto oriented, there is a significant amount of pedestrian activity along North and South State Streets. This activity consists of transit riders as well as other pedestrians walking to their destinations. There are several barriers to walking trips in Ukiah including wide crossing distances, vehicular traffic conditions and a lack of adequate pedestrian facilities on East Perkins Street, between State

Figure 1

Street and Orchard Street, and on intermittent sections of State Street and various gaps in sidewalks throughout the City.

Key observations on existing pedestrians activities are as follows.

- Ukiah is an ideal walking environment. The small size, climate, and topography mean that the majority of residents are within a ten minute walking time of commercial opportunities along State and Perkins Street.

- The most significant pedestrian activity is in the downtown where the mix of land use and narrow streets encourages pedestrian trips.

- The neighborhoods surrounding the downtown that are within a half-mile or less generate the most walking trips.

- The elementary schools, middle school, and the high school also generate a significant amount of pedestrian trips.

A map showing Pedestrian Activity Areas in Ukiah is shown in Figure 2.

## 2.3 Opportunities and Constraints

Information on opportunities and constraints for bicyclists pedestrians has come from a variety of sources, including field observations and measurements of street cross-sections which are included in Appendix A. Many general and site specific comments have been collected, which helped to form an idea of the type of system and specific improvements that will be required. Comments can generally be summarized into the following statements.

**Opportunities**

- Quieter local streets offer an alternative to using State Street for most bicyclists.

- As a smaller city on a major transportation corridor, the City has the opportunity to attract visitors to stop and visit while en route to other destinations.

- The agricultural/forest surroundings are close to most neighborhoods, and offer the excitement of off-road bicycling and hiking and views of Ukiah and its surroundings.

- The parks and community center serve as major attractors to residents, especially children who have the opportunity to ride their bicycles or walk to events from most neighborhoods.

- The continued revitalization of downtown will act as an attractor for walking trips from the surrounding neighborhoods.

- The North Coast rail corridor and future transit center presents an opportunity for a new pedestrian and bicycle trail link.

Figure 2

**Constraints**

- There is a lack of adequate short or long term secure bicycle parking.

- The Perkins Street, Gobbi Street, and Talmage Road overcrossings of U.S. 101 are major constraints for any bicyclist or pedestrian entering or leaving Ukiah, especially less experienced cyclists and walkers.

- There is a general lack of shade trees along some pedestrian routes.

- State Street is the biggest constraint to bicyclists because, while it provides for the best north-south connectivity, the amount of traffic, number of parked vehicles and driveways pose a high amount of conflict for bicyclists.

- State Street is also the biggest constraint to pedestrians due to its long unprotected crossing distances at uncontrolled intersections.

- Like streets in all cities and towns, there is some debris and gravel thrown by vehicles onto the right side of streets occasionally forcing bicyclists to ride in travel lanes.

- Other common phenomena in Ukiah are bicyclists riding on the wrong side of the road, crossing at unmarked crossings, or riding at higher speeds on sidewalks. This typically points to the need to enhance education and enforcement.

- The presence of utility poles and other sidewalk features such as mailboxes and overgrown landscaping cause obstructions in sidewalk areas.

These lists represent a summary and sample of opportunities and constraints in Ukiah, and can be updated as part of future plan revisions.

## 2.4 Needs Analysis

The purpose of reviewing the needs of bicyclists is twofold: (a) it is instrumental when planning a system which must serve both user groups and (b) it is useful when attempting to quantify future usage and benefits to justify expenditures of resources. According to a May 1991 Lou Harris Poll, it was reported that *"...nearly 3 million adults--about one in 60--already commute by bike. This number could rise to 35 million if more bicycle friendly transportation systems existed."* In short, there is a large reservoir of potential bicyclists who don't ride (or ride more often) simply because they do not feel comfortable using the existing street system.

A common term used in analyzing the demand or need for bicycle or pedestrian facilities is 'mode split.' Mode split refers to the choice of transportation a person selects to move from home to work to shopping to other destinations. One major objective of any bicycle improvement is to increase the 'split' or percentage of people who choose to ride rather than drive or be driven. Every saved vehicle trip or vehicle mile represents quantifiable reductions in air pollution. A summary of the needs analysis is presented below.

**Key Points**

- ❑ A needs analysis helps identify the types of improvements needed, justifies expenditures on improvements, and quantifies information needed for several funding sources.
- ❑ As noted above, the number of bicycle commuters could be expected to increase substantially if adequate facilities were provided.

- The latent 'need" for bicycle and pedestrian facilities, versus actual bicyclists and pedestrians, is difficult to quantify; we must rely on an evaluation of comparable communities to determine potential usage.

- Mode split refers to the choice of transportation people make whether for work or non-work trips. Currently, the average household in the U.S. generates about ten vehicle trips per day. Work trips account for less than 30 percent of these trips on average.

- According to the 1990 U.S. census, 2 percent of all employed Ukiah residents commute primarily by bicycle. This does not include those who ride less than 50 percent of the time. Thus, the bicycle commute rate in Ukiah is about twice the rate of California and the United States as a whole.

- The walk commute mode share for Ukiah is 6.4 percent, which is about the same as for the U.S. as a whole and about twice the rate as other smaller cities.

- About 36 percent of Ukiah employees work within 10 minutes of home by bike, which is an easy bicycle ride for most people. The distances between residences and workplaces combined with the types of employment, climate, and available bicycle facilities all influence these commute shares. As Ukiah grows and additional local employment opportunities become available and better bicycle connections are provided, this mode share can be expected to increase.

- The U.S. Department of Transportation, in their publication entitled "National Walking and Bicycling Study" (1995), sets as a national goal the doubling of current bicycling mode shares by the year 2010, assuming that a comprehensive bicycle system is in place. Since the current bicycle commute mode share in Ukiah is 2 percent, this will translate into a future bicycle commute mode share of 4 percent in Ukiah, or about 270 commuters. Add to this number of commuters who bicycle occasionally and students at local schools, and the average number of daily bicyclists in Ukiah increases to an estimated 900 bicycle commuters by 2010. These bicyclists will be saving an estimated 1,800 vehicle trips per day, 450,000 trips per year, and 810,000 vehicle miles per year. The combined benefit of these future bicycle commuters over the next 20 years is a reduction of about 19,480 pounds of PM10, 52,785 pounds of Nox, and 76,846 pounds of ROG.

- Bicyclists are typically separated between experienced and casual riders. The U.S. Department of Transportation identifies thresholds of traffic volumes, speeds, and curb lane widths where less experienced bicyclists begin to feel uncomfortable. For example, on an arterial with traffic moving between 30 and 40 miles per hour, less experienced (Class B) bicyclists require bike lanes while more experienced bicyclists (Class A) require a 14 or 15 foot wide curb lane.

- Casual riders include those who feel uncomfortable negotiating traffic. Others, such as children and the elderly, may have difficulty gauging traffic, responding to changing conditions, or moving rapidly enough to clear intersections. Other bicyclists, experienced or not, may be willing to sacrifice time by avoiding heavily traveled arterials and using quieter side streets. In some cases, casual riders may perceive side streets (or sidewalks) as being safer alternatives than major through routes, when in fact they may be less safe. Other attributes of the casual bicyclist include shorter distances than the experienced rider and unfamiliarity with many of the rules of the road.

  The casual bicyclist will benefit from route markers, bike lanes, wider curb lanes, and educational programs. Casual bicyclists may also benefit from marked routes which lead to parks, museums, historic districts, and other visitor destinations.

Experienced bicyclists include those who prefer the most direct, through route between origin and destination, and have a preference for riding within travel lanes. Experienced bicyclists negotiate streets in much the same manner as motor vehicles, merging across traffic to make left turns, and avoiding bike lanes and shoulders at times due to debris such as glass. The experienced bicyclist will benefit from wider curb lanes and loop detectors at signals. The experienced bicyclist who is primarily interested in exercise will benefit from loop routes which lead back to the point of origin.

- Walking and bicycling are two of the most popular forms of recreational activity in the United States, with 84 percent of Americans walking for pleasure and 46 percent bicycling for pleasure. As shown in Table 2, the 1990 Census information indicates that about 11,930 residents over the age of ten in Ukiah would like to walk for pleasure and 6,530 would like to bicycle for pleasure. If nothing else, this indicates a latent demand for facilities and a potent constituency to push for better facilities.

**Table 2 - Demographics and Transportation**

| | |
|---|---|
| Population (1995-General Plan) | 15,783 |
| Estimated Ukiah Residents who Walk for Pleasure | 11,930 |
| Estimated Ukiah Residents who Bicycle for Pleasure | 6,530 |
| Current Bicycle Commute Mode Share (1990) | ***2%*** |
| Desired Future Bicycle Commute Mode Share | ***4%*** |
| School-related bicycle commuters | ***530*** |
| Total future bicycle commuters | ***900*** |
| Reduced Vehicle Trips/Year | ***450,000*** |
| Reduced Vehicle Miles/Year | ***810,000*** |
| Reduced PM10/lbs./Year | ***19,480*** |
| Reduced NoX/lbs./Year | ***52,785*** |
| Reduced ROG/lbs./Year | ***76,846*** |

**Recreational Needs**

The needs of recreational bicyclists must be understood prior to developing a system or set of improvements. While it is not possible to serve every neighborhood and every need, a good plan will integrate recreational needs to the extent possible. In the Ukiah region, areas such as Lake Mendocino, Low Gap Park, and Cow Mountain attract recreational bicyclists. The following points summarize recreational needs:

- Recreational bicycling typically falls in to one of three categories: exercise, non-work destination such as a park or shopping, or touring.

- Recreational users range from healthy adults to children to senior citizens. Each group has their own abilities, interests, and needs.

- Directness of route is typically less important than routes with fewer traffic conflicts, visual interest, shade, protection from wind, moderate gradients, or other features.

- People exercising or touring often (though not always) prefer a loop route rather than having to back-track.

