



Bicycle Plan

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INTRODUCTION

Cottonwood's General Plan highlights its community vision as the market center of the Verde Valley, a growing system of communities located in a region with a very amenable climate, abundant open areas, scenery and tourism. The City itself provides a vital role locally and regionally as a provider of opportunities for commercial and industrial development, jobs, housing and recreation. The community also benefits from its fairly compact pattern of urban development, and proximity to the Verde River, and its numerous potential recreational amenities. As a generator of regional housing, employees and commuters, the City also has a demand for alternative transportation sources and recreational opportunities.

To address issues associated with transportation, recreation and community health, the General Plan encourages the development of a comprehensive bicycle system in the City of Cottonwood. The Plan encourages "the development of a bicycle and pedestrian plan for the City to consider in the review of new development and to guide City street improvements. The system should address trip generation and destination points, potential hazards and barriers, recommend necessary facilities, opportunities to coordinate with the City bus system, regional connections, safety features and education, encourage compliance with AASHTO standards, special traffic detection devices where necessary and standard signage. The plan should also provide for related promotion and public education; and coordination with ADOT to ensure implementation along State highways."

Purpose

The purpose of this document is to encourage and enhance opportunities for bicycling within the City of Cottonwood, as a means to allow bicyclists to travel to various destinations, provide an additional means of transportation, serve as another tool of economic development, provide additional opportunities for a healthier community and to incorporate the ideals of national bicycle policy.

The City's General Plan includes narrative statements, goals and objectives and a proposed route map related to multi-modal transportation opportunities, including bicycle facilities and programs. The function of this document is to further develop those ideas and put them into action.

Scope and Public Process

At the direction of the City Council, the City's planning staff began the development of a bicycle plan in the Fall of 2007, as well as the immediate placement of "Share the Road" signs along the City's primary collector streets. The Council asked staff to develop an inexpensive on-street system which addressed largely the City's collector streets. Since that time, staff has worked with representatives of the Verde Valley Cyclists Coalition in developing this proposal.

In February of 2009, this initial draft was assembled for preliminary review by the Planning and Zoning Commission and City Council, prior to initiating a formal public review process. The City circulated the proposal for review and comment by the public, other departments and jurisdictions, regarding the designated route system, facilities, regulations and educational components.

The final draft was approved by the City Council October 6, 2009.

Goals and Objectives

The following goals are offered to guide the development of a bicycle plan for the City of Cottonwood as an affordable amenity that also addresses the community's needs for recreation and alternative transportation modes:

1. Increase the percentage of all trips made by bicycle in the City of Cottonwood.
2. Work with advocacy groups, such as the Verde Valley Cyclists Coalition and stakeholders to develop a Complete Streets Program for the City.
3. Establish and maintain an integrated system of bikeways that enables safe and convenient bicycling. Promote bicycling as a means of achieving cleaner air, less traffic congestion, better health and preserving the natural, rural environment that surrounds the City
4. Develop a network of bike routes to link neighborhoods and commercial areas throughout the city.
5. Link bicycling to economic development and tourism. Bicycling is seen by many as an important indicator of the quality of life of an area.

BACKGROUND

The City of Cottonwood has many factors that make it ideal for cycling, including its climate, terrain and relatively compact form of development. Very little snow or rain makes the climate ideal for cycling. Winters are mild and require little extra clothing or gear. Summers, although hot, are not intolerable. With little preparation, cycling can be safe and enjoyable. Although surrounded by mountains, much of Cottonwood lies in a relatively flat valley. Even neighborhoods that are in the foothills on the western edge of the community can be accessed via gradually sloping roads. The bulk of local (incorporated) development occurs within an area of about 12 square miles. Most destinations are easily accessible to cyclists and can be reached in less than 20 minutes on a bicycle.

The City of Cottonwood also has a fixed-route bus system, known as Cottonwood Area Transit, providing additional opportunities for enhanced bicycling and transit. Started 22 years ago, the system serves Cottonwood, Clarkdale, Verde Village, and Bridgeport. The CAT system also connects with the Sedona Roadrunner, which offers a fee based commuter service between Cottonwood and Sedona. The CAT Commission facilitated by Northern Arizona Intergovernmental Public Transportation Authority (NAIPTA) recommends that CAT provide bike racks on the buses to facilitate bicycle commuting.

Trip Generation and Destination

A large amount of tourist traffic comes through the area on weekends and holidays to visit Sedona, Jerome, State and National Parks, as well National Forest areas that surround the city. Drivers may not be familiar with bicyclists on roadways, as bicyclists in other parts of the country may utilize separate bike paths for traveling. Signage both on and along the roadways is therefore of vital importance to inform tourists of bicyclists.

The highest residential densities exist adjacent to the Main and Mingus intersection and proximal to Fir and 12th Street. However, new developments with higher densities are beginning to occur in the western portions of the city. Much of the commuter trips target retail centers adjacent to the convergence of the two state highways; as well as schools and employment centers located central to the City's core. Prime attractions include Old Town Cottonwood, Dead Horse Ranch State Park, Tuzigoot National Monument, Blazin' M Ranch and the Verde Canyon Railroad. Still other recreational opportunities exist peripheral to the City in the form of unimproved trails which access open forest areas.

Circulation System

Traffic inside the City is predominately serviced by an arterial spine formed by SR 89A and SR 260. State highway sections in Cottonwood experience 30,000+ average daily trips (ADTs), congesting intersections at various locations. The 89A/260 intersection can experience up to 35,000 ADTs, and a Level of Service "F" during peak flows. Coordinating bike routes along the City's arterials can be a difficult task when the streets are already overloaded with vehicle traffic.

A series of collector streets accessing these corridors serve surrounding residential neighborhoods as well as destinations. From these streets an extensive system of local residential streets serves various neighborhoods throughout the city.

Several collectors, including parts of Mingus Avenue, 6th Street, 12th Street, Aspen and Fir Avenue have striping for bicycle use. Tenth Street, which serves a series of parks and tourist destinations, Dead Horse State Park and Riverfront Park, as well as Blazin' M Ranch, also is striped. Although some roadways have stripes, the only signage acknowledging that the striping is actually intended for use by cyclists are the recently placed "*Bike Lane / No Parking*" signs located on Cove Parkway and Cottonwood Street.

Although growth has slowed in recent years, the City of Cottonwood provides attractions that will no doubt result in continued pressures for growth in the years ahead. This may be an opportune moment to continue the planning of alternative transportation facilities, including those for bicycling, pedestrians and transit. Where possible, the City should require new development to pay for bike facilities, rather than the public having to pay to retrofit facilities after the fact. Considerations should be made for the needs of commuters, recreation and tourism. Efforts should be taken to integrate these systems, and to join with opportunities for extension into adjacent communities, unincorporated areas, U.S. Forest lands and State Trust lands.

Existing Conditions and Essential Route Links

The following is a summary of the collector system which support this proposal, including a review of the individual links, their significance, and existing conditions as a way to highlight serviceability, deficiencies (barriers / hazards), and potential improvements. The individual links are listed alphabetically for reference (see attached map):

- **Airpark Road / Airport Road - Old Jerome Hwy:** This is a half mile, section which joins Mingus Avenue with Cottonwood Street west of the Willard alignment, adjacent to a possible trailhead along Railroad Wash. The route map demonstrates a logical extension north into Clarkdale to cross the path of the anticipated Western Loop corridor, paralleling 89A along the Old Jerome Highway. The link provides access through the Airpark industrial area. Areas inside the City are fully improved. North of Mingus Avenue, the corridor exists as a rural collector with no curbs.
- **Aspen Street:** A primary connection between the community service areas on 6th Street and the commercial corridor on South Main Street, this corridor also crosses 12th Street as it passes through a relatively high density residential area. Portions of Aspen Street are currently striped for bicycle lanes.
- **Camino Real - Old 279:** Provides direct access to high traffic commercial areas along 89A The route also intersects Elm Street, Fir Street, Peila, Rio Mesa and the Quail Ranch Road crossing, as well as crossing possible hiking or mountain bike trail corridors at Little Oak, Silver Springs and numerous arroyos located outside the City to the South, as well as nearly 1-1/2 square miles of State Trust land as a rural collector with no curbs.

