

# Maricopa County Regional Trail System Plan

Adopted August 16, 2004



Maricopa Trail



Maricopa County Trail Commission

Maricopa County Department of Transportation  
Maricopa County Parks and Recreation  
Maricopa County Planning and Development  
Flood Control District of Maricopa County



***We have an obligation to protect open spaces  
for future generations.***



# VISION

*Our vision is to connect the majestic open spaces of the Maricopa County Regional Parks with a nonmotorized trail system.*

***The Maricopa Trail***



# Credits

## Maricopa County Board of Supervisors

Andrew Kunasek, District 3, Chairman  
Fulton Brock, District 1  
Don Stapley, District 2  
Max Wilson, District 4  
Mary Rose Wilcox, District 5

## Maricopa County Trail Commission

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### Citizen Members:

Art Wirtz, District 2  
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James Duncan, Salt River Project (SRP)  
Teri Raml, Bureau of Land Management (BLM)

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Pat Schneider  
Bruce Ellison  
Bill Lanford  
Jerry Aster  
Jack Stapley



*Pictured from left to right Laurel Arndt, Supervisor Andy Kunasek, Fred Pfeifer, Carol Erwin, Arizona's Official State Historian, Marshall Trimble, and Art Wirtz pose with the commemorative branded trail marker at the Maricopa Trail groundbreaking ceremony at Anthem November 12, 2003.*

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# Contents

<a href="#">Vision</a>	1
<a href="#">Credits</a>	2
<a href="#">Figures</a>	4
<a href="#">Introduction</a>	5
<a href="#">Maricopa County Regional Trail System Map</a>	6
<a href="#">Relationship to Comprehensive Plan</a>	7
<a href="#">Goals and Policies</a>	8
<a href="#">Design Guidelines</a>	9
<a href="#">Sun Circle Trail</a>	10
<a href="#">Maricopa Trail</a>	21
<a href="#">Central Arizona Project Aqueduct</a>	61
<a href="#">Priority Two</a>	72
<a href="#">Priority Three</a>	82
<a href="#">Priority Four</a>	93
<a href="#">Project Corridors Map</a>	117
<a href="#">Segment Table</a>	118
<a href="#">Public Involvement</a>	122
<a href="#">Implementation Plan</a>	129
<a href="#">Appendix A - Analysis and Trail Classification</a>	131
<a href="#">Appendix B - Design Guidelines</a>	150
<a href="#">Appendix C - Liability for Attractive Nuisance</a>	162
<a href="#">Appendix D - Subdivision Regulation</a>	163
<a href="#">Appendix E - Plans</a>	164
<a href="#">Appendix F - Funding Sources</a>	186
<a href="#">Appendix G - Glossary</a>	192
<a href="#">Appendix H - References</a>	194



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# Figures

<a href="#">Figure 1: Regional Trail System</a>	6	<a href="#">Figure 43: San Tan Mountain Regional Park</a>	50	<a href="#">Figure 93: McDowell Mountain Regional Park Trails</a>	85
<a href="#">Figure 2: Grade 5%</a>	9	<a href="#">Figure 44: Hawes Road</a>	52	<a href="#">Figure 94: Rio Verde</a>	85
<a href="#">Figure 3: Grade 12.5%</a>	9	<a href="#">Figure 45: RWCD Irrigation Lateral</a>	53	<a href="#">Figure 95: Tonto National Forest Trails</a>	85
<a href="#">Figure 4: Sun Circle Trail Map, Plate 2</a>	10	<a href="#">Figure 46: Southern portion of Consolidated Canal</a>	54	<a href="#">Figure 96: Power line Trail</a>	86
<a href="#">Figure 5: Sun Circle Trail</a>	11	<a href="#">Figure 47: Gila River</a>	55	<a href="#">Figure 97: Grand Canal</a>	87
<a href="#">Figure 6: New River &amp; Lower Aqua Fria</a>	12	<a href="#">Figure 48: Estrella Mountain Regional Park</a>	56	<a href="#">Figure 98: Roosevelt Irrigation District Canal</a>	88
<a href="#">Figure 7: Arizona Canal</a>	13	<a href="#">Figure 49: Robins Butte Wildlife Area</a>	58	<a href="#">Figure 99: Bullard Wash</a>	89
<a href="#">Figure 8: South Canal</a>	14	<a href="#">Figure 50: Buckeye Hills Regional Park</a>	59	<a href="#">Figure 100: Channel Alignment</a>	89
<a href="#">Figure 9: South Canal</a>	14	<a href="#">Figure 51: Proposed FCD Channels</a>	60	<a href="#">Figure 101: Bullard Wash Channel Improvements</a>	89
<a href="#">Figure 10: Consolidated Canal</a>	15	<a href="#">Figure 52: CAP Priority Three and Four</a>	62	<a href="#">Figure 102: Hassayampa River</a>	90
<a href="#">Figure 11: Western Canal</a>	16	<a href="#">Figure 53: CAP Priority One and Two</a>	63	<a href="#">Figure 103: Hassayampa River</a>	90
<a href="#">Figure 12: National Trail</a>	17	<a href="#">Figure 54: CAP across Scottsdale</a>	64	<a href="#">Figure 104: Trilby Wash</a>	91
<a href="#">Figure 13: SRP Power line</a>	19	<a href="#">Figure 55: CAP across SRP-MIC</a>	64	<a href="#">Figure 105: Morgan City Wash</a>	92
<a href="#">Figure 14: Salt River</a>	20	<a href="#">Figure 56: CAP across Peoria</a>	65	<a href="#">Figure 106: Morgan City Wash</a>	92
<a href="#">Figure 15: Maricopa Trail</a>	21	<a href="#">Figure 57: CAP across Phoenix</a>	66	<a href="#">Figure 107: Priority Four Segments</a>	93
<a href="#">Figure 16: White Tank Mountain Regional Park</a>	22	<a href="#">Figure 58: CAP across Maricopa County land</a>	66	<a href="#">Figure 108: Black Canyon Trail</a>	94
<a href="#">Figure 17: Waterfall Wash</a>	24	<a href="#">Figure 59: CAP across Phoenix</a>	66	<a href="#">Figure 109: Arizona Trail</a>	95
<a href="#">Figure 18: McMicken Corridor</a>	25	<a href="#">Figure 60: CAP across Scottsdale</a>	66	<a href="#">Figure 110: Power line Floodway</a>	96
<a href="#">Figure 19: McMicken Dam</a>	26	<a href="#">Figure 61: Granite Reef Dam</a>	67	<a href="#">Figure 111: Power line Floodway</a>	96
<a href="#">Figure 20: Upper Aqua Fria</a>	27	<a href="#">Figure 62: CAP across Mesa</a>	68	<a href="#">Figure 112: Power line Corridor</a>	97
<a href="#">Figure 21: Lake Pleasant Regional Park</a>	28	<a href="#">Figure 63: CAP across Apache Junction</a>	68	<a href="#">Figure 113: Waterman Wash</a>	98
<a href="#">Figure 22: Lake Pleasant</a>	29	<a href="#">Figure 64: CAP across Apache Junction</a>	68	<a href="#">Figure 114: Sierra Estrella Wilderness Area</a>	99
<a href="#">Figure 23: Old Haul Road</a>	30	<a href="#">Figure 65: CAP across Maricopa County land</a>	68	<a href="#">Figure 115: Unnamed Wash Corridor</a>	99
<a href="#">Figure 24: Anthem</a>	30	<a href="#">Figure 66: CAP in Pinal County</a>	69	<a href="#">Figure 116: Unnamed Wash Corridor</a>	100
<a href="#">Figure 25: Greer Ranch</a>	31	<a href="#">Figure 67: CAP across Maricopa County land</a>	70	<a href="#">Figure 117: Vekol Wash</a>	100
<a href="#">Figure 26: Cave Creek Regional Park</a>	33	<a href="#">Figure 68: CAP across Buckeye</a>	70	<a href="#">Figure 118: Gas Pipeline</a>	101
<a href="#">Figure 27: Go John Trail</a>	34	<a href="#">Figure 69: CAP across Maricopa County land</a>	70	<a href="#">Figure 119: North Maricopa Mountains Wilderness Area</a>	102
<a href="#">Figure 28: Cahava Springs</a>	34	<a href="#">Figure 70: CAP across Surprise</a>	70	<a href="#">Figure 120: SR-85 Power line</a>	103
<a href="#">Figure 29: Spur Cross Trail</a>	35	<a href="#">Figure 71: CAP across Peoria</a>	70	<a href="#">Figure 121: Juan Bautista de Anza National Historic Trail</a>	104
<a href="#">Figure 30: Spur Cross Ranch Conservation Area</a>	36	<a href="#">Figure 72: CAP across Maricopa County land</a>	70	<a href="#">Figure 122: Saucedo Wash</a>	105
<a href="#">Figure 31: Trail 247</a>	38	<a href="#">Figure 73: CAP across Buckeye</a>	71	<a href="#">Figure 123: Gunnery Range</a>	105
<a href="#">Figure 32: City of Scottsdale Trail</a>	38	<a href="#">Figure 74: Priority Two Segments</a>	71	<a href="#">Figure 124: Gila River</a>	106
<a href="#">Figure 33: Stagecoach Pass</a>	39	<a href="#">Figure 75: Agua Fria River</a>	72	<a href="#">Figure 125: Fourth of July Wash</a>	107
<a href="#">Figure 34: McDowell Mountain Regional Park</a>	40	<a href="#">Figure 76: McMicken Outlet Wash</a>	73	<a href="#">Figure 126: Centennial Wash</a>	107
<a href="#">Figure 35: 136th Street</a>	42	<a href="#">Figure 77: Cave Creek Wash</a>	73	<a href="#">Figure 127: Centennial Wash</a>	108
<a href="#">Figure 36: McDowell Sonoran Preserve</a>	43	<a href="#">Figure 78: Cave Creek Regional Park Trails</a>	74	<a href="#">Figure 128: Harquahala FRS</a>	109
<a href="#">Figure 37: CAP across Scottsdale</a>	44	<a href="#">Figure 79: State Trust Land</a>	75	<a href="#">Figure 129: Old Camp Wash</a>	110
<a href="#">Figure 38: CAP across SRP-MIC</a>	44	<a href="#">Figure 80: Utery Mountain Regional Park Trails</a>	75	<a href="#">Figure 130: Tiger Wash</a>	110
<a href="#">Figure 39: Bulldog Canyon</a>	45	<a href="#">Figure 81: Signal Butte Floodway</a>	76	<a href="#">Figure 131: Harquahala Mountain Wilderness Area</a>	111
<a href="#">Figure 40: Utery Mountain Regional Park</a>	46	<a href="#">Figure 82: Queen Creek in Pinal County</a>	77	<a href="#">Figure 132: Power line Corridor</a>	112
<a href="#">Figure 41: RWCD Canal and EMF</a>	48	<a href="#">Figure 83: Queen Creek in Maricopa County</a>	78	<a href="#">Figure 133: Hummingbird Springs Wilderness Area</a>	113
<a href="#">Figure 42: Sanokai Wash</a>	49	<a href="#">Figure 84: Salt River</a>	78	<a href="#">Figure 134: Vulture Peak</a>	114
		<a href="#">Figure 85: Gila River</a>	79	<a href="#">Figure 135: Wickenburg Connection</a>	115
		<a href="#">Figure 86: Hassayampa River</a>	80	<a href="#">Figure 136: White Tank Western Connection</a>	115
		<a href="#">Figure 87: Buckeye FRS 1, 2, and 3</a>	80	<a href="#">Figure 137: White Tank Mountain Regional Park Trails</a>	116
		<a href="#">Figure 88: Priority Three Segments</a>	81	<a href="#">Figure 138: Flood Control District Regional Conveyance Channel</a>	116
		<a href="#">Figure 89: New River</a>	82	<a href="#">Figure 139: Northern Avenue</a>	116
		<a href="#">Figure 90: Daisy Mountain north</a>	83	<a href="#">Figure 140: Drainage Channels</a>	116
		<a href="#">Figure 91: Daisy Mountain API</a>	84	<a href="#">Figure 141: Buckeye/Sun Valley Area Drainage Master Plan</a>	116
		<a href="#">Figure 92: Deadman Wash in Anthem</a>	84	<a href="#">Figure 142: Project Corridors</a>	117

# Introduction

In February 2000, the Maricopa County Board of Supervisors (BOS) formed the Maricopa County Trail Commission and unveiled their plans to develop a Regional Trail System. The trail system plan was compiled in three stages over a period of nearly five years. It represents a comprehensive system of nonmotorized trail corridors that will help guide the planning process as Maricopa County moves through the 21st Century. The plan recognizes the importance of the Sun Circle Trail, establishes the Maricopa Trail, and identifies future trail corridors throughout the County.

Many of the trail corridors identified in the plan are under the jurisdiction of Federal, State, and Local agencies other than Maricopa County. The County's goal is to work in partnership with these agencies to facilitate the connectivity, funding, design, and construction of an interconnected trail network.

The Regional Trail System is a natural step in the County's regional planning process. It meets goals identified in all four elements (Land Use, Transportation, Environmental, and Economic Development) of the *Maricopa County 2020, Eye To the Future, Comprehensive Plan* adopted October 20, 1997.

The Regional Trail System Plan identifies three goals:

***Provide a shared use, nonmotorized trail system to connect the Maricopa County Regional Parks together.***

***Link metropolitan areas, municipal trails, communities, and neighborhoods with regional nonmotorized multi-modal corridors.***

***Provide open space corridors to protect natural and cultural resources from development.***

The project will capitalize on existing right-of-ways such as canals, parks, utility corridors, and flood control projects. The Commission is developing community partnerships to make the program a reality. The Commission hopes that this project will be a source of pride for the entire community.

A project team was formed with staff from the Maricopa County departments of Transportation, Parks and Recreation, Planning and Development, and Flood Control District. They began with a

pilot project centered on Lake Pleasant Regional Park. Their task was to identify the best trail corridors linking White Tank Mountain Regional Park, Lake Pleasant Regional Park, Spur Cross Ranch Conservation Area, and Cave Creek Recreation Area. This pilot project became Phase One of the Maricopa County Trail System Plan and was adopted by the Maricopa County Board of Supervisors (BOS) on September 4, 2002.

Phase Two began with the hiring of two full-time trail planners and a trail program manager. The planners' task was to identify trail corridors from Spur Cross Ranch Conservation Area and Cave Creek Recreation Area to San Tan Mountain Regional Park and Usery Mountain Regional Park. While the planners were working on corridors, the program manager began the implementation process identified in Phase One. After much public input, ***Maricopa Trail*** was chosen as the name for the primary trail loop connecting the regional parks. Phase Two of the Maricopa County Regional Trail System was adopted by the BOS on October 22, 2003.

The primary tasks for Phase Three were to complete the Maricopa County Regional Trail System Plan; identify the Maricopa Trail; and incorporate Estrella Mountain Regional Park, Buckeye Hills Regional Park, and Phoenix's South Mountain Park into the primary loop. Secondary tasks included identifying connections to external trail systems and looking at future trail corridors throughout the County. The Maricopa County Regional Trail System Plan is a comprehensive document that supercedes the *Hiking and Riding Trails Plan* adopted by the BOS in June 1964, the *Maricopa County Regional Trail System Plan: Phase One* in September 2002 and the *Maricopa County Regional Trail System Plan: Phase Two* in October 2003. This document categorizes the trail segments by priority with the Maricopa Trail and Sun Circle Trail being the highest and identifies the remainder of the segment priorities as two, three, and four.

The 1521 miles of the Maricopa County Regional Trail System are organized into identifiable segments and priorities. These priorities will serve as a guide for County planners to use when implementing the trail plan. The Priority One segments are those comprised of the Sun Circle Trail and the Maricopa Trail.

Priority Two segments are important regional corridors that connect to the Maricopa Trail and may provide connections to regional park systems. Priority Three segments are regional corridors that are not key components of the regional trail system at this time, but may become important future trails. All other trail corridors are assigned Priority Four.

The Maricopa County Regional Trail System is a collection of trail corridors under the jurisdiction and control of many different agencies. Maricopa County has identified the Sun Circle and Maricopa Trails as its highest priorities for completion. At any time, should the opportunity arise, lower priority segments may be developed. The County's priority designation may or may not coincide with the priorities of any agency whose trails have been identified as components of the regional system.

As Maricopa County Parks and Recreation Department celebrates its 50th Anniversary, it becomes the lead agency for the Maricopa County Regional Trail System, connecting the past, present, and future generations of Arizona residents and visitors.



Photo: Tony Renaud, MCDOT GIS Group



# Maricopa County Regional Trail System

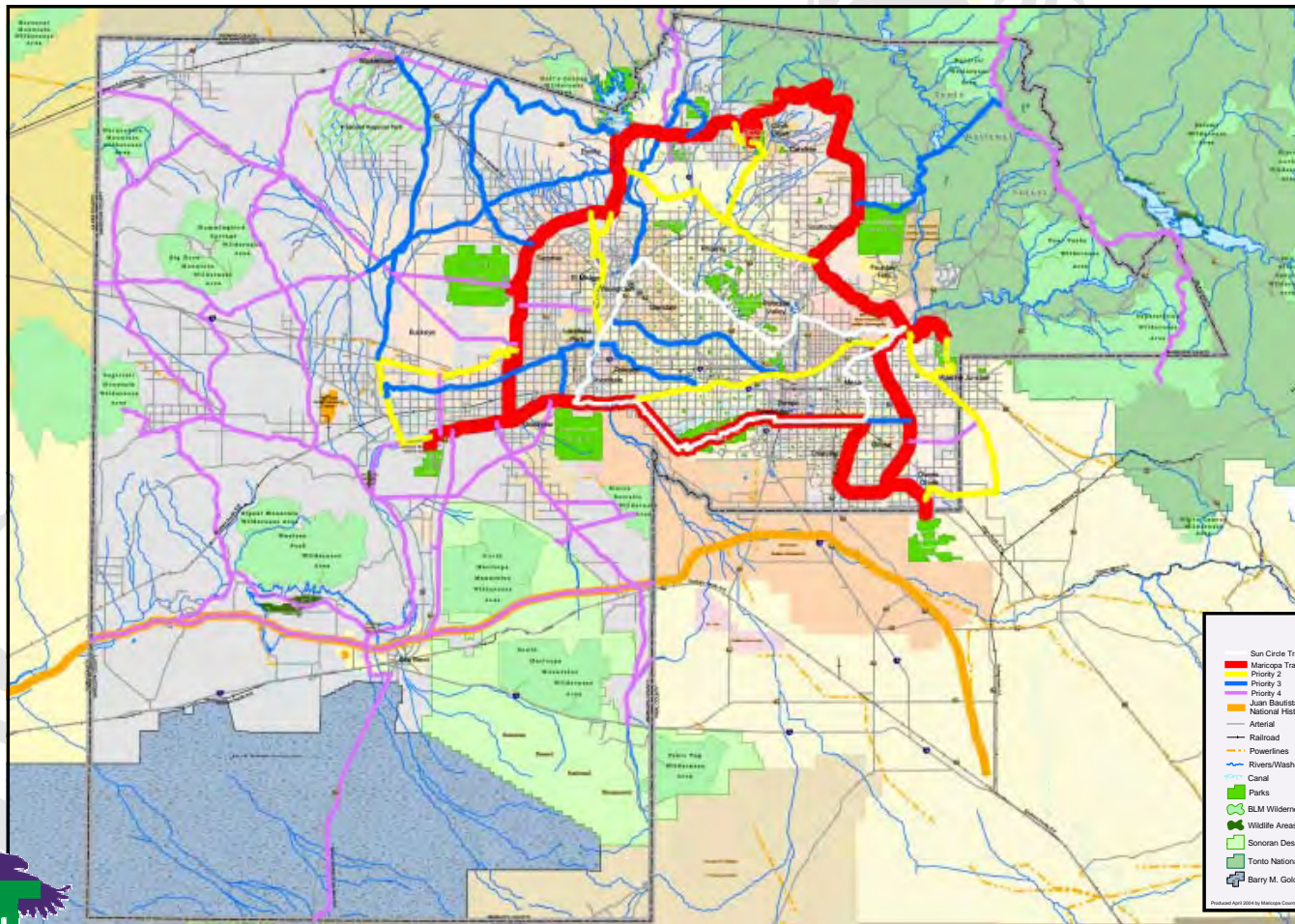


Figure 1 : Regional Trail System



# Relationship to the Comprehensive Plan

Maricopa County is the fourteenth largest (geographic area) county in the United States, encompassing 9,226 square miles. The current population of 3.2 million is expected to grow to nearly five million by the year 2020. With population growth comes the need for efficient land development, an integrated multi-modal transportation system, protection of the natural environment, and the creation of economic development opportunities.

## Maricopa County Comprehensive Plan



The Comprehensive Plan defines a future vision for Maricopa County. Comprehensive because it includes a broad range of planning activities for the entire unincorporated area of the County. The Comprehensive Plan shows the connection between the use of land and resources in different geographic areas, physical infrastructure of the built environment, and the process of governing. Ultimately, because it is comprehensive, it guides decisions to (1) protect natural resources; (2) ensure efficient expenditure of public funds; and (3) promote the health, safety, convenience, and general welfare of the public. The Maricopa County Regional Trail Plan Phase One is consistent with the goals, objectives, and policies outlined in the Comprehensive Plan. This includes transportation, land-use, environment, and economic development elements.

### Transportation

The transportation element of the Maricopa County Comprehensive Plan defines a system of transportation facilities that may be developed in Maricopa County through the year 2020. The element includes existing and future roadway networks and regional efforts towards creating a multi-modal system to accommodate transit, pedestrian, and bicycle needs. The transportation goal is to:

***Provide an efficient, cost effective, integrated, accessible, environmentally sensitive, and safe County-wide multi-modal system that addresses existing and future roadway networks as well as promotes transit, bikeways, and pedestrian travel.***

The Maricopa County Regional Trail System will be a major component of the multi-modal transportation system. It will provide alternative transportation corridors for bicyclists and pedestrians and offer off-street, nonmotorized connections between the County's regional parks. It will provide key links to allow users easy transitions with on-street bicycle, pedestrian, and transit facilities.

### Land Use

Given the vast area under the jurisdiction of Maricopa County, the land use area designations in the Comprehensive Plan embody generalized land use, development, and preservation concepts. The goal of the land use element is to:

***Promote efficient land development that is compatible with adjacent land uses, is well integrated with the transportation system, and is sensitive to the natural environment.***

The Maricopa County Regional Trail System Plan helps the County meet four specific objectives outlined in the land use element of the Comprehensive Plan. They are:

***Objective L7: Ensure provision of adequate public facilities and promote an interconnected open space system.***

***Objective L9: Integrate transportation planning with land use.***

***Objective L10: Promote the balance of conservation and development.***

***Objective L11: Promote an interconnected open space system.***

### Environmental

Maricopa County's environmental ecosystems and land ownership patterns provide a complex natural setting and planning agenda.

The Comprehensive Plan recognizes the importance of creating, improving, and conserving natural habitat and open space in order to increase biological diversity. Two environmental goals were established. They are:

***Goal 1: Promote development that considers adverse environmental impacts on the natural and cultural environment, preserves highly valued open space, and remediates areas contaminated with hazardous materials.***

***Goal 2: Improve air quality and minimize noise impacts.***

The Maricopa County Regional Trail System Plan promotes the establishment of open space corridors. The trail is a compatible recreation use with parks and open space areas. Impacts to the natural environment will be given a high priority during the design and construction of the trail system.

### Economic Development

Maricopa County has the power to intervene as a catalyst or facilitator for quality development in the region. Thoughtful land use decisions, comprehensive transportation planning, and sensitive environmental controls, combined with economic development opportunities, should aid in the generation of quality jobs and contribute to the enhancement of the quality of life for residents and communities. The goal of the economic development element is to:

***Promote a growing balanced, efficient, and diversified economy, consistent with available resources, that enhances quality employment opportunities, improves quality of life, and is sensitive to the natural and cultural environment.***

The Maricopa County Regional Trail System will improve the quality of life for residents of and visitors to Maricopa County. Properly designed and located, trailheads can serve as catalysts for quality development. Property values tend to be higher when adjacent to parks and trails.



# Goals and Policies

The overall goal of the Maricopa County Regional Trail System is to establish a continuous trail system connecting the County's regional parks. Natural river systems, trails, and adjacent parks have long been recognized for their environmental protection, recreation values, and aesthetic qualities. Trail systems can also enhance property values, increase tax revenues, mitigate impacts on the natural environment, reduce motor vehicle traffic, and promote a local identity. The following goals and policies are intended to facilitate and encourage the development of the regional trail system. A goal is a concise statement describing a condition to be achieved. It does not suggest specific actions, but describes a desired outcome. A policy is a specific statement to guide decision making.

## ***Goal 1: Provide a shared use, nonmotorized trail system to connect the Maricopa County Regional Parks together.***

Policy: Establish methods for trail acquisition, design, development, and maintenance that maximize community-contributed materials & services, and other trail establishment options at little or no cost to the county.

Policy: Public and private agencies should participate in all phases of trails development and implementation.

Policy: Provide separation of users to minimize hazards.

Policy: Coordinate the regional trail and its design with the trail design plans of cities and other public agencies, especially in relation to trail linkages.

Policy: Seek opportunities to designate or construct future trails on lands already under public ownership.

Policy: Seek trail opportunities through easements, dedications, joint use agreements, and other appropriate methods with public and quasi-public agencies.



Policy: Development projects, proposed on lands upon which a trail or pathway in the Regional Trail Plan has been identified, should dedicate and improve land for such trail or pathway purposes where a nexus exists between the impacts of the proposed development and the dedication/improvement requirements.

Policy: Establish and maintain a trail system that provides a diversity of quality outdoor recreation opportunities by locating trails of varying lengths and challenge within the full spectrum of recreation settings in Maricopa County.

Policy: The trail should, wherever feasible, include grade-separated intersections at major road crossings and at other physical barriers along the corridor.

Policy: All Maricopa County departments will incorporate the regional trail in the planning and design phases of any project adjacent to or crossing a regional trail corridor.



Policy: Wherever feasible, Maricopa County departments will construct trail crossings at points of contact on existing, programmed, and planned County public infrastructure to set anchor points for future trail alignments. Maricopa County will encourage other entities to do the same.

## ***Goal 2: Link metropolitan areas, municipal trails, communities, and neighborhoods with regional nonmotorized multi-modal corridors.***

Policy: Provide connections to existing neighborhood trails and on-street bicycle and pedestrian facilities.

Policy: Provide signed access points/gateways to neighborhoods.

Policy: Create well-defined trailheads that have good transit connections.

Policy: Coordinate with public agencies and developers to ensure appropriate trail connections are planned, constructed, and maintained.

Policy: Promote the construction and maintenance of trails by the private development sector.

## ***Goal 3: Provide open space corridors to protect natural and cultural resources from development.***

Policy: Protect sensitive ecological and archeological sites.

Policy: Discourage creation of informal trails.

Policy: Wherever possible, trails should be designed to enhance the natural landscape and not be detrimental to the natural environment.

Policy: Establish and designate trails, where feasible, that correspond to existing trails, paths, or roads that have already disturbed the environment.

Policy: Provide trail corridors that can assist in the preservation of quality open space in Maricopa County.

Policy: Promote development and use of trails for environmental education.

Policy: Promote the establishment of open space and trail corridors in adjacent counties that can be connected by trails with the Maricopa County Regional Trail System.

# Design Guidelines

The Maricopa County Regional Trail System is proposed as a nonmotorized, shared-use, multi-modal corridor used for transportation and recreation. Where possible, it will feature a primary hard-surface trail and a secondary soft-surface trail. The trails will generally, but not always, be parallel to each other in the same corridor. Some corridors may accommodate only one trail surface, either hard or soft, due to terrain or other constraints.

All trails will be designed and constructed following national design guidelines identified either in the AASHTO *Guide for the Development of Bicycle Facilities*, Americans with Disabilities Act, the USDOT *Designing Sidewalks and Trails for Access Parts I and II*, or the Rails-to-Trails Conservancy *Trails for the Twenty-First Century*. In addition, the trails should be designed in accordance with the design recommendations identified in the MAG *West Valley Multi-Modal Transportation Corridor Master Plan*. See Appendix A for the Trail Classification and Corridor Prototype Designs from the MAG study. Additional design details from the MAG *West Valley Multi-Modal Transportation Corridor Master Plan* are available in Appendix B. Many of the agencies responsible for corridors within the system have adopted detailed trail design guidelines for use by their staff and contractors.

Two primary criteria used in the selection of trail alignments in this plan were trail width and grade. It is recommended that the tread, the useable width of the path, for hard-surfaced trails be 12 feet wide. The width for soft-surfaced trails may vary depending on terrain, expected usage, and other design factors. The preferred corridor width to accommodate both surfaces is 100 feet. Less than 100 feet is acceptable if limitations exist. This provides the ability to separate different types of users from each other and allows the trail to wind around obstacles, vegetation, and terrain. The recommended minimum corridor width to accommodate both surfaces is 28 feet. This width should be allowed only for short distances to provide connections between facilities. Corridors less than 28 feet wide may only accommodate one trail surface, either hard or soft. Ideally, most grades will be less than five percent. Steeper grades may be allowed if mitigated with proper landings.

## Primary Trail



The main pathway that serves high numbers of people. It is typically hard surfaced (paved), but may be soft surface (unpaved) in undeveloped or non-developable areas. Significant portions of the Maricopa Trail will be unpaved.

## Secondary Trail



A pathway generally parallel to the primary trail. It is always a soft surface tread.

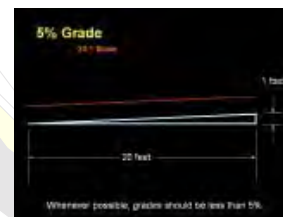


Figure 2: Grade 5%

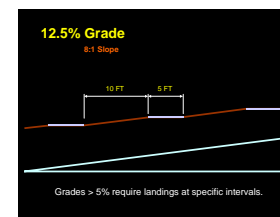


Figure 3: Grade 12.5%



# Sun Circle Trail

The Sun Circle Trail encompasses approximately 140 miles of hiking and riding trails that encircle the Valley for the most part on canal banks. The canals were built by the Hohokam Indians around 500 A.D. to irrigate their crops and the remnants of their extensive canals were used by early settlers to construct a modern canal system.

In the mid-1960s, the Arizona State Horsemen's Association Trails Committee first recognized the unique recreation opportunity made available by the canals and proceeded to ride, map, and propose the Sun Circle Trail. At the request of the Association, the Maricopa County Board of Supervisors appointed the Maricopa County Hiking and Riding Trails Committee, composed of representatives from various agencies, organizations, and departments who would have an interest in trails. Maricopa County Parks and Recreation Department was empowered to acquire rights-of-way, leases, and possible federal funds for the Committee. The Committee prepared a written report, published in 1964 by the Maricopa County Planning and Zoning Department, titled "Hiking and Riding Trails in Maricopa County, Arizona". The report proposed the 140-mile Sun Circle Trail and 380 miles of secondary trails linking Valley urban areas and the County Regional Park System to the Sun Circle Trail. The Board of Supervisors then adopted the "Hiking and Riding Trails Plan" in June 1964.

In 1965, the Maricopa County Board of Supervisors, the Salt River Project (SRP), and the Bureau of Reclamation provided an historical first by signing a 50-year agreement for use of sixty-six miles of canals for parts of the trail until the year 2014.

On February 9, 1976, the Maricopa County Board of Supervisors and the Parks and Recreation Commission agreed that the Sun Circle Trail be included in and designated as part of the Arizona State Trails System.

On March 25, 1977, the Secretary of the Interior announced that the Sun Circle Trail had been accepted into the National Trails System and designated a National Recreational Trail.

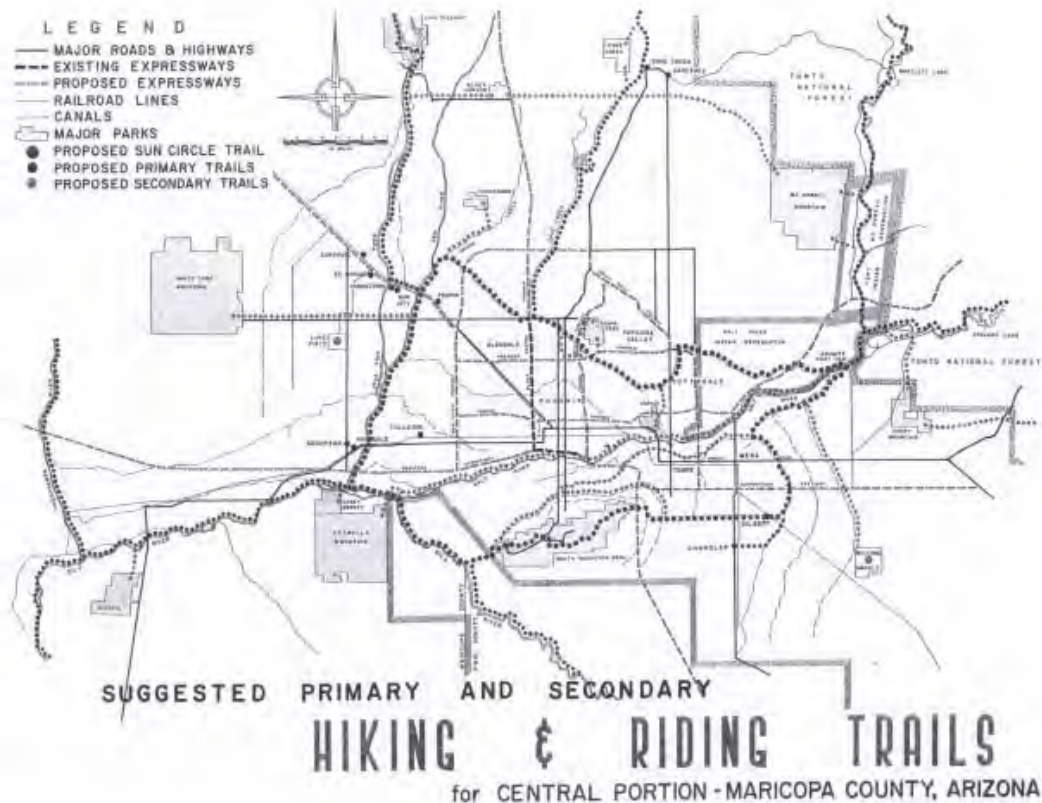


Figure 4 : Sun Circle Trail Map, Plate 2



Today, much of the system is a reality, with signs marking the trail at intervals. More than half of the Sun Circle Trail is situated on canal banks. Underpasses and bridges are being planned and provided where the trail crosses freeways and major arterials.

The Sun Circle Trail is identified in the Maricopa County Regional Trail System as a highest priority because of its historical significance.

For planning purposes, the Sun Circle Trail has been broken down into Segments 1-9. Segments 3,6,7,8, and 9 are also identified as components of the Maricopa Trail.

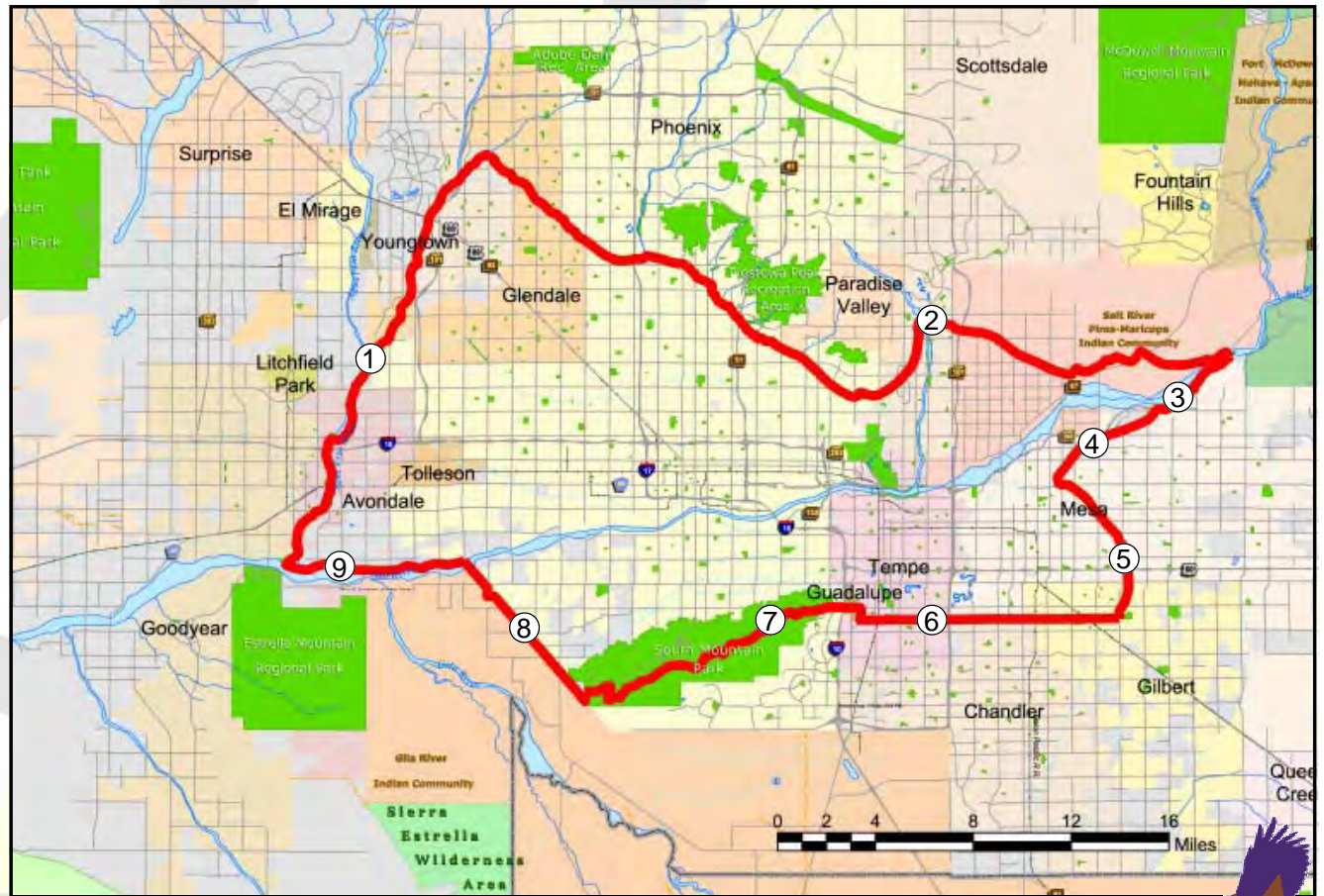


Figure 5: Sun Circle Trail

# Segment One

**Segment One** includes both the Lower Agua Fria River and New River from the Gila River to Skunk Creek Wash and continuing to the Arizona Canal.

The New River and Lower Agua Fria River were studied in the *West Valley Multi-Modal Transportation Corridor Master Plan*. This plan is part of a multiphase undertaking conducted through the efforts of Maricopa Association of Governments (MAG), in cooperation with the Flood Control District of Maricopa County (FCDMC). The corridor is planned as a multi-purpose flood control facility that will also provide opportunities for recreational and alternative transportation trails. The study began in December 1999 and designed an overall trail plan involving several communities within the project area, including Avondale, Glendale, Peoria, Phoenix, and Maricopa County.

The New River and Lower Agua Fria River Corridor represents a riparian ecosystem common to the Sonoran Desert region of Arizona. This unique corridor contains valuable geographic features, a rich diversity of plant and animal habitats, cultural and historic resources, and beautiful vistas. The corridor links many communities together in the West Valley.

The principal purpose of the plan is to create a regional planning framework for a 42-mile trail network for pedestrians, equestrians, bicyclists, and other nonmotorized trail users. The trail will be accessible to a variety of users of different abilities and ages. This network identified in the MAG plan expands on the existing and planned river trail system to connect with existing trail linkages and all major public lands. These planned nonmotorized, multi-modal transportation trails take advantage, where possible, of locations that offer the community multiple benefits such as alternative transportation routes, recreational opportunities, wildlife habitat preservations, open space protection, and flood control.

The MAG plan served as a definitive guide in the development of the Maricopa County Regional Trail System. It is expected that the trail design guidelines identified in the plan will have a major influence on the regional trail network.

The entire chapter on trail classification and design recommendations is included in Appendix A.

Segment One



Figure 6: New River & Lower Agua Fria



# Segment Two

**Segment Two** is the Arizona Canal. The Arizona Canal runs east to west across the northern part of the metropolitan Phoenix area from the Granite Reef Diversion Dam on the Salt River to the Adobe Dam at the confluence of Skunk Creek Wash and New River (tributaries to the Salt). Built in 1883 by the Arizona Canal Company, it, like the other canals in the system, was sold to the federal government in the early 1900s and is managed by the Salt River Project (SRP).

Two recent projects along the Arizona Canal, the Sunnyslope Canal Demonstration Project and the Arizona Falls Project, use art and landscape architecture to reconnect the community to this important and historically significant canal. Both projects were identified and guided through to completion by the Phoenix Arts Commission (PAC).

These projects represent a growing number of canal multiple use projects in the Phoenix area to provide trails and pathways along the canals.

Segment Two



Figure 7: Arizona Canal



# Segment Three & Segment Four

**Segment Three** is the South Canal from the Granite Reef Dam to the Roosevelt Water Conservation District Canal. Segment Three is identified as the Sun Circle Trail as well as the Maricopa Trail.

**Segment Four** is identified as the South Canal from the Roosevelt Water Conservation District Canal to the Consolidated Canal. It was built by the federal government between 1906 and 1908 to unify the entire south side canal system. The South Canal now provides a gateway to the desert for Mesa residents. The South Canal, from Lehi to the Granite Reef Dam, has a character distinct from the rest of Mesa's canal system. Residents of the Lehi area value their connection to the canal, both aesthetically and symbolically. Many people choose to live in Lehi because it is a good place to keep and ride horses. The South Canal provides a picturesque riding trail with an authentic connection to traditional agricultural practices.

The South Canal is being developed to accommodate both typical multi-modal traffic and equestrians alike. The city of Mesa is currently in design phase for portions of the multi-use path, with constructed sections open for use in the next few years. This path will be lit, 10 feet wide, and paved. The surface type will be asphalt to accommodate the SRP's operation and maintenance needs.



Segment Three



Figure 8: South Canal

Segment Four



Figure 9: South Canal



# Segment Five

**Segment Five** is the northern portion of the Consolidated Canal from the South Canal in Mesa to the Western Canal in Gilbert.

The Consolidated Canal, approximately 18-mile long, is the largest canal in Mesa and wasn't built to serve any of the land within the present city limits. The canal was started during the drought year of 1891 and masterminded by Dr. A.J. Chandler and his Consolidated Canal Company. Chandler's desire was to bring water to the area that now bears his name. Because the canal was built during one of the driest periods in the Salt River's history, its owners faced serious supply problems. Lands with older water rights had first claim on the meager water supply in the Salt River, and the occasional surpluses that occurred were too small to cultivate a lot of new land.

Dr. Chandler recognized the problems that owners of the Mesa and Tempe canal companies were having with brush diversion dams so he began bargaining with them. In exchange for the water to be saved by his proposals, Chandler offered to build a new diversion dam made of huge boulders. The south end of the dam tied into granite masonry abutments and wing walls, the head of the new canal.

Using a huge dredge, Chandler built a canal up to 26 feet deep. Two miles south of the heading, the canal emptied some of its water into the old Mesa Canal. The Consolidated Canal then divided into two branches, as it does today. The branch heading west was called the 'Crosscut canal' and for about two miles, it followed what is now Brown Road to the edge of a small mesa near the Tempe Canal. This spot is where Chandler built the Chandler Power Plant that provided the first electricity to Mesa. By carrying Tempe Canal water through the Consolidated Canal instead of through the sandy riverbed, canal owners prevented a considerable loss of water from seepage. This 'new' water became part of the Consolidated Canal which followed the old Mesa Canal to Baseline Road and on to Chandler.

The federal government later sought to acquire the canal as part of a unified water distribution system for the Association after recognizing the water savings the Consolidated Canal made possible. Negotiations to buy the Consolidated Canal began in 1907. It was sold to the government in November 1908 for \$187,000.

The city of Mesa has constructed a multi-use path on the Crosscut/Consolidated Canal from Center to 8th Street. They are currently planning subsequent sections with plans to start construction in late 2004. The path will be lit, 10-foot wide paved concrete.

The town of Gilbert has plans to connect with the Mesa trail along the Consolidated Canal. The Heritage Trail would begin at the boundary with Mesa and continue to the Western Canal. This section of trail would also provide a connection to Gilbert's Freestone District Park.



**Segment Five**



**Figure 10: Consolidated Canal**



# Segment Six

**Segment Six** follows the Western Canal from the Consolidated Canal in Gilbert to the Ken McDonald Golf Course in Tempe.

The Western Canal was built in 1912-1913 by the Western Canal Construction Company. The Western Canal went into operation in February 1913 and its deed was filed in April 1915. The canal was built under contract with the federal government to be a part of the Association.

From the Golf Course the trail would wind it's way to Guadalupe Road where there is a planned nonmotorized bridge crossing over Interstate-10. From here the trail would run though a neighborhood then follow Pima Canyon Road, the eastern-most entrance into South Mountain Park.

Segment Six is also part of the Maricopa Trail.

Segment Six

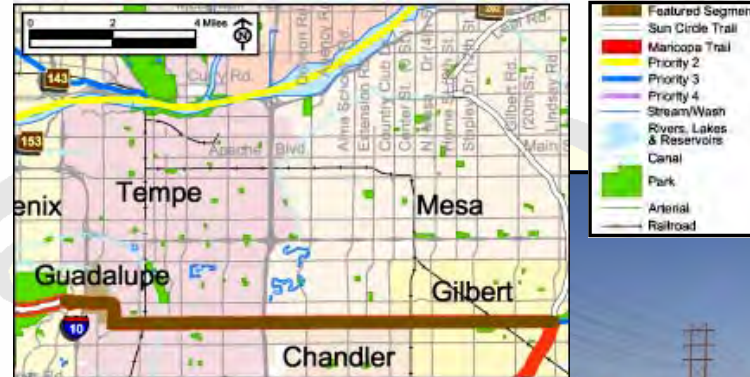


Figure 11: Western Canal



# Segment Seven

**Segment Seven** is the National Trail in South Mountain Park.

The National Trail is the backbone of the South Mountain Park system, stretching from the Pima Canyon Trailhead in the east to the San Juan Lookout in the west. Nearly every other trail in the park joins the National Trail at some point.

Start by heading west up the dirt road from the Pima Canyon Trailhead. There are no signs at this point on the National Trail. About a mile in, there will be a couple of old stone buildings, built by the Civilian Conservation Corps in the latter years of the Great Depression. The National Trail officially begins just a little west of those buildings, and climbs quickly up the slope.

Take the side trail to Hidden Valley, which you'll find near Trail Marker 9. Go through the natural-rock tunnel, then follow the wash generally westward about four-tenths of a mile to Fat Man's Pass, a foot-wide slit between two granite boulders. You then rejoin the National Trail at Fat Man's Pass.

About a mile beyond the pass is the Buena Vista Lookout. The trail continues up the north side of the antenna-studded summit, paralleling the road for much of the way.

Once past the Kiwanis Trail, a little west of the antennae, the crowds dwindle away and the landscape changes dramatically. The trail follows the ridgeline as it continues west, offering terrific views in every direction.

A little west of Goat Hill, the trail begins to descend, quite steeply in places, eventually skirting a large wash before curving back around to the northeast and crossing San Juan Road. Beyond the road, the trail leads west across a fairly level area, then curves north, paralleling the road back to San Juan Lookout.

Segment Seven is also part of the Maricopa Trail.



Segment Seven



Figure 12: National Trail



# South Mountain Park

## Park History

The history of South Mountain as a city of Phoenix park dates back to 1924. Prominent local citizens, with the help of Sen. Carl Hayden, bought 13,000 acres from the federal government for \$17,000. In 1935, the National Park Service developed a master plan for the park with riding and hiking trails, picnic areas, and overlooks, all in rustic regional character. The Civilian Conservation Corps (CCC) built many of the facilities in the park based on this master plan. Visitation at the park has gone from 3,000 a month in 1924 to three million a year today. Photos and artifacts at the South Mountain Environmental Education Center give a glimpse into the early history of the park and the CCC's construction work.

South Mountain Park/Preserve actually consists of three mountain ranges, the Ma Ha Tauk, Gila, and Guadalupe. They stretch diagonally from northeast to southwest. Diagonal mountain ranges that protrude from desert floors, like those of South Mountain, are typical features of the Sonoran Desert. Various minerals were mined in the park in the early 1900s before its birth as a park.

The major plant species found in the park are bursage, brittlebush, creosote bush, palo verde trees, and saguaro cactus. More than 300 species of plant life are found in the park. Only the hardiest plants survive, and even they grow slowly. The varieties of cacti include: saguaro, barrel, hedgehog, pincushion, jumping cholla, christmas cactus, staghorn, cholla, and prickly pear. Palo verde, mesquite, elephant and ironwood trees, along with the ocotillo plant, are also numerous in the park.

The fauna found in South Mountain is typical of the lower Sonoran Desert ecosystem. The desert arthropoda - sun spiders, scorpions, centipedes, beetles, and ants are common, but mostly nocturnal, spending the day underground due to high daytime temperatures. Reptilian inhabitants include desert tortoises and several species of snakes and lizards - Gila monsters, horned lizards, geckos, and chuckwallas. The mammal population, which is restricted by food supply, habitat, and the presence of man, includes the California jackrabbit, cottontail rabbit, ground squirrel, mice, ringtail, coyote, javalina, gophers, and kit fox. Bird populations vary according to season and moisture but include Gambel's Quail, great horned owls, roadrunners, mourning doves, and red-tailed and Harris's hawks.



# Segment Eight

**Segment Eight** is an SRP power line running along the boundary between the City of Phoenix and the Gila River Indian Community. It serves as a critical connection between the Tres Rios Wetlands and South Mountain Park.

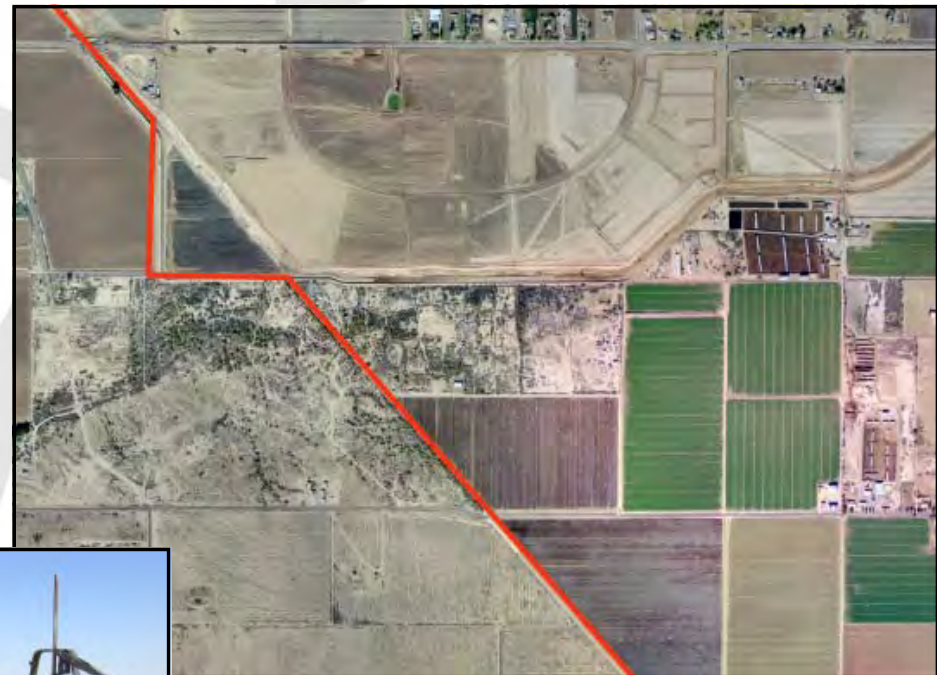
The segment passes through an interesting mix of natural desert, cultivated farmland, and urban development. The red line on the aerial photograph depicts the current alignment for the Sun Circle Trail.

Segment Eight is also part of the Maricopa Trail.

## Segment Eight



Figure 13: SRP Power line



MCDOT GIS: Aerial 2004



# Segment Nine

**Segment Nine** is the Salt River from approximately 83rd Avenue south of Southern Avenue to the confluence of the Gila River and Agua Fria River. This segment includes the Tres Rios Constructed Wetlands Demonstration Project.

Due to the expense of upgrading the 91st Avenue Waster Water Treatment Facility, city of Phoenix officials decided to seek alternative treatment processes to clean the valley's wastewater which discharges into the Salt River. In 1994, the city of Phoenix decided that it would work with the BOR in constructing a wetland project at the convergence of the Salt, Gila, and Aqua Fria rivers as the result of increased water quality standards for discharges into Arizona's waterways. The project was called Tres Rios, which is Spanish for "Three Rivers." The wetlands were to provide water treatment for the 91st Avenue Waste Water Treatment Plant, create wildlife habitat, provide for flood protection for downstream residents, and in addition, to serve as an education and passive recreation resource for the community.

The source water for Tres Rios is treated wastewater from the 91st Avenue WWTP which is located in southwest Phoenix on the northern bank of the Salt River. The treatment plant is operated by the city of Phoenix on behalf of the Multi-City Sub-Regional Operating Group (SROG), a consortium of cities including Glendale, Mesa, Phoenix, Scottsdale, and Tempe. The plant discharges approximately 150 million gallons per day (mgd) (168,000 acre-feet per year) with up to 105,000 acre-feet pipelined (under contract) to the Palo Verde Nuclear Power Plant. Effluent not sent to Palo Verde is discharged directly into the Salt River. The Buckeye Irrigation District further diverts 30,000 acre-feet from the Salt River seven miles downstream and uses it for agriculture.

In the spring of 1995, construction began on the wetland systems. The wetlands consisted of three discrete wetland sites with a total area encompassing 12 acres of free-water surface treatment wetlands. They were called the Cobble site, the Hayfield site, and the Research Cell site. Additionally, the continuous outflow of water from the Hayfield site has helped to sustain approximately one mile of riparian habitat along the Salt River.

Today, this area contains large cottonwood and willows as well as nonnative species such as Salt Cedar (Tamarisk). The Hayfield site also includes a trail system which parallels the riparian corridor, this system also provides access to the Salt River Corridor.

Segment Nine is also part of the Maricopa Trail.

**Segment Nine**



**Figure 14: Salt River**



# Maricopa Trail

The Maricopa Trail, shown on the map in red, accomplishes Goal One of the Maricopa County Regional Trail System Plan. This trail will connect the regional parks in the Maricopa County Park System.

The name, Maricopa Trail, was selected after much public input. The trail establishes a continuous nonmotorized loop around the Valley connecting White Tank Mountain Regional Park, Lake Pleasant Regional Park, Cave Creek Regional Park, Spur Cross Ranch Conservation Area, McDowell Mountain Regional Park, Utery Mountain Regional Park, San Tan Mountain Regional Park, South Mountain Park, Estrella Mountain Regional Park, and Buckeye Hills Regional Park.

The Maricopa Trail passes through the jurisdictions of Maricopa County, Pinal County, the cities of Surprise, Peoria, Phoenix, Scottsdale, Mesa, Chandler, Tempe, Avondale, and Goodyear, the towns of Cave Creek, Queen Creek, Gilbert, Guadalupe, and Buckeye, the Salt River Pima-Maricopa Indian Community, the Gila River Indian Community, the State of Arizona, the Tonto National Forest, the Bureau of Land Management, and the Bureau of Reclamation.

The ownership and responsibility of the trail is as complicated and diverse as the jurisdictions it passes through. Major portions of the trail will be placed on property owned by the Flood Control District of Maricopa County. Since this agency cannot legally construct recreation facilities, it must partner with another County department, a city, a town, or another agency to facilitate the placement of the trail. Local communities have entered into agreements with Salt River Project, Arizona Public Service, and water districts to build and operate trails along the canals and in utility corridors. Some trail segments are being built by private organizations and will be maintained by an agency or association. Maricopa County will help facilitate the multitude of inter-agency agreements that need to be crafted prior to the Maricopa Trail becoming a reality.

The entire loop is 242 miles in length and includes segments 3, 6-9, and 10-35. Segments 3, and 6-9 are also components of the Sun Circle Trail. Details for these segments can be found in the Sun Circle Trail section of this document.



Figure 15: Maricopa Trail

# White Tank Mountain Regional Park

White Tank Mountain Regional Park covers nearly 30,000 acres, making it the largest park in the county system. Most of the Park is made up of the rugged and beautiful White Tank Mountains, which is a freestanding range separating the Phoenix Basin of the Salt River Valley from the Hassayampa Plain. The range rises sharply from its base, at 1,400 feet above sea level, in a series of rocky ridges and fault lines to peaks of over 4,000 feet. The base and upper levels of the mountain are deeply serrated with ridges and deep canyons. Infrequent heavy rains cause flash floodwaters to plunge through the canyons and pour out upon the plain where they lose their momentum. These torrential flows, pouring down chutes and dropping off ledges, have scoured out a series of depressions, or "tanks", in the white granite rock below. These white tanks give the mountains their name.

### Park History

Eleven archeological sites, occupied during the time period A.D. 500-1100, were located within the boundaries of White Tank Mountain Regional Park. All of these sites can be attributed to the Hohokam Indians. The White Tanks were apparently abandoned by the Hohokam about A.D. 1100. There is no further indication of human occupation until the historic period, when the Western Yavapai controlled the area. Due to the ruggedness of the terrain and the difficulty of obtaining water, sites in the White Tank Mountains were restricted to large canyons leading out of the mountains on the east, north, and probably west.

Ruggedness of terrain and scarcity of water restricted the sites to large canyons leading out of the mountains. In these canyons, the sites include seven villages, varying from 1 to 75 acres in area, a rock shelter in the face of a steep cliff overlooking the white tanks, and several sherd (piece of broken pottery) areas. Several of the villages appear to have been occupied for long periods by sizeable

populations, while the sherd areas may represent temporary camps of hunters and gatherers.

Most of the sites in the area are concentrated around the White Tanks themselves. The Tanks probably held water the year-round and thereby drew people to the region. Petroglyphs on rocks indicate the Indians were more than transients. Pottery sherds along the Agua Fria and Hassayampa rivers signify the presence of villages and a good possibility that an Indian trail connected the streams with the White Tank long before Europeans came into the area. The discovery of possible agricultural terraces or check dams indicates that farming may have been carried on in the various canyons of the White Tank Mountains by utilizing seasonal runoff and rain water.

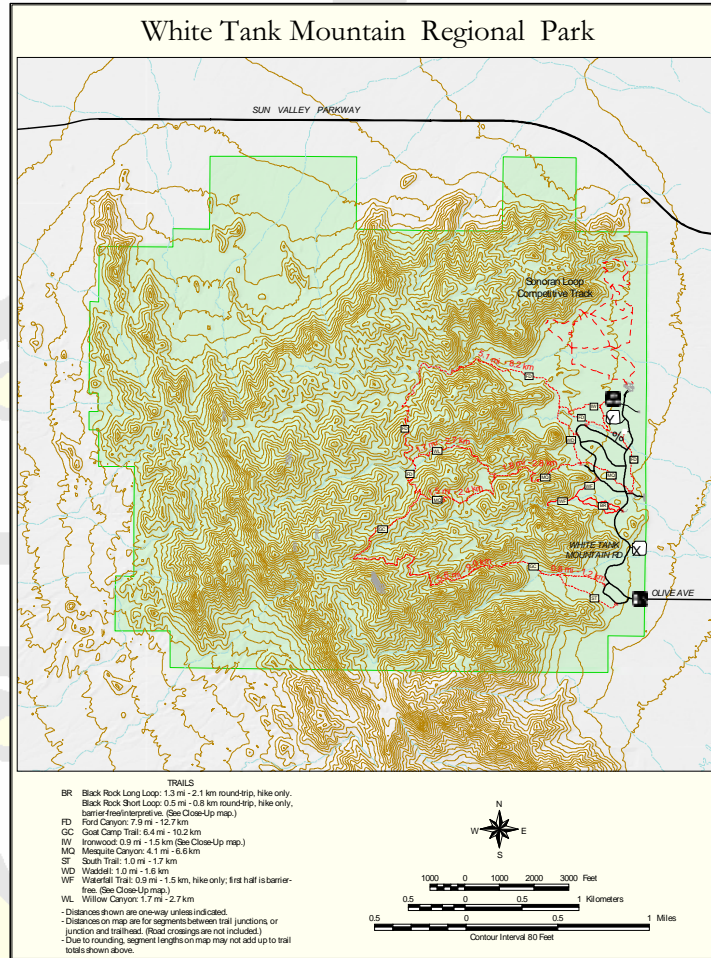


Figure 16: White Tank Mountain Regional Park





**Trails**

White Tank Mountain Regional Park offers approximately 25 miles of excellent shared-use trails of varied difficulty. Overnight backpacking, with a permit, is allowed in established backcountry campsites. Day hikes can provide some breathtaking views of the mountains and panoramas of the valley below. Horseback and mountain bike riders are welcomed, although caution is stressed as some of the trails may be extremely difficult. Shared-use trails range in length from 0.9 mile to 7.9 miles and range in difficulty from easy to strenuous.

In addition, there are 2.5 miles of pedestrian-only trails. These include two short trails that are hard-surfaced and barrier free. Waterfall Trail is barrier-free to Petroglyph Plaza, about 4/10 of a mile from the parking lot. The short loop of Black Rock Trail, which is about 1/2 miles long, begins at Ramada 4.

White Tank Mountain Regional Park offers an approximately 10-mile Competitive Track in addition to its trails. The Competitive Track is designed to provide challenging, strenuous, and high-speed outdoor recreation for individuals, groups, and organized events. All competitive tracks are multiple-use. They are designed for cross-country runners and joggers, fast bicyclists and racers, and trotting/galloping equestrians and endurance riders.



**White Tank Mountain Regional Park** is open 6 a.m. to 8 p.m. Sun - Thurs and 10 p.m. Fri & Sat. A \$5.00 per vehicle entry fee is required. Please use the self-pay station when the entrance booth is not staffed. For further information please contact the Ranger Station at 623-935-2505.



# Segment Ten

**Segment Ten**, the first segment of the Maricopa Trail, starts at the eastern boundary of White Tank Mountain Regional Park. This segment is approximately one mile north of Olive Avenue, the main entrance into the park. Segment 10 provides a connection from the park to the south end of McMicken Dam. It follows the Waterfall Wash and is located on State Trust Land. Maricopa County has begun the process to purchase this segment from the State of Arizona.

An established trail head and large equestrian staging facility is located just inside the park at the trail entrance.

Segment Ten



Figure 17: Waterfall Wash



# Segment Eleven



Figure 18: McMicken Corridor

The primary component of **Segment Eleven** is the McMicken Dam. The dam and its outfall components are located in the northwest portion of Maricopa County in the city of Surprise and unincorporated County just north of Sun City West. McMicken Dam was constructed by the Army Corps of Engineers in the 1950s to protect Luke Air Force Base from flooding. The dam and its outfall components are owned and maintained by the Flood Control District of Maricopa County.

The McMicken Corridor is a linear tract of land that is about 18 miles in overall length. The corridor varies in width from roughly 200-5000 feet. The west end of the dam is situated approximately 1/4 mile east of White Tank Mountain Regional Park in an area that is predominantly a natural appearing Sonoran Desert landscape.

The dam is 34 feet above grade at its highest point and offers outstanding panoramic views of the western portion of the Valley. The White Tank Mountains lie two miles to the west of the dam and form a rugged and dramatic scenic backdrop to the corridor. Approximately 16 miles of the corridor is owned in fee by FCDMC.

The McMicken Corridor consists of four geographic sections that vary considerably in character. They are:

- The McMicken Dam, a low flow channel, and a spillway.
- The Emergency Spillway.
- The McMicken Outlet Channel.
- The McMicken Outlet Wash.

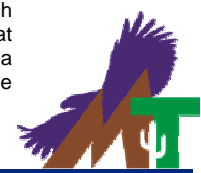
The first unit, which includes the McMicken Dam, a low flow channel, and a spillway, extends in a slight arc to the northeast for a distance of about 9.5 miles. The top of the dam is approximately 12 feet wide and has a gravel surfaced road. The base of the dam is approximately 165 feet wide. Down slope of the dam FCDMC owns a strip of land that varies in width from 12-200 feet.

Within this strip there is an unpaved road used for operations and maintenance. Up slope of the dam FCDMC owns a strip of



land that varies in width from 1000-5000 feet. Within this strip the district has unpaved roads along the base of the dam and along the northern perimeter of the property. Between these two roads is a low flow channel and pool area that intercepts runoff and carries water northeastward to the Emergency Spillway.

During the past 40 years the low flow channel and pool area have been allowed to revegetate naturally. The result is a Sonoran Desert landscape containing a rich variety of plant materials that makes the McMicken Corridor a potentially significant wildlife habitat.



# Segment Eleven continued

The Emergency Spillway is the second section of the corridor. This section is about one mile square and is bounded by Grand Avenue on the northeast and Deer Valley Road on the northwest. The dam outlet structure and Emergency Spillway form the southwestern boundary of the corridor. Much of this area of the corridor has a decidedly industrial character. Inside this structure are two shooting ranges and three major power line structures. The Beardsley Canal is situated immediately adjacent to the spillway structure. A significant portion of the emergency spillway area has become naturally established as a mesquite bosque.

The third area of the corridor is the McMicken Outlet Channel. This segment is approximately five miles long and varies in width from 500-2000 feet. The channel runs parallel with the topographic contours and is designed to intercept flows coming overland from the north. The channel is also designed to carry flows from the McMicken Dam low flow channel during normal periods of runoff. Eastward, toward the Agua Fria River, the outlet channel is straddled by three large power line structures. The industrial appearance of this segment of the corridor increases towards the east.

The McMicken Outlet Wash is the fourth component of the McMicken Dam corridor. It is Segment Thirty-Seven of the Regional Trail and will be discussed on page 73.

Aging infrastructure issues along the McMicken Dam corridor are requiring FCDMC to look at a variety of alternatives for possibly rehabilitating McMicken Dam or replacing this facility with a multi-purpose flood conveyance feature. These decisions will impact the placement of the trail within the system. It is expected that the trail will be included as a component of any future projects within this corridor.



Segment Eleven

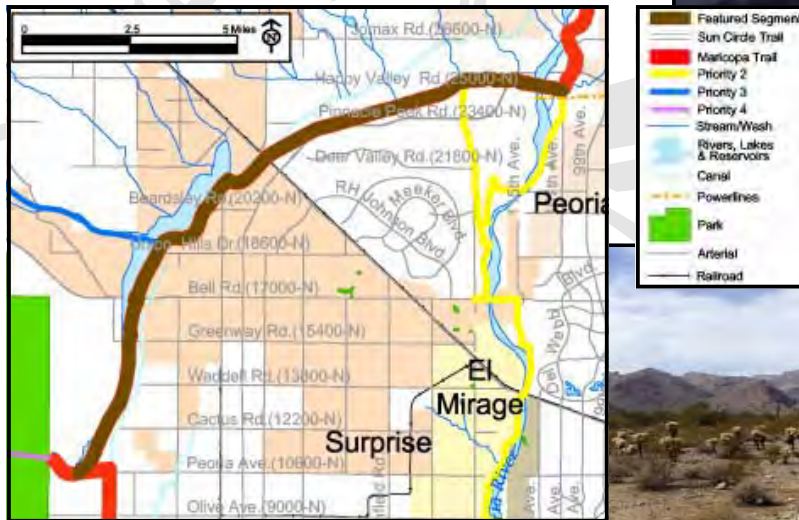


Figure 19: McMicken Dam



# Segment Twelve

The Agua Fria River corridor was studied by the Flood Control District of Maricopa County in the *Agua Fria River Watercourse Master Plan*. This plan identified a preliminary trail alignment from the Gila River to Lake Pleasant.