**Commuter Needs**

Commuter bicyclists range from employees who ride occasionally to work to a child who rides to school. Millions of dollars have been spent attempting to increase the number of people who ride to work or school, with moderate success. Bicycling requires shorter commutes, which runs counter to our land use and transportation policies which encourage people to live further and further from where they work. Access to transit helps extend the commute range of cyclists, but transit systems also face an increasingly dispersed live-work pattern which is difficult to serve. Despite these facts, Ukiah has a great potential to increase the number of people who ride to work or school because of the small size of the city, moderate density residential neighborhoods near employment centers, a favorable topography and climate, and a high percentage of work trips that are less than 15 minutes.
Key commuter needs are summarized below.

- Commuter walking or bicycling typically fall in to one of two categories: adult employees, or younger students.

- Commuter trips range from several blocks to one or more miles.

- Commuters typically seek the most direct and fastest route available, with regular adult commuters often preferring to ride on arterials rather than side streets.

- Commute periods typically coincide with peak traffic volumes and congestion, increasing the exposure to potential conflicts with vehicles.

- Places to safely store bicycles are of paramount importance to all bicycle commuters.

- Major commuter concerns include changes in weather (rain), riding in darkness, personal safety and security.

- Rather than be directed to side streets, most commuting cyclists would prefer to be given bike lanes or wider curb lanes on direct routes.

- Students riding the wrong way on-street are common and account for many recorded accidents, pointing to the need for education.

## 2.5 Accident Analysis

Based on statistics provided by the City of Ukiah, there have been an average of 11 pedestrian related and 20 bicycle related accidents citywide each year for the last four years. Based on information provided by the California Highway Patrol, the expected number of accidents in Ukiah, considering the current population and average number of accidents per capita in the State, should be approximately 8 pedestrian related and 6 bicycle related accidents. These statistics are summarized below.

**Table 3 - Accident Analysis**

| | | |
|---|---|---|

| Year | Pedestrian Accidents | Bicycle Accidents |
|---|---|---|
| 1994 | 10 | 22 |
| 1995 | 18 | 18 |
| 1996 | 8 | 21 |
| 1997 (prorated) | 9 | 19 |
| *Average* | *11* | *20* |
| *Expected* | *8* | *6* |

Therefore, the City of Ukiah has a higher than average accident history for both pedestrians and especially bicyclists. The data also revealed that:

- In the majority of the pedestrian related accidents, the driver who struck the pedestrian was at fault.
- In the majority of the bicycle accidents, the bicyclist was at fault.
- The majority of the pedestrian and bicyclists who were involved in accidents were 16 years old or less.

## 2.6 Relevant Legislation and Policies

Aside from the City's own *General Plan* which identifies specific goals and policies that are relevant to the bicycle master plan, and the Circulation Element which was adopted by the City Council, there are several state, regional, and federal requirements for master plans which are primarily related to funding. Mendocino County has its own bicycle master plan.

Caltrans has historically played an oversight and review role for Federal ISTEA (Intermodal Surface Transportation Efficiency Act) funding programs for bicycle projects. ISTEA II was recently re-authorized and provides many of the same programs oriented to bicycle facilities as did ISTEA--possibly with even more money being available. All of these bicycle funding programs require approval of a Bicycle Master Plan with specified elements in order to qualify for the program.

On a state level, according to the California Bicycle Transportation Act (1994), all cities and counties should have an adopted bicycle and pedestrian master plan that contains the following.

Estimated number of existing and future bicycle commuters
Land use and population density
Existing and proposed bikeways
Existing and proposed bicycle parking facilities
Existing and proposed multi-modal connections
Existing and proposed facilities for changing and storing clothes and equipment
Bicycle safety and education programs
Citizen and community participation programs
Consistency with transportation, air quality, and energy plans
Project descriptions and priority listings
Past expenditures and future financial needs

In addition to these required elements, the *Caltrans Highway Design Manual* contains specific design

guidelines. Chapter 1000: Bikeway Planning and Design of the Manual sets the basic design parameters for on-street and off-street bicycle facilities, including mandatory design requirements.

## 2.7 Bicycle Parking

Bicycle parking includes bike racks, lockers, and corrals. Racks are low cost devices that typically hold about eight bicycles, allow bicyclists to securely lock their frames and wheels, are secured to the ground, and are located in highly visible areas. Bike lockers are covered storage units that typically accommodate one bicycle per locker, and provide additional security and protection from the elements. Bike racks are most often found in commercial areas where regular commuters can take advantage of the multi-modal connections and feel safe in leaving their bicycle. Bike corrals can be found at schools, special events, and other locations, and typically involve a movable fencing system that can safely store numerous bicycles. Security is provided by either locking the enclosure or locating it near other activities so that it can be supervised. A field review of Ukiah revealed bike racks for bicyclists at parks and schools. Most of the racks are in fenced corral areas at schools, and appear to be used by students. Otherwise, bicyclists visiting stores, restaurants, places of employment, medical facilities and community facilities are largely left to their own devices to temporarily store their bicycles.

## 2.8 Transit Center

There has been considerable interest in planning the future development of historic railroad depot property which is bounded by Perkins Street on the north, the railroad right-of-way on the west and Leslie Street on the east. The Mendocino Transit Authority is interested in developing an intermodal transportation center on a portion of the property. In order for the site to act as a focal point for transportation in the City of Ukiah and to limit the vehicular traffic impacts in and around the site, connections to pedestrian and bicycles routes are of the utmost importance. A key component to these connections is Clay Street which currently terminates on the west side of the property. There have been discussions of extending Clay Street to Leslie Street which would provide a more acceptable pedestrian and bicycle route than Perkins Street which is undesirable for these alternatives modes due to its narrow alignment and traffic flow characteristics.

## 2.9 Public Crossings

Safe pedestrian crossing of the public right of way is the most critical component of a circulation system which encourages pedestrian traffic. Along State Street and Perkins Street, there are many signalized intersections which have protected pedestrian crosswalks. However, there are a significant number of crosswalks which are unprotected either by a traffic signal or stop sign. These types of locations are the most susceptible to pedestrian crossing accidents. A field inventory of uncontrolled pedestrian crossings was conducted on all City arterial and collector streets. Locations of these crosswalk locations are shown in Figure 3. The City may wish to develop a policy to remove uncontrolled crosswalks or enhance their visibility.

## 3.0 Sidewalk Continuity

There are many small missing sections of sidewalk within the City of Ukiah due to undeveloped lots. These gaps in sidewalk disturb the continuity of pedestrian travel and discourage some walking trips. A field

Figure 3

inventory was conducted on all City arterial and collector streets. Locations along these streets which had missing sections of sidewalk are shown in Figure 3. The most notable gaps were on State Street near the Fairgrounds, on Main Street near the Grace Hudson Museum, and on Perkins Street over the U.S. 101 interchange.

## 3.1 Shade Trees

Although many of the historical neighborhoods, west of State Street, have significant numbers of shade trees, there are other neighborhoods and areas of downtown in which shade trees are not provided. Given the hot temperatures in Ukiah during the summer months, shade trees provide cooler area to pedestrians to walk.

# 3.0 Circulation Strategy

## 3.1 Bicycle Circulation Strategy

The recommended bicycle circulation strategy consists of a system of routes, lanes, and paths connecting residential neighborhoods in Ukiah with the schools, parks, library, downtown, and other destinations. The proposed bikeway system is shown in the attached Figure 4.

The proposed Ukiah Bikeway system is characterized by a primary north-south Class I Bikeway on the Northwestern Pacific Railroad right-of-way within the City limits, a primary north-south system of Class II bike lanes on Dora and Bush Streets, and a series of improved east-west bikeway connectors on Perkins, Gobbi, and Talmage Streets. Class III bike route improvements will include intersection protection where needed, wider curb lanes where possible, shoulder striping where feasible, and signing. Finally, new bicycle support facilities (such as racks and lockers) and programs which are proposed for the City are detailed later in this report.

The top bikeway projects were selected by staff, the public, and bikeway specialists based on their local knowledge and cycling experience, the orientation of funding programs, and the planning criteria outlined in the Master Plan (coverage, connectivity, user groups, implementation, local input, funding sources). The scoring mechanism for selecting the top priority corridors is shown below.

## 3.2 Creating a Bikeway System

A bikeway 'system' is a network of bicycle routes that, for a variety of reasons including safety and convenience, provide a superior level of service for bicyclists and/or are targeted for improvements by the City due to existing deficiencies. It is important to recognize that, by law, bicyclists are allowed on all streets and roads regardless of whether they are a part of the bikeway system. **The bikeway system is a tool that allows the City to focus and prioritize implementation efforts where they will provide the greatest benefit to the bicycling community.**

There is an established methodology which is typically used for selecting a bikeway system for any community. The primary method is to receive input from the local bicycling community and local staff familiar with the best routes and existing constraints and opportunities. Input can be received through a variety of means, but typically is through the public workshop format. Public workshops were held in Ukiah on May 20, 1998 and August 27, 1998, where citizens were asked to identify the routes they regularly ride plus corridors they saw as either opportunities or constraints.

The following criteria are typically used to develop a bicycle system:

Figure 4

- Existing Bicycling Patterns
- Connectivity
- Traffic volumes and travel speeds
- Amount of side friction (driveways, side streets)
- Curb-to-curb width
- Pavement condition
- Access from residential areas
- Number of destinations served (schools, parks, employment centers)
- Topography
- Integration into the regional system
- Adjacent land use
- On-street parking
- Accident data and safety concerns
- Existing bottlenecks or constraints
- Existing opportunities such as planned roadway improvements
- Shading of routes where feasible

The Ukiah bikeway system was developed with a focus on connecting existing segments of bike lane, addressing routes used by bicyclists, and specific opportunities (such as the Northwestern Pacific Railroad ROW) and constraints (such as State Street and Perkins Street). The grid street pattern offers several distinct through corridors which connect residential areas with activity centers such as downtown, schools, and parks.

Once a bikeway system has been identified, the greatest challenge is to identify the segments that will offer the greatest benefit to bicyclists in the next five years. Aside from the criteria used in developing the system as a whole, selection of these top projects was based on the following.