- **Cornville Road - VSF - Bill Gray:** From the Cornville intersection, this route heads east to connect with planned collector connecting Tissaw Road north to the Bill Gray Road intersection at 89A. The Bill Gray section provides direct access to State trust lands to the north and the (non-motorized, recreational) Lime Kiln Trail, an east-west corridor which provides access between Dead Horse State Park and Sedona. A multi-use trail was recently approved by Yavapai County for the Cornville Road link, although the status of the project is in question at this time.
- **Cottonwood Street:** This link occurs in two sections, joining critical links at Airpark Road, Willard Street, 6th Street and 89A. The other extends east from a series of shopping plazas to Cove Parkway, two bus stops and possible eastward extensions along an unimproved access to the proposed riverside system.
- **Cove Parkway:** A ½ mile link between Cottonwood Street and 89A, this corridor is fully improved and provides critical alternative access opportunities to high traffic commercial uses along 89A / Main Street.
- **Del Rio:** An opportunity for connection between the proposed West Loop, Old 279 and the contemplated Verde River route. This route would cross the State Trust property adjacent to the Tavaschi Elementary School to SR 260. There are existing bus stops along Del Rio. The suggested State Trust link west of the highway does not yet exist. The remaining portions are developed as an improved rural collector with no bike lanes.
- **Elm Street:** A potential future connection between Willard Street and retail plaza areas adjacent to the SR 260 / 89A intersection, Elm Street extends for 1-1/4 miles, crossing 6th Street and joining 16th Street, Camino Real and with 12th Street. The route is also interrupted between 10th Street and 12th Street. Bus stops also exist at the 12th and Camino intersections. This corridor exists in varying levels of improvement. Areas west of 12th have no curbing. Areas to the east are curbed. No bike lanes exist presently along this route. There is also a gap in the right-of-way from 12th street to 16th Street.
- **Fir Street:** Extends roughly two miles from the proposed West Loop corridor east to high traffic commercial areas at SR 260. Fir Street also crosses Monte Tesoro / Willard Street (which extends north to and through Old Town to North Main and Broadway), 6th Street, 12th Street, 16th Street and Camino Real, adjacent to a possible trailhead along Silver Springs Wash. This is a fully improved corridor with striped bike lanes, which also accesses a bus stop at SR 260. Areas to the south of this route are unincorporated.
- **Groseta Ranch Road:** A planned ¾ mile connection between SR 89A and North Main Street in Old Town, portions connecting to 89A are improved with no bike lanes. The eastern section is unimproved. Continued development of the route will occur in tandem with adjacent development of the Groseta Ranch properties, which constitute the bulk of undeveloped areas on the north side of the highway between

the newly developed roundabouts. The far northern portion of this corridor crosses undeveloped property.

- **Main Street:** An essential corridor between SR 89A and Old Town, this route extends for two miles, joining Mingus Avenue, 10th Street / park accesses, historic residential and commercial areas, and Willard Street; extending also northward to Clarkdale. Along its path, this section also provides key access to the highest residential densities in the City, as well as most of its older housing stock. Sections which pass through Old Town have been designated as part of a “shared use” bikeway, in view of on-street parking. Although fully improved, there is no on-street striping along this corridor. North of Mingus Avenue, this route bends westward, overlapping an older geometry of subdivisions, resulting in a number of very precarious intersections. The alignment is the result of highway development prior to the incorporation of the City in 1960. In view of these conditions, the section of North Main Street between Old Town and Mingus Avenue may be a candidate for streetscape re-development, possibly reducing it to two lanes. Main Street also crosses over five key trail corridors and possible access points. Bus stops are located north of Mingus and at several locations in Old Town.
- **Mingus Avenue:** By far the longest and most critical component of the system, Mingus Avenue extends nearly five miles from the proposed West loop corridor (adjacent to the Prescott National Forest) to join with the Cornville Road / 89A intersection. Along its path, this route connects key intersections at Airport Road, SR 89A, Willard Street, 6th Street, 10th Street, 12th Street, Main Street, the Verde River, and Rocking Chair Ranch Road. The corridor also provides essential access to a series of high density residential areas, as well as employment areas adjacent to the airport, medical plaza, schools, government facilities and services; and likely future points of new development and redevelopment. Although, the vast bulk of this corridor is fully improved, the remaining section between 89A and Willard is also scheduled for improvement. Mingus Avenue also provides a key riverside access opportunity just east of the City boundary. Several bus stops also occur along this route.
- **Monte Tesoro - Rancho Vista - Peila:** This corridor, although unincorporated, represents a logical east-west connection between vital north-south collectors located within the City. However, there is a very steep hill to climb on Peila in either direction with limited visibility, making the route impractical. The route would otherwise join the southern extensions of Willard Street (adjacent to the Dr. Daniel Bright School), 6th Street, 12th Street (Paradise Drive) with Old 279. This corridor is improved as a rural collector with no curb.
- **Rio Mesa:** This 2-mile corridor extends eastward from the proposed West Loop, SR 260 and the adjacent highway oriented retail plaza areas. It is improved as a rural collector with no curbing.

- **Rodeo - UVX:** As a means of providing bicycle access between Verde Village and the high volume retail areas developing along SR 260, this plans suggests the possible delineation of a route along Rodeo Drive, east of 260, to connect with future back street corridors planned between Fir Street and Rio Mesa in association with future development. Possibly an additional, unimproved access could also be achieved (via recreation easement) along a small portion of UVX road behind Verde Valley Manor, providing a bike/ped route between these commercial areas and Verde Village.
- **Verde River Trail:** This is a suggested connection for a natural surface trail from 10th Street through Dead Horse State Park and /or River Front Park, proceeding 4-5 miles along the Verde River east and south to Verde Village. No such route exists at this time. However, as a follow up to the adoption of the Verde River Greenway Management Plan in the late 1980s, and recommendations for the development of a riverside trail system, Arizona State Parks has been acquiring a number of riverside parcels that potentially could someday help to achieve this objective. The corridor would (presumably) link key east-west collectors and riverside access opportunities at Mingus Avenue, Cottonwood Street, SR 89A and Verde Village. The route would also cross possible convergences of Silver Springs Wash, Little Oak Wash, and the Cottonwood Ditch.
- **West Loop:** The General Plan designated a new traffic corridor west of the highway system as a way to offload stifling traffic volumes at key intersections. In concept, the 5-mile route would connect the western extensions of Rio Mesa Drive (where a bridged crossing would be required), Fir Street, and Mingus Avenue; and proceed north into Clarkdale to and through Yavapai College, and somehow make its way further north to rejoin the highway system in the vicinity of the Scenic Drive / Groseta Ranch Road intersection. The actual northward extension of this route is yet to be determined. Although a portion of this route has been developed as part of the newly platted Mesquite Hills subdivision, remaining segments of the corridor exist only in concept at this time. Some of it is also contingent of USFS approval and possible property acquisition. The route crosses Mescal, Del Monte and Silver Springs wash corridors.
- **Willard Street:** Newly completed, the fully improved 2-mile Willard Street corridor extends south from Old Town past the elementary school to intersect with Mingus Avenue, 89A, Cottonwood Street, and Fir Street, transitioning to become part of the Monte Tesoro corridor. Along its path, the route also fronts Cottonwood Oak Creek Elementary School, the hospital, and the airport. Willard Street also crosses Silver Springs Wash.
- **6th Street:** Primary access to centralized community facilities and services, 6th Street extends south from Mingus Avenue about two miles, crossing SR 89A, Cottonwood Street, Silver Springs Wash, Elm Street, and Fir Street. There are two bus stops along the north half of this route. Portions within the City are fully improved. Unincorporated sections are unimproved.