**Segment Twelve** includes only the portion from the McMicken Dam Outlet Channel to Lake Pleasant Regional Park. The City of Peoria, as well as the entire Valley will benefit from the proposed multi-use trail that provides access to the river and a variety of open space and recreation experiences and interactions. By implementing flood control techniques that maintain the character of the river while embracing a wide range of uses, activities such as wildlife viewing and hiking can be as much a part of the corridor as field team sports in park areas. Bicycle commuters can use paths and trails along the river corridor to reach schools, parks, recreation and open space areas, canals, and employment centers throughout each community.

Segment Twelve

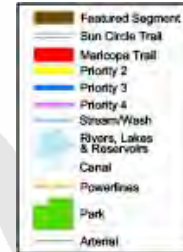


Figure 20: Upper Agua Fria



# Lake Pleasant Regional Park

Lake Pleasant is located 15 miles west of I-17 on Carefree Highway (State Route 74) 30 miles north of Phoenix, within the city limits of Peoria. The park's 23,662 acres offer an ideal destination for boating and camping enthusiasts. With 10,000 acres of crystal clear-water visitors can enjoy water skiing, jet skiing, sailing, or fishing.

## Park History

Lake Pleasant Regional Park, within the area controlled by the Northeastern Yavapai during the historic period, was inhabited by Hohokam peoples during the prehistoric era. Five archeological sites were located during an archeological study of the Lake Pleasant area. Included in these five archeological sites were a defensive site, a stone workshop, a farmhouse, and two small villages. Undoubtedly many more sites were once present along the Agua Fria but have gone under the waters of Lake Pleasant. The five sites located during the study were occupied during the period A.D. 700 to 1450.

In the park area, high bluffs rise directly from the bed of the river, greatly restricting the amount of area available for prehistoric habitation and agriculture. Despite this restriction, the area was apparently fairly heavily populated during prehistoric times, as sites were located on almost every flat terrace close to the river.

The Lake Pleasant Regional Park area, while historically part of the mining and range industries of Central Arizona, had no significant influence upon either. Prospectors met only with frustration. The few mines that did exist in the Lake Pleasant area were short-term projects. There was no lack of prospectors who roamed the area in hopes of finding their bonanzas. Mollie Sawyer Monroe and Jacob Snively were among the more colorful.



Mollie Monroe, an eccentric female prospector during the 1860s and early 1870s, was a co-discoverer, along with her common-law husband George Monroe and others, of Castle Hot Springs.

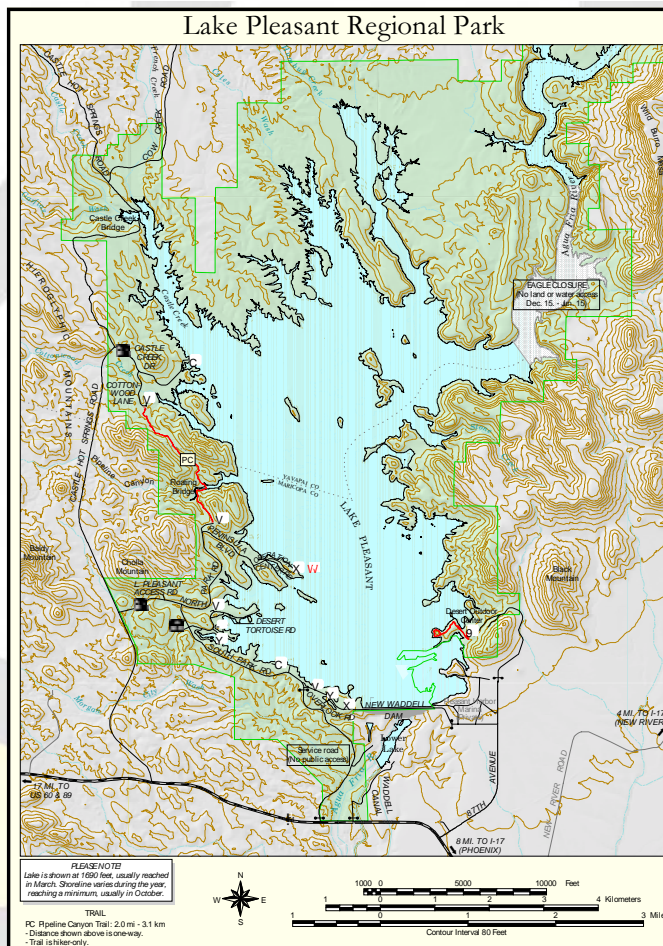


Figure 21: Lake Pleasant Regional Park

In 1877 Mollie was sent to Stockton, California, where Arizona's mental patients were kept, after being declared insane. She died in 1902 at the State Hospital in Phoenix.

Jacob Snively, a man of unbounded energy as a prospector in California and Arizona and long notorious for his leading part in the Texas Revolution, prospected the area about the same time as Mollie Monroe. Snively was killed by Big Rump (Wa-poo-i-ta), an Apache chieftain, in 1871 near the White Picacho, a prominent landmark about 18 miles northwest of the Park.

Evidence of extensive interest in mineral possibilities is visible in numerous prospect holes in the area, but a search of mining claims and claimants at the Maricopa County Recorder's office reveals only a few mining locations filed in the Park boundaries.

## Camping

Lake Pleasant Regional Park offers 148 sites for RV and tent camping. Desert Tortoise Campground has 76 campsites, 25 developed sites, 41 semi-developed sites, and 10 tent sites. Each developed campsite has water, electricity, a covered ramada, a picnic table, a barbecue grill and fire ring. Each semi-developed site and tent site has a covered ramada, a picnic table, a barbecue grill and fire ring. Restroom and shower facilities are available.

All camping site in Maricopa County Parks are available on a first-come first-served basis. The Developed Camp sites are available at \$18.00 per night and the Semi-developed sites and tent sites are available at \$10.00 per night. Roadrunner Campground and Picnic Area offers 72 sites for RV and tent camping. All sites are Developed sites meaning that each site has water and electricity hook-ups, a picnic table, covered ramada, barbecue grill and fire ring. Restrooms with shower facilities are available nearby.

Lake Pleasant also has shoreline camping during most of the year depending on water levels. Shoreline camping is available on a first-come first-served basis and the fee is \$5.00 per night.

# Segment Thirteen

## Boating

Lake Pleasant offers two boat ramps for boat launching. The largest boat ramp at Lake Pleasant offers 10 lanes for boat launching. This 10-lane boat ramp is paved and functional to a water elevation of 1,600 feet. Parking at the 10 lane offers room for 480 vehicles, 355 vehicles with trailers, and 124 cars. Restroom facilities are available at the 10-lane boat ramp. The second boat ramp, located at the North end of the lake, offers 4 lanes for boat launching. This boat ramp is also paved and functional to the water level of 1,600 feet. Parking is available for 112 vehicles with boat trailers. Restroom facilities are also available at the 4-lane ramp.



**Segment Thirteen** begins inside Lake Pleasant Regional Park. The trail will begin at one of the primary parking areas within Lake Pleasant Regional Park and stay within the park boundaries until it connects with the Agua Fria River corridor. The exact placement of the trail within Lake Pleasant Regional Park will be determined by a trail plan study for the facility.



The entrance to **Lake Pleasant** is located 2 miles north of State Route 74 off Castle Hot Springs Road. The main entrance provides access to the Visitor Center, 10-lane boat ramp, Lake Pleasant Staff Headquarters, and the Desert Tortoise and Roadrunner campgrounds. Park entrance fee is \$5.00 per vehicle and \$2.00 per watercraft.

Segment Thirteen



Figure 22: Lake Pleasant

# Segments Fourteen & Fifteen

**Segment Fourteen** begins at Lake Pleasant and travels eastward along an old haul road easement. Ideally, it will remain north of SR74 and utilize an existing waterline corridor for most of the distance to I-17. The crossing of I-17 will take place at Deadman Wash. Maricopa County has begun negotiations with Arizona State Lands for the purchase of the property for the trail.

### Segment Fourteen



Figure 23: Old Haul Road



**Segment Fifteen** begins just east of I-17 after crossing underneath the interstate. The trail will run north of Desert Hills Drive and up Skunk Creek in a five-mile corridor provided by the Anthem development. Construction on this segment has already begun following a Trailblazing celebration and dedication.

### Segment Fifteen



Figure 24: Anthem





# Segment Sixteen

**Segment Sixteen** will continue eastward along Rodger Creek and through Greer Ranch. This segment encompasses easements from private landowners who would like to accommodate the Regional Trail across their property. The trail will fork with one leg continuing southeast to Cave Creek Regional Park, Segment Forty-Five discussed on page 75. Segment Sixteen then continues northeast across State Trust Land towards Spur Cross Ranch Conservation Area meeting up with Segment 18 as it comes north out of Cave Creek Regional Park.

A number of alternatives were explored for segments Fourteen, Fifteen, and Sixteen. There are numerous trail alignments identified on the Recreational Trails map in the Maricopa County New River Area Plan (Appendix E) that served as a starting point. The majority of these routes did not fit the needs of the Regional Trail because they did not provide the connections we were seeking between the Regional Parks. Potential trails that followed existing roadway alignments, traversed steep grades, or crossed numerous privately owned parcels were also eliminated from consideration. Some of these trails may be developed as feeder routes to the regional trail.

The trail alignment passes through property owned by Maricopa County, Bureau of Reclamation, Arizona State Land Department, and private entities. These segments includes sections of trail that are under the jurisdiction of Maricopa County, city of Peoria, city of Phoenix, and the town of Cave Creek.

Segment Sixteen

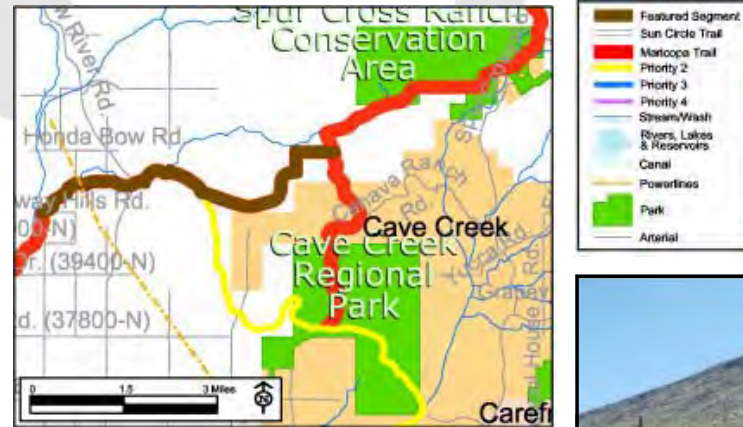


Figure 25: Greer Ranch



# Cave Creek Regional Park

Cave Creek Regional Park was dedicated and became the third recreation area in the regional park system on October 31, 1992. The bulk of the land was acquired from the Bureau of Land Management under a lease authorized by the 1970 Recreation and Public Purposes Purchase Act. The 2,922-acre recreation area is located in the southwest corner of an area that has been the scene of mining exploration and development for over 120 years. Prospectors were known to be working in the area in the early 1870s. Deposits of copper, gold, silver, lead and tungsten have been found in the park and the mountains to the east.

The primary landmark in the area is Go John Mountain, north/east of the Cave Creek Regional Park. At 3,060 feet elevation, Go John Mountain it stands guard over an area of shattered dreams. It was a silent spectator to successive waves of speculators and settlers who hoped to make their fortunes either from mining the hills to the north and east or by irrigating the level plains to the south and west.

Cave Creek Regional Park ranges in elevation from a low point in the southeast corner of park at 2,000 feet to the top of Go John Mountain, one thousand-sixty feet higher.

## Park History

Cave Creek was named for the small stream that rises in the hills to the northeast and flows southwesterly for 25 miles before reaching Paradise Valley. The stream, in turn, was named from a high, overhanging bluff along its west bank that forms a wide, open cavern about two miles north of the present day Cave Creek. People have taken shelter there for centuries. A bloody skirmish occurred within the cave between Apache Indians and U.S. Troops in 1873.

Ancient Hohokam Indians stayed in the area from around 800 A.D. until 1400 A.D. Many reminders of their living in the area still remain. Stone huts, pit houses, terraced field and irrigation ditches were left behind.

There are also many petroglyphs that were carved by the Indians.



The Cave Creek area has a rich archeological foundation. Dozens of prehistoric sites have been discovered. However, many more remain undisturbed.

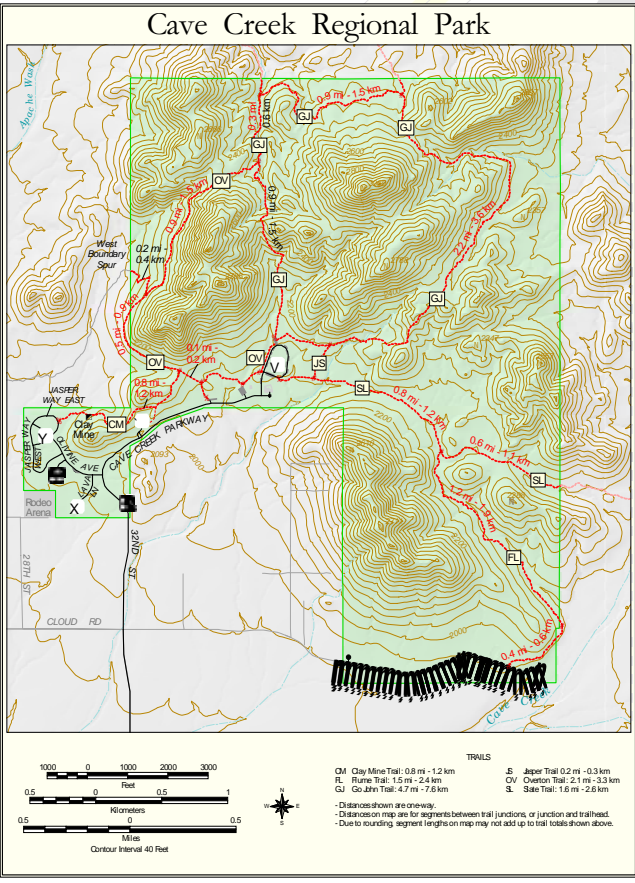
During the 1400s, bands of Apache Indians began drifting into the area. Soon, the Apaches spread throughout the State. They brought with them different lifestyles than the Hohokams. Instead of farming, the Apaches lived by hunting, gathering, and raiding. The 1500s saw the arrival of Spanish explorers. The Spanish found the desert to be very inhospitable. On their maps, central Arizona was labeled as "deplobado" meaning, "desolate wilderness."

Mining began to become a focal point in central Arizona history in 1863. The call "Gold in the Bradshaws" rang out. Fabulous rich gold outcroppings were found in high peaks such as Antelope Hill. In 1864, Henry Wickenburg uncovered the richest strike, the

Vulture Mine. Miners were sure that the Aqua Fria River, New River, Cave Creek and the stream of the Tonto were also rich with gold. A few miners tried to find the treasures, but met the Apaches who ran them out of the area. The Tonto Apaches controlled the area, so for the time being, mining had to wait. Ranchers and farmers followed lured by reports of mild climate, plentiful water, tall timbers and lush grass. All of the reports failed to mention that hostile Indians surrounded the area. Of all the tribes in the area, the Tonto Apaches were the most feared. They ate animals they captured including horses, mules, oxen, and burros. The Tontos were highly mobile, unpredictable, and difficult to capture.

Newcomers to the State appealed to the Federal Government for assistance. The Civil War was demanding the need for every soldier. Washington leaders decided they did not want to lose the potential gold production capabilities of Arizona. In 1863, Arizona was declared a new and separate territory, splitting off from the territory of New Mexico.

A Governor was sent to Arizona along with a small force of troops to Fort Whipple in Prescott. In 1865, the army sent a small force of 300 volunteers from California to establish Fort McDowell. Fort McDowell was located 18 miles east of Cave Creek. One year after the Californians arrived, a regular army infantry unit settled into Fort McDowell. For 15 more years, skirmishes, ambushes, and bloody confrontations raged between the soldiers and the Tonto Apaches. On December 1, 1873, Lieutenant Walter S. Schuyler, of the 5th Cavalry, led a scouting expedition out of Fort McDowell that resulted in the first skirmish along Cave Creek. After weeks of searching for Indians, Lt. Schuyler and his troops found a band of Tontos held up on the West bank of Cave Creek. On Christmas morning the troops attacked the Tontos, killing 9, including one of the most fearless leaders named Nanotz.



Just North of Cave Creek, the area of Bloody Basin was the site of a bitter skirmish on March 27, 1873. Army scouts trailed a group of Apaches to the top of Turret Peak. The scouts crept up the peak during the night. At dawn they captured or killed nearly all of the Apaches.

The pressure on the Tonto Apaches began to have its effects. With the army destroying any discovered food storage areas, the Apaches were beginning to suffer. Hunger drove the Apaches to surrender. By 1877 about 5,000 Indians from various tribes shared the San Carlos Reservation.

The Battle of Turret Peak proved to be a major turning point. The time of the Tonto Apaches along Cave Creek was over and a new era of mining was coming to Cave Creek

**Trails**

Cave Creek Regional Park offers over 11 miles of trails for hiking, mountain biking and horseback riding. Park trails range in length from 0.2 miles to 4.8 miles and range in difficulty from easy to difficult.

If you are looking for an easy, relatively short hike the Cholla or Jasper Trail is recommended. If you are looking for a long more difficult hike, try the 4.8-mile Go John Trail. The trails within the Cave Creek Regional Park are very

popular because they have enough elevation to offer spectacular vistas of surrounding plains. Whether you are looking across the plain, flat land, south of the recreation area or looking to the west or north great distances or surrounding mountains can be seen and enjoyed.

All trails are multi-use unless otherwise designated. All trail users are encouraged to practice proper trail etiquette. Always remember to carry plenty of water and always let someone know where you are going.

**Horse Staging Area:** This Facility has a large gravel parking lot to accommodate horse trailers. Hitch rails are also available around the perimeter of the area.

**Camping**

Cave Creek Regional Park offers a campground with 38 individual sites and a Group camping area. The Cave Creek Campground consists of 38 campsites for tent or RV camping. Each site has a large parking area to accommodate up to a 45' RV.

Each site is a "Semi-Developed Site," which means that it has water and electrical hook-ups, a picnic table, and a barbecue fire ring. Cave Creek Regional Park provides immaculate restrooms with flush toilets and hot water showers. There is a dump facility within Cave Creek Regional Park and is available to overnight guests.



Figure 26: Cave Creek Regional Park

# Segments Seventeen & Eighteen

**Segment Seventeen** picks up just inside the boundary of Cave Creek Regional Park. This segment follows the Overton Trail to the Go John Trail all the way to the northern boundary of the park. The 4.8 mile Go John Trail is described by Parks Staff as a long, more difficult hike.

Segment Seventeen

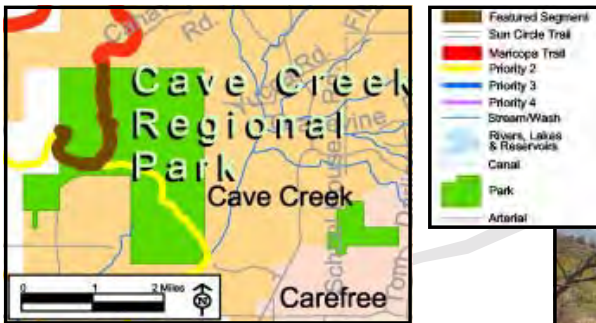


Figure 27: Go John Trail



Segment Eighteen

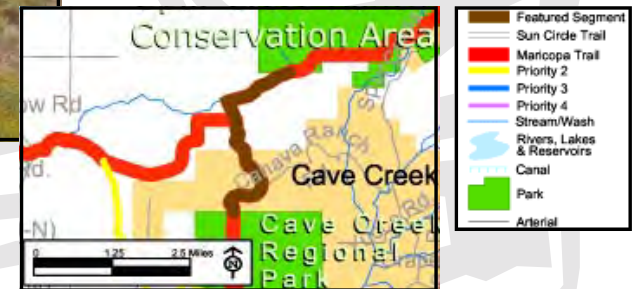


Figure 28: Cahava Springs

**Segment Eighteen** is a north/south connection through the Cahava Springs development commencing at the northern boundary of Cave Creek Regional Park where the Go John Trail exits the park. This segment then continues north to the boundary of Spur Cross Ranch Conservation Area.



# Segment Nineteen

**Segment Nineteen** begins as the primitive Elephant Mountain Trail crosses the boundary into Spur Cross Ranch Conservation Area. This segment then follows a proposed route to the east which will be determined by park staff. Segment Nineteen then connects with the Spur Cross Trail passing through the main trailhead and continues 1.2 miles northeast along a scenic trail to the park boundary. Once at the park boundary the trail continues onto the Tonto National Forest.



Segment Nineteen

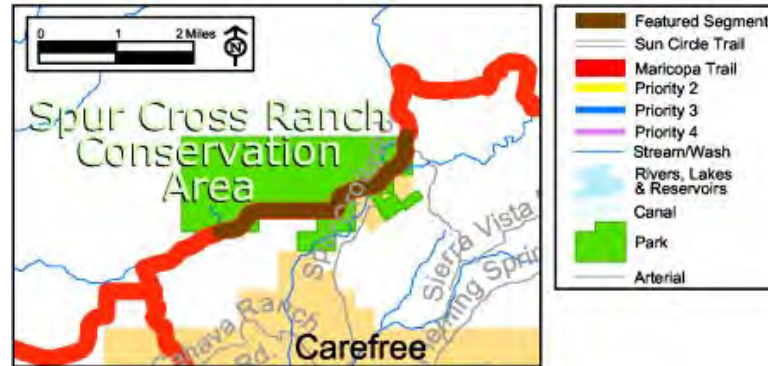


Figure 29: Spur Cross Trail



# Spur Cross Ranch Conservation Area

Spur Cross Ranch is the newest addition to Maricopa County's Regional Park System. On January 9, 2001 documents were signed by Governor Jane Hull for the state of Arizona, Supervisor Jan Brewer for Maricopa County and Mayor Vincent Francia for the town of Cave Creek ensuring the conservation of this 2,100 acre ranch. Spur Cross Ranch is designated a "Limited use public recreation and conservation area." Tentative plans include the development of a visitors center, restrooms, and a trail system to selected archeological sites.

A prime example of high Sonoran Desert, Spur Cross Ranch incorporates both valley floor and spectacular rock outcroppings rising more than 4,000 feet into the mesas above.

One of the last remaining year-round spring-fed streams in Maricopa County flows through Spur Cross. Its banks are covered with plants and trees, including cottonwoods and willows. Abundant water and plant life make this a home to many species of animals including javelina, mule deer, and coyotes. Approximately 45 varieties of birds are reported to live in this habitat. Beyond the banks of the stream lies one of the region's thickest remaining stands of saguaro cactus. The park contains nearly 90 archaeological sites used by the Hohokam Indians between 1000 - 1200 A.D. Hohokam petroglyphs dot the area. Both the Hopi and the Fort McDowell Mohave-Apache Indian communities have identified Spur Cross Ranch as a sacred place.

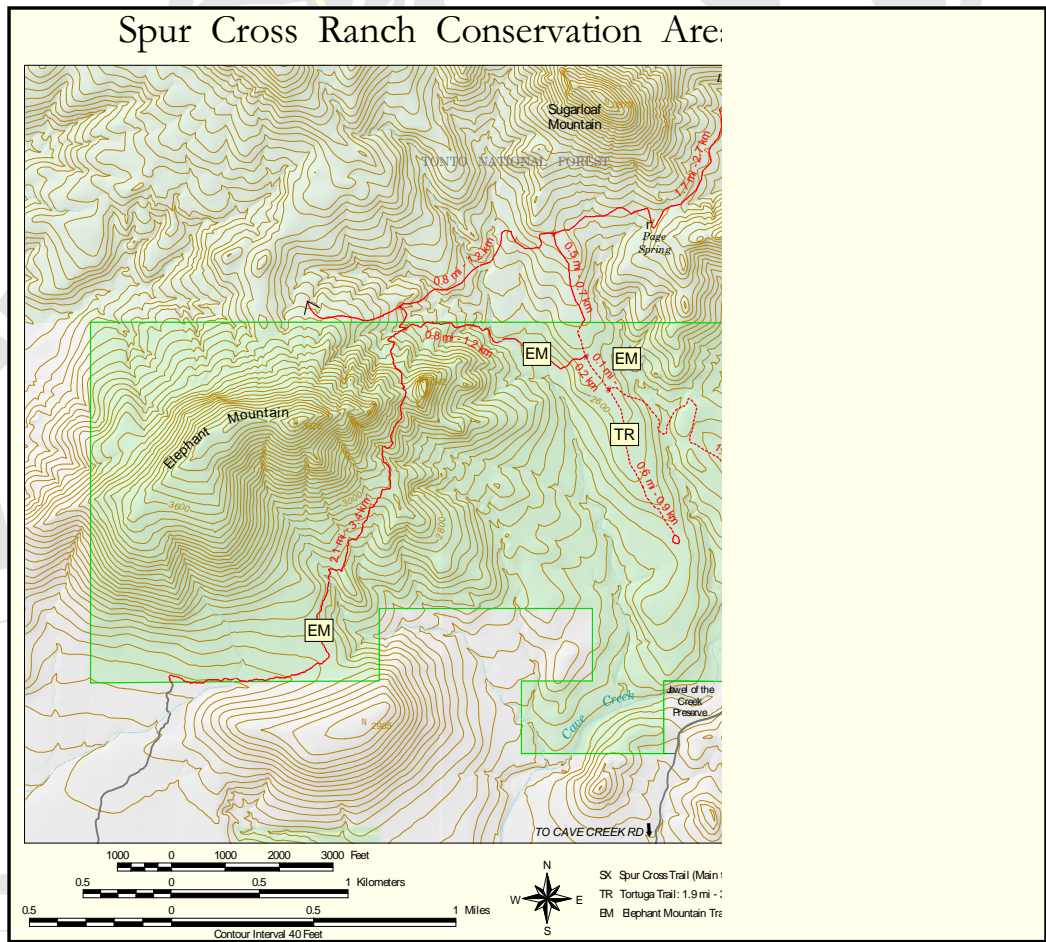


Figure 30: Spur Cross Ranch Conservation Area

A recently completed master plan, developed through a comprehensive public process, will provide a framework for management of the park. The plan addresses issues and provides recommendations for managing lands within SCRCA that conserve and protect cultural and natural resources while providing for nonmotorized day use activities. The plan reflects input received from agencies, stakeholders, and the public received within the two-year planning process that began in February 2002. It provides recommendations for management of environmental and cultural resources within the context of the U.S. Forest Service's Limits of Acceptable Change Process and Recreation Opportunity Spectrum, which were adapted and modified to meet the unique requirements of Spur Cross Ranch. The primary focus of the process was on the conservation and protection of environmental and cultural resources and a secondary focus on recreation, interpretive, and educational opportunities for visitors at SCRCA.

The following list contains primary goals addressed within the Master Plan:

1. to continue development of a comprehensive regionally integrated natural and cultural resources management program with adjacent landowners.
2. to provide for the continuity of land management and the transfer of knowledge during changes of SCRCA land managers and staff.
3. to provide for adaptive management, monitoring, and implementation strategies that account for current and future conditions within SCRCA.
4. to manage SCRCA for use and enjoyment of visitors that minimizes adverse impacts to ecological and cultural resources.



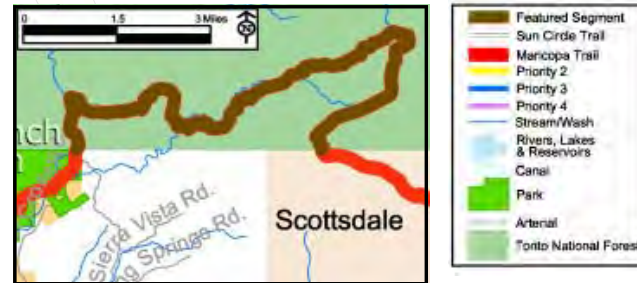
# Segments Twenty & Twenty-One

**Segment Twenty** begins at the Tonto National Forest boundary with Spur Cross Ranch and heads north on Forest Road 4, which is closed to motorized vehicles in this area. About a mile north of the Spur Cross boundary Forest Road 4 meets Forest Trail 247. Segment Twenty heads east on Trail 247 until it reaches the Bronco Creek drainage, where it runs south past Bronco Butte to the boundary of the City of Scottsdale.

Once entering the City of Scottsdale, it becomes **Segment Twenty-One** and moves east again on a secondary trail alignment identified in the Scottsdale Trails Master Plan. This Segment passes Butte Peak and Gold Hill and eventually reenters the National Forest west of Seven Springs Road.

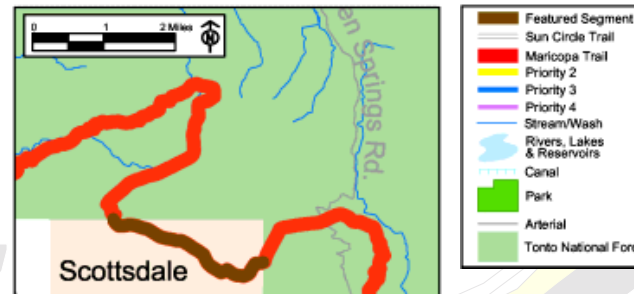


**Segment Twenty**



*Figure 31: Trail 247*

**Segment Twenty-One**



*Figure 32: City of Scottsdale Trail*



# Segment Twenty-Two

**Segment Twenty-Two** crosses Forest Road 24 (Seven Springs Road) in the vicinity of Rackensack Canyon and connects to a powerline corridor less than a mile east of the road. The segment then heads south past Sears Kay Ranch, crosses Bartlett Dam Road near the Cave Creek Ranger District office, and continues south where the segment ends at Stagecoach Pass on the boundary of the forest and Scottsdale.

There were several alternate routes to this corridor that would have combined possible alignments in Cave Creek, Carefree and Scottsdale. None of these routes provided a viable connection between Spur Cross Ranch Conservation Area and McDowell Mountain Regional Park. The Forest Service manages most of the land that Segments Twenty and Twenty-Two cross. The remaining land parcels, all in Scottsdale, are large and privately owned by only a few entities.

These routes were chosen for the variety of recreational opportunities they offer to Maricopa Trail users as well for its connectivity. Besides linking the regional parks, Segments Twenty, Twenty-One, and Twenty-Two feed into an extensive trail network in the Cave Creek Ranger District. Trail users can take these trails to Seven Springs and other forest destinations. The precipitous topography of this portion of the regional trail, especially in the section from the Spur Cross boundary to Bartlett Dam Road, means the trail slopes will exceed the recommended slope limits as set forth in the plan's design guidelines.

Segment Twenty-Two

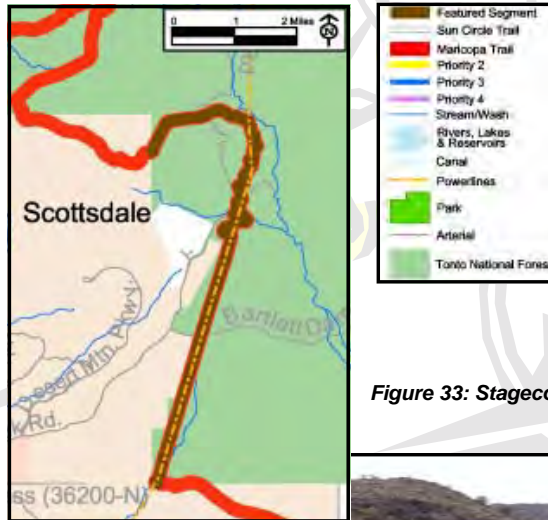


Figure 33: Stagecoach Pass



# McDowell Mountain Regional Park

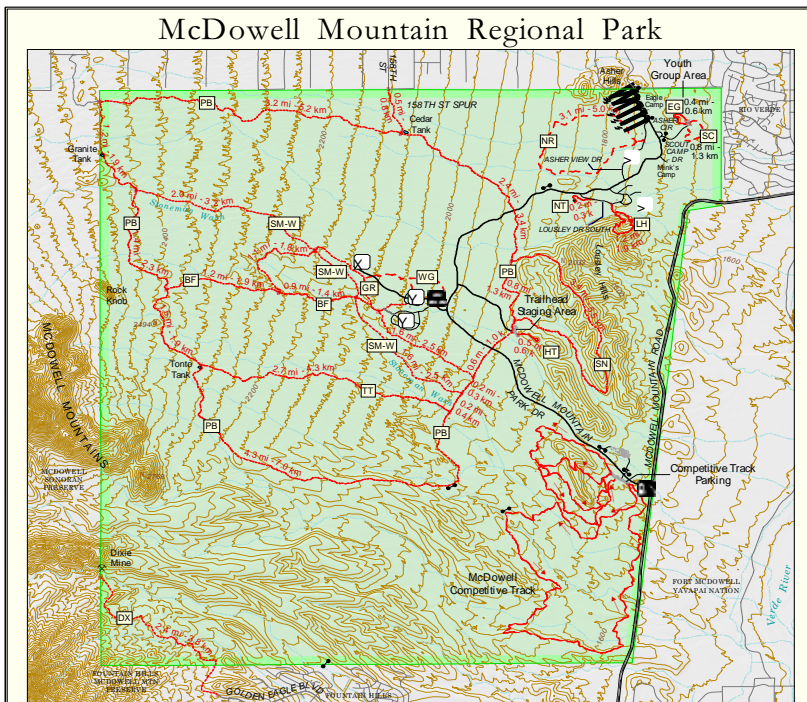
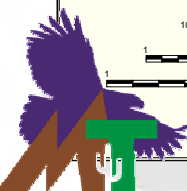


Figure 34: McDowell Mountain Regional Park

- TRAILS**
- BF Bluff: 2.2 mi - 3.5 km
  - DX Dixie Mine: 2.4 mi - 3.8 km
  - EG Eagle: 0.4 mi - 0.6 km loop, hike only.
  - GR Granite: 3.4 mi - 5.4 km
  - HT Hilltop: 0.5 mi - 0.7 km, round-trip, hike only.
  - LH Louieley Hill: 1.2 mi - 1.9 km round-trip, hike only.
  - NR North Trail: 2.9 mi - 4.7 km round-trip, hike, bike only.
  - NT Nursery Tank: 0.5 mi - 0.8 km round-trip, hike only, barriers.
  - PB Pemberton: 15.4 mi - 24.8 km loop
  - SC Scout: 0.8 mi - 1.3 km loop, hike, bike only.
  - SN Scenic: 3.4 mi - 5.5 km (Parts subject to flooding)
  - SM-W Sorenson Wash: 4.0 mi - 6.4 km (Subject to flooding)
  - TT Torino Tank: 2.7 mi - 4.3 km
  - WG Wagner: 1.1 mi - 1.8 km, hike, bike only.
- Distances shown are one-way unless indicated; map does not show round-trip distances.  
 - Distances on map are for segments between trail junctions, or junction and trailhead.  
 - Due to rounding, segment lengths on map may not add up to trail totals shown above.



McDowell Mountain Regional Park is located 15 miles northeast of the city of Scottsdale in the lower Verde Basin. This 21,099-acre Sonoran Desert Park is one of Maricopa County's largest parks. The Park's elevation ranges from 1,550 feet at the southeastern corner, to 3,100 feet along the western boundary of the park.

### Park History

In the early 1500s, the areas near the confluence of the Salt and Verde Rivers was home to between 4,000 and 10,000 Hohokam Indians. Native activities ranged from intensive agriculture, with river irrigation, to nomadic hunting and gathering. McDowell Mountain Regional Park contains the remains of several hunting and gathering sites within its boundaries.

In 1865, Camp McDowell was founded on the west bank of the Verde River. Remaining a permanent military post until 1890, it was the only fort inside present boundaries of Maricopa County. Remains of the fort still exist in the present day village of Fort McDowell, just a few miles southeast of McDowell Park. Due to the presence of Camp McDowell and the protection it offered, settlement in the Salt River Valley was permanent. On February 12, 1871, Maricopa County was created to serve the growing population.

By early 1944, talk and correspondence originated regarding establishing a County Park system. A committee was established, studies were conducted for choosing locations, the process of land acquisition was formatted and by 1945 certain land purchases and leases had been completed. An 18,273 acreage for McDowell Park was first leased in 1958, and patented in 1964. Through further land acquisition this has been expanded to now encompass 21,099 acres. One of the largest in the Maricopa County Parks System, McDowell Mountain Regional Park rates as one of the most scenic with majestic mountain views.

### Trails

McDowell Mountain Regional Park offers over 40 miles of hiking, mountain biking, and horseback riding trails. Park trails range in length from 0.5 miles to 15.3 miles and range in difficulty from easy to strenuous. Those looking for an easy hike should try the North Trail at 3.1 miles. Those looking for a good workout for themselves or their horses should try the Pemberton at 15.3 miles. Always remember to carry plenty of water and let someone know where you are going.

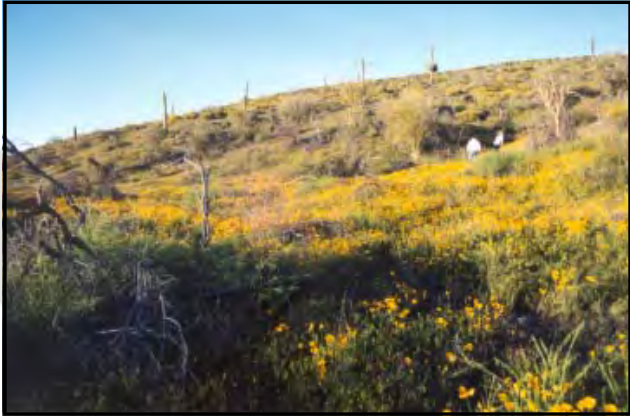


On January 10th 1998 McDowell Park opened the 1st of 3 loops of a new

competitive track at the park. Today, the track offers three loops totaling 15 miles: one for the experts, one for intermediate riders, and one for the average rider. Each loop offers a variety of obstacles to test the riders skills. The track consists of steep inclines, swooping turns, technical descents, and rugged terrain. This competitive track is geared for mountain bikers who want to test their skills as riders. Joggers and equestrian riders are welcome to give the track a try too. The Long Loop of the track was designed for the average rider but is used by all. The Sport Loop is for intermediate riders and experts. The Technical Loop is for the expert rider. This portion of the track offers swooping turns, very technical descents, and steep inclines.

**Camping**

McDowell Mountain Regional Park offers family camping and Group camping areas. The Family Campground consists of 76 camping sites for tent or RV camping. Each site has a large parking area to accommodate up to a 45-foot RV, water and electrical hook-ups, a picnic table, barbecue grill and fire ring. The Park offers immaculate restrooms with flush toilets and hot water showers. All of our restrooms offer flush toilets and showers. The south loop of the campground also offers handicapped-accessible restrooms. Those needing a dump facility can utilize the campground dump station.



# Segment Twenty-Three

**Segment Twenty-Three** takes the regional trail from Stagecoach Pass in the city of Scottsdale to McDowell Mountain Regional Park, covering a distance of ten miles. This segment begins at the boundary of the Tonto National Forest with Scottsdale and moves diagonally in a southeast direction for four miles. At the four mile mark it connects with a corridor that runs north/south along 136<sup>th</sup> Street. The segment travels south for six miles along this 136<sup>th</sup> Street corridor until it reaches the northwest corner of McDowell Mountain Regional Park.

The 136<sup>th</sup> Street route was identified as the primary segment because it makes the most direct link with the park from Stagecoach Pass. An alternative connection to the park could be made by taking the trail west from 136<sup>th</sup> Street along the north side of Rio Verde Drive, and then heading south on the 128<sup>th</sup> Street alignment. From there the connection to the park would be made by heading east on a corridor south of the Jomax Road alignment. One feature of the 128<sup>th</sup> Street route that makes it a compelling alternative is Scottsdale's plans to build a trailhead and grade-separated crossing at the Rio Verde Drive/128<sup>th</sup> Street intersection.

The nature of land ownership near the park is another reason for considering use of the 128<sup>th</sup> Street alignment. Most of the property crossed by Segment Twenty-Three is owned by the Arizona State Land Trust and has been proposed for inclusion in the McDowell Sonoran Preserve. The remaining property, roughly a mile-long parcel south of Rio Verde Drive, is privately owned. Since this parcel is divided among numerous property owners any effort to establish a right-of-way for the regional trail there may be complicated.

Segment Twenty-Three

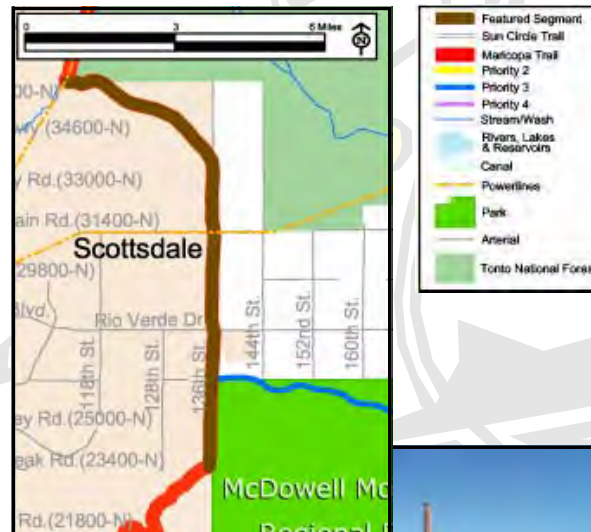


Figure 35: 136th Street



# Segment Twenty-Four

**Segment Twenty-Four** connects McDowell Mountain Regional Park to the CAP aqueduct by traveling through the McDowell Sonoran Preserve and a small section of Scottsdale proper. The segment uses parts of the planned/future Rock Knob, Tom's Thumb, and Windgate Pass trails to traverse the Preserve and connect to the Scottsdale city trails that then lead to the CAP near the WestWorld staging area. Segment Twenty-Four covers a distance of nine miles.

There were three other corridor alternatives looked at while trying to find a viable way to link McDowell Mountain Regional Park with Utery Mountain Regional Park. One alternative, taking the trail out into the Tonto National Forest between the Fort McDowell Indian Community and SR 87, wasn't recommended because that part of the forest is heavily used by off-highway vehicles. Another option was to take the trail through the Fort McDowell Community, but no suitable alignments were available there. And finally, trying to go south from McDowell Mountain Regional Park via Fountain Hills wouldn't work because the city of Fountain Hills doesn't have any trails that connect all the way through the community. That left only the Preserve option as a workable route to the CAP and down to Utery Mountain Regional Park. Taking the trail west from McDowell Mountain Regional Park and south along Scottsdale streetside trails was never seriously considered since the trail plan avoids using alignments along busy streets wherever possible.

Using Preserve trails may have conditions attached because of regulations set forth by the city of Scottsdale for the McDowell Sonoran Preserve. Preserve hours are from sunrise to sunset. All Preserve trails are nonmotorized. Trail users will be able to access Segment Twenty-Four from a number of staging areas in the Thompson Peak Parkway/Bell Road area. There are three trailheads planned for that vicinity, including Scottsdale's WestWorld facility and the Preserve's "Gateway".

**Segment Twenty-Four**



**Figure 36: McDowell Sonoran Preserve**



# Segment Twenty-Five & Twenty-Six

Segments Twenty-Five and Twenty-Six are both sections of the Central Arizona Project (CAP) Aqueduct. These segments were divided in accordance with the *Feasibility Study For A Multi-Use Path Along The Central Arizona Project Aqueduct System (Feasibility Study)*. This *Feasibility Study* will be discussed at length in a later section.

**Segment Twenty-Five** is the Central Arizona Project Aqueduct from West World in Scottsdale, southeasterly to the boundary with the Salt River Pima-Maricopa Indian Community (south of Shea Boulevard). Segment Twenty-Five lies within the city of Scottsdale and includes the land ownership/management of the Central Arizona Water Conservation District (CAWCD), Bureau of Reclamation (BOR), and Arizona Department of Transportation (ADOT). Segment Twenty-Five, identified as the Scottsdale Segment in the *Feasibility Study* includes approximately 9.2 miles of the total 53-mile corridor length. It is primarily developed land along the existing adjoining properties to the CAP right-of-way.

**Segment Twenty-Six** is the Central Arizona Project Aqueduct across the Salt River Pima-Maricopa Indian Community (SRP-MIC) and the Granite Reef Dam. There are approximately 10.5 miles of the total 53-mile *Feasibility Study* corridor length. The Salt River Pima-Maricopa Indian Community comprises approximately 7.1 miles across undeveloped land along the existing adjoining properties to the CAP Aqueduct easement. The Granite Reef Dam section is approximately 3.4 miles which includes the crossing of the Salt River and siphon, Granite Reef Dam, Arizona Canal, and the South Canal. There are a significant number of jurisdiction and management agencies within this area. They include SRP-MIC, the Salt River Project, Maricopa County, Tonto National Forest, Bureau of Land Management, CAWCD, and U.S. Army Corps of Engineers. The existing adjoining properties to the Aqueduct easement/right-of-way are primarily undeveloped land.

Segment Twenty-Five

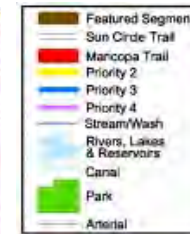


Figure 37: CAP across Scottsdale

Segment Twenty-Six



Figure 38: CAP across SRP-MIC



# Segment Twenty-Seven

**Segment Twenty-Seven** travels through the Tonto National Forest from the CAP aqueduct to the southeast of Granite Reef Dam across Usery Pass Road to the northeast corner of Usery Mountain Regional Park. This segment uses a combination of forest trails that will be part of the Forest Service's trail network. The segment covers ten miles, all of it on federal land. This segment will be a spur of the Maricopa Trail in order to include Usery Mountain Regional Park in the primary loop. This option was chosen because it will allow for the primary Maricopa Trail to remain in Maricopa County instead of continuing through the park and continuing along the CAP into Pinal County as was shown in Phase 2 of the Trail Plan.

Segment Twenty-Seven forms the northern arc of a proposed trail loop within the regional trail that will allow trail users to access Usery Mountain Regional Park. Roads in the portion of the corridor east of Usery Pass Road, in the Bulldog Canyon area, are open to motorized traffic. OHV users must get a permit and the combination to locked access gates from the Forest Service before riding on the forest. Equestrians and other nonmotorized user groups also presently utilize the Bulldog Canyon roads. Another potential conflict, the Usery Mountain Shooting Range, situated west of Usery Pass Road on the park's northern boundary, was avoided by selecting a route that runs well to the north and east of the site.



Segment Twenty-Seven

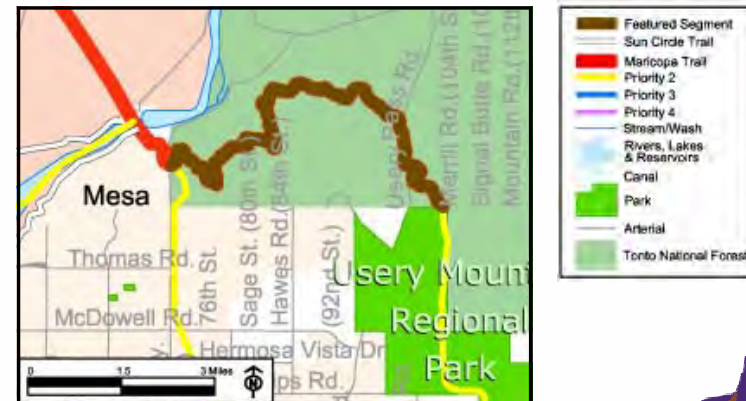


Figure 39: Bulldog Canyon



# Usery Mountain Regional Park

Usery Mountain Regional Park encompasses 3,648 acres, elevation ranges from 1,700 to 2,750 feet, and contains a large variety of plants and animals that call the lower Sonoran Desert home. Facilities include a 73-unit campground (reservations not accepted), a group campground (reservations required). Day-use area includes a group picnic area (reservations required) and picnic sites with grills, tables, armadas, and water. Usery Park offers the outdoor enthusiast plenty of outdoor opportunities to enjoy hiking, mountain biking, and horseback riding; a horse staging area is available with picnic areas and hitching posts.

### Park History

The traditional account of settlement of the Salt River Valley credits a former Confederate Officer and gold seeker, Jack Swilling, with the beginning of the modern irrigation in central

Arizona. Swilling came into the Valley in 1867 and noted the presence of ancient canal systems of the early Native Americans who had irrigated the same lands.

If Swilling traveled between John Y.T. Smith's hay camp a few miles east of downtown Phoenix and Fort McDowell, as he presumably did in the summer of 1867, he came within site of Usery Mountain Park, and even closer to the ruins of an old canal system and an ancient Native American village situated between the park and the Salt River. The first Swilling canal brought water to fields east of the present Arizona State Hospital near Phoenix and inspired the beginning of other canal building.

Usery Mountain Regional Park became a park in 1967. Pass Mountain, also known as "Scarface" to the local folks, is the geological focal point of the park. The mountain itself was

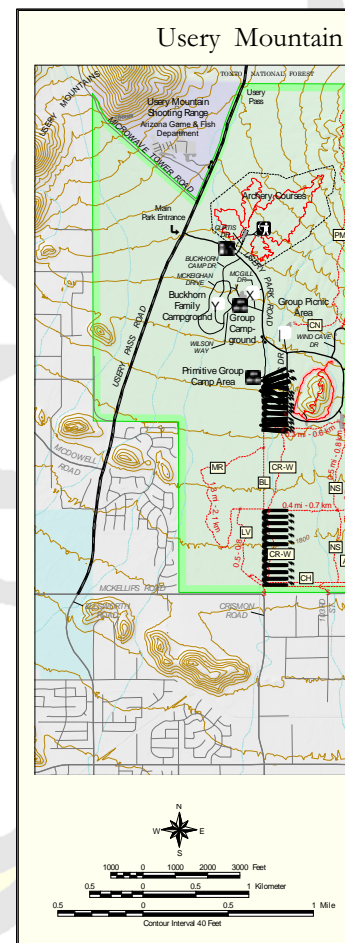


Figure 40: Usery Mountain Regional Park



named for King Usery (sometimes spelled Ussery). "King" was his first name, rather than a title. He was a cattleman who was running stock in the area in the late 1870s and early 1880s. He had a tough struggle to survive and, apparently losing ground, moved up into the Tonto Basin country where his activities, unorthodox, provided him a kind of unwanted security..... behind bars.

Usery Mountain Park is on the border of a mountain region. Nearby ranges are: the Superstitions on the east, the Goldfields on the north and northeast, the Usery Mountains immediately northwest, and the McDowell Mountains across the Salt River to the northwest. A broad basin lies west and south of the area.



Usery Pass is also known for being a major sheep trail leading from the high country north of Mt. Baldy south to the Salt River Valley. Flocks of sheep, led by Mexican and Basque shepherds with their dogs, present a picturesque sight in the spring and fall as they move into or out of the Coconino plateau region.



# Segment Twenty-Eight

**Segment Twenty-Eight** encompasses the Roosevelt Water Conservation District Canal (RWDC) and the East Maricopa Floodway (EMF). The corridor runs from the South Canal to Queen Creek Wash in the towns of Gilbert and Queen Creek, a distance of 18 miles. Segment Twenty-Eight's route has been recognized as a regionally significant recreation corridor for some time. Because of its regional significance, this corridor has been identified in other trail plans. For instance, the Marathon Trail is planned for the EMF between Brown Avenue and the Gila River Indian Community. Similarly, both Gilbert and Mesa identify the EMF as a corridor in their recreation master plans. Completed in 1989, the EMF was built by the US Soil Conservation Service to collect flood runoff from eastern Maricopa County.

**Segment Twenty-Eight**



**Figure 41: RWDC and EMF**

# Segment Twenty-Nine

**Segment Twenty-Nine** follows the Sanokai Wash and Queen Creek wash corridors from the East Maricopa Floodway (EMF) in the town of Gilbert to the Hawes Road corridor in the town of Queen Creek, a distance of six miles. Presently Sanokai Wash doesn't link to the EMF directly. Rather, it empties into Queen Creek wash just west of Higley Road and Queen Creek wash then connects to the EMF. Therefore the first mile of Segment Twenty-Nine from the EMF is on Queen Creek Wash. The remaining part follows Sanokai Wash along the Ocotillo Road alignment until a point west of Power Road, where it then moves southeast. It crosses Hawes Road just north of Riggs Road.

The factors influencing Sanokai Wash in Segment Twenty-Nine are much the same as those impacting Queen Creek in Segments Fifty-Four and Fifty-Five. As with Queen Creek, Sanokai Wash represents a natural trail corridor and it is identified as a recreational corridor by the town of Queen Creek and FCDMC. Sanokai Wash is presently used by the public for recreation activities, crosses scores of privately owned land parcels, and has been hemmed in and raised by unengineered levees. Furthermore Sanokai Wash's alignment has been altered by development, and FCDMC has plans to increase its flood-handling capacity with channel improvements and detention basins. These plans that will alter the wash's original route even more.

In the confluence alternatives section of the *Queen Creek & Sanokai Wash Hydraulic Master Plan*, FCDMC recommends redesigning the confluences of Sanokai Wash with Queen Creek Wash and of Queen Creek with the EMF. In its preferred design alternative FCDMC would split the alignments of the washes. A new channel would be built for Queen Creek Wash along the south side of Queen Creek Road from Higley Road to the floodway. Similarly, Sanokai Wash would have a new channel built along the Ocotillo Road alignment from Higley to the floodway. The final result would be that both Queen Creek and Sanokai washes would empty directly into the EMF. This means the regional trail will eventually connect from the EMF straight into the Sanokai Wash corridor.

Segment Twenty-Nine

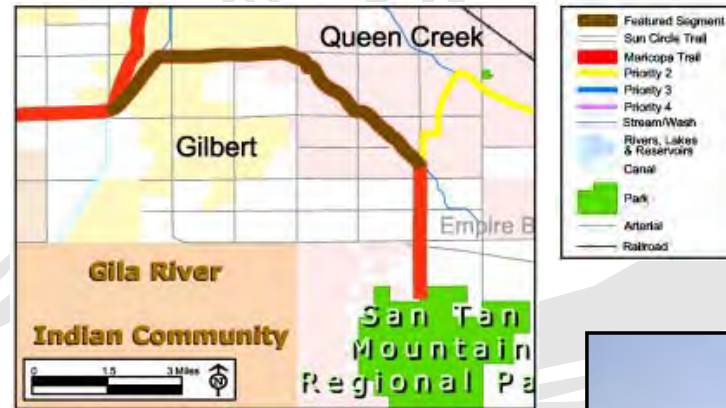


Figure 42: Sanokai Wash



# San Tan Mountain Regional Park

San Tan Mountain Regional Park is a 10,198-acre park located south of Hunt Highway and Ellsworth Road near the town of Queen Creek in Pinal County. The park has no water, electricity, or phone and is scheduled for future development. The park is managed by Maricopa County Parks and Recreation Department under a cooperative agreement with Pinal County and the U.S Department of Interior - Bureau of Land Management (BLM).

The master plan has been recently updated through a joint effort between Maricopa County, Pinal County, the cities of Chandler and Mesa, and the towns of Queen Creek and Gilbert. This interagency cooperation will help to address the needs and concerns of all interested park users. The Final Master Plan will be available in summer 2004.

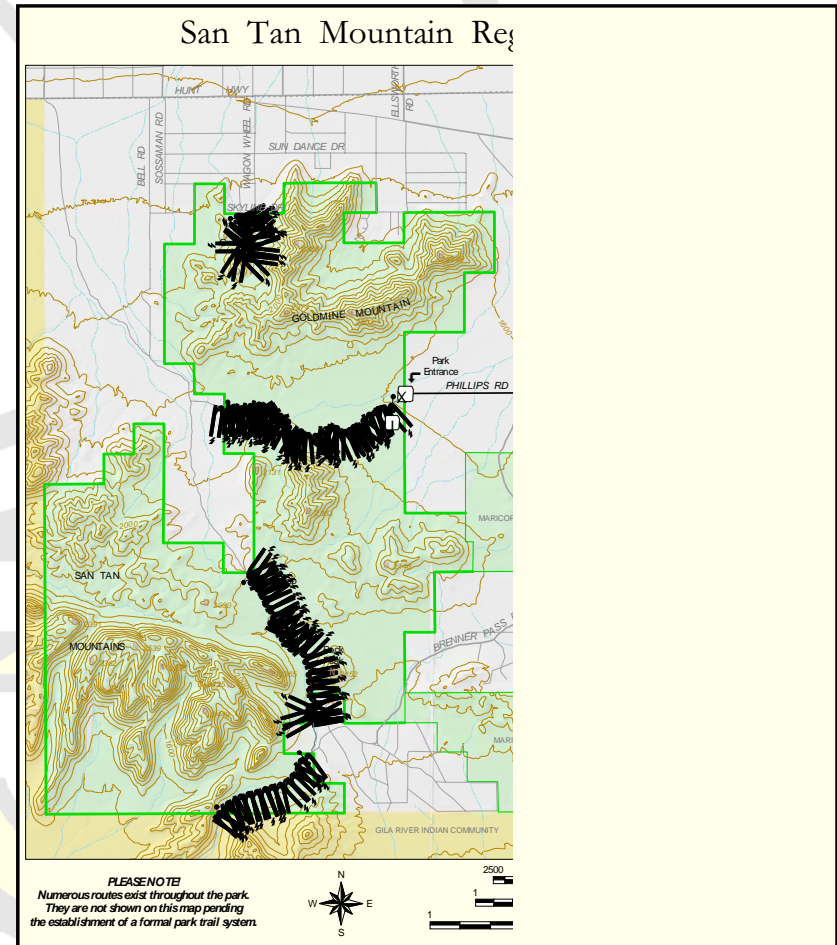
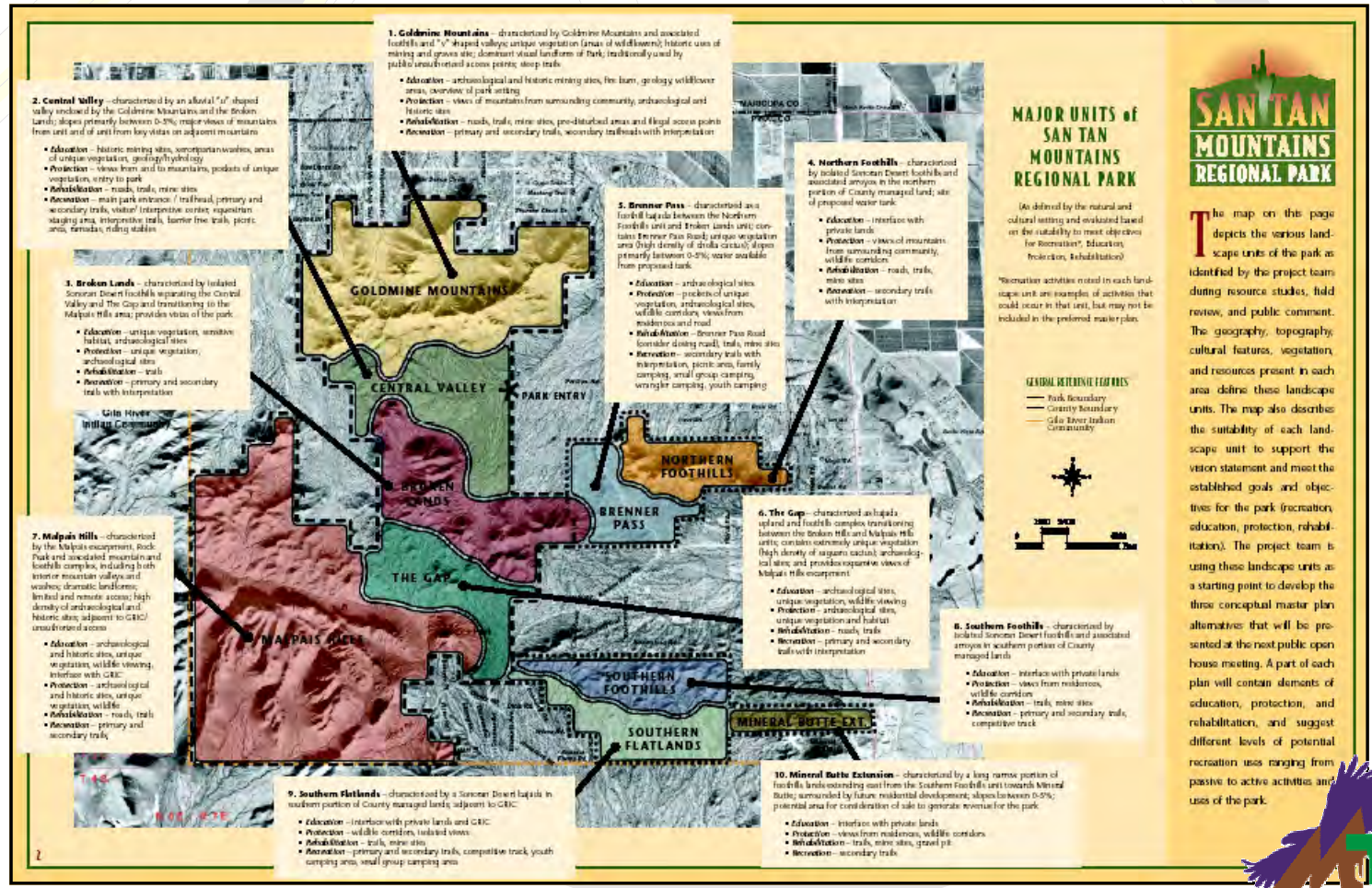


Figure 43: San Tan Mountain Regional Park

The map to the right was developed during the planning process for San Tan Mountain Regional Park. It was printed in Newsletter #3 and is available at <http://www.santanpark.net/>



# Segment Thirty

**Segment Thirty** is a relatively short section of the Maricopa Trail. It's only four miles long and connects the Queen Creek and Sanokai Wash segments in the town of Queen Creek to a proposed northern entrance to San Tan Mountain Regional Park.

The upper end of Segment Thirty is formed by the intersection of Queen Creek Wash and a community trail corridor near downtown Queen Creek. Heading southwest, the segment crosses Chandler Heights Road between Hawes and Ellsworth roads, turns west for a very brief stretch, then runs south along Hawes Road until it ends at the park. Segment Thirty crosses the Maricopa County boundary and enters Pinal County at Hunt Highway. (Though located in Pinal County, San Tan is administered by Maricopa County.) The proposed entryway into the northern section of San Tan is about a mile south of the county line.

Segment Thirty crosses mostly private property that is divided into numerous parcels of varying size. Presently no formal entrance for San Tan exists where this corridor ends, though residents currently use the portal proposed here as well as a number of other entry points on the northern boundary to access the park. Maricopa County Parks and Recreation Department's official policy is to require all visitors to county regional parks to enter by a park's established entrances. The town of Queen Creek has formalized these entry points by identifying them as desired entrances in its Open Space and Trails Plan.



Segment Thirty

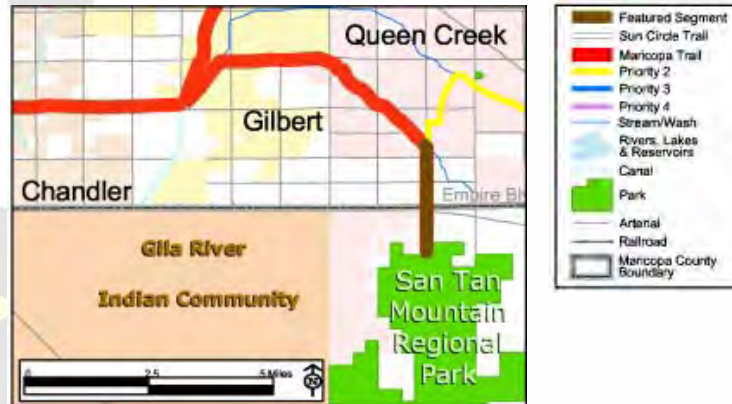


Figure 44: Hawes Road

# Segment Thirty-One

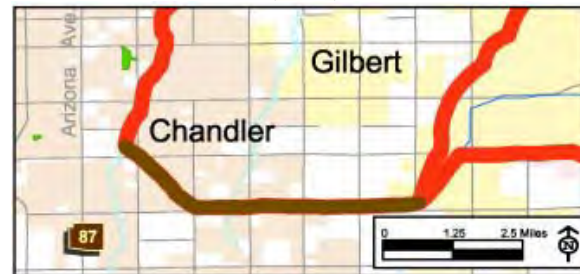
**Segment Thirty-One** is the Roosevelt Water Conservation District (RWCD) Irrigation Lateral. In addition to many major canals, the Valley is home to 924 miles of 'laterals', ditches that take water from the large canals to various delivery points in irrigated areas.

Water is routed into and through these laterals by a series of turnout gates. Residential irrigation customers take their water entitlement at regularly scheduled intervals throughout the year by opening valves that release water onto their property for specific time periods.

Most laterals north of the Salt River in urban areas are underground. Many of the laterals that take water from canals in agricultural areas south of the river are open ditches.

The RWCD Irrigation Lateral is an open ditch starting mid-block between Chandler Heights Road and Ocotillo Road at the RWCD Main Canal in Gilbert. It runs to the extension of the Eastern Canal in Chandler where it bisects two refuse ponds. It follows a power line and the alignment of Brooks Farm Road to the Consolidated Canal in Chandler. This segment is also identified as part of the City of Chandler Southeast Trail System.

**Segment Thirty-One**



*Figure 45: RWCD Irrigation Lateral*

- Featured Segment
- Sun Circle Trail
- Maricopa Trail
- Priority 2
- Priority 3
- Priority 4
- Stream/Wash
- Rivers, Lakes & Reservoirs
- Canal
- Park
- Arterial



# Segment Thirty-Two

**Segment Thirty-Two** is the southern portion of the Consolidated Canal running through the town of Gilbert and the city of Chandler. The Consolidated Canal is identified as the Heritage Trail in the town of Gilbert, starting at the Western Canal and running to the city of Chandler boundary.

The city of Chandler identified the stretch of the Consolidated Canal from Galveston Street to Riggs Road as the Chandler Paseo Project. The Chandler Paseo Master Plan illustrates a continuous 6.5-mile linear park designed to provide passive recreation, open space, and alternative transportation along the Consolidated Canal. The canal, its right-of-way, and a proposed ten-foot builder easement primarily define the park. The first 15 feet on each side of the canal must be left open as clear zones to allow SRP to maintain the canal.

Meandering along the east bank of the canal between the 15-foot clear zone and the developer easement is a 12-foot concrete multi-use path. The path services both alternative transportation and passive recreation and accommodates walking, jogging, rollerblading, and biking. Adjacent to this path is a decomposed granite path for running. The path is to be lighted and be accessible during city of Chandler park hours.

The equestrian trail runs along the west bank of the canal within the 15-foot clear zone. The existing decomposed granite surface built up from the sediment provides an ideal surface for an equestrian path. The equestrian path is to be located on the opposite side of the canal from the multi-use path to minimize the danger of horses becoming spooked by pedestrian and bicycle traffic.

There are also plans for vehicular bridges at each of six arterial streets crossing the canal. These bridges will allow pedestrians, cyclists, and horseback riders to pass under the roadway safely and uninterrupted by traffic. The bridge crossings will be developed as part of the city of Chandler's road improvement program.

Segments of the Maricopa Trail connecting the Consolidated Canal to Estrella Mountain Regional Park are identified as the Western Canal, the National Trail through South Mountain Park, a power line corridor, and the Tres Rios section of the Salt River. These corridors are described as Segments Six, Seven, Eight, and Nine in the Sun Circle Trail section of this plan.

Segment Thirty-Two



Figure 46: Southern portion of Consolidated Canal





# Segment Thirty-Three

**Segment Thirty-Three** is the Gila River from the confluence of the Salt and Agua Fria rivers to Robbins Butte Wildlife Area. This segment includes the entire extent of the Flood Control District of Maricopa County El Rio Watercourse Master Plan (WCMP).

The Flood Control District of Maricopa County is proposing a Watercourse Master Plan to maintain and enhance the natural functions of the Gila River through flood control measures. The goal for the El Rio WCMP is to provide a flood protection strategy that preserves the heritage of the river and is consistent with a long-term, multi-use vision for the river corridor. The proposed study will cover a 17.5 mile reach of the Gila River from the confluence of the Agua Fria River west to the SR-85 Bridge. The plan will be a joint effort between the FCDMC, the city of Avondale, town of Buckeye, and the city of Goodyear, as well as numerous state and federal agencies.