(1) The number of schools served;
(2) The number of recreational centers served. If the segment is a Class I bike path, the pathway itself may qualify as a recreational destination.
(3) The number of employment centers served;
(4) The number of areas where bicycle safety is addressed, i.e., corridors with high traffic volumes and narrow travel lanes; and
(5) Segments which help overcome existing gaps in the bicycling system.

Table 4 provides a summary of this scoring system for each of the proposed corridors.

**Table 4**
**Ranking of Bicycle Improvements**

| Corridor | Schools | Recreation | Employment | Safety | Connectivity | Total |
|---|---|---|---|---|---|---|
| Clay-Peach-Gibson Creek | 1 | 1 | 2 | 2 | 2 | 8 |
| Crosstown (Grove-Pine...) | 1 | 2 | 0 | 0 | 1 | 4 |
| Dora-Bush (new only) | 1 | 1 | 0 | 0 | 1 | 3 |
| Empire | 1 | 0 | 0 | 0 | 0 | 1 |
| Gobbi | 2 | 1 | 1 | 2 | 1 | 7 |
| Main Street | 0 | 0 | 2 | 2 | 1 | 5 |
| North State | 0 | 0 | 2 | 1 | 2 | 5 |
| NWP | 0 | 3 | 2 | 2 | 2 | 9 |
| Oak Manor-River | 1 | 1 | 0 | 1 | 0 | 3 |
| Orchard-Brush | 1 | 0 | 2 | 1 | 2 | 6 |
| Orr Creek | 2 | 3 | 0 | 0 | 0 | 5 |
| South State | 0 | 0 | 0 | 2 | 2 | 4 |
| Washington-Talmage | 1 | 0 | 1 | 1 | 2 | 5 |
| West (Helen-Gardens...) | 3 | 1 | 2 | 0 | 0 | 6 |

Criteria
schools = number of schools within 2 blocks
recreation = number of parks within 2 blocks, plus 2 points per mile of recreational trail
employment = 2 points per employment center served
safety = 1-2 points for safety concerns resolved
connectivity = 1-2 points for gap closure projects

Finally, it is important to remember that the bikeway system and the top projects are flexible concepts that serve as guidelines to those responsible for implementation. The system and segments themselves will change over time as a result of changing bicycling patterns and implementation constraints and opportunities.

## 3.3 Description of Proposed Bikeway Improvements

Using the scoring mechanism detailed in Table 4, the top priority short term projects in Ukiah are as follows.

| Ranking | Bikeway Project | Limits |
|---|---|---|
| **1** | **Northwestern Pacific Rail Trail** | **City limits** |
| **2** | **Clay-Peach-Gibson Creek Corridor** | **Oak Manor to McPeak** |
| **3** | **Gobbi Corridor** | **Riverside Park to Dora** |
| **4** | **Western Bikeway (Helen-Gardens-McPeak-Barnes-Todd-Hazel-Grove-Spring)** | **Washington to High School** |
| **4** | **Orchard-Brush Corridor** | **Gobbi to High School** |

These five projects meet immediate needs in Ukiah, help overcome existing barriers, serve virtually all of the City's activity centers, and link all four quadrants of the community. Each project is presented on its own

Project Sheet, which provides key information on the proposal including cost, location, and sample cross sections. The Project Sheets are designed to be used as a direct resource and addendum to funding applications.

A short description of each project is presented below and shown in Figure 4. A detailed description of how bike lane or route treatments were selected is presented in the Implementation chapter.

**Clay Street - Peach Street - Gibson Creek Corridor (Oak Manor Drive to McPeak Street)**
This corridor was identified as an alternative to the Perkins Street corridor, and would require an access across the old NWP station redevelopment site plus a new railroad crossing. Bike lanes can be striped on Clay Street by narrowing the travel lanes to 10 feet in width, assuming parking is allowed on one side only from approximately Dora Street eastward. Bike lanes could not be provided on Peach Street without eliminating parking on one side of the street, and are not warranted based on the low traffic volumes. A paved pathway from Peach Street along Gibson Creek already exists, leading to a pedestrian bridge over U.S. 101. Currently, there is an informal path through the back of the school property. The pathway should be improved and extended on the east side of U.S. 101 to Oak Manor Park.

**Dora Street - Bush Street Corridor (Meadow Brook to Feed Lot Lane)**
Bike lanes already exist along this corridor within City limits. New bike lanes are proposed to be extended south to Meadow Brook, where bicyclists can transition over from South State Street. These new lanes will provide an alternative to using South State Street in the southern part of Ukiah. Parking will need to be eliminated on one side of Dora Street south of the City limits, which should have a minimal impact on residential neighbors due to the extremely low utilization.

**Empire Drive Corridor (Despina Drive to North State Street)**
Low traffic volumes mean that this could be a Class III bike route. If bike lines were desired, parking would need to be eliminated on one side of the street between Bush Street and North State Street.

**Gobbi Street Corridor (Riverside Park to Dora Street)**
Bike lanes are already provided between South State Street and U.S. 101. Bike lanes could be extended to Dora Street by eliminating parking on one side of the street between South State Street and Oak Street with relatively minimal impact. Bike lanes could be extended westward from U.S. 101 to Gobbi Street Riverside Park with some pavement work.

**Grove Avenue - Pine Street - Scott Street - Norton Street - Clara Avenue Corridor**
This cross city route is on streets with lower traffic volumes and is recommended as a Class III bike route. Class II bike lanes were considered for Clara Avenue, however, the addition of bike lanes would require the removal of parking on one side of the street. Also, traffic calming measures were previously installed on Clara Avenue which help to control speeds and reduce traffic volumes and make bicycling in a Class III corridor more appropriate. Therefore, Class II bike lanes are not recommended for Clara Avenue.

**Main Street Corridor (Gobbi Street to Norton Street)**
This alternative to State Street will serve as a Class III bike route. The route is only one block west of the NWP rail trail, however, and might be redundant.

**North State Street (Norton Street to City Limits)**
The current configuration will not allow bike lanes or shoulders without eliminating parking or travel lanes, which is probably unlikely given the commercial uses in this area. Cyclists arriving from the north should be directed to the NWP Rail Trail (via Ford Road) or the Dora Street - Bush Street Corridor via Empire Drive.

**Northwestern (NWP) Pacific Rail Trail (Ford Road to Norgard Lane)**
The bike path should be located on the west side of the tracks within the railroad right-of-way, and set back approximately 25 feet from the centerline of the tracks within the 80 foot right-of-way. While referred to by its historical name, the NWP right-of-way is actually owned by a public agency. Access across the tracks onto the rail trail from the east will be at established crossings. Any new crossings will require California Public Utilities Commission approval.

**Oak Manor Drive - Babcock Lane Corridor (Talmage Road to Perkins Street)**
Traffic volumes on Oak Manor Drive and Babcock Lane do not warrant bike lanes, but the presence of school children may make them a desirable element. On-street parking would need to be eliminated on one side of the street, possibly between 8:00 a.m. and 5:00 p.m. on weekdays only.

**Orchard Avenue - Brush Street (Gobbi Street to Ukiah High School)**
This route will allow bicyclists to bypass the busy downtown area and connect directly to existing bike lanes on Low Gap Road once the Brush Street extension to Orchard Avenue is completed. It is recommended that Orchard Avenue be restriped to provide two 5-foot bike lanes with two 8 foot parking lanes, and two 10.5 foot travel lanes south to Gobbi Street and north to Ford Street (or similar lane widths as determined appropriate by the City Engineer). It is assumed that the Brush Street Extension will be constructed to a 46 foot or 48 foot curb-to-curb cross section with 5 foot bike lanes. Brush Street between the extended section and North State Street will need to be widened from its current 22 foot to 30 foot width to at least 48 feet (with parking and bike lanes) or 32 feet (bike lanes, no parking). The priority for this route would depend on the completion of the extension and bride over Orr Creek. An alternative to this plan would be to convert the existing narrow bridge on Orr Street to a pedestrian/bicycle only bridge when then Brush Street extension is complete.

**Orr Creek Pathway (Bush Street and Pomolita School to Ukiah High School)**
This unpaved pathway already exists along the south side of Orr Creek from Bush Street to an existing bridge near the ball fields. A new path from the bridge, south to Spring Street would also provide a connection to the Western Bikeway. From Orr Creek to the north, a new pathway could be provided along the western edge of the ball fields and then north near the Little League field to Low Gap Road. The Juvenile Hall recently installed a fence which may obstruct this route. Details regarding mitigation required to circumvent this fence could be worked out during the design phase.

**Perkins Street Corridor (Orchard Avenue to Dora Street)**
Bike lanes could be provided by providing two travel lanes and a center turn lane instead of four travel lanes, although the impact on traffic is not known. A 3 foot shoulder could be provided while maintaining the four travel lanes and two 5 foot sidewalks on each side, but one of the curbs would need to be moved 2 feet. However, it is recommended that in order to provide bike lanes, the City should acquire 4 feet of additional right-of-way, provide four 11 foot travel lanes, two 4 foot bike lanes, and two 6 foot sidewalks with a planting strip. Bike lanes can be striped on Perkins Street from Orchard Avenue east over the U.S. 101 overpass to Oak Manor Drive. There may be some potential conflicts at the U.S. 101 southbound off-ramp due to restricted sight distance.

Implementation of the Clay Street - Peach Street Corridor about three blocks south of Perkins Street would lessen the short term need for bike lanes on Perkins Street.

**South State Street Corridor (Washington Avenue to Norgard Lane)**
Northbound cyclists should be diverted to either Dora Street or the NWP Rail Trail as they approach Ukiah. South State Street cannot provide bike lanes or wider curb lanes without reducing lane widths to less than 12 feet or eliminating a parking lane, both of which are unlikely given traffic volumes and commercial uses on

the corridor.

**Washington Avenue - Talmage Road Corridor (U.S. 101 to Helen Avenue)**
The Washington Avenue - Talmage Road corridor is the southern most east-west corridor for bicyclists in Ukiah, and provides access to a popular rural route leading east out of town. Bike lanes on Talmage Road would require eliminating a parking lane between U.S. 101 and Waugh Lane, and expanding the pavement from 30 feet to 32 feet (with no parking) between Waugh Lane and South State Street. Talmage Road is identified as a Class III bike route at least until the mid- to long-term in this plan. Washington Avenue can serve as a Class III connector bike route due to the lower traffic volumes and requirement to eliminate parking on one side to provide a bike lane. A potential alternative would be an independent Class I route on the City-owned property adjacent and to the south of Talmage Road.