- **10th Street:** This is an irregular corridor with no curbs which extends about a mile, the south portion of which connects Mingus Avenue with North Main Street at an offset intersection. North of Main Street, the corridor becomes fully improved and acts as the sole access to Riverfront Park, Dead Horse State Park, and the Blazin' M Ranch (dinner theater / event facility). The corridor is also a primary access to the Verde River and associated trail system, proceeds east along Riverfront Park; and west along the river to Old Town (via the Jail Trail). Dead Horse Ranch State Park is also a focal point for a series of developed trails radiating north and eastward into the Coconino National Forest and adjacent State Trust Lands.
- **12th Street:** A key north-south connection, this corridor traverses both City and County regions and exists in varying degrees of improvement. Originating at an unsignalized intersection along north Main Street, the corridor proceeds south for 2-1/4 miles as a narrow but paved street, crossing Mingus Avenue south to 89A, as well as Fir Street, to where it leaves the City before joining with Peila Avenue, just west of its intersection with Camino Real. The link provides a key access route to the Verde Valley Fairgrounds. The bulk of this route is subject to planned improvements at this time. The corridor also crosses Silver Springs Wash near the 89A intersection, and includes a bus stop at the Elm Street intersection.
- **16th Street:** The 16th Street corridor is a relatively new link which resulted from the development of the Skyline and Cottonwood Commons / Cottonwood Square projects over the last 10 years. The route extends north from Fir Street about 3/4 of a mile, crossing Elm Street to access the rear portion of the Food City Shopping Plaza. This is a fully improved corridor. However the connection to the Food City parking lot is open for bicycle use.
- **89A:** As part of the State highway system, SR 89A provides a vital (and historic) connection between Prescott, Jerome, Sedona and Flagstaff. As it passes through Cottonwood, the nearly six-mile route crosses Black Hills Drive, Mingus Avenue (in two locations), Willard Street, 6th Street, 12th Street, Main Street, Camino Real, and SR 260. Much of its length is also lined with existing commercial development. The exceptions are within Bridgeport and further east where planned development is anticipated in the years ahead. Due to prolific lot splitting along this corridor, frontages which exist between Black Hills Drive to somewhat east of SR 260 are lined with commercial driveways; a situation which results in complex traffic patterns and uncontrolled turning movements, traffic congestion and safety hazards. This roadway is striped for bike lanes east of Zalesky Road, all the way to Sedona. It is recommended that the full length of this roadway be striped on both sides for bicycle lanes.
- **SR 260:** Also part of the State highway system, SR 260 is the primary connection to I-17 in Camp Verde. Along this five mile corridor, the route crosses a variety of developing commercial and industrial sites, a substantial residential community (known as Verde Village); as well as vast acreages of undeveloped U.S. Forest lands. The corridor also provides connections to Prairie View Drive, Western Drive, Del Rio, Rio Mesa, Godard Drive, Fir Street, SR 89A and Cove Parkway. It is

recommended that the full length of this roadway also be striped on both sides for bicycle lanes. Although ADOT, the jurisdiction controlling the highway, has been slow to recognize the need.



ISSUE DEVELOPMENT

In the past, communities have thought that planning for bicyclists meant simply developing bicycle facilities. As important as they are, facilities alone do not address fundamental bicycling concerns. A more comprehensive "Four Es" approach, combining engineering and planning with enforcement, education, and encouragement is nationally recognized as absolutely necessary. Some safety issues, for example, may be more easily solved through programs than through facilities. An explanation of the importance of the four E's follows:

ENGINEERING

This is the most visible part of the bicycle planning process. Important functions of the engineering component include determining locations and types of routes, studying where and when cyclists are using streets, helping to determine options for bicycle parking, and which routes work best in specific areas. Continued roadway development should also be considerate of opportunities to accommodate wide curb lanes for bicycle traffic and sidewalks for pedestrians. There are numerous opportunities for the development of non-motorized transportation (walking, bicycling) that may help to offset some of the traffic impact on the City, as well as to provide needed recreational opportunities. The attached map illustrates a proposed network of bikeways and multi-use paths for Cottonwood. Many of the on-street facilities were recommended in 2003 Cottonwood Area Transportation Plan, others would be incorporated into major roadway construction or reconstruction, and still others would provide key connections to enhance the connectivity of the system. A proposed multi-use path along the planned Verde River Greenbelt is also shown, as well as a proposed loop trail serving several major destinations. It is recommended that this trail, much of which is on city-owned property, be developed as a high-priority demonstration project.

The factors for selecting the location of bicycle routes should highlight rider safety, convenience, and volume. Safety issues would include the quantity of motor vehicles along the route, the posted speed limit, the road shoulder width, and the frequency of parked cars. Convenience criteria would include the number of destination points served by the route, the number of traffic control devices along the route, the surface of the road, and the amount of debris typically found along the route. Rider volume consideration means placing bicycle routes along corridors with the highest bicycle volume, or potential of increased bicycle usage.

There are also liability issues that should be considered in the development of any bicycle system, its physical improvements and associated design standards. To those ends, this proposal incorporates design standards developed and adopted by Maricopa County for on-street bicycle facilities (see Appendix).

Fundamentally, the system itself should take into consideration the geography of bicycle trip generation and destination associated with the needs of commuters, recreation and even tourism, within and around Cottonwood. The City also possesses opportunities to broaden the system as a means of transit and recreation, by overlaying it onto the existing fixed route bus system, which is

a very unusual asset for a community of our size. Other extensions of the system could include acknowledgement of potential recreational trails and trailhead access points, perhaps by way of additional signage. The General Plan encourages a further process of Special Area Planning as a means to help identify such opportunities specific to different corners of the City.

The Manual on Uniform Traffic Control Devices (MUTCD) (Section IX) recommends consistent marking of bicycle facilities to identify bicycle lanes and routes; raise motorist awareness of bicycling; and provide warning signs alerting bicyclists to potential hazards and conflicts. It is recommended to create a coherent, effective and affordable bicycle sign policy that supports the goals of the Bicycle Plan.

ENFORCEMENT

Bicycles are treated by law as vehicles in all 50 states. Bicyclists are granted all of the rights and are subject to all of the duties applicable to the driver of a vehicle (ARS 28-812). Bicyclists must therefore also accept similar responsibilities. Enforcement of related rules and regulations is essential among motorists and bicyclists alike.

EDUCATION

Bicyclist and motorist education programs are key ingredients to building a successful bicycle transportation system and fostering the growth of bicycle use in a community. A primary reason is the great amount of misinformation that has spread about bicycling. Education programs can help to dispel the myths, encourage courteous and lawful behavior among motorists and bicyclists of all ages, and enhance the skill level of bicyclists and motorist awareness, thus leading to a reduction in

crashes. The education program can be administered through a number of different agencies and interest groups, such as police departments, schools, libraries, bicycle clubs, and parks and recreation departments.