The El Rio WCMP will:

- Control the adverse impacts of future land development on drainage and flooding conditions.
- Provide flood protection to the residents in a rapidly growing area.
- Develop and identify both structural and non-structural flood control alternatives.
- Identify potential multiple-use and recreational facilities to complement and enhance flood control measures.

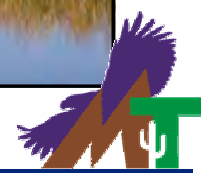
As a multi-use facility, the El Rio project will allow communities to integrate hiking trails along the Gila River. Trail planning staff have been working closely with FCDMC staff and their consultants to identify this corridor of the Maricopa Trail and ensure that it be integrated into the El Rio planning process. Maricopa County Parks and Recreation Department staff from Estrella Mountain Regional Park have also been closely involved in this cooperative planning process.



**Segment Thirty-Three**



**Figure 47: Gila River**



# Estrella Mountain Regional Park

Estrella Mountain Regional Park is located two miles south of Buckeye Road via Bullard Avenue, in Goodyear, Arizona, or 5 miles south of the I-10 Freeway via Estrella Parkway. This 19,840-acre park features 65 acres of grass with ten covered ramadas, picnic tables, grills, restrooms, playground equipment, two lighted ball fields, an 18-hole golf course, and a rodeo arena.

## Park History

Perched on a ridgeline of Estrella Mountain Regional Park, one could have witnessed the unfolding of many interesting events and lives that have been lived out in the desert landscape below. The history and lives of the area begins with the Hohokam Indian culture. This group inhabited the area from around 500 A.D. to 1450 A.D., and relied heavily on the rivers and streams of the area for their existence. Water was obviously a critical element in shaping the cultures and history of this desert environment. The Hohokam culture was based almost exclusively on irrigated agriculture, according to the Historical Atlas of Arizona. Part of the Hohokam, or later cultures, utilizing a canal system, were once located within the park boundaries of Estrella Mountain Regional Park.

By 1600 A.D., the Maricopa and Pima Indians were the tribes living near or around the area of the current park boundaries. Their encampments or settlements were primarily along the Gila River and its tributaries. From 1600 to about 1860, Indian Territory claims and the distribution of Indian tribes around the state changed significantly. However, the tribes living near or around the park remained Maricopa and Pima tribes.

In 1691, Father Eusebio Francisco Kino followed the Santa Cruz River north to the Gila River and then followed the Gila west to California, passing by or possibly through a portion of the Park. Father Kino would have been the first European to see the Sierra Estrella range. Between 1691 and 1704, Father Kino explored and mapped many of the Indian encampments between the park and what was then the Mexican border.

From the earliest times of Spanish influence, until 1776, what is now the central portion of Arizona, was governed by Spain through the colonial government in Mexico City. In 1822 the Mexican Revolution ended Spanish rule in the desert southwest but interest in this region from the United States was beginning to grow. Boundary disputes between Mexico and the United States were beginning. When war broke out with Mexico in 1846, a new American presence in Arizona began. The American military now made a commitment to the southwest to gain further access to the West Coast. However, this presence also helped insure the containment and decline of the native Indian population.

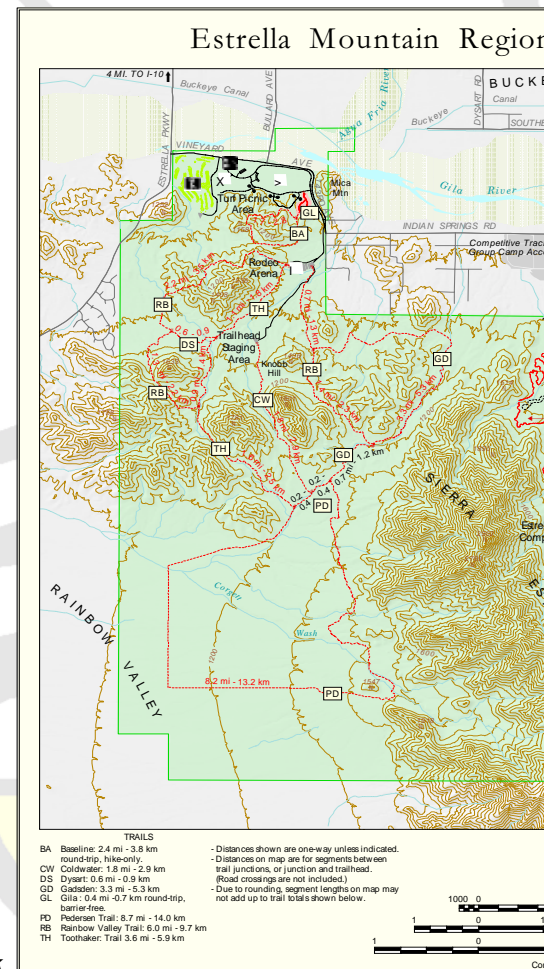


Figure 48: Estrella Mountain Regional Park



In 1848, the war with Mexico ended by the signing of the Treaty of Guadalupe Hidalgo and the vast Mexican cession of land. In Arizona, all the land north of the Gila River was declared United States territory. Through the Gadsden Purchase, the U.S./ Mexico boundary was moved to its present day location. This meant for the first time all land that is now in Estrella Mountain Regional Park became part of the United States.

In the 1850s, the U.S. Government began establishing Indian Reservations in Arizona. The first Reservation to be formed was the Gila River Indian Reservation in 1859. Initially this Reservation was established for the Pima and Maricopa Indians on their ancestral lands, just to the east and south of Estrella Mountain Regional Park. This was the only Reservation set up before the Civil War.

After the Civil War, came a more permanent Anglo presence in the vicinity of the middle Gila River valley. The late 1860 s and 1870s brought the first Anglo settlers into the south central Arizona area to establish farms. During the 1870s Indian nations or tribes across the State were concentrated onto a few reservations. In the late 1880s, one of the first schools built in close proximity to the park was built in what is currently the town of Liberty. In the 1890s the town of Coldwater, later to become Avondale, was established. In 1916 the town of Goodyear was established.

In the 1940s, the Maricopa County Parks and Recreation Department began acquiring property and developing the park system.

Although County Park property was primarily concentrated in the urbanizing Phoenix area at that time, a few community type parks were developed in the outlying areas of the County. The County Parks and Recreation Department continued to look for additional opportunities to develop parks and in 1953 a spark of interest from the citizens in the Goodyear and Avondale area brought the County's attention to provide a community park in that part of the valley.

In July of 1953, interested citizens in the Goodyear and Avondale area met to investigate the possibilities of establishing a county park in the west valley. The involvement of this large group of citizens was added to the efforts of the County Parks commission, and the County Parks and Recreation staff to create Estrella Mountain Park later that year. The first property for this park was purchased in September of 1953. Estrella Mountain Park initially contained 828 acres, 428 acres of purchased property and 400 acres of leased land, and a first years operating budget of less than \$10,000.

For the first five or six years Estrella Mountain Park was considered a community park. However, this perspective of the park began to change in the late 1950s. A National Recreation Association study completed in 1958 prompted the Maricopa County Parks and Recreation Department to begin applying the concept of Regional Parks to their young park system. Estrella Mountain Park was one of the parks to be designated as a regional park. By 1962, Estrella Mountain Regional Park had grown considerably in size and during that fall the first nine holes of the Sierra Estrella Golf Course were opened.

Even though there has been a steady growth and expansion of facilities in the park, development is still limited to a very small portion of the park. Most of the landscape of the park today remains pristine desert, very similar in appearance to the landscape seen by the first European explorers who traveled past these mountains and foothills. These factors that have worked to resist development have preserved a very valuable resource for the Maricopa County Parks system. Estrella Mountain Regional Park contains many untapped resources and excellent potential for providing a greater variety of quality recreation opportunities.



# Segment Thirty-Four

**Segment Thirty-Four** includes several dirt paths and access roads through Robbins Butte Wildlife Area to Buckeye Hills Regional Park.

The Robbins Butte Wildlife Area (RBWA) is located seven miles southwest of Buckeye, Arizona, comprising approximately 1681 acres. RBWA is in Maricopa County and Region VI of the Arizona Game and Fish Department (Department). The property was purchased with Federal Aid money for wildlife purposes. In the 1950s, RBWA was selected as one of two areas along the Gila River with the greatest potential for waterfowl habitat enhancement. Most of RBWA including the Black Butte parcels was purchased from private entities in a series of transactions from 1951 to 1973. Six parcels totaling 1,511 acres are deeded to the Arizona Game and Fish Commission. RBWA also includes 170 acres of lands under the jurisdiction of Public Land Order Number 1015 (PLO 1015).

The PLO 1015 land has been managed by the Commission since 1954 through a Cooperative Agreement with the U.S. Fish and Wildlife Service (FWS).

The Maricopa Trail would cross under the SR-85 bridge following an existing trail that connects to the network of roads and trails in Robbins Butte Wildlife Area. Once across the main road in RBWA, the trail would continue south across Bureau of Land Management property and enter Buckeye Hills Regional Park from the north.



Segment Thirty-Four

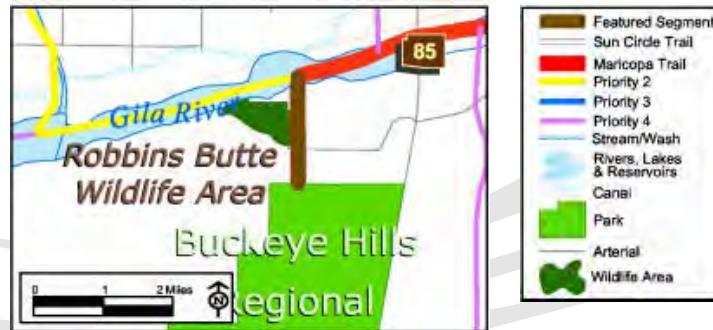


Figure 49: Robbins Butte Wildlife Area

# Buckeye Hills Regional Park

Buckeye Hills Regional Park is located 5 five miles southwest of the Town of Buckeye, on State Route 85. The Park consists of 4,474 acres of rolling bench above the south bank of the Gila River. Many years ago the Gila River formed the southern boundary of the United States. In 1853 the Gadsden Purchase obtained the southern parts of Arizona and New Mexico. The total area acquired was 45,535 square miles and was purchased at a cost of \$10 million. The area was considered a suitable route for a railroad across the Southwest.

Facilities at the regional park include 50 picnic tables, cooking grills, two large ramadas and a small shooting range at the southern end of the area. There is no water available in the recreation area. A recently drilled well has located water, but testing will be required to determine if it can reasonably be made potable. Interest has increased recently to explore investing to expand and upgrade the shooting range at Buckeye Hills. Residential development near existing shooting ranges in the west valley have closed or are threatening to close ranges currently being used heavily by local police department. Buckeye Hills Regional Park is being considered for shooting range development because encroachment is unlikely in the foreseeable future.

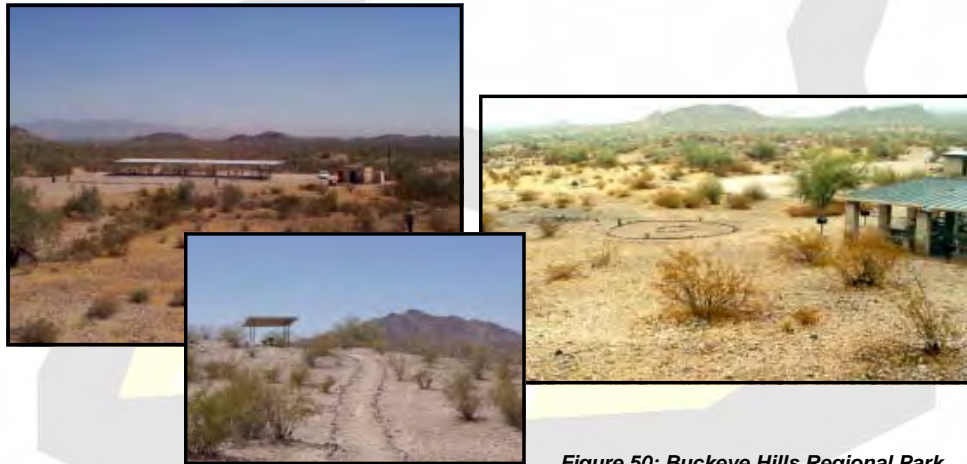
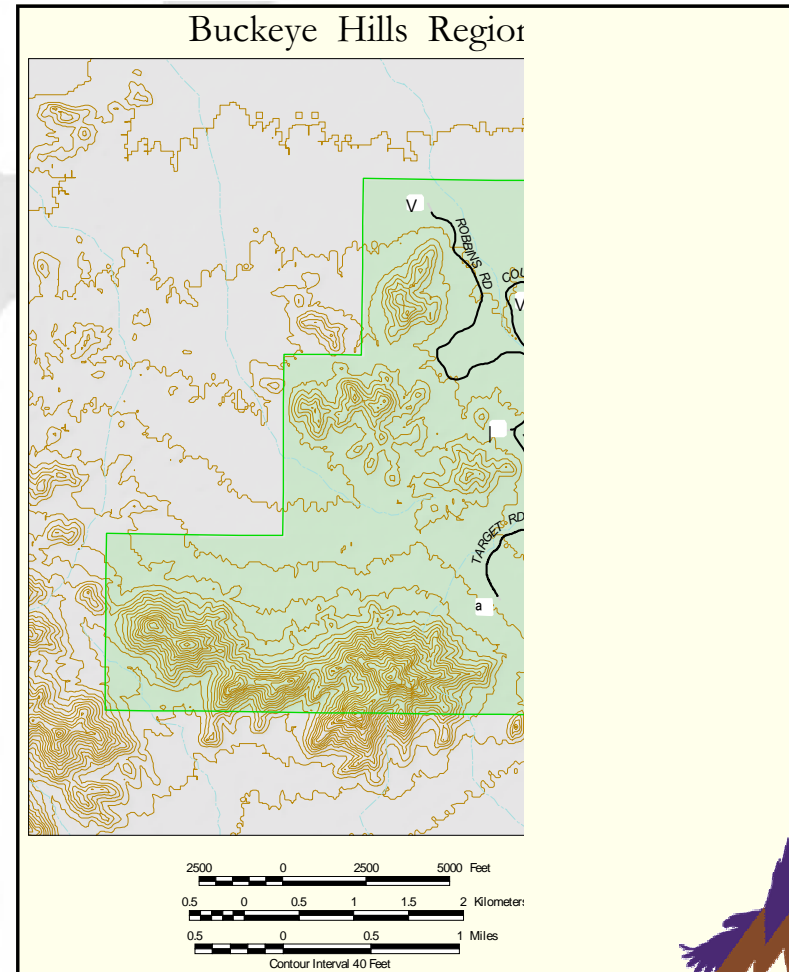


Figure 50: Buckeye Hills Regional Park



# Segment Thirty-Five

**Segment Thirty-Five** is made up of three Flood Control District Channels. The proposed North Inlet Channel, Jackrabbit Inlet Channel, and Tuthill Inlet Channel identified by Flood Control District of Maricopa County staff. The placement of the Maricopa Trail would be incorporated into construction of future structures

The North Inlet Channel captures water from Waterfall and Cholla Washes and feeds them into the White Tanks FRS#3 flood waters storage facility. The planned Jackrabbit channel will serve as an outfall for White Tanks FRS#3 to White Tanks FRS#4. The Jackrabbit Channel will also capture waters from the watersheds of the White Tank Mountains located south of White Tanks FRS#3. White Tanks FRS#4 is a flood waters storage facility that will undergo remediation sometime in the next 5-10 years. The remediation of this facility could result in the replacement of the Dam with a storage basin. The proposed Tuthill Conveyance Channel will serve as an outfall from White Tanks FRS#4 to the Gila River. All 5 of these structures will be physically interconnected into one combination storage-conveyance system of flood protection facilities.

These interconnected structures would span from just south of White Tank Mountain Regional Park with connection through McMicken Dam all the way south to the Gila River.

Segment Thirty-Five

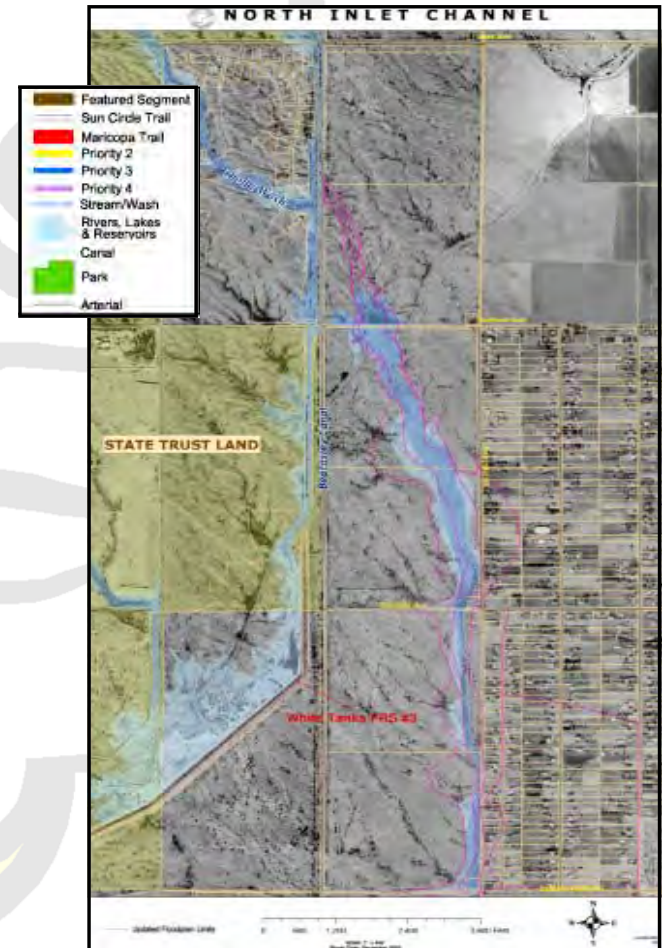


Figure 51: Proposed FCD Channels



# CAP Introduction

In 1986, the Governor's Arizona Bicycle Task Force began the process to study the feasibility of placing a multi-use pathway along the banks of the Central Arizona Project Aqueduct System. It took many years to work out the details to determine how to fund, manage, and complete the study. The visionaries finally persevered and in June 2004, the *Feasibility Study for a Multi-Use Path Along the Central Arizona Project Aqueduct System* was completed.

The agencies who participated in the funding and management of this study were the Bureau of Reclamation; the cities of Mesa, Peoria, Phoenix, and Scottsdale; the Maricopa County Department of Transportation; and the Arizona Department of Transportation.

The purpose of this study was to investigate the feasibility of and develop design guidelines for a multi-use path along the CAP Aqueduct system from the Waddell turnout in Peoria to the southern boundary of Mesa. This study looked at the opportunities and constraints for implementing a continuous path for those users desiring a paved surface and for those that desire an unpaved pathway. The study also weighed the operational and maintenance concerns of Reclamation and the Central Arizona Water Conservation District (CAWCD) with the liability issues associated with providing a pathway within the CAP Aqueduct system right-of-way.



# Central Arizona Project

The Central Arizona Project (CAP) Aqueduct system is a 336-mile long system of canals, tunnels, pumping stations, and pipelines, and was constructed by the Bureau of Reclamation. It is the largest single source of renewable water supply in the state of Arizona. The CAP is designed to bring about 1.5 million acre-feet of Colorado River water per year to Pima, Pinal, and Maricopa counties. This water delivery system reaches from Lake Havasu to south of Tucson. The CAP is managed and operated by the Central Arizona Water Conservation District (CAWCD). CAWCD is a municipal corporation, also known as a public improvement district. This quasi-governmental entity was formed to repay the federal government for the reimbursable costs of construction and to operate, maintain, and manage the CAP. In September of 2003, the Central Arizona Project Aqueduct was identified by the Department of the Interior as a National Recreation Trail.

As part of the recreational planning for the CAP Aqueduct, the BOR committed itself to maintaining a 20-foot recreation corridor on canal right (facing downstream). The Maricopa County Department of Transportation (MCDOT) contracted Logan Simpson Design (LSD) to investigate the feasibility of and develop design guidelines for a multi-use path along the CAP Aqueduct system from the Reversible Canal (Waddell Turnout) west of Lake Pleasant Road in the city of Peoria to the southern limits of the city of Mesa.



Figure 52: Central Arizona Project, Priority Three & Four



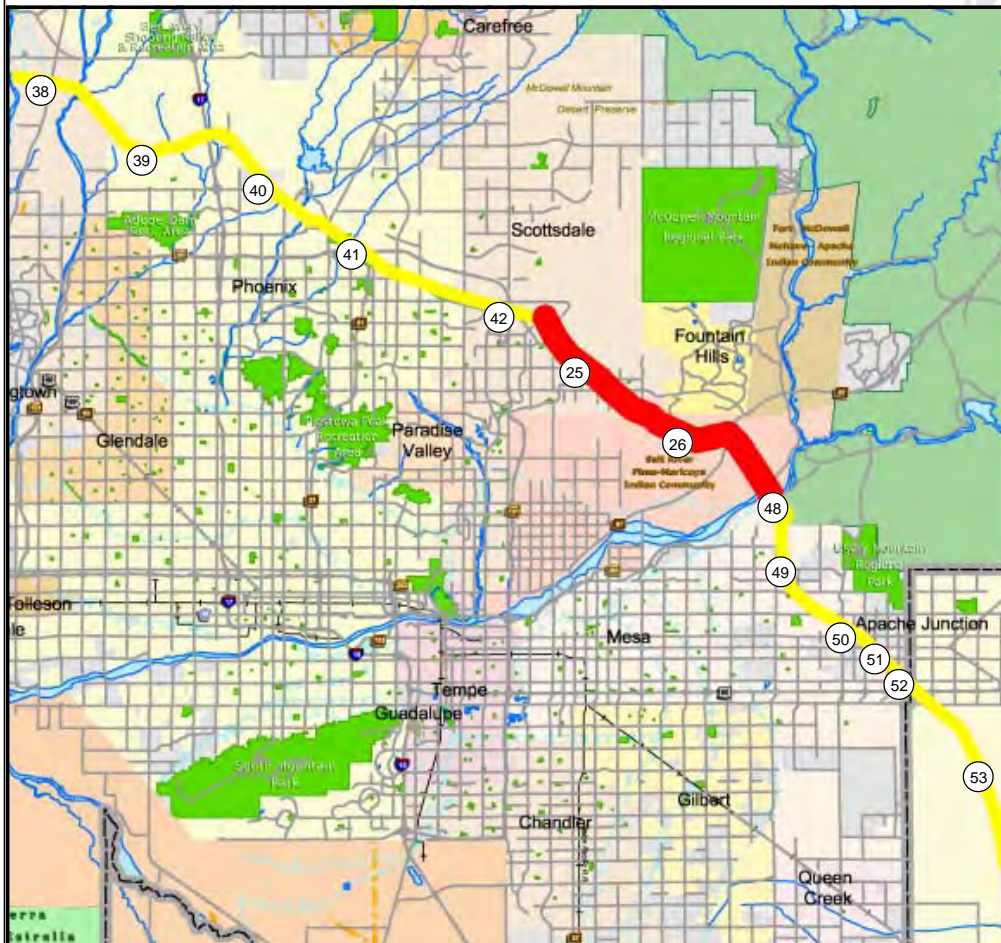


Figure 53: Central Arizona Project, Priority One & Two

The *Feasibility Study For A Multi-Use Path Along The Central Arizona Project Aqueduct System (Feasibility Study)* looks at the opportunities and constraints for implementing a continuous path for those users desiring a paved surface and for those that desire an unpaved pathway. The *Feasibility Study* also weighs the operational and maintenance concerns of the BOR and the CAWCD with the liability issues associated with providing a pathway within CAP Aqueduct right-of-way.

LSD conducted field research along the 53-mile length of CAP Aqueduct involved in this study. The *Feasibility Study* area was divided into six segments by geographical location: Peoria, Phoenix, Scottsdale, SRP-MIC, Granite Reef, and Mesa.

These same segments will be utilized in implementing the Maricopa County Regional Trail Plan. The remainder of the CAP aqueduct is also divided by jurisdiction, however the same level of detail is not available. These segments range from priority 1 to priority 4.



# Segments Twenty-Five & Twenty-Six

Segments Twenty-Five and Twenty-Six are both sections of the Maricopa Trail, making them the highest priority corridor. These segments were divided in accordance with the *Feasibility Study For A Multi-Use Path Along The Central Arizona Project Aqueduct System (Feasibility Study)*.

**Segment Twenty-Five** is the Central Arizona Project Aqueduct from West World in Scottsdale, southeasterly to the boundary with the Salt River Pima-Maricopa Indian Community (south of Shea Boulevard). Segment Twenty-Five lies within the city of Scottsdale and includes the land ownership/management of the Central Arizona Water Conservation District (CAWCD), Bureau of Reclamation (BOR), and Arizona Department of Transportation (ADOT). Segment Twenty-Five, identified as the Scottsdale Segment in the *Feasibility Study* includes approximately 9.2 miles of the total 53-mile corridor length. It is primarily developed land along the existing adjoining properties to the CAP right-of-way.

**Segment Twenty-Six** is the Central Arizona Project Aqueduct across the Salt River Pima-Maricopa Indian Community (SRP-MIC) and is identified as the SRP-MIC Segment in the *Feasibility Study*. There are approximately 10.5 miles of the total 53-mile *Feasibility Study* corridor length. The Salt River Pima-Maricopa Indian Community comprises approximately 7.1 miles across undeveloped land along the existing adjoining properties to the CAP Aqueduct easement.

**Segment Twenty-Five**



**Figure 54: CAP across Scottsdale**



**Segment Twenty-Six**



- Featured Segment
- Sun Circle Trail
- Maricopa Trail
- Priority 2
- Priority 3
- Priority 4
- Stream/Wash
- Rivers, Lakes & Reservoirs
- Canal
- Park
- Arterial
- Tonto National Forest

**Figure 55: CAP across SRP-MIC**



# Segment Thirty-Eight

**Segment Thirty-Eight** is the Peoria Segment of the CAP as identified in the *Feasibility Study*. This segment comprises approximately 3.8 miles of the total 53-mile study corridor length and is primarily undeveloped along existing adjoining properties to the Aqueduct right-of-way. This segment runs from the Reversible Canal west of Lake Pleasant Road, southeasterly to the 67th Avenue alignment (boundary with the city of Phoenix).

The specifics of this segment can be found on pages 8-9 of the *Feasibility Study*.



Segment Thirty-Eight

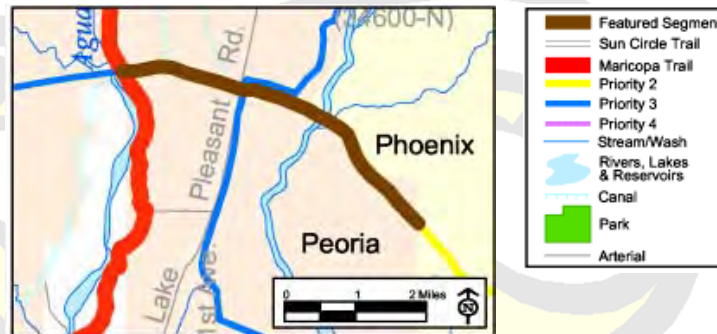


Figure 56: CAP across Peoria



# Segments Thirty-Nine, Forty, Forty-One, & Forty-Two

**Segments Thirty-Nine, Forty, and Forty-one** of the Regional Trail Plan are the Phoenix Segment of the CAP as identified in the *Feasibility Study*. The Phoenix Segment is described as the Cap Aqueduct length from the 67th Avenue alignment (boundary with the city of Peoria), southeasterly to Scottsdale Road (boundary with the city of Scottsdale).

**Segment Forty-Two** is the CAP in the City of Scottsdale from Scottsdale Road to West World. This is part of the Scottsdale Segment, Segment 25 of the Maricopa Trail and is described on page 64.

The Phoenix Segment comprises approximately 19.7 miles of the total 53-mile study corridor length and had a mixture of undeveloped and developed land along the existing adjoining properties to the Aqueduct right-of-way. These segments are identified as priority two in the Regional Trail Plan.

The specifics of this segment can be found on pages 10-14 of the *Feasibility Study*.

## Segment Thirty-Nine



Figure 57: CAP across Phoenix

## Segment Forty

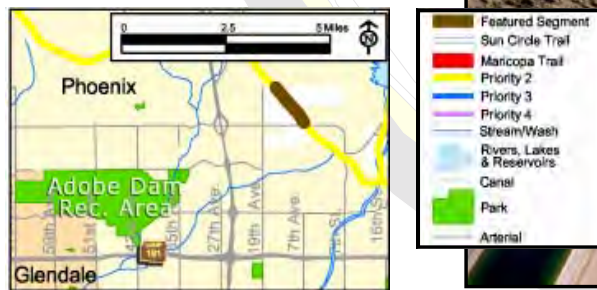


Figure 58: CAP across Maricopa County land

## Segment Forty-One



Figure 59: CAP across Phoenix

## Segment Forty-Two

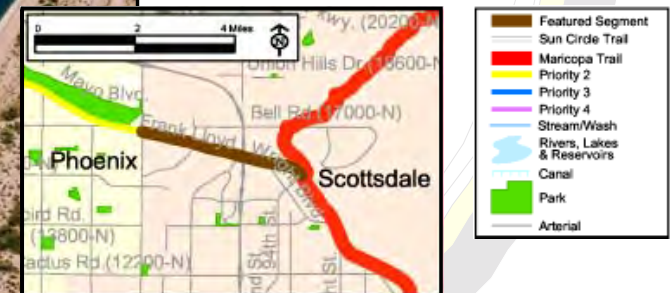


Figure 60: CAP across Scottsdale



# Segment Forty-Eight

**Segment Forty-Eight** is the Granite Reef Dam. Granite Reef Diversion Dam was built about 50 miles downriver from Roosevelt Dam, at a rock outcrop or "reef" directly below the confluence of the Salt and Verde rivers.

The purpose of the dam is to divert water from the river into the canals north and south of the river for delivery to water users within the Project. No water is stored, and no power is generated at Granite Reef Dam. There are no recreational facilities.

This section is approximately 3.4 miles long and includes the crossing of the Salt River and siphon, Granite Reef Dam, Arizona Canal, and the South Canal. There are a significant number of jurisdiction and management agencies within this area. They include SRP-MIC, the Salt River Project, Maricopa County, Tonto National Forest, Bureau of Land Management, CAWCD, and U.S. Army Corps of Engineers. The existing adjoining properties to the Aqueduct easement/right-of-way are primarily undeveloped land.

This segment is identified as part of the Maricopa Trail.

Segment Forty-Eight

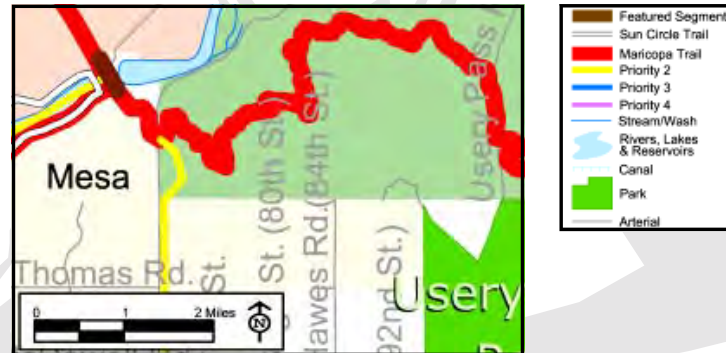


Figure 61: Granite Reef Dam



# Segments Forty-Nine, Fifty, Fifty-One, & Fifty-Two

**Segments Forty-Nine, Fifty, Fifty-One and Fifty-Two** are identified in the *Feasibility Study* as the Mesa Segment. The Mesa Segment is generally described as the CAP Aqueduct length from the boundary with the Tonto National Forest and BLM (north of Thomas Road along Power Road), southeasterly to the Maricopa County boundary with Pinal County (approximately Southern Avenue). The Mesa Segment comprises approximately 9.8 miles of the total 53-mile study corridor length and is primarily developed land along the existing adjoining properties to the Aqueduct right-of-way. These segments have a secondary priority in the Regional Trail Plan.

**Segment Forty-Nine** is the CAP along the Spook Hill Floodway. The trail in this area will be incorporated into the Red Mountain Freeway (Loop 202) construction anticipated to start in early 2006, with completion in late 2007. MCDOT has been working in cooperation with FCDMC, City of Mesa, ADOT, and the local community to coordinate issues pertaining to the project aesthetics and trail system continuity. In addition to the Regional Trail, the city of Mesa has planned a trail corridor along Power Road from the Granite Reef Dam to McDowell Road. The trail continues to the east along McDowell Road to the Red Mountain District Park trail system. The trail would continue within the park between McDowell and Brown Roads, and then cross the freeway on Brown Road to reenter the CAP Canal right-of-way. The trail then continues to the south and east along the CAP Canal and provides a connection with the Regional Trail.

**Segment Fifty-One** is in Mesa between Broadway Road and Southern Avenue.

**Segments Fifty and Fifty-Two** pass through unincorporated land in Maricopa County.

**Segment Forty-Nine**



**Figure 62: CAP across Mesa**

**Segment Fifty**



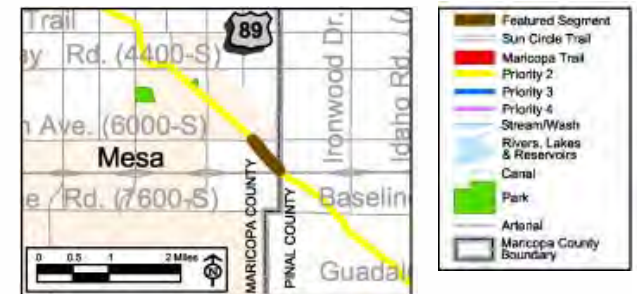
**Figure 63: CAP across Apache Junction**

**Segment Fifty-One**



**Figure 64: CAP across Apache Junction**

**Segment Fifty-Two**



**Figure 65: CAP across Maricopa County land**



# Segment Fifty-Three

**Segment Fifty-Three** is the Central Arizona Project Aqueduct in Pinal County. At this time, Pinal County has no formal trail plan. However, the Pinal County Planning & Development Services Department, with assistance from many state and federal agencies, user groups, and private citizens are preparing a Multi-Use Trails Plan for Pinal County. This plan would incorporate the CAP as a major linkage between Pinal and Maricopa counties.

Segment Fifty-Three

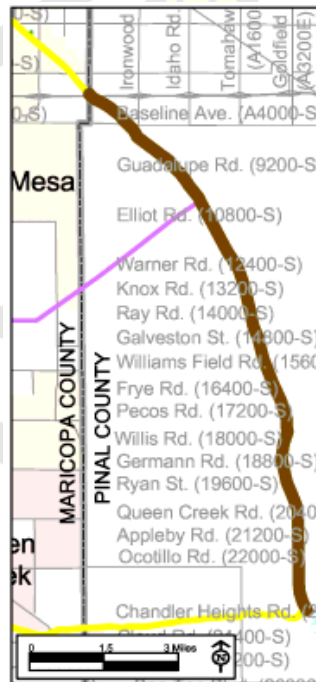


Figure 66: CAP in Pinal County



# Segments Seventy-Two to Eighty

**Segment Seventy-Two** is the CAP Aqueduct in unincorporated Maricopa County as it crosses over the Hassayampa River near Buckeye.

**Segment Seventy-Three** is the CAP Aqueduct across the town of Buckeye.

**Segment Seventy-Five** is the CAP Aqueduct across the city of Surprise.

**Segment Seventy-Nine** is the CAP Aqueduct across unincorporated Maricopa County from the city of Surprise to the city of Peoria.

**Segment Eighty** is the CAP Aqueduct in the city of Peoria on the west side of the Agua Fria River.

All of these segments are identified as priority three corridors.

**Segment Seventy-Two**

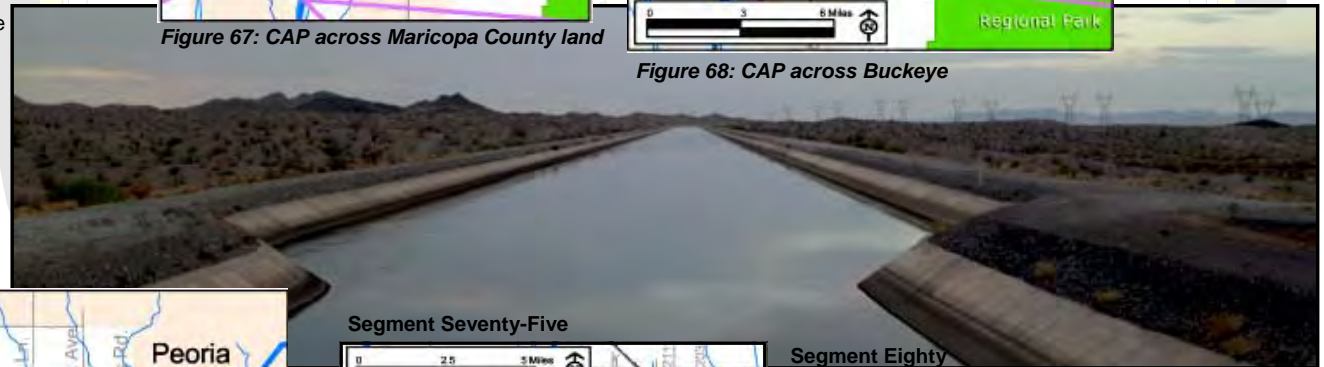


*Figure 67: CAP across Maricopa County land*

**Segment Seventy-Three**



*Figure 68: CAP across Buckeye*



**Segment Seventy-Nine**



*Figure 69: CAP across Maricopa County land*

**Segment Seventy-Five**



*Figure 70: CAP across Surprise*

**Segment Eighty**



*Figure 71: CAP across Peoria*





# Segments One Hundred Three and One Hundred Four

**Segment 103** is the Central Arizona Project Aqueduct from the town of Buckeye boundary to the La Paz County line. This is on unincorporated Maricopa County land. This corridor is a priority four.

**Segment 104** is the CAP Aqueduct inside the town of Buckeye and is a priority three corridor.



Segment One Hundred Three



Figure 72: CAP across Maricopa County land

Segment One Hundred Four

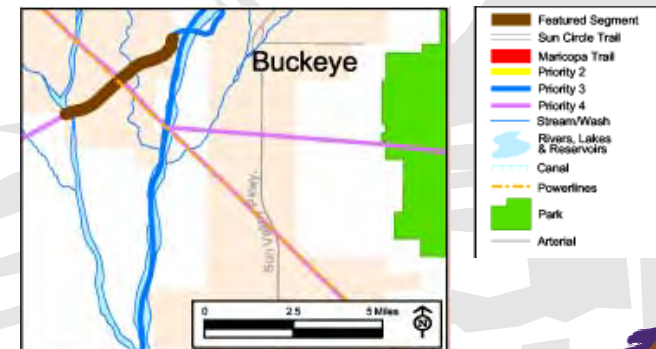


Figure 73: CAP across Buckeye

# Priority Two

Segments 36-59 are labeled as priority two corridors and shown in yellow on the map. Priority Two segments are important regional corridors that connect to the Maricopa Trail and may provide connections to the regional park system.

These segments accomplish Goal 2 of the Maricopa County Regional Trail System which is: to link metropolitan areas, municipal trails, communities, and neighborhoods with regional nonmotorized corridors.

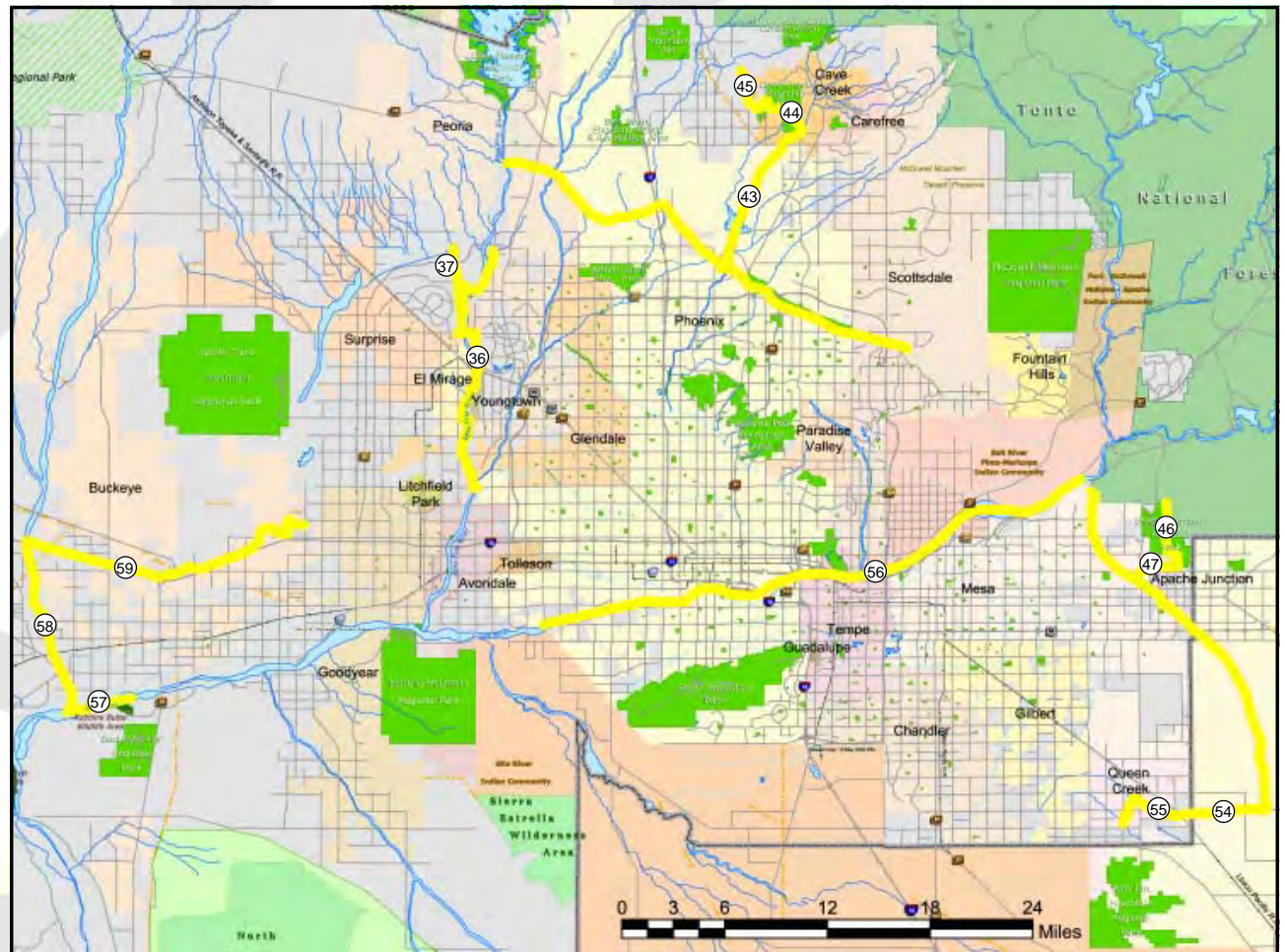


Figure 74: Priority Two Segments

# Segment Thirty-Six and Thirty-Seven

**Segment Thirty-Six** is the Agua Fria River from the New River to McMicken Dam.

This section of the Agua Fria River was also studied by the Flood Control District of Maricopa County in the *Agua Fria Watercourse Master Plan*. This plan identified a preliminary trail alignment from the Gila River to Lake Pleasant, this segment only includes the portion from the New River to McMicken Dam. The cities of Avondale, Glendale, Phoenix, Surprise, and the towns of El Mirage and Youngtown, as well as, the entire Valley will benefit from the proposed multi-use trail that provides access to the river and a variety of open space and recreation experiences and interactions.

By implementing flood control techniques that maintain the character of the river while embracing a wide range of uses, activities such as wildlife viewing and hiking can be as much a part of the corridor as field team sports in park areas. Bicycle commuters can use paths and trails along the river corridor to reach schools, parks, recreation and open space areas, canals, and employment centers throughout each community. The section running from McMicken Dam to Lake Pleasant is identified as Segment Twelve on page 27.

**Segment Thirty-Seven** is the McMicken Outlet Wash. This facility is part of the McMicken Dam Corridor. The Outlet Wash is a channel that flows southward about four miles and empties into the Agua Fria River. It varies in width from less than 100 feet to almost 1/4 mile. The terrain and width available will make locating a trail in this corridor challenging.



Figure 75: Agua Fria River

## Segment Thirty-Seven

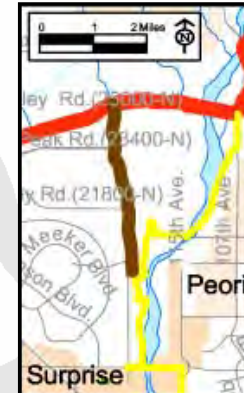


Figure 76: McMicken Outlet Wash



# Segment Forty-Three

**Segment Forty-Three** is Cave Creek Wash. It connects Cave Creek Regional Park to the CAP Aqueduct, ten miles to the south. Segment Forty-Three starts at the southeast corner of the Cave Creek Regional Park. It runs south along upper Cave Creek Wash under Carefree Highway and into the city of Phoenix. The segment passes through land slated for Phoenix's Sonoran Preserve and south further along Cave Creek Wash past the Cave Creek and Cave Buttes Dams into the Union Hills area. It terminates at the CAP aqueduct approximately two miles north of the 101 freeway.

Trails identified in Phoenix's master plan account for all of Segment Forty-Three except for a short reach of Cave Creek Wash just south of Cave Creek Regional Park. Segment Forty-Three crosses land owned by the Desert Foothills Land Trust, the State Land Department, the Bureau of Land Management, and private entities. The private land north of Carefree Highway is held in large parcels by a few owners. Phoenix's Sonoran Preserve initiative has plans for trailheads, interpretive trails, and other educational and recreational improvements in the area south of Carefree Highway.

Segment Forty-Three

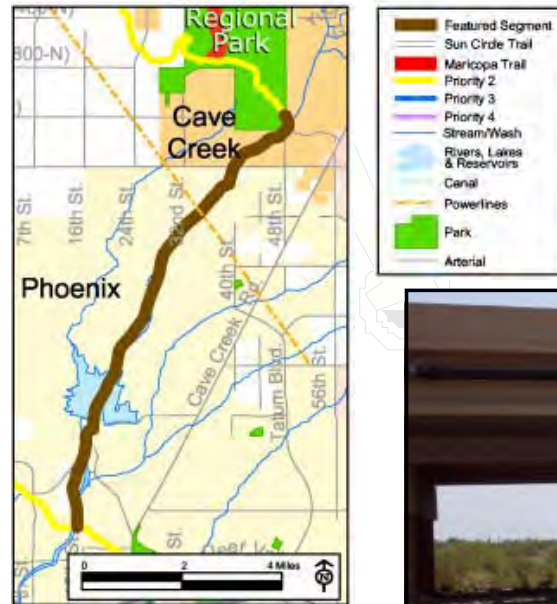


Figure 77: Cave Creek Wash



# Segments Forty-Four & Forty-Five

**Segment Forty-Four** is made up of two trails inside Cave Creek Regional Park. This segment follows the Slate Trail 0.8 miles to the intersection of the Flume Trail then continues 1.2 miles on the Flume Trail to the southeastern park boundary.

Cave Creek Regional Park offers over 11 miles of trails for hiking, mountain biking and horseback riding. Park trails range in length from 0.2 miles to 4.8 miles and range in difficulty from easy to difficult.

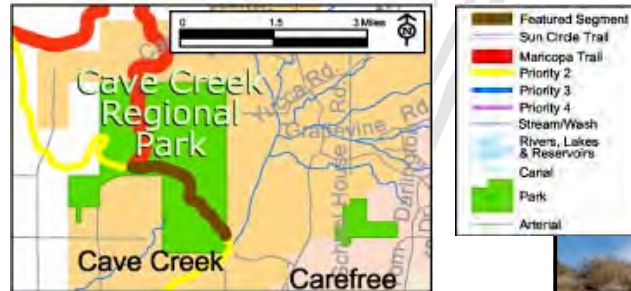
The trails within the Cave Creek Regional Park are very popular because they have enough elevation to offer spectacular vistas of surrounding plains. Whether you are looking across the plain, flat land, south of the recreation area or looking to the west or north great distances or surrounding mountains can be seen and enjoyed.

All trails are multi-use unless otherwise designated. There is also a horse staging area. This Facility has a large gravel parking lot to accommodate horse trailers. Hitch rails are also available around the perimeter of the area.

**Segment Forty-Five** branches off of Segment 16 and runs southeast across State Trust Land to the boundary of Cave Creek Regional Park.

A detailed park description and history are available on page 32.

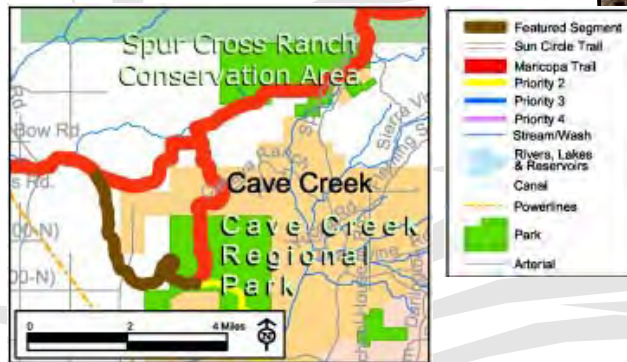
**Segment Forty-Four**



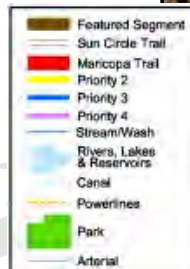
**Figure 78: Cave Creek Regional Park Trails**



**Segment Forty-Five**



**Figure 79: State Trust Land**

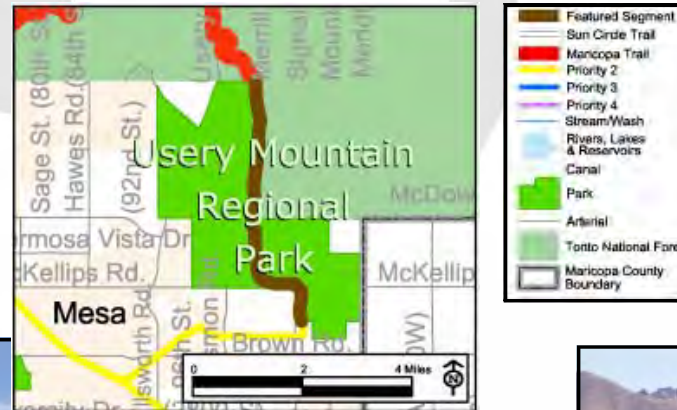


Priority 2

# Segment Forty-Six

**Segment Forty-Six** consists of several trails in the Utery Mountain Regional Park trail system. The trail enters Utery from the proposed Tonto National Forest trail (Segment 27 of the Maricopa Trail) in the northeast corner of the park. The trail becomes the Pass Mountain Trail running 7.1 miles south to the trailhead staging area. From this point the trail continues south approximately 1.5 miles as the Noso Trail and ends at the Channel Trail. From here the trail would head east along either the Channel Trail or it could jump down to the Levee Trail which parallels the Channel Trail for several miles. These trails both run into the Signal Wash Trail and the Spillway Trail which parallel each other to the south for about a mile to the park boundary. From here the trail crosses onto FCDMC Flood Control Structures.

**Segment Forty-Six**



**Figure 80: Utery Mountain Regional Park Trails**



# Segment Forty-Seven

**Segment Forty-Seven** takes the regional trail from the southern boundary of Usery Mountain Regional Park west to the CAP aqueduct. Segment Forty-Seven forms the southern arc of the trail loop providing access to Usery Mountain Regional Park from the CAP. This segment consists of maintenance roads along and atop a chain of FCDMC structures. The structures involved are the Signal Butte Floodway, the Pass Mountain Diversion, and the Signal Butte Flood Retarding Structure (FRS).

The Signal Butte Floodway is a floodwater channel that is approximately 2.5 miles long, and is constructed of concrete and earth. Designed to convey flood runoff, the channel measures 30 feet at its widest point. The Signal Butte FRS is an earthen structure measuring a mile and a third in length and 18 feet in width. The Pass Mountain Diversion is a large earthen embankment and channel, 13 feet tall and 14 feet wide. Located completely within the park, it includes a number of drop structures.

These three structures were components of the Spook Hill Area Drainage Master Plan (ADMP), written by FCDMC. The ADMP preserves 45 acres of open space and wildlife habitat. The aesthetic recommendations of this plan stipulate re-vegetation of all disturbed areas with native plant material and the creation of earthen, vegetated basins.

Segment Forty-Seven

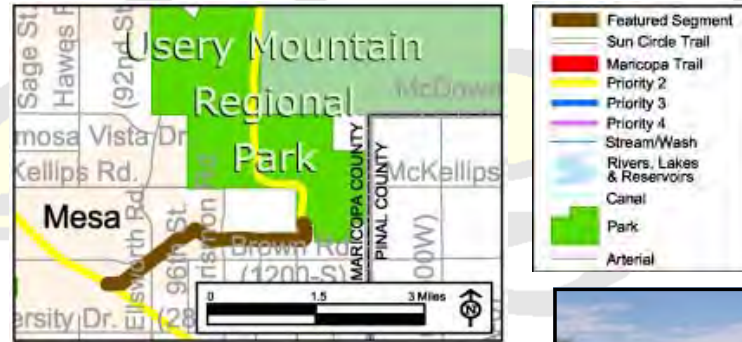


Figure 81: Signal Butte Floodway



# Segment Fifty-Four & Fifty-Five

**Segment Fifty-Four** follows the alignment of Queen Creek as it links the CAP aqueduct in Pinal County to the Maricopa County line. Queen Creek Wash intersects the CAP approximately five miles from the Maricopa County line. Segment Fifty-Four passes through unincorporated Pinal County until it reaches Queen Creek town limits.

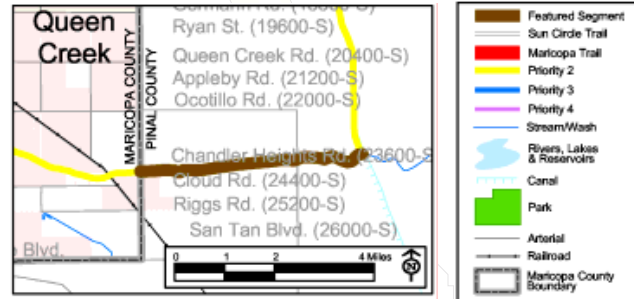
**Segment Fifty-Five** is Queen Creek Wash inside Maricopa County. Queen Creek Wash then flows under Rittenhouse Road and the Southern Pacific railroad north of Cloud Road. The corridor then crosses Ellsworth Road between Ocotillo and Cloud roads and connects to a community trail corridor running north/south near downtown Queen Creek.

Queen Creek Wash is a natural trail corridor. Despite some complications, it's ideally suited for taking the Regional Trail from the CAP Aqueduct toward San Tan Mountain Regional Park. The town of Queen Creek identifies the wash as a recreational corridor in its Open Spaces and Trails Plan. In the Queen Creek & Sanokai Wash Hydraulic Master Plan FCDMC states that Queen Creek Wash provides excellent opportunities for a shared-use multi-modal trail system. Hikers, bicyclists, equestrians, and off-road vehicles currently use the wash, sections of which have been significantly altered from their natural state. Embankments have been constructed on the sides of the wash west of Rittenhouse Road to keep Queen Creek from flooding adjacent farm fields. These unengineered levees have raised the wash above the height of surrounding property.

Most of the land in this corridor is privately owned. In fact, Queen Creek Wash courses through many large and small parcels of privately owned land. Rapid urbanization in eastern Maricopa County and northern Pinal County is turning agricultural land in the area of these segments into low- and medium-density housing plots. There are active and abandoned aggregate surface mines along Queen Creek Wash, near where it crosses the CAP, that have disturbed the character and alignment of the wash. These commercial operations may influence the eventual placement of the trail in this corridor. In response to these development trends, FCDMC intends to substantially improve the flood mitigation capacity of the Queen Creek and Sanokai washes. The Hydraulic Master Plan proposes doing channel improvements and building detention basins along the washes. These channel improvements may be severe enough to change the alignment of Queen Creek Wash.

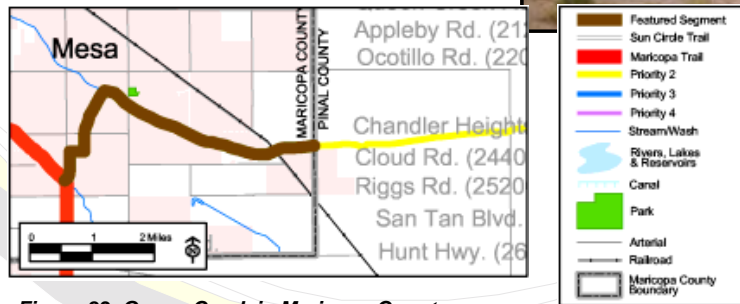


**Segment Fifty-Four**



*Figure 82: Queen Creek in Pinal County*

**Segment Fifty-Five**



*Figure 83: Queen Creek in Maricopa County*





# Segment Fifty-Six

**Segment Fifty-Six** is the Salt River from the Granite Reef Dam to the junction of the Sun Circle Trail at approximately 83rd Avenue and Southern Avenue.

The Salt River once flowed year-round, supporting lush vegetation including mesquite bosques and cottonwood/willow habitat as well as providing water to irrigate the surrounding farmlands.

In the early 1900s, the U.S. Bureau of Reclamation began placing dams along the Salt and Verde rivers to create a series of lakes. While the dams achieved their goal of providing a reliable water supply for the valley, they left behind a dry, barren riverbed.

Today, the land along the riverbed has become lined with landfills, sand and gravel pits, and industrial areas interspersed with a few older neighborhoods. This has resulted in large-scale habitat restoration projects to take place which includes reintroducing water to the dry riverbed.

These Projects include:

*The Phoenix Rio Salado Habitat Restoration Project*

This project is located in a five-mile section of the Salt River within the city of Phoenix. The site totals 580 acres and extends from the Interstate-10 crossing on the eastern upstream end to 19th Avenue on the western or downstream end. The project site includes the overbanks, typically within 50 feet of the top of bank, slopes of the banks to the terrace level, terrace level, and Low Flow Channel.

*Tempe Town Lake*

The city of Tempe's portion of the Rio Salado extends about 5.5 miles in length from the Mesa border (east of Price Road), west to the Phoenix border (at 48th Street). It is about one mile wide. The focal point of the project is the 220-acre Tempe Town Lake, which is being contained within the Salt River flood channel using inflatable dams, a water pump system and slurry walls. The lake provides the largest usable body of water available to the largest population in Arizona. Resorts, restaurants, retail shops, and a marina will complement this regional destination.

*Va Shly'ay Akimel*

This project in Mesa, is being done in cooperation with the city of Mesa and the Salt River Pima-Maricopa Indian Community as well as federal and local agencies.

There are also several other proposed projects, one that would connect the Rio Salado Project at 19th Avenue with the Tres Rios Project at 83rd Avenue and another that would connect the Phoenix and Tempe reaches of the Rio Salado project near Phoenix Sky Harbor International Airport.

These projects can and do offer trail systems that provide ways for visitors to learn about the native habitat of the Salt River. The projects also could offer a visitor centers and staging areas including parking lots, shade structures, and information kiosks. Linear parks, scenic overlooks, pedestrian bridges, project markers, entry monuments, trail maps, outdoor classrooms, and interpretive centers are also being considered.



Segment Fifty-Six



Figure 84: Salt River

Priority 2

# Segments Fifty-Seven & Fifty-Eight

**Segment Fifty-Seven** is the Gila River from State Route 85 to the Hassayampa River.

**Segment Fifty-Eight** is the Hassayampa River from the Gila River to the Buckeye Flood Retarding Structures.

The Hassayampa River flows both above ground and below ground. Because of this characteristic, the American Indians of the time named the river the Hassayampa River, which means "the upside-down river."

The Hassayampa River is a dry river bed unless there is rainfall. As a result there are several sand and gravel operations in this area. This is also a heavily used area for recreational off highway and 4x4 vehicles.



Segment Fifty-Eight

Segment Fifty-Seven

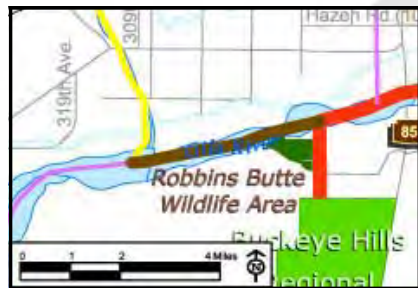


Figure 85: Gila River

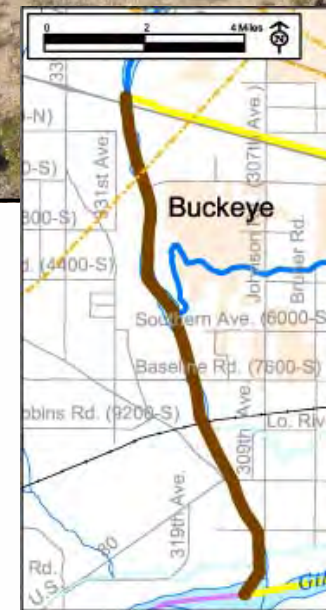


Figure 86: Hassayampa River



# Segment Fifty-Nine

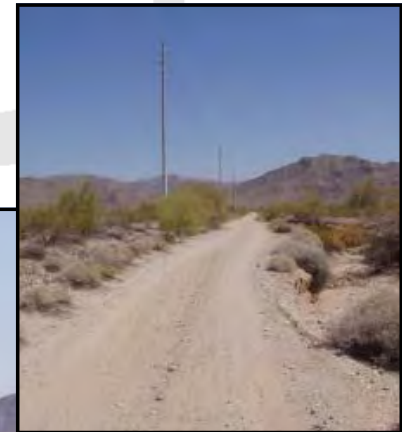
**Segment Fifty-Nine** is the Buckeye Flood Retarding Structures. The three Buckeye Flood Retarding Structures are located immediately north of Interstate 10, south of the White Tank Mountains, and east of the Hassayampa River. They were built to protect I-10 and agricultural areas to the south from floodwater runoff from the White Tank Mountains. The three structures function as a single system, with floodwaters flowing west into the Hassayampa River.

This segment will provide connection between the FCD Channels to the east and the Hassayampa River to the west. This trail will be located on FCDMC property and will utilize existing maintenance roads. These structures are currently being studied for remediation and could be subject to reconstruction in the future.

Segment Fifty-Nine



Figure 87: Buckeye FRS 1, 2, & 3



# Priority Three

Segments 60-81 are labeled as priority three corridors and shown in blue on the map.

Priority Three segments are regional corridors that are not key components of the regional system at this time, but may will become important future trails.

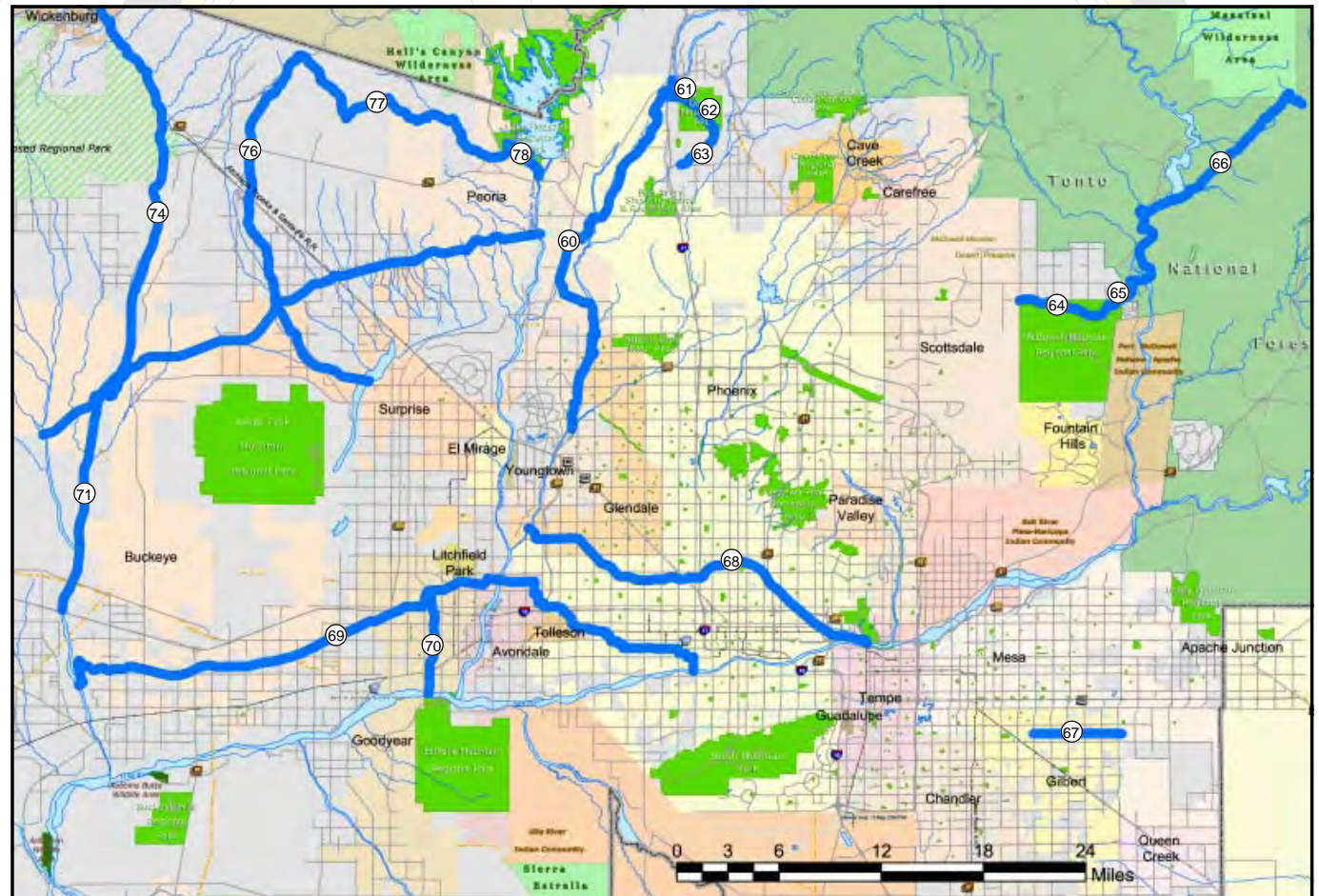


Figure 88: Priority Three Segments



# Segment Sixty

**Segment Sixty** is the New River from the Arizona Canal north to the Daisy Mountain API land. This segment would cross under I-17 at the river crossing and travel north leaving a short spur to the community of New River. Trail alignments were identified by the *West Valley Multi-Modal Transportation Corridor Master Plan*.

The *West Valley Multi-Modal Transportation Corridor Master Plan* is a planned 42-mile nonmotorized system of urban and rural trails along the New River and Lower Agua Fria River. Designed with the pedestrian, hiker, bicyclist, and equestrian in mind, this project offers a unique opportunity to create travel routes to and from homes, businesses, schools, and recreation destinations. This study was sponsored by the Maricopa Association of Governments (MAG) with funding through the Arizona Department of Transportation (ADOT) and the Transportation Equity Act 21st Century (TEA-21) Transportation Enhancement Program.

The corridor stretches southwest from the community of New River to the convergence of the Lower Agua Fria with the Gila River. Several jurisdictions within Maricopa County are connected by the corridor including Avondale, Glendale, Goodyear, Peoria, Phoenix, and the community of New River.

The design of the trailway emphasizes maintaining the rich diversity of plant and animal habitats, cultural and historic resources, and beautiful vistas found along the river. Protecting these features from the adverse effects of rapid urban development is a main function of the study.

