

Maricopa County
Department of Transportation
Bicycle System Plan

April 1999

EXECUTIVE SUMMARY



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BACKGROUND

The **Bicycle System Plan** updates, expands and continues the work of the *1994 Maricopa County Draft Bicycle Plan*. Utilizing a five year time frame the **Bicycle System Plan** works towards implementing bicycle related recommendations from the *Comprehensive Plan* and *Transportation System Plan (TSP)* as adopted by the Board of Supervisors (BOS).

Apart from satisfying implementation requirements, objectives include:

- Provide an overview of bicycling conditions in Maricopa County.
- Clearly outline facility, policy and program changes focused on improving and integrating bicycle transportation.
- Strengthen the bicycle program overall while implementing recommendations over the time frame of the plan.

The Maricopa County region currently boasts an estimated 1000 to 1200 miles of bicycle facilities (lanes, routes, paths, etc...). The majority of these miles are located within cities and towns, with approximately 100-150 miles found in unincorporated Maricopa County.

Maricopa County Department of Transportation is responsible for 2,829 miles of roadway in unincorporated County areas. Nearly 2,000 of these miles are paved and potential routes for bicyclists. The plan focuses on the 112 miles of urban arterials currently in the roadway network for bicycling.

Bicycle travel is affected by a wide range of plans, programs and polices in Maricopa County. This includes transportation plans, land use plans, area studies, corridor studies, BOS adopted policies, and internal programs and initiatives. The following table summarizes bicycle related recommendations from various County plans.

SUMMARY OF BICYCLE RECOMMENDATIONS IN COUNTY PLANS	
<i>PLAN</i>	<i>RECOMMENDATIONS</i>
Comprehensive Plan	<ul style="list-style-type: none"> • Promote and increase bikeways. • Include multi-modal alternatives. • Include bikes on all new road projects.
Transportation System Plan	<ul style="list-style-type: none"> • Standard bicycle roadway section. • Update bike plan, and implementation.
SW Valley Area Plan	<ul style="list-style-type: none"> • Bikeways on new or reconstructed roads. • Combine with larger roadway projects. • Identifies bicycle network for SW Valley.
NE Valley Area Plan	<ul style="list-style-type: none"> • Provide access to bike routes. • Bike lanes along major roadways. • Designated bikeways in new developments.
Williams Area Plan	<ul style="list-style-type: none"> • Implement existing MAG bicycle plans. • Bicycle lanes on all arterial streets. • Improve bicycle access to campus.
Maricopa County Bicycle Facilities Plan	<ul style="list-style-type: none"> • Integrate bicycling in all County planning. • Bicycle review on all development plans. • Identified facilities. • Encouraged education.



RECOMMENDATIONS

To improve the County transportation network for bicycling the following goals, policies, objectives and facilities are recommended for adoption by the Board of Supervisors.

Recommended Goals

Goal 1:

Identify a connected bicycle network, which extends and compliments municipal bicycle plans and systems into and throughout the County.

Goal 2:

Establish roadway cross sections with bicycle lanes as the Maricopa County roadway design standard.

Goal 3:

Develop an Implementation Plan outlining specific steps, time-lines and polices to implement this plan.

Goal 4:

Encourage and support existing bicycle safety and education programs operating in Maricopa County.

Goal 5:

Integrate bicycle transportation needs into ongoing and future transportation, land use and economic development plans.

**Bicycle System Plan
Mission Statement**

Maricopa County Department of Transportation shall actively enhance, increase and enrich the freedom and opportunities of Maricopa County citizens by integrating bicycle transportation as a standard element in county engineering, planning, programs and processes.

Recommended Policies

Policy 1: General Bicycle Policy

- a. Maricopa County recognizes bicycling as a viable transportation mode, and actively works toward consistently and prudently improving the transportation network to increase access to the system for bicyclists.

Policy 2: Facility Commitment Policies

- a. Maricopa County Department of Transportation shall include bicycle facilities on all County roadways as described in the Roadway Design Manual and the Pavement Marking Manual.
- b. Bicycle projects not directly combined with a larger roadway project shall be evaluated separately during the CIP process.
- c. The Capital Improvement Program shall rate projects with bicycle elements higher than projects without bicycle elements.

Policy 3: Organizational Change Policies

- a. Maricopa County Department of Transportation shall institute a multi-modal review process to ensure proper inclusion of bicycle, pedestrian and transit needs in plans, projects and design.
- b. Partners, contractors and customers of Maricopa County Department of Transportation are to be informed of the position of the County towards bicycle transportation and encouraged to follow the same standards and principles when working with the County.



Recommended Objectives

Objective 1:

Double the miles of bike lanes on County roadways by 2002.

Objective 2:

Make all recommended changes and reissue the *Roadway Design Manual* and *Pavement Marking Manual* within 6 months of plan adoption.

Objective 3:

Develop and institute a multi-modal review process within 6 months of plan adoption.

Objective 4:

Update on a yearly basis, in conjunction with the CIP, a Bicycle Improvement Program (BIP).

Objective 5:

Utilize the bicycle facility program budget item to fund prioritized bicycle improvements.

Objective 6:

Implement a bicycle parking ordinance within 1 year of plan adoption.

Objective 7:

Fully align all CIP projects with policies adopted in this plan within 1 year of plan adoption.

Objective 8:

Conduct or take part in a comprehensive transportation survey which includes bicycle elements within 2 years of plan adoption.

Objective 9:

Host a bicycle planning workshop for MCDOT engineers within 6 months of plan adoption.

Objective 10:

Conduct a comprehensive analysis of pavement, lane and shoulder widths on the County road network within 5 years of plan adoption.

Objective 11:

Improve the bicycle stress levels on the designated bicycle network to 3 or less.