**Western Bikeway (Helen Avenue/Gardens Avenue/McPeak Street/Barnes Street/Todd Road/Hazel Avenue/Grove Avenue/Spring Street)**
This network of streets would be a Class III bike route due to the low traffic volumes and would lead to the Orr Creek Pathway. Traffic calming devices could be used to make the streets more bicycle-friendly.

## 3.4 Bicycle Parking and Other Support Facilities

Bike racks are typically provided at local schools in Ukiah, but overall the lack of safe and secure bicycle parking is a concern of bicyclists who may wish to ride to work or shops in town. Theft and vandalism of bicycles, especially now that bicycles are often worth in excess of $500, is a major impediment to bicycle riding. Bicycle parking includes standard bike racks, covered lockers, and corrals. A systematic program to improve the quality and increase the quantity of bicycle parking facilities is required in Ukiah. The proposed performance standards to supplement grant programs is presented in the following recommendations.

*Recommendation #1:*

*Bike racks and lockers should be provided at all public destinations, including the community center, parks, schools, and public buildings which do not already have racks. All bicycle parking should be in a safe, secure, covered area (if possible). Commuter locations should provide secure indoor parking, covered bicycle corrals, or bicycle lockers. A program to fund and install these facilities should be started as a joint-agency project in Ukiah .*

*Recommendation #2:*

*All new commercial development or redevelopment projects shall comply with the zoning standards for bicycle parking. All bicycle racks should be located in safe, secure, covered areas, be anchored to the ground, and allow bicycles to lock both frame and wheels. Figures illustrating the recommended Class I (bike locker) and Class II (bike rack) configurations are included in Appendix C.*

*Recommendation #3:*

*Bicycle parking locations in downtown and other employment areas (such as parking lots) where centralized public covered bicycle parking identified in this plan should be installed. These facilities may charge a small user fee and/or be subsidized by nearby employers.*

*Recommendation #4:*

*A special program to construct bicycle corrals at all elementary schools, the middle school, and the high*

*school in Ukiah should be initiated. These simple enclosed facilities are locked throughout the school day and address the theft and vandalism concerns of students.*

## 3.5 Description of Proposed Pedestrian Improvements

A short description of each project is presented below. Locations for these projects are shown in Figure 5.

**Downtown Pedestrian District** - Downtown Ukiah already provides a streetscape and building scale which encourages and serves pedestrian travel. The streets are generally narrow with building placement close to the street. Activities generated by the County Courthouse and downtown businesses result in a high level of pedestrian vitality. However, there are improvements which could be made to strengthen this vitality. Following is a list of pedestrian improvements which could be made in the downtown pedestrian district.

- Replace the existing interior red painted crosswalks with a colored stamped concrete material.
- Ensure clear paths on sidewalks for pedestrians by removing or relocating street furniture, mailboxes, and other related objects which may present obstacles.
- Install street trees at intersections which are different in color than other street trees to act as a visual cue to the driver of an intersection approaching.
- Bulb-out corners at intersections to reduce crossing distances for pedestrians.
- Ensure the proper maintenance of sidewalks.
- Provide shade trees where there are significant gaps in existing trees.
- Provide lighted walkways in key areas of downtown.
- Install additional bicycle parking racks throughout the downtown activity areas.

**Arterial Street Crossing Program** - Outside of the downtown area where street widths present more of a "friendly" atmosphere for the pedestrian, street widths tend to be a challenge for pedestrians, especially on State Street. The Existing Conditions section noted a large number of uncontrolled pedestrian crossings throughout the City. Many of these crosswalks are on State Street, Dora Street, and Bush Street, where these streets are very wide. There has been a recent trend nationwide of removing crosswalks at uncontrolled intersections based on the notion that the striping gives pedestrians a false sense of security and leads to a higher accident rate. This theory, which is based on a study in the City of San Diego in the 1970's, is currently being re-studied at the federal level. Given this consideration, it is recommended that a series of enhanced crosswalk designs replace the existing crosswalk striping on State Street, Dora Street and Bush Street. The design would consist of the following.

- removal of parking near the intersection to provide bulbouts at either end of the crosswalk
- street trees or standard monument to demarcate crosswalk location
- median refuge island where feasible
- added street lighting at key crossing locations
- installation of pavement flashing lights activated automatically when pedestrian breaks entry beam
- 12-foot wide crosswalks with zebra striping pattern (A copy of the Manual on Uniform Traffic Control Devices (MUTCD) and Caltrans standards are included in Appendix B. It should be noted that 6-foot

Figure 5

wide crosswalks are considered adequate according the MUTCD, however, most jurisdictions use a standard of 12-feet from outside edge to outside edge.)

***It should be noted that State Street is a high priority area for these improvements.***

**Missing Links -** As shown in the existing conditions section, there are many sidewalks with gaps or "missing links." These missing sidewalk sections generally have a significant impact in discouraging pedestrian trips no matter how short the length. The City should conduct a sidewalk installation program which targets these missing links.

**Pedestrian Street Enhancements -** In order to connect the most vital pedestrian activity area, the downtown, with other activity centers in the City of Ukiah, a number of corridors should be enhanced with pedestrian facilities to create pedestrian friendly corridors. The corridors consist of State Street, Low Gap Road, Bush Street, Dora Street, Perkins Street, Talmage Road and the proposed Clay Street - Peach Street - Gibson Creek Corridor proposed as a bike route. Design enhancements would consist of the following.

- ADA Ramps
- 6 to 8 foot wide sidewalks
- some buffering between vehicles and pedestrians such as bike lanes, parking or landscaping
- continuous sidewalks
- standard street trees for shade with feature trees at intersections
- wider crosswalks (12 feet edge to edge) with zebra striping pattern
- demand responsive pedestrian calls where traffic signals exist
- adequate street lighting
- removal of utility poles and other impediments

It should be noted that some of these streets already have some of the amenities, therefore, the extent of the modification would depend on the state of the existing street. The inclusion of street trees may be one of the more critical elements since they would create shade which would make walking trips more acceptable during hot weather. ***State Street is a high priority area for these improvements.***

As part of the pedestrian street enhancements, create a **Todd Grove Park Pedestrian Loop.** Provide a pedestrian path around Todd Grove Park either through the use of pavement striping and/or barrier separating the path from the parking and travel lanes.

## 3.6 Bicycle and Pedestrian Safety Education Programs

The Ukiah Bicycle Master Plan provides both physical recommendations (such as bike lanes) and program recommendations. Some of the program recommendations, such as changes in zoning requirements for bicycle parking, have already been covered. This section covers future efforts to educate bicyclists and motorists, and efforts to increase the use of bicycles as a transportation alternative.

### *3.6.1 Education*

The Ukiah Unified School District, Ukiah Police Department, and the City of Ukiah Department of Public Works have a long history of trying to improve safety conditions for bicyclists and pedestrians. Despite these efforts, the lack of education for bicyclists, especially younger students, is a leading cause of accidents. For example, the most common type of reported bicycle accident in California involves a younger person (between 8 and 16 years of age) riding on the wrong side of the road in the evening hours. Studies of accident locations around California consistently show the greatest concentration of accidents are directly adjacent to

elementary, middle, and high schools. Many less-experienced adult bicyclists are unsure how to negotiate intersections and make turns on city streets.

Motorist education on the rights of bicyclists and pedestrians is virtually non-existent. Many motorists mistakenly believe, for example, that bicyclists do not have a right to ride in travel lanes and that they should be riding on sidewalks. Many motorists do not understand the concept of 'sharing the road' with bicyclists, or why a bicyclist may need to ride in a travel lane if there is no shoulder or it is full of gravel or potholes.

Existing education programs in schools are generally taught once a year to 3rd, 4th, and 5th graders. The curriculum is generally derived from established programs developed by groups such as the California State Automobile Association, and taught by members of the Ukiah Police Department. Budget cuts, demands on students' time, and liability concerns limit the extent of bicycle education to school children. Formal adult bicycle education is non-existent.

*Recommended Program: Expand Current Education Programs*

Existing educational programs in Ukiah schools should be expanded and supported by a secure, regular funding source. A Joint City/School District Safety Committee should be formed consisting of appointed parents, teachers, administrators, and police and public works staff who are responsible for identifying problems and solutions, ensuring implementation, and submitting recommendations to the School Board or City Council.

*Recommended Program: Develop New Educational Program Materials and Curriculum.*

Education materials should be expanded to promote the benefits of bicycling, the need for education and safety improvements, the most recent educational tools available in the country (including the use of low-cost safety videos), and directives to parents on specific school drop-off procedure directed by their particular school. Educational pamphlets for children should be made more readable. Incentive programs to reward good behavior should be developed. Educational programs, and especially on-bike training, should be expanded to more grades and for more hours per year. The education curriculum should, at a minimum, cover the following lessons:

- on-bike training or bicycle 'rodeos'
- how to adjust and maintain a bicycle
- night riding (clothes, lights)
- rules of the road
- restriction of riding on sidewalks
- how to negotiate intersections
- riding defensively
- use of hand signals

A standard safety handbook format should be developed incorporating the best elements of those currently in use, and made available to each school on disk so they may be customized as needed. Each school should develop a circulation map of the campus and immediate environs to include in the handbooks, clearly showing the preferred circulation and parking patterns and explaining in text the reason behind the recommendations. This circulation map should also be a permanent feature in all school newsletters. Bicycle helmet subsidy-programs are available in California, and should be used to provide low-cost approved helmets for all school children who ride bicycles.

*Recommended Program: Develop an Adult Education Program.*

Establish an adult bicycle education program through the Parks and Recreation Department, or other City departments that teaches adults how to ride defensively, how to ride on a variety of city streets, and encourages adults to feel more confident to ride to work or for recreation. Work with local bicycling groups who could provide the training expertise, and possibly lead organized bicycle training sessions, tours and rides.