Segment Sixty

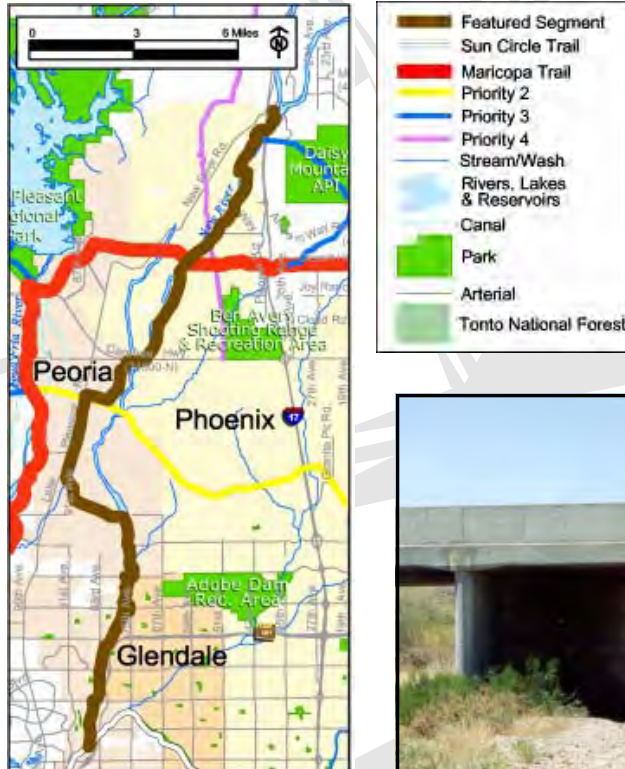


Figure 89: New River



Priority 3

# Segment Sixty-One, Sixty-Two, & Sixty-Three

**Segment Sixty-One** starts at the New River crossing of I-17. It then follows the I-17 frontage road south a short distance and crosses over State Trust Land. The corridor then follows along a dirt access road identified through aerial photography, making a connection to the northwest corner of the land parcel.

**Segment Sixty-Two** is located inside the Daisy Mountain API. The trail alignment in this corridor will be determined by Maricopa County Parks and Recreation Department staff if the land parcel becomes a County park. This segment would allow for a connection to the Anthem Trail System and Maricopa Trail identified to the south.

**Segment Sixty-Three** follows a trail along Deadman Wash identified in the Anthem Trail Plan. It would join with Segment Sixty-Two and provide a connection through Daisy Mountain API to the north.

Segment Sixty-One

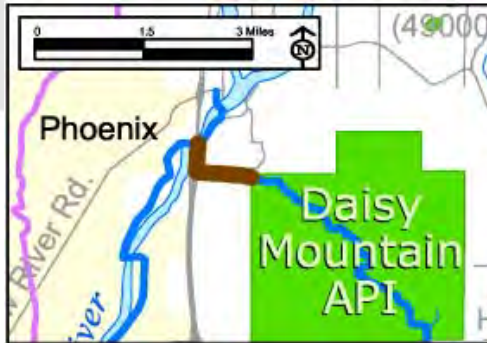
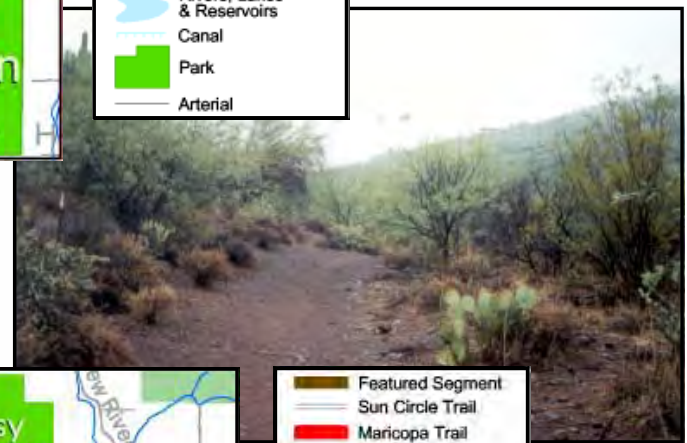
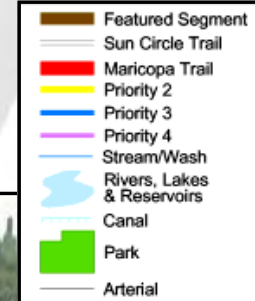


Figure 90: Daisy Mountain North



Segment Sixty-Two

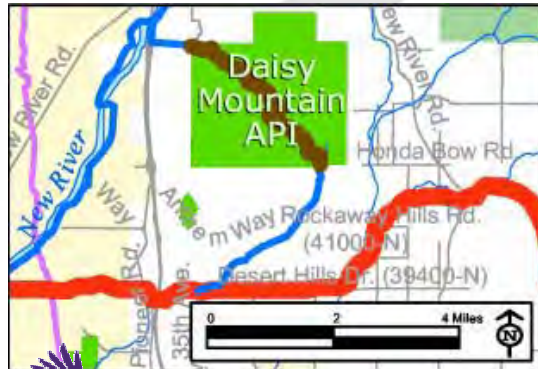


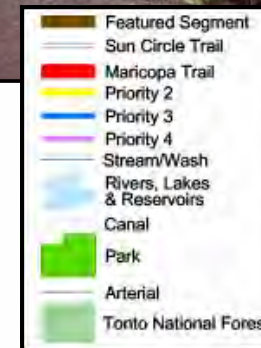
Figure 91: Daisy Mountain API



Segment Sixty-Three



Figure 92: Deadman Wash in Anthem



# Segment Sixty-Four, Sixty-Five, & Sixty-Six

**Segment Sixty-Four** is made up of several trails in McDowell Mountain Regional Park. Starting from Segment 23 of the Maricopa Trail at the western park boundary, the Pemberton Trail runs approximately 5 miles connecting to the North Trail via a new trail segment identified by Parks staff. The North Trail continues northeast crossing McDowell Mountain Park Drive then follows a portion of the Eagle Trail to the park boundary with the community of Rio Verde.

**Segment Sixty-Five** is the trail corridor as it meanders through the community of Rio Verde to connect to the Tonto National Forest.

**Segment Sixty-Six** follows Forest Road #479 through the Tonto National Forest and past Bartlett Lake. It then passes under Horseshoe Dam and leads to Trail #87. Trail #87 follows a power line corridor and joins the Arizona Trail just north of the Mormon Globe Trailhead.

## Segment Sixty-Six



Figure 95: Tonto N. F. Trails

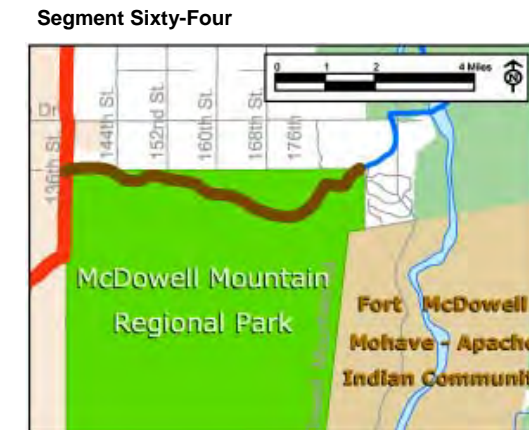


Figure 93: McDowell Mountain Regional Park Trails



## Segment Sixty-Five



Figure 94: Rio Verde



# Segment Sixty-Seven

**Segment Sixty-Seven** is the Town of Gilbert Power Line Trail as identified on the Gilbert Parks & Trails Map. The trail is located on an SRP easement between the Riparian Preserve at Water Ranch and Freestone District Park. This trail incorporates both a hard surface for bicyclists and rollerbladers as well as a soft surface for equestrians. There is also a signalized trail crossing at Lindsay Road just south of the Freestone Park entrance.

Segment Sixty-Seven



Figure 96: Powerline Trail





# Segment Sixty-Eight

**Segment Sixty-Eight** is the Grand Canal spanning a distance of 24 miles from Papago Park in the city of Phoenix to the New River in the city of Glendale.

The Grand Canal is the oldest remaining pioneer canal on the north side of the Salt River. It was planned in 1877 and constructed in 1878 by the Grand Canal Company.

The federal government purchased the Grand Canal for \$20,488 in June 1906 and it became part of the Association. At that time, the canal served about 17,000 acres.

The Bethany Home/Grand Canal Flood Control Project is a significant feature located along the Grand Canal. This is a flood control/storm drain project that is required to meet hydrologic and conveyance requirements in the area. It is being constructed as part of a joint venture between Glendale, Maricopa County Flood Control District, and the city of Phoenix.

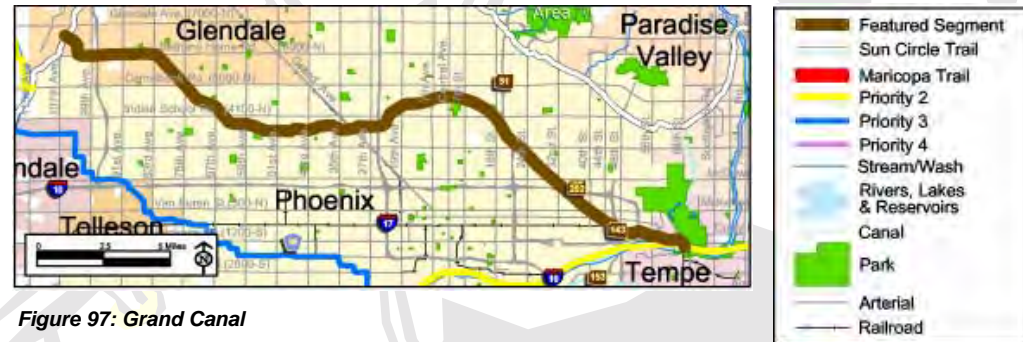
In addition to the flood control benefit of the project, the City of Glendale Parks Department has worked closely with the District to gain multiple uses from the project and to use the area as a linear park.

There are separate equestrian and multi-use paths located on opposite sides of the channel in efforts to avoid conflicting uses. Underpasses and at grade crossings will be provided where necessary.

The Bethany Home/Grand Canal Flood Control Project is approximately five miles in length. The project limits are between the Agua Fria Freeway (Loop 101) at approximately 97th Avenue and the Bethany Home Road alignment to the Sunset Detention Basin at Indian School Road and 64th Avenue.

The flood control facility will connect to the Sunset Basin, located south of Indian School Road, via a box culvert and a trail underpass.

**Segment Sixty-Eight**



**Figure 97: Grand Canal**



Priority 3

# Segment Sixty-Nine

**Segment Sixty-Nine** is the Roosevelt Irrigation District Canal. It runs for approximately 45 miles from 27th Avenue and Lower Buckeye Road to the Hassayampa River. This is identified as a city of Goodyear proposed multi-use and equestrian trail. The city of Avondale also has a 30-foot public access easement adopted in 1997 that allows for recreational use along the canal. At present there are no crossings where the canal bisects the major arterials. This issue would be addressed when implementation of this segment occurs.



Segment Sixty-Nine

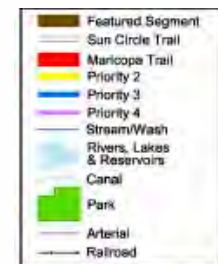


Figure 98: Roosevelt Irrigation District Canal

# Segment Seventy

**Segment Seventy** is Bullard Wash running approximately 13 miles from the Gila River through the city of Goodyear to the Agua Fria River.

Bullard Wash is included within the FCDMC Loop 303 Corridor/White Tanks Area Drainage Master Plan (ADMP), which recommends improvements be made to the wash. Phase I of the Bullard Wash Improvements Project has already been completed and included construction of an earthen and gabion basket-lined channel from the Gila River to Lower Buckeye Road.

Phase II includes an earthen/greenbelt channel along the Bullard Wash alignment, located between Estrella Parkway and Bullard Avenue, from Lower Buckeye Road to McDowell Road. A diversion channel will take high storm flows from Bullard Wash south of McDowell Road through detention basins north of I-10 and west of Dysart Road, with an outlet to the Agua Fria River. Landscaping, fencing, and other multi-use facilities including trails are anticipated along the channel alignment and within the basins.

The project will channelize the floodplain north of the Phoenix-Goodyear Airport. It will reduce the floodplain width and protect the Phoenix-Goodyear Airport and nearby development from flooding. For the area north of I-10, the project will collect and convey storm-water currently draining by sheet flow to Bullard Wash. This storm water would otherwise collect in streets, businesses, farm fields, and residential areas.

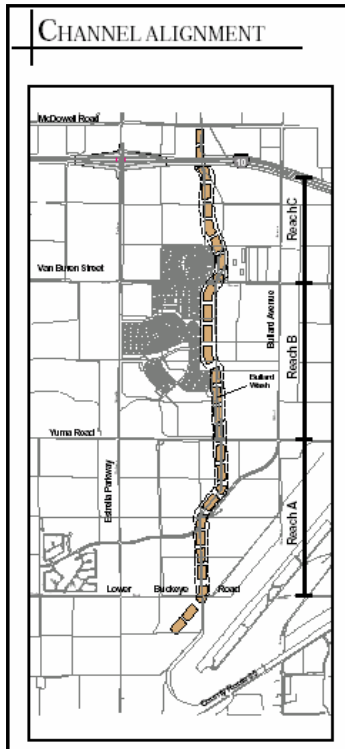


Figure 100: Channel Alignment

## Segment Seventy

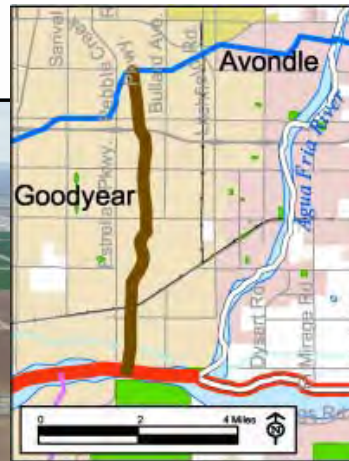


Figure 99: Bullard Wash

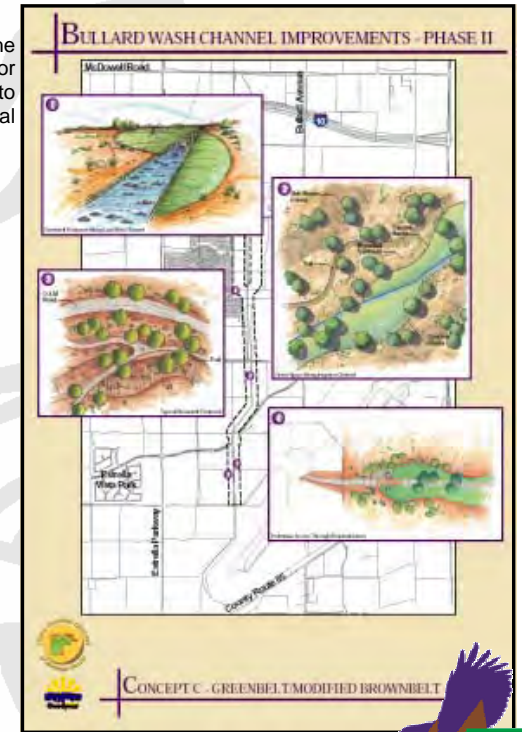
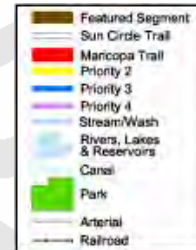
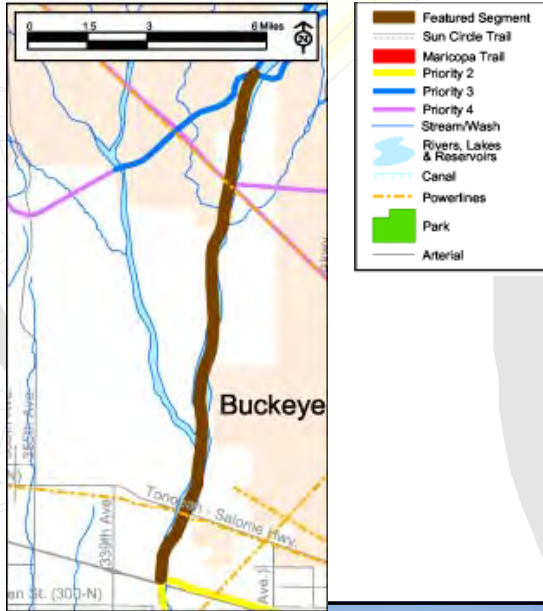


Figure 101: Bullard Wash Channel Improvements

# Segments Seventy-One & Seventy-Four

## Segment Seventy-One



**Segment Seventy-One** is the Hassayampa River to the CAP.

**Segment Seventy-Four** is the Hassayampa River to Wickenburg. This segment will provide linkage to a trail system located in the Hassayampa River Preserve.

Today, a section of the Hassayampa River has been set aside as the Hassayampa River Preserve located in Wickenburg. Within the preserve the river's crystal clear waters emerge, flowing above ground throughout the year. This lush streamside habitat of the Hassayampa is home to some of the desert's most spectacular wildlife.

Wickenburg was founded in 1863 by Henry Wickenburg, a German immigrant, who struck it rich when he discovered Gold at what he named the Vulture Mine. The Vulture Mine is located close to the Hassayampa River. After his gold strike, copper and silver were also discovered and Wickenburg became a real "rootin' tootin' boomtown". People who lived in Wickenburg had a habit of exaggerating the potential of wealth in this area... they bragged so much that it became common in the west to call anyone who told "tall tales" a "Hassayamper" ... or a person who lives by the Hassayampa River. In fact, a visitor to town way back then, Andrew Downing, wrote this poem, which the town now has posted beside the Hassayampa Wishing Well near the river:

There is a legend centuries old,  
 By the early Spaniards told  
 Of a sparkling stream that "lies"  
 Under Arizona skies.  
 Hassayampa is its name  
 And the title to its fame  
 Is a wondrous quality  
 Known today from sea to sea  
 To those who drink its water bright  
 Red man, white man, boor or knight,  
 Girls or women, boys or men,  
 Never tell the truth again.

## Segment Seventy-Four

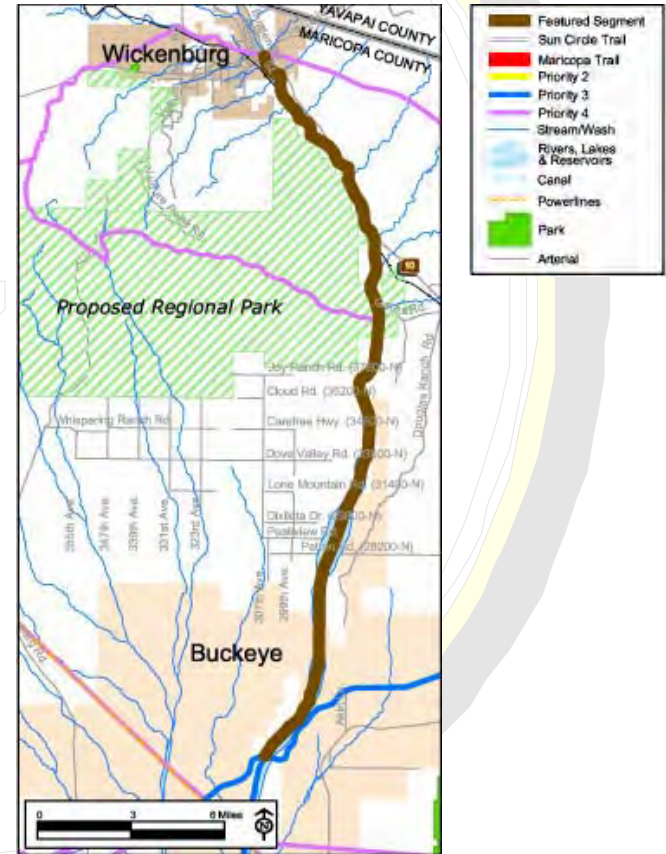


Figure 103: Hassayampa River

Figure 102: Hassayampa River



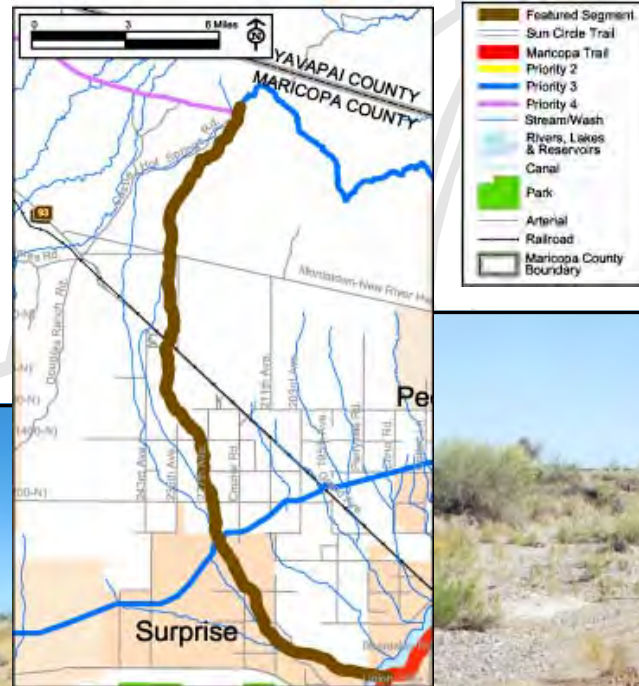
# Segment Seventy-Six

**Segment Seventy-Six** is Trilby Wash.

The Trilby Wash corridor connects McMicken Dam to the northern border of Maricopa County. It provides an important connection to the Central Arizona Project Aqueduct System.

The majority of land along this route is undeveloped. There are large land parcels owned by Arizona State Land Department, Bureau of Land Management, and private entities. The southern section between McMicken Dam and the CAP is within the city of Surprise. The rest of the corridor is in unincorporated Maricopa County.

**Segment Seventy-Six**



**Figure 104: Trilby Wash**

# Segments Seventy-Seven & Seventy-Eight

**Segment Seventy-Seven and Seventy-Eight** are Morgan City Wash.

Segment Seventy-Seven connects the northern end of Trilby Wash with Lake Pleasant. The primary feature is Morgan City Wash which flows into the west side of Lake Pleasant Regional Park. The wash becomes Segment Seventy-Eight after crossing the boundary into the park. This corridor passes through rugged terrain. Most of the route is within unincorporated Maricopa County. The remainder is inside the city of Peoria. There are large parcels of land owned by Arizona State Land Department, Bureau of Land Management, and private entities.

Siting a trail along Morgan City Wash is consistent with recommendations from the North Peoria Area Drainage Master Plan completed by FCDMC in 2002.

**Segment Seventy-Seven**



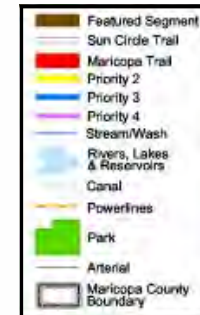
*Figure 105: Morgan City Wash*



**Segment Seventy-Eight**



*Figure 106: Morgan City Wash*



# Priority Four

Segments 81-114 are labeled as priority four corridors and shown in purple on the map.

The majority of these segments are conceptual corridors located in the out-lying areas of Maricopa County. Priority Four also includes portions of the Arizona Trail, Black Canyon Trail, and Juan Bautista de Anza National Historic Trail.

Priority four segments, like priority three segments are regional corridors that are not key components of the regional system at this time, but may become important future trails. These trails will most likely be developed in conjunction with development opportunities.

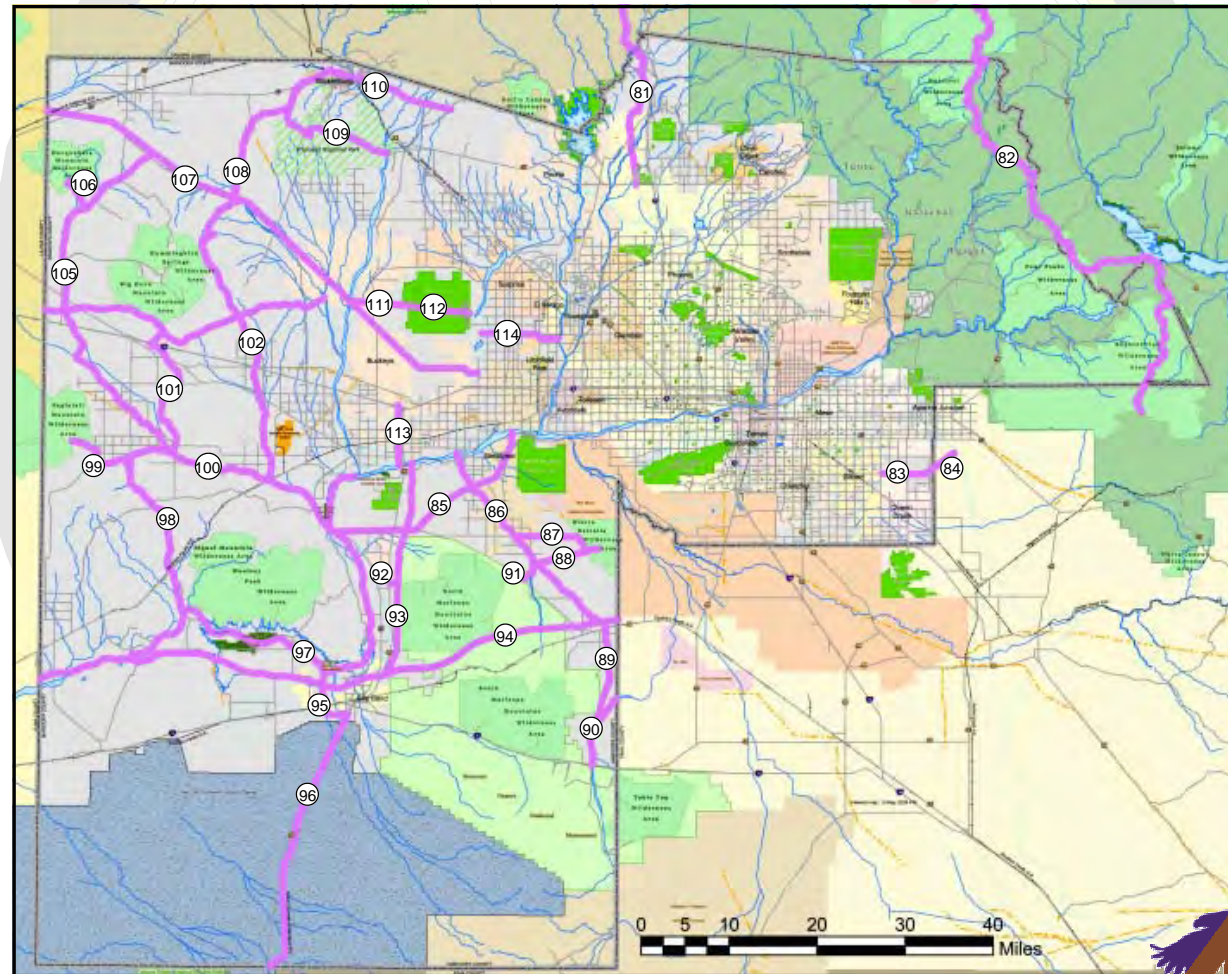


Figure 107: Priority Four Segments

# Segment Eighty-One

**Segment Eighty-One** is the Black Canyon Trail. The Black Canyon Trail is a 62-mile nonmotorized, hiking and equestrian trail. It starts at the Ben Avery Shooting Range on the Carefree Highway and extends to Mayer, Highway 69, and the Prescott National Forest.

On January 10, 1969, a Secretarial Order allocated approximately 65,501 acres of public land for stock driveway purposes and established the Black Canyon Trail Area (BCTA). The Order further stated, "subject to valid existing rights, the [BCTA] area will be administered primarily for stock driveway, riding and hiking purposes, and other forms of outdoor activities such as hunting, camping, and rock hounding."

In May 1987, a Cooperative Recreation Management Agreement (CRMA) was drafted and signed by the BLM, and Maricopa and Yavapai counties. It stated that each agency must prepare a management plan for their respective area. Maricopa County submitted their plan the following year stipulating that the trail be nonmotorized. Since then, the Emery Henderson Trailhead was built using BOR funds and the BCT became nominated and accepted as part of the Arizona State Trails System.

The Black Canyon Trail serves as a major connection between the Maricopa Trail, the communities of Anthem, New River, Black Canyon City, and as a direct link to Yavapai County.

Currently, the International Mountain Biking Association (IMBA) is working with local agencies to determine trail alignments and continue constructing corridors.

Segment Eighty-One

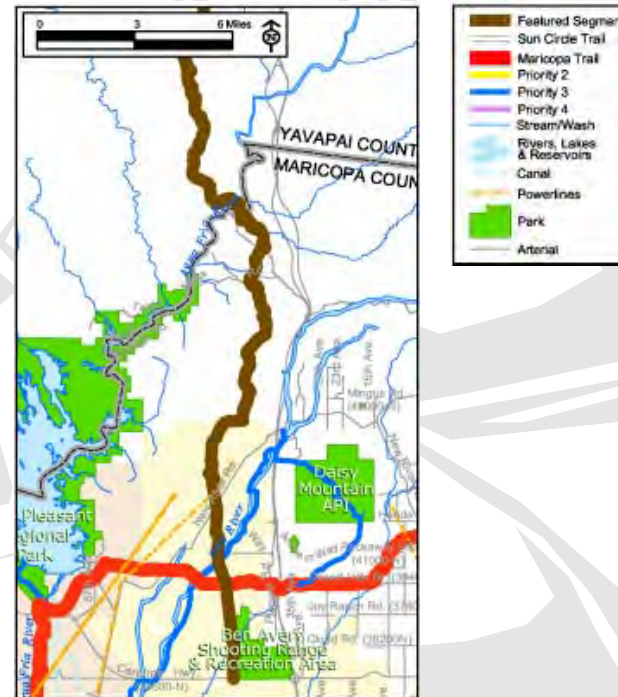


Figure 108: Black Canyon Trail





# Segment Eighty-Two

**Segment Eighty-Two** is the Arizona Trail inside Maricopa County. The Arizona Trail, the dream of Flagstaff teacher and hiking enthusiast Dale Shewalter, will eventually be a 790 mile nonmotorized trail that traverses the State from Mexico to Utah. The Arizona Trail is intended to be a primitive, long distance trail that highlights the State's topographic, biologic, historic, and cultural diversity.

The primary users are hikers, equestrians, and mountain bicyclists (outside of wilderness or other specially managed areas). Opportunities will also exist for cross-country skiers, snowshoers, joggers, and packstock users. Government agencies, volunteers, and private groups and businesses are working together to make the Arizona Trail a reality.

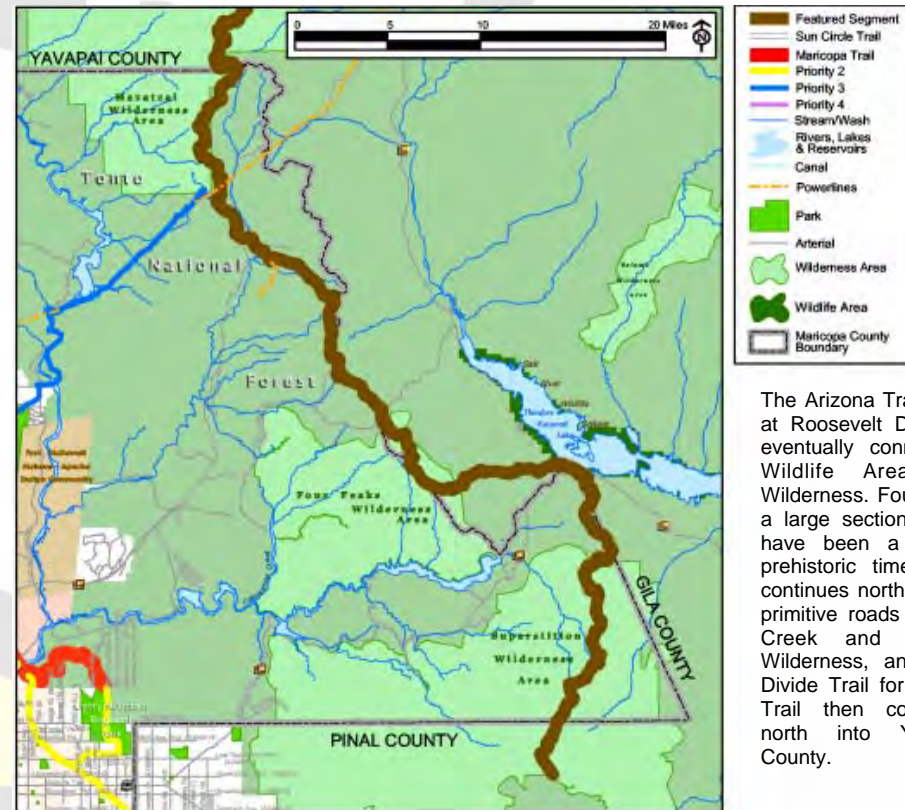
As of early 2002, most the 790 miles of trail is open to the public. More than 600 miles of the Arizona Trail have been "officially" designated and signed. (Trail Route Map). The Trail is made up of 43 Passages ranging from 11 to 35 miles in length. In most cases, the Arizona Trail utilizes existing trails that are also known by their original name and number. Primitive roads are temporarily being used in areas where linkages are needed. However, new trail construction is needed in these areas, especially to maintain the vision of a nonmotorized trail. When completed, the Arizona Trail will be one of the premier long-distance trails in the country.

In late 1993, an Intergovernmental Agreement was established between Arizona State Parks, U.S. Forest Service, National Park Service, and the Bureau of Land Management (known as the Arizona Trail Partners) that allows these agencies to cooperatively plan for the development and completion of the Arizona Trail. In 1995, a Memorandum of Understanding (MOU) was developed for the Arizona Trail. Pima County, Walnut Canyon National Monument, and the Arizona Trail Association became part of the "Arizona Trail Partners."

The following description is of the general trail corridor, actual alignments are still in the planning stages in many areas. Furthermore, alternate routes remain to be found in several areas for mountain bicyclists.

The Arizona Trail enters Maricopa County in the Superstition Wilderness Area, located in the Tonto National Forest. It skirts both Iron Mountain and Castle Dome before it passes near Tonto National Monument and the cliff dwellings of the prehistoric Salado Indians. Two well-preserved dwellings overlook Roosevelt Lake.

## Segment Eighty-Two



The Arizona Trail crosses the Salt River at Roosevelt Dam and heads west to eventually connect to the Three Bar Wildlife Area and Four Peaks Wilderness. Four Peaks are visible over a large section of central Arizona and have been a major landmark since prehistoric times. The Arizona Trail continues north along existing trails and primitive roads as it crosses Sycamore Creek and enters the Mazatzal Wilderness, and follows the Mazatzal Divide Trail for 22 miles. The Arizona Trail then continues north into Yavapai County.

Figure 109: Arizona Trail



# Segment Eighty-Three & Eighty-Four

**Segment Eighty-Three** is the Powerline Floodway in Maricopa County.

**Segment Eighty-Four** is the Powerline Floodway in Pinal County.

Segment Eighty-Three and Eighty-Four connect the CAP aqueduct in Pinal County to the East Maricopa Floodway (EMF), nine miles away, via the Powerline Floodway. The Powerline Floodway is a concrete-lined earthen channel that was built by the FCDMC to carry floodwater from the Powerline, Vineyard and Rittenhouse dams, and discharge it in the EMF.

These segments connect to the CAP on land in unincorporated Pinal County, crosses the GM Proving Grounds in Mesa, and runs just north of Williams Gateway Airport before it opens into the EMF. Most of this land is privately held or owned by the FCDMC.

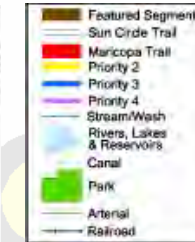
The east/west crossbar formed by these segments creates two large loops in the regional trail in this part of the Valley. These trail loops will allow trail users to travel between the CAP and EMF without having to hike, bike, or ride all the way to the top or bottom of the system when they want to go east or west.

These segments travel through some highly-developed industrial areas. Though such areas aren't ideal recreational corridors, what they lack in scenery and open spaces is offset by the fact that these segments will make the regional trail more directly accessible to residents of a rapidly growing part of the County.

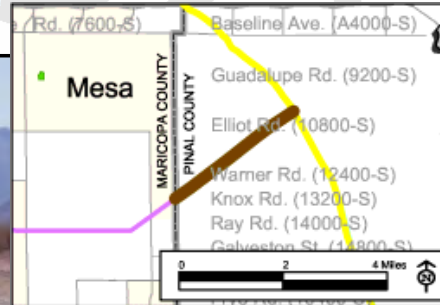
**Segment Eighty-Three**



**Figure 110: Power line Floodway**



**Segment Eighty-Four**



**Figure 111: Power line Floodway**



# Segment Eighty-Five

**Segment Eighty-Five** is a power line starting at the Gila River near Estrella Mountain Regional Park and running to the Gila River near the Arlington Wildlife Area. This power line provides an important connection through the city of Goodyear and Estrella Mountain Ranch. It intersects Waterman Wash and provides an east/west connection from one point on the Gila River to another. This corridor runs approximately 26 miles traveling most of the distance through BLM land.



Segment Eighty-Five



Figure 112: Power line corridor



# Segment Eighty-Six

**Segment Eighty-Six** is the Waterman Wash corridor. The Waterman Wash corridor is identified by the city of Goodyear as a proposed equestrian multi-use trail. This trail corridor will provide access through the Rainbow Valley area and allow for connections to the Sierra Estrella Wilderness Area and the Sonoran Desert National Monument. The City of Goodyear General Plan 2003-2013, Open Space Goals, Objectives and Policies states:

**Policy C-2c:** The City shall utilize proposed regional drainage corridors as defined in the Flood Control District of Maricopa County's Water Course Master Plans (El Rio) and in the Area Drainage Master Plans (SR303 Corridor/White Tanks, Estrella, and Rainbow Valley/Waterman Wash) as land use buffers, multi-use trails, and open spaces.

Segment Eighty-Six

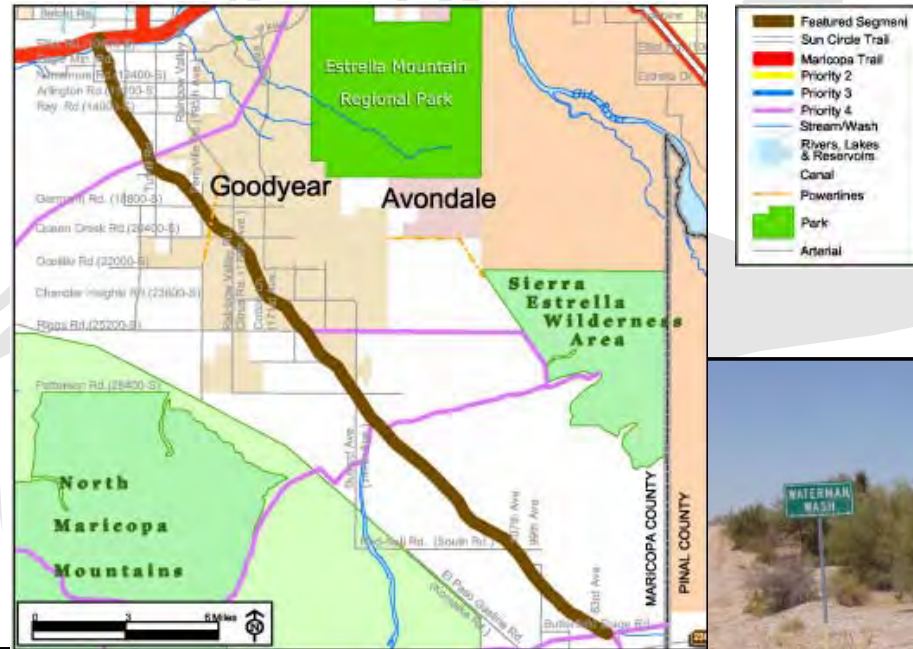
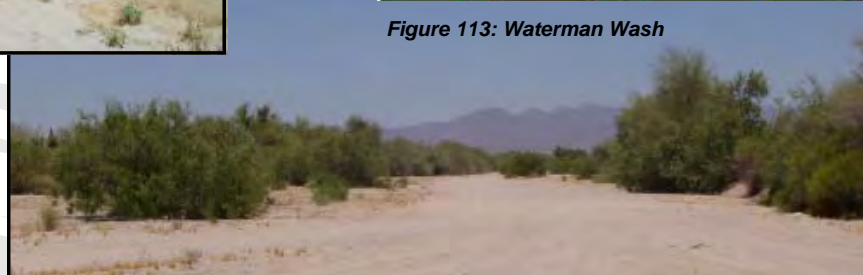


Figure 113: Waterman Wash



# Segment Eighty-Seven & Eighty-Eight

**Segment Eighty-Seven** identifies the main access route to the Sierra Estrella Wilderness Area administered and managed by the Bureau of Land Management (BLM).

**Segment Eighty-Eight** is a small unnamed wash corridor. This corridor was identified as an alternate access point in the event that the unmaintained dirt roads become major traffic routes in the future as development occurs.

## Sierra Estrella Wilderness Area

This 14,400-acre wilderness, located just 15 miles southwest of Phoenix, contains one of the most rugged mountain ranges in Arizona. The knife-edged ridgelines, steep slopes, and rough rocky canyons provide challenges for hikers, backpackers, climbers, and hunters. Butterfly Mountain rises 2,600 feet above the desert plain to an elevation of 4,119 feet in only two miles. The Quartz Peak Trail takes you to the summit of the Sierra Estrella.

The extreme elevation differences have caused diverse plant and animal communities. Plants in lower areas include saguaro, cholla, ocotillo, palo verde, and elephant bush. Small protected sites on top of the mountains have shrub-live oak and even juniper. A remnant herd of desert bighorn sheep roam the mountains and Gila monster, desert tortoise, mountain lion, mule deer, coyote, javelina, giant spotted whiptail lizard, golden eagle, prairie falcon, and Cooper's hawk also inhabit the wilderness.

## Access

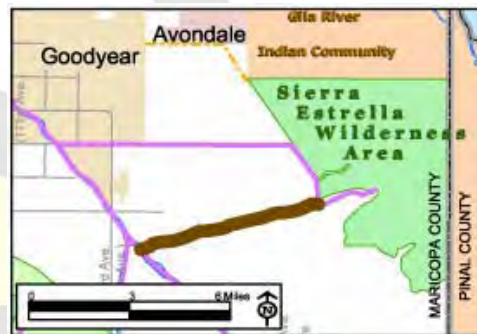
Although distinguished as one of the closest wilderness areas to metropolitan Phoenix, four-wheel-drive vehicles are required to approach the wilderness boundary. Primitive dirt roads near the wilderness boundary are extremely sandy or silty, and wash crossings are rugged and deep. Only the western boundary of the wilderness is accessible to the public. Elsewhere, the area is bounded by the Gila River Indian Community. Take Interstate 10 to exit 121 and travel south to reach Rainbow Valley Road and Riggs Road. Unmaintained dirt roads extend eastward to the wilderness boundary from here.

**Segment Eighty-Seven**

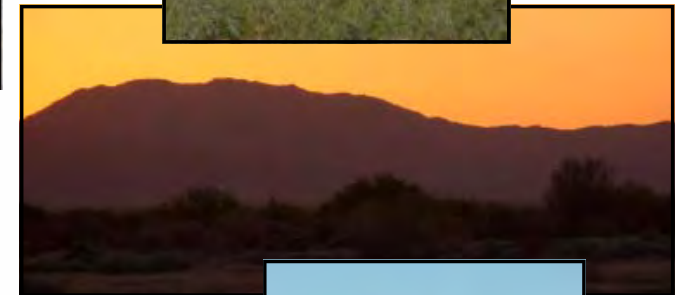
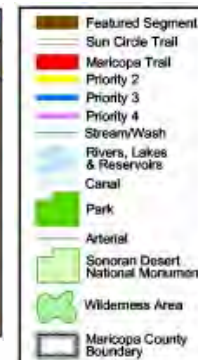


**Figure 114: Sierra Estrella Wilderness Area**

**Segment Eighty-Eight**



**Figure 115: Unnamed Wash Corridor**



Photos on this page: Tony Renaud, MCDOT GIS Group



# Segment Eighty-Nine & Ninety

**Segment Eighty-Nine** is an unnamed wash corridor running south from Maricopa Road/SR 238 at Mobile. This corridor parallels both the boundary of the Sonoran Desert National Monument and Pinal County and connects to Vekol Wash. In addition to the wash, there are also several utility corridors containing access and maintenance roads for both overhead power lines and a gas pipeline. This would provide various options should the corridor need to be shifted or relocated.

**Segment Ninety** is Vekol Wash from the Pinal County line to a crossing under Interstate 8 where it enters the Sonoran Desert National Monument. Vekol Wash is believed to have been an important prehistoric travel and trade corridor between the Hohokam and tribes located in what is now Mexico. Signs of large villages and permanent habitat sites occur throughout the area, and particularly along the bajadas of the Table Top Mountains. Occupants of these villages were the ancestors of today's O'odham, Quechan, Cocopah, Maricopa, and other tribes. This segment also provides access to the Table Top Wilderness Area which lies in both Maricopa and Pinal Counties.

## Table Top Wilderness Area

The 34,400-acre Table Top Wilderness lies in western Pinal County. Easily recognized from Phoenix, 45 miles north and Casa Grande, 20 miles east, Table Top Mountain, at 4,373 feet, is the highest peak in the area and its flat-topped summit is a familiar landmark. Steeply rising flat-top mesas, ridges, lava flows, wide canyons, and mesquite-and ironwood-lined washes surround Table Top Peak.

Hikers, backpackers, horseback riders, and others venturing into the wilderness are rewarded with solitude. The four-mile-long Table Top hiking trail leads to the summit of Table Top, with the trailhead at the southwest corner of the wilderness. The view from atop the peak is a panorama of mountains ranges and desert plains. The abundant desert vegetation includes an unusual 40-acre island of desert grassland on the summit of Table Top and dense saguaro forests on the southwest side. The Lava Flow Trail meanders through the lowlands of the wilderness area. Desert bighorn sheep, coyote, quail, javelina, giant spotted whiptail lizard and the Ajo Mountain whipsnake, and numerous birds, reptiles, and raptors abound.

## Access

This wilderness area is a two-hour drive from metropolitan Phoenix. Road conditions vary with high-clearance and four-wheel-drive vehicles recommended. Interstate Highway 8 is north of the northern wilderness boundary with access available through the private highway service facilities at exit 151 (junction of Interstate 8 and state route 84) and exit 144 (Vekol Road). The Vekol Road is maintained, but can be rough or washed out.



Segment Eighty-Nine



Figure 116: Unnamed Wash Corridor

Segment Ninety

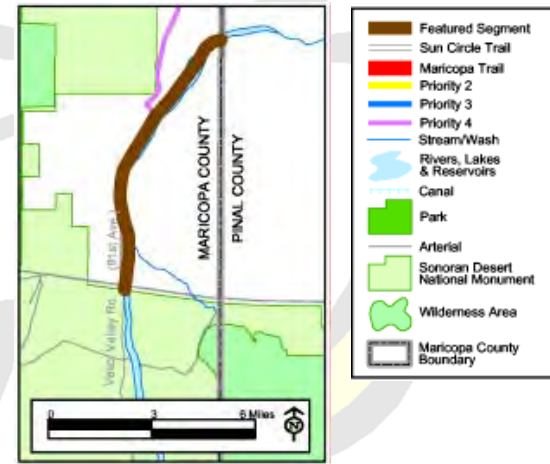


Figure 117: Vekol Wash

# Segment Ninety-One

**Segment Ninety-One** is the northeast connection into the Sonoran Desert National Monument from a gas pipeline and Waterman Wash in the Rainbow Valley Area.

## Sonoran Desert National Monument

The Sonoran Desert National Monument was created by President Clinton on January 17, 2001. The outer boundaries encompass approximately 496,337 acres. The monument contains magnificent examples of untrammelled Sonoran Desert landscape. The Sonoran Desert is the most biologically diverse of the North American deserts, and the monument captures a significant portion of that diversity. The most striking aspect of the plant community within the monument is the extensive saguaro cactus forest. The monument contains three distinct mountain ranges, the Maricopa, Sand Tank and Table Top Mountains, as well as the Booth and White Hills, all separated by wide valleys. The monument also contains three Congressionally designated wilderness areas and many significant archaeological and historic sites, and it includes remnants of several important historic trails, including the Juan Bautista de Anza National Historic Trail, the Mormon Battalion Trail, and the Butterfield Overland Stage Route.

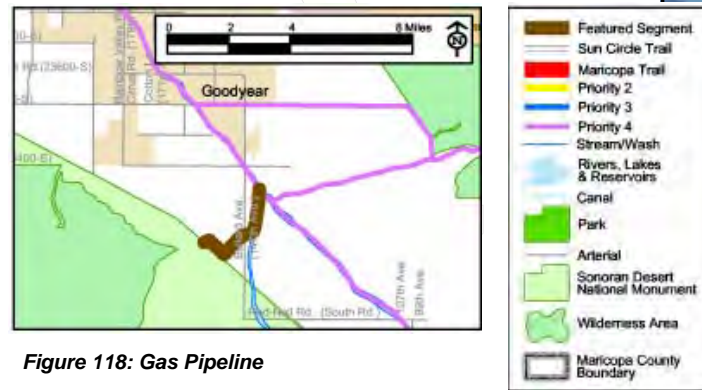
## Access

Interstate 8 provides some access at the Vekol interchange (Exit 144) and the Freeman Interchange (Exit 140). State Highway 238 (Maricopa Road) affords access to the North Maricopa Mountains and the Butterfield Overland Stage Route.

## Permits

A permit is required for entrance into the Sand Tank Mountains, formerly known as Area A.

**Segment Ninety-One**



**Figure 118: Gas Pipeline**

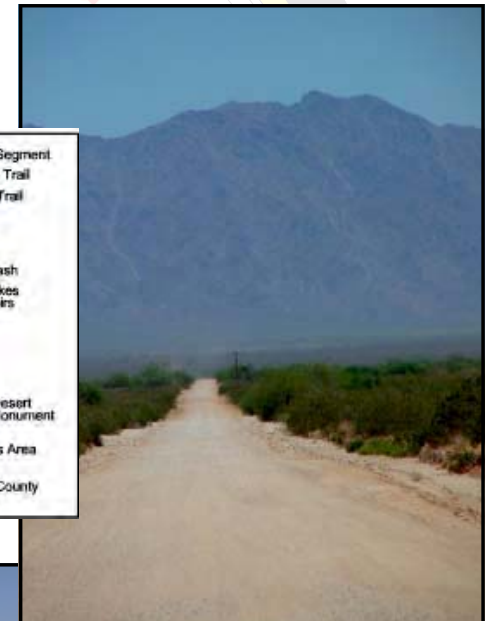


Photo: Tony Renaud, MCDOT GIS Group



# Segment Ninety-Two

**Segment Ninety-Two** provides access to the North Maricopa Mountains Wilderness Area situated in the Sonoran Desert National Monument. This segment is a primitive dirt access road directly off of SR-85 that connects to the BLM Margies Cove West Trailhead. Margies Cove West Trailhead includes day-use parking for ten vehicles, three campsites with picnic tables and steel fire rings, a vault toilet, and informational signage.

## North Maricopa Mountains Wilderness Area

This 63,200-acre wilderness lies in southwestern Maricopa County, 12 miles east of Gila Bend and 20 miles southwest of Phoenix, Arizona. It contains a 10-mile section of the Maricopa Mountains, a low-elevation (1,000 to 2,813 feet) Sonoran Desert range, and extensive surrounding desert plains. The North Maricopa Mountains are a jumble of long ridges and isolated peaks, separated by bajadas and washes. Vegetation includes saguaro, cholla, ocotillo, and other Sonoran Desert plant species. Desert bighorn sheep, desert tortoise, coyotes, bobcat, fox, deer, Gambel's quail, and raptors inhabit the wilderness.

The wilderness provides outstanding opportunities for solitude and primitive recreation, including hiking, backpacking, horseback riding, camping, wildlife observation, and photography. The Margie's Cove and Brittlebush Trails take you through the heart of the North Maricopa Mountains Wilderness.

Segment Ninety-Two



Figure 119: North Maricopa Wilderness Area



Photos on this page: Tony Renaud, MCDOT GIS Group



# Segment Ninety-Three

**Segment Ninety-Three** is a power line running parallel to State Route 85 from the Gila River south to the intersection of the Juan Bautista de Anza National Historic Trail. This power line serves as important north/south connection between the Gila River and the town of Gila Bend. SR-85 is bordered on both sides by Private and Federal land. Utilizing the power line as a trail corridor allows users to be far enough away from the road to have a quality recreation experience, while still being within close enough proximity as to gain access to the power line from the road.

The power line also follows the boundary of the North Maricopa Mountains Wilderness Area and intersects with a primitive dirt road that provides access to the BLM's Margies Cove West trailhead. The power line continues south also intersecting with the Anza Trail just north of Gila Bend and provides another access point into the Wilderness Area as well as the Sonoran Desert National Monument.



Segment Ninety-Three



Figure 120: SR-85 Power line



Priority 4

# Segment Ninety-Four

**Segment Ninety-Four** is the Juan Bautista de Anza National Historic Trail inside Maricopa County.

The complete Anza Trail is approximately 1,200 miles long, running from Mexico to California. In the mid 1770s, the Spanish Viceroy commanded Juan Bautista de Anza to fortify San Francisco with more settlers from Sonora, to protect the Pacific Coast from Russian and English influence. A land route would need to be found to transport people and supplies, as sail ships were often lost at sea.

Anza gathered 30 families, supplies and provisions, and set out from Tubac, Arizona. They continued along the Santa Cruz River to the Gila River, and were later helped by Yuma Indians to cross the Colorado River. He later divided the expedition into three groups, each one day apart to allow water holes to refill. They regrouped at what is today the Anza Borrego Desert State Park and reached Mission San Gabriel Arcángel, then followed established trails through Indian villages along the coast of California and arrived at Monterey, California.

The Juan Bautista de Anza National Historic Trail was authorized by Congress in 1990, and was the first trail of its kind in the Western Region of the National Park Service. The National Park Service (NPS) manages the Anza Trail and guides the preservation, development, and enjoyment of the trail. Management of trail resources and right-of-way remains with individual landowners, non-profit groups, and federal, state, and local agencies.

In Arizona, citizens in Santa Cruz County have completed a 4.5 mile segment of the trail from Tumacacori National Historical Park to Tubac Presidio State Historic Park. Since Anza was Captain at Tubac Presidio, this segment of the trail is particularly interesting. The trail is marked and interpreted along a five-mile segment of the Santa Cruz River in Tucson where the Anza Trail Coalition of Arizona has planted a tree in Anza's memory along the Paseo de los Arboles. About 13 miles of completed trail can be experienced in Maricopa County in a pristine setting on land managed by the Bureau of Land Management. This corridor also includes the historical Mormon Battalion Trail and Butterfield Overland Stage Route.



- Featured Segment
- Sun Circle Trail
- Maricopa Trail
- Priority 2
- Priority 3
- Priority 4
- Stream/Wash
- Rivers, Lakes & Reservoirs
- Canal
- Park
- Arterial
- Sonoran Desert National Monument
- Wilderness Area
- Wildlife Area

Segment Ninety-Four



Figure 121: Juan Bautista de Anza National Historic Trail

# Segments Ninety-Five & Ninety-Six

**Segment Ninety-Five** is Saucedo Wash. This corridor starts at the northern boundary of the Barry M. Goldwater Gunnery Range. It provides a connection under Interstate-8 and through the town of Gila Bend. It then connects with the Gila River near the Gila Bend Indian Community.

## Segment Ninety-Five



Figure 122: Saucedo Wash



## Segment Ninety-Six

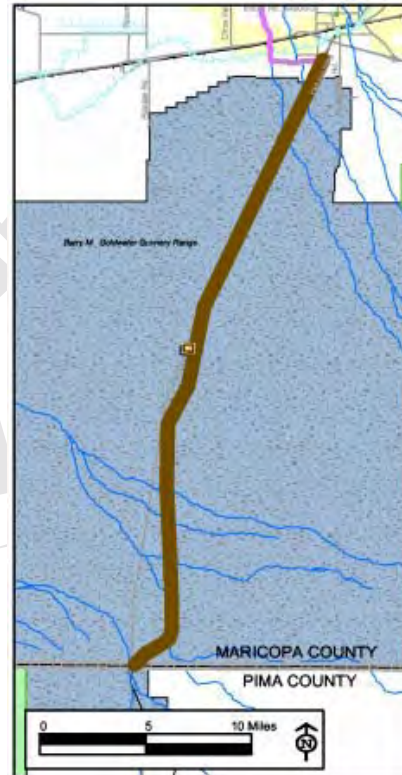


Figure 123: Gunnery Range

**Segment Ninety-Six** identifies the only legal way to traverse the Barry M. Goldwater Gunnery Range. It follows a corridor consisting of SR-85 as well as the Tucson, Cornelia, and Gila Bend Rail corridor owned by Phelps Dodge Corporation. This segment provides connections to Pima County and Ajo. There is no agreement at this time between any of the agencies involved.

## Barry M. Goldwater Gunnery Range

This is the second largest land-based military range in the United States. Since it was established at the beginning of World War II, the Goldwater Range has served continuously as a tactical air combat training center. The Range is composed of almost 4200 square miles of land in southwestern Arizona and the overlying airspace. Approximately two-thirds of the land space has been reserved for military training. The remaining one-third of the Goldwater Range lies within the Cabeza Prieta National Wildlife Refuge where ground-based military activities do not occur. Airspace overlying the Cabeza Prieta as well as the rest of the Goldwater Range is used for military training.

The Goldwater Range is also one of the largest and best-preserved native desert regions remaining in the United States. The public can visit the Goldwater Range, but only under a strictly enforced permit system and rules that are necessary to ensure human safety, prevent interference with military training, and protect the desert environment.

There are several distinct administrative sections on the Goldwater Range: the Eastern Section-U.S. Air Force, Western Section-U.S. Marine Corps, Cabeza Prieta National Wildlife Refuge-U.S. Fish and Wildlife Service, non-military uses in both the Eastern and Western Sections are administered by the Bureau of Land Management.

Non-military uses can occur on the Goldwater Range to the extent that they are compatible with military operations. The BLM and military managers identified wildlife habitat protection, environmental conservation and study, and some forms of outdoor recreation including hiking and camping as the principal uses compatible with the military priorities of the Goldwater Range.



# Segment Ninety-Seven

**Segment Ninety-Seven** is the Gila River from the Hassayampa River to just southwest of Woolsey Peak Wilderness Area. It traverses through the Arlington Wildlife Area, the town of Gila Bend, and Painted Rocks Petroglyph Site.

## Arlington Wildlife Area

The Arlington Wildlife Area (AWA) is located along the west bank of the Gila River approximately 3-1/2 miles south of Arlington and 15 miles southwest of Buckeye in Maricopa County, Arizona. AWA is approximately 1500 acres, being composed of lands owned by the Arizona Game and Fish Commission and lands owned by other governmental agencies but managed for wildlife by Game and Fish under long-term agreement. The wildlife area has two ponds totaling approximately 10 acres, an extensive stand of salt cedar, and about four miles of river channel including running water, cattails and other emergent vegetation, sand and gravel bars, and riparian trees such as cottonwood, willow, and salt cedar.

## Painted Rocks Petroglyph Site

Painted Rocks Petroglyph Site, approximately 90 miles southwest of Phoenix, Arizona, provides visitors the opportunity to view an ancient archaeological site containing hundreds of symbolic and artistic rock etchings, or "petroglyphs," produced centuries ago by prehistoric peoples. There are also inscriptions made by people who passed through during historic times. Many well-known events in Arizona history occurred near the Petroglyph Site, including the expedition of Juan Bautista de Anza that founded San Francisco, the Mormon Battalion, and the Butterfield Overland Mail. Formerly a unit of the Arizona State Park system, jurisdiction of Painted Rocks Petroglyph Site reverted to the Bureau of Land Management in 1989. Picnic tables, barbeque grills, steel fire rings, and a vault toilet are provided for picnicking and primitive camping. A ramada is available for group activities. No potable water, trailer hook-ups, or dump stations are provided. The former Painted Rocks State Park included a "Lake Unit" near Painted Rocks Dam approximately 4.5 miles north of the Petroglyph Site. This area included camping facilities and was a popular fishing attraction, but was closed to the public in 1989 due to unsafe levels of pollutants in the Gila River. Currently, there is no public access to Painted Rocks Dam or the Lake Unit.

## Woolsey Peak Wilderness Area

This 64,000-acre wilderness is in southwest Maricopa County, 11 miles northwest of Gila Bend and 32 miles southwest of Phoenix, Arizona. It is adjacent to the 13,350-acre Signal Mountain Wilderness.

This wilderness encompasses a major part of the Gila Bend Mountains. The diverse topography and geology include sloping lava flows, basalt mesas, rugged peaks, and ridges. The 3,270-foot Woolsey Peak, rising 2,500 feet above the Gila River, is a geographic landmark visible throughout southwestern Arizona. The wilderness contains a surprising variety of vegetation, including saguaro, cholla, paloverde, creosote, and bursage. The washes are lined with desert mesquite, ironwood, and paloverde.

The diversity, ruggedness, and size of the wilderness offer excellent opportunities for solitude and primitive recreation; backpacking trips, horseback riding, day hiking, wildlife observation, photography, and sightseeing are also common. Desert bighorn sheep, and mule deer, bobcats, cougars, hawks and owls, and various raptors frequent the region.

## Access

This wilderness is accessible via old U.S. Highway 80 and Enterprise Road south of Arlington, via various jeep trails extending south from the Aqua Caliente Road, and via Interstate 8 and the Painted Rocks Dam Road west of Gila Bend. High-clearance vehicles are needed and four-wheel-drive vehicles are recommended, except for portions of the Enterprise Road south of Gillespie Dam.



Segment Ninety-Seven

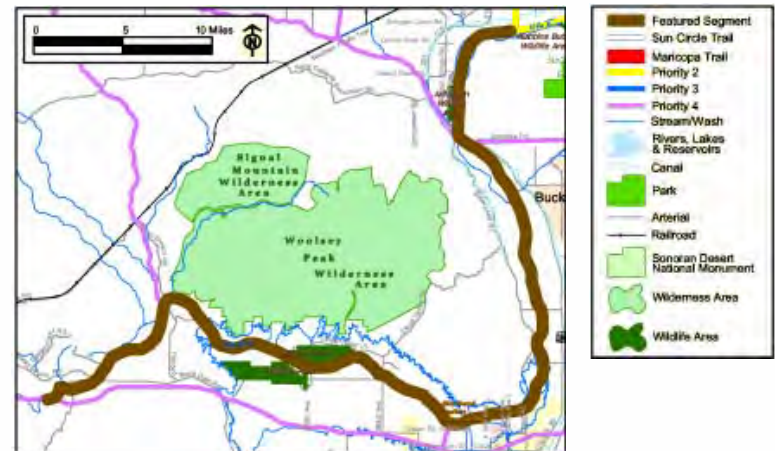


Figure 124: Gila River

# Segments Ninety-Eight & Ninety-Nine

**Segment Ninety-Eight** follows portions of the Fourth of July Wash located in western Maricopa County about 20 miles west of Old US 80 along Agua Caliente Road. This segment starts from the Painted Rocks Dam area to and continues to Centennial Wash. This would provide a north/south connection between Signal Mountain Wilderness Area and Centennial Wash.

**Segment Nine-Nine** provides a connection from Centennial Wash to Eagletail Mountains Wilderness Area.

## Eagletail Mountains Wilderness Area

The 100,600-acre Eagletail Mountains Wilderness is about 65 miles west of Phoenix, Arizona, in Maricopa, Yuma, and LaPaz counties. The wilderness includes 15 miles of the Eagletail Mountains ridgeline and Courthouse Rock to the north, Cemetary Ridge to the south, and a large desert plain area between the two ridgelines. Several different rock strata are visible in most places, with natural arches, high spires, monoliths, jagged sawtooth ridges, and numerous washes six to eight miles long.

Recreation such as extended horseback riding and backpacking trips, sightseeing, photography, rock climbing, and day hiking are enhanced by the topographic diversity, scenic character, size, as well as the botanical, wildlife, and cultural values of the area.

## Access

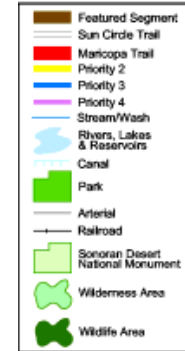
From Phoenix, travel west along Interstate 10 to the Tonopah exit. Travel south from Tonopah to the paved Salome Highway, then west to the Harquahala Valley via the Courthouse Rock Road. Roads near the wilderness include the pipeline maintenance road on the north and East Clanton Well Road on the south. High-clearance or four-wheel-drive vehicles are needed for access to the wilderness boundary.

**Segment Ninety-Eight**



**Figure 125: Fourth of July Wash**

**Segment Ninety-Nine**



**Figure 126: Centennial Wash**



# Segment One Hundred

**Segment 100** is Centennial Wash from the Gila River at the Arlington Wildlife Area to Centennial Levee. Centennial Wash and its tributaries are ephemeral and flow only in response to heavy rains in the surrounding mountains. Besides being a scenic wildlife corridor, it would provide an east/west connection between the Gila River and Eagletail Mountains Wilderness Area.

Segment One Hundred



Figure 127: Centennial Wash

# Segment One Hundred One

**Segment 101** is the Harquahala Flood Retarding Structure (FRS) and Saddleback FRS. The Harquahala Flood Retarding Structure is located in western Maricopa County immediately north of the CAP canal and west of Burnt Mountain. It lies north of Interstate 10. It is 12 miles long, and its distance from I-10 varies between two and three miles at various points along the structure. It was built to protect I-10 and agricultural areas to the south from the effects of floodwater runoff from the Big Horn Mountains.

The Saddleback Flood Retarding Structure is located in western Maricopa County south of Interstate 10, approximately 14 miles east of the Yuma County border. It is five miles in length. It was built to protect agricultural areas on the Harquahala Plain south of I-10 from the effects of floodwater runoff from the Big Horn Mountains and Saddleback Mountain.

These structures are interconnected facilities. This trail segment would be located on existing operation and maintenance roads. Currently, the Interstate 10 underpass for the Harquahala FRS is five feet in height. However, there are several additional freeway underpasses located less than a mile from this structure that could accommodate a pedestrian and equestrian crossing.

Segment Ninety-Six



Figure 128: Harquahala FRS



# Segments One Hundred Two & One Hundred Five

**Segment 102** is Old Camp Wash. This is a major wash corridor running from Centennial Wash to the Hummingbird Springs Wilderness Area. This corridor was identified by Tonopah residents as a major wildlife corridor. This segment provides crossings under Interstate 10 and over the CAP.

**Segment 105** is Tiger Wash. It starts in far western Maricopa County south of I-10 and west of Salome Highway. The identified corridor runs from Centennial Levee past the Harquahala Mountain Wilderness Area crossing over Eagle Eye Road several times before running into a power line corridor. This is a mostly undeveloped part of Maricopa County that offers beautiful scenery and solitude for the recreational user.

Segment 102



Figure 129: Old Camp Wash

Segment 105



Figure 130: Tiger Wash

Priority 4



# Segment One Hundred Six

**Segment 106** is a connection to the Harquahala Mountains Wilderness Area along a dirt road where there are trailhead accommodations including restrooms, picnic tables, and interpretive signage.

## Harquahala Mountain Wilderness Area

The 22,880-acre Harquahala Mountain Wilderness lies in Maricopa and La Paz counties, 80 miles northwest of Phoenix, Arizona. This wilderness contains part of one of western Arizona's largest desert mountain ranges. The 5,691-foot-high Harquahala Peak, the highest point in southwest Arizona, provides a breathtaking panorama of surrounding desert and distant mountain ranges. Different from many Sonoran Desert mountain ranges, the Harquahalas contain a screened interior canyon system. The distinctive ecosystems provide exceptional natural diversity, including a relict "island" of interior chaparral, desert grasslands, and rare cactus populations. The area also supports habitat for desert bighorn sheep, desert tortoise, and mule deer populations.

Hikers, backpackers, wildlife observers, and photographers will find many recreation opportunities here. Rugged topography and the area's sheltered Brown's Canyon interior drainage system furnish the solitude and secluded experience treasured by many wilderness visitors.