Educating bicyclists and motorists is an important element to improving bicycle safety. Bicycle crash data shows that a majority of bike/car collisions involve improper action on the part of the bicyclist, motorist, or both. Education programs should focus on safety areas where accident data indicates a high incidence of incidents. Education programs should be directed toward adults as well as children. Education may be part of the enforcement effort, with diversion programs and fines, for errant bicyclists and motorists. The community could benefit from public events and pro-active safety training which help to publicize the bike system and rules of the road, recent changes to traffic laws. The Arizona Department of Transportation recently initiated a bicycle safety and awareness program in the Verde Valley. A pilot program was focused around Sedona, Cottonwood and Clarkdale. The goal was to encourage bicycling and bicycle safety in the Verde Valley. Consultants were hired to examine local education and publicity needs. The program generated a series of educational fliers in English and Spanish. They are being distributed at local bike shops and other related businesses throughout the area.

In December, 2008, the City of Cottonwood was selected by ADOT as part of their "Safe Routes to School" program. Part of the project is the designation of primary (bicycle and pedestrian) routes for children, related safety improvements and education. The planning process was initiated in February, 2009. It is intended that the City's bicycle plan will be compatible with

the recommendations of that process, once completed.

The following represent messages and skills that should be stressed for a variety of groups who may be inclined to use the City's bicycle facilities:

Young Bicyclists: How to ride in a straight line without wobbling or swerving; Stopping, looking and yielding before entering or crossing a roadway; riding with traffic (on the right-hand side of the road), rather than against traffic; how to scan behind for traffic before moving or turning left; helmet use; hand signals; traffic control devices; crossing intersections, not riding on sidewalks, etc.

Parents of Young Bicyclists: Age and developmental factors in bicycle safety; common causes of accidents; importance of riding with traffic (on the right-hand side of the road), rather than against traffic; driveway intersection sight distance problems; helmet use for themselves and their children; the need for training on the proper and safer way to bicycle (as opposed to how their parents may have been taught), setting a good example, etc.

Adult Bicyclists: Bicycles are vehicles and should be operated according to traffic laws; importance of riding with traffic (on the right-hand side of the road), rather than against traffic; helmet use; using lights and reflectors at night; hand signals; courtesy toward other road users, motorists and pedestrians; traffic control devices.

Motorists: Bicycles are vehicles and have legal rights to use the roadway; skills for sharing the road with bicyclists; improper turning movements that endanger bicyclists (do not turn in front of bicyclists); courtesy toward other road

users including bicyclists and pedestrians, ***braking for bicyclists, etc.***

ENCOURAGEMENT

Encouraging people who, under normal circumstances, might not ride a



bicycle, is an important task assigned to this plan and a goal of the City in general. There are opportunities to encourage more people to consider cycling as a form of transportation as well as recreation. Comfort, safety, convenience and publicity play key roles to encouraging use. Higher gasoline prices and difficult economic times may play a factor in added use of a bicycle system.

Other factors which can encourage bicycling include issues of convenience, comfort and security, such as strategically placed bicycle parking facilities, lighting, availability of route maps and directory signage, water, shade, availability of bike racks on buses; and proximity to trailheads and park-and-ride facilities.

RECOMMENDED SYSTEM

The recommended bikeway system consists of a bikeway network, bicycle support facilities and programs. The network also includes a classification system for various types of bikeway links, which connect residential neighborhoods with schools, parks community centers, libraries, commercial centers and other destinations. The links include Class I bike paths, Class II bike lanes, and Class III bike routes. The recommended bicycle support facilities and programs include parking facilities, sidewalk management practices, signal programs, promotional programs and educational programs.

BIKEWAY NETWORK

A bikeway network is a system of bikeways that, for a variety of reasons, including safety and convenience, provides a superior level of service for bicyclists. 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 network.

The bikeway network is a tool that allows the City to plan for the future and to focus and prioritize implementation efforts where they will provide the greatest benefit to the bicycling community.

There is an established methodology for selecting a bikeway network 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 it is typically received through the public workshop format. Surveys of bicyclists and the community members can also serve a valuable role in this process as well.

The development of the bicycle network took into consideration the existing collector street system, connectivity, topography, side friction (bicyclists prefer roads that minimize potential side street conflicts); wider riding areas, smooth roadways; access from residential areas; number of destinations served; schools; parks; employment centers; location of transit shelters; and roads that minimize potential conflicts with parked vehicles.

The recommended bikeway network focuses on connecting collector streets, as well as other segments used by bicyclists; and on specific opportunities and constraints. The grid collector street pattern offers several distinct through corridors which connect residential areas with activity centers and community facilities. The recommended network is characterized by a network composed primarily of existing bike lanes and suggested bike routes.

It is important to emphasize that, although the scope of this project focuses only on “on-street” systems, suggestions for additional segments have also been offered. Other suggested routes project beyond the City limits as a means to highlight opportunities to connect some of the perimeter routes. Development of these corridors with bicycle lanes

would be subject to coordination with other outside agencies, such as Yavapai County, the U.S. Forest Service and the State Land Department.

BIKEWAY CLASSIFICATION SYSTEM

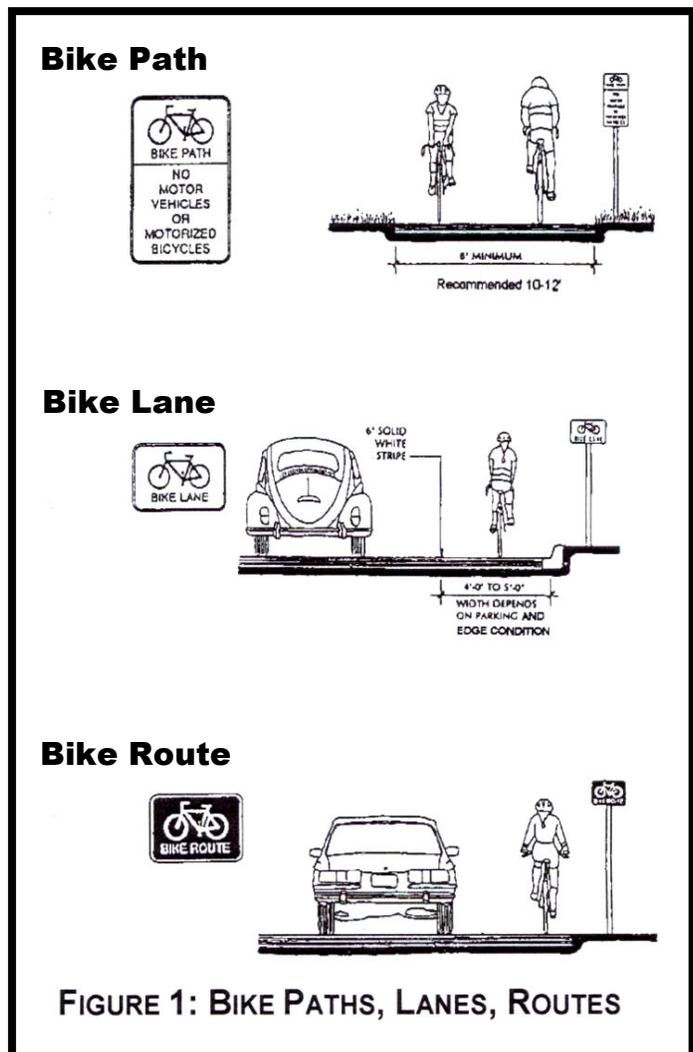
The bikeway types identified in this Bicycle Master Plan include references to four types of facilities: 1) Bikeway (Bike Path), 2) Bikeway (Bike Lane), 3) Bikeway (Bike Route), and 4) Shared Roadway (no distinct bicycle facility).

Bike Path: Bicycle or multi-use paths separate from roadways, with at-grade or grade-separated roadway crossings. Bike paths are typically located along uninterrupted corridors such as rivers, creeks, flood control channels, railroad right of ways, etc.

Bike Lane: Provide a restricted right of way designated for the exclusive or semi-exclusive use of bicycles. Through travel by motor vehicles or pedestrians is prohibited, but cross flows by pedestrians and motorists permitted. Bike lanes are typically located along collector roadways that provide direct connections through the City street system.