*Recommended Program: Educate Motorists*

Educate motorists about the rights and characteristics of bicyclists through a variety of means including: making bicycle safety a part of traffic school curriculum in Ukiah , producing a brochure on bicycle safety and laws for public distribution, enforcing existing traffic laws for both motorists and bicycles, sending an official letter to the Department of Motor Vehicles recommending the inclusion of bicycle laws in the drivers license exam, and installing signs that read 'Share the Road' with a bicycle symbol at least every 1,000 feet along all routes of the proposed primary system where bike lanes are not feasible, travel lanes are under 14 feet wide, and ADTs exceed 20,000.

*Recommendation: Identify School Commute Routes*

This plan has identified many routes which will benefit school children who choose to walk or bicycle to school. However, each school needs to conduct its own evaluation of school commute patterns and work with the City in identifying crossing and corridor improvements. Identifying and improving routes for children to walk or bicycle to school is one of the most cost effective means of reducing morning traffic congestion and addressing existing safety problems. Most effective school commute programs are joint efforts of the school district and city, with parent organizations adding an important element.

Develop a tool that can be used to evaluate safety conditions on school commute corridors to determine if conditions are within acceptable bounds. This can be done using state or City accident data, surveys of parents on their school commute habits, surveys of students who walk or ride to school, and other sources. Develop specific thresholds by which meaningful comparisons can be made.

Develop a toolbox of measures that can be implemented by the school district and City to address safety problems. This may include maps of preferred school commute routes, warning signs, enhanced education, additional crossing guards, signal treatments (longer cycles, pedestrian activated buttons, etc.), enhanced visibility at key locations (lighting, landscaping abatement), crosswalks, bike lanes, and other measures.

*Recommended Program: Develop School Commute Route Improvement Plan*

## 3.7 Community and Employer Outreach

**Without community support, a bicycle and pedestrian plan lacks the key resources that is needed to ensure implementation over time.** While the City Public Works Department may be responsible for designing and constructing physical improvements, strategies for community involvement will be important to ensure broad-based support, which translates into political support, and can help secure financial resources. Involvement by the private sector in raising awareness of the benefits of bicycling and walking range from small incremental activities by non-profit groups to efforts by the largest employers in the City. Specific programs are described below.

### *3.7.1 Bicycle Donation Program*

A fleet of lender bicycles available to employees to use as a commute alternative has proved successful in Portland and other U.S. cities. The bicycle may be purchased new or obtained from police auctions, repaired, painted and engraved with ID numbers, and made available free of charge to employees. Depending on demand, bicycles may be made available through reservations or on a rotating basis. The bicycles themselves should be lower-end heavy-duty bicycles that have minimal re-sale value. Employers' responsibilities would be limited to an annual maintenance inspection and repairs as necessary. The objective of the program is to encourage employees to try bicycling to work as an alternative, without making a major investment. Employers may wish to allow bicycle commuters to leave 15 minutes early from work, or some other type of incentive to encourage use of the bicycles. It is recommended that the City of Ukiah (all Departments) be the first to try this program, and to encourage private employers to follow suit by offering TDM (Transportation Demand Management) credits or subsidized purchases of bicycles.

### *3.7.2 Bicycle Clunker and Parts Program, Bicycle Repair Program*

This program ties directly into the previous program by obtaining broken, stolen, or other bicycles and restoring them to working condition. The program's dual mission is also to train young people (ages 12-18) how to repair bicycles as part of a summer jobs training effort. Bicycles are an excellent medium to teach young people the fundamentals of mechanics, safety, and operation. Young people can use these skills to maintain their own bicycles, or to build on related interests. The program is often staffed by volunteers from local cycling organizations and bicycle shops, who can help build an interest in bicycling as an alternative to driving. The seed money to begin this program often comes from a local private funding source. The proposal submitted to this source should clearly outline the project objectives, operating details, costs, effectiveness evaluation, and other details. The bicycles themselves could be derived from unclaimed stolen bicycles from the police department, or from donated bicycles. The program will need to qualify as a Section 501C(3) non-profit organization to offer tax deductions.

### *3.7.3 Bicycle Facilities Map*

Work with the Parks & Recreation Department, the School District, Chamber of Commerce, and local businesses to produce a bicycle/walking map that shows existing and recommended touring and commuting bicycle routes, access to regional mountain bike trails, historic walking tours, and school commute routes. The map could be distributed at local bike shops, bus stops, the Chamber of Commerce, shopping centers, public buildings and local tourist oriented businesses.

### *3.7.4 Community Adoption*

Programs to have local businesses and organizations 'adopt' a pathway such as the Northwestern Pacific Bikeway have proven effective around the country, similar to the adoption of segments of the Interstate Highway system. Supporters would be identified by small signs located along the pathway, acknowledging their contribution. Support would be in the form of an annual commitment to pay for the routine maintenance of the pathway, which in general costs about $8,500 per mile for weed abatement, trash pickup, path sweeping and some landscape care. This program may be administered by the Parks and Recreation Department or other groups.

### *3.7.5 Bike Fairs and Races*

The City is well positioned to capitalize on the growing interest in on-road and off-road bicycle races. Events would need to be sponsored by local businesses, and involve some promotion, insurance, and development of adequate circuits for all levels of riders. It is not unusual for these events to draw up to 1,000 riders, which could bring some additional expenditures into the town.

The City can assist in developing these events by acting as a co-sponsor, and expediting and possibly underwriting some of the expense of, for example, police time. The City should also encourage these events to have races and tours that appeal to the less experienced cyclist. For example, in exchange for underwriting part of the costs of a race the City could require the event promoters to hold a bicycle repair and maintenance workshop for kids, short fun races for kids, and/or a tour of the route lead by experienced cyclists who could show less experienced riders how to safely negotiate city streets.

### *3.7.6 Employer Incentives*

Beyond programs described earlier such as the Bicycle Donation Program, employer incentives to encourage employees to try bicycling or walking to work include sponsoring bike fairs and races, providing bicycle lockers and shower facilities, and offering incentives to employees who commute by bicycle or walk by allowing for more flexible arrival and departure times, and possibly paying for transit or taxis during inclement weather. The City may offer incentives to employers to institute these improvements through air quality credits, lowered parking requirements, reduced traffic mitigation fees, or other means.

## 3.8 Other Safety Improvements

In addition to the education actions listed above and the proposed bicycle and pedestrian system improvements, the following miscellaneous actions address a variety of needs and deficiencies.

- Standard pedestrian crossing symbols, equipment, and timing at traffic signals.
- Standard (12- foot wide edge to edge ) crosswalks
- Bright yellow-green high visibility pedestrian school crossing signs
- Use of medians and bulbouts at uncontrolled crosswalks
- Minimize crossing distance
- Program to relocate mailboxes, signs and poles to provide adequate sidewalk width
- ADA Ramps

# 4.0 Range of Design and Performance Standards

This chapter provides details on the recommended design and operating standards for the Ukiah Bikeway and Pedestrian System.

## 4.1 Existing Bicycle Design Standards and Classifications

National design standards for bikeways have been developed by the American Association of Highway and Transportation Officials (AASHTO) and the California Department of Transportation (Caltrans). The Caltrans *Highway Design Manual,* Chapter 1000: Bikeway Planning and Design, serves as the official design standard for all bicycle facilities in California. Design standards in Chapter 1000 fall into two categories, mandatory and advisory. Caltrans advises that all standards in Chapter 1000 be followed, which also provides a measure of design immunity to the City. Not all possible design options are shown in Chapter 1000. For example, intersections, ramp entrances, rural roads, and a variety of pathway locations are not specified in the *Highway Design Manual*.

The following section summarizes key operating and design definitions.

- **Bicycle** A device upon which a person may ride, propelled exclusively by human power through a belt, chain, or gears, and having either two or three wheels in tandem or tricycle arrangement.

- **Class I Bikeway** Variously called a bike path or multi-use trail. Provides for bicycle travel on a paved right of way completely separated from any street or highway.

- **Class II Bikeway** Referred to as a bike lane. Provides a striped lane for one-way travel on a street or highway.

- **Class III Bikeway** Referred to as a bike route. Provides for shared use with pedestrian or motor vehicle traffic.

Graphic descriptions of Class I, II, and III bikeways are shown in Appendix D.

## 4.2 General Design Recommendations

*4.2.1 Conform to Caltrans Design Guidelines for All Bikeways*

1. All designated Class I, II, or III bicycle facilities should conform to the *Highway Design Manual* Chapter. Where facilities do not meet this criteria, they should not be referred to as a Class I, II, or III bike facility.

## 4.3 Class I, II and III Bikeway Design Guidelines

The following guidelines present the recommended minimum design standards and ancillary support items for Class I bike paths (also referred to as multi-use trails), Class II bike lanes, and Class III bike routes.

*4.3.1 All Class I bike paths should generally conform to the design recommendations included in Appendix D.*

1. Multi-use trails and unpaved facilities that serve primarily a recreation rather than a transportation function and will not be funded with federal transportation dollars may not need to be designed to Caltrans standards.

2. Class I bike path crossings of roadways require preliminary design review. A prototype design in presented in Appendix D. Generally speaking, bike paths that cross roadways with ADTs over 20,000 vehicles will require signalization or grade separation. No multi-use trails are proposed to cross a major arterial with ADTs over 20,000 vehicles in Ukiah.

3. Landscaping should generally be low water native vegetation.

4. Lighting should be provided where the bike path will be used by commuters.

5. Barriers at pathway entrances should be clearly marked with reflectors and ADA accessible (minimum 5 feet of clearance).

6. Bike path construction should take into account impacts of maintenance and emergency vehicles on shoulders and vertical requirements.

7. Provide 2 foot wide unpaved shoulders for pedestrians/runners, or a separate tread way where feasible. Direct pedestrians to right side of pathway with signing and stenciling.

8. Provide adequate trailhead parking and other facilities such as restrooms, drinking fountains and appropriate locations.