The Harquahala Mountain Summit Road offers something for everyone! The road itself is rugged and challenging for OHV enthusiasts. For the nature lover it has beautiful Sonoran Desert scenery with blooming flora March through May and distinct ecosystem variations can be seen with changes in elevation. In addition to the typical desert reptiles and critters which can be encountered, bighorn sheep may also be spotted. For the scenic enthusiast, the summit is the highest point in southwest Arizona with breathtaking 360 degree vistas. For hikers, a pack trail leads from the summit down the mountain through the Harquahala Wilderness Area designated in The Arizona Desert Wilderness Act of 1990. The trail has several difficult and steep portions. For the history buff, the drive displays old mining debris, shafts, and stone houses from earlier miners. The grand finale is realized at the summit with the Harquahala Peak Observatory. The observatory was built by the Smithsonian in 1920 to measure and record solar activity. It was abandoned in 1925 and in 1975 was listed on the National Register of Historic Places and has since been stabilized.

Segment One Hundred Six

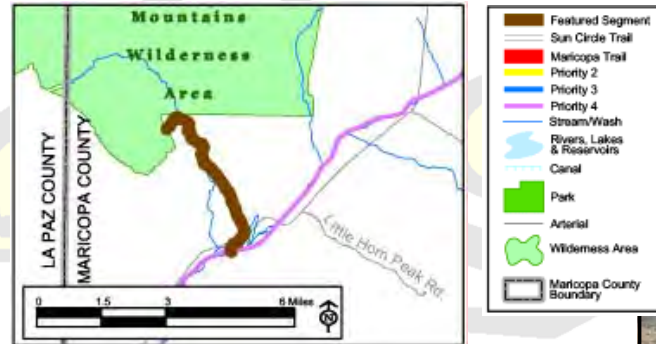


Figure 131: Harquahala Mountain Wilderness Area



Photo: Tony Renaud, MCDOT GIS Group

# Segment One Hundred Seven

**Segment 107** is a power line running from the proposed Flood Control District channels all the way to La Paz County. This power line corridor serves as an important connection through the western part of Maricopa County. The power line intersects with several other trail corridors providing linkages to two BLM Wilderness Areas, Wickenburg, Tonopah, and White Tank Mountain Regional Park as well as the CAP. It traverses nearly 60 miles of pristine desert and includes lush oases provided by several large water tanks. Evidence of ranching is also present with cattle loading stations located throughout the corridor.

## Segment One Hundred

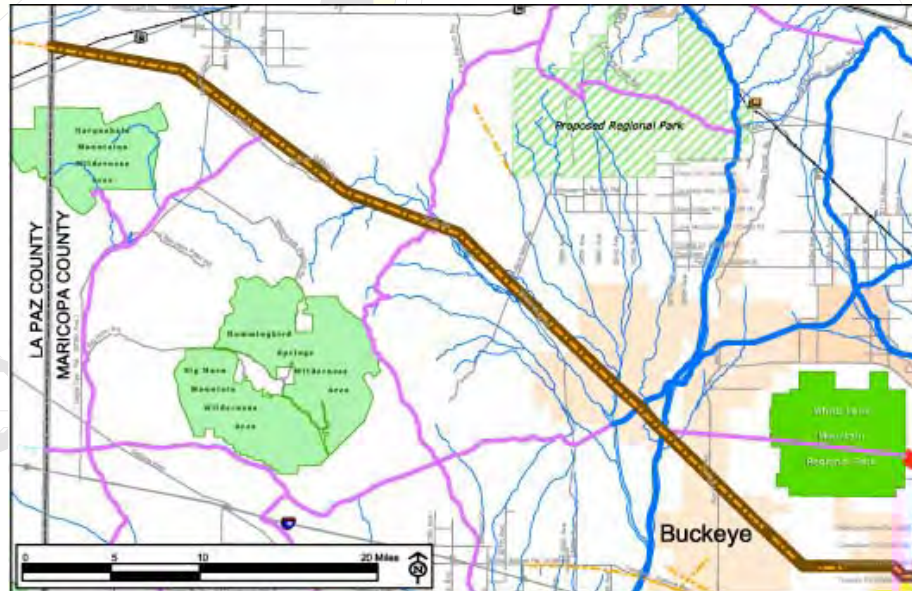


Figure 132: Power line Corridor

- Featured Segment
- Sun Circle Trail
- Maricopa Trail
- Priority 2
- Priority 3
- Priority 4
- Stream/Wash
- Rivers, Lakes & Reservoirs
- Canal
- Powerlines
- Park
- Arterial
- Railroad
- Wilderness Area
- Maricopa County Boundary



# Segment One Hundred Eight

**Segment 108** runs from Hummingbird Springs Wilderness Area on the north following portions of Coyote and Woodchopper washes, then crosses over a power line corridor. At this point, Segment 108 connects through Wickenburg to the Hassayampa River using portions of Powerline Wash, Hartman Wash, and Sols Wash.

## Hummingbird Springs Wilderness Area

This 31,200-acre wilderness lies 55 miles west of Phoenix in western Maricopa County. The colorful escarpments of the 3,418-foot-high Sugarloaf Mountain rise steeply from the Tonopah Desert plains giving the wilderness exceptional scenic value, especially noticeable along Interstate Highway 10 south of the area. The Big Horn Mountains Wilderness lies to the southwest, separated only by a jeep trail.

Over eight miles of the eastern Big Horn Mountains cross this wilderness. The area is dominated by Sugarloaf Mountain, a landmark encircled by many lower peaks, hills, washes, and bajadas. The complexity and diversity of landforms, desert vegetation, and the natural beauty of this wilderness offer a wealth of recreation opportunities for visitors of all ages and abilities. Saguaro, chollas, ocotillos, paloverdes, and mesquite abound. Most of the wilderness is habitat for desert bighorn sheep, mule deer and desert tortoise. Cooper's hawks, prairie falcons, golden eagles, kit foxes, and Gila monsters may also be encountered.

## Access

This wilderness area is a two-hour drive from metropolitan Phoenix. It can be accessed from the south by exiting Interstate 10 at the Tonopah or Salome Road exits. The Eagle Eye Road south of Aguila provides access from the north. Dirt roads extend to the wilderness boundary from these roads and other unnamed roads nearby. Road conditions vary, and high clearance and four-wheel-drive vehicles are recommended.

Segment One Hundred Eight

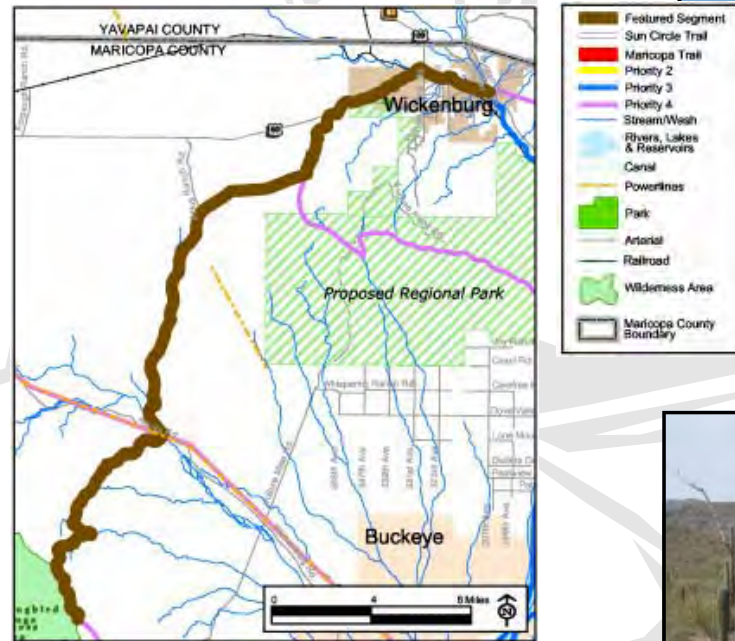


Photo: Tony Renaud, MCDOT GIS Group



Figure 133: Hummingbird Springs Wilderness Area



# Segment One Hundred Nine

**Segment 109** is a connection through a proposed Maricopa County Regional Park. This would provide linkage to the existing Vulture Peak Trail administered by the BLM.

Vulture Peak Trail, seven miles south of Wickenburg, Arizona, is a short but steep trail that takes hikers from the base of Vulture Peak (2,480 feet) to a saddle (3,420 feet) just below the summit in only two miles. From this point, experienced hikers can scramble up an extremely steep and narrow chute to the summit of Vulture Peak itself (3,660 feet). The final ascent is not maintained and should be attempted only by experienced and well-conditioned hikers.

Vulture Peak Trail meanders through classic Sonoran Desert landscapes, including dense stands of saguaro, ocotillo, cholla, and other cactus varieties; crosses wide desert washes; and offers dramatic scenic vistas of rugged desert mountain ranges and valleys in all directions.

Vulture Peak Trail is accessed by two trailheads. The primary trailhead is suitable for passenger cars and may be reached by the paved Vulture Mine Road from Wickenburg. An upper trailhead, suitable only for 4-wheel-drive vehicles, is near the base of Vulture Peak and may be reached by following the posted primitive dirt road from the primary trailhead.

The primary trailhead offers parking for 15 vehicles. The 4-wheel-drive trailhead offers parking for four vehicles. No other facilities, including water or trash collection, are provided.



Segment One Hundred Nine

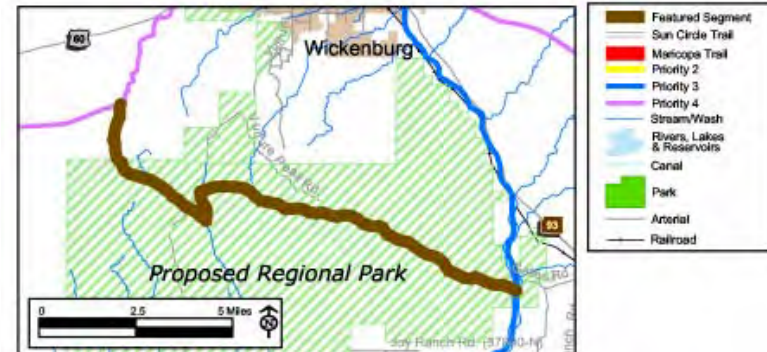


Figure 134: Vulture Peak



# Segments 110, 111, & 112

**Segment 110** connects Wickenburg to Trilby Wash. This segment follows a similar east/west path as the Black Canyon City Backcountry Byway in Yavapai county identified by the Wickenburg Outdoor Recreation Committee. Therefore this corridor should be evaluated based on necessity and relevance to the proposed corridor to the north.

**Segment 111** is a western entrance into White Tank Mountain Regional Park. This corridor would connect to the park from the Hassayampa River using existing jeep trails.

**Segment 112** is an east/west connection through White Tank Mountain Regional Park. This segment would connect the undeveloped western portion of the park to the developed eastern side. Several possible routes have been discussed with the park supervisor. However, any exact alignment would be determined by the Maricopa County Parks and Recreation Department staff.

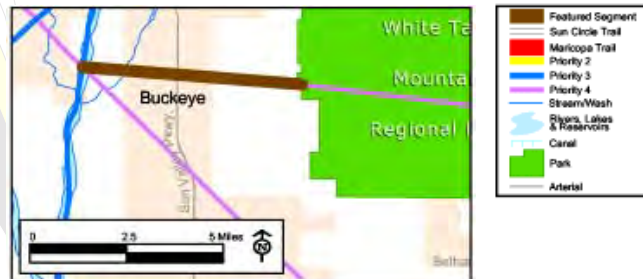


**Segment 110**



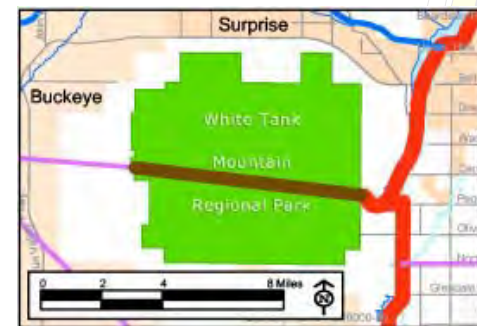
*Figure 135: Wickenburg Connection*

**Segment 111**



*Figure 136: White Tank western connection*

**Segment 112**



*Figure 137: White Tank Mountain Regional Park Trails*



# Segments One Hundred Thirteen & One Hundred Fourteen

**Segment 113** is a Flood Control District Regional Conveyance Channel. This is a very conceptual segment at this time. It would be part of the proposed Buckeye-Sun Valley Area Drainage Master Plan (ADMP). The FCD typically identifies regional drainage fallibilities in 2-3 mile grids/patterns. The facilities consist of regional conveyance channels connecting regional retention basins to an outfall. In this case it would give us a north/south connection to the Gila River. An example of comparable facilities can be seen in the Loop 303 Corridor/White Tanks ADMP.

**Segment 114** is Northern Avenue. This corridor was included as a potential future route based on plans to widen Northern Avenue into a super street. Maricopa County Department of Transportation will determine the feasibility of trail placement as part of this project.

**Segment One Hundred Thirteen**

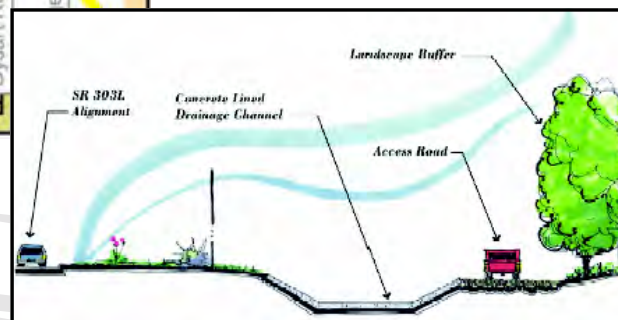


**Figure 138: FCD Regional Conveyance Channel**

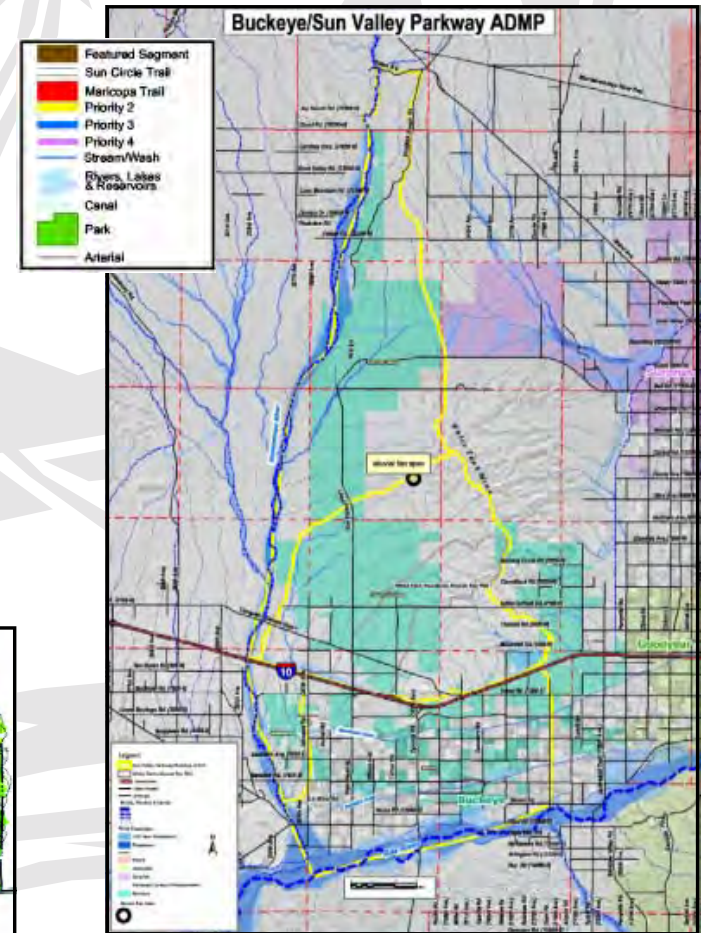
**Segment One Hundred Fourteen**



**Figure 139: Northern Avenue**



**Figure 140: Drainage Channels**



**Figure 141: Buckeye/Sun Valley ADMP**

# Project Corridors

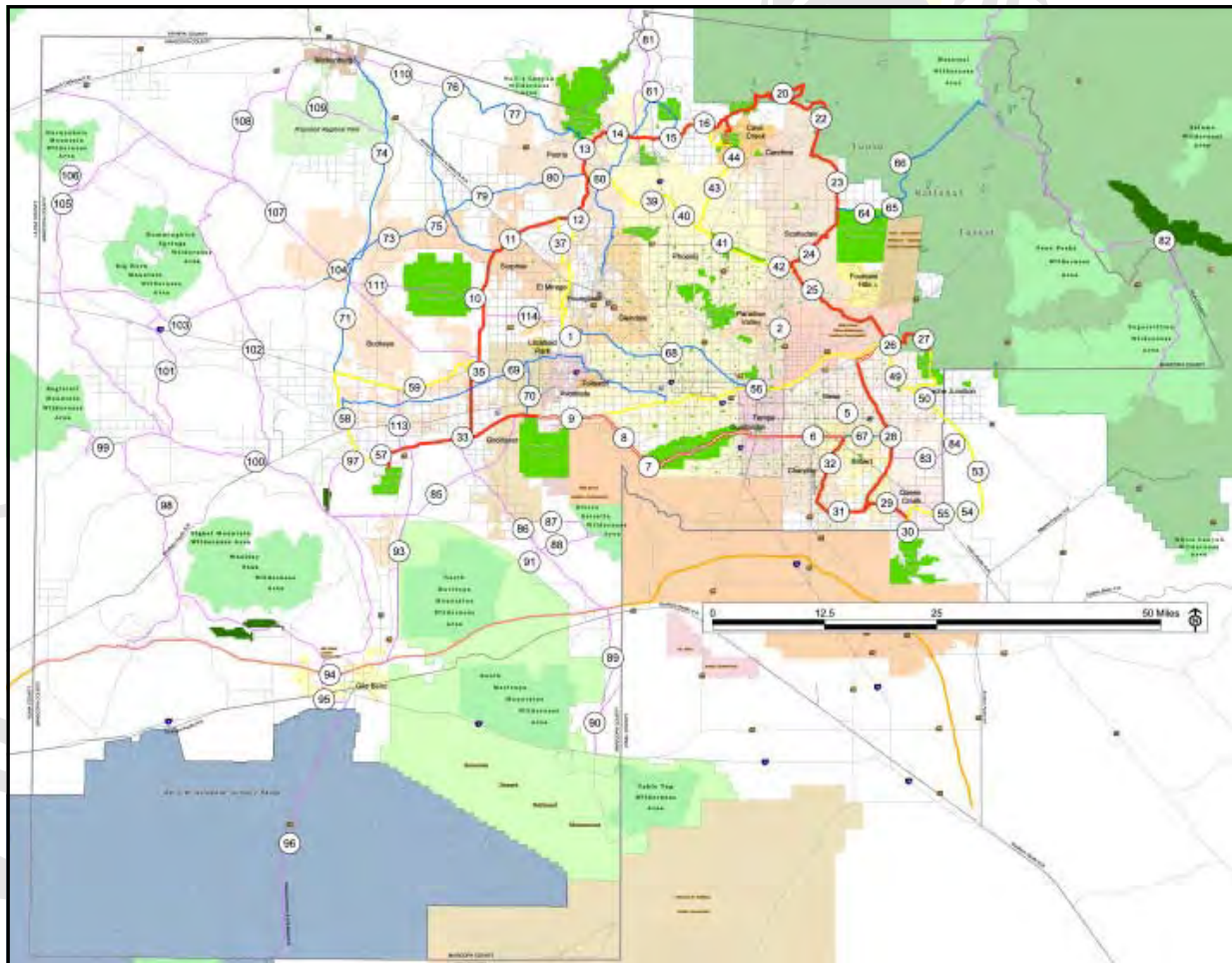
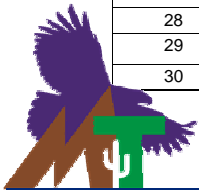


Figure 142: Project Corridors Map

# Segment Table

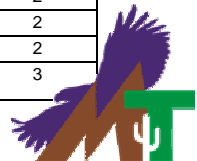
<i>Segment</i>	<i>Name</i>	<i>Length (miles)</i>	<i>From</i>	<i>To</i>	<i>Priority</i>
1	Sun Circle Trail	19.0	Gila River	Arizona Canal	1
2	Sun Circle Trail	39.0	Adobe Dam	Granite Reef Dam	1
3	Sun Circle Trail	4.7	Granite Reef Dam	RWCD Canal	1
4	Sun Circle Trail	5.0	RWCD Canal	Consolidated Canal	1
5	Sun Circle Trail	6.9	South Canal	Western Canal	1
6	Sun Circle Trail	12.0	Consolidated Cabnal	Ken McDonald Gold Course	1
7	Sun Circle Trail	13.0	East end of South Mountain Park	West end of South Mountain Park	1
8	Sun Circle Trail	7.8	West end of South Mountain Park	Gila River	1
9	Sun Circle Trail	7.6	83rd Ave. south of Southern Ave.	Confluence of Gila and Agua Fria Rivers	1
10	Maricopa Trail	0.8	Eastern boundary of White Tank Mountain Regional Park	McMicken Dam	1
11	Maricopa Trail	16.0	South end of McMicken Dam	Agua Fria River	1
12	Maricopa Trail	9.4	McMicken Dam Outlet Channel	Lake Pleasant Regional Park	1
13	Maricopa Trail	0.6	Agua Fria River	Eastern Park Boundary	1
14	Maricopa Trail	8.6	Lake Pleasant Regional Park	I-17 at Deadman Wash	1
15	Maricopa Trail	4.3	I-17 at Deadman Wash	Rodger Creek	1
16	Maricopa Trail	5.8	Rodger Creek	Segment 18	1
17	Maricopa Trail	1.5	Overton Trail in Cave Creek Regional Park	Go John Trail/Northern Park Boundary	1
18	Maricopa Trail	3.5	Northern Boundary of Cave Creek Regional Park	South entrance of Spur Cross Ranch Conservation Area	1
19	Maricopa Trail	3.1	Elephant Mountain Trail	Spur Cross Trail/Northern Park Boundary	1
20	Maricopa Trail	11.0	Tonto National Forest	City of Scottsdale	1
21	Maricopa Trail	2.5	City of Scottsdale	Tonto National Forest	1
22	Maricopa Trail	9.0	Seven Springs Road	Stagecoach Pass	1
23	Maricopa Trail	9.7	Stagecoach Pass	McDowell Mountain Regional Park	1
24	Maricopa Trail	9.0	Western Boundary of McDowell Mountain Regional Park	West World	1
25	Maricopa Trail/CAP	6.0	West World	SRP-MIC	1
26	Maricopa Trail/CAP	9.3	Northern Boundary of SRP-MIC	Granite Reef Dam	1
27	Maricopa Trail	9.1	City of Mesa Boundary	Northern Boundary of Userly Mountain Regional Park	1
28	Maricopa Trail	18.0	South Canal	Queen Creek Wash	1
29	Maricopa Trail	6.1	East Maricopa Floodway	Hawes Road	1
30	Maricopa Trail	2.2	Queen Creek Wash and Sanokai Wash	San Tan Mountain Regional Park	1





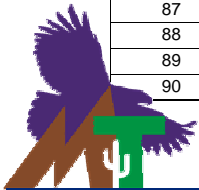
# Segment Table Continued

<b>Segment</b>	<b>Name</b>	<b>Length (miles)</b>	<b>From</b>	<b>To</b>	<b>Priority</b>
31	Maricopa Trail	5.7	RWCD Main Canal	Consolidated Canal	1
32	Maricopa Trail	8.5	RWCD Irrigation Lateral	Western Canal	1
33	Maricopa Trail	17.0	Confluence of Salt and Agua Fria Rivers	Robbins Butte Wildlife Area	1
34	Maricopa Trail	1.6	Gila River	Buckeye Hills Regional Park	1
35	Maricopa Trail	17.0	Gila River	Waterfall Wash	1
36	Agua Fria River	19.0	New River	McMicken Dam	2
37	McMicken Outlet Wash	3.2	McMicken Dam	Agua Fria River	2
38	CAP	5.0	Reversible Canal	67th Avenue	2
39	CAP	7.7	67th Avenue	Unincorporated County land at approximately 19th Avenue	2
40	CAP	1.1	Approximately 19th Avenue	7th Avenue Alignment	2
41	CAP	10.0	7th Avenue Alignment	Scottsdale Road	2
42	CAP	3.3	Scottsdale Road	West World	2
43	Cave Creek Wash	9.9	Cave Creek Regional Park	CAP	2
44	Cave Creek Regional Park Trails	2.1	Western Park Boundary	Southeastern Park Boundary	2
45	State Trust Land	4.5	Segment 16	Cave Creek Regional Park Boundary	2
46	Usery Mountain Regional Park Trails	4.1	Tonto National Forest	Southern Park Boundary	2
47	FCD Structures	3.2	Usery Mountain Regional Park	CAP	2
48	Granite Reef Dam	0.8	SRP-MIC	Power Road	1
49	CAP	5.8	Tonto National Forest Boundary	University and Ellsworth in Mesa	2
50	CAP	2.4	University and Ellsworth in Mesa	Broadway Rd. in Mesa	2
51	CAP	1.5	Broadway Road	Southern Avenue	2
52	CAP	0.6	Southern Avenue	U.S. 60	2
53	CAP	11.0	U.S. 60	Queen Creek in Pinal County	2
54	Queen Creek	4.6	CAP in Pinal County	Maricopa County Border	2
55	Queen Creek	5.4	Maricopa County Border	Hawes Road	2
56	Salt River	34.0	Granite Reef Dam	Junction of Sun Circle at 83rd Ave. and Southern Ave.	2
57	Gila River	3.9	State Route 85	Hassayampa River	2
58	Hassayampa River	10.0	Gila River	Buckeye Flood Retarding Structures	2
59	Buckeye Flood Retarding Structures	18.0	Proposed FCD Channels	Hassayampa River	2
60	New River	26.0	Arizona Canal	Daisy Mountain API	3



# Segment Table Continued

<b>Segment</b>	<b>Name</b>	<b>Length (miles)</b>	<b>From</b>	<b>To</b>	<b>Priority</b>
61	Daisy Mountain North	1.0	New River at I-17	Daisy Mountain API	3
62	Daisy Mountain API	3.6	Northern Boundary	Southeastern Boundary	3
63	Deadman Wash	3.1	Southeastern Boundary	Desrt Hills Drive	3
64	McDowell Mountain Regional Park Trails	6.6	136th Street	Rio Verde Boundary	3
65	Rio Verde	0.8	McDowell Mountain Regional Park	Tonto National Forest	3
66	Tonto National Forest Trails	20.0	Rio Verde Boundary	Arizona Trail	3
67	Power line Trail	5.2	RWCD Canal	Consolidated Canal	3
68	Grand Canal	23.0	Papago Park	New River	3
69	Roosevelt Irrigation District Canal	44.0	27th Avenue and Lower Buckeye Road	Hassayampa River	3
70	Bullard Wash	6.2	Gila River	Agua Fria River	3
71	Hassayampa River	13.0	Buckeye FRS	CAP	3
72	CAP across unincorporated County land	1.1	Buckeye west of the Hassayampa River	Buckeye east of the Hassayampa River	3
73	CAP across Buckeye	7.3	Hassayampa River	Surprise	3
74	Hassayampa River	25.0	CAP	Wickenburg	3
75	CAP across Surprise	5.0	Western boundary of Surprise	Crozier Road and Jomax Road Alignments	3
76	Trilby Wash	23.0	McMicken Dam	Morgan City Wash	3
77	Morgan City Wash	20.0	Castle Hot Springs Road	Lake Pleasant Regional Park	3
78	Morgan City Wash	4.2	Western Boundary of Lake Pleasant Regional Park	SR-74	3
79	CAP across unincorporated County land	9.2	Surprise Boundary	Peoria Boundary at Reems Road	3
80	CAP across Peoria	7.4	Reems Road	Agua Fria River	3
81	Black Canyon Trail	54.0	Near the Ben Avery Shooting Range	Yavapai County	4
82	Arizona Trail	101.0	Pinal County line	Yavapai County line	4
83	Powerline Floodway in Maricopa County	6.0	Maricopa County line	RWCD Canal	4
84	Powerline Floodway in Pinal County	3.0	CAP	Maricopa County line	4
85	Power line	26.0	Gila River near Estrella Mountain Regional Park	Gila River at Arlington Wildlife Area	4
86	Waterman Wash	26.0	Gila River	Anza Trail	4
87	Sierra Estrella Main Entrance	10.0	Waterman Wash	Sierra Estrella Wilderness Area	4
88	Alternate Estrella Entrance	5.5	Waterman Wash	Sierra Estrella Wilderness Area	4
89	Unnamed Wash Corridor	11.0	Anza Trail	Vekol Wash	4
90	Vekol Wash	8.7	Pinal County line	Interstate 8	4



# Segment Table Continued

<b>Segment</b>	<b>Name</b>	<b>Length (miles)</b>	<b>From</b>	<b>To</b>	<b>Priority</b>
91	Gas Pipeline	3.5	Waterman Wash	Sonoran Desert National Monument	4
92	North Maricopa Mountain Wilderness Area	1.0	SR-85	Power line Corridor via primitive dirt road	4
93	Power line Corridor	24.0	Gila River	Anza Trail	4
94	Juan Bautista de Anza National Historic Trail	68.0	Pinal County line	Yuma County line	4
95	Sauceda Wash	7.7	SR-85	Gila River	4
96	Tucson, Cornelia, and Gila Bend Railroad	31.0	Northern Boundary of Gunnery Range	Pima County line	4
97	Gila River	58.0	Hassayampa River	Anza Trail, Southwest of Woolsey Peak Wilderness	4
98	Fourth of July Wash	21.0	Gila River	Centennial Wash	4
99	Eagletail Entrance	15.0	Centennial Wash	Eagletail Mountains Wilderness Area	4
100	Centennial Wash	39.0	Gila River at Arlington Wildlife Area	Centennial Levee	4
101	Harquahala FRS	17.0	Centennial Wash	CAP	4
102	Old Camp Wash	27.0	Centennial Wash	Hummingbird Springs Wilderness Area	4
103	CAP across unincorporated County land	35.0	Western Boundary of Buckeye	La Paz County line	4
104	CAP across Buckeye	3.8	Gila River	Centennial Wash	3
105	Tiger Wash	28.0	Centennial Levee	Power line Corridor	4
106	Harquahala Entrance	4.6	Tiger Wash	Harquahala Mountains Wilderness Area	4
107	Power line Corridor	59.0	FCD Structures	La Paz County line	4
108	Three Washes	36.0	Hummingbird Spring Wilderness Area	Hassayampa River	4
109	Vulture Peak	15.0	Sols Wash	Hassayampa River	4
110	Wickenburg East	11.0	Hassayampa River in Wickenburg	Trilby Wash	4
111	White Tank West	6.2	Hassayampa River	White Tank Mountain Regional Park	4
112	East/West through White Tank	7.5	Western Park Boundary	Eastern Park Boundary	4
113	FCD Regional Conveyance Channel	6.9	Buckeye FRS	Gila River	4
114	Northern Avenue	9.0	FCD Channels	Agua Fria River	4



# Public Involvement

## Trail Commission

In February 2000, the Maricopa County Trail Commission (MCTC) was established by the Maricopa County Board of Supervisors (BOS) to facilitate the development of the regional trail system. It was charged with serving in an advisory role, reviewing plans for the trail network, hearing comments from the public, and advising the BOS on trail issues. The MCTC met quarterly throughout the planning process.

The MCTC was made up of two members of the Board of Supervisors, two members of the Maricopa County Parks and Recreation, five citizen members (one member appointed by each Supervisor), stakeholders, and ex-officio members representing County departments.

The number of stakeholder members varied but through much of the process included the Bureau of Reclamation, Bureau of Land Management, Arizona Public Service, and Salt River Project. Ex-officio members included the Chief Community Services Officer, Public Works Director, Chief Regional Development Services Officer, and Flood Control District Director.



The public participation for the Maricopa County Regional Trail System took a number of forms. Open house meetings were held. A web page was created. Articles appeared in local newspapers. Announcements were made on television and presentations were given to service clubs and other organizations.

## Public Meetings

The trail plan was developed in phases over a period of three years. During each phase, the public was encouraged to participate through a series of open house meetings. The objective of the first set of meetings in each phase was to inform the public and stakeholders about the regional trail plan and gather input on potential trail routes in the current study area.

The objective of the second set of meetings was to solicit input on specific trail alignments within the study area. Project team members were seeking input on trail routing, placement, and physical design. Recommendations presented during the second series were based, in part, on input received during the first series of public meetings. During Phase One, suggestions for the permanent trail name were solicited, as well as comments on the goals and policies.

The meetings provided stakeholders and residents in the project area an opportunity to meet the project staff, comment on relevant issues, and express any concerns they might have about any aspect of the project. Maps and exhibits describing the project were on display and project team members were available to discuss the project and answer questions. Almost all the meetings were held between 5 p.m. and 7 p.m.



The 20 public meetings took place as follows:

January 29, 2002	City of Peoria Council Chambers 8401 W. Monroe, Peoria
January 31, 2002	Ben Avery Shooting Facility-Activity Center 1/4 mile west of I-17 on Carefree Hwy.
March 14, 2002	Ben Avery Shooting Facility-Activity Center 1/4 mile west of I-17 on Carefree Hwy.
March 19, 2002	Sunrise Mountain High School 21200 N. 83rd Avenue, Peoria
May 6, 2003	Red Mountain Ranch Elementary School 6650 E. Rafriver Street, Mesa
May 7, 2003	Rawhide Western Town 23023 N. Scottsdale Road, Scottsdale

# Public Involvement Continued

May 15, 2003	Queen Creek Town Hall 22350 S. Ellsworth Road, Queen Creek
August 19, 2003	Red Mountain United Methodist Church 2936 N. Power Road, Mesa
August 25, 2003	Pinnacle High School Teachers' Cafeteria 3535 E. Mayo Boulevard, Phoenix
September 8, 2003	Queen Creek Town Hall 22350 S. Ellsworth Road, Queen Creek
January 5, 2004	Gila Bend School District Cafeteria 308 N. Martin Ave., Gila Bend
January 7, 2004	Michael Anderson Elementary School Gym 45 S. 3rd Ave., Avondale 5:00-7:00 p.m.
January 13, 2004	Wickenburg High School Cafeteria 1090 S. Vulture Mine Rd., Wickenburg
January 15, 2004	Corona Ranch 7611 S. 29th Ave., Laveen
January 27, 2004	Ruth Fisher Elementary School Cafeteria 38201 W. Indian School Rd., Tonopah
March 9, 2004	Gila Bend School District Cafeteria 308 N. Martin Ave., Gila Bend
March 11, 2004	Michael Anderson Elementary School Gym 45 S. 3rd Ave., Avondale
March 24, 2004	Wickenburg High School Cafeteria 1090 S. Vulture Mine Rd., Wickenburg
March 16, 2004	Corona Ranch 7611 S. 29th Ave., Laveen
March 29, 2004	Ruth Fisher Elementary School Cafeteria 38201 W. Indian School Rd., Tonopah



## World Wide Web

An effort was made to make as much information available on the internet as possible. Initially, two web sites were used in this process. The primary site for the Maricopa County Regional Trail Program was <http://www.maricopa.gov/trail/>. Additional information was placed on the MCDOT Bicycle Program site at <http://www.mcdot.maricopa.gov/bicycle/bike.htm>. The web sites featured background information on the Maricopa County Trail Commission, the "Name the Trail Survey," frequently asked questions, and presentations on the pilot study. After Phase One was completed, everything was placed on the primary site under Parks and Recreation. The entire documents for Phases One and Two are currently available and this document will be soon after approval. Samples of the material are included on the following pages.

*From the World Wide Web:*

### Trail Guide - Frequently Asked Questions

#### Why is the County taking the lead in trails?

Maricopa County is taking the lead in trails for a number of reasons. The County has the responsibility of regional planning. The trail program complies with the Growing Smarter Open Space Policies adopted in 1998, and is a part of the County's Comprehensive Plan.

As Maricopa County continues to grow at an amazing rate, it becomes increasingly important to preserve a portion of our natural desert as open space. As good stewards, we have an obligation to leave a legacy for future generations. Simply stated, it is a quality of life issue.

#### How will the Trail be created?

Linking open space projects and trail systems into one big loop around the County will create the Regional Trail System. Portions of the trail already exist, others are in the planning stages, and some areas will need to be created from scratch. The trail will cross through many

jurisdictions, communities, and properties, so partnerships and agreements are key to creating the Regional Trail System. The Maricopa County Trail Commission serves as the facilitator to bring all the different links together.

#### What are some examples of areas, parks or trails that can be linked?

The Trail Commission will seek to create linkages between our County Park System and a number of individual projects through the Valley.



# Public Involvement Continued

Working together, we will be able to make recreational destinations more visible and accessible for the entire County, benefiting from all of the facilities. Potential trail links are:

- Maricopa County Park System
- County Hiking and Riding Trails, adopted June 29, 1964
- Desert Spaces, adopted by Maricopa Association of Governments (MAG), October 25, 1995
- West Valley Recreation Corridor
- Superstition San Tan Corridor
- Maricopa County Flood Control Planned Projects: The Rio Salado, Tres Rios, and El Rio

## What is the Maricopa County Trail Commission?

The Maricopa County Trail Commission is comprised of:

- 2 members of the Board of Supervisors,
- Chair and Vice-Chair of the Maricopa County Parks Commission,
- 5 Board-appointed citizen members,
- Representatives from Salt River Project, Arizona Public Service, and the Bureau of Reclamation.

The Trail Commission serves in an advisory role to the Board and will work to implement plans for Maricopa County's Regional Trail System.

The intent of the Trail Commission is to identify a Regional Trail System that connects the County Park System, municipal facilities and recreational resources. Municipalities and members of the private sector will then be able to establish links to the regional system. This project will capitalize on existing right-of-ways such as canals, parks, utility corridors, and flood control properties. The partnerships are crucial to the success of this project since it has limited potential to generate revenue.

The Trail Commission holds regular meetings to create an effective trail plan, identifying a system of trails that connect the County Park System, local community parks, private land, and recreational areas. The Commission will make recommendations to the Board of Supervisors. Then, negotiations and agreements between the landowners and the County can be developed to create the Regional Trail System.

## Why link the Trails?

Linking the trails creates a network of open spaces. Maricopa County recognizes that our community needs to rely more on alternate transportation methods in the years to come, and encourages orderly development and multi-modal transportation corridors. The Regional Trail System will allow people to utilize bike paths or Park & Ride facilities to get where they need to go. This

will minimize the adverse affects of the environmental impacts and preserve open space in our community.

## Why is it so important to adopt a Regional Trail Program now?

Growth projections indicate that in 2050 Maricopa County will be home to over six million people. Development is quickly reaching into all corners of the County. We need to define plans to preserve precious open space now, or it will be too late. Maricopa County has incorporated the Regional Trail System into its Comprehensive Plan, ensuring implementation of the trail as the Valley continues to expand and develop.

## Where is the funding for the Trail Program coming from?

Given the scope and the size of the project, the County knows it cannot embark on this project alone. The County has invited representatives from the Bureau of Reclamation, Salt River Project, and Arizona Public Service to sit on the Trail Commission. Working together with other municipalities and community leaders around the County, we will seek funding for this project. One source of funding will be grants that are available at the state and federal level as well as from private resources.

## How will the Trail Commission identify land to be linked together?

Maricopa County Parks & Recreation, Planning & Development, Flood Control District, and Department of Transportation have already identified some areas that are potential trails sites. They have established an inventory of regional open space, park areas, recreational, utility, and trail corridors. In addition, partnerships with other government agencies and municipalities will be required.

## Who will be able to use the Trails?

The trails will be available for everyone's use and enjoyment. The Trail Commission seeks to create a Regional Trail System where people can walk, run, hike and ride horses.

## Will there be uniform landscaping, paving, and facilities along the trail?

The Regional Trail System will link many trails and open spaces together; some are already in existence. Portions of the trail will be paved, unpaved, or landscaped depending on the community in which that portion of the trail resides. Opportunities for providing input into the design of specific areas will be made available through a variety of methods encouraging public suggestions.

## How will this program affect new development?

Maricopa County has done an inventory of the open space in the Valley; our recreational resources and the access citizens have to them. The Regional Trail System will enhance the quality of life for Valley residents, making it an even more attractive place to live. It will establish a precedent for planning open space and future development. The goal of the Regional Trail System is to capitalize on our available resources and preserve them before it is too late.

## What is the timeframe for completion of the Regional Trail System?

The long-term project will take several years to implement. The hope is that some day this 200+ mile trail will become a source of regional pride in our community. Its adoption into the County's Comprehensive Plan will insure that our pristine desert is preserved for generations to come and that open space and trails will forever be a valuable part of our community.



## Compact Disc

The Phase One Plan CD, a digital version of the first document, was made available to the public free of charge. After the completion of Phase Two, a new CD with both documents was created. A third CD with the entire plan will be produced shortly after the final document is adopted.



# Public Involvement Continued

## Name the Trail

The Maricopa County Trail Commission sought input from the public for an appropriate name for the primary loop connecting the regional parks together. As of May 20, 261 votes for one of the four proposed names and 151 additional trail name suggestions had been received. The survey closed May 31, 2002. The Trail Commission settled on the name Maricopa Trail

Barry Goldwater Memorial Trail

Maricopa County Regional Trail

**Cactus Trail** Hohokam Trail

César E. Chavez Trail

Circle the County Trail

MARICOPA INTERCONNECTED TRAIL

Valley of the Sun

Corporal John Henry Pruitt Memorial Trail

MARICOPA COUNTY TRAIL

DESTINATION TRAIL

Desert View Trail



## MARICOPA SONORAN DESERT TRAIL SYSTEM

Martin Luther King Freedom Trail

Mountain Vistas Trail

Pioneer Trail

DESERT CIRCLE TRAIL

Roadrunner Trail

Maricopa Trail

Saguaro Desert Trails

COUNTY TRAIL SYSTEM

Lariat Loop Trail

Desert Dream Trail

Kino Trail

Desert Mountain Trail

The Desert Lariat

BOLA TRAIL

Saguaro Trail



# Public Involvement Continued

## Field Trips

Field trips to and tours of potential trail corridors played an important function in the planning of the regional system. This is because some decisions could only be made after the spatial context of an issue had been experienced and appreciated. During Phase Two the Trail Commission and its supporting staff arranged a number of visits to areas of particular interest to the regional trail. These trips brought together members of the commission, planners, community officials and concerned citizens. Bringing interested parties together in such a fashion provided an invaluable opportunity to clarify issues and share ideas in actual trail settings.



Supervisor Max Wilson at McMicken Dam



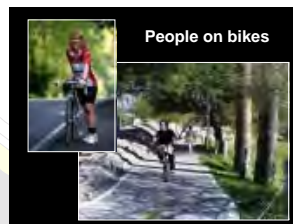
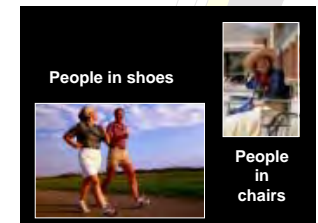
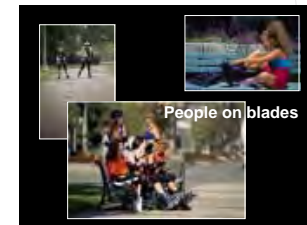
## Creating The Maricopa Trail

An Exercise in Regional Planning



## Presentations

Numerous presentations were given by staff to civic groups, clubs, agencies, and professional organizations. A reasonable effort was made to accommodate all requests for speakers during the planning process. A sampling of the computer slides are shown on this page.





# Public Involvement Continued

## Newspapers

A number of articles about the regional trail plan were printed in area newspapers while the study was being completed. They helped to generate interest in the trail concept and kept the public informed about the plan's progress. Every effort was made by project staff to meet with reporters in person or by telephone to facilitate the interviews. Local newspapers were also used to advertise the public meetings.

### Planned Maricopa County trail corridors

Diagram showing proposed trail corridors in Maricopa County's regional trail system with trails for hiking, biking and horseback riding. Here are the corridors that will be built:



## County to finalize 1st trail route plan

System planned to link regional parks

BY RAY STEIN  
PHOTO

A 20-mile trail system that will circle the Valley for horseback riders, mountain bikers and joggers is beginning to take shape on paper, anyway.

Two years after Maricopa County launched plans for an ambitious web of trails linking five regional parks, officials say the route of the first leg is weeks away from being decided. When finished, the project will offer users recreational opportunities and a potential low-cost way to access to travel around the Valley, said Maricopa County Supervisor Andy Hunsack, District 1, who oversees the area.

The trail will also highlight the scenic peaks and provide scenic views of the county parks.

"They are the unspoiled landscapes," Hunsack said of the parks. "They need to be

**NAME THE TRAIL**  
Visit the Web site [www.maricopa.gov/TRAIL](http://www.maricopa.gov/TRAIL) to suggest a name for the trail.

getting up and set in a ring. This identifies their boundaries and importance by connecting them."

The county's trail commission intends to first build a trail from Lake Pleasant to the Spur Cross Ranch and Cave Creek Recreation areas. The commission will meet March 27 to award the route and suggest ideas for the next phase.

In the future the trail will link such as McDowell Mountain, Utey Mountain, San Tan and White Tank regional parks.

Still unknown is the project's final cost — an issue whether any funding will be available for it. "We're going to do it for the least amount of money possible," said Hunsack, county parks and recreation director.

**CLOSE UP**

Headlines: **ON THE TRAIL Peoria to begin construction**

By Lindsey Pennington

Peoria, Ariz., is set to begin construction on a 20-mile trail system that will link regional parks and recreation areas. The trail, which will be built in phases, will provide a scenic route for hikers, bikers and horseback riders. Construction is expected to start in the next few weeks.

**Project Corridors**

1. Spur Cross
2. White Tank
3. Lake Pleasant
4. Utey Mountain
5. Cave Creek
6. McDowell Mountain
7. San Tan Mountain
8. White Tank Mountain

## County trail system gets boost

By Christina Leonard  
The Arizona Republic  
Sept. 05, 2002 12:00:00

Maricopa County leaders took a big step Wednesday toward creating an ambitious regional trail system they hope will link recreational areas throughout the Valley. The Board of Supervisors unanimously approved plans for the first phase of the Regional Trail System and allocated \$250,000 each year for two more years to continue efforts. The first phase will involve 221 miles of trails linking the White Tank Mountains to Lake Pleasant to Spur Cross Ranch and the Cave Creek Recreation Area. "It's a big thing because once we adopt it, we can incorporate it into our planning documents," Supervisor Andy Kunasek said. "The whole idea is to get out ahead of development."

## Input is sought on trail-blazing plans

Regional trail system to link with Reach 11  
By Tom Barry, Independent Newspapers  
Northeast Phoenix residents have long enjoyed easy access to a system of multi-use nature trails in a Reach 11 Recreation Area for hiking, cycling and horseback riding. Eventually, the 18 miles of trails in Reach 11 will be linked to an uninterrupted system of trails that will extend nearly 335 miles across Maricopa County, a major portion of which will follow the Central Arizona Project canal.

**DAILY NEWS-SUN**  
FRIDAY, JAN. 18, 2002

Advertisements: WEAATHER, DAILY DEAL, YOUR MONEY, SPORTS, Meade takes softball title, C1

## From the mountains to the ...

Trail system takes root in Northwest Valley

PHOTO BY RAY STEIN

A 20-mile trail system that will circle the Valley for horseback riders, mountain bikers and joggers is beginning to take shape on paper, anyway.

Two years after Maricopa County launched plans for an ambitious web of trails linking five regional parks, officials say the route of the first leg is weeks away from being decided.

**MARICOPA COUNTY TRAIL COMMISSION**

**We Need Your Input!**

Spur Cross Ranch Conservation Area to McDowell Mountain Regional Park to Utey Mountain Regional Park to San Tan Mountain Regional Park

Maricopa County Regional Trail System

Plan to attend one of the following Public Open Houses

<p><b>8:00 a.m. - 12:00 p.m., Tuesday</b> Jan 29, 2002</p> <p>Peoria City Hall 400 E. Peoria Ave. Peoria, AZ 85601</p>	<p><b>8:00 a.m. - 12:00 p.m., Wednesday</b> Feb 1, 2002</p> <p>Peoria City Hall 400 E. Peoria Ave. Peoria, AZ 85601</p>	<p><b>8:00 a.m. - 12:00 p.m., Thursday</b> Feb 14, 2002</p> <p>Peoria City Hall 400 E. Peoria Ave. Peoria, AZ 85601</p>
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PHOTO BY RAY STEIN

A 20-mile trail system that will circle the Valley for horseback riders, mountain bikers and joggers is beginning to take shape on paper, anyway.

Two years after Maricopa County launched plans for an ambitious web of trails linking five regional parks, officials say the route of the first leg is weeks away from being decided.

5 to 7 p.m. Jan. 29 in Peoria City Hall, 8401 S. Peoria Ave.

# Public Involvement Continued

## Television

KPHO TV, a CBS affiliate in Phoenix, ran several clips about the trail program during their morning and evening news. A link from their web page to the trail program was provided.

## Public Comments

Public comments have been received throughout the process. Residents of Maricopa County were encouraged to participate in the public meetings, log on to the web, listen to presentations, call members of the project team on the phone, or communicate via email.

Several residents were concerned about liability for property owners along the trail for individuals who might wander off the path and onto private land. State law addresses this issue with ARS 33-1551. This statute makes it clear that land owners are not liable for an injury to a recreational user unless willful, malicious, or gross negligent conduct was involved. The entire text of this statute is included in an Appendix C.

Another question that came up was if the County had the ability to require developers to provide for a trail. ARS 11-806.01 gives counties the ability to adopt general regulations to provide for the proper arrangement of hiking and equestrian trails. The entire text of this statute is included in Appendix D.

The following are a sampling of comments from the public meetings:

The private property owners along any proposed trail system need to be considered at all early stages of planning and kept informed. These trails will have a significant impact on privacy. Property owners should be notified even when conceptual



trails are planned that could impact their property.

The Coalition of Arizona Bicyclists supports this plan. All trails, paths, etc. need to follow AASHTO guidelines. Trails will need to be marked, etc. Mileage signs, rest stops, etc.

Visuals and maps were excellent. We will be looking at the web site.

The AZ Inline Skating Association can provide input as to how the trail may be friendly to skaters. Simple things like making seams go across the path rather than along the path are simple, inexpensive measures that may be taken to provide a path that is as conducive to skaters as it is to cyclists.

Trails need clear signage – distance, direction, next crossroad, etc. Must be bike friendly! Keep up the good work!

It would be nice to have the regional study area maps on the Internet so we can discuss them with people who couldn't come to the meeting.

The County park personnel appear to be reluctant to include trails that were developed with county parks help before they arrived in Phoenix.

Please hold all developers on either state or private lands to include and provide for trails before issuing building permits. This is the only way to ensure the access to the rights of the people who need to use them. Fine heavily and penalize those who do not honor these trails. Understand the difference between user groups to ensure the safety of each. Make sure trails between Spur Cross Ranch and Cave Creek Park are open and aesthetically pleasing in location – not between a roadway and a 6-foot block wall. No shooting anywhere near the trail. Don't minimize access to the trails.

While the idea of a regional trail system is not new – existing marked and approved trails have disappeared because of lack of desire on the part of planning or enforcement on the part of regulation. I am happy to hear that Dave Konopka is working as full-time person on this regional idea. Maybe with his help the trail system can really go forward.

It's a great plan. My concern is with all the development in the area, is it feasible. Will the developers be made to work with the county on these trails. The concerns are for trails that are multi-use, they are limited to everyone. Are these trail systems obsolete when the land is sold? I'm not in agreement with all the paved trails, there is enough pavement in the desert now. It might be nice to have desert trails for the future generations to see what it was like.

Where are all the original plans for those trails? Why hasn't a trail head been made on Carefree Highway as it was planned instead of the ground being moved?

There is definitely a need for these trails we have been using for years to be preserved. Multi-use isn't always conducive to horse use and hopefully it can be done with this in mind. Maximum widths are

encouraged. If possible – no paving or limited paving should be considered. I would also encourage you to refer to previous plans that have been drawn and proposed for horse trails in this area.

It would be great if the trail could cross county boundary and follow the Agua Fria and other great trails.

Good presentation. Seems like an extremely complex task of coordinating developers, cities, residents, and local interest groups together. I think this project might not seem popular now for some, but the long range perspective of this project will prove great in 25 plus years.

This trail system will be a great asset as long as the trails go through (are unbroken) and connect to other trails.

We hope that our public officials are here for us to protect our land rights and not those of a small, self-select group.

Developing a comprehensive and user friendly urban trail system would have secondary effects of improving the health of users by increasing the amount of exercise they endure and the corresponding reduction of air pollutants from fewer automobiles on the road.

Might be nice to have more of an idea of when (generally) this plan may be implemented.

We only support connectivity when it does not disrupt neighborhoods. The interests of the few people who may want to go 30 – 100 miles on trails at one time should not outweigh the rights of local neighborhoods.

Trails are fine because people always knew there would be trails, and in true nature areas. To try to force it upon small residential areas where it will cross driveways, pick up trash areas makes no sense. We support the Windgate Pass and Vista III.

Make sure trails and substrate/cross sections are equestrian friendly.

I applaud Maricopa County for taking a regional lead in this process. Regional planning and regional issues in Phoenix are not addressed to the degree that they need to be. Transportation issues need to be on the list next.

Good job.



# Implementation Plan

## Regional Trail System Implementation Plan

The elements of the Implementation Plan are intended to serve as a guide for the Maricopa County Board of Supervisors (BOS), Maricopa County Trail Commission, and County departments to follow as the vision for the regional trail system becomes a reality. The text and the Trail Implementation Guide on this page identify the actions to be taken and an estimated time line for those actions. The chart also indicates what method will be used to complete the actions. Completing the plan, for example, is a planning process. Adopting the plan is a legislative process. They appear here as they appeared in the adopted version of Phase One except for the addition of the Status column on the table.

### General Information

#### Maricopa County Trail Commission

Identify the remaining corridors and complete the necessary planning studies.

#### Regulatory

Each segment of the trail should be approved and adopted by the Maricopa County Trail Commission and the Maricopa County Board of Supervisors.

County departments will update any goals, policies, codes, and ordinances necessary to protect regional trail corridors and facilitate the realization of the regional trail system.

#### Framework

Establish a framework for design, construction, maintenance, and management. The Maricopa County Department of Parks and Recreation should be given the authority to operate the regional trail system as a network of linear parks in cooperation with any counties, cities, towns, or agencies involved. Appropriate funding should be provided to this agency to properly staff, operate, and maintain the trail system.

#### Prioritization

The Maricopa County Trail Commission should establish a set of Prioritization Criteria to help focus where energy is spent. As corridors are adopted, the decisions to purchase

or otherwise obtain necessary rights-of-way, construct trail segments, or participate in intergovernmental agreements (IGAs) with other agencies will need to be prioritized.

#### Advocacy

Establish a nonprofit advocacy organization on behalf of the Maricopa County Regional Trail System that supports the trail system. This organization could participate in fundraising activities to enhance the Maricopa County Regional Trail System and reach out for volunteers to trail users' groups like bicyclists, equestrians, hikers, and others.

#### Action Plans

Action Plans with 1-3 year increments should be developed using the Prioritization Criteria. These will identify partners, at risk property, and develop a schedule for the preservation of rights-of-way by affected jurisdictions. The action plans will establish timelines for trail design and construction. The action plans will include funding strategies. A list of potential funding mechanisms and grant sources are included in Appendix F.

### General Trail Implementation Guide

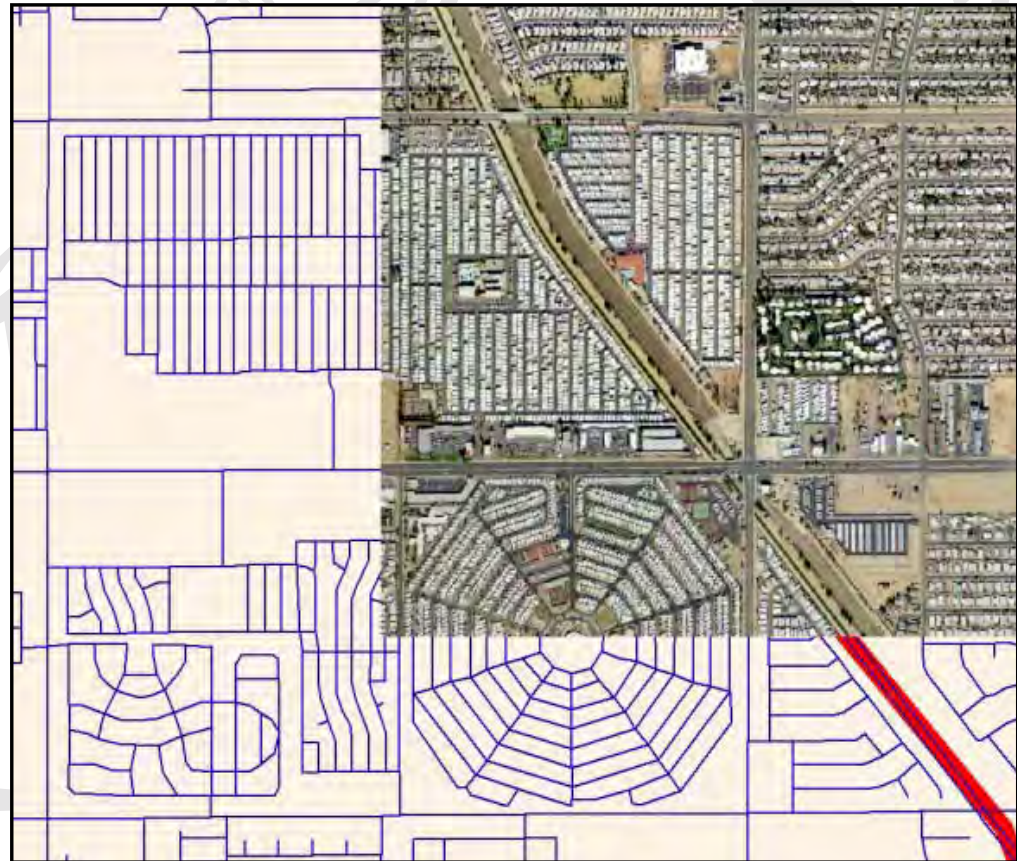
Timeline Key: \* Immediate — Time anticipated → Continues into the future

Action	Description	Timeline	Method	Status
Complete Trail Plan	Identify remaining corridors and carry out planning studies.	—	Planning	Complete
Adopt Segment	Trail Commission recommends to BOS to adopt corridor planning studies and preferred segments.	—	Legislative	Complete
Adopt Ordinances and Codes	Departments and agencies amend their policies and procedures to incorporate trails. BOS adopts ordinances and codes.	—	Existing Process Legislative	Ongoing as needed
Designate Authority	Trail Commission recommends to BOS that Maricopa County Parks and Recreation Department be the agency responsible for the trail program. This includes the ability to plan, design, build, operate, and maintain the trail system.	*	Legislative	
Provide Resources	Trail Commission recommends to BOS staffing and funding needs.	—	Planning Legislative	Ongoing
Adopt Prioritization Criteria	Select objective criteria to guide future design and construction.	—	Planning	Ongoing
Prioritize Segments	Use prioritization criteria to select specific segments for right-of-way acquisition, design, and construction.	→	Planning	Ongoing
Establish Nonprofit	Trail Commission recommends to BOS that a not-for-profit organization be established to support the trail system.	—	Management	Complete
Develop Segment Action Plans	Develop scopes of work, schedules, and budgets to accomplish prioritized segments. Allow flexibility for at-risk properties and opportunities as they arise.	→	Project Management	Ongoing

# Implementation Plan

## Steps for Implementation

- Designate Maricopa County Parks and Recreation Department as the lead agency for the implementation and oversight of the Maricopa County Regional Trail System.
- Hire Regional Trail Manager (Full-time Regular employee) to implement the Maricopa County Regional Trail System Plan. Time frame is immediate pending budget approval.
- Regional Trail Manager will work with County agencies to implement agency specific policies to protect the Maricopa County Regional Trail System.
- Regional Trail Manager will complete annual status report for all trail segments, due October 31 each year.
- Document criteria to prioritize trail segments for acquisition and/or development by January 2005. Regional Trail Manager will work with MCDOT, Parks and Recreation, Planning and Development, FCDMC, and MCSO Trail Division.
- Develop an annual acquisition plan to acquire right-of-way access for the Maricopa County Regional Trail System.
- Regional Trail Manager will develop a marketing strategy for the Maricopa County Regional Trail System.
- Regional Trail Manager will identify financial and in-kind resources for the acquisition and development of the Maricopa County Regional Trail System.
- Regional Trail Manager will develop and maintain relationships with other jurisdictions for the coordination, implementation, and management of the Maricopa County Regional Trail System.
- Regional Trail Manager will coordinate with other non-government entities on regional planning issues related to the Maricopa County Regional Trail System.



# Appendix A — Analysis and Trail Classification

ANALYSIS AND TRAIL CLASSIFICATION

WEST VALLEY RIVERS  
NEW RIVER & LOWER AGUA FRIA

## ANALYSIS AND TRAIL CLASSIFICATION



*West Valley Multi-Modal Transportation Corridor Master Plan*

July 12, 2001

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# Appendix A — Analysis and Trail Classification

## ANALYSIS AND TRAIL CLASSIFICATION

WEST VALLEY RIVERS  
NEW RIVER & LOWER AGUA FRIA

### BRIEF INTRODUCTION

This section of the West Valley Multi-Modal Transportation Corridor Plan (Plan) considers the overall physical character of the New River and Lower Agua Fria River Corridor's (Corridor) study area and various factors of its landscape. These concepts are needed to help guide the planning and development process of the trail system while minimizing the degradation of the natural environment and sensitive desert landscapes.

The Corridor Character is represented by a variety of major physical elements that cross several communities within its boundaries. The general topography of the Corridor includes low undulating hillsides, mountains to the north, wide-open spaces, wide major washes and innumerable deep arroyos that cause a rolling terrain. The northern reach has a rugged terrain and has remained largely undeveloped, while the flat topography of the central and southern reaches has favored urban development.

The Corridor is divided into three landscape management zones—conservation, passive and active—to assist in the successful planning and design of the natural landscape. Consideration of intensity of use will help with the trail system's integration into the environment. For example, sensitive areas, such as those prone to erosion, will need to have restricted access for necessary mitigation efforts.

Land ownership adjacent to the primary trail is also discussed in this section. Identifying land parcels that are privately owned or held by various local, state or federal agencies, can assist in future land acquisition efforts to obtain an easement for trail development.

Potential user conflict areas are identified throughout the 42-mile Corridor. These areas, such as bridge structures, sand and gravel pit operations and creek/river confluences, present challenges to trail design and development. Questions of safety for trail users are also necessary to address. Careful thought to the alignment of the trail system was therefore required to mitigate any potential harmful affects, to both humans and the environment.

Five trail types are identified within this section. These trail types include primary, secondary, neighborhood/transit/connector, conservation/interpretive, and equestrian trails. Each trail varies in location, intensity, and design to accommodate a variety of anticipated trail users and amenities offered.

Lastly, Corridor prototype designs concepts have been determined to respond to a variety of trail needs. Creating an identity and sense of place, maximizing safety, and establishing a regional multi-modal transportation system that links to residential areas, bus routes, parks, commercial and office and other facilities, are just a few of these needs.



West Valley Multi-Modal Transportation Corridor Master Plan  
July 30, 2001

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# Appendix A — Analysis and Trail Classification

## ANALYSIS AND TRAIL CLASSIFICATION

WEST VALLEY RIVERS  
NEW RIVER & LOWER AGUA FRIA

### CORRIDOR CHARACTER

The New River and Lower Agua Fria River Corridor falls within various jurisdictions of state and federal agencies, Maricopa County, and the cities of Peoria, Glendale, Phoenix and Avondale. Jurisdictional differences in the study area, combined with unique local histories, geographic features, and differing overall development strategies create a complex study area character.

Due to the 42-mile length of the Corridor, the study area has been divided into three conceptual planning River "reaches," each one relatively unique in character (see **Map 4, Corridor Character**). The northern reach encompasses the area from the unincorporated community of New River, southwest to approximately one-mile north of the New River Dam. The central reach begins at the southern boundary of the northern reach, continues southwest and ends one-quarter mile north of Glendale Avenue. The southern reach includes the final third of the study area, from the southern central reach boundary, and terminates at the confluence of the Lower Agua Fria River with the Gila River. These reaches, referred to throughout the text of this Plan, are described in greater detail below.

#### The Northern Reach

The northern reach encompasses the area from the unincorporated community of New River south to the New River Dam. This Reach is made up mostly of conservation/sensitive land area. The source of the New River lies in the mountain ranges to the north of the New River, where the course of the riverbed is largely unrestricted in this vicinity. The isolated location of this area, limited access, and Bureau of Land Management (BLM), State Land and Maricopa County ownership has slowed development. As a result, the land use character can be described as largely rural with open space.

Large areas of range with open grazing present the greatest opportunities for a non-motorized shared-use trail. Positive factors that will enhance the project are trail linkages with the City of Phoenix future Sonoran Preserve and the largely unspoiled natural environment of the area. Few formal trails are found in the area, although many equestrians, hikers and bicyclists use the area for recreation. A concern within the area is the use of motorized recreational vehicles and their potentially destructive impacts to the natural environment.

Other key character elements of the northern reach include:

- Environmentally Sensitive Development Areas (ESDA)/retention areas (high open space value, recommended for sensitive development

regulations in the MAG Desert Spaces Plan).

- The New River Dam is a major physical constraint in this area.
- Least developed of the three reaches.
- Limited number of current roadways cross trail alignment; either at-grade or grade-separated trail crossing trail crossings should be feasible.
- Few formal trails found in the area.
- Numerous "wildcat" ATV trails, dumping and shooting areas found in area.
- Topography in area of New River Dam presents challenges to trail construction, access for people with disabilities.
- Trail facilities and amenities, such as restrooms and benches, are non-existent.
- Approximate River mile length is 16.61.

#### The Central Reach

The central reach area includes the region from the New River Dam south to the confluence of the New River with the Agua Fria River. Land area here is mostly a mix of suburban and urban privately owned land. From the confluence with Skunk Creek, the New River's course is largely channelized until it terminates at the Agua Fria River south of Glendale Municipal Airport. The cities of Peoria, Phoenix, Glendale, and the unincorporated areas of Sun City and Maricopa County are within the central reach.

Cities located in the central reach are currently developing or have completed their own trails plans. The trails plans are local initiatives that do not necessarily link across jurisdictional boundaries. These plans connect transit routes and bikeway systems that in turn connect neighborhoods, schools, parks, employment centers and regional open space systems. Many trails are found adjacent to the New River in this reach, but do not cross or parallel it in a north-south direction. The trail connections include the Sun Circle, the Central Arizona Project (CAP), the Grand Canal, and the Arizona Canal Multi-Use Trail. Trail fragmentation and heavy traffic on roads in the central reach is a constraint that will be addressed in the future, as this Plan is implemented.

Other key character elements of the central reach include:

- Most developed of the three reaches.
- High population density should result in high trail utilization.
- Pockets of land between Corridor and Loop 101 Freeway.
- Highly-channelized (steep slopes, hard concrete edges, guardrails along top of banks that limit access between top-of-bank and riverbed).

- Potential safety hazards (rip-rap, exposed utilities, side drainages, lack of safety rails and handrails, etc.).
- Some concerns with trail proximity to private property.
- Numerous roadways cross trail alignment; grade-separated crossings may be preferred, at-grade crossings should receive enhanced safety treatments.
- Some "wildcat" trail use by ATVs.
- Flood Control District of Maricopa County (FCDMC) control and management along Corridor.
- Approximate River-mile length is 15.14.

#### The Southern Reach

The southern reach includes the cities of Phoenix, Avondale and portions of unincorporated Maricopa County. The predominant land use is agriculture/ranch. Residential, commercial, industrial, and public zoned land is found in pockets along the Lower Agua Fria. As a result, area land use can be characterized as a mixture of suburban and agricultural. There are fewer roads in the southern reach that impact user access to the trail. Open space, the mixed rural-suburban nature of this Reach and the wide floodplain near the confluence with the Gila River are positive factors that should facilitate the planning of the Southern Reach of the New River and Lower Agua Fria Corridor. Greater opportunities for parks and other recreational amenities as well as trails with less restricted use are possible here.