Bike Route: Provide a right of way designated by bike route signs. Bike Routes are typically located along demand corridors that are used by motorists. Ideally, Bike Routes are marked in the same fashion as Bike Lanes with signs.

Shared Roadway: Shared roadways with no bikeway designation signing that provide shoulders to improve safety and convenience for bicyclists and motorists. The shoulder bike routes are typically located along North Main Street and local streets.



GENERAL RECOMMENDATIONS

The following recommendations are offered as a response to the issues associated with the goals of this project. An attempt has been made to assign these tasks to the most likely agencies; as well as to establish a level of priority associated with each (ST=Short Term / 1 year ~ LT = Long Term / 2-5 years).

ENGINEERING			
ENG-1	Adopt a target level of bicycle use (e.g. percent of trips) and safety to be achieved within a specific timeframe. This is an important step in determining whether steps being taken to improve the bicycling environment are effective.	CITY COUNCIL	ST
ENG-2	Improve data collection necessary to monitor progress. A program to count the number of cyclists using roadways should be developed. Such program will determine the most useful times of the year to conduct the counts, as well as when and where to do them. The city may want to enlist volunteers or organizations such as the Verde Valley Cyclist Coalition to help conduct bicycle counts. U.S. Census information will also prove useful in determining how many cyclists are riding regularly.	PUBLIC WORKS V.V.CYCLISTS COALITION	LT
ENG-3	Develop a program to maintain existing and future bicycle facilities. Maintaining bike facilities is a critical part of keeping the bicycle environment safe. Motor vehicle parking should be provided at trailheads. City bus stops, NAIPTA stops, Riverfront Park, the new Cottonwood Recreation Center, Library and other municipal and County buildings should have secure bicycle parking facilities. Motor vehicle traffic tends to push debris to the right edge of the road, so bikeways should be swept at regular intervals. Potholes and cracks represent a greater hazard to bicyclists than to motorists, so maintenance crews will need to pay increased attention to the surface of the roadway.	PUBLIC WORKS	LT
ENG-4	Review bicycle crash data to identify problem areas. Meet with engineers, police, and public works personnel to review bicycle crash data and make recommendations to correct problems.	PUBLIC WORKS	ST

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ENG-5	Develop street design guidelines in a new ordinance that include bicycle accommodations that can be used for both construction of new roads and reconstruction of existing roads. The current standards being used are located within the subdivision ordinance. However, those standards do not address how to accommodate bicyclists on an existing roadway. It is important to develop a set of scenario's that address streets that are being rebuilt and how to accommodate bicycles on those streets.	COMMUNITY DEVELOPMT PUBLIC WORKS	ST
ENG-6	Adopt facility design standards. The Appendix includes a summary of bicycle facility design standards adapted from the Maricopa County Department of Transportation guidelines, also coordinated with the AASHTO traffic safety manual, <u>Guide for Development of New Bicycle Facilities and The Manual on Uniform Traffic Control Devices.</u> Design guidelines should be used for design of bicycle facilities in the City of Cottonwood. These guidelines are nationally accepted and legally defensible.	PUBLIC WORKS	ST
ENG-7	Stripe and sign bicycle routes along all collector streets throughout the city to prevent parking in them. Provide special bicycle symbols for "shared use" sections. All new collector streets should provide sufficient right of way for a bicycle lane	PUBLIC WORKS	ST
ENG-8	Develop standards for developers to build and maintain paved, shared-use paths. Bike routes and lanes are important components of any housing or mixed use development, particularly as a connection to a shared paved bike path system.	COMM DEVMT PUBLIC WORKS	ST
ENG-9	Determine where short off street paths will help make it easier for cyclists to move around the city, and may in some cases even make cycling a more convenient mode of transportation than using a car	PUBLIC WORKS V.V. CYCLISTS	LT
ENG-10	Make a yearly inventory of existing bicycle facilities and strive to increase totals by a reasonable percentage each year.	PUBLIC WORKS PARKS & REC	ST
ENG-11	Consider the development of paved, shared-use bike paths on the perimeter of housing and commercial developments to reduce the conflict between motor vehicles and bicycles. A perimeter paved shared pathway, as part of a planned system, would reduce	CITY COUNCIL	LT

	conflicts and promote increased pedestrian and bicycle use.		
ENG-12	Consider narrowing North Main Street to two lanes, north of its intersection with Mingus Avenue, as a means to better accommodate bike lanes, turn lanes and possible re-design of irregular intersections which occur along this section.	PUBLIC WORKS	LT
ENFORCEMENT			
ENF-1	Enforce traffic laws for bicyclists and motorists. The City must enforce state and local laws that are already on the books that apply to both motorists and bicyclists. This ensures that both parties behave in a safe and courteous manner. This will require police training by qualified cycling instructors.	POLICE	ST
ENF-2	Require that businesses and public facilities provide bicycle parking by code.	COMM DEVMT	
EDUCATION			
EDU-1	Provide bicycle facility public information and conduct bicycle safety education programs. The city of Cottonwood recently was chosen by ADOT for a safety awareness pilot program. The goal of the pilot was to develop some educational literature to address issues that both cyclists and motorist have when interacting. The program attempted to specifically address issues that are common to the Verde Valley. A series of brochures and stickers were the result of that campaign. The City should also work together with activists to develop some events that specifically address bicycle safety, special courses for adults, kids, bicycle helmet giveaways, or bicycle rodeos. Participation in Bike to Work Day is also an important educational element. Literature which addresses bicycle use and recommendations to avoid bicyclists-motorist accidents in the Verde Valley should be available at the Chamber of Commerce as well as hotels and motels within the City	PARKS & REC	ST
EDU-2	Educate all road users to share the road and interact safely. There are four primary audiences for bicycle safety education and awareness efforts. For each group, an education program can stress basic messages that focus on the most frequent causes of crashes and injury. New bicycle infrastructure and education programs will combine to increase the confidence of bicyclists.	POLICE	ST

EDU-3	Sign existing bike routes. As mentioned earlier, although striped, only some of the bike lanes in the city have signage that alerts motorists that they are in fact bicycle lanes. A program should be developed to sign these lanes to prevent confusion from both motorists and cyclists.	PUBLIC WORKS	ST
ENCOURAGEMENT			
ENC-1	Make the city a model employer by encouraging bicycle use among City employees. A lack of facilities discourages bicycle commuters. Provide bike parking for city employees, showers and lockers, and establish a city bicycle fleet. Allow city employees who commute to work by bike to use a city vehicle during the day when their job dictates the need for a motor vehicle.	CITY MGT	ST
ENC-2	Work with CAT to better the interaction between bicycles and the transit system. There are different segments of the population who may want to cycle across the city and who may want to cycle a shorter distance and take transit for the remainder of the trip. Strategically located bicycle parking facilities, as well as bike racks on CAT buses, is a way to encourage increased use of a bicycle as a primary means of transportation.	CITY MGT CAT	ST
ENC-3	Develop and enforce bicycle parking standards. Develop an amendment to the Zoning Ordinance that makes bicycle parking mandatory in new developments. A ratio should be developed for bicycle parking that relates the number of automobile parking spaces to the number of bicycle parking spaces. Additional factors to consider are that bicycle parking should be located in such a way to promote its use. Bike racks should be visible and in near proximity to the bicyclist's destination. Bike racks should be located to minimize hazards and conflicts with motor vehicles and pedestrians. If land use supports night time activity, then the bicycle parking should be close to the building entrance. Bicycle parking should be in sheltered areas. Bike lockers should have a high priority in commuter locations and areas where bicycles may be unattended for a prolonged period of time (such as at the library, recreation center, gyms and theaters). The cost and type of bicycle parking facilities should be the	COMMUNITY DEVELOPMT	ST