*4.3.2: All Class II bike lanes should generally conform to the design recommendations in Appendix D.*

1. Caltrans provides recommended intersection treatments in Chapter 1000 including bike lane 'pockets' and signal loop detectors. The Department of Public Works should develop a protocol for the application of these recommendations, so that improvements can be funded and made as part of regular improvement projects. Figures illustrating Class II Bike Lanes at Intersections and Recommended Right Turn Channelization included in Appendix C provide details for recommended intersection treatments.

2. Signal loop detectors should be considered for all arterial/arterial, arterial/collector, and collector/collector intersections. The location of the detectors should be identified by a stencil of a standard bicycle symbol.

*3.* Bike lane pockets (minimum 4 feet wide) between right turn lanes and through lanes should be provided wherever available width allows, and right turn volumes exceed 150 motor vehicles/hour.

## 4.4 Other Facilities

In addition to the criteria established by Caltrans, there are a variety of improvements which will enhance the safety and attraction of streets for bicyclists.

*Bicycle Boulevards*. Palo Alto pioneered the concept of a bicycle boulevard, which in that city is a street directly parallel to a major commercial corridor that was designed to promote bicycle movement and discourage through vehicle movement. This was achieved by partial street closures and lack of coordinated signals. In addition, wider curb lanes and frequent signing as a 'Bicycle Boulevard' helps increase the motorists' awareness. A bicycle boulevard could be justified for routes such as the Western Corridor in the future.

*4.4.1: The bicycle boulevard concept should be kept as a tool to be used by the City in the future as needed.*

*Sidewalks.* The use of sidewalks as bicycle facilities is not encouraged by Caltrans, even as a Class III bike route. There are exceptions to this rule. The California Vehicle Code states: "Local authorities may adopt rules and regulations by ordinance or resolution regarding the operation of bicycles on the public sidewalks.' (California Vehicle Code 21100, Subdivision H). Caltrans adds in Chapter 1000, "In residential areas, sidewalk riding by young children too inexperienced to ride in the street is common. With lower bicycle speeds and lower auto speeds, potential conflicts are somewhat lessened, but still exist. But it is inappropriate to sign these facilities as bikeways. Bicyclists should not be encouraged (through signing) to ride on facilities that are not designed to accommodate bicycle travel."

*4.4.2: Adopt Caltrans recommendations.*

*Traffic Calming*. This includes any effort to moderate or reduce vehicle speeds and/or volumes on streets where that traffic has a negative impact on bicycle or pedestrian movement. Because these efforts may impact traffic outside the immediate corridor, study of traffic impacts is typically required. For example, the City of Berkeley instituted traffic calming techniques by blocking access into residential streets. The impact was less traffic on local streets, and more traffic on arterials and collectors. Other techniques include installing traffic circles, intersection islands, partial street closings, 'bulb-out' curbs, pavement treatments, lower speed signal timing, and narrowing travel lanes. The City of Ukiah already has a relatively continuous street grid system with some filtering of through traffic into residential neighborhoods. Traffic circles, roundabouts, and other measures may be considered for residential collector streets where there is a desire to control travel speeds and traffic volumes but not to install numerous stop signs or traffic signals.

*Signing and Striping.* All bikeway signing in Ukiah should conform to the signing identified in the Caltrans *Traffic Manual* and/or the *Manual on Uniform Traffic Control Devices* (MUTCD). These documents give specific information on the type and location of signing for the primary bike system. A list of bikeway signs from Caltrans and the MUTCD are included in Appendix D (Recommended Bikeway Signing and Markings). Typical signing for a school commute corridor and a typical bike route sign are also shown in Appendix D.

*4.4.3: Develop a Ukiah Bikeway System logo for use on the primary network. This sign may include a bikeway numbering system that is keyed into a publicly-produced bikeway map. An example of such a sign are shown in Appendix D.*

*4.4.4: Installing bikeway signs should be a high priority, and may begin immediately on Class III bike route portions of the bikeway network. Examples of bikeway signing at signalized and unsignalized intersections and examples of bikeway warning signs are shown in Appendix D.*

*4.4.5: The City should identify locations in downtown and other employment areas where centralized public covered bicycle parking can be installed, such as parking lots. These facilities may charge a small user fee and/or be subsidized by nearby employers.*

## 4.5 Monitoring, Maintenance, and Security

*4.5.1 Monitoring*

Once the plan has been adopted, a monitoring effort is required to ensure that the recommendations are enforced over time. The following actions are recommended to achieve this.

*Action: Planning Department and Public Works Department staff shall be responsible for many of the monitoring responsibilities. They will also be responsible for coordinating with parks and recreation, police, and other departments. Alternatively, the City could create a part time transportation planner position to assume these responsibilities.*

*Action: Plan Review. All development and infrastructure improvement plans should be routed through the bicycle coordinator to ensure that bikeway segments are implemented, developer requirements are being met, and design standards adhered to.*

*Action: Accident monitoring. Bicycle-related accident data should be collected annually from the police department and evaluated to determine areas of concern.*

*Action: Marketing/Public Awareness. Public Works and Planning Staff should assist with promotional and educational events.*

*Action: Maintenance. Public Works and Planning Staff should be responsible for an annual maintenance and operations budget, coordinating with the Public Works Department. Public Works and Planning Staff should track long term bike path maintenance, schedule repairs, and respond to calls from the public or staff regarding maintenance needs.*

*Action: Funding. Public Works and Planning Staff should work closely with agencies such as Caltrans to keep abreast of funding opportunities and prepare application packages.*

*Action: Enforcement/Security. Public Works and Planning Staff should be responsible for coordinating with the police department to provide needed enforcement along bike paths. Also, problems regarding security, privacy, vandalism, and crime along bike paths should be addressed through the coordinator.*

*4.5.2 Maintenance*

The total annual maintenance cost of the primary bikeway system is estimated to be $30,600 when it is fully implemented. All of the maintenance costs are associated with the proposed bike paths, as bike lanes and routes are assumed to be maintained as part of routine roadway maintenance. Class I bike path maintenance costs are based on $8,500 per mile, which covers labor, supplies, and amortized equipment costs for weekly trash removal, monthly sweeping, and bi-annual resurfacing and repair patrols.

Maintenance access on the Class I bike path will be achieved using standard City pick-up trucks on the pathway itself. Sections with narrow widths or other clearance restrictions should be clearly marked. Class I bike path maintenance includes cleaning, resurfacing and restriping the asphalt path, repairs to crossings, cleaning drainage systems, trash removal, and landscaping. Underbrush and weed abatement should be performed once in the late spring and again in mid-summer.

*Action: Identify a reliable source of funding to cover all new Class I bike path construction. All proposed designs should be closely examined to minimize future maintenance costs.*

### *4.5.3 Security*

Security may be an issue along portions of the proposed Northwestern Pacific Rail Trail Class I bike path. The following actions are recommended to address these concerns.

*Action: Enforcement of applicable laws on the bike path will be performed by the City of Ukiah Police Department, using both bicycles and vehicles. Enforcement of vehicle statutes relating to bicycle operation will be enforced on Class II and Class III bikeways as part of the department's normal operations. No additional manpower or equipment is anticipated for Class II or III segments.*

*Action: Normal bike path hours of operation will be sunrise to sunset, unless otherwise specified.*

# 5.0 Implementation and Financing

This section identifies costs for the proposed bicycle and pedestrian improvements, plus strategies on funding and financing.

## 5.1 Project Implementation

The translation of a bikeway system map to actual improvements in the field is generally under the purview of the City Department of Public Works. Aside from meeting specific design standards for bicycle, pedestrian, and motor vehicle traffic, the Department of Public Works must consider on-street parking, drainage, pedestrian movement, signals, traffic volumes and speeds, roadway capacity and level of service, mixture of trucks, maintenance, among a variety of items. Details for the recommended design and operational standards for the Ukiah Bikeway and Pedestrian System, along with implementation guidelines for on and off-street facilities are provided in the previous section.

## 5.2 Project Cost and Funding Breakdown

Costs are separated between bicycle facilities, pedestrian facilities, and programs. A breakdown of costs for short, mid, and long term bicycle and pedestrian projects are included in Appendix E. A more detailed breakdown of proposed projects and programs costs and funding sources for the short term and mid to long term projects are presented in Tables 5 and 6. The total cost over 20 years for all short, mid and long term projects is estimated at $3 million. It is important to note that while many of the projects can be funded with federal, state, and regional transportation, safety, and/or air quality grants, others are recreational in nature and must be funded by local or private sources.

These proposed improvements are scheduled to be implemented over the next 5 - 20 years, or as funding is available. It also presents a ‘best case’ scenario for Ukiah, providing a network of bicycle facilities within the short term. Some of the more expensive projects may take longer to implement.

Tables 5 and 6 present a breakdown of projects by funding source, with the likely sequence of projects listed based on priority and sequencing in the capital improvement program. It is important to note that many of the funding sources are highly competitive, and therefore impossible to determine exactly which projects will be funded by which funding sources. Timing of projects is also difficult to pinpoint exactly, due to dependence on competitive funding sources, timing of roadway and development projects, and the overall economy.

**Table 5**
**Project Implementation Strategy**
**Short Term (Years 1-5)**

| *Project/Year* | *Project Description* | *Cost* | *Potential Funding Sources* |
|---|---|---|---|
| **1. Northwestern (NWP) Pacific Rail Trail.** (Year: 1999-2001) | New rail trail between Ford Road and Norgard Lane including landscaping, access, and crossings. | $1,070,005 | F1, F2, S1, L1, L2, L3, R1 |
| **2. Clay-Peach-Gibson Creek Corridor.** (Year: 1999-2001) | New pathway across NWP Station. Narrow Clay St. travel lanes to 10' and stripe. Improve existing pathway. | $99,526 | F2, S1, S2, S3, S4, L1, L2, L3, R1, R1 |
| **3. Gobbi Corridor.** (Year: 1999-2001) | Eliminate on street parking on one side of Gobbi between South State and Oak Street. Perform re-stripe and minor pavement work. | $47,727 | F1, S2, L1, R1 |
| **4. Western Bikeway (Helen-Gardens-McPeak-Barnes-Todd-Hazel).** (Year: 1999-2001) | Designate this network of streets a Class III bike route, install traffic calming devices. | $15,342 | F1, S2, L1, R1 |
| **5. Orchard-Brush Corridor.** (Year: 1999-2001) | Includes bike lanes on Brush St. extension to Orchard. Widen Brush St. between extension and North State St. to accommodate bike lanes. | $65,625 | L1, R1 constructed as part of new or modified roadway project |

Notes:

All projects and programs assumed to be funded by new local, regional, state, and federal sources rather than existing City of Ukiah general funds.