Open space and the mixed rural-suburban nature of the study area has allowed less restrictive trail use in the southern reach of the New River and Lower Agua Fria River Corridor. Numerous horse properties have facilitated the development of equestrian trails in the New River and Lower Agua Fria River. Existing and planned paved and unpaved trails are found on both sides of the Lower Agua Fria River, which tie into multi-use trails along Buckeye Road and the Roosevelt Irrigation District (RID) Canal, the Gila-Salt River trail, and Avondale bike lanes.

Other key character elements of the southern reach include:

- Fewer roadways to impact the free flow of trail users.
- Levees regulate flow in this area.
- Less restrictive trail use due to open space and mixed land use.
- Existing and planned trails, both paved and unpaved, on both sides of Corridor.
- Approximate River mile length is 11.04.



West Valley Multi-Modal Transportation Corridor Master Plan

July 30, 2001

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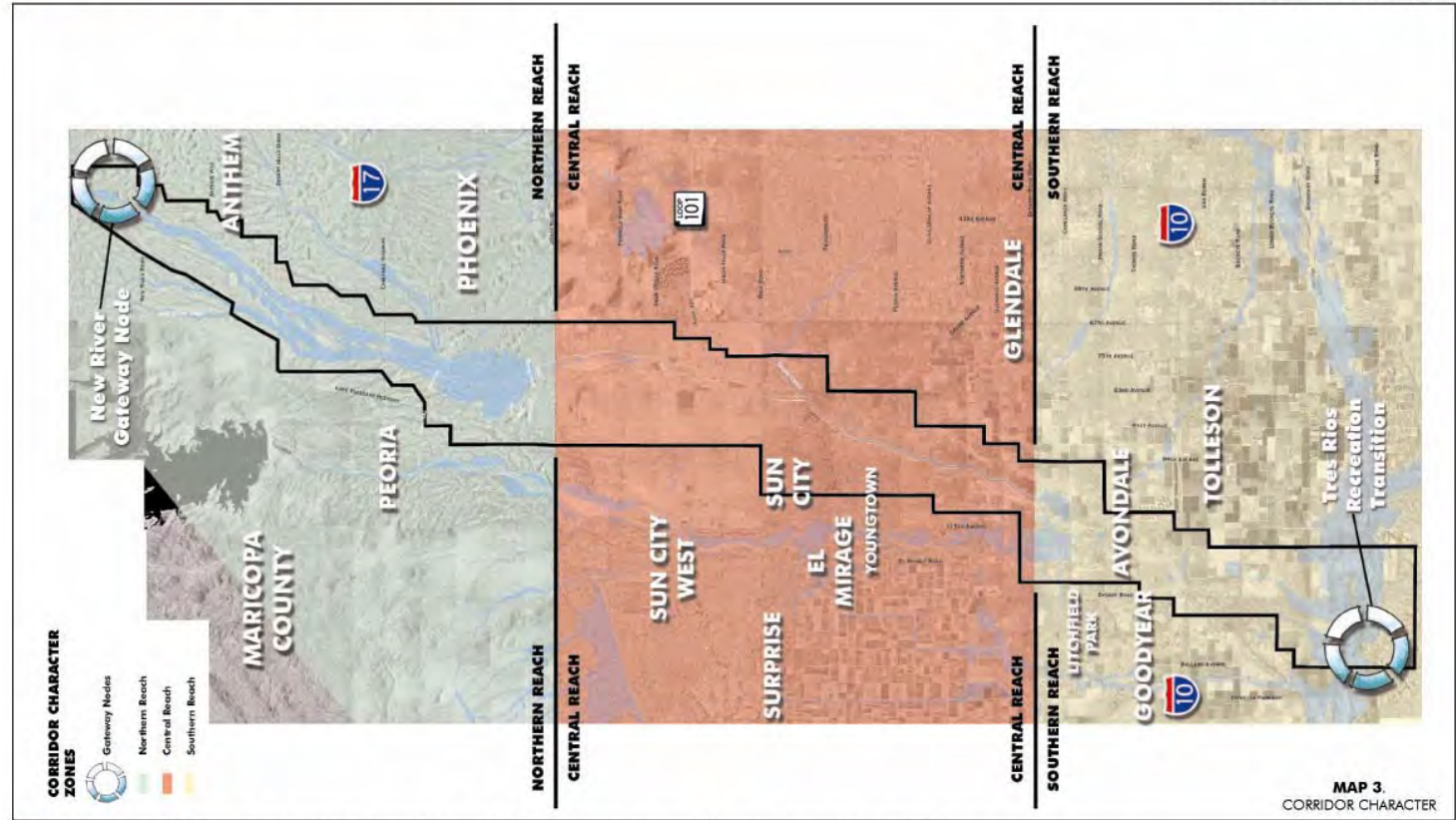


8

# Appendix A — Analysis and Trail Classification

## ANALYSIS AND TRAIL CLASSIFICATION

WEST VALLEY RIVERS  
NEW RIVER & LOWER AGUA FRIA



West Valley Multi-Modal Transportation Corridor Master Plan  
July 30, 2001

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# Appendix A — Analysis and Trail Classification

## ANALYSIS AND TRAIL CLASSIFICATION

WEST VALLEY RIVERS  
NEW RIVER & LOWER AGUA FRIA

### LANDSCAPE MANAGEMENT ZONES

Landscape management zones are a guide for development of uses, while protecting valued landscape character areas. In order to protect the natural landscape, serve the needs of adjacent communities, and provide for a continuous multi-use trail system, five landscape character zones were initially suggested. These zones range from restrictive preservation to passive and more active urban use. Zones were determined based on existing land use, intensity of development and the nature of the area landscape. In addition, two zones (preservation and conservation) are based on definitions obtained from the MAG Desert Spaces Plan.

Landscape management zones can help protect the landscape character and sensitively integrate various levels of use intensity. Low levels of use, including conservation and passive zones, can help protect natural and sensitive landscapes in the northern reach of the Corridor. Higher levels of use, including passive and active zones, can help retrofit and rehabilitate appropriate landscapes and develop new landscapes.

Landscape management zones were refined to reflect the rural, suburban and urban characteristics discussed in the Agua Fria and West Valley Recreation Master Plan. Thus, the initial five zones were refined into three zones. Conservation areas represent rural, natural landscape character areas of the Corridor. Passive areas represent suburban, residential landscape character areas of the Corridor. Active areas represent urban, mixed land use development landscape character areas of the Corridor.

This range of character zones recognizes existing conditions and creates a regional planning framework for New River and Lower Agua Fria River Corridor development. These zones are based on organization of sensitive landscape areas, and range from low traffic and use impact to areas that may accommodate increased traffic and use impact. **Map 4, Landscape Management Zones**, shows the locations of each of these three zones. A discussion of the three Landscape Management Zones used in the planning of the New River and Lower Agua Fria trail system follows.

#### Conservation Zone

The intent of this zone is to protect the natural landscape character of the Sonoran Desert. Trail access is controlled in order to protect sensitive desert environments. Trails are limited to well-defined areas, thus restricting users and minimizing impact on sensitive vegetation, wildlife, riparian and natural areas. Trail users include pedestrians, bicyclists, and equestrians. This zone would provide key opportunities for environmental education and environmental interpretation. Ideal areas for conservation demarcation are located in undeveloped areas, such as in the northern reach and areas around the New River Dam and its surrounding natural riparian areas.

#### Development Activities in the Conservation Zone

- **Transportation:** Access restricted to protect sensitive desert areas, trails will skirt areas.
- **Flood Control:** Natural, non-structural solutions, low-flow channels integrated into the environment.
- **Recreation:** Pedestrians, bicyclists, and equestrians on trails routed around fragile sensitive environmental areas.
- **Interpretation/Education:** Controlled access, viewing platforms and elevated pathways for observation of protected habitat, especially in areas near New River Dam.

- **Extraction:** None.
- **Funding:** Minimal funding is needed, due to restricted access in these areas; public (local, state, federal) and private (corporate sponsors, developers, etc.), for public facilities and the cost of retrofitting bridges and underpasses.
- **Trailhead:** Outside the floodplain, trails provide buffer skirt around preservation / conservation areas and are limited to well-defined areas.
- **Preferred Adjacent Land Uses:** Residential (buffered from the floodplain), open space, resort; wider dedicated easement, offering more opportunities.
- **Recharge:** Natural (wetlands) only.
- **Others/Special Areas:** Protect riparian areas and natural areas, especially in Northern Reach.

#### Passive Zone

The intent of this zone is to provide for low and moderate intensity uses and protect the surrounding suburban residential character areas. Trail users would include pedestrian level 1 and 2 users (as defined in the MAG Pedestrian Area Policies and Design Guidelines), including pedestrians, bicyclists, and equestrian amenities. Trails could include natural decomposed granite, asphalt or concrete surface materials. This zone provides the opportunity to link with adjacent community open space systems, parks and schools. A multi-use trail system of paved trails, located outside the 100-year floodplain would be the focus of this zone. Users may include walkers, bicyclists, and in-line skaters. Areas identified for passive zones include lands in the vicinity of the community of New River, lands south of the New River Dam, lands along Deer Valley Road and Union Hills Drive, lands at the confluence of the New River and Lower Agua Fria Rivers and lands at the confluence of the Lower Agua Fria and Gila Rivers.

#### Development Activities in the Passive Zone

- **Transportation:** Link with community open space system and residential areas.
- **Flood Control:** Non-structural; structural to protect road crossings, existing development or to preserve natural features.
- **Recreation:** Pedestrians, bicyclists, and equestrians on trails routed around fragile sensitive environmental areas.
- **Interpretation/Education:** Numerous opportunities on proposed trails with informational signage on bridges and structures; linkages also serve as educational opportunities, including identification of historic sites.
- **Extraction:** None.
- **Funding:** Substantial funding will be needed; public (local, state, federal) and private (corporate sponsors, developers, etc.) for public facilities and the cost of retrofitting bridges and underpasses.
- **Trailhead:** Limited facility trailheads inside the floodplain, small picnic areas, restrooms and compact parking areas.
- **Preferred Adjacent Land Uses:** Residential outside the floodplain, neighborhood commercial, community (i.e. library, park, low intensity administrative or medical offices).
- **Recharge:** Revegetated areas, soft surface basins and/or channels integrated into surrounding environment.
- **Others/Special Areas:** Linkages to neighborhood school sites and parks.



West Valley Multi-Modal Transportation Corridor Master Plan  
July 30, 2001

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10

# Appendix A — Analysis and Trail Classification

## ANALYSIS AND TRAIL CLASSIFICATION

WEST VALLEY RIVERS  
NEW RIVER & LOWER AGUA FRIA

### Active Zone

The intent of this zone is to provide for higher intensity uses and protect the surrounding mixed land character areas. Trail users would include pedestrian level 3 (as defined in the MAG Pedestrian Area Policies and Design Guidelines) users, including walkers, strollers, and bicyclists. Where possible, separate routes for in-line skaters and equestrians should ideally by-pass pedestrian routes for safety and security. Areas identified for active zones include three sub categories: urban commercial mixed use areas, such as the node at Ball Road; village core areas, such as future nodes at Avondale and New River town center open space linkages; and recreational trailhead access, such as linkages at adjacent commercial land uses and adjacent recreational uses including Estrella Mountain Regional Park. The sub categories of this active zone are described below:

#### Active Zone: Urban Commercial Mixed Use Areas

A multi-use trail system of concrete or special paving, located outside of the 100-year flood channel is suitable for urban commercial mixed use areas. Urban Commercial Mixed Use Areas include residential, commercial, retail and office uses. Users include pedestrians (Level 3) and bicyclists. Equestrians and in-line skaters would be routed to by-pass the pedestrian route. This destination area should be a maximum length of ¼ mile to encourage walking. Areas identified for this type of high intensity include the community of New River, land at the confluence of Skunk Creek and the New River, and land at the confluence of the New River and the Lower Agua Fria.

#### Active Zone: Village Core Area

A multi-use trail system of concrete or special paving, located outside the 100-year flood channel is a second active zone sub-type that is appropriate for village core areas. Community open space, public and private land uses provide the opportunity to encourage the urban village concept, whereby each municipality would be encouraged to develop personalized destinations to link their community with the New River and Lower Agua Fria Corridor. Users include pedestrians (Level 3), and bicyclists. Equestrians and in-line skaters would be routed to by-pass the pedestrian route. This destination area should be a maximum length of ¼ mile to encourage walking. Areas of the New River and Lower Agua Fria Corridor identified for this type of high intensity include land around Avondale and land at the confluence of the Lower Agua Fria and the Gila Rivers.

#### Active Zone: Recreational Nodes, Trailhead Access

A multi-use trail system of concrete or special paving, located outside the 100-year flood channel is a third sub-type within the active zone that is suitable for recreational nodes and trailhead access. Parks and recreational uses may include the Estrella Mountain Regional Park, rural community open space and facilities such as a rural general store. Users include pedestrians (Level 3), hikers and bicyclists. Equestrians and in-line skaters would be routed to by-pass the pedestrian route. This destination area should be a maximum length of ¼ mile to encourage walking.

#### Development Activities in Active Zone

- **Transportation:** Links between residential, commercial, recreational, etc. areas; bypass routes to separate more intensive users from pedestrians.
- **Flood Control:** Structural to stabilize banks, protect planned and existing development and desired natural features.
- **Recreation:** Pedestrians, bicyclists, and equestrians on trails routed around fragile sensitive environmental areas.

- **Interpretation/Education:** Numerous opportunities on proposed trails with informational signage; linkages also serve as educational opportunities.
- **Extraction:** Revegetation and restoration plans required, time limits placed on activities, buffering during activities required.
- **Funding:** Substantial funding will be needed; public (local, State, Federal) and private (corporate sponsors, developers, etc.) for public facilities and the cost of retrofitting bridges and underpasses.
- **Trailhead:** Full facility trailheads, picnic areas restrooms, paved parking areas and play fields (where appropriate).
- **Preferred Adjacent Land Uses:** All uses in the Passive category plus mixed use, industrial and high intensity areas, including Village Cores and the New River Dam.
- **Recharge:** All the Passive category plus landscaped hard surface basins, pipes, hard surface and landscaped channels.
- **Others/Special Areas:** Development activities should link with special community district areas.

### All Zones

Trail design guidelines for the New River and Lower Agua Fria project should be consistent to ensure uniformity and predictability for trail users, ensure the safety of trail users and accommodate as many user groups as possible throughout the 42-mile trail system. It is also important that this adopted standard minimize the liability of jurisdictions and agencies along the Corridor. Other design considerations, however, such as landscape, plazas and public art, offer greater flexibility and interpretation of design by individual cities. This plan provides minimal guidance to design a comprehensive trail system.

The public art section of this document provides information on public art and the public art process. Public art offers a way to unify the trail system as well as showcase its unique design. Public art is an element that can distinguish the New River & Lower Agua Fria Corridor as a destination in the West Valley.

Trail design guidelines for users of all ages and all abilities are included in this document are in accordance with the standards set forth in the Americans with Disabilities Act (ADA).



TRAIL USER IN A RESIDENTIAL AREA



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July 30, 2001

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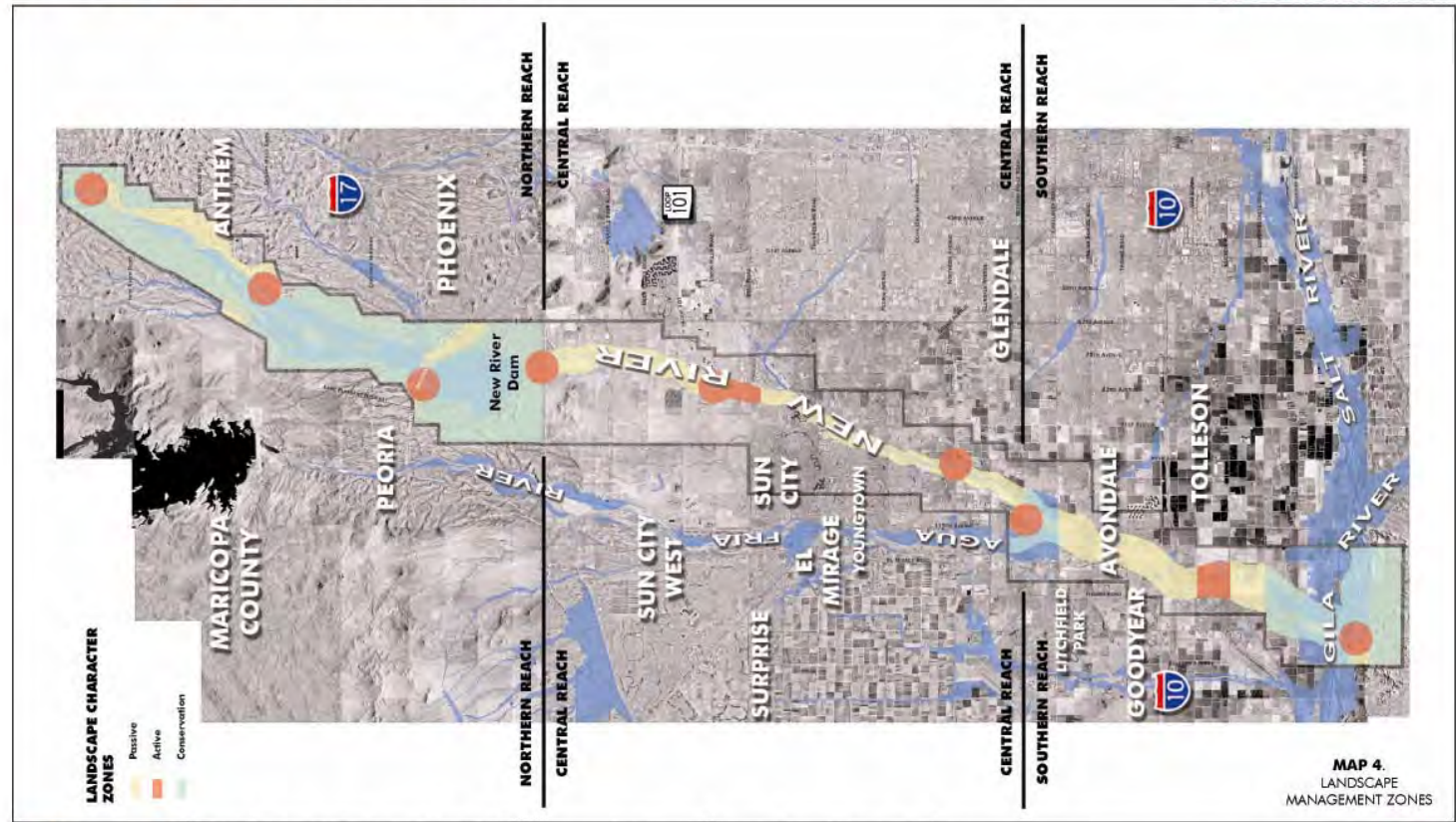


11

# Appendix A — Analysis and Trail Classification

## ANALYSIS AND TRAIL CLASSIFICATION

WEST VALLEY RIVERS  
NEW RIVER & LOWER AGUA FRIA



MAP 4.  
LANDSCAPE  
MANAGEMENT ZONES



West Valley Multi-Modal Transportation Corridor Master Plan  
July 30, 2001

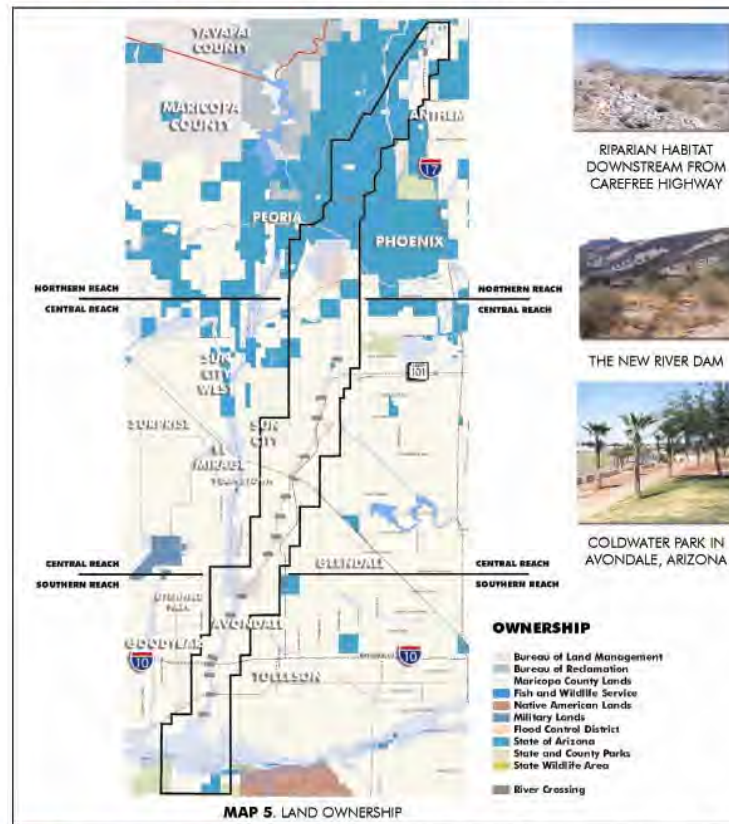
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# Appendix A — Analysis and Trail Classification

## ANALYSIS AND TRAIL CLASSIFICATION

WEST VALLEY RIVERS  
NEW RIVER & LOWER AGUA FRIA



## LAND OWNERSHIP

Land ownership throughout the New River and Lower Agua Fria River Corridor (Corridor) varies significantly. Ownership characteristics throughout the Corridor, especially from reach to reach, have resulted in varying degrees of urban development patterns along the River system. As much of the land area located within the 100 year flood area along the Central and Southern Reaches falls under Flood Control District of Maricopa County (FCDMC) ownership or easements, and significant portions of the Northern Reach are mixed with private, state, and local ownership. Significant portions of the New River north of the confluence of the New River and Skunk Creek to the New River community is held as privately owned land and public lands owned by Maricopa County and local, state and federal government agencies. Ownership within the Corridor's study area is reflected in **Map 5, Land Ownership**, at left.

While much of the land area in the Northern Reach is rural and open space land, a variety of existing landowners have ownership along the River Corridor, including: private lands, State of Arizona, Maricopa County and the Bureau of Land Management (BLM). Also included are public land areas held by the Cities of Peoria and Phoenix. The Central Arizona Project (CAP) easement is held and managed by the CAP water district. The New River Dam and portions of the New River north of the New River Dam is under the ownership of the Flood Control District of Maricopa County (FCDMC).

The Central Reach of the New River and Lower Agua Fria River Corridor is characterized by an urban/suburban mix that is both FCDMC and privately owned. Some public land under the control of the Cities of Peoria and Glendale exist here. Lands owned by Maricopa County are also interspersed among private land.

The Southern Reach is a blend of suburban and agricultural/ranch land. Some private land ownership extends into the river corridor, yet most of the contained 100-year flood area is owned and managed by the FCDMC. Local jurisdictions such as the Cities of Phoenix and Avondale also have land ownership interest in the Southern Reach River area. For example, the Casey Abbott Recreation Area is located adjacent to the Lower Agua Fria River's confluence with the Gila River, and designated as open space by the City of Phoenix.

Throughout the Corridor, there are locations owned and/or operated by various State and Federal agencies. The Arizona Department of Transportation has easement and ownership at Interstates 10 and 17, and State Highways 74 and 60 and State Route 85 at crossings of the New River and Lower Agua Fria River. Regional, railroad rights-of-way exist where Burlington Northern-Santa Fe and Union Pacific railroad tracks intersect the New River and Lower Agua Fria River. There are also areas privately held and/or managed by various sand and gravel operations, especially in the Northern and Southern Reaches. FCDMC owns and manages much of the River channels as a part of the ongoing urban flood control mandates. Land ownership and right-of-way access is currently held in many areas along the New River and Lower Agua Fria Rivers as maintenance roads and flood control features.

The Implementation Strategies Action Plan (Action Plan) is a companion document to this Plan. The Action Plan provides additional land ownership and parcel level information to identify land ownership within the New River and Lower Agua Fria River Corridor. The Action Plan document identifies right-of-way impacts and land acquisition needs in greater detail along the River Corridor. For instance, the Action Plan describes the necessity for obtaining a continuous Primary Trail easement, perhaps 50-150 feet in width for the development of the Primary Trail along the Corridor. A more detailed map showing land parcel ownership adjacent to the primary trail is also included in the Action Plan.



West Valley Multi-Modal Transportation Corridor Master Plan  
July 30, 2001

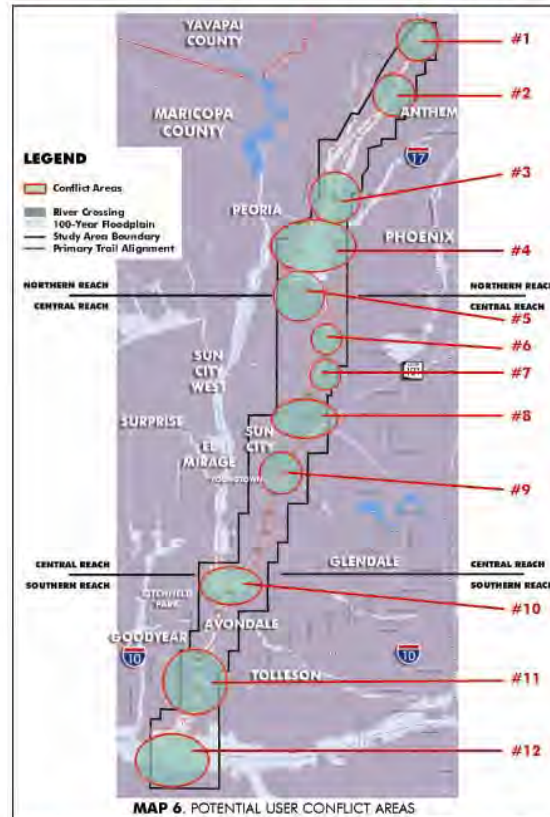
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# Appendix A — Analysis and Trail Classification

## ANALYSIS AND TRAIL CLASSIFICATION

WEST VALLEY RIVERS  
NEW RIVER & LOWER AGUA FRIA



### POTENTIAL USER CONFLICT AREAS

Below is an explanation of 12 potential user conflicts as shown in Map 6, Potential User Conflict Areas.

#### Conflict Area #1 I-17 Frontage Road and New River Primary Trail Access.

The Arizona Department of Transportation (ADOT) has programmed projects for the mainline and frontage roads at I-17 at the New River. These planned projects include an underpass improvement in an area that affects the planned trail linkages for the New River trail system.

As currently proposed, the primary trail alignment will transition from the east bank of the New River (upstream from I-17) to the west bank of New River downstream from I-17. The proposed primary trail alignment then continues downstream on the west side from the I-17 frontage road bridge (west side).

As a result of this transition, the I-17 mainline and frontage road bridges will require new 12-foot wide primary trail underpass improvements—designed for seasonal flood events—to allow trail use access under the Interstate at the New River. The new west-side frontage road bridge structure will also require primary trail facilities for bicyclists and pedestrians to cross the New River. This new west-side frontage road bridge may either accommodate these trail facilities as a part of the bridge structure, or a new pre-fabricated bridge structure could be included separate from the frontage roadway bridge for trail users. Primary trail access ramps will be required to allow the primary trail to transition under the west-bank of New River and continue downstream from the Interstate and west-side frontage road bridge.

#### Conflict Area #2 Future Development Impacts Caused by Anthem and other Private Developments.

This area of the New River basin is experiencing significant changes due to private development and growth in the area. The Anthem developments are expected to directly impact the New River area as commercial and residential development moves toward the River channel. In addition, other uses in the area are considered as conflicting uses for a planned trail system in the area. Sand and gravel mining operations are a prime example.

The Plan calls for a number of trail types (primary, secondary, conservation and equestrian trails) in this area of the New River. As growth and development continues in this area, trail opportunities could be compromised or eliminated if this Plan is not considered.

To minimize conflicts between trail users and impacts caused by future land use activities in the area along the New River, proposed primary trail easement of 50 to 150 feet wide at the top of bank from the New River channel is proposed. Trail access and planned staging areas and gateways will be critical to the success of the New River trail system.

#### Conflict Area #3 Carefree Highway (SR 74) Primary Trail Access at New River.

Carefree Highway (SR 74) is a heavily used corridor for motor vehicles, recreational vehicles and trucks with direct access to Lake Pleasant Recreation Area to the west and I-17 to the east. The high vehicular traffic volumes travel at speeds of 45 miles per hour and greater at a continuous rate. The types of trail users anticipated in this remote area should be separate from the traffic that is characteristic of Carefree Highway. This area represents a potential safety hazard as trail users become increasingly present in this area once the trail system is built.

Carefree Highway and the New River area is also an ideal area for a Primary Staging Area/Gateway to the slightly remote and more pristine areas of the New River trail system. With this in mind, the design of trail use facilities, staging and parking areas are important functions and trail amenities for the New River trail system. Carefully planned staging areas, trail underpass and bridge structures widenings to accommodate trail users will minimize potential safety hazards and conflicts with trail users and motor vehicle traffic characteristic of this area.

#### Conflict Area #4 Central Arizona Project Canal and New River Primary Trail Access.

The Central Arizona Project Canal (CAP) right-of-way represents a tremendous opportunity as a potential linear trail corridor. However, there are potential safety concerns that go with this perceived opportunity. In order to obtain the legal right to access the CAP linear corridor, or even cross the dedicated right-of-way, planners for the trail system will need to negotiate reasonable and fair agreements addressing trail access, liability and insurance concerns affecting the CAP and other land management agencies. Ongoing efforts by other groups (Maricopa County and others) seeking legal trail access onto and across the CAP right-of-way will require coordination and agreements between multiple land management, flood control and transportation agencies.



West Valley Multi-Modal Transportation Corridor Master Plan  
July 30, 2001

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# Appendix A — Analysis and Trail Classification

## ANALYSIS AND TRAIL CLASSIFICATION

WEST VALLEY RIVERS  
NEW RIVER & LOWER AGUA FRIA

**Conflict Area #5 83rd Avenue and Jomax Road Alignment and New River Primary Trail Access.**  
The proposed 83rd Avenue and Jomax Road corridor alignment will have an impact on the proposed New River Trail alignment as the trail transitions from the highly urbanized area to rural desert environment north of the New River Dam. The area surrounding the New River Dam, 83rd Avenue and Jomax Road is experiencing significant growth as new roads, subdivisions, schools and parks are currently under development. The planned trail system should be considered and planned for as this ongoing development continues to encroach upon the New River drainage area and the West Wing Mountains adjacent to New River Dam and Lake Pleasant Road. Including the needs of trail users in development planning is critical to ensure future trail access.

**Conflict Area #6 Sand and Gravel Mining Operation along the New River and Lower Agua Fria River.**  
Existing sand and gravel mining operations along the New River corridor pose specific challenges as the New River and Lower Agua Fria River Corridor trail alignment is being considered. There are inherent conflicts between sand and gravel operations and the non-motorized, shared use trail system planned along the New River and Lower Agua Fria River corridor. While sand and gravel mining operations have a legal right through operating permits to exist in the river channel locations, the planning and development of a future shared-use trail system also has strong merits as a community and neighborhood asset. The New River and Lower Agua Fria River trail system represents a prudent use that is consistent with the natural river channel, a physical feature that will be in existence in perpetuity. On the other hand, sand and gravel mining operations along the river channels come and go, pulling from the river its natural resource and usually leaving behind a blighted and scarred desert river channel. Policy to mitigate or clean up blighted areas (reclamation plans) can be instituted to create a community responsibility to restore or repair the natural desert. As the New River and Lower Agua Fria River trail continues to be developed, many trail segments will be required to address this major conflict to determine functional safety and aesthetic short and long-term solutions in areas that include sand and gravel mining operations.

**Conflict Area #7 Existing Traffic Congestion between Union Hills Road and Bell Road.**  
In order to be implemented as a safe and continuously separate non-motorized shared-use facility, the New River and Lower Agua Fria River trail will require careful planning for trail infrastructure. The planned shared-use pathway between Union Hills Road and Bell Road, including the planned 83rd Avenue roadway bridge structure, will require several strategies to maximize user safety. The planned primary, secondary and equestrian trail facilities in this area of New River will call for new separate primary trail bridge structures and underpass facilities at arterial roadways in order to keep trail users away from existing roadways that accommodate heavy motor vehicle traffic and high travel speeds. The trail system will also need to be heavily signed to alert each trail user of congestion and hazard areas along the trails, and to educate trail user of appropriate shared-use trail etiquette. Directional and cautionary signage as depicted in the Manual of Uniform Control Devices (MUTCD) and the American Association of State Highway Officials (AASHTO) will be required along the entire length of the urban trail system.

**Conflict Area #8 Confluence of the New River and Skunk Creek.**  
The New River/Skunk Creek confluence located downstream of Greenway Road is a challenging area given the deeply channelized New River and Skunk Creek channel, the existing Interstate Loop 101 corridor to the east and the number of destination and high use area locations in the immediate proximity. There are several school locations in this area, the Peoria Sports Complex, the Arrowhead Towns Center, and pre-existing urban trail facilities in the area, including the Skunk Creek/Arizona Diversion Canal, Sun Circle Trail and segments of trail improvement along the New River. The challenge will be to link these pre-existing trail segments together and link the numerous origin and destination locations in the area in a safe and cost effective way.

Riverbed access ramps for equestrian access up stream and downstream of an existing in-channel weir structure in the New River will be necessary. A primary trail bridge structure will also be required to cross the New River channel and access the Skunk Creek and Arizona Diversion Canal trail facilities. Informational and wayfinding signage will be an important consideration in this area of the trail.

**Conflict Area #9 Primary Trail Access at Grand Avenue (SR 60) and the Burlington Northern Santa Fe (BNSF) Railroad.**  
The New River intersects with both Grand Avenue (SR 60) and the BNSF Railroad at the same location along the trail. In part, due to the heavy motor vehicle traffic congestion on SR 60 and the predominant railroad traffic along the BNSF railroad, this area of the New River and the Lower Agua Fria River trail will require an underpass facility. In addition to the traffic volumes and speed of travel by both vehicles and trains at this location, the trail would probably not meet criteria to permit pedestrians and bicyclists to cross at-grade at this railroad location. The local jurisdiction (City of Peoria) will need to coordinate efforts with several agencies, including: Arizona Department of Transportation (ADOT), the BNSF Railroad and the Flood Control District of Maricopa County (FCDMC), in order to develop an trail underpass facility at this location.

**Conflict Area #10 Confluence of New River and Lower Agua Fria River-Proposed Equestrian Facility.**  
The confluence of the New River and the Lower Agua Fria represents a major transition for the trail. The scale of the respective river channels grows significantly and the distance between the east and west riverbank grow in proportion. A site on the north side of the confluence of the two rivers is planned as a major equestrian center facility by a private equestrian consortium. Providing primary and equestrian trail access to this facility combined with a primary staging area and gateway is an important element of this Plan. Providing primary trail bridge structures and trail ramp access will provide the needed linkages to accommodate trail users in the area. Maintaining bank protection elements combined with river and vegetation (shade and ground story plantings) restoration improvements is important considerations. Providing adequate wayfinding and directional signage will enhance the trail user experience in this area.

**Conflict Area #11 Lower Agua Fria and I-10, Union Pacific Railroad and SR 85.**  
The one-mile arterial streets system in this portion of Phoenix and Avondale will provide an impact on trail user safety in along the Lower Agua Fria River urban trails system. In addition to the predictable pattern of one-mile grid arterial street crossings, I-10, the Union Pacific Railroad and SR 85 - Buckeye Road offer specific challenges to the urban trail system. In addition to the flood control aspects of the Lower Agua Fria River, the existing roadway and railroad corridors support heavy traffic volumes and high travel speeds. These conditions are not supportive of the development of the trail system. Specific precautions and safety measures will be required to provide trail users the ability to travel on an uninterrupted non-motorized trail facility. Options such as marked at-grade trail crossings, signalized pedestrian signals, and or underpass or overpass facilities will need to be considered in this area of the trail.

**Conflict Area #12 Confluence of the Lower Agua Fria River and the Gila River and Gateway to Casey Abbott Recreation Area.**  
The confluence of the Lower Agua Fria River and the Gila River represents the terminus of the planned New River and Lower Agua Fria River trail. Providing for the needed trail linkages in this area, crossing both the Lower Agua Fria River and the Gila River, will be a challenge. The spans of the river channels are lengthy and existing roadway arterial bridges in the area are either non-existent or do not safely accommodate bicyclists and pedestrians. In addition, linkages to the existing Casey Abbott Recreation Area and the Estrella Mountain Regional Park and the future Tres Rios and Rio Salado trails systems will be critical.



West Valley Multi-Modal Transportation Corridor Master Plan  
July 30, 2001

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15

# Appendix A — Analysis and Trail Classification

## ANALYSIS AND TRAIL CLASSIFICATION

WEST VALLEY RIVERS  
NEW RIVER & LOWER AGUA FRIA

### TRAIL CLASSIFICATION

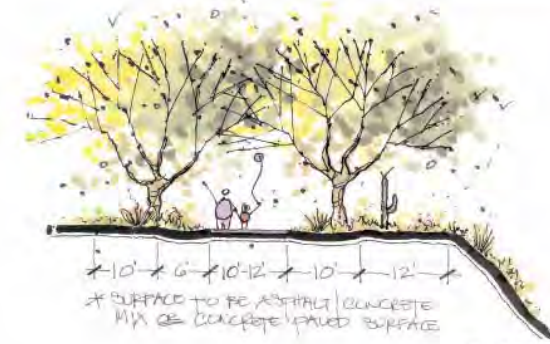
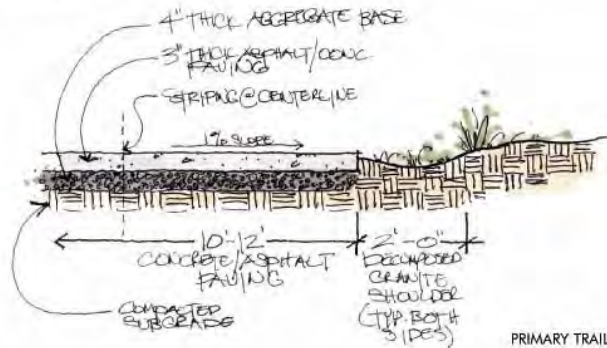
A system of trail classifications is developed to include a variety of trail types for the New River and Lower Agua Fria River Corridor. Each trail classification type is designed to accommodate various trail conditions. The trail classifications include:

- Primary Trail
- Secondary Trail
- Neighborhood/Transit/Connector Trail
- Conservation/Interpretive Trail
- Equestrian Corridor

The following sections describe each type of trail.

#### Primary Trail

The primary trail will serve as the main trail for the New River and Lower Agua Fria River Corridor. The trail will meander continuously along the top of the riverbank along the entire 42-mile corridor, as well as at arterial bridge crossings. It will originate at major gateways and connect to all other types of trails. This trail will be a two-way, paved surface for the developed reaches of the study area, and will be universally accessible to users such as pedestrians, bicyclists, joggers, rollers (rollerbladers, rollerskaters and skateboarders), and persons of all ages and abilities.



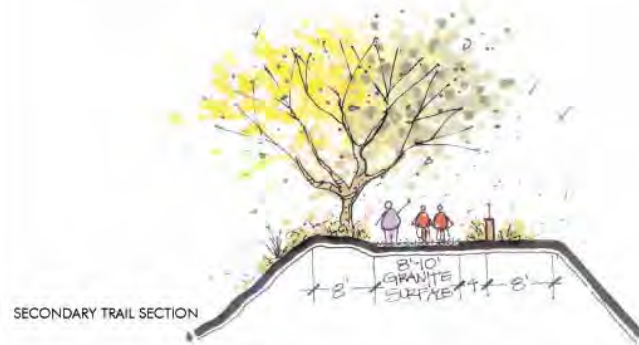
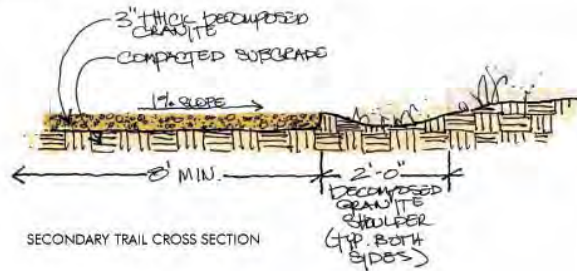
# Appendix A — Analysis and Trail Classification

## ANALYSIS AND TRAIL CLASSIFICATION

WEST VALLEY RIVERS  
NEW RIVER & LOWER AGUA FRIA

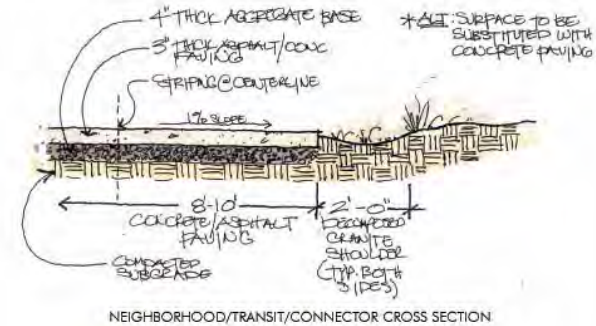
### Secondary Trail

A series of secondary trails serve as trail linkages to the primary trail and provide an additional trail for pedestrians or joggers off the main trail facility. This trail type will be a two-way, decomposed granite surface. It will provide pedestrians, joggers and bicyclists and equestrians a more passive, off-road experience.



### Neighborhood/Transit/Connector Trail

The neighborhood/transit/connector trail will create a tertiary series of trails, which connect the trails within the 42-mile corridor with surrounding neighborhoods, schools and adjacent transit stops and park-and-ride facilities. This trail will be a two-way, paved surface and will be universally accessible to users such as pedestrians, bicyclists, joggers, and rollers (rollerbladers, rollerskaters and skateboarders), and persons of all ages and abilities.



West Valley Multi-Modal Transportation Corridor Master Plan  
July 30, 2001

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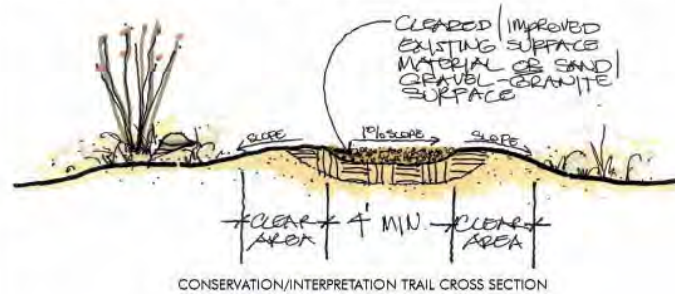
# Appendix A — Analysis and Trail Classification

## ANALYSIS AND TRAIL CLASSIFICATION

WEST VALLEY RIVERS  
NEW RIVER & LOWER AGUA FRIA

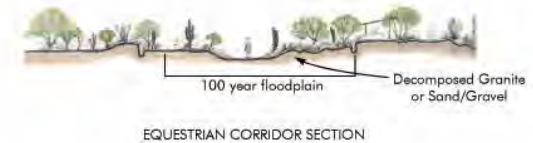
### Conservation/Interpretative Trail

The conservation/interpretation trail will create a more passive trail, which meanders adjacent to, and possibly throughout, landscapes which have been set aside for habitat preservation, watershed protection, or within human created landscapes such as parks or recreational areas. Interpretive/informational signage will help guide users and encourage them to 'stay on the trail. This decomposed granite or sand/gravel trail will be universally accessible to pedestrians.



### Equestrian Corridor

This trail type will provide a clear or improved portion of the sandy bottom wash to allow for equestrian access into and through the 42-mile corridor. Existing maintenance ramps will be utilized, whenever possible due to slope, to allow users safe access into the corridor from the top of wash banks.



# Appendix A — Analysis and Trail Classification

## ANALYSIS AND TRAIL CLASSIFICATION

WEST VALLEY RIVERS  
NEW RIVER & LOWER AGUA FRIA

### CORRIDOR PROTOTYPE DESIGNS

#### Primary Staging Areas/Gateway

Primary staging areas are large gateway, trailhead-type nodes which serve as primary trail destination points for users to park their vehicles and access a range of trail types for bicyclists, pedestrian, and equestrian use.

##### Character and amenities:

- Paved entry drive and parking area (30 vehicles)
- Americans with Disabilities Act (ADA) universal accessibility (<2% cross slope and <5% running slope)
- Pedestrian trailhead/node adjacent to parking area
- Unique shade trees, accent shrubs and groundcover
- Accent paving
- Furnishings (benches and trash receptacles)
- Small, adjacent picnic areas with ramadas and barbecues
- Pedestrian scale lighting (12' poles and bollards)
- Dog "clean-up" stations
- Informational/directional signage
- Integrated public art elements
- Small-scale water features
- Permanent public facilities
- Shade ramadas
- Drinking fountains (depending on need, water availability and local preference)
- Tanks or small basins with spigots to provide water availability for horses
- Public restroom facilities



PUBLIC RESTROOM  
RILLITO RIVER LINEAR PARK SYSTEM  
TUCSON, ARIZONA

#### Secondary Staging Areas

Secondary staging areas are smaller, less formal trailheads that provide support or secondary access points including vehicular parking areas, trail access and other amenities.

##### Character and amenities:

- Cleared, gravel or natural earth pullout/parking area (dust control issues in central and southern reaches)
- ADA universal accessibility (<2% cross slope and <5% running slope)
- Small pedestrian trailhead/node adjacent to parking area
- Furnishings (benches and trash receptacles)
- Informational/directional signage
- Shade elements through landscaping or built structures
- Drinking fountains (depending on need, water availability and local preference)



CONCEPTUAL PRIMARY STAGING AREA



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July 30, 2001

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# Appendix A — Analysis and Trail Classification

## ANALYSIS AND TRAIL CLASSIFICATION

WEST VALLEY RIVERS  
NEW RIVER & LOWER AGUA FRIA

### Gateway

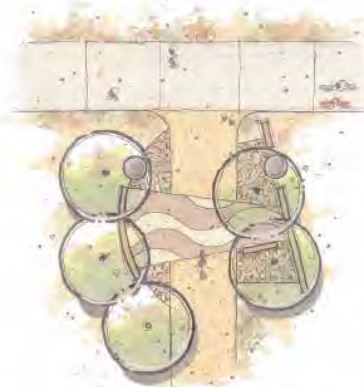
A Gateway is the "front door" to the Corridor. Gateways aim to collectively create a series of prominent, formal entries located at specific primary entry locations, which act to create a sense of place by welcoming and informing visitors that they have entered into a unique, linear corridor system.

#### Character and amenities:

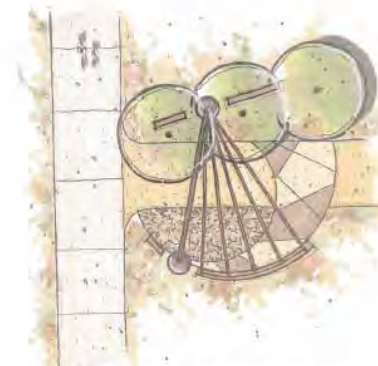
- Accent paving and seat walls
- Gateway entry feature
- ADA universal accessibility (<2% cross slope and <5% running slope)
- Unique shade trees, accent shrubs, and groundcover
- Furnishings (benches and trash receptacles)
- Pedestrian scale lighting (12' poles and bollards, if street lights do not currently exist)
- Informational/directional/interpretive signage
- Integrated public art elements
- Regulatory information signs to inform the user of the rules governing safe trail use
- Shade ramadas
- Drinking fountains (depending on need, water availability and local preference)



GATEWAY FEATURE



PLAN VIEW - GATEWAY VARIATION



PLAN VIEW - GATEWAY ENTRY AND FEATURE



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July 30, 2001

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20

# Appendix A — Analysis and Trail Classification

## ANALYSIS AND TRAIL CLASSIFICATION

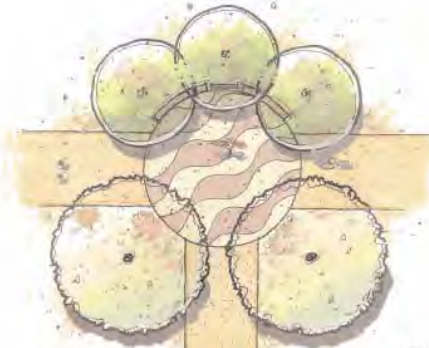
WEST VALLEY RIVERS  
NEW RIVER & LOWER AGUA FRIA

### Trail Connections (Neighborhood/Transit/Connector Trail)

Trail connections between the primary trail system and other trail types (secondary, conservation/interpretative, neighborhood/transit/connector and equestrian connector trails) should be treated as a conscientious design element. The design of trail connections should respond to user safety and sight visibility, creating areas where trail types terminate or transition. The design guidelines for trail connections identify appropriate methods to treat the intersection of two or more trails.

#### Character and amenities:

- Accent paving and seat walls
- ADA universal accessibility (<2% cross slope and <5% running slope)
- Unique shade trees, accent shrubs and groundcover
- Furnishings (benches and trash receptacles)
- Pedestrian scale lighting (bollards, if street lights do not currently exist)
- Informational/directional signage
- Drinking fountains (depending on need, water availability and local preference)



TRAIL CONNECTION  
SURFACE PAVEMENT TREATMENT



PRIMARY AND SECONDARY  
TRAIL CONNECTION



TYPICAL TRAIL CONNECTION



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July 30, 2001

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# Appendix A — Analysis and Trail Classification

## ANALYSIS AND TRAIL CLASSIFICATION

WEST VALLEY RIVERS  
NEW RIVER & LOWER AGUA FRIA

### At-Grade Roadway Trail Crossings

Design guidelines for at-grade roadway trail crossings offer trail users, to the fullest extent possible, a continuous, safe and relatively unimpeded circulation route across arterial streets, while not disrupting the flow of vehicular traffic. At-grade roadway trail crossings may consist of advance 'trail crossing' warning signs and/or pavement markings to identify a formal trail crossing, or additional traffic control devices to stop motor vehicle traffic to allow the safe crossing of trail users. A number of communities have assessed various at-grade roadway designs to accommodate bicycle & pedestrian crossing traffic at major arterial streets. The appropriate design solution for a particular arterial street must be closely analyzed prior to implementation. MAG's Arterial Solutions to Pedestrian Mid-block Crossings at Canals provides a reference to the advantages and disadvantages of different trail crossings.

#### Character and amenities:

- Accent paving and seat walls
- ADA universal accessible ramps at curbs (<2% cross slope and <5% running slope)
- Advance warning signage and pavement markers
- Pedestrian scale lighting (12' poles or bollards, if street lights do not currently exist)
- Amenities to ensure pedestrian safety (pedestrian actuated signals or 'yellow' flasher lights)
- Full lighted/signalized pedestrian crossings where appropriate
- Informational/directional signage

There are currently over 24 river crossings along the New River and Lower Agua Fria River Corridor. Many of these river crossings are improved above-grade bridge structures located along the mile-grid arterial street network, at existing railroad crossings, and at ADOT interstate locations. Other crossings include dirt roads or paved at-grade crossings. Each intersection/primary trail crossing will require an assessment of design alternatives to determine the most appropriate solution at each location



ARTERIAL/TRAIL CROSSING VARIATION



UNIQUE TRAFFIC SIGNALIZATION CONTROL DEVICE FOR BICYCLE AND PEDESTRIAN CROSSING AT URBAN ARTERIAL STREETS



TYPICAL ARTERIAL/TRAIL CROSSING



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July 30, 2001

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22

# Appendix A — Analysis and Trail Classification

## ANALYSIS AND TRAIL CLASSIFICATION

WEST VALLEY RIVERS  
NEW RIVER & LOWER AGUA FRIA

### Overpass/Underpass Connections

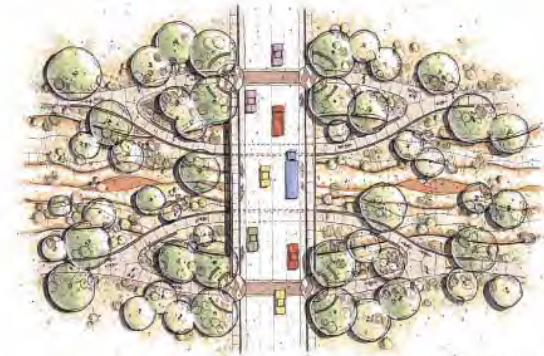
Design guidelines for overpass/underpass connections aim to provide primary trail users a continuous, safe and relatively unimpeded circulation route across arterial roadway and railroad intersections, while not disrupting the flow of vehicular traffic. An overpass connection permits a trail to cross a roadway, usually by means of a footbridge over the roadway. An underpass connection allows for a trail to cross a roadway or rail line by lowering the trail system beneath the roadway. Each design option has strong advantages and disadvantages. Right-of-way availability, cost, and trail user safety are primary considerations.

#### Character and amenities:

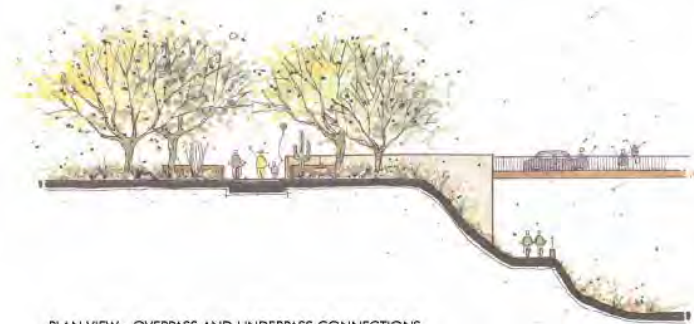
- Accent paving and seat walls
- ADA universal accessibility (<2% cross slope and <5% running slope)
- Minimum height and width clearances (vary depending on roadway, rail line, and flood control guidelines)
- Hand rail - safety rail amenities
- Pedestrian scale lighting at underpass and overpass facilities
- Amenities to ensure pedestrian safety – escape access points, call box locations
- Graffiti abatement techniques
- Bank protection improvements
- Adequate sight clearances to allow trail users to visually access other side of underpass or overpass facility



UNDERPASS CONNECTION AT 75TH AVENUE AND SKUNK CREEK



UNDERPASS CONNECTION



PLAN VIEW - OVERPASS AND UNDERPASS CONNECTIONS



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July 30, 2001

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# Appendix A — Analysis and Trail Classification

## ANALYSIS AND TRAIL CLASSIFICATION

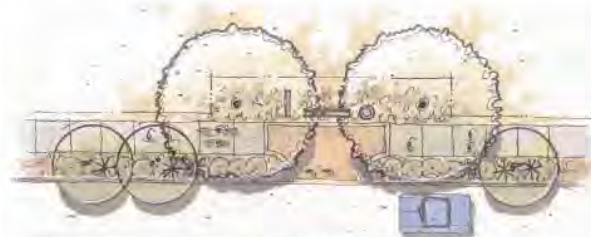
WEST VALLEY RIVERS  
NEW RIVER & LOWER AGUA FRIA

### Transit Nodes

Design guidelines for public transit nodes is an important multi-modal transportation consideration for the 42-mile West Valley Multi-Modal Corridor. The following illustrates appropriate treatments for public transit bus stop facilities to maximize pedestrian safety and comfort, provide access to trails within, and adjacent to, the Corridor.

#### Character and amenities:

- Accent paving and seat walls
- Transit bus pull-out lanes (if appropriate)
- ADA universal accessible ramps (<2% cross slope and <5% running slope)
- Shade trees and accent shrubs
- Furnishings (benches and trash receptacles) and bus shelters
- Pedestrian scale lighting (12' poles and bollards, if street lights do not currently exist)
- Amenities to ensure pedestrian and transit safety
- Sight visibility for bicycle and pedestrians accessing transit stops and primary trail connectors
- Informational/directional signage (for trail users and public transit patrons)
- Drinking fountains (depending on need, water availability and local preference)



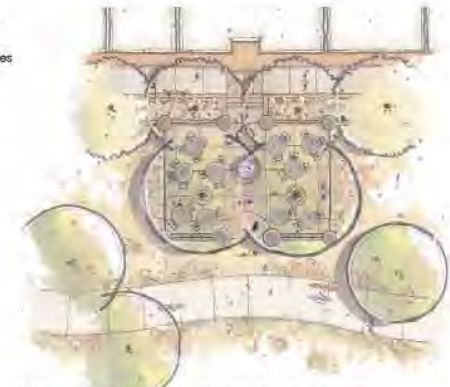
PLAN VIEW - TRANSIT STOP VARIATION

### Commercial/Activity Nodes

Commercial/activity nodes may be located at various locations along the West Valley Rivers Corridor. Design guidelines for Commercial/activity nodes help to create a pedestrian oriented focal point of 'activity' or commercial/retail/entertainment amenities for both local users and tourists alike. Commercial/activity nodes are intended to encourage businesses to front the New River and Lower Agua Fria River Corridor to establish a seamless connection between the built urban fabric and the natural amenities provided by the river corridor.

#### Character and amenities:

- Accent paving and seat walls
- Space for outdoor cafes, dining and plazas overlooking/adjacent to corridor
- ADA universal accessibility (<2% cross slope and <5% running slope)
- Unique shade trees, accent shrubs and groundcover
- Furnishings (benches and trash receptacles)
- Pedestrian scale lighting (12' poles and bollards, if street lights do not currently exist)
- Amenities to ensure pedestrian safety along primary trail and connector trail linkages
- Lighted/signalized pedestrian crossings to access high pedestrian activity nodes
- Informational/directional/interpretive signage
- Public artwork and/or water features
- Thematic façade/architectural treatments, ramadas, and pedestrian promenades
- Drinking fountains (depending on need, water availability and local preference)
- Childrens' play areas
- Access to parking area (for motor vehicle and bicycle parking)
- Gateways and staging area amenities
- Safety rails at riverbank area



PLAN VIEW - COMMERCIAL/ACTIVITY NODE FEATURES



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July 30, 2001

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24

# Appendix B — Design Guidelines

DESIGN GUIDELINES

WEST VALLEY RIVERS  
NEW RIVER & LOWER AGUA FRIA

## DESIGN GUIDELINES



*West Valley Multi-Modal Transportation Corridor Master Plan*  
July 12, 2001

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# Appendix B — Design Guidelines

## DESIGN GUIDELINES

WEST VALLEY RIVERS  
NEW RIVER & LOWER AGUA FRIA

### TRAIL DESIGN CONSIDERATIONS

To fully implement the vision of this Plan, trails and their associated amenities, such as staging areas, gateways, bridge structures, and restroom facilities, should also be designed in harmony with the natural setting to retain natural appearances and values of the New River and Lower Agua Fria River Corridor (Corridor). Trail design should require the minimum amount of construction necessary to provide for public use while protecting natural and cultural resources to maximize the value of public expenditures. Trail design should also take into consideration the unique qualities and community needs of the West Valley including trail access, private property rights, and impacts related to flood control and development.

#### Human Factors

Trails must be accessible to users of all ages and all abilities wherever possible to meet the goals of this Plan. Just as all travelers, trail users desire relatively direct routes to schools, businesses, shopping areas, parks and other places of interest. If the designated trail is not the easiest and most obvious route, trail users create new, unauthorized trails. Trails should not, however, be designed with straight alignments in attempting to meet the goal of directness. If possible, trails should be slightly curvilinear to provide visual interest to users without having sharp curves that can reduce safety and directness.

#### Scenery

Trails should be designed to provide users varying views of the surrounding areas. Preserving visual corridors will improve the quality of the users experience of the trail system. Accentuate regional views of adjacent mountains and skylines from the trail.

#### Adjacent Landowner Privacy

Trails should provide privacy to landowners adjacent to trails and trail access facilities by modifying trail alignment, planting landscape buffers, installing walls, allowing grade separations, or using a combination of these methods. Locating trails further from private property and buildings is preferable, when possible. Locating primary trail facilities away from physical objects, such as screen walls, fences or landscaping, will improve sight visibility distances for bicyclists and pedestrians at heavily congested areas. Some viewing ability of the trails and of the property, however, can actually help improve security for both trail users and property owners. Local access to the trail for nearby residents is encouraged. Incorporating the trail into neighborhood watch systems can also help to improve security.

#### Native Plants

Trails should be aligned to have the least impact on surrounding vegetation, especially those protected under local, state and/or federal regulation. Trails should be designed to have a minimum impact on plants identified for protection. If the trail must pass close enough to impact these plants, the plants should be relocated rather than destroyed. New plants designed as part of gateways, staging areas, or along the corridor should be selected from approved plant lists provided by the Flood Control District of Maricopa County (FCDMC) or any local governing jurisdiction.

#### Sensitive Wildlife Habitat

Trails should be designed to have a minimum impact on natural desert preserve areas. Trails should avoid sensitive habitat areas. New planting designs should, wherever feasible, be designed to re-introduce habitat areas and improve riverbank restoration efforts.

#### Archaeological and Cultural Resources

Trails should be designed to avoid archaeological and cultural resource sites. These sites may be utilized as features in Conservation/Interpretative Trails in a way that informs trail users of historic and cultural resources. Documented known cultural resource sites should be protected at all costs.

#### Existing and Planned Maintenance Roads

Trails should utilize existing and planned maintenance roads in accordance with the policy of the FCDMC where those roads are or will be available. Joint use of existing pre-established off-road dirt roads for trails will allow for cost efficiency and minimized impacts on the natural surroundings. Paved or unpaved trails along the corridor may be developed parallel to these existing dirt roadways where desirable and feasible, in order to minimize additional impacts to the desert riparian area.

#### Flood Plain

A variety of trail types should be designed for the 25, 50 and 100-year flood plain in order to give hikers, mountain bike riders and equestrians the opportunity for trails access in attractive, undeveloped open spaces. Due to maintenance considerations and costs, improved trails (i.e., paved or decomposed granite trails) should be located in or just outside of the 100-year flood plain wherever possible, and on top of bank protected areas.

#### Shared-Use and Universally Accessible Trails

Trails should be constructed where feasible for all non-motorized uses including pedestrians, bicyclists, joggers, rollers (rollerbladers, rollerskaters and skateboarders) and equestrians. Trails should provide adequate sight distances, trail widths, and trailhead facilities to accommodate a variety of users. In many areas, trails should be designed to accommodate universally accessible trail improvements. All primary trails should be accessible for all non-motorized users.

#### Trail Access

Staging areas, gateways and neighborhood/commercial nodes should be designed to accommodate non-motorized trail users while restricting or regulating certain types of motorized trail users (i.e., maintenance and law enforcement vehicles). The use of bollards or gateway features will reduce certain un-authorized vehicle access.



MAINTENANCE ROADS PROVIDE COST-EFFICIENT OPPORTUNITIES FOR TRAIL DESIGN



West Valley Multi-Modal Transportation Corridor Master Plan

July 30, 2001

Funded by the Arizona Department of Transportation (ADOT) Enhancement Program



62

# Appendix B — Design Guidelines

## DESIGN GUIDELINES

### LANDSCAPE PLANT THEME

The overall landscape plant theme for the West Valley Rivers Corridor is a natural Sonoran Desert landscape character. This native vegetation character will include a combination of natural areas and desert planting themes in activity areas. Lush plants, palms and green turf areas are not a part of the river corridor theme and character. Plant groupings include native plants, low-water use plants, with some introduced plants and ornamental plants for accents.

Plant groupings are organized into water use groupings and Landscape Management Zones, including conservation, passive and active areas. These landscape management zones were described in the "Analysis and Trails Classification" section. Refer to the Landscape Plant Theme Matrix (right, **Table 2**), showing plant groupings that are most and least appropriate/suitable for each Landscape Management Zone.

#### Corridor Segments

The plant themes in the northern reach reflect a conservation landscape management zone with the native character of the existing Sonoran Desert. This reach includes large existing areas for conservation and proposed trail amenity areas for passive, low intensity uses. Plant materials include native grasses, shrubs and cacti, including Saguaros and other native species.

The lower part of the northern reach plant themes reflect the native character of the existing Sonoran Desert. This reach includes sensitive riparian areas north of the existing New River Dam, designated for conservation. Proposed trails should provide conservation and environmental interpretation experiences in this area. Plant materials include native grasses, shrubs and trees, including existing Ironwood trees. New plants should include native plants and some low-water use plants at activity nodes.

The plant themes of the central reach reflect passive and active landscape management zones within the river areas and on the top banks along the river. This reach includes river bottom areas of natural grasses and shrubs with highly structured hard concrete soil cement channelized river edges creating riverbanks. Passive and active use areas on the adjacent top banks along edges of the river channel banks include a few natural areas, some developed landscapes adjacent to new residential developments and some disturbed areas needing rehabilitation. New plants in this reach should include low-water use plants that require minimal supplemental water. New plants may also include introduced plant materials that are adapted to our desert character with a moderate level of supplemental water at activity nodes.

The plant theme of the southern reach is similar to the central reach, except at the south portion of the reach at the junction with the Gila River. This special area should include native plants, low-water use plants and aquatic plants in the wet riparian areas. A detailed list of all plant materials suitable for each reach within the New River and Lower Agua Fria Corridor is listed below under "Categories of Plant Materials." The plant materials categorized will meet all Flood Control District of Maricopa County (FCDMC) guidelines for landscape and aesthetic policy.