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	responsibility of the commercial or residential development.		
ENC-4	Develop programs to encourage bicycle use in communities where significant segments of the population do not drive. The Safe Routes to School Program is a good example of one method of addressing the needs of one segment of the population in Cottonwood that does not drive. Addressing access to transit routes in areas with high numbers of seniors is another.	CITY COUNCIL	ST
ENC-5	Locate and identify existing bicycle parking facilities at major locations.	COMMUNITY DEVELOPMT	ST
ENC-6	Develop a street improvement and maintenance plan which responds to the needs analysis identified in this plan proposal, for physical street improvements, bus stops, bike facilities, trails, sidewalks, street trees, other shade, water availability, etc., and otherwise encourages use by bicyclists and pedestrians	PUBLIC WORKS	ST LT
ENC-7	Develop and distribute a bicycle routes map. Make available on buses, and at schools, motels, recreation center, etc.	COMM DEVMT	ST



APPENDIX

Definitions

BICYCLE: Every device, including a racing wheelchair, that is propelled by human power and on which a person may ride and that has either: (a) Two tandem wheels either of which is more than sixteen inches in diameter. (b) Three wheels in contact with the ground any of which is more than sixteen inches in diameter (ARS 28-101.6).

BICYCLE FACILITIES: A general term denoting improvements and provisions made by public agencies to accommodate or encourage bicycling, including parking and storage facilities, and shared roadways not specifically designated for bicycle use.

BICYCLE LANE: A portion of a roadway which has been designated by striping, signing and pavement markings for the preferential or exclusive use of bicyclists.

BICYCLE PATH: See Shared Use Path.

BICYCLE ROUTE SYSTEM: A system of bikeways designated by the jurisdiction having authority with appropriate directional and informational route markers, with or without specific bicycle route numbers. Bike routes should establish a continuous routing, but may be a combination of any and all types of bikeways.

BIKEWAY: A generic term for any road, street, path or way which in some manner is specifically designated for bicycle travel, regardless of whether such facilities are designated for the exclusive use of bicycles or are to be shared with other transportation modes.

HIGHWAY: A general term denoting a public way for purposes of vehicular travel, including the entire area within the right-of-way.

RAIL-TRAIL: A shared use path, either paved or unpaved, built within the right-of-way of an existing or former railroad.

RIGHT-OF-WAY: A general term denoting land, property or interest therein, usually in a strip, acquired for or devoted to transportation purposes.

ROADWAY: The portion of the highway, including shoulders, intended for vehicular use.

RUMBLE STRIPS: A textured or grooved pavement sometimes used on or along shoulders of highways to alert motorists who stray onto the shoulder.

SHARED ROADWAY: A roadway which is open to both bicycle and motor vehicle travel. This may be an existing street with wide curb lanes, or road with paved shoulders, or any street with a width that supports existing motor vehicles and bicycles in the same lane.

SHARED USE PATH: A bikeway physically separated from motorized vehicular traffic by an open space or barrier and either within the highway right-of-way or within an independent right-of-way. Shared use paths may also be used by pedestrians, skaters, wheelchair users, joggers and other non-motorized users.

SHOULDER: The portion of the roadway contiguous with the traveled way for accommodation of stopped vehicles, for emergency use and for lateral support of sub-base, base and surface courses.

SIDEWALK: The portion of a street or highway right-of-way designed for preferential or exclusive use by pedestrians.

SIGNED SHARED ROADWAY (SIGNED BIKE ROUTE): A shared roadway which has been designated by signing as a preferred route for bicycle use.

TRAIL: A marked or established path or route

TRAVELED WAY: The portion of the roadway for the movement of vehicles, exclusive of shoulders.

UNPAVED PATH: A path having a soft surface such as natural soil or decomposed granite. The decomposed granite may be stabilized.

Design Standards

The following design standards were adapted from the Maricopa County Department of Transportation manual:

1. BASIC CRITERIA

A. GENERAL

- 1) Whenever practicable, bicycle lanes will be included as part of the standard cross section on all collector streets when they are designed, constructed, reconstructed or widened.
- 2) Regarding bikeway facilities, all new developments and new roadway construction must meet bicycle design standards.

B. DEVELOPMENT OF PLANS AND SPECIFICATIONS

- 1) Except where these standards provide otherwise, design, design details, workmanship, and materials shall be in accordance with the current editions of the following publications:
 - a. Guide for the Development of Bicycle Facilities, The American Association of State Highway and Transportation Officials, (“AASHTO”).
 - b. Manual on Uniform Traffic Control Devices (MUTCD), U.S. Department of Transportation, as amended and approved by the Arizona Department of Transportation.

C. VARIANCES

- 1) Variances from these standards and procedures may be granted by the Public Works Director upon evidence that such variances are in the public interest, that they are based upon sound engineering judgment, and that safety, function, appearance and maintainability requirements are fully met. Variances must be requested and approved in writing.

2. ROADWAY FACILITY DESIGN GUIDELINES

A. PAVEMENT SURFACE

- 1) Pavement surfaces shall be designed free from irregularities and the edges of the pavement shall be uniform in width
- 2) Roads that are expected to have bicycle traffic shall not have “rumble strips”

- 3) On collector streets and above, when chip sealing is used to recondition roadway surfaces, the cover material shall limit the maximum stone size to 3/8" on bike lanes and shoulders.

B. DRAINAGE GRATES AND UTILITY COVERS

- 1) Whenever practicable, when a new roadway is designed, all drainage grates and utility covers should be kept out of the bicyclists' expected path.
- 2) Drainage grates and utility covers shall be adjusted flush with the pavement surface on all new construction and reconstruction.
- 3) On new construction where bicyclists will be permitted, curb inlets rather than drainage grates should be used wherever possible.
- 4) Bicycle safe drainage grates shall be used on all roadways.

C. RAILROAD CROSSINGS

- 1) Railroad-highway grade crossings should ideally be at a right angle to the rails.
- 2) Pavement surfaces at railroad crossings shall be designed, constructed, and maintained to permit safe, smooth crossing for all roadway users. If the crossing angle is less than approximately 45 degrees, consideration should be given to widening the outside lane, shoulder or bicycle lane to allow bicyclists adequate room to cross the tracks at a right angle. Where this is not possible, commercially available compressed flange-way fillers can enhance bicyclists' safety. If cost is a factor, these need only to be installed across the bike lane portion of the total pavement width.
- 3) Warning signs and pavement markings should be installed in accordance with the Manual on Uniform Traffic Control Devices.

D. ADDITIONAL ROADWAY HAZARDS

- 1) Smooth transitions should exist at all cattle guards, gutters, manholes and all cut and patch sites on roadways.
- 2) Raised pavement markings shall not be used directly along designated bicycle facilities.

E. BRIDGE TREATMENTS

- 1) Bridge crossings shall incorporate facilities that will accommodate all traffic modes that exist or are planned on the roadways to and from the bridge. The design of roadway widths for bridges shall allow on-road bike lanes to be continuous across the bridge.

F. TRAFFIC CONTROL DEVICES

- 1) Bicyclists should be taken into consideration in the timing of traffic signals and in the placement of traffic detection devices.
- 2) Where camera-detection signal heads are used, they shall be checked to ensure that they are visible to a bicyclist who is properly positioned on the road.
- 3) The Manual on Uniform Traffic Control Devices should be consulted for guidance on signs and pavement markings.

G. WIDE CURB LANES (SHARED ROADWAY)

- 1) On existing multi-lane roadways, the Public Works Director may consider reducing the inner lane widths to provide wider outside lanes.