Facility Recommendations

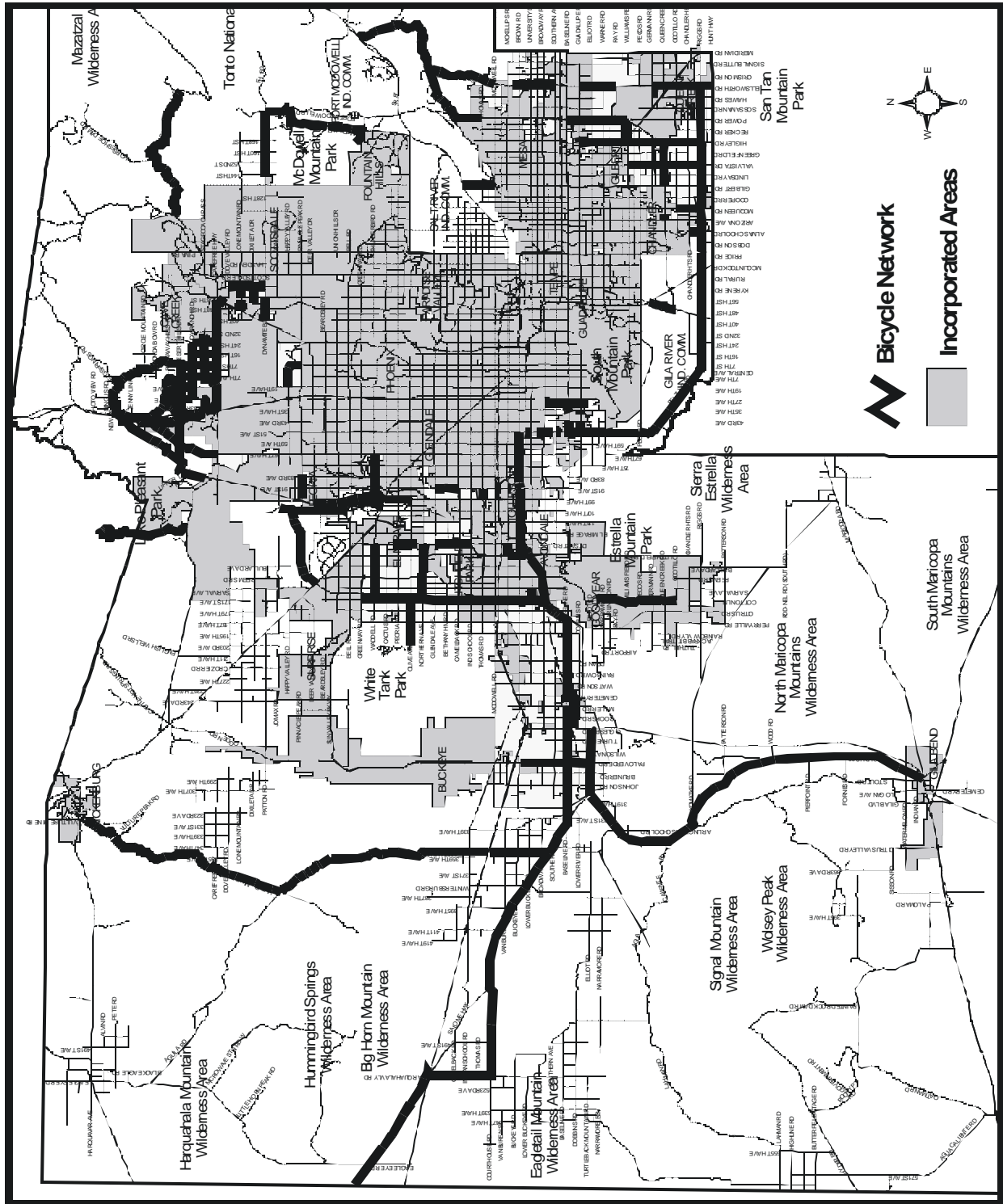
Road Improvements

The Maricopa County Bicycle Transportation Plan identifies a recommended bicycle network (see map below) including 473 miles of on-road bicycle facilities. Ultimately these roadway segments are designated to be signed and striped as bicycle facilities. All other County road projects will include wide shoulder or wide outside lane widths, when constructed or reconstructed, with the option for signing and striping as a bicycle facility.

Bicycle Parking

To further encourage bicycling a bicycle parking ordinance is recommended. It provides minimum standards for the development of bicycle parking on private property within Maricopa County. These standards are recommended to establish effective and attractive means for providing a minimum area for parking and storage of bicycles. These standards in part support the County Trip Reduction Ordinance.





Benefit / Cost of Additional Shoulder Pavement Width/Bicycle Lanes

Building streets for more than automobiles requires a commitment and understanding that streets are a community resource not simply a car conduit. Maricopa County Department of Transportation (MCDOT) understands the benefits of building a better street, by developing excellent standards and guidelines inclusive of bicycling, pedestrians and transit.

Providing roadways with wide paved shoulders/bicycle lanes costs typically 4-6% more than roads without shoulders. The benefits described outweigh this increase as shown below:

Total potential cost (20yr, high cost, including annual operating increase)	=	\$18,704,000
Savings from accident reduction (5% reduction, 20 year savings)	=	\$60,445,000
Savings from lower VMT (.5% mode shift to bicycles, 20 year savings)	=	<u>\$ 9,724,000</u>
	Total Savings	= \$70,169,000

Benefit Cost ratio = $\$70,169,000 / \$18,704,000 = 3.75$

In addition to these dollar savings, there is a wide range of qualitative improvements realized from building streets with wide paved shoulders/bicycle lanes. They improve safety, capacity, maintenance, pedestrian environment, motorist environment and the use of the street by a variety of modes.