LANDSCAPE USES		CONSERVATION AREAS	PASSIVE AREAS	ACTIVE AREAS
PLANT GROUPINGS	<b>NATIVE PLANTS</b>			
	Plant types that need a temporary irrigation system to establish initial growth	●	◐	○
	<b>LOW WATER USE PLANTS</b>			
	Plant types that have adapted well to desert climate and that take minimal supplemental water	◐	●	●
INTRODUCED PLANTS				
	Plant types that have adapted to the desert climate with a moderate level of supplemental water	○	◐	●
ORNAMENTAL PLANTS				
	Plant types that have adapted to the desert climate with a moderate to high level of supplemental water	X	X	●

**LEGEND:**

- most appropriate / most suitable match
- ◐ appropriate / suitable match
- least appropriate / least suitable match
- X not appropriate / not suitable

**TABLE 2. LANDSCAPE PLANT THEME MATRIX**

# Appendix B — Design Guidelines

## DESIGN GUIDELINES

WEST VALLEY RIVERS  
NEW RIVER & LOWER AGUA FRIA

### CATEGORIES OF PLANT MATERIALS

#### NATIVE:

##### TREES

<i>Cercidium</i> species	Palo Verde
<i>Olneya tesota</i>	Ironwood
<i>Prosopis velutina</i>	Native Mesquite

##### SHRUBS

<i>Ambrosia deltoidea</i>	Bur-sage
<i>Celtis pallida</i>	Desert Hackberry
<i>Encelia farinosa</i>	Brittlebush
<i>Ephedra</i> species	Joint-fir
<i>Ericameria laricifolia</i>	Turpentine Bush
<i>Larrea tridentata</i>	Creosote Bush
<i>Simmondsia chinensis</i>	Jajoba

##### CACTI & SUCCULENTS

<i>Carnegiea gigantea</i>	Saguaro
<i>Echinocereus</i> species	Hedgehog
<i>Ferocactus</i> species	Barrel Cactus
<i>Fouquieria splendens</i>	Ocotillo
<i>Opuntia</i> species	Prickly-Pear, Cholla
<i>Yucca baccata</i>	Banana Yucca
<i>Yucca Elata</i>	Soaptree Yucca

#### LOW WATER USE:

##### TREES

<i>Acacia</i> species	Acacia
<i>Dalbergia sissoo</i>	Sissoo Tree
<i>Lysiloma microphylla</i> v. <i>thornberi</i>	Desert Fern
<i>Olea Europea</i> 'Swan Hill'	Swan Hill Olive

##### SHRUBS

<i>Atriplex</i> species	Saltbush
<i>Calliandra californica</i>	Baja Red Fairy Duster
<i>Calliandra eriophylla</i>	Pink Fairy Duster
<i>Cassia</i> species	Cassia
<i>Cardia boissieri</i>	Texas Olive
<i>Cardia parvifolia</i>	Little-Lead Cardia
<i>Justicia californica</i>	Chuparosa
<i>Justicia spicigera</i>	Mexican Honeysuckle
<i>Leucophyllum</i> species	Sage

#### ACCENTS

Agave species	Agave
Aloe species	Aloe
<i>Asclepias subulata</i>	Desert Milkweed
<i>Caesalpinia mexicana</i>	Mexican Bird of Paradise
<i>Caesalpinia pulcherrima</i>	Red Bird of Paradise
<i>Dasyliroton wheeleri</i>	Desert Spoon
<i>Hesperaloe parviflora</i>	Red Yucca
<i>Muhlenbergia</i> species	Deer Grass
<i>Nolina</i> species	Bear Grass
<i>Penstemon</i> species	Beard Tongue
<i>Salvia</i> species	Sage
<i>Sphaeralcea</i> species	Globe Mallow
<i>Yucca Brevifolia</i>	Joshua Tree
<i>Yucca rigida</i>	Blue Yucca

#### GROUNDCOVERS & VINES

<i>Baccharis hybrid</i> 'Stam'	Thompson Desert Broom
<i>Baileya multiradiata</i>	Desert Marigold
<i>Bougainvillea</i> species	Bougainvillea
<i>Convolvulus cneorum</i>	Bush Morning Glory
<i>Dalaa</i> species	Indigo Bush
<i>Eschscholzia californica</i>	California Poppy
<i>Eschscholzia mexicana</i>	Mexican Gold Poppy
<i>Hymenoxys acaulis</i>	Angelita Daisy
<i>Lantana camara</i>	Lantana
<i>Melampodium leucanthum</i>	Blackfoot Daisy
<i>Penstemon</i> species	Penstemon
<i>Zauschneria californica</i>	Hummingbird Flower

#### LOW/MODERATE WATER USE:

##### TREES

<i>Albizia julibrissis</i>	Silk Tree
<i>Chilopsis linearis</i>	Desert Willow
<i>Chorisia speciosa</i>	Silk Floss Tree
<i>Fraxinus velutina</i>	'Rio Grande' Fan-Tex Ash
<i>Jacaranda mimosifolia</i>	Jacaranda
<i>Pinus</i> species	Pine
<i>Pithecolobium flexicaule</i>	Texas Ebony
<i>Quercus</i> species	Oak
<i>Rhus lancea</i>	African Sumac
<i>Schinus molle</i>	California Pepper Tree
<i>Schinus trebinthifolius</i>	Brazilian Pepper Tree
<i>Sophora secundiflora</i>	Texas Mountain Laurel
<i>Ulmus parvifolia</i> 'sempervirens'	Evergreen Elm
<i>Vitex agnus-castus</i>	Chaste Tree



West Valley Multi-Modal Transportation Corridor Master Plan  
July 30, 2001

Funded by the Arizona Department of Transportation (ADOT) Enhancement Program



# Appendix B — Design Guidelines

## DESIGN GUIDELINES

WEST VALLEY RIVERS  
NEW RIVER & LOWER AGUA FRIA

### SHRUBS

<i>Abelia grandiflora</i>	Glossy Abelia
<i>Acuba japonica</i>	Japanese aucuba
<i>Arbutus unedo</i>	Strawberry Tree
<i>Buxus microphylla 'japonica'</i>	Japanese boxwood
<i>Carissa grandiflora</i>	Natal Plum
<i>Dadonea viscosa</i>	Hop Bush
<i>Dadonea viscosa 'purpurea'</i>	Purple Hop Bush
<i>Euonymus japonica</i>	Evergreen Euonymus
<i>Feijoa sellowiana</i>	Pineapple Guava
<i>Hibiscus rosa sinensis</i>	Chinese Hibiscus
<i>Ilex vomitoria 'nana'</i>	Dwarf Yaupon Holly
<i>Juniperus species</i>	Juniper
<i>Laurus nobilis</i>	Grecian Laurel
<i>Ligustrum japonicum</i>	Japanese Privet
<i>Myrtus communis</i>	Myrtle
<i>Nandina domestica</i>	Heavenly bamboo
<i>Nerium oleander</i>	Oleander
'Petite Pink'	
<i>Osmanthus fragrans</i>	Sweet Olive
<i>Prunus caroliniana</i>	Carolina Laurel Cherry
<i>Punica granatum varieties</i>	Pomegranate
<i>Raphiolepis indica</i>	India hawthorn
<i>Rosmarinus officinalis</i>	Rosemary
<i>Ruellia californica</i>	Ruellia
<i>Ruellia peninsularis</i>	Ruellia
<i>Santolina virens</i>	Green Lavender Cotton
<i>Tagetes species</i>	Marigold
<i>Tecoma stans</i>	Yellowbells
<i>Tecomaria capensis</i>	Cape Honeysuckle
<i>Vauquelinia californica</i>	Arizona Rosewood

### ACCENTS

<i>Dietes vegeta</i>	Fortnight Lily
<i>Chamerops humilis</i>	Mediterranean Fan Palm

### GROUNDCOVERS & VINES

<i>Asparagus densiflorus 'Sprengeri'</i>	Sprenger Asparagus
<i>Campsis radicans</i>	Common Trumpet Creeper
<i>Cissus trifoliata</i>	Grape Ivy
<i>Euonymus fortunei</i>	Common Winter Creeper
<i>Gazania species</i>	Gazania
<i>Maccladyena unguis-cati</i>	Cat's Claw
<i>Liriope muscari</i>	Big-Blue-Lily-Turf

*Myoprum parvifolium*  
*Oenothera berlandieri*  
*Rosa banksiae*  
*Solanum jasminoides*  
*Verbena species*  
*Trachelospermum jasminoides*  
*Pyracantha species*

*Myoporum*  
Mexican Evening Primrose  
Lady Bank's Rose  
Potato Vine  
Verbena  
Star Jasmine  
Firehorn

### ORNAMENTAL: TREES

*Ficus species*  
*Lagerstromia indica*  
*Phoenix canariensis*  
*Phoenix dactylifera*  
*Prunus cerasifera 'atropurpurea'*  
*Pyrus kawakamii*

*Ficus*  
Crape Myrtle  
Canary Island Date Palm  
Date Palm  
Purple-Leaf Plum  
Evergreen Pear



TRAIL LINED WITH NATIVE VEGETATION



West Valley Multi-Modal Transportation Corridor Master Plan  
July 30, 2001

Funded by the Arizona Department of Transportation (ADOT) Enhancement Program



# Appendix B — Design Guidelines

## DESIGN GUIDELINES

WEST VALLEY RIVERS  
NEW RIVER & LOWER AGUA FRIA

### TRAIL DESIGN GUIDELINES

Trails, trail crossings of roadways, signage, and striping shall be designed to guidelines contained within the most recent editions of the American Association of State Highway and Transportation Officials (AASHTO) Guide for the Development of Bicycle Facilities, the Arizona Bicycle Facility Design Guidelines, the United States Department of Transportation (USDOT) Designing Sidewalks and Trails for Access, the USDOT Manual on Uniform Traffic Control Devices, the Maricopa Association of Governments (MAG) Arterial Solutions to Pedestrian Midblock Crossings at Canals, and other guidelines recognized by the State of Arizona, MAG, and USDOT.

The following are general trail guidelines according to the Americans with Disabilities Act (ADA), and apply to trails in general. Variations may occur according to specific trail types and varying environments (see **Table 3. Design Guidelines Matrix** for these variations).

**Grade.** Grade should not exceed five percent unless constructed according to the ADA. Frequent or drastic changes in grade should be avoided. However, occasional fluctuations in the trail grade should be considered to provide variation for trail users and to facilitate proper drainage. Trails should not be constructed on side slopes greater than 40%.

**Surface.** The chosen surface must be stable, firm and slip resistant. Preferred surface materials should be an asphalt/concrete mix, concrete or rubberized asphalt in developed areas, decomposed granite in undeveloped areas, varying according to trail type. Surface materials should be free of irregularities and the edge of the surface should be uniform in width. Designated primary trail hard surface material can vary from poured concrete to asphaltic concrete, or even an environmentally sensitive rubberized-asphalt material throughout the trail length. The final determination for choice of pavement material will be based on several criteria including: cost, level of use, durability, maintenance, and community preference. For purposes of cost estimating, an asphaltic concrete material has been selected using a 12-foot wide path and appropriate thickness and sub-base requirement.

**Width.** The primary trail width should be a minimum of 10 feet, with 12 feet recommended in high use areas for two-directional travel. A minimum two-foot graded shoulder should be located on each side of the trail. The unpaved trail width should be a minimum of eight feet. In some locations, unpaved trails may be as narrow as four feet when intended for use by equestrians and hikers. In constrained locations or where use is expected to be minimal, the width of the trail may be a minimum of eight feet for two-directional travel, and a minimum of five feet for one-way travel. In general, one-way trails are not advised, as users will tend to use them as two-way trails.

**Drainage.** The minimum pavement cross slope should be two percent to provide for adequate drainage. Sloping in one direction instead of crowning is preferred, and usually simplifies the drainage and surface construction. A smooth surface is essential to prevent water pooling. This is critical to prevent water from pooling on and channeling down the trail. If the trail traverses the side slope of a hill, the cross slope of the trail surface must be downward from the uphill to the downhill edge of the trail (outslope). This will allow surface water to drain off the edge of the trail rather than running down the length of the trail. The cross slope of such a trail must NOT be downward from the downhill to the uphill edge of the trail (inslope). Such a scenario will result in water channeling down the length of the trail causing extreme levels of erosion.

**Landings.** Ramps should have top and bottom landings not less than six feet long by the width of the ramp. At least one intermediate landing not less than five feet long by the width of the ramp should be provided for every 30 inches of rise. No ramp shall change direction between landings with an inside radius less than 30 feet. For slopes over five percent, landings are required every 30 feet per ADA guidelines. However, this combination of slopes over five percent and landings every 30 feet can result in a rough trail for users traveling at speeds in excess of 10 miles per hour (especially asphalt paths, where landings are difficult to see). It is therefore best to design trails of five percent or less slope if the trail or section of trail is to meet ADA guidelines.

**Expansion and Construction Joints.** Expansion and construction joints should have a width of not more than one-half inch. Expansion joints should be filled with a firm, compressible, elastic material, and should be flush with the surface.

**Hazards.** Any portion of the edge of the trail which is more than eight inches above grade, or which abuts a hazardous area, should be provided with a protective railing with a top rail at a height of 36 inches and a mid-rail at a height of 18 inches.

**Handrails.** Ramps which slope more than 1:20 should be provided with handrails on both sides at a height of not less than 32 inches nor more than 36 inches, and should extend not less than 12 inches beyond the top and bottom of the ramp. The hand grip portion of handrails should be not less than 1 1/4 inches nor more than two inches in outside dimension. Handgrips should be basically oval or round in cross-section and should have smooth surfaces with no sharp corners. When wall-mounted, handrails should have not less than 1 1/2 inches clearance from the wall. Handrails should not be required at any point of access along the ramp, nor at any curb cut.

**Design Speed.** The paved primary trail facility should be designed for a minimum design speed of 20 miles per hour. However, when the grade exceeds four percent, or where strong prevailing tailwinds exist, a design speed of 30 miles per hour is advisable.

**Sight Distance.** Trails should be designed with adequate stopping sight distances for bicyclists, based on AASHTO, ADOT Arizona Bicycle Facility Design Guidelines, and/or other guidelines approved by the responsible jurisdictions.

**Horizontal Curvature.** The horizontal curvature for 20 miles per hour should be 95 feet. The horizontal curvature for 30 miles per hour shall be 250 feet based on design guidelines referenced above.

**Clearance.** The vertical clearance to obstructions should be a minimum of 10 feet in height. However, vertical clearance in undercrossings and tunnels for the passage of maintenance vehicles and equestrians should be a minimum of 12 feet in height.

**Vegetation.** Vegetation should not exceed a mature height of three feet within a three-foot distance of the trail surface; trees and other vegetation may exceed this height outside of the three-foot minimum distance. Low growing shrubs such as bursage and brittlebush present minimal hazard to trail users, and may be acceptable within the clearing limits. The purpose of the vegetation clearing limits is to keep taller, potentially more dangerous plants such as thorny trees and larger cacti a safe distance from the trail. All remaining roots and stumps must be grubbed out of the trail surface to provide a smooth surface. No teddy bear cholla should be located within three feet of the trail surface. This distance may need to be increased on the uphill side of trails.



West Valley Multi-Modal Transportation Corridor Master Plan

July 30, 2001

Funded by the Arizona Department of Transportation (ADOT) Enhancement Program



66

# Appendix B — Design Guidelines

## DESIGN GUIDELINES

WEST VALLEY RIVERS  
NEW RIVER & LOWER AGUA FRIA

that traverse steep hillsides. This will prevent pieces of cacti from falling onto the trail surface and creating a safety hazard. Plants should not be placed in a manner that creates hiding places, so as to enhance the security of trail users.

**Obstacles.** Obstacles to the trail such as fire hydrants, light poles, fence posts, protective railings, and bridge abutments should be a minimum of three feet from the trail surface. All temporary construction debris or obstacles should be signed and primary trail access re-routed away from construction areas as necessary.

**Signage and Marking.** On paved trails, a four-inch wide yellow centerline stripe to separate opposite directions of travel should be used in active use areas, on curves, trail area, and at trail connection nodes. Experience has found that asphalt beneath painted areas can actually deteriorate at a much faster rate than unpainted asphalt surfaces. Signage to indicate directions, destinations, distances, and names of crossing streets should be used in the same manner as they are used on highways. Signage should be provided at a pedestrian scale, as allowed by the Manual on Uniform Traffic Control Device (MUTCD), except in some higher hazard locations where trails intersect with roadways. Standard (vehicular scale) signage should be used in these critical areas, as well as to announce trail crossings to drivers and trail users. Signage in conservation areas should be located at trailheads and intersections. Special signage for equestrian users should be designed to accommodate the appropriate height limitations.

Signs should also identify the trail type so potential users may judge reasonable expectations for each specific segment of the trail. Signage should be readable from the trail, but should not obstruct it. Signs should also be consistent with local sign types, where applicable. (See "Signage" section below, for an explanation of sign types.)

**Lighting.** Lighting should be used to reduce conflicts along trails and at intersections where it is considered necessary. If appropriate, lighting should be considered where riding at night is expected, such as trails that serve students or commuters, and at highway intersections. Lighting should be considered in underpasses or tunnels, to enhance nighttime security. Lamp placement should reinforce the direction of travel, reduce glare, and minimize dense shadows. Flashing warning lights should also be provided to warn trail users when flood conditions exist. Lighting at trail access points integrated into bollards or adjacent to trail gateway areas is critical for the safety of users.

Depending on the location, average maintained horizontal illumination levels of 0.5 foot-candle to two-foot candles should be considered. Luminaries and standards should be at a scale appropriate for a pedestrian or bicycle trail, staging areas with vehicle parking, and at roadway intersections.

**Restriction of Motor Vehicle Traffic.** The trail should have a physical barrier and signage at highway intersections to prevent unauthorized motor vehicles from using the facilities. Provisions should be made for a lockable, removable post in the center of trails to permit entrance by authorized vehicles. The post should be permanently reflectorized for nighttime visibility and painted a bright color for improved daytime visibility. Where more than one post is used, a five-foot spacing is required. Posts should not be located directly in the expected travel path of trail users, and advanced warning signage is highly recommended. A clear minimum sight distance of 40 feet to the post from each direction of travel should be provided.

**Structures.** Structures along the trail may include overpasses, underpasses, small bridges, drainage facilities and facilities on a highway bridge or at railroad crossings. These are necessary to provide continuity to the

trail. Structures should be extended a minimum of three feet to each side of the trail, and barrier railing should be provided between trail and structure where recommended per AASHTO and other accepted guidelines. Support facilities for trails, such as public restrooms, benches, and parking areas must be constructed to meet accessibility standards. Design standards are to be adhered to in all aspects of trail design so as to assure the quality experience for all trail users on a universal and equal level.

**Bridge Retrofitting.** Where necessary to retrofit the primary trail facility onto existing highway or roadway bridges, several alternatives should be considered:

- 1) Carry the trail across the bridge on both sides, where possible. This can be done where a) the bridge facility will connect to a trail at both ends, b) sufficient width exists on that side of the bridge or can be obtained by widening or restriping lanes and c) provisions are made to physically separate bicycle and other non-motorized traffic from motor vehicle traffic as discussed above. The roadway width on the bridge should not be narrowed in order to construct the trail connection unless 1.5-foot wide curb lanes or bicycle lanes can be maintained on the bridge.
- 2) Provide either wide curb lanes or bicycle lanes over the bridge. This may be advisable where a) the trail transitions into bicycle lanes at one end of the bridge, and b) sufficient width exists or can be obtained by widening or restriping. This guideline must be applied carefully, as the trail must be designed and signed in the appropriate manner to direct bicyclists and other users to the appropriate side of the roadway to continue their travel across the bridge. Unless designed correctly, bicyclists traveling opposed to traffic while on the trail will continue their wrong-way travel across the bridge in the bicycle lane, contrary to local, state law and the Uniform Vehicle Code.
- 3) Use existing sidewalks as one-way or two-way facilities. This may be advisable where a) conflicts between bicyclists and pedestrians will not exceed tolerable limits and b) the existing sidewalks are adequately wide. Under certain conditions, the bicyclist may be required to dismount and cross the structure as a pedestrian, particularly if other pedestrians are present.

Because of the large number of variables involved in retrofitting bicycle facilities onto existing bridges, compromises in desirable design criteria are often inevitable. Therefore, the width to be provided is best determined by the designer, on a case-by-case basis, after thoroughly considering all the variables. If, for any reason, a shared-use trail facility is designed as under-sized, it is critical that the area be signed appropriately to warn trail users and motorists of such conditions. Refer to the MUTCD for signage & marking requirements.

**Railings.** Railings, fences, or barriers on both sides of the trail should be a minimum of 4.5 feet high. Smooth rub rails shall be attached to the barriers at handlebar height of 3.5 feet. Railing height may be higher for equestrian use areas along river banks or at bridge crossings.



PRIMARY TRAIL CLEARANCE DETAIL



West Valley Multi-Modal Transportation Corridor Master Plan  
July 30, 2001

Funded by the Arizona Department of Transportation (ADOT) Enhancement Program



# Appendix B — Design Guidelines

## DESIGN GUIDELINES

WEST VALLEY RIVERS  
NEW RIVER & LOWER AGUA FRIA

Trail Type	Grade	Surface	Width	Drainage	Vertical Clearance	Horizontal Clearance	Obstacles	Signage & Markings	Lighting	Railings
1) Primary Trail	5% or less	asphalt/concrete with decomposed granite shoulders	10'-12' 2' shoulder each side	2% minimum	10' min	3'	3'	4" striped center line per AASHTO highway guidelines only where necessary on curves and other critical locations	0.5-2' candle	4.5' high
2) Secondary Trail	5% or less	decomposed granite	8'-10' 2' shoulder each side	3%-5%	10' min	3'	3'	4" striped center line per AASHTO highway guidelines	trailhead/ trail connector locations only	4.5' high
3) Neighborhood/ Transit/Connector Trail	5% or less	asphalt/concrete or concrete	8'-10' 2' shoulder each side	3%-5%	10' min	3'	3'	4" striped center line per AASHTO highway guidelines	0.5-2' candle	4.5' high
4) Conservation/ Interpretive Trail	5% or less	decomposed granite or sand/gravel	4'-6'	6%-10%	8' min	3'	3'	at trailheads only	trailheads only 0.5-2' candle	4.5' high hazardous areas only
5) Equestrian Corridor	5% or less	decomposed granite or sand/gravel	varies	3%-5%	12' min	3'	3'	per equestrian trail design guidelines	trailhead/ staging areas only	4.5' high

TABLE 3. DESIGN GUIDELINES MATRIX



West Valley Multi-Modal Transportation Corridor Master Plan  
July 30, 2001

Funded by the Arizona Department of Transportation (ADOT) Enhancement Program



# Appendix B — Design Guidelines

## DESIGN GUIDELINES

WEST VALLEY RIVERS  
NEW RIVER & LOWER AGUA FRIA

### PUBLIC ART

Public artists and public artworks, as integrated art forms or stand-alone sculptural works can add interest and entertainment to the West Valley Rivers Multi-Modal Trail Project. This section describes how public art may be integrated into the design of a trail system and how public artists may become involved in the planning, design, and implementation process of the trails system. This document also provides examples where artwork may be installed along the trail, such as at sites (gateways and plazas), and at structures, (bridges, bus shelters and retaining walls).

Public art is artwork that is accessible to the public whether privately or publicly funded and maintained. Examples of public art include sculpture, murals, kinetic art, monumental art and environmental art. Traditionally, public art has been displayed in the form of sculpture for parks and plazas. In recent decades, public art has also become integrated into functional structures such as river embankments, bridges, walls and amenities.

#### Goals and Benefits

The goals of including public art in trail systems are:

- to develop a unique multi-modal trail by making public art an integral design element
- to encourage communities to include artists as design team members early in the design process
- to add greater meaning for the trail user and express local culture and aesthetic value
- to define the New River and Lower Agua Fria River Corridor as a signature destination in the West Valley
- to provide examples of public art opportunities along the trail corridor
- to provide strategies for implementing public art along the trail in communities that currently do not have a public art program



PATRICK PARK PLAZA BY JODY PINTO,  
30TH STREET AND SOUTHERN AVENUE  
IN PHOENIX, ARIZONA

There are many benefits to including public art as an integral design element in the New River and Lower Agua Fria River Corridor including:

- Public art increases tourism and economic development by attracting visitors to see the trail and surrounding places of interest
- Public art adds beauty and interest to the trail, which encourages trail use as an alternate mode of transportation and recreation
- Public art provides focal point, resting spots and a sense of place for pedestrians, cyclists and equestrians who use the trail
- Public art educates by reflecting historical, cultural and social ideas
- Public art fosters community pride and ownership of the trail by providing a venue for residents to express themselves by participating in the public art process



HOHOKAM BIRDS BY BOB HAOZOUS,  
SKY HARBOR INTERNATIONAL AIRPORT  
PARK AND RIDE SHUTTLE LOT IN  
PHOENIX, ARIZONA

Artists often have the ability to view a site or structure in ways not otherwise envisioned. Therefore, engaging artists early in the design process allows artistic concepts and treatments to be integrated into the design plan. Public art responds to environmental factors and community personalities of a site. Involving artists early in the design process has been shown to produce more cohesive, dynamic and cost effective development projects.



West Valley Multi-Modal Transportation Corridor Master Plan  
July 30, 2001

Funded by the Arizona Department of Transportation (ADOT) Enhancement Program





# Appendix B — Design Guidelines

## DESIGN GUIDELINES

WEST VALLEY RIVERS  
NEW RIVER & LOWER AGUA FRIA

### Public Art Sites and Structures

The public art sites provided in this document are examples of what can be done artistically along the Corridor. These examples come from Arizona, California, Chicago, Boston and other locations. The examples of sculptures, plazas, wall treatments, paving and other public art media are provided as a launching pad for individual ideas from communities adjacent to the New River and Lower Agua Fria River. A wide range of public art possibilities exist from installing simple plasma-cut railings, to constructing elaborate, custom-designed bridges. The communities along the New River and Lower Agua Fria River will help to define public art for their sections of the trail that meets community goals.

### Public Art Programs

Establishing a public art program in communities adjacent to the trail enables these communities to express their ideas and collective identity in artworks along the trail corridor. Neighborhood residents can offer ideas, personal items, and sometimes even hands-on work to the construction of public art projects. This process provides residents a personal stake in the artwork and the trail project, and has been shown to unite neighborhoods, build friendships, mitigate vandalism and foster community pride.

Many communities across the nation currently maintain active public art programs. In the West Valley, communities such as Phoenix, Glendale and Peoria are leaders in developing and maintaining public art programs for their communities. A new project such as the New River and Lower Agua Fria River Corridor can easily be added to their list of public art projects so that implementation of public art can begin.

Public art preserves individual and community identity along the trail. This preservation gains personal and historical significance as time goes by and is one way a community will be known to future generations. Public art programs facilitate this important component of trail design.



DUNLAP AVENUE STREETSCAPE BY KEVIN BERRY,  
DUNLAP AVENUE FROM CENTRAL AVENUE TO  
7TH STREET IN PHOENIX, ARIZONA

### Public Art Locations

Public art along the trail may be located at gateways and staging areas, or may be designed as part of structures such as bridges, walls and bus shelters. Public art should be planned for sites that are highly visible to the public and in sites that are important to the community.

### Public Art Characteristics

Public art should respond to the unique characteristics of the river corridor and should be durable, safe, easy to maintain and well crafted. Public art should also respond to the following factors:

- the varying landscape terrains ranging from undeveloped, open spaces to developed urban areas,
- the hot and arid climate,
- water and its significance to the region,
- desert vegetation,
- shade, or lack of shade,
- historical and cultural aspects of the region, and
- social ideals of nearby communities.



DREAMY DRAW PEDESTRIAN BRIDGE  
BY VICKI SCURI,  
SQUAW PEAK HIGHWAY AT 29TH STREET  
IN PHOENIX, ARIZONA

### Public Art Concepts

The public art sites in this document are based on the following concepts:

- The public art sites shown are provided as examples, rather than as directives. Art by its very nature offers unlimited possibilities in location, configuration, materials, content, and technique. Communities are encouraged to express their own creativity through the public art process.
- Artists engaged early in the design process will often have unique ideas for site options and should be encouraged to seek the most suitable sites.
- Public art should challenge our vision, expand our view of the world, and encourage us to think beyond our own experience.
- Public art should move beyond embellishment into meaningful content.
- Public art should offer various opportunities for residents to participate in the public art process.



West Valley Multi-Modal Transportation Corridor Master Plan  
July 30, 2001

Funded by the Arizona Department of Transportation (ADOT) Enhancement Program



70

# Appendix B — Design Guidelines

## DESIGN GUIDELINES

WEST VALLEY RIVERS  
NEW RIVER & LOWER AGUA FRIA

### SIGNAGE

Trail signage and pavement markings are critically important considerations in the design and implementation of trails for the West Valley Rivers Corridor. A variety of sign types shall be incorporated into the comprehensive system of trails as a means to ensure the safety of all trail users.

There are five different sign types recommended for the trail system, including the monument entry, wayfinding/directional, regulatory, interpretive and mile marker signage concepts. At every primary staging areas/gateway along the trail Corridor, there should be adequate signage to inform trail users of the rules and regulations governing the trail system, as well as outlining proper trail etiquette for all trail users.

Signage text should be in both English and Spanish where possible, and should be at a large enough point size to be read by those with visual impairments. Signage should be readable from the trail, but should not obstruct it. Signage could incorporate the "West Valley Rivers" masthead logo and six small color icons of each local jurisdiction and land management agency to create a regional identity for the trail system, yet be consistent with local sign types, as previously mentioned. Signage should also provide user guidelines indicating the preferred modes of use in all trail areas.

The **monument entry or gateway** sign identifies a main entrance point to the New River and Lower Agua Fria River Corridor. These signs should be constructed out of sandblasted concrete, brick or flagstone. The "West Valley Rivers" project logo may be etched into the concrete, along with the logos of the resident municipality(ies) and/or the Flood Control District of Maricopa County (FCDMC). The approximate dimension of this sign is 12 feet long by four feet high. The estimated cost per monument entry sign is \$25,000.00 (based on year 2001 dollars).

A **wayfinding/directional** sign reflects a map of the entire New River and Lower Agua Fria River Corridor and shows the user his or her location within the 42-mile Corridor. This sign should be constructed out of concrete with a flagstone base. Signs should be pre-cast with a recessed map of the entire trail system including major points of interest. The "West Valley River" project logo plus any relevant jurisdictional logos could also be included on the sign. Approximate sign dimensions are six feet high by four feet wide. The estimated cost per wayfinding/directional sign is \$10-15,000.00 (based on year 2001 dollars).

**Cautionary, informational, and regulatory** signage informs trail users of laws or regulations that may not be apparent, operational controls that do not impose any obligations or prohibitions, and cautionary information for specific trail conditions. These signs should be erected wherever necessary along the Corridor. These signs should be metal with reflective adhesive graphics, incorporating the "West Valley Rivers" project logo and jurisdictional logos, if possible. The approximate dimension of these sign types will vary depending on the type of information required. The Manual of Uniform Traffic Control Devices (MUTCD) provides a comprehensive set of standards for regulatory, cautionary, and informational type signs, color codes, and sizes. For a rectangular sign; other shapes will vary in size. The estimated cost per sign is \$300.00.



MONUMENT ENTRY SIGN



WAYFINDING/DIRECTIONAL SIGN



West Valley Multi-Modal Transportation Corridor Master Plan  
July 30, 2001

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71

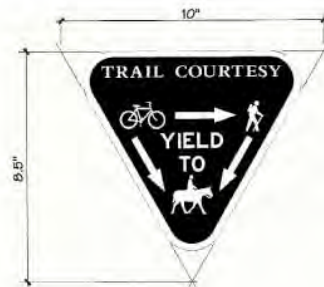
# Appendix B — Design Guidelines

## DESIGN GUIDELINES

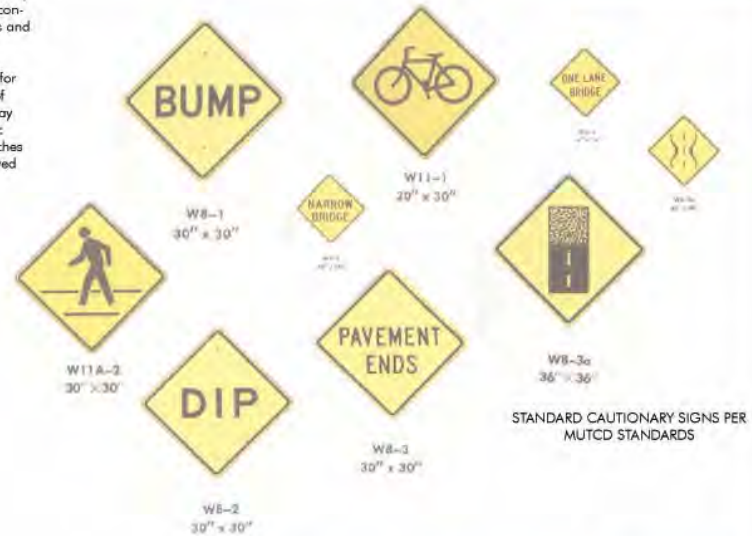
WEST VALLEY RIVERS  
NEW RIVER & LOWER AGUA FRIA

An **Interpretive** plaque denotes an area of interest or of cultural or historical significance. These signs may include photographs or drawings in addition to a text explanation. Plaques should be post-mounted and constructed of copper or aluminum or anodized aluminum for heat and vandal resistance. Sign dimensions and costs will vary, depending on informational content, size, and special considerations.

**Pavement markers**, such as mile markers or footprints stenciled onto the pavement serve as a guide for trail users in measuring their progress, a means for identifying sections of the trail system, and direction of travel for pedestrians. It is recommended that mileage be posted every one-half mile. Posted markers may blend with other trail signage design showing mileage traversed, or may utilize Manual on Uniform Traffic Control Devices (MUTCD) milepost sign standards for low volume, low speed roads (six inches by nine inches for small size posts excluding the word "MILE"). Costs and dimensions of this sign type may vary. For paved trail areas, mileage may also be painted on the trail surface in lieu of a posted sign.



STANDARD SHARED-USE TRAIL CONCEPT SIGN



STANDARD CAUTIONARY SIGNS PER MUTCD STANDARDS



STANDARD TEMPORARY WARNING SIGNS PER MUTCD STANDARDS



STANDARD INFORMATIONAL SIGNS PER MUTCD STANDARDS



West Valley Multi-Modal Transportation Corridor Master Plan  
July 30, 2001

Funded by the Arizona Department of Transportation (ADOT) Enhancement Program



# Appendix C — Liability for Attractive Nuisance

## Arizona Revised Statutes

### 33-1551. Duty of owner, lessee or occupant of premises to recreational or educational users; liability; definitions

A. A public or private owner, easement holder, lessee or occupant of premises is not liable to a recreational or educational user except upon a showing that the owner, easement holder, lessee or occupant was guilty of willful, malicious or grossly negligent conduct which was a direct cause of the injury to the recreational or educational user.

B. This section does not limit the liability which otherwise exists for maintaining an attractive nuisance, except with respect to dams, channels, canals and lateral ditches used for flood control, agricultural, industrial, metallurgical or municipal purposes.

C. As used in this section:

1. "Educational user" means a person to whom permission has been granted or implied without the payment of an admission fee or any other consideration to enter upon premises to participate in an educational program, including but not limited to, the viewing of historical, natural, archaeological or scientific sights. A nominal fee that is charged by a public entity or a nonprofit corporation to offset the cost of providing the educational or recreational premises and associated services does not constitute an admission fee or any other consideration as prescribed by this section.

2. "Grossly negligent" means a knowing or reckless indifference to the health and safety of others.

3. "Premises" means agricultural, range, open space, park, flood control, mining, forest or railroad lands, and any other similar lands, wherever located, which are available to a recreational or educational user, including, but not limited to, paved or unpaved multi-use trails and special purpose roads or trails not open to automotive use by the public and any building, improvement, fixture, water conveyance system, body of water, channel, canal or lateral, road, trail or structure on such lands.

4. "Recreational user" means a person to whom permission has been granted or implied without the payment of an admission fee or any other consideration to travel across or to enter upon premises to hunt, fish, trap, camp, hike, ride, exercise, swim or engage in similar pursuits. The purchase of a state hunting, trapping or fishing license is not the payment of an admission fee or any other consideration as provided in this section. A nominal fee that is charged by a public entity or a nonprofit corporation to offset the cost of providing the educational or recreational premises and associated services does not constitute an admission fee or any other consideration as prescribed by this section.

# Appendix D — Subdivision Regulation

## Arizona Revised Statutes

### 11-806.01. Subdivision regulation; platting regulations; violation; classification; easement vesting

A. The county board of supervisors shall regulate the subdivision of all lands within its corporate limits, except subdivisions which are regulated by municipalities.

B. No plat of a subdivision of land within the area of jurisdiction of such county shall be accepted for recording or recorded until it has been approved by the board. The approval of the board shall be endorsed in writing on the plat and shall also include specific identification and approval of the assurances except those for hiking and equestrian trails required by this section. If a county planning and zoning commission exists, the plat may be referred to such commission for its consideration and the board may receive the recommendation of the commission. If the subdivision is comprised of subdivided land, as defined in section 32-2101, and is within a groundwater active management area, as defined in section 45-402, the plat shall not be approved unless it is accompanied by a certificate of assured water supply issued by the director of water resources, or unless the subdivider has obtained a written commitment of water service for the subdivision from a city, town or private water company designated as having an assured water supply by the director of water resources pursuant to section 45-576 or is exempt from such requirement pursuant to section 45-576. The board shall note on the face of the plat that a certificate of assured water supply has been submitted with the plat or that the subdivider has obtained a commitment of water service for the proposed subdivision for a city, town or private water company designated as having an assured water supply, pursuant to section 45-576.

C. Any person causing a final plat to be recorded without first submitting the plat and obtaining approval of the board is guilty of a class 2 misdemeanor. No county recorder shall accept for recording or record any plat which has not been approved as provided by this article.

D. The ground of refusal or approval of any plat submitted, including citation of or reference to the rule or regulation violated by the plat, shall be stated upon the record of the board.

E. The commission shall recommend to the board and the board shall adopt general regulations of uniform application governing plats and subdivisions of land within its area of jurisdiction. The regulations adopted shall secure and provide for the proper arrangement of streets or other highways in relation to existing or planned streets, highways or bicycle facilities or to the official map for adequate and convenient open spaces for traffic, utilities, drainage, access of fire fighting apparatus, recreation, light and air. **The board may adopt general regulations to provide for the proper arrangement of hiking and equestrian trails** (emphasis added) in relation to existing or planned streets or highways, and if adopted, such hiking and equestrian trails shall conform to the official map for adequate and convenient open spaces for traffic, utilities, drainage, access of fire fighting apparatus, recreation, light and air. The general regulations may provide for modification by the commission in planned area development or specific cases where unusual topographical or other exceptional conditions may require such action. The regulations shall include provisions as to the extent to which streets and other highways shall be graded and improved and to which water, sewer or other utility mains, piping or other facilities shall be installed or provided for on the plat as a condition precedent to the approval of the final plat.

F. On recording of a plat, the fee of the streets, alleys, avenues, highways, easements, parks and other parcels of ground reserved to the use of the public vests in trust in the county for the uses and to the extent depicted on the plat including, but not limited to, ingress and egress easements depicted on such plat. On annexation by any city or town such fee automatically vests in the city or town.

G. Boards of supervisors of counties shall prepare specifications and make orders, inspections, examinations and certificates as may be necessary to protect and complete the provisions and make them effective. The regulations shall require the posting of

performance bonds, assurances or such other security as may be appropriate and necessary to assure the installation of required street, sewer, electric and water utilities, drainage, flood control and improvements meeting established minimum standards of design and construction.. Before adoption of regulations by the board or any amendment as provided in this article, a public hearing shall be held by the commission. A copy of the regulations shall be certified by the commission to the county board of supervisors which shall hold a public hearing after notice of the time and place has been given by one publication fifteen days prior to the public hearing in a newspaper of general circulation in the county.

I. Approval of a plat shall not be deemed to constitute or effect an acceptance by the county for designation of any street, highway, bicycle facility or other way or open space shown upon the plat into the county maintenance system except for hiking and equestrian trails which shall be constructed and maintained by the county. However, at such time as the streets, highways, bicycle facilities or other ways are fully completed in accordance with the approved plat and written specifications made by the county board, the county shall accept such streets, highways, bicycle facilities and other ways into the county maintenance system within one year of completion.

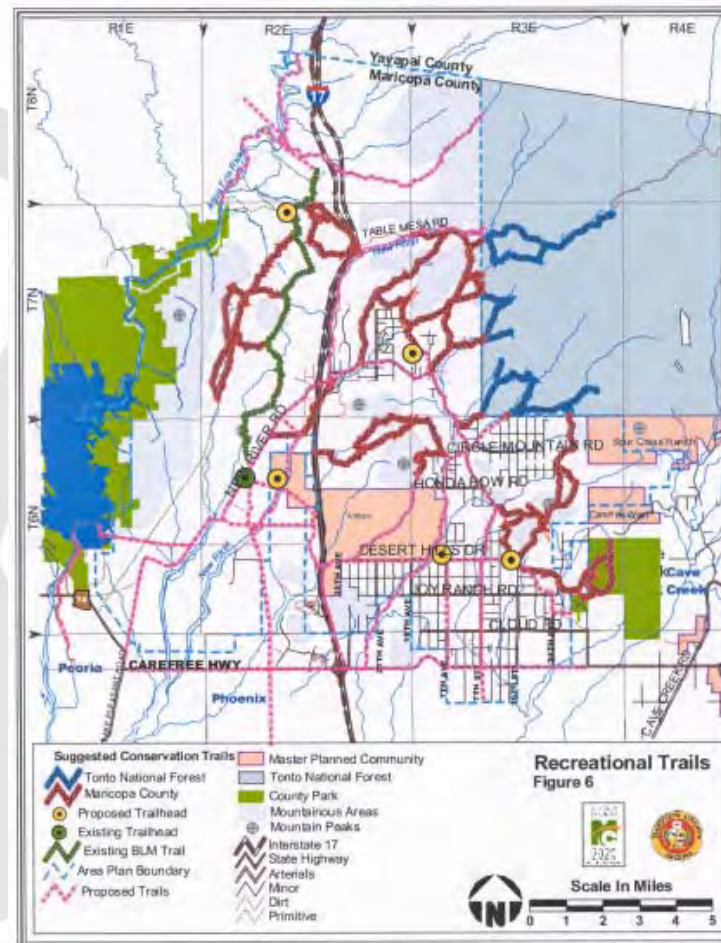
J. For any subdivision that consists of lots, tracts or parcels, each of which is of a size as prescribed by the board of supervisors, the board may waive the requirement to prepare, submit and receive approval of a preliminary plat as a condition precedent to submitting a final plat and may waive or reduce infrastructure standards or requirements except for improved dust-controlled access and minimum drainage improvements.

# Appendix E — New River Area Plan: Trails

## New River Area Plan, page 29

### e) Equestrian/Pedestrian Facilities

There are many equestrian, off-road and hiking trails located within the New River planning area. The NEVTS (*Northeast Valley Transportation Study*) addressed including trails in development plans and proposed a trail system in the southern end of the Area Plan (Figure 6—Recreational Trails) [see this page]. The Emory Henderson Trail enters the planning area at its southern boundary two miles west of I-17 and crosses through the Ben Avery Shooting Range. It remains generally parallel to I-17 and extends north entering Yavapai County, northwest of the New River Interchange. Other trails around the Cave Creek Recreation Area are used extensively, yet are unofficial and maintained by residents only.



# Appendix E — Apache Junction Parks and Recreation Master Plan

## Recommendations

Based on several public interactive workshops, questionnaires, projected demographic needs, City staff input and local officials' suggestions, several recommendations for the future of Apache Junction's Parks can be made. These recommendations are described in this section and shown in their approximate locations on the Parks and Recreation Development Plan graphic.

### TRAIL SYSTEM

The most dominant theme of the Parks and Recreation Master Plan is to link all of the existing and future parks by a network of trails. These trails should be multi-use oriented to accommodate pedestrian, non-motorized bicycle, and equestrian modes of transportation. Separate paths may be needed for these uses, especially equestrian.

Each of these trails should be supported by a number of access points, trailhead signage, and rest facilities. Picnic areas and concession stands are also possible stopping points.

The Multi-Use trail provides an excellent opportunity for trail connections to the north and east. The southern edge of the City provides opportunities for blending trails with the existing and proposed uses.

Intra-city linkages might best be located along major corridors, such as the Old West Highway and Downtown Apache Trail. Along Ironwood north of the Freeway to Downtown, and north of Downtown between Meadlan and Ironwood, use could be made of the existing vacant land as trail connections.

An additional trail corridor is suggested along the backside of the City Hall Complex, Library and Senior Center. This link is especially well protected because of the State land and flood control areas to the east.

27

## PARKS AND RECREATION MASTER PLAN

Wherever possible, these trails are intended to use existing vacant property or open space, link as many park and recreation facilities as possible, and serve as buffer for view corridors and other scenic preserves. New residential neighborhoods and other developments are encouraged to design and improve their portions of a City-wide pathway network.

Trails are also shown linking with key regional locations and connecting trails such as the Sun Circle Riding Trail and Usary Park; The Tonto National Forest, Superstition Mountain Park; Sily Mountain, and San Tan Mountain Park.

In conjunction with the City-wide trail system a consistent landscaped theme can provide the feel of open space while creating a unified city atmosphere. Repetition of local vegetation arrangement along trails, especially those abutting arterial or major roadways, contributes excellent aesthetic quality and cohesion.

### EXISTING PARK EXPANSION

Wherever possible, especially at elementary schools, existing facility expansion is encouraged.

Desert Vista Elementary has opportunity areas to the east and west and Four Peaks Elementary has opportunities to the north and south. Both of these schools should take advantage of their possibility to connect with the City trail system.

Prospector Park and the Rodeo Grounds are close enough to be linked together and expanded into a larger facility with additional amenities: Play fields, tracks, concessions areas, fairgrounds, parking, or a community center could be included in this larger park area.



# Appendix E — East Maricopa Floodway Multi-Use Corridor Study





# Appendix E — Town of Gilbert General Plan 2003

## Chapter 4 — Parks, Open Space, Trails, and Recreation Element

### Parks, Open Space and Trails, Recreation Plan Regional Context

The Town of Gilbert shares several regional trail connections with the surrounding communities of Queen Creek, Mesa and Chandler. These trails provide connections to regional destinations, as described in the following paragraphs.

The Queen Creek General Plan identifies Queen Creek and Sanokai Wash as major equestrian, bicycle, and pedestrian trails through the community. These trails connect to the Santan Mountains. The Santan Mountains Regional Park south of the Town provides a regional recreation resource and visual identity to the Town. Additional multiple use trails are located along Riggs and Chandler Heights Roads. Rittenhouse Road is planned as a bike pedestrian trail and provides connections to Williams Gateway Airpark.

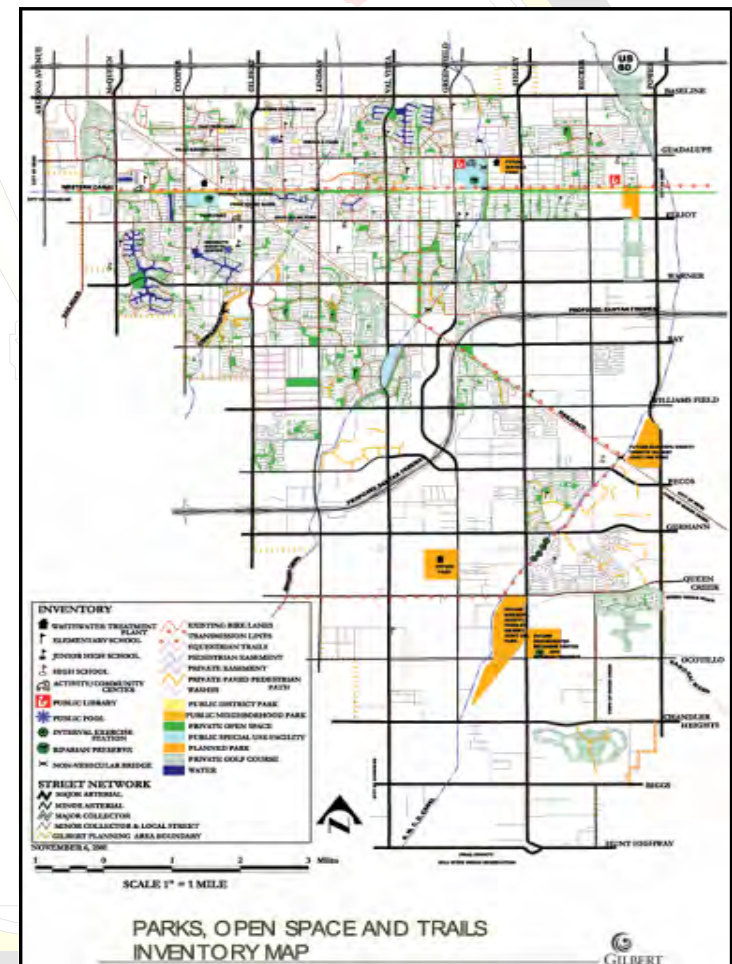
Maricopa County has designated the Western Canal and portions of the Consolidated Canal as the Sun Circle Trail and may look to expand the trail in the future. The Sun Circle Trail provides connections throughout the Valley as far west as the White Tanks Regional Park, north to the Central Arizona Project and Lake Pleasant, and east to the East Maricopa Floodway. Maricopa County Flood Control District's East Maricopa Floodway and the RWCD Canal are planned for a regional trail called the Marathon Trail, which connects Gilbert with Mesa to the east and north, and to the Gila River Indian Reservation and the Santan Mountains to the south. The Maricopa County Flood Control District drainage master plans for the East Maricopa and Red Mountain Floodways and Queen Creek Wash include recreational resources such as parks and trails.

The City of Chandler is constructing a trail system on the Consolidated Canal, called the Paseo. Within Chandler, the Consolidated Canal provides connections to the Chandler Tumbleweed Regional Park, the Chandler Municipal Airport and the Bear Creek Municipal Golf Course. The Consolidated Canal also provides connections within Mesa to Fitch Park and Harmony Park. Within Gilbert, the Consolidated Canal is part of the Heritage Trail located in the downtown area, and also connects to Freestone Park, the Gilbert Municipal Center, and the Western Canal.

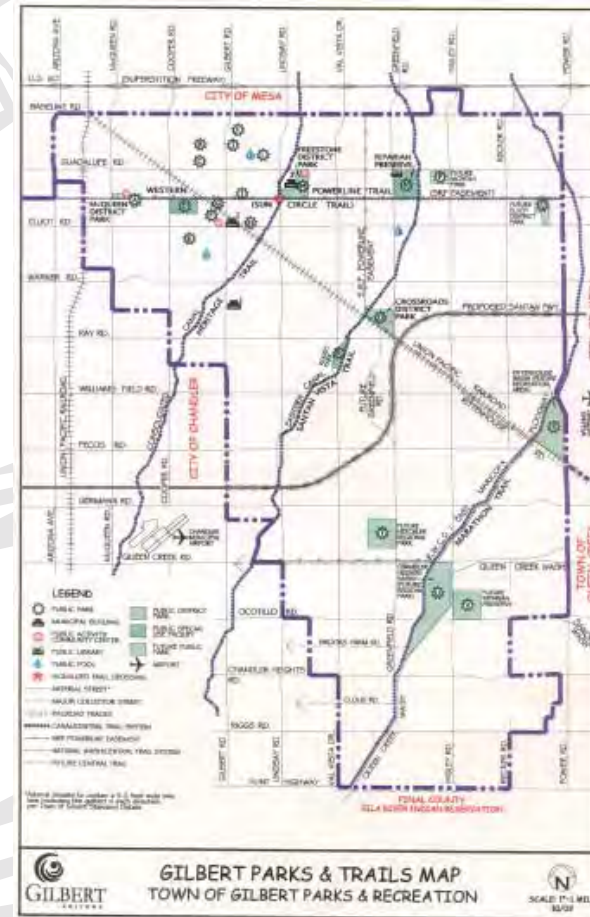
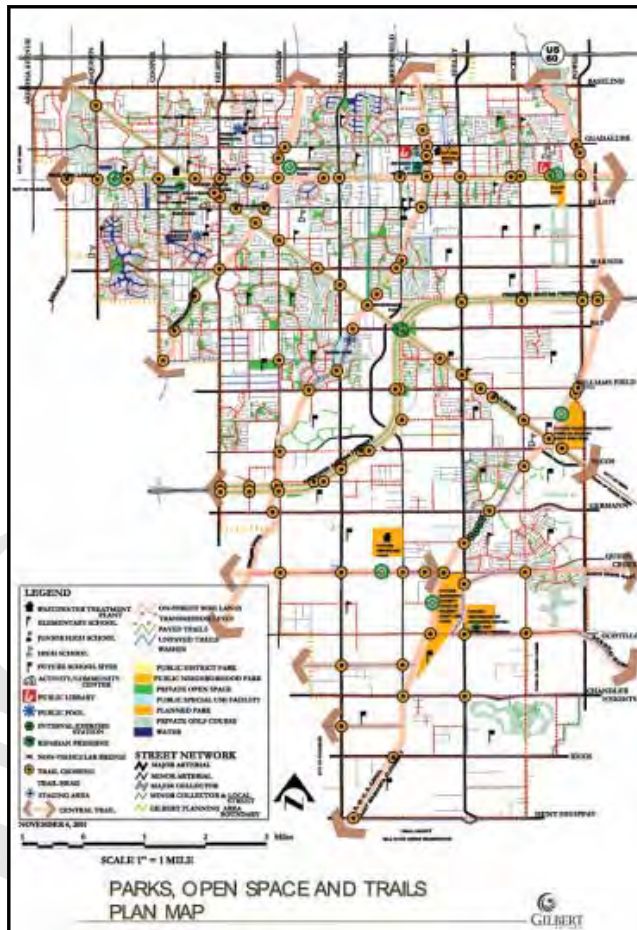
Chandler has designated equestrian trails at the Cloud and Brooks Farms Roads alignments. Chandler is also working with the Gila River Indian Reservation on the provision of a 20-foot wide trail easement along the south side of Hunt Highway to provide connections to the Santan Mountains Park and the Town of Queen Creek. Chandler has three large parks near the Gilbert jurisdictional border: Pima Park, Santan Park, and Tumbleweed Park.

The Eastern Canal provides Gilbert with connections to Chandler and Mesa. Within Gilbert, the Eastern Canal provides a link to the Western Canal, Southeast Regional Library, Riparian Preserve, Crossroads Park, and the Rodeo Park equestrian recreational area.

SRP maintains several transmission line easements throughout the Town. The northern power line is located ½ mile south of Guadalupe Road and extends east-west along the Western Canal alignment. A second transmission line easement extends north from the SRP power plant to the Western Canal alignment and north into Mesa. A SRP transmission line easement is located on the north side of Queen Creek Road between the Eastern Canal and RWCD Canal, providing east-west connection between the two canals.



# Appendix E — Town of Gilbert General Plan 2003



# Appendix E — City of Mesa Parks and Recreation Plan

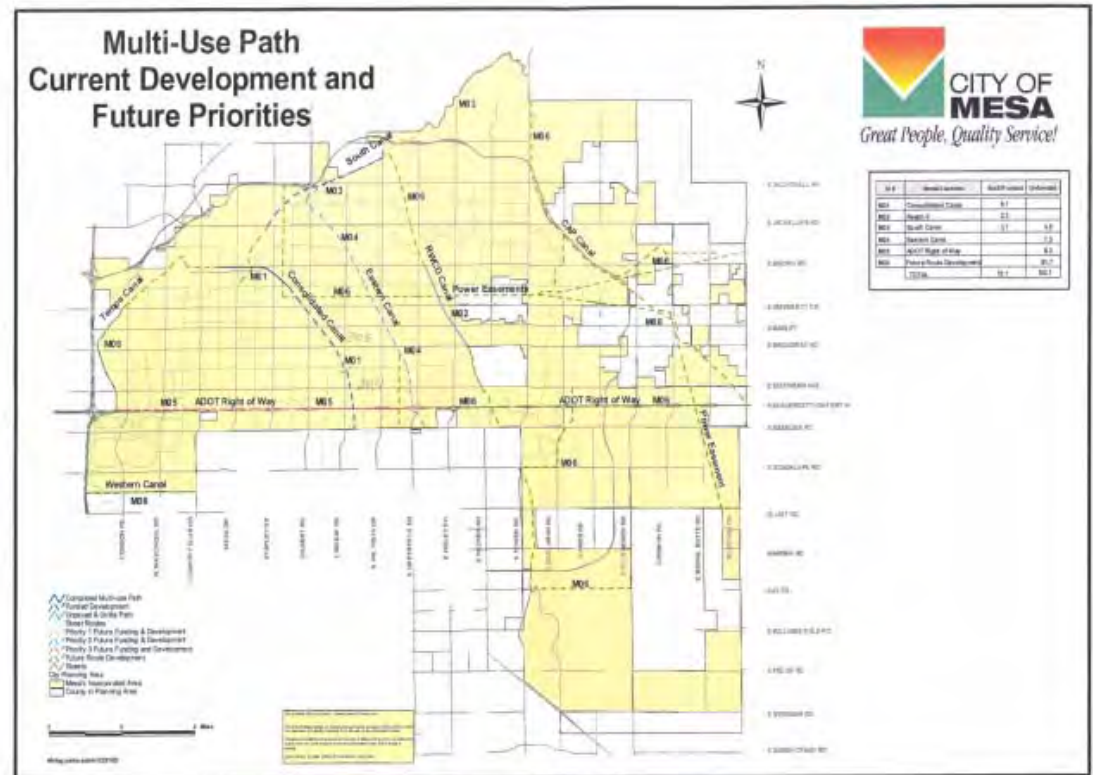
**Map Title: MULTI-USE PATH CURRENT DEVELOPMENT AND FUTURE PRIORITIES (Page O)**

The map represents the future multi-use paths that could be developed in Mesa. The priorities are outlined in order as designated in the left corner of the map. The solid lines represent completed multi-use paths. To date, Mesa has approximately 2 miles complete. 23 miles are planned for the future as priorities.

An Urban pathway consists of a separated minimum 10' paved pathway for shared use by both pedestrians and cyclists. The landscape area adjacent to a canal is optional depending on right-of-way availability.

### SUMMARY

The city has great potential to extend its urban pathway system through developing the canal system into multi-use paths. This is the most requested desire of the residents. Developing the multi-use paths would allow youth and adults to move through the city in a more free fashion. Multi-use paths have high demographic appeal for people of all ages.



# Appendix E — City of Phoenix General Plan

## Open Space Element

### EXECUTIVE SUMMARY

The Open Space element describes the city's mountain and desert preserves and trail systems within parks, along washes, canals and utility corridors and in the Rio Salado (Salt River).

**Natural open spaces:** protect and preserve significant open space areas for public enjoyment and provide connections among them.

**Linear open space:** create a continuous nonmotorized trail system using canals, washes, drainage corridors and rivers for recreation and alternative transportation purposes and as a public amenity.

**Desert parks and preserve trails:** create a network of shared-use trails and pathways that are safe, convenient and connected within preserves and parks.

**Edge treatment:** preserve natural washes coming from the preserves and promote access and views of the preserves by the public.

### INTRODUCTION

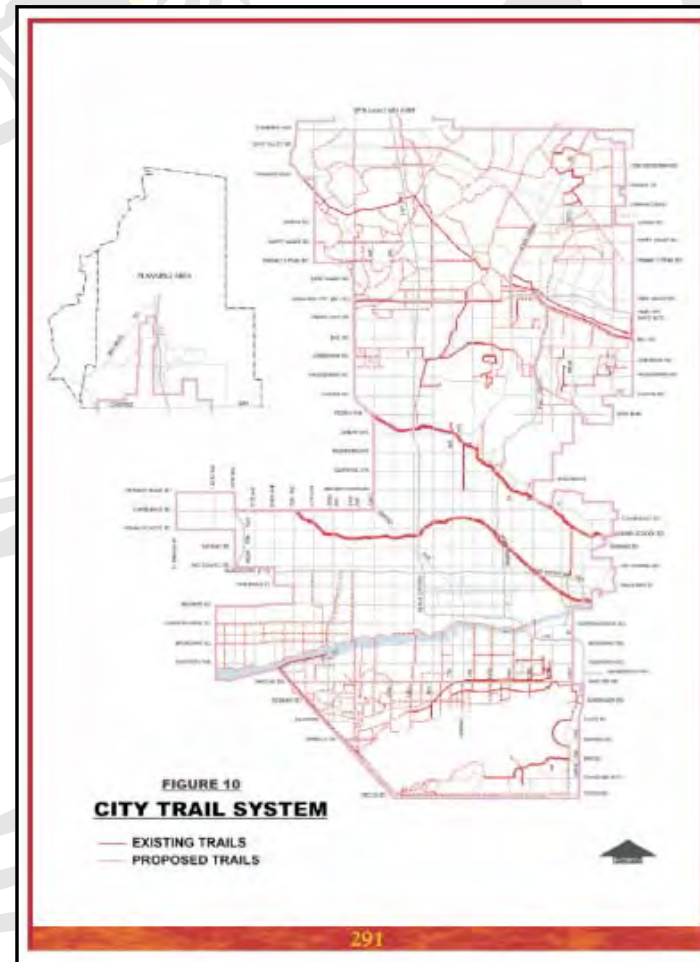
The Open Space element includes a description of the areas of Phoenix that provide public open space. These areas provide space for recreation, environmental preservation and natural hydrologic systems. It also includes analysis of need, policies for management, and designated access points, protection, and acquisition strategies. This element also is consistent with the Sonoran Preserve Master Plan (1998) and the Maricopa Association of Governments Desert Spaces Plan (1996), which established preserve design principles based on ecological theory, context and regional framework for an integrated open space system. The plans promote linkages to similar spaces in adjacent cities and other jurisdictions. The element presents goals and policies that promote the preservation of natural open space adjacent to a built environment. The Open Space element is related to and supports goals and policies of these other General Plan elements: Land Use, Recreation, Circulation, Bicycling, Natural Resources Conservation, and Growth Area.

The city of Phoenix manages more than 25,000 acres of mountain preserves and desert parks. Figure 1: Existing Open Space, shows the existing open space, preserves, and desert parks in Phoenix, and existing

and planned access points. For detailed inventory data and amenities, visit or call the City of Phoenix Parks Development Division in the Parks, Recreation and Library Department. Included are landmarks such as Camelback Mountain and Squaw Peak as well as South Mountain, North Mountain, Shadow Mountain, Lookout Mountain, Papago Park, and Union Hills and Deem Hills recreation areas. Other natural areas that contribute to the open spaces in Phoenix include: the Salt River (the Rio Salado/Tres Rios project); the various canals; and the Cave Creek, Skunk Creek, and Scatter Wash hydrologic systems. These areas accommodate various recreational and outdoor activities - hiking, mountain bicycling, horseback riding, picnicking, outdoor education, bird watching, and biological field studies.

### History

As early as 1924, community leaders recognized the need to save significant mountain areas for future generations. Phoenix was only five and one-half square miles, had 38,500 residents, and was more than seven miles north of the Salt River Mountains when the city, with the assistance of citizens and U.S. Senator Hayden, convinced President Coolidge to sell 13,000 acres of federal land for a park. Today, this land is part of the 16,500-acre South Mountain Park.



# Appendix E — Town of Queen Creek General Plan 2002

*"Keeping Queen Creek Unique"*

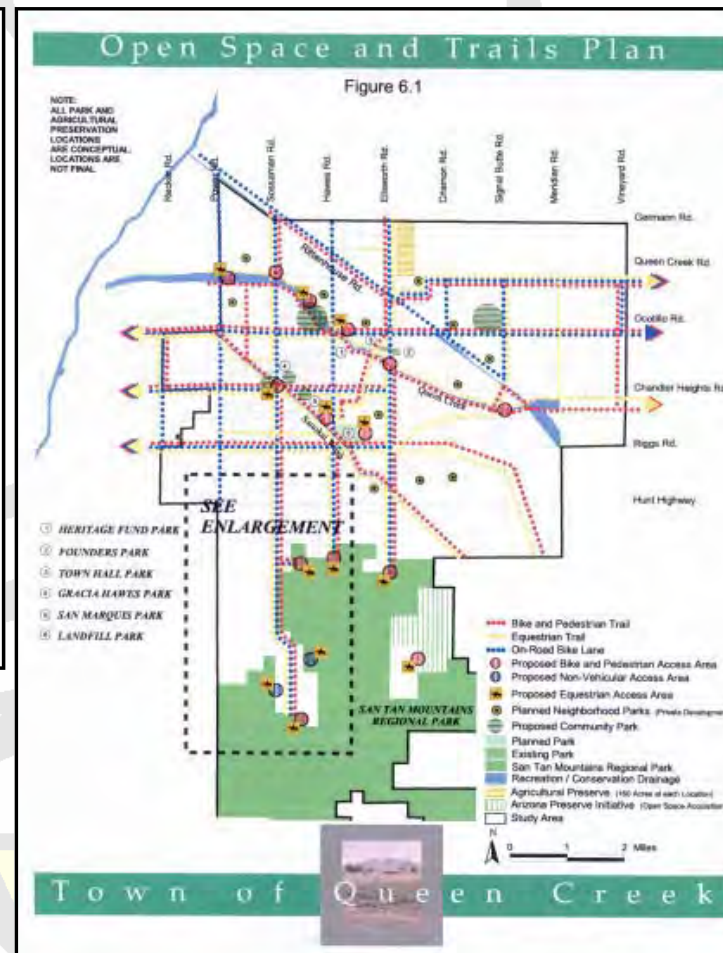
## 6.0 PARKS, TRAILS, AND OPEN SPACE ELEMENT

### 6.1 Purpose Statement

The Parks, Trails, and Open Space Element defines or establishes the goals and policies for meeting the community's recreation and open space needs. It provides a framework for the development and implementation of parks, trails, recreational opportunities, and preservation of open space. It also provides guidelines for determining the type and size of the parks needed to provide a well-balanced park system that will meet the needs of Queen Creek's residents.

The Queen Creek Parks, Trails, and Open Space Element includes:

- An inventory of open space areas, recreational resources, and access points to these areas.
- Analysis of future needs, policies for managing and protecting open space areas and resources, and implementation strategies to acquire additional open space and establish new recreational resources.
- Policies and implementation strategies to promote a regional system of integrated open space and recreational resources.



# Appendix E — Litchfield Park General Plan

## OPEN SPACE ELEMENT

An outdoor, resort atmosphere was a founding principle for Litchfield Park. Ample grounds of the Wigwam, with fairways abutting residential neighborhoods, reduce the density of development. Parks, pathways and private yards add to the City's open space appearance.

Changes in State planning statutes place added emphasis on open space, particularly to encourage preservation of natural areas. Although this community does not contain large expanses of undeveloped, undisturbed land, the spirit of open space conservation is fully respected.

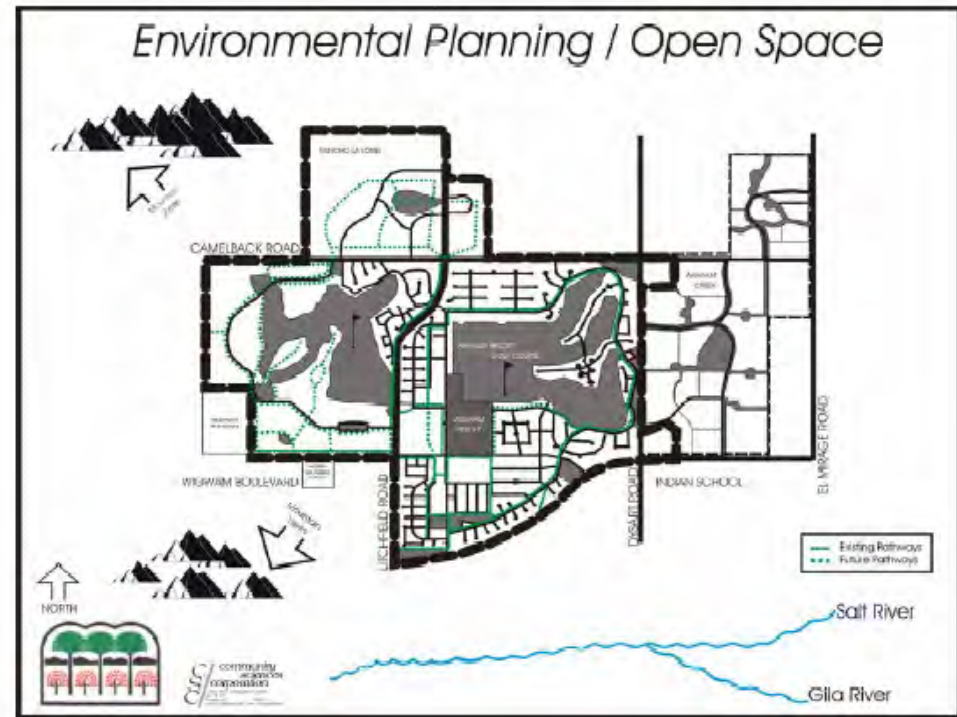
### 1. EXISTING OUTDOOR ENJOYMENT ASSETS

Maintained open space represents thirty percent of the developed community land area. The Wigwam Resort's five hundred acres of well-manicured golf courses, tennis courts, lawns, landscaping and other recreational uses is the major contributor to the City's spaciousness. Additional properties in both municipal and private ownership are available for public use and enjoyment.

#### c. Pathway System

Nearly eight miles of recreational pathways are in place or are planned for the City's encouragement of alternate transportation modes. From the original village design to contemporary development planning, pathways are an essential – and distinguishing – ingredient of the community's General Plan. Extended linkages for cyclists, pedestrians or golf cart users are checklist components in all private development plans as well as local government's coordinated planning with adjacent jurisdictions. Newly-developing areas, for example, are expected to address the necessary integration with the City's existing pathway system. Cooperating planning with the cities of Avondale and Goodyear is intended to facilitate path connections to schools, particularly the Estrella Mountain Community College Center, and shopping-service areas, such as the Litchfield Plaza south of Indian School Road.

Environmental Planning / Open Space Map



# Appendix E — Scottsdale Trails Master Plan

## INTRODUCTION

### Purpose

*The purpose of this study is to develop a vision, set goals and objectives to guide development of a City-wide trails master plan that will be implemented through expenditures of 2000 bond funds and beyond.*

### Mission

*The project team, including City staff and consultants, has a straightforward mission. It is to create a great trail system for the citizens of Scottsdale.*

## BACKGROUND

The last time the City of Scottsdale addressed trail planning on a City-wide basis was in 1991. Adopted as an element to the City's General Plan, it included approximately 300 miles of paved, non-motorized multi-use trails. The 1991 plan also reflected historical trails throughout the City that had been documented in the early '70s and refined in the '80s. Since the implementation of that plan, significant growth and change has occurred.