H. BIKE ROUTES

- 1) Signing of bike route shall be in accordance with the Manual of Uniform Traffic Control Devices.

I. PAVED SHOULDERS

- 1) The designation of paved shoulders as bike lanes or bike routes shall be a decision made the Public Works Director.

J. BIKE LANES

- 1) Bike lanes shall always be one-way facilities that carry traffic in the same direction as the adjacent motor vehicle lane. Two-way bicycle lanes or contra-flow lanes on one side of the roadway are not unacceptable.
- 2) Bike lanes on one-way streets shall be placed on the right side edge of the road, except in areas where placement on the left will significantly reduce conflict.
- 3) The minimum bike lane width on urban (curbed) roadways where parking is prohibited shall be 4 feet (1.2 meters), measured from the edge of the vehicle lane to the longitudinal joint between the roadway surface and the gutter pan (AASHTO). When the gutter pan is less than 12 inches (0.3 meters) in width, the minimum distance from the edge of the vehicle lane to the face of curb shall be 5 feet (1.5 meters) (AASHTO).
- 4) The minimum bike lane width on non-curbed street with no parking is 4 feet of useable pavement width.
- 5) The minimum bike lane striped width for a curbed street where a parking lane is provided is 5 feet (1.5 meters) to the left of a minimum 8-foot (2.4 meters) wide parking area. Bicycle lanes shall always be placed between the parking lane and the through traffic lane. If the parking volume is substantial or turnover is

high, an additional 1 or 2 feet (0.3 to 0.6 meters) of width is recommended for safe bicycle operation.

3. SHARED USE PATH DESIGN GUIDELINES

A. GENERAL

- 1) Shared use paths shall be designed to accommodate all expected users
- 2) Shared use paths are facilities with minimal cross flow by motor vehicles.
- 3) Sidewalks do not constitute an acceptable bicycle facility.
- 4) Coordination between the County, local communities and private developments on shared use path facilities shall be done through the Public Works Department.
- 5) On- and off-street bicycle facilities are to complement and connect with each other.
- 6) Design shall comply with AASHTO Guide for the Development of Bicycle Facilities.

B. SHARED USE PATH WIDTH AND CLEARANCE DISTANCES

- 1) The minimum width for a two-directional shared use path is 10 feet. Twelve feet is recommended where high use is expected.
- 2) A minimum 2 foot wide stabilized surface area shall be provided adjacent to both sides of pathway pavements. This area shall remain free from obstructions and serve as a 2 foot clear zone and be included within the designated right-of-way.
- 3) The shared use path vertical clear distance shall be 10 feet minimum.
- 4) Shared use paths adjacent to streets or roadways are not recommended. If a shared use path is planned adjacent to highway developments, strict separation distances shall be adhered to unless an AASHTO recommended barrier is provided. The minimum distance, from the back of the curb to the inside edge of the shared use path is 5 feet.
- 5) One-way shared use paths are not acceptable.

C. SHARED USE PATH DESIGN SPEED

- 1) The minimum design speed for shared use paths is 20 mph; however, a design speed of 30 mph shall be used when the grade exceeds 4 percent or when strong prevailing tail wind exist.

D. SHARED USE PATH HORIZONTAL ALIGNMENT AND SUPERELEVATION

- 1) The maximum super-elevation rate is 2 percent
- 2) The minimum design radius of curvature shall be derived from the formulas and figures provided in the AASHTO Guide for Development of Bicycle Facilities.

- 3) Where curves are used along bike paths, proper warning signs, pavement markings and additional width shall be provided in accordance with the AASHTO Guide for Development of Bicycle Facilities and the Manual on Uniform Traffic Control Devices.

E. SHARED USE PATH GRADES

- 1) Grades greater than 10 percent are not recommended. Where the terrain dictates, grades over 10 percent may be allowed for short distances. Refer to the ADA requirements and AASHTO Guide for the Development of Bicycle Facilities for specific grade restrictions and grade lengths.

F. SHARED USE PATH SIGHT DISTANCES

- 1) The minimum sight distance shall be derived from figures and formulas contained in the AASHTO Guide for the Development of Bicycle Facilities.

G. SHARED USE PATH INTERSECTIONS

- 1) The number of path and roadway / driveway intersections should be minimized.
- 2) Right-of-way shall include areas required for adequate sight distance for turning movements.
- 3) Shared use path intersections and approaches shall be on as flat of a grade as practical.
- 4) Adequate warning of intersections shall be given in advance to afford bicyclists a safe stopping distance.
- 5) For traffic control devices, application of the Manual on Uniform Traffic Control Devices warrant criteria shall be used (signal, stop sign, yield sign, etc.)
- 6) Sign type, size and location shall be in accordance with guidance provided in the Manual on Uniform Traffic Control Devices.

H. SHARED USE PATH SIGNING AND MARKING

- 1) Uniform application of traffic control devices are described in the Manual on Uniform Traffic Control Devices. A 4-inch wide yellow centerline stripe is recommended to separate opposite directions of travel along shared use paths under the following circumstances:
 - a. For heavy volumes of bicycles
 - b. Meets minimum width standards
 - c. On curves with a restricted sight distance
 - d. On unlit paths.

I. SHARED USE PATH PAVEMENT STRUCTURE

- 1) Shared use paths shall be constructed of either asphalt concrete or Portland cement concrete. A pavement design report prepared and sealed by a Professional Engineer shall be submitted to the Public Works Director.
- 2) Pavements are to be designed to sustain, without damage, wheel loads of emergency, patrol, maintenance, and other motor vehicles that are expected to use or cross the path.
- 3) Pavements for shared use paths shall provide a smooth and consistent surface. Skid resistance qualities shall not be sacrificed for the sake of smoothness.

J. SHARED USE PATH DRAINAGE

- 1) A standard cross slope of 2% shall be provided.
- 2) One-way slopes shall be used. Crowned pathways will not be permitted.
- 3) Provide drainage facilities that will prevent runoff from flowing across the pathway pavement and to prevent ponding on the pavement.
- 4) Locate manhole covers and drainage grates away from the pathway pavement.

K. SHARED USE PATH RESTRICTION OF MOTOR VEHICLES

- 1) Removable bollard post or other approved device may be used to restrict unauthorized access to paths. Bollard posts shall be permanently reflectorized for night time visibility and painted a bright color for daytime visibility. Provide clear 5 foot pathway openings between bollards and other restrictions.

Funding Sources

Specific funding programs for bicycle facilities and programs are likely to change from year to year, so the program criteria and availability of each should be checked in advance. Many funding programs involve competitive grants, matching funds, public planning requirements, multi-objective criteria and other requirements that should be carefully evaluated by any agency considering such sources. Funding opportunities for bicycle improvements can be looked at in terms of federal, state, local and private sources, as follows:

FEDERAL SOURCES

One of the primary sources of funding for bicycle and pedestrian improvements is through the Federal Transportation Bill. SAFETEA-LU, “The Safe, Accountable, Efficient Transportation Equity Act - a Legacy for Users” (2005-2009) is the name for the federal transportation bill originally authorized through September 30, 2009. The reauthorization of the federal transportation bill is currently under consideration with the extension of SAFETEA-LU through 2010. The new proposal, referred to as “The Surface Transportation Authorization Act of 2009 – *A Blueprint for Investment and Reform*” identifies bikeways and walkways as an integral part of the nation’s transportation network.