F1= TEA-21 (Transportation Enhancement Activities)
F2= TEA-21 (National Recreational Trails)
S1= Environmental Enhancement and Mitigation Program
S2= State Bike Lane Account
S3= Included in Larger Caltrans Project (possibly a mitigation requirement)
S4= Office of Traffic Safety Grant
L1= Transportation Development Act (Article 13)
L2= Developer Fees, Exactions, or Assessments
L3= Community Foundation Grants
R1= Air District Grants

**Table 6**
**Project Implementation Strategy**
**Mid-Long Term (Years 6-20)**

| Facilities | | | |
|---|---|---|---|
| *Projects* | *Project Description* | *Cost* | *Potential Funding Sources* |
| **A Dora-Bush Corridor.** | Extend new lanes south to Meadow Brook. Eliminate parking on one side of Dora South of the City Limits. | $120,170 | S2, L1, R1 |
| **B South State Street Corridor.** | Design and construct a Class III Route between Washington and Airport. | $5,966 | S2, L1, R1 |
| **C Empire Drive Corridor.** | Design and construct a Class III route from Despina Dr. to North State Street. | $5,682 | L1, R1 |
| **D Main Street Corridor.** | Establish Class III route as alt to State Street. | $14,700 | L1, R1 |
| **E Oak Manor Drive - River Corridor.** | Establish a bike lane for school children, eliminate parking on one side of street, stripe. | $51,286 | S4, L1 |
| **F Perkins Corridor** | Reconfigure existing travel lanes, design and construct bike lanes. | $38,352 | F1, S2, L1, R1 |
| **G Grove-Pine-Scott-Norton-Mason-Clara Corridor.** | Design and construct Class III bike routes. | $51,137 | S2, L1, R1 |
| **H Washington Avenue - Talmage Road Corridor.** | Eliminate parking between U.S. 101 and Waugh Lane, expand pavement to 32' to accommodate bike lanes on Talmage. Establish Class III Route on Washington. | $15,980 | S2, L1, R1 |
| **I Orr Creek Pathway.** | Design, improvements to existing pathway, construct connections. | $60,000 | F2, S1, S4, L3, R1 |
| **J Despina Lane** | Re-strip for bike lanes on both sides of street | $18,750 | S2, L1, R1 |
| | | | |

| | | | | |
|---|---|---|---|---|
| **K** | **Spring Street** | Establish a Class II Route | $3,409 | S2, L1, R1 |
| **L** | **Pedestrian Street Enhancements.** | Design/construct, sidewalks, buffers, install street trees, widen crosswalks, demand responsive signals, adequate lighting. | $500,000 | S4, L1, L3, R1 |
| **M** | **Downtown Pedestrian Improvements.** | Refurbish crosswalks, install street trees, modify intersections, ADA ramps. | $200,000 | S4, L1, L2, L3 |
| **N** | **Arterial Street Crossing Program** | Install bulbouts, widen and re-stripe crosswalks, install street tress, install median islands, install flashing lights. | $225,000 | S4, L1, L2 |
| **O** | **Sidewalk Improvements** (missing links). | Construct sidewalks to fill missing links. | $15,000 | S4, L1, L3 |

**Table 6**
**Project Implementation Strategy**
**Mid-Long Term (Years 6-20)**

| **Programs** | | | | |
|---|---|---|---|---|
| **P 1. Adopt a Bikeway Signing Program, with a unique logo developed for Ukiah.** | Obtain funding; complete sign planning & design; implement on priority network first. Sign planning & design could be accomplished by staff or with community participation in a design contest. | $25,000 | | L3, R1, |
| **P 2. School Commute Safety Study and Programs.** | Develop and adopt a 'toolbox' of school commute safety measures that can be implemented as needed by neighborhood groups and schools. Enhance the school safety program for bicyclists in Ukiah, including expanding the School Safety Committee to include DPW, new educational materials, minimum curriculum and hours per class per year thresholds, subsidized helmet programs, new funding sources, and opportunities for volunteers to help. | $5,000 | S4, L1, L3, R1, R2 | |
| **P 3. Implement bicycle parking recommendations.** | Includes setting and marketing location and design parameters, signing bicycle parking locations on-street and on maps, setting minimum bicycle parking requirements, and establishing a demonstration bicycle corral at a Ukiah school(s). Amend bicycle parking ordinance. | $5,000 for planning/design, $15,000 for racks/lockers, $5,000 for demonstration corral or bike station. | bike shop sponsorship/ advertising, L1, L2, L3, R1, R2 | |
| **P 4. Adult Bicycle Education** | Develop an adult bicycle educational | $1,000 to | L3, donated time | |

| | | | |
|---|---|---|---|
| **Program.** (Year: 2000) | program and motorist education program. | establish program | by local bike clubs. |
| **P 5. Bicycle Loaner Program.** (Year: 2001) | Establish a voluntary bicycle loaner program, to be used by employers in Ukiah. Employers to receive low-cost bicycles, maintenance assistance, and air quality credits. | $1,000 to establish program | L3, donated time by local civic groups. |
| **P 6. Youth Training Program.** (Year: 2001) | Establish an 'Earn a Bike' program that teaches young people how to maintain and repair bicycles, in conjunction with the loaner program. Assist in grant writing and administrative support. | $1,000 grant to local organizations | L3, donated time by local civic groups. |
| **Table 6<br>Project Implementation Strategy<br>Mid-Long Term (Years 6-20)** | | | |
| **P 7. Public Maps.** (Year: 1999) | Enhance existing bicycle and pedestrian maps, and extend exposure of these maps for public awareness. | $5,000 grant to local organizations | S4, L1, advertising on map and sponsors. |
| **P 8. Community Adoption.** (Year: 1999) | Encourage community adoption of bikeways for maintenance similar to freeway program. | $1,000 to establish program | L3 |
| **P 9. Bicycle Events.** (Year: 1999) | Support existing bicycle events through financial and administrative measures; encourage expansion of events to include casual riders. | $1,000 grant to local organizations, plus 10 staff hours per year | L3, local bicycling clubs. |
| Total Cost (Years 1-5) | | $1,298,225 | |
| Total Cost (Years 6-20) | | $1,405,431 | |
| Total Cost (Years 1-20) | | $2,703,656 | |

As shown in Table 7, some sources (such as the Bike Lane Account) apparently will fund many more projects than other sources such as TEA-21. Actually, this list reflects the fact that the extremely competitive TEA-21 programs are expected to help fund large portions of the top priority projects--but it is highly unlikely that many of the smaller projects would receive TEA-21 funding in the short term. In contrast, TDA funds are apportioned to the City based on gasoline taxes and can be spent at the City's discretion. Bike lane account grants are typically smaller amounts and could be used to help pay for any on-street Class II bike lane improvement. Finally, developer exactions, assessments, and/or requirements are difficult to anticipate but are common partners in transportation projects in developing areas.

**Table 7**
**Short Term Projects by Funding Source**

| *Funding Source* | *Projects (by priority)* |
|---|---|
| TEA-21 (Transportation Enhancement Activities) | 1,2,3,5,F |
| TEA-21 (National Recreational Trails) | 1,2,I |
| Environmental Enhancement and Mitigation Program | 1,I |
| State Bike Lane Account | 2,3,5,A,B,E,F,H |
| Included in Larger Caltrans Project (possibly a mitigation requirement) | 2 |
| Office of Traffic Safety Grant | 2,6,8,E,I,J,P.2,P.7 |
| Transportation Development Act (Article 13) | 1,2,3,4,5,6,7,8,A,B,C,D,E,F,G,H,J,P.2,P.3,P.7 |
| Developer Fees, Exactions, or Assessments | 2,C,D,E,F,G,H,I,J,K,L,M,N,O |
| Community Foundation Grants | 1,2,6,8,I,J,P.1,P.2,P.3,P.4,P.5,P.6,P.8,P.9 |
| Air District Grants | 1,2,3,4,5,A,B,C,D,F,G,H,I,J,P.1,P.2,P.3 |

## 5.3 Funding

There are a variety of potential funding sources including local, state, regional, and federal funding programs that can be used to construct the proposed bicycle and pedestrian improvements. Many of the federal, state, and regional programs are competitive, and involve the completion of extensive applications with clear documentation of the project need, costs, and benefits. Local funding for bicycle projects typically comes from Transportation Development Act (TDA) funding, which is prorated to each community based on gasoline taxes. Funding for many of the programs listed in Table 6B would need to be funded either with TDA, general fund (staff time), or possibly private grants. Table 7 presents a summary of available funding along with timing, criteria, and funding agency. Note that as of this writing (August 1998) TEA-21 has recently been authorized and the exact impact on funding programs for bicycle projects is not known.

### TEA-21

With the recent passage of TEA-21 (Transportation Equity Act for the 21st Century), funding for bicycle projects in Ukiah over the next six years should increase over the levels under ISTEA since 1992. The State Bike Lane Account is also set to increase substantially over the next few years.

TEA-21 was adopted by both houses of Congress on May 22, 1998. Much of the delay in adopting the new transportation legislation was the result of conflicts between donor and recipient states (states that received more or less money than they paid in gas taxes) under the old transfer arrangements. The new formulas will rectify the past imbalances, allowing large donor states with higher amounts that can be transferred between various funding programs. The follow-up to ISTEA, TEA-21 offers some important changes in funding opportunities.

1. The Surface Transportation Program (STP) was amended as follows:

- Approximately $33 billion available nationwide.
- Bicycle and pedestrian projects remain eligible.
- Sidewalk improvements to comply with the Americans with Disabilities Act (ADA) are now eligible for Surface Transportation Program funds.

2. The National Highway System (NHS) program was amended as follows:

   - Pedestrian projects may now be funded with NHS funds.

3. The Transportation Enhancements (TE) program was amended as follows:

   - $3.3 billion available nationwide
   - Bicycle and pedestrian safety and education programs
   - Tourist and welcome centers
   - Environmental mitigation to provide wildlife corridors
   - Requirement that each project be directly related to a surface *transportation* project
   - Eighty (80) percent Federal matching requirement applies only to total non-Federal share rather than total project cost.
   - Twenty-five (25) percent of the TE funds received over the amount received in FY 1997 may be transferred to other STP activities.
   - Eight (8) specific projects are funded off the top of the TE program, none in the Western United States.

4. The Congestion Mitigation and Air Quality Improvements (CMAQ) program was amended as follows:

   - $8.12 billion available nationwide
   - Bicycle project eligibility remains essentially the same as ISTEA
   - A small percentage can be transferred to other programs

5. The Recreational Trails Program was amended as follows:

   - $270 million available nationwide over the next six years
   - Bicycle project eligibility remains essentially the same as ISTEA

6. The Hazard Elimination Program was amended as follows:

   - Now can be used for bicycling and walking hazards
   - Definition of a 'public road' now expended to include bikeways, pathways, and traffic calming measures.

7. A new category, Transit Enhancements Program, was created that calls for transit agencies in urbanized areas over 200,000 population to use 1 percent of their Urban Formula Funds for Transit Enhancements Activities. Up to $50 million per year may be available for pedestrian access, walkways, bicycle access, bike storage facilities, and bike-on-bus racks. The program calls for 95% Federal/5% local match.

8. Scenic Byway, bridge repair, transit, safety (non-construction), and Federal Lands programs all remain essentially the same under TEA-21, with the amounts either the same or increasing from ISTEA.

9. Planning provisions for states and MPO's have been streamlined, with bicycle and pedestrian needs to be given due consideration in the development of comprehensive transportation plans. Specific policies include directives to not approve any project or regulatory action that will have an adverse impact on non-motorized safety, unless a reasonable alternative route is provided or already exists.

10. When state or local regulations permit, allow use of bicycle facilities by electric bicycles and motorized wheelchairs.

11. Railway-highway crossings should consider bicycle safety.

12. A new Surface Transportation-Environment Cooperative Research Program is established for funding non-motorized research.

13. In cooperation with AASHTO, ITE, and other groups, establish new bicycle design guidelines within 18 months.

A detailed program-by-program of available funding programs along with the latest relevant information is provided on Table 8. Specific amounts and deadlines are not available yet for many of the TEA-21 programs. Once the Ukiah bicycle projects and costs are identified, each project will be targeted for specific funding sources where it can be expected to compete effectively.

**Table 8**
**Summary of Funding Programs**

| Funding Programs | Modes (Bicycle, pedestrian-walkways, trails) | Trip Types (Commute/Transportation, Recreational) | Project types (Construction, Non-construction, both) |
|---|---|---|---|
| **Federal Funding** | | | |
| STP | Both | Transportation | Both |
| Transportation Enhancement Activities (ISTEA) | Both | Transportation | Construction |
| CMAQ | Both | Transportation | Both |
| National Highway System (NHS) | Both | Transportation | Both |
| Federal Lands Highway Funds | Both | Transportation | Construction |
| Scenic Byways Program | Both | Both | Construction (including planning design and development) |
| Bridge Repair and Replacement | Bicycle | Transportation | Construction |
| National Recreation Trails Fund | Both | Both | Both |
| Highway Safety Program | Both | Transportation | Non-construction |
| Highway Safety and Development | Pedestrian | Transportation | Non-construction |
| Recreational and Public Purposes Act | Both | Both (Primarily Recreational) | Both |
| Schools and Roads Grants to States | Both | Transportation | Construction |
| Section 3 Mass Transit Capital Grants | Both | Transportation | Both |
| Section 3 Mass Transit Capital Grants | Bicycle | Transportation | Construction |

**Table 8 (cont.'d): Summary of Funding Programs**

| Funding Programs | Modes (Bicycle, pedestrian-walkways, trails) | Trip Types (Commute/Transportation, Recreational) | Project types (Construction, Non-construction, both) |
|---|---|---|---|
| **State Funding** | | | |
| California Bikeways Act | Bicycle | Transportation | Construction |
| Environmental Enhancement and Mitigation program | Both | Transportation | Construction |
| Flexible Congestion Relief | Both | Transportation | Construction |
| Habitat conservation Fund Grant Program | Both | Both | Construction |
| Kapiloff Land Bank Funds | Both | Transportation | Construction (Land acquisition) |
| Land and Water conservation Fund | Both | Both | Construction (Including land acquisition) |
| Mello-Roos Community Facilities Districts | Both | Both | Both |
| Local Transportation Fund (LTF) TDA Article 3 | Both | Transportation | Both |

TEA-21 funding is administered through the state (Caltrans or Resources Agency) and regional governments. Most, but not all, of the funding programs are transportation versus recreational oriented, with an emphasis on (a) reducing auto trips and (b) providing an inter-modal connection. Funding criteria often includes completion and adoption of a bicycle master plan, quantification of the costs and benefits of the system (such as saved vehicle trips and reduced air pollution), proof of public involvement and support, CEQA compliance, and commitment of some local resources. In most cases, TEA-21 provides matching grants of 80 to 90 percent--but prefers to leverage other moneys at a lower rate.

With an active and effective regional agency such as the MCTA, Ukiah should be in a good position to secure more than its fair share of TEA-21 funding. It will be critical to get the local state assemblyman and senator briefed on these projects and lobbying Caltrans and the California Transportation Commission for these projects.

**State**

*TDA Article III (SB 821)*

Transportation Development Act (TDA) Article III funds are state block grants awarded annually to local jurisdictions for bicycle and pedestrian projects in California. These funds originate from the state gasoline tax and are distributed to local jurisdictions based on population.

*AB 434*

AB 434 funds are available for clean air transportation projects, including bicycle projects, in California.

*Bicycle Lane Account*

The state Bicycle Lane Account (BLA) is an annual program that is available for funding bicycle projects. Available as grants to local jurisdictions, the emphasis is on projects which benefit bicycling for commuting purposes. While the fund is currently very small ($700,000 available annually), it has been increased to $1 million/yr. starting in FY 1999 with an increase to $3 million/year by the state assembly and senate.

**Regional**

The Air Quality Management District is a major potential source of funding for bicycle and pedestrian programs. The grants are highly competitive based on a cost-benefit formula developed by the District. Funding priorities also change annually with the District, between bicycle and other projects such as transit.

**Local**

*New Construction*

Future road widening and construction projects are one means of providing bike lanes. To ensure that roadway construction projects provide bike lanes where needed, it is important that an effective review process is in place to ensure that new roads meet the standards and guidelines presented in this master plan.

*Impact Fees*

Another potential local source of funding are developer impact fees, typically ties to trip generation rates and traffic impacts produced by a proposed project. A developer may reduce the number of trips (and hence impacts and cost) by paying for on- and off-site bikeway improvements which will encourage residents to bicycle rather than drive. Establishing a clear nexus or connection between the impact fee and the project's impacts is critical in avoiding a potential lawsuit.

*Mello Roos*

Bike paths, lanes, and pedestrian facilities can be funded as part of a local assessment or benefit district. Defining the boundaries of the benefit district may be difficult unless the facility is part of a larger parks and recreation or public infrastructure program with broad community benefits and support.

*Other*

Local sales taxes, fees, and permits may be implemented, requiring a local election. Volunteer programs may substantially reduce the cost of implementing some of the proposed pathways. Use of groups such as the California Conservation Corp (who offer low cost assistance) will be effective at reducing project costs. Local schools or community groups may use the bikeway or pedestrian project as a project for the year, possibly working with a local designer or engineer. Work parties may be formed to help clear the right of way where needed. A local construction company may donate or discount services. A challenge grant program with local businesses may be a good source of local funding, where corporations 'adopt' a bikeway

and help construct and maintain the facility. Other opportunities for implementation will appear over time which may be used to implement the system.

## 5.4 Financing

The City of Ukiah has historically invested approximately $10,000 annually in bicycle and pedestrian facilities, in the form of sidewalk and bike lane construction and maintenance. Often these items are included in larger construction and maintenance projects, and specific line item accounts are not kept. Therefore, the annual expenditure figure is an estimate based on the City's Public Works Department review.

The proposed improvements and programs to be developed have been analyzed to determine the annual financing requirements, and to allow the City to budget its resources and target funding applications. The total estimated cost of these planned improvements over the short and long term is $2.7 million. It is anticipated that most of these projects can be funded using state and federal sources to cover up to 85% of the total project cost. It is important to note that these funding sources are extremely competitive, and require a combination of sound applications, local support, and lobbying on the regional and state level. It is likely that these improvements will take longer to fund, design, and construct than five years. It is also important to note that funding for specific projects, although shown here being funded over multiple years, is likely to occur in one or two years in the form of large federal, state, or regional grants.

**Table 9**
**Financing Plan**
**Short Term (Years 1-5)**

| *Year* | *Total Costs* | *TEA-21* | *State/Regional* | *Local/Private* |
|---|---|---|---|---|
| 1999 | $400,000 | $240,000 | $100,000 | $60,000 |
| 2000 | $530,000 | $318,000 | $132,500 | $79,500 |
| 2001 | $260,000 | $156,000 | $65,000 | $39,000 |
| 2002 | $74,000 | $44,400 | $18,500 | $11,100 |
| 2003 | $36,000 | $21,600 | $9000 | $5400 |
| Total | $1,300,000 | $780,000 | $325,000 | $195,000 |
| *Percentage* | *100%* | *60%* | *25%* | *15%* |

Included in Appendix F is a summary of the funding sources.

**Plan Adoption**

This report was presented to the Planning Commission on January 27, 1999 and to the City Council on February 17, 1999. The minutes for those meetings and the adopting resolution are included in Appendix G.

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# Appendix F

Grant Funding Information

## Appendix G

City Council minutes, Planning Commission minutes and Adopting Resolution