Transportation Enhancement Funds. One of the more important potential funding sources for bicycle facilities is from Transportation Enhancement (TE) funds. These funds are set aside each year as a dedicated portion of the general transportation funds each state receives from the federal government. TE funds are intended to encourage activities and projects that go beyond standard road construction projects so as to address a range of conservation and efficiency goals. Walkways, pedestrian bridges, multi-use pathways, sidewalks, and support facilities for pedestrian and bicyclist use are eligible for these funds. All projects must be surface transportation related. In Arizona, the TE program is administered by the Arizona Department of Transportation. The grants are issued on a competitive basis to communities or non-profits who wish to make transportation related improvements that are not typical roadway improvements. This includes bicycle and pedestrian improvements, improvements to historic, transportation-related infrastructure and buildings, scenic or historic highway programs, beautification programs, preservation of railway corridors, and related archeology planning and research. The federal funding cap for individual state projects (projects associated with state highway system) is \$1 million and the cap for individual local projects is \$500,000.

Safe Routes to School Initiative: The “Safe Routes to School” program was established through SAFETEA-LU to help cities and school districts address the childhood obesity epidemic by providing funding for education programs and facilities that make it safer for children to walk or bike to school. Partnerships are encouraged between the City and the

school district. This program is intended to improve pedestrian and bicycle infrastructure related to schools. The purpose is to enable and encourage children, including those with disabilities, to walk and bicycle to school; to make walking and bicycling to school safe and more appealing; and to facilitate the planning, development and implementation of projects that will improve safety, and reduce traffic, fuel consumption, and air pollution in the vicinity of schools. Funding will be distributed to states in proportion to the number of primary and secondary school students in the state. Funds are to be administered by ADOT to provide financial assistance to State, local, and regional agencies, including non-profit organizations that demonstrate the ability to meet the requirements of the program. The Federal share is 100 percent. Eligible projects include sidewalk improvements, traffic calming and speed reduction improvements, pedestrian and bicycle crossing improvements, on-street bicycle facilities, off-street bicycle and pedestrian facilities, secure bike parking, and traffic diversion improvements in the vicinity of schools (within approximately 2 miles).

STATE AND LOCAL SOURCES

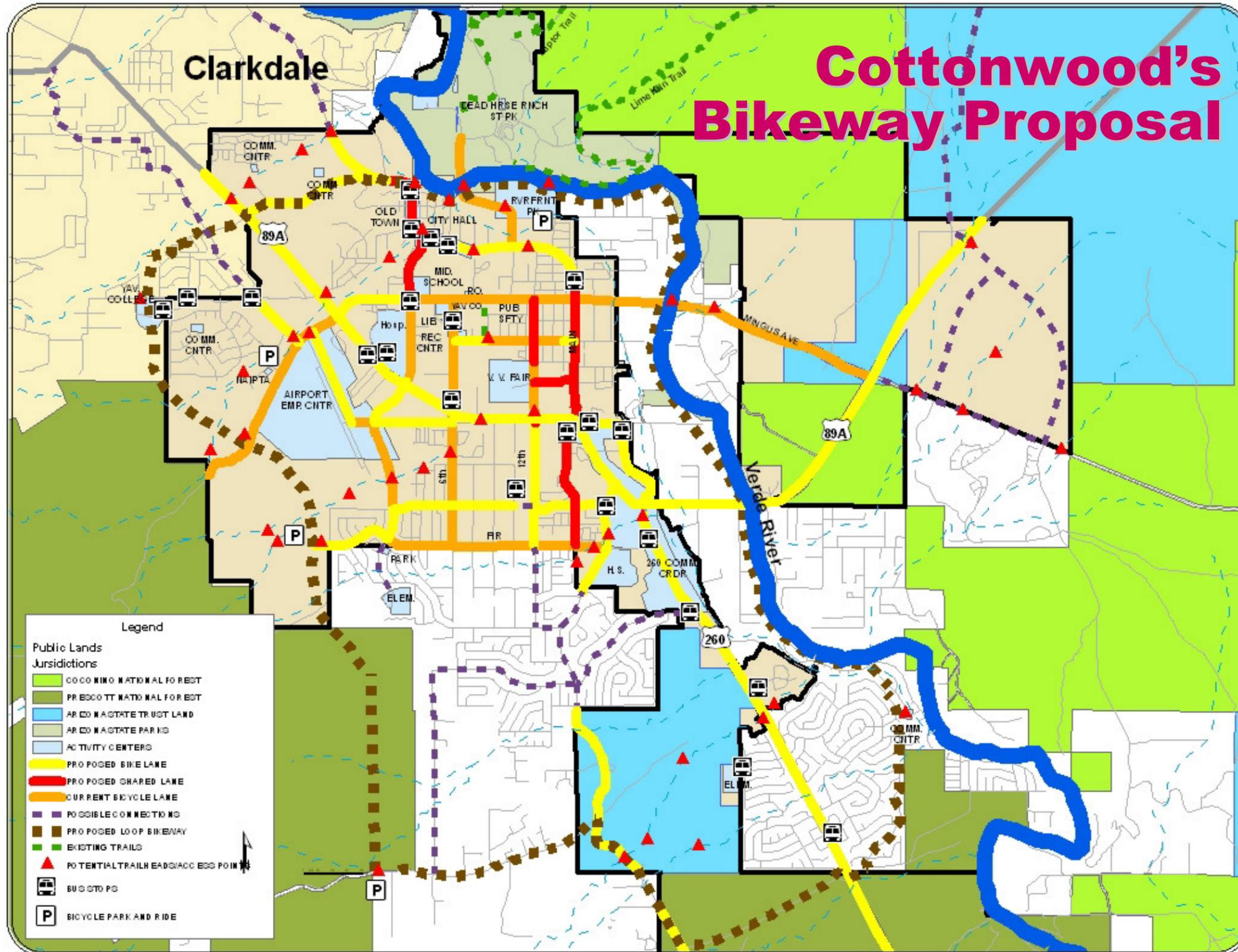
The majority of the state funding available for bicycle improvements comes from the Highway Revenue Users Fund (HURF). HURF is the redistribution of state fuel taxes to communities based on their population. However, these funds are limited and most are designated for roads that desperately need to be repaired. HURF Funds can be used to add bicycle lanes to roadways which are subject to repair with the use of HURF money.

Local funding allotment to Parks and Recreation as well as Public Works should also be considered through the City's 5-year capital improvements funding. Bike racks for buses may also be fundable in association with related transit facility funding through the Northern Arizona Intergovernmental Public Transportation Authority.

All right-of-way projects, including new street development, street improvement projects, and utility projects should be evaluated for opportunities to include bicycle and pedestrian facilities.

PRIVATE DEVELOPMENT SOURCES

Development projects, including commercial, multi-unit residential projects, and mixed use development, can be required to provide bicycle facilities through rezoning and subdivision requests, as well as through zoning and permit requirements enabled by Ordinance 144. Rights of way can also be pursued as donations from land owners, emphasizing the economic benefits to the developer, as well as to the city in general.



Cottonwood's Bikeway Proposal

ENGINEERING

- EVALUATION OF NEED / FACILITIES
- CONVENIENCE & SAFETY ISSUES
- STREET DESIGN GUIDELINES
- STREET STRIPING & SIGNAGE
- DEVELOPER CONTRIBUTIONS
- SPECIAL PROJECTS

EDUCATION

- PUBLIC TRAINING AND EDUCATION
- TARGET PRIMARY AUDIENCES
- EDUCATIONAL ROUTE SIGNAGE
- PUBLICITY AND EVENTS

ENFORCEMENT

- RELATED CITY CODE REVISIONS
- CODE ENFORCEMENT TRAINING

ENCOURAGEMENT

- CITY FACILITIES AS MODEL
- INTEGRATE WITH TRANSIT
- BICYCLE PARKING STANDARDS
- PLACEMENT OF BICYCLE RACKS
- STREET IMPROVEMENTS
- STREET MAINTENANCE PROGRAM
- STANDARDS FOR "NEW DEVELOPMENT"