## PROCESS OVERVIEW

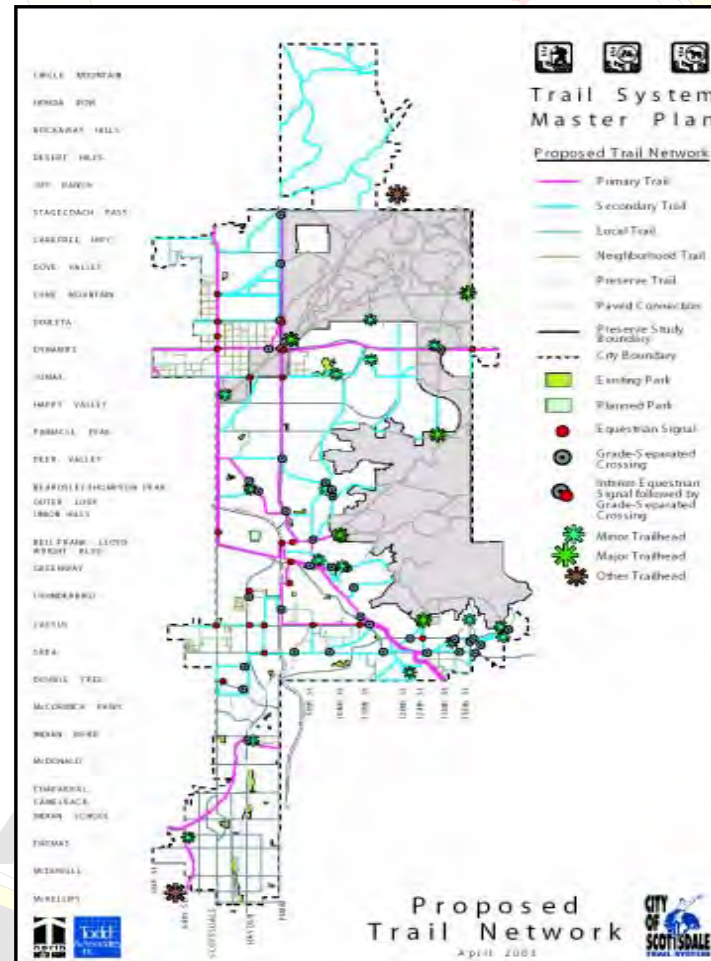
The Master planning process was structured into five phases:  
**ANALYZE** - inventory and evaluation of existing conditions, plans, procedures, facts and initial public comment.  
**UNCOVER** - identification of additional issues, facts, needs, ideas opportunities and constraints leading to a clear understanding of how the Scottsdale Trails System currently functions and the preparation of a guiding vision, goals and objectives for how the Trail System will function in the future.  
**UPDATE** - review existing and potential trail corridors leading to an unemended draft plan and process for identifying specific improvement projects.  
**IMPLEMENT** - production of the final recommended trails plan with implementation strategies.  
**APPROVE** - final approval of the Recommended Draft Trails Master Plan thereby creating the Scottsdale Trails Master Plan.

## PUBLIC INVOLVEMENT SUMMARY

Public information was gathered throughout the planning process by a variety of interactive and participatory means. Focus groups, open houses, workshops, Parks and Recreation, Planning, Transportation and Preserve Commission and personal meetings provided opportunities for direct input and creative ideas at crucial points in the process.

Newletters, the City's Web site and media provided information and announcements for upcoming meetings. Participatory opportunities were available for the interested public, user and non-user of trails. Residents in four specific neighborhood study areas: Mesquite Park, Cactus Corridor, Shot Corridor and Desert Foothills were invited to participate in an in-depth analysis of localized trail issues and opportunities.

The Parks & Recreation Commission recommended approval of the Scottsdale Trails Master Plan Maps on February 19th, 2003, and the written Master Plan document on March 3, 2003. The City Council approved the Scottsdale Trails Master Plan in its entirety on April 14, 2003.



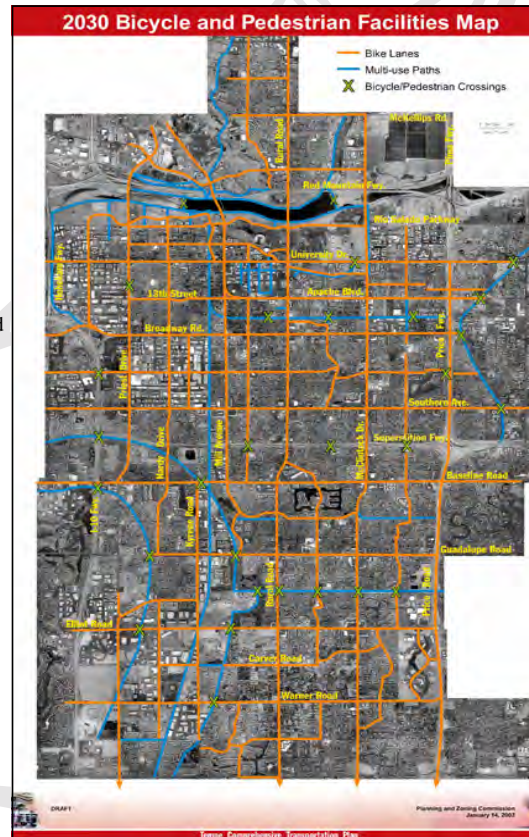
# Appendix E — City of Tempe General Plan 2020 & 2030

## Transportation Element City of Tempe General Plan 2020 & 2030

### Introduction

This Transportation Element represents a synthesis and summary of the policy basis of the much more detailed Comprehensive Transportation Plan. The Transportation Element has been developed as an outgrowth of the General Plan 2020 and will be incorporated into the General Plan 2030. The Transportation Element includes the sections listed below. A general objective, statement of rationale, and a set of implementation strategies have been developed for each of the following sections:

- ◆ *Pedestrian Network*
- ◆ *Bikeways*
- ◆ *Transit*
- ◆ *Streets and Freeways*
- ◆ *Relationship to Land Use and Neighborhoods*
- ◆ *Public Art in Transportation*
- ◆ *Parking and Access Management*

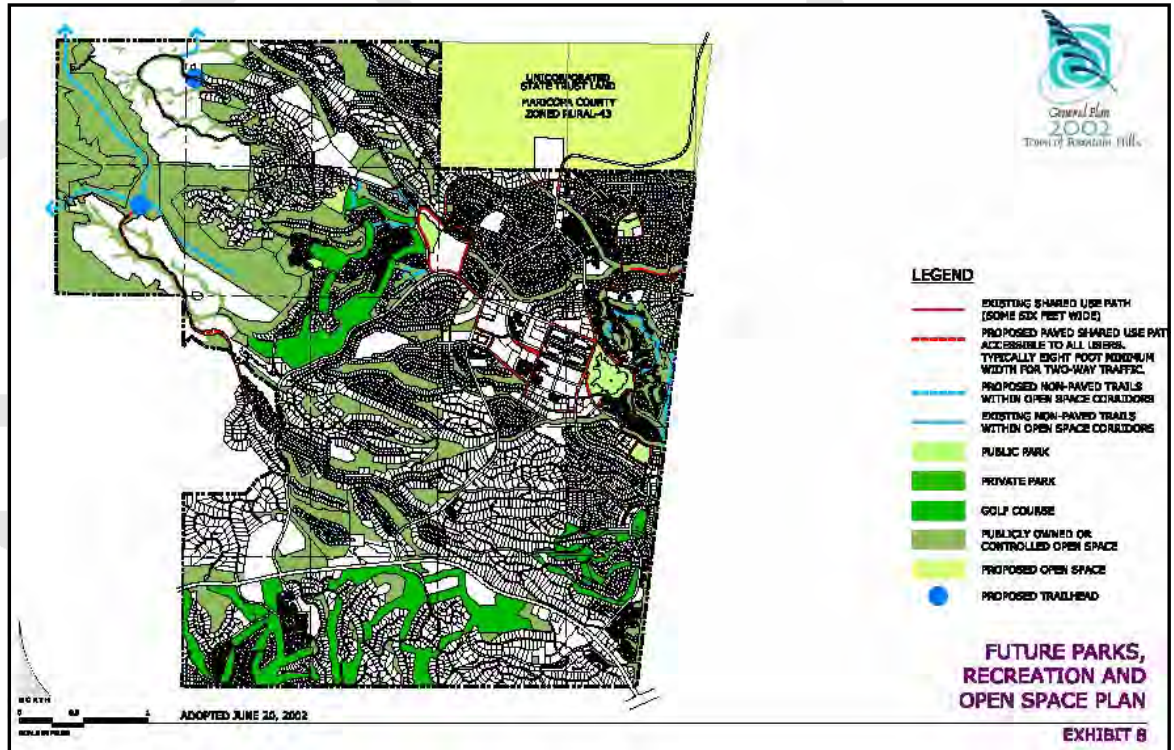




# Appendix E — Town of Fountain Hills General Plan 2002

## McDowell Mountain Preservation

The Town has recently finalized an agreement with MCO Properties to set aside over 354 acres of land as a natural preservation area. A parking area and trailhead is planned for development that would allow visitors to access the trail system within the preserve potentially connect with the regional trail system developed in the McDowell Mountain Park to the north and west of town. Additionally, the Town is coordinating with the City of Scottsdale to connect the intra-municipal trails between preserve areas.



# Appendix E — Hiking and Riding Trails, Maricopa County, Arizona

## CHAPTER 3

### HIKING AND RIDING TRAIL PLAN

In establishing a county-wide hiking and riding trail plan, a conservative approach has been selected with the possibilities of expansion as the alternative.

The principal purpose of the Maricopa County Hiking and Riding Trails Committee was to study and recommend a county-wide trail system, which would connect the urban places of the County with the Phoenix Urban Area and the County regional park system.

In developing a county-wide trail system, it has been recognized that it will be desirable and essential to have a state trails system adopted and that portions of the county system should be a part of the state system – or that the two should be integrally connected at some convenient point or points. However, it was the opinion of this Committee that the County should not delay in the preparation or adoption of a county-wide system. It was also recognized that since the Phoenix Urban Area now contains over 80 percent of the County population that the majority of the trails should be located and established to meet those needs.

The Plan, as shown on Plates 1 and 2, has given consideration to the trail system originally proposed by the Arizona State Horsemen's Association, and the Trails Committee agreed with the local chapter that the proposed Sun Circle Trail should be the main focal point of the trail system and the first to be established. This trail contains approximately 140 miles.

Plate 1 shows a primary trail system that connects all of the urban areas of the County to the Sun Circle Trail. The primary trail system, as shown on Plate 1, includes approximately 380 additional miles of trail and will adequately serve that portion of the County that lies outside the Phoenix Urban Area.

26

Plate 2 shows a secondary trail system that connects the Sun Circle Trail and primary routes to all of the County regional parks. In addition, it suggests the establishment of various other trails within the Phoenix Urban Area. The secondary trail system, as shown on Plate 2, adds approximately 200 more miles to the over-all system. This provides a total of 720 miles which still falls short of the 800 estimated to be needed for 1960. However, it is felt that if those trails suggested on Plates 1 and 2 could be established within the near future that it would for the most part solve the present needs and demands and would provide additional beneficial information in determining the needs and locations of future trails.

In suggesting the proposed trail system, it has not been overlooked that several miles of trails already exist within the Tonto National Forest and the Superstition Wilderness, and that a great many more will be established in these areas in the future. Also, as the County regional parks systems are developed they will provide additional miles of trails to the system. Various city parks such as Squaw Peak, South Mountain, Papago and Thunderbird Parks will also provide additional trails, which will compensate for the County needs and which will help relieve the problem within the Phoenix Urban Area.

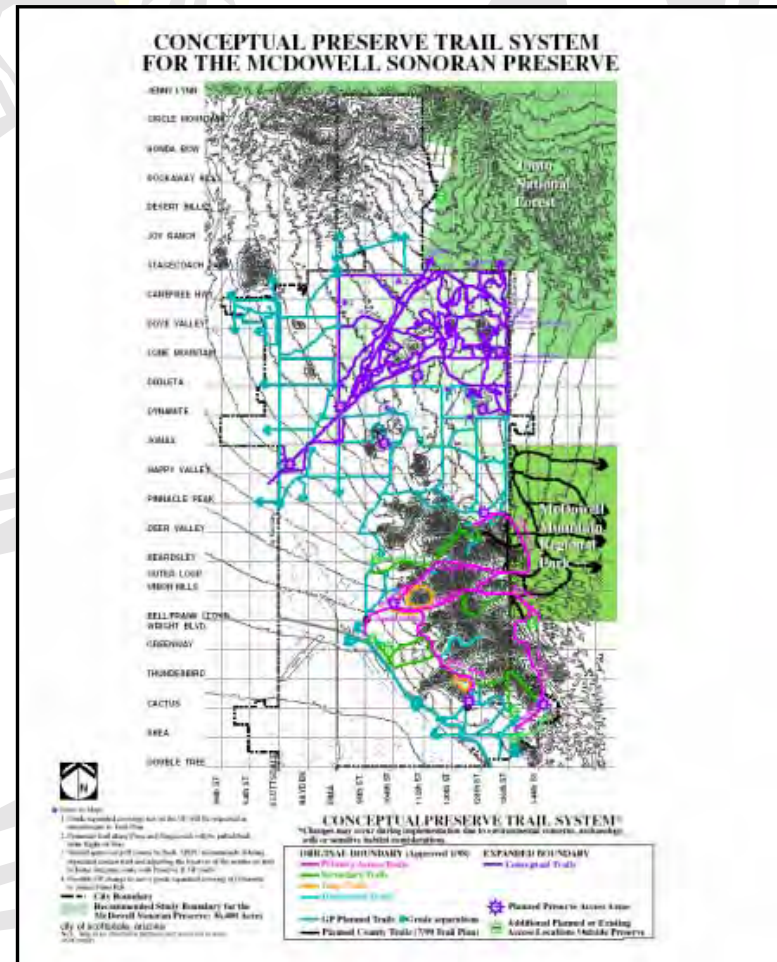
27



# Appendix E — McDowell Sonoran Preserve Trails Plan

## McDowell Sonoran Preserve Trails Plan

Working in cooperation with user groups, the McDowell Sonoran Preserve Commission created a Conceptual Trails Plan for the Preserve (pdf/3233kb/1pg). The over-riding goal was to provide opportunity for appropriate public access, use and enjoyment of the Preserve, while ensuring environmentally sensitive archaeological and other historical sites are safeguarded. Many portions of the Preserve will not have public access for these reasons. Every opportunity was made to utilize existing routes so that no new impact on the environment was necessary. In the existing heavy recreation use area north of Dynamite Boulevard on State Trust land, it is planned to reduce the existing over 100 miles of trails by over two-thirds. This change will occur over time as the City takes ownership of the land. It will take many years for the full trail system to be put in place.



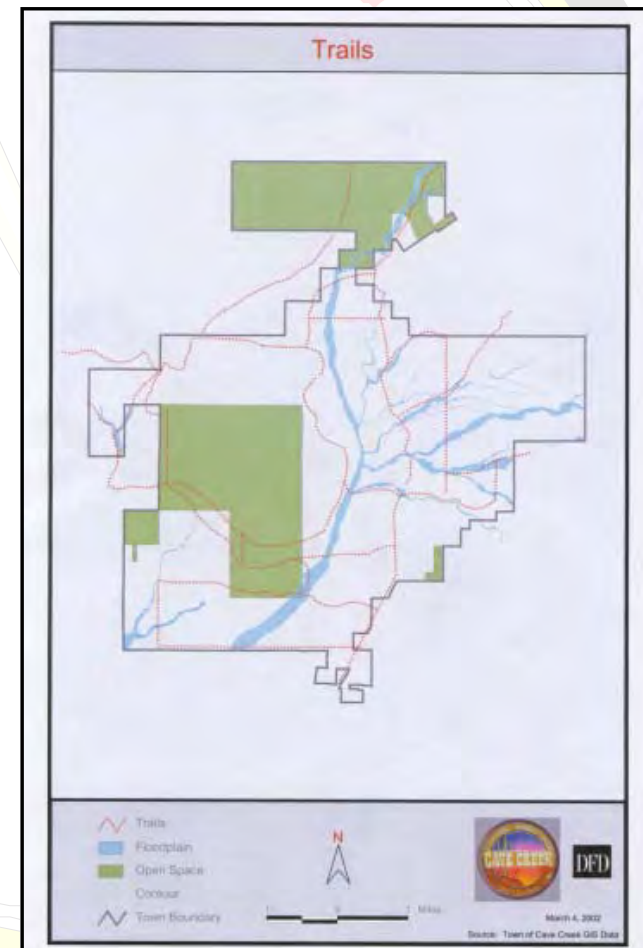
# Appendix E — Town of Cave Creek General Plan

## D. Trails

As part of the overall circulation plan, the General Plan provides for the integration of public trails for equestrian/pedestrian uses and bike lanes into the long range vehicular circulation plan. For the most part, the trails as designated on the accompanying maps include public trails which fall within road right-of-ways for the year 2010 circulation plan. For equestrian/ pedestrian trails this means extending trails along one or both sides of the road on a properly graded side slope. For bike lanes this means 5' wide paved shoulders in both directions.

These trails are intended to provide access to the Cave Creek Recreation Area, the Tonto National Forest, the Historic Town Center and to interrelate with other public trails to and from the Cave Creek Area. These trails should be signed as public trails for use by the general public. The accompanying trail maps are intended to provide a conceptual development plan for the long range development of public and private trails in the study area. It is intended that all collector and arterial streets should include public equestrian, pedestrian and bicycle lanes.

- Horseback riding hiking are important elements in Cave Creek lifestyles, and the preservation of historic trails should be encouraged.
- New development is encouraged to maintain the integrity of the historic trails system and to create new public trail corridors.
- Future developments should be encouraged to interrelate to these public trails. Horse trails should be provided along Spur Cross and Schoolhouse Roads.



# Appendix E — Town of Carefree General Plan 2020

## CIRCULATION ELEMENT

### Pedestrian / Equestrian Trails, page 29

In recent years, the Town of Carefree working with the Desert Foothills Land Trust and other concerned citizens has taken an interest and a more pro-active role in preserving public access trails for pedestrian and/or equestrian use. Current public trails are those segments of Galloway and Grapevine washes that are under the stewardship of the Desert Foothills Land Trust and the 80th Street alignment trail from Rising Sun Road to Grapevine Wash.

### Trail System, page 33

The proposed trail system includes a long-range plan for the development of trails throughout the Town. The design for each trail segment will take place as public access is approved. Bikeways will be considered along major roadways including the portions of Cave Creek Road that are in Carefree, Carefree Highway between Cave Creek Road and Tom Darlington, along Tom Darlington, and along Mule Train and Carefree Drive. Bikeways should be developed after documentation of need and further analysis of design alternatives.

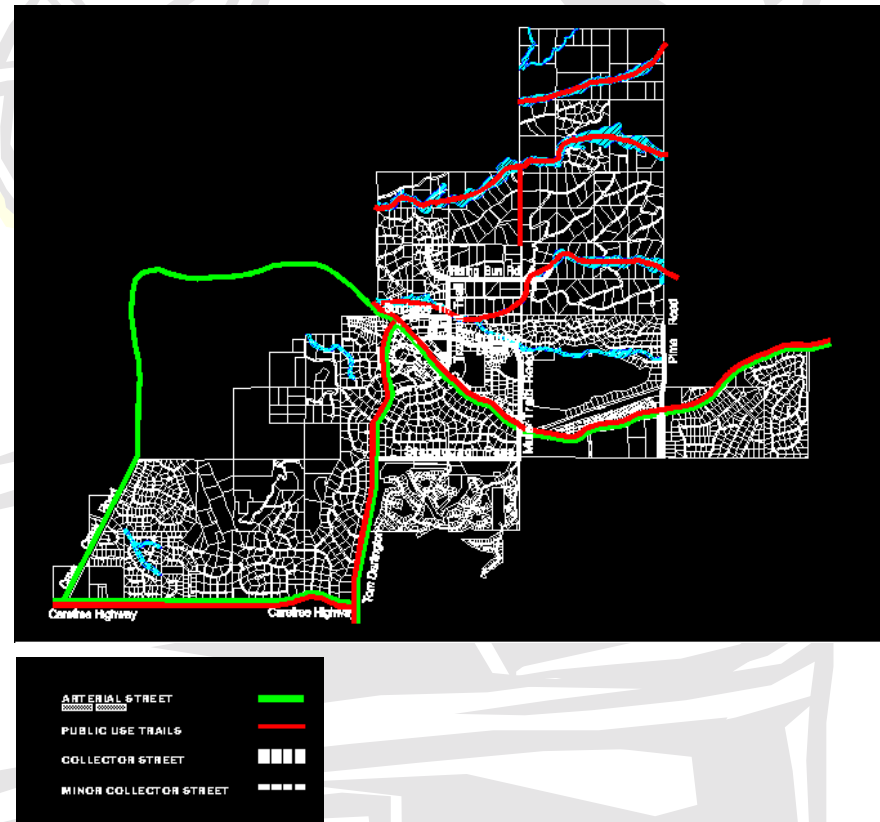
## OPEN SPACE ELEMENT

### Regional Open Space Opportunities, page 37-38

The Maricopa Association of Governments adopted the Desert spaces plan in 1995 which identifies and recommends conservation and management strategies for natural resources and open spaces critical to the quality of life in the Valley. The concept is to preserve and enhance the mountains and foothills, rivers and washes, canals and cultural sites, upland desert vegetation, wildlife habitat, and existing parks and preserves. The plan establishes a network of protected open spaces that correspond to regionally significant mountains, rivers, washes and upland desert. The plan documents some important open space resources within Carefree and the Surrounding area:

- A potential regional trail along Rowe Wash could connect to a Cave Creek trail providing a link between the mountains north of the Town to the Cave Creek Recreation Area and Spur Cross Ranch.

Traffic circulation and trails plan



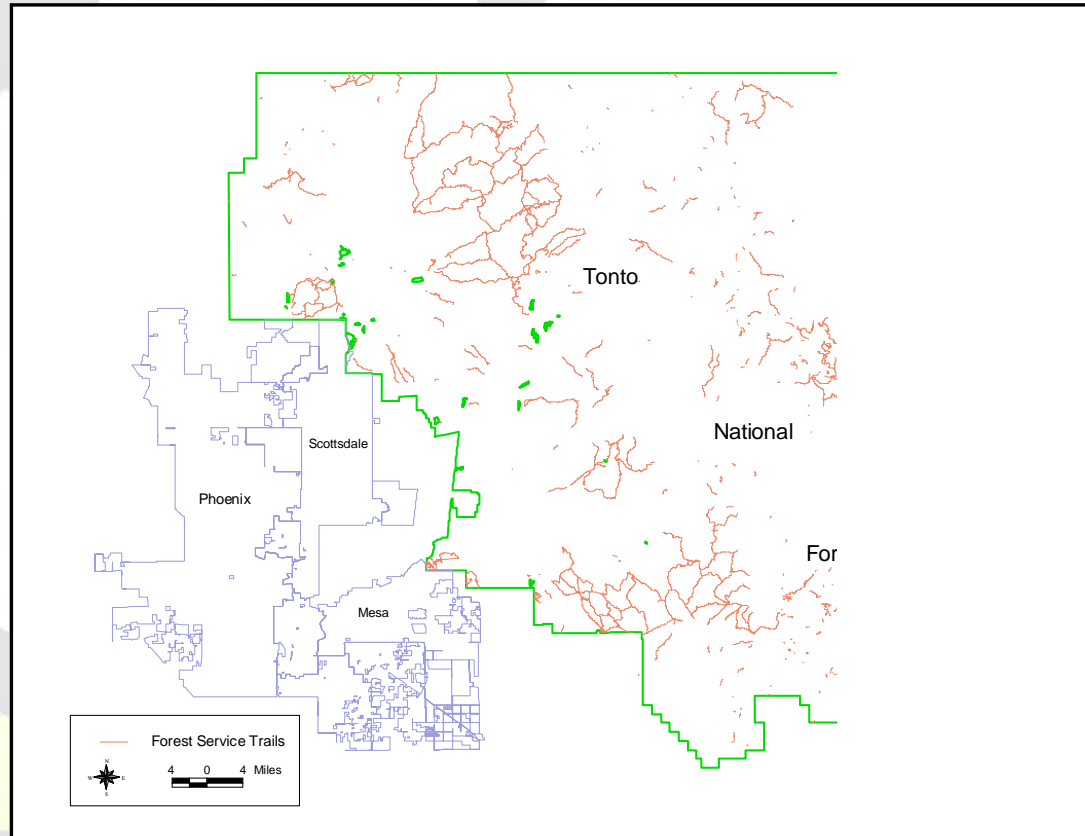
# Appendix E — Tonto National Forest Trails

## *Recreation Agenda for National Forests*

We need to plan together to support community objectives for building recreational programs, facilities, and services that contribute to local and regional economies and quality of life.

National forests located 1 hour or less from metropolitan areas with populations of 1 million or more are growing in number. These forests are increasingly important because they contribute to the quality of life of millions of people. The agency has the opportunity to become a leader in promoting good land stewardship in communities through the Urban and Community Forestry program. Urban people are placing greater demands on the Forest Service for a wide range of travel and tourism services, educational opportunities, and experiences. Emerging issues such as limits to growth, carrying capacity, competing uses, and multicultural diversity have occurred on these forests first. They can serve as learning centers or "Windows to the Future" for other forests facing urbanization issues.

With the rapid development of areas that surround national forests, many critical public access points are in jeopardy. It is important to work with local governments, nonprofit organizations, and private landowners to plan together for the future of public rights-of-way. With changes in use patterns on the forest transportation system, it is important that we work together to plan for future uses.



# Appendix E — City of Chandler General Plan

## OUR RESOURCES

### Open Space and Recreation Element

**GOAL:** CREATE OPEN SPACE NETWORKS THAT CONTINUE TO CONTRIBUTE TO THE QUALITY OF LIFE OF CHANDLER RESIDENTS.

**OBJECTIVE:** Create a network of pathways, trails and open space throughout the City as an important element of recreation, transportation and life quality enhancement for Chandler residents.

**Policy:** Create Neighborhood, Community, and Regional Parks linked with trails and paths to schools and other public areas, retention areas, and linear parks.

**Policy:** Consider instituting design guidelines that conserve environmental resources and enhance and complement the City's open spaces and parks.

**Policy:** Continue to integrate the Consolidated Canal as a primary connector between Neighborhood and Community Parks in Southeast Chandler.

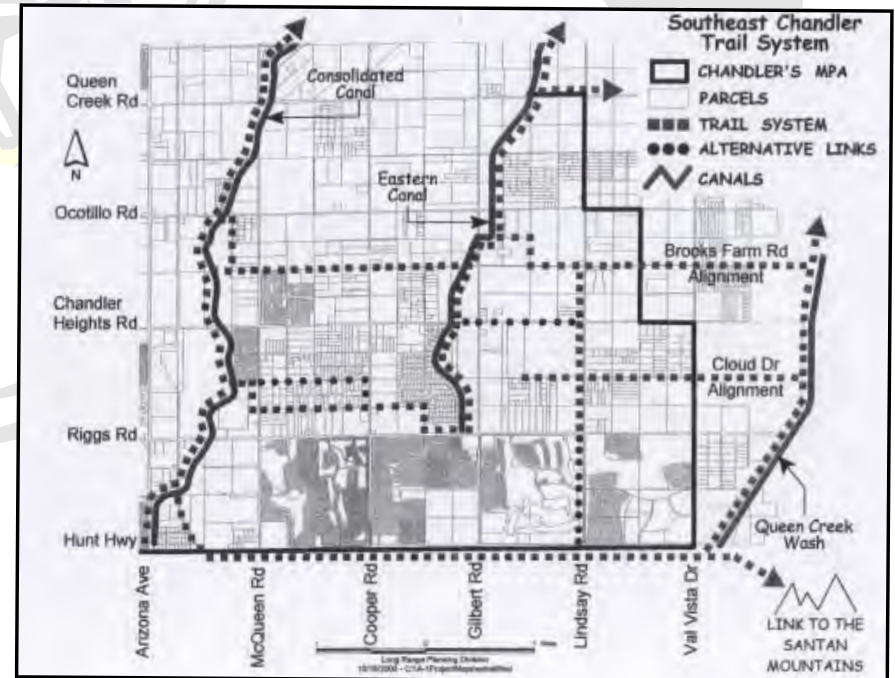
**Policy:** Continue to examine the feasibility of establishing an east-west bikeway, jogging, and pedestrian trail system to feed into the Paseo Trails System.

**Policy:** Continue to implement recommendations of the Chandler Bike Plan Update that are related to parks, recreation, and open space development.

**Policy:** Continue to link Chandler parks to local and regional bikeways.

**Policy:** Continue to link the City's Regional Parks, Community Parks, and the Paseo Trails system with bike lanes on the City's major thoroughfares and with adjacent communities through the regional bikepath system.

**Policy:** Continue to explore opportunities along other waterways throughout the City to provide trails with linkages to parks and bikeways.



# Appendix E — Queen Creek & Sanokai Wash Hydraulic Master Plan

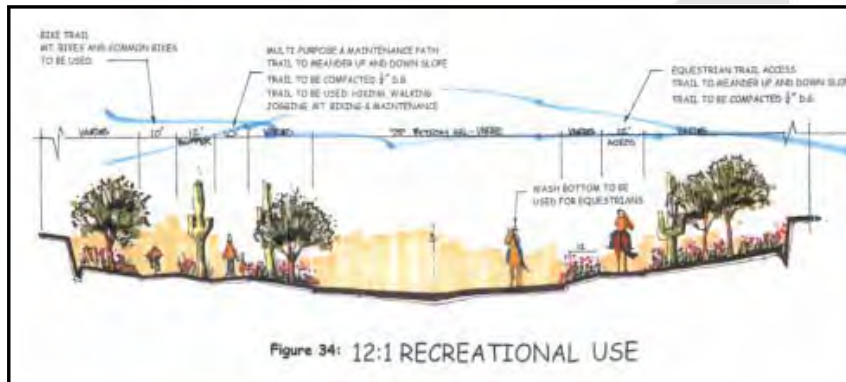


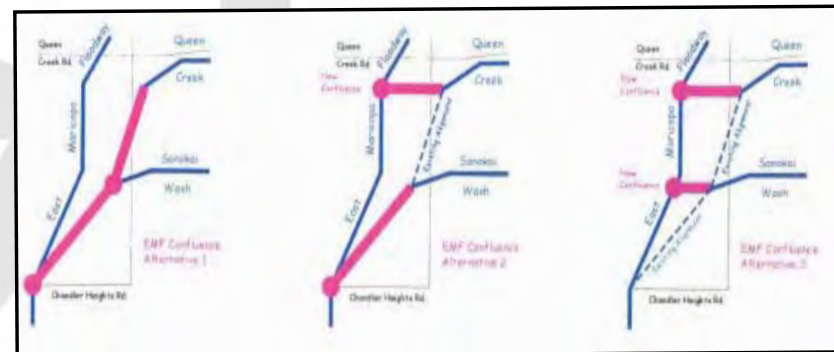
Figure 34: 12:1 RECREATIONAL USE

## Multi-Purpose Trails

Both Queen Creek and Sanokai Wash provide excellent opportunities to include a multi-purpose trail system for equestrians, pedestrians, and bicyclists. Currently, the Town of Queen Creek has an adopted trail master plan that includes both washes. The use of the washes for recreational purposes would involve preserving and maintaining the natural character of the washes and providing access to the trails by the public. Once the trails are in place, the public will have access to other trails throughout the region.

The conceptual plans show typical channel cross sections that might be considered when incorporating a multi-purpose trail system into necessary improvements to the washes for flood control. The channel cross sections could vary from 12:1 in areas where land is readily available to 4:1 where channel widening is limited by existing structures or residential properties.

The equestrian trail will access several points along the washes along a 12-foot wide compacted decomposed granite path. The bottom of the washes will be used as the designated trail for the equestrian riders while the multi-purpose trail system will be part of the side slopes of the wash. The multi-purpose trail will be 10-11 wide and made of a hard surface material will be used. This multi-purpose trail could also be set up as an interpretive trail system, identifying with signage the types of flora and fauna that exist in the area. This path may also be used for maintenance and emergency vehicles. Detention basins along Sanokai Wash can be used for accessing the trail systems for both the equestrian users and the multi-purpose users with a designated parking area, areas for picnicking, and open space.



## EMF Confluence Alternatives

Several alternatives were initially evaluated for the Queen Creek/EMF confluence, most of which concerned the location of a drop structure just downstream of the existing confluence. Once it was determined that the location of the drop structure had little or no impact on the Queen Creek or Sanokai Wash alternatives, the confluence alternatives were reduced to three alternatives that differed by the outfall locations of Queen Creek and Sanokai Wash (Figure 23).

**Alternative 1 - Maintain the Existing Confluence Location:** This alternative consists of no alignment changes to the existing confluence other than the necessary channel improvements.

**Alternative 2 - Relocate Queen Creek/EMF Confluence:** This alternative consists of constructing a new channel along the south side of Queen Creek Road from Higley Road to the EMF for Queen Creek.

**Alternative 3 - Relocate Queen Creek & Sanokai Wash EMF Confluences:** This alternative consists of constructing a new channel along the south side of Queen Creek Road from Higley Road to the EMF for Queen Creek and constructing a new channel along the Ocotillo Road alignment from Higley Road to the EMF for Sanokai Wash.

## EMF Confluence Alternatives Conclusion

Based upon the evaluation process, Alternative 3 - Relocate both Queen Creek and Sanokai Wash confluence locations was selected as the preferred alternative. Since the impact of all the alternatives was localized and all other evaluation criteria would be very similar among alternatives, the recommendation to relocate both confluences was based primarily upon the estimated cost.



# Appendix E — Goodyear General Plan 2003-2013

## 3.2 Circulation Goals, Objectives and Policies

The goals, objectives, and policies presented in the Circulation Element serve as the City's guide to appropriately extend and provide vehicular, transit and non-motorized movement within and outside of the Goodyear Planning Area. The goals are the culmination of revalidated issues from the 1998 General Plan, input from the General Plan Advisory Committee (GPAC) and the residents of the City, Community Development Department staff, other City Department staff involvement, and URS's professional assessment. The Circulation goals respond to the following issues:

- To efficiently move vehicular traffic through the City
- To have a connected trails system that links activity nodes and residential areas
- To leverage the presence of the Phoenix-Goodyear Airport for increased aviation service and attaining economic development targets
- To move people into and out of the community using transit modes of travel

The supporting objectives and policies serve as guidelines for implementation activities, which will aid the City in reaching its desired vision.



**Goal D: A Non-Motorized Network that Links Neighborhoods with Community Activity Centers.**

**Objective D-2:** Continue to establish an interconnected multi-use/equestrian trail system.

**Policy D-2a:** The City shall implement the multi-use and equestrian trail system as identified by the adopted Parks, Trails, and Open Space Plan.

**Policy D-2b:** The City shall continue to partner with the development community to design and implement trail improvements to link existing and proposed commercial, employment, educational, recreation, and open space facilities.

**Policy D-2c:** The City will continue to implement the Bullard Wash improvements to create a continuous trail from White Tank Regional Park to Estrella Mountain Regional Park.

**Policy D-2d:** The City shall continue to enhance the connectivity among the City Center, Employment Corridor and Bullard Wash.

**Policy D-2e:** The City shall work with Maricopa County to provide multiple, secure access points into Estrella Mountain Regional Park.

**Objective D-4:** Ensure the connectivity of neighborhood, community, and regional paths.

**Policy D-4a:** The City shall review the conceptual trails corridors identified in adjacent communities, (i.e., Avondale, Buckeye, Litchfield Park, Maricopa County, and MAG) to promote a regionally accessible trail network in the West Valley.

**Policy D-4b:** The City shall support the integration of trails on both sides of the Gila River as a recreational component of the El Rio Watercourse Master Plan.

# Appendix E — Avondale General Plan

## OPEN SPACE THEME

### OPEN SPACE ELEMENT

#### Introduction

Open space in Avondale includes the Agua Fria, Salt, and Gila Rivers, irrigation canals, the Estrella Mountains, and our agricultural areas. Taken together, these resources provide some of the most significant views, recreation opportunities, and wildlife habitat in the county. Our open spaces define our community and are fundamental to our high quality of life. This element identifies future needs and methods to conserve, protect, and promote these areas and their functions as regional connections to other cities.

#### Past, Present, and Future Trends

Several regional planning efforts have already been initiated for the Agua Fria, Salt, and Gila Rivers. These include the Flood Control District of Maricopa County Agua Fria Area Drainage Master Plan, the Maricopa Association of Governments West Valley Rivers Non-Motorized Transportation and Desert Spaces Plans, the Flood Control District of Maricopa County El Rio Watercourse Master Plan, the Rio Salado West Plan, the Maricopa County Trails Master Plan, and the countywide trails effort. These plans offer coordinated recommendations within Avondale and identify linkages that connect our open space resources to regional resources. While these areas have been identified in plans, they are largely undeveloped, and there are few existing formal connections to them. To make these resources valuable to the community, additional formal access points are needed. Once developed, these planned linkages will have the net effect of leveraging our open space resources so our residents are connected to resources within other communities and the county. In the future, the implementation of these plans through public and private partnerships will enhance the quality of these resources and make them more accessible to our residents.

In addition to the regional plans, which are focused on the rivers, the City of Avondale adopted the Tres Rios Greenway Specific Plan in April 1997. The Tres Rios Greenway Specific Plan was a coordinated effort among federal, state, and local agencies, private land owners, and the City to unite the Agua Fria, Salt, and Gila Rivers and City recharge areas into a single, connected green space consisting of trails and open spaces. This plan has been incorporated into other plans, including the Agua Fria, Salt, and West Valley Rivers Non-Motorized Transportation Plans. The plan also included guidelines to encourage the incorporation of open space into private development in return for density bonuses. The City also coordinated other projects with the Tres Rios Greenway Specific Plan. The design guidelines for Planned Area Developments support implementation of the Tres Rios Greenway Specific Plan. The City's recharge projects are designed as multiple use facilities that provide open spaces and trail connections in conformance with the Tres Rios Specific Greenway Plan. The guidelines for canals that were adopted by the City in 1997 require a 30-foot public access easement along the Roosevelt Irrigation District Canal, and provide another connection to Avondale's River Greenways. As the City develops, these plans will continue to be implemented.

The Estrella Mountains, which define the northern edge of our south planning area, provide a dramatic backdrop for the City north of the Gila River and provide open spaces for recreation and wildlife. As development occurs within the south planning area, the slopes and environmentally sensitive areas around the Estrella Mountains must be protected and conserved.

Avondale's agricultural areas are important open spaces because they remind us of our history as an agricultural community, create transitional zones between suburban development and the rivers, and provide visual relief from the built landscape. It is likely that without the implementation of mechanisms for the purchase of these properties or their development rights, these agricultural areas will be developed with other land uses in the future.

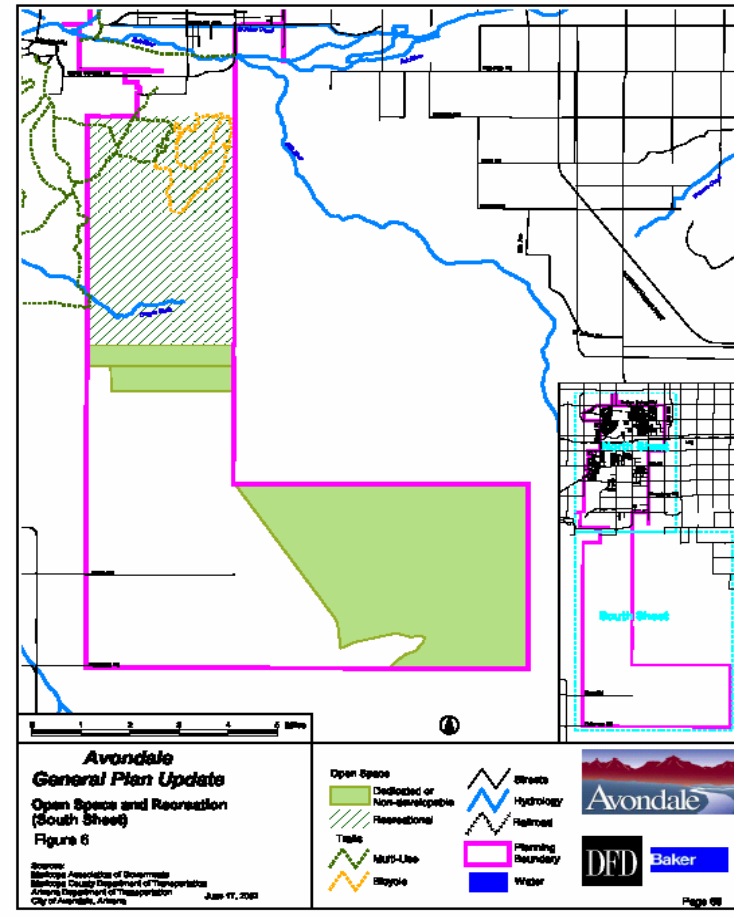
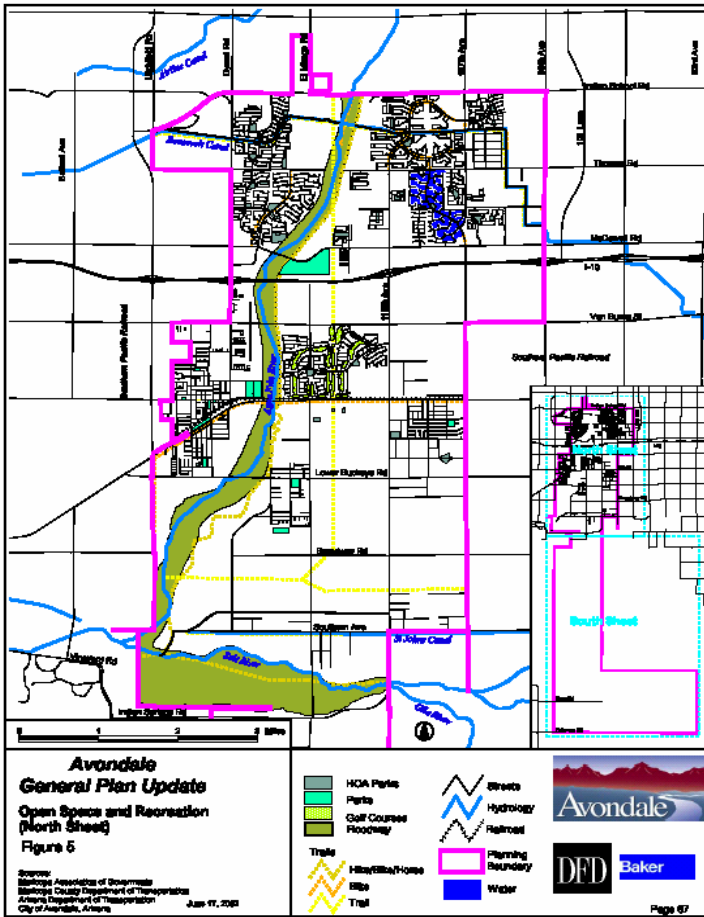
## 2. GOAL: CREATE NON-MOTORIZED CONNECTIONS TO OPEN SPACE, RIVERS, AND MOUNTAINS.

*The many recreational amenities within Avondale can be linked with trails to improve access, offer transportation alternatives, and leverage the recreational and open space value of individual sites.*

A. Objective: Create a network of pathways, trails, and open spaces throughout the City as an important element of recreation, transportation, and quality of life enhancement for Avondale residents.

- 1) Policy: Develop a trail master plan that uses utility easements, canals, rivers, flood control facilities, public land, and other linear features to create non-motorized shared use and equestrian trail connections between Avondale's open space resources and open space resources outside our City.
- 2) Policy: Require pedestrian and bicycle circulation systems, such as sidewalks, trail systems, bikeways, and walkways within all new commercial, industrial, and residential developments to connect to public access trails.
- 3) Policy: Require continuity in open space and trails between developments.
- 4) Policy: Coordinate with federal, state, other entities, and private landholders to provide public access trails to recreational resources.
- 5) Policy: When practical and feasible, require public access through private developments to provide direct connections to public resources and open spaces.
- 6) Policy: Explore the use of the railroad right-of-way as a potential trail easement.
- 7) Policy: Provide shared use non-motorized trail opportunities for persons with disabilities where feasible and practical.
- 8) Policy: Incorporate the Tres Rios Greenway Linear Park into the City's trail system.
- 9) Policy: Complete the McDowell Road non-motorized underpass.

# Appendix E — Avondale General Plan



# Appendix F — Funding Sources

## Potential Funding Sources

### **Federal Government**

#### **TEA-21**

On June 9, 1998, the President signed into law PL 105-178, the Transportation Equity Act for the 21st Century (TEA-21) authorizing highway, highway safety, transit, and other surface transportation programs for the next six years. Subsequent technical corrections in the TEA 21 Restoration Act have been incorporated; thus, the material presented here reflects the combined effects of both Acts and the two are jointly referred to as TEA-21.

TEA-21 builds on the initiatives established in the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), which was the last major authorizing legislation for surface transportation. This new Act combines the continuation and improvement of current programs with new initiatives to meet the challenges of improving safety as traffic continues to increase at record levels, protecting and enhancing communities and the natural environment as we provide transportation, and advancing America's economic growth and competitiveness domestically and internationally through efficient and flexible transportation.

#### **Congestion Mitigation and Air Quality (CMAQ) Improvement**

The Congestion Mitigation and Air Quality Improvement program, continued in TEA-21 at a total authorized funding level of \$8.1 billion for the six years of the Act, provides a flexible funding source to state and local governments for transportation projects and programs to help meet the requirements of the Clean Air Act. Eligible activities include transit improvements, travel demand management strategies, traffic flow improvements, and public fleet conversions to cleaner fuels, among others. Funding is available for areas that do not meet the National Ambient Air Quality Standards (nonattainment areas), as well as former nonattainment areas that are now in compliance (maintenance areas).

Under ISTEA, only nonattainment areas were included in the funding formula. Funds are distributed to States based on a formula that considers an area's population by county and the severity of its air quality problems within the nonattainment or maintenance area. Further, greater weight is given to carbon monoxide nonattainment and maintenance areas. A significant portion of the urbanized area of Maricopa County is designated as a nonattainment area for air quality.

A State may transfer up to 50 percent of its increase in CMAQ funds compared to what it would have received if the CMAQ program were funded at \$1.35 billion per year nationwide. The funds may be transferred to other Federal-aid programs, but can be used only for projects located in nonattainment and maintenance areas.

#### **Transportation Enhancements (TE)**

Transportation enhancement activities continue to be funded through a 10 percent set aside from STP funds. In order to maximize the use of available TE funding, TEA-21 provides innovative financing alternatives for meeting matching requirements. The list of activities eligible for transportation enhancement funds is expanded, but all projects must relate to surface transportation. Newly eligible are safety education activities for pedestrians and bicyclists, establishment of transportation museums, and projects to reduce vehicle-caused wildlife mortality. Provision of tourist and welcome center facilities is specifically included under the already eligible activity "scenic or historic highway programs." In addition, one percent of the transit urbanized area formula funds distributed to areas with populations greater than 200,000 must be used for transit enhancement projects specified in the Act.

TEA-21 allows a state to transfer some of its TE funds to other programs. The maximum amount that may be transferred is up to 25 percent of the difference between the state's current year TE set aside and the state's FY 1997 TE set aside.

#### **Bicycle Transportation and Pedestrian Walkways**

TEA-21 continues and expands provisions to improve facilities and safety for bicycles and pedestrians. The eligibility of NHS funds is broadened to include pedestrian walkways, and safety and educational activities are now eligible for TE funds. Other changes ensure the consideration of bicyclists and pedestrians in the planning process and facility design.

#### **Recreational Trails Program**

A total of \$270 million in contract authority is authorized for FYs 1998-2003 to provide and maintain recreational trails. States must establish a State recreational trails advisory committee that represents both motorized and nonmotorized recreational trail users. Of funds distributed to a state, 30 percent must be used for motorized use, 30 percent must be used for nonmotorized use, and 40 percent must be used for diverse trail uses (any combination—the diverse category may overlap with the others). The Federal share is raised to 80 percent (from 50 percent), and Federal agency project sponsors or other Federal programs may provide additional Federal share up to 95 percent. Soft match provisions are allowed, including soft matches from public agencies.

#### **National Scenic Byways Program**

TEA-21 authorizes a total of \$148 million for technical assistance and grants to states for the purposes of developing scenic byway programs and undertaking related projects along roads designated as National Scenic Byways, All-American Roads, or as State Scenic Byways.

# Appendix F — Funding Sources

## Conservation and Reinvestment Act (CARA)

The act, funded by Congress on yearly basis, allocates money to states under seven funding categories: Land and Water Conservation Fund projects; Wildlife Conservation; Urban Parks and Recreation Program; Historic Preservation; Indian and Federal Lands Restoration Farmland protection Program, and Endangered and Threatened Species Recovery.

## Community Development Block Grants

The US Department of Housing and Urban Development (HUD) offers financial grants to communities for neighborhood revitalization, economic development, and improvements to community facilities and services, especially in low and moderate-income areas.

## Land and Water Conservation Fund

This Federal funding source was established in 1965 to provide “close-to-home” park and recreation opportunities to residents throughout the United States. Money for the fund comes from the sale or lease or nonrenewable resources, primarily federal offshore oil and gas leases and surplus federal land sales. LWCF grants can be used by communities to build a variety of park and recreation facilities, including trails and greenways.

## Watershed Protection and Flood Prevention Grants

The USDA Natural Resource Conservation Service (NRCS) provides funding to state and local agencies or nonprofit organizations authorized to carry out, maintain, and operate watershed improvements involving less than 250,000 acres. The NRCS provides financial and technical assistance to eligible projects to improve watershed protection, flood prevention, sedimentation control, public water-based fish and wildlife enhancements, and recreation planning. The NRCS requires a 50% local match for public recreation, and fish and wildlife projects.

## Environmental Protection Agency (EPA) Clean Water Revolving Fund

Low interest loan program established by the Federal Clean Water Act to make money available to local agencies for a wide range of water quality improvement projects. Applicants may be public entities, special for construction of treatment facilities. Public and private entities are eligible for implementation of non-point source control projects and for estuary protection plans.

## EPA Climate Change Action Plan

This grant program funds proposals focusing on source reduction, recycling, and composting. Emphasis is placed on measurability of projects, in terms of volumes of waste reduced to be translated into greenhouse gas reductions. Eligible applicants may be states, tribes, incorporated nonprofits, and universities. Past award amounts range from \$50,000 to \$250,000.

## EPA State Environmental Education Fund

The EPA supports projects which design, demonstrate, or disseminate environmental education practices, methods, or techniques. Applicants may be educational institutions, public agencies, and nonprofit organizations. Most awards are for \$5,000 and at times up to \$25,000.

## EPA State Wetlands Protection Grants

Assists state and tribal wetlands protection efforts. Funds can be used to develop new wetlands protection programs or refine existing protection programs. Eligible applicants may be state and tribal agencies, but this has been expanded for local projects to include local governments, conservation Districts, nonprofits, and others.

## EPA Sustainable Development Challenge Grants

Encourages community groups, businesses, and government agencies to work together on sustainable development efforts that protect the local environment and conserve natural resources while supporting a healthy economy and an improved quality of life. Eligible applicants

may be incorporated nonprofits, local governments, tribes, educational institutions, states, territories, and possessions. The program awards \$50,000 or less, or \$50,001 to \$250,000 with a 20% matching share required.

## Mitigation Fees

Mitigation Fees for impacts to the “Waters of the US” as defined under the provisions of the Clean Water Act, which is administered by the Army Corps of Engineers and the EPA jointly, takes the form of restoration or enhancement of water related areas. Mitigation occurs in many steps if the area is unavoidable. First, there is on-site mitigation, then in-kind one for one replacement of last habitat, third off-site replacement or enhancement, lastly, if previous options do not exist, in lieu fees can be assessed by the Corps as compensation. These fees are usually directed to a nonprofit habitat related group such as the Nature Conservancy, or other land trusts in the valley.

## National Fish and Wildlife Foundation (NFWF) Challenge Grants

The National Fish and Wildlife Foundation (NFWF) has five initiatives through which challenge grants awarded:

- 1) Conservation Education;
- 2) Fisheries Conservation and Management;
- 3) Neo-tropical Migratory Bird Conservation;
- 4) Wetlands and Private lands; and
- 5) Wildlife and Habitat Management.

Eligible applicants are aquariums, botanical gardens, educational institutions, museums, nonprofit organizations, public agencies, research institutions, and zoos. The NFWF seeks a minimum two to one match (non federal to federal) for all grants it awards.

# Appendix F — Funding Sources

## **National Park Service, Department of the Interior**

Provides staff assistance to support partnerships between government and citizens to increase the number of rivers and landscapes protected and trails established nationwide. Applicants may be private nonprofit organizations and federal, state, and local governmental agencies.

## **State Government**

There are a number of potential funding sources in various state agencies that deal with recreation, transportation, conservation, tourism, and water quality.

## **Trail Heritage Funds**

Sponsored by the Arizona State Parks, Trail Heritage funds provide a 50/50 match for project programs including: the acquisition or lease of future trail alignments; design and engineering when included with trail developments and directly related to the project; trail development and reconstruction activities including but not limited to subgrade preparation, base course, soil sterilization, earthwork, erosion control revegetation, natural and hardening surfaces, culverts, low water crossings, band improvements, gabions, retaining walls, guard rails and bridges, and trail support facilities including but not limited to signage, parking areas, hitching trails, bike racks fencing, motorized access barriers, underpass, restrooms, and water facilities.

## **Land Acquisition Grants**

Proposition 303, passed by Arizona voters in November, 1998, provides \$20 million per year for eleven years, beginning in state fiscal year 2001, to award grants for the acquisition of State Trust Lands. The goal of these grants is "to conserve open spaces in or near urban areas and other areas experiencing high growth pressures." Conservation may occur through permanent or temporary acquisitions, such as leases of up to 50 years in length, purchases of a parcel's development rights, or "fee simple" purchase of a parcel. Grants may be made by the Arizona State Parks Board for up to 50% of the appraised value of a land parcel. Eligible applicants defined in state law are: State Agencies;

Political Subdivisions of the State, defined per A.R.S. § 38-431, and including without limitation all: Counties, Incorporated Cities or Towns, School Districts, Special Districts; and nonprofit organizations that are exempt from federal income taxation under Section 501(c) of the Internal Revenue Code and that have the purpose of preserving open space.

## **Arizona Game and Fish Teaming with Wildlife Program**

Funding received through the Federal Conservation and Reinvestment Act (CARA) can be distributed to projects throughout the state for wildlife conservation, outdoor education, and recreation.

## **Arizona Game and Fish Department Heritage Fund Grants**

The Urban Wildlife Habitat component of the fund supports the establishment of wildlife habitat/populations in harmony with urban environments and promotes public awareness of Arizona's native wildlife.

## **Arizona Water Protection Fund**

Provides monies for the development and implementation of measures to protect water of sufficient quality and quantity to maintain, enhance, and restore rivers and streams, and associated riparian resources.

## **Arizona Department of Environmental Quality (ADEQ) Recycling Unit**

The Waste Reduction Initiative Through Education (WRITE) grants are for recycling projects.

## **LRSP – Local Regional and State Parks**

Supports land acquisition and development of facilities for outdoor recreation improvements throughout Arizona. Applicants may be incorporated municipalities, counties, state agencies, and Indian Tribes.

## **Local Government**

### **Taxes**

In 1985 the Arizona Legislature passed a law enabling the citizens of Maricopa County to implement a one-half cent local sales tax to provide funding for regional freeway improvements and provide for the creation of the Regional Public Transportation Authority (RPTA). Currently no money is allotted to trails and bicycle uses.

With the creation of a Regional Transportation District, there could be a creation of a special district that would have the taxing authority from the Board of Supervisors to create a tax that could support the trail.

### **Impact fees**

The Board of Supervisors could create a parks or recreation impact fee of which a component could support trails.

### **General Obligation Bonds**

A county or municipality may issue general obligation bonds, which are backed by the full faith and credit of the county or municipality, for any lawful or necessary purpose. Each county and municipality has a constitutionally set debt cap, which limits the bond issuance capacity. Prior to issuing general obligation bonds, the county or municipality must receive authorization by a majority vote of qualified electors at an election. The primary advantage associated with general obligation bonds is the ability to use the bond proceeds for most any purpose and tax can be spread more uniformly county-wide.

### **Bond Referendums**

Communities across the nation have successfully placed propositions on local ballots to support greenway development. To date, Maricopa County has not utilized this option.

### **Capital Improvement Program**

Some local governments have initiated a yearly appropriation for trail development in the Capital

# Appendix F — Funding Sources

Improvements Program. The Maricopa County Trail System could be supported by money that the Board of Supervisors appropriates.

## Improvement District

Counties may form an improvement District to establish and maintain a park or recreational area for the benefit of the property within the District. The improvement District funds improvements by making assessments against the property within the District with each property in proportion to the benefits to be received by each lot. The improvement District may also fund the improvements with assessment bonds, which are repaid over a period of years by the assessments made on the property within the District. The primary disadvantages associated with the use of County improvement Districts are that approval by the majority of the landowners is required and an improvement District would need to be established for each benefit area of an open space improvement. It would be difficult to establish an improvement District on a Countywide basis due to the stringency of the landowner approval and benefit area requirements. **Community Facility Districts**

Community Facility Districts, CFD's, which may only be formed within municipal boundaries by a sponsoring municipality, may be used to provide for the acquisition, construction, operation, and maintenance of a wide variety of public infrastructure, including open space areas for recreational purposes. There are two ways to form a CFD: by majority vote of landowners at a special election or by a petition signed by all landowners in the proposed District.

## Development Fees

Counties and cities may impose development fees on landowners in a "benefit area" to pay for proportionate share of the public facilities required to serve a development. The county development fee statute defines public facilities to include only neighborhood parks intended to serve development within a one half mile radius, but excludes regional parks; the statute applicable to municipalities allows

development fees to be assessed for "necessary public services," which has been interpreted to include parks and open areas. There must be a reasonable relationship between the cost of the public facilities for which the development fee is assessed and the service demands of the benefit area. The development fees assessed must not exceed a proportionate share of the costs incurred or to be incurred in providing a public facility.

## Private Funding Sources

There are a wide variety of different grants that can be used to fund a trail such as the Maricopa County Regional Trails System. While this is a comprehensive look at the options available, it is not intended to suggest a complete list.

### The Maricopa Trail + Park Foundation

To help support the Maricopa Trail, the Maricopa Trail + Park Foundation, a 501(c)3 non-profit organization was formed. The Maricopa Trail + Park Foundation Board of Directors will focus their community-wide talents on fundraising. This resource will help to build the Maricopa Trail and Education/Cultural Centers at Maricopa County Regional Parks.

### American Greenways DuPont Awards

The Conservation Fund's American Greenways Program has teamed with the DuPont Corporation and the National Geographic Society to award small grants (\$250 to \$2,000) to stimulate the planning, design, and development of greenways. These grants can be used for activities such as mapping, conducting ecological assessments, surveying land, holding conferences, developing brochures, producing interpretive displays, incorporating land trusts, building trails, and other creative projects. Grants can not be used for academic research, institutional support, lobbying, or political activities.

### Coors Pure Water 2000 Grants

Coors Brewing Company and its affiliated distributors provide funding and in-kind services to grassroots organizations that

are working to solve local, regional, and national water-related problems. Coors provides grants, ranging from a few hundred dollars to \$50,000 for projects such as river cleanups, aquatic habitat improvements, water quality monitoring, wetlands protection, pollution prevention, water education efforts, groundwater protection, water conservation, and fisheries.

### World Wildlife Fund Innovative Grants Program

This organization awards small grants to local, regional, and statewide nonprofit organizations to help implement innovative strategies for the conservation of natural resources. Grants are offered to support projects that conserve wetlands, protect endangered species, preserve migratory birds, conserve coastal resources, and establish and sustain protected natural areas such as greenways. Innovation grants can help pay for the administrative costs for projects including planning, technical assistance, legal and other costs to facilitate the acquisition of critical lands, retaining consultants and other experts, and preparing visual presentations and brochures or other conservation activities. The maximum award for a single grant is \$10,000. **Arizona Growing Smarter Grant Program**

Supports the acquisition of State Trust Lands for conservation of open spaces in or near urban areas and other areas of experiencing high growth pressures. Funds are available to state agencies, counties, municipalities, and nonprofit organizations.

### American Greenways Eastman Kodak Grant Program

The program encourages action-oriented greenway projects. Keys to determining which projects will receive grants are the importance of the project to local greenway development efforts, how likely the project is to produce tangible results, and the extent to which the grants results in matching funds from other sources. The program's grant amounts range from \$500 to \$2,500.

# Appendix F — Funding Sources

## **The Body Shop USA Foundation, Inc.**

This foundation makes grants to organizations that serve and preserve the environment through education or direct service. Applicants may be educational institutions and nonprofit organizations.

## **The Educational Foundation of America**

The foundation supports smaller, more grass roots organizations and projects with sustainability, replicability and potential for long-term environment impact. Interests include: energy efficiency and conservation, environmental education, alternatives to nuclear energy, sustainable agriculture, water quality issues and public land resources conservation. The foundation encourages educational institutions, nonprofit organizations, public agencies, and research institutions apply. Grant amounts will range from \$10,000 to \$200,000.

## **The Energy Foundation**

The Energy Foundation will support regional transportation reform through analysis, policy research, regulatory work and advocacy. The foundation will explore policy options that promote alternatives to increased single occupancy vehicle use and to new highway construction. The foundation will also support multi-modal alternative transportation planning.

## **The Design Arts Program**

The Design Arts Program of the National Endowment for the Arts funds projects that promote excellence in urban design, historic preservation, planning, architecture, and landscape planning.

## **Geraldine R. Dodge Foundation, Inc.**

The foundation's special interests include: ecosystems and habitat preservation, pollution prevention and reduction, biodiversity/species conservation, energy conservation, and enlightened environmental policy through education and communication. Aquariums, botanical gardens, educational institutions, and zoos are encouraged to apply. Available grant amounts are from \$7,000 to \$100,000.

## **Lindbergh Grants**

The Lindbergh Grants program functions as a provider of seed money and credibility for pilot projects that subsequently receive larger sums from other sources to continue and expand the work. Lindbergh Grants are made in the following categories: agricultural; aviation/aerospace; conservation of natural resources – including animal plants water, and general conservation (land, air, energy, etc.); education – including humanities/education, health and population sciences, and adaptive technology; and waste minimization and management. The Lindbergh Foundation encourages men and women whose individual initiative and work in a wide spectrum of disciplines furthers the Lindbergh's vision of a balance between the advance of technology and the preservation of the natural/human environment to apply.

## **Marshall Fund of Arizona**

The Marshall Fund seeks projects that address and explore new ideas to improve the quality of life in Arizona. It also provides funds to meet critical budget problems for important ongoing projects. Grants can be made to tax exempt organizations, which qualify under Section (c) (3) of the Internal Revenue Code. Grant amounts range from \$1,500 to \$40,000.

## **National Rivers Coalition REI Seed Grant Program**

Supports grass roots river conservation. The funds are administered by the National Rivers Coalition, which consists of the American Canoe Association, American Rivers, American Whitewater Affiliation, National Wildlife Federation, River Management Society, River Network, Sierra Club, and the Wilderness Society. The program awards from \$200 to \$1,000.

## **The National Environmental Education and Training Foundation Inc.**

The program supports environmental education and training projects related to health and drinking water projects. Yet, it retains a focus on youth, particularly environmental education projects that focus on higher grade levels and go

beyond the classroom supporting environmental education projects that leverage resources, bringing focus to the field, and empower citizens to make informed decisions on environmental issues. Past grants supported water resources, toxins and environmental health, and education on all levels. Qualified applicants may be aquariums, botanical gardens, educational institutions, museums, nonprofit organizations, research institutions, and zoos. The program awards from \$4,950 to \$15,000.

## **National Trails Endowment**

The American Hiking Society (AHS) manages a fund of money created by contributions to an annual endowment fund for trails. Money from the endowment will be made available to organizations for which foot trails are a primary focus.

## **PowerBar Direct Impact on Rivers and Trails (DIRT)**

Projects should: 1) endeavor to increase or maintain access to the outdoors or the size of an outdoor recreational resource, 2) have a regional or local focus, 3) indemnify a specific land area or waterway that will benefit, 4) have real potential for success or significant measurable progress over a short term, and 5) be quantifiable and include a measure for evaluating success. Grant amounts range from \$2,000 to \$5,000.

## **Project WET**

Phillips Petroleum is co-sponsor of this new environmental program, which focuses on the importance of water resources. Phillips' funds are being used to help the program expand into all 50 states.

## **Recreational Equipment, Inc. (REI) Environmental Grants**

REI awards these grants to organizations for protection and enhancement of natural resources for use in outdoor recreation. Grants of up to \$5,000 are offered to accomplish any of the following: preservation of wild lands and open space; advocacy-oriented education for the general public about conservation issues; building a membership base of a



# Appendix F — Funding Sources

conservation organization, direct citizen action (lobbying) campaign on public land and water recreation issues; and projects working to organize trails constituency or to enhance the effectiveness of a trails organization's work as a trails advocate at the state or local level.

## Recreational Improvement Fund (RIF) Grants

The program funds the maintenance, operation, and development of recreation trails and inland lake cleanup. Recreation Improvement (RIF) dollars are available for operation, maintenance, and development of recreational trails and related facilities. State and local partnership projects may apply for available grants.

## Recreational Trails Program Grants

Funds the maintenance and development of recreational trails and related facilities.

## The Surdna Foundation

The foundation's goal is to prevent irreversible damage to the environment, and to support government, private, and voluntary actions that will produce a sustainable environment and foster a population of environmentally informed citizens. Their interests include biological and cultural diversity, energy and transportation. Up to \$300,000 is available for nonprofit organizations.

## Toyota USA Foundation

Grants were awarded to start the French Creek Project in Pennsylvania.. This project is an environmental program for high school students and their teachers involving the preservation of a historic waterway. In addition, support was given to the Brooklyn Botanical Gardens to produce mobile active learning centers on different topics in botany and ecology. Grant amounts from \$25,000 to \$75,000 for aquariums, botanical gardens, educational institutions, museums, nonprofit organizations, and zoos.

## Wilburforce Foundation

Funding is focused on organizations that work to protect

habitats which are critically important to sustaining abundant ecological communities in Western Canada and Western United States. All applicant organizations must be classified as 501(c)(3) by the U.S. Internal Revenue Service or 149(l)(f) by revenue Canada. The foundation awards between \$20,000 to \$30,000.

## Land Trusts

Some citizens choose to set up a land trust to assure that their land is used for a specific purpose. Land trusts to benefit the Maricopa County Regional Trails System could be established.

## Sponsors

A sponsorship program for trail amenities allows for smaller donations to be received both from individuals and businesses. The program must be well planned and organized, with design standards and associated costs established for each amenity. Project elements that may be funded can include wayside exhibits, benches, trash receptacles, entry signage, and picnic areas. Usually, plaques recognizing the individual contributors are placed on the constructed amenities.

Local industries and private businesses may agree to provide support for development of the Maricopa County Trail System through:

- donation of cash to a specific trail segment;
- donation of services by corporations to reduce the cost of trail implementation, including equipment and labor to construct and install elements of the trail;
- reductions in the cost of materials purchased from local businesses that support trail implementation and can supply essential products for facility development.

## Volunteers

Community volunteers may help with trail construction as well as fundraising. Potential sources of volunteer labor in Maricopa County could include local bicycling, hiking, and equestrian groups, the Boy Scouts, the Girl Scouts, and local civic clubs such as the Kiwanis, Rotary, and Lions' Clubs.

A case in point is Cheyenne, Wyoming's volunteer greenway program. The Greater Cheyenne Greenway has motivated an impressive amount of community support and volunteer work. The program has the unusual problem of having to insist that volunteers wait to begin landscaping the trail until construction is completed. A manual for greenway volunteers was developed to guide and regulate volunteer work. The manual includes a description of appropriate volunteer efforts, request forms, waiver and release forms, and a completion form (volunteers are asked to summarize their accomplishments). Written guidelines are also provided for volunteer work in 100-year floodplains.

To better organize volunteer activity, Cheyenne developed an "Adopt-a-Spot" program. Participants who adopt a segment of trail are responsible for periodic trash pick-up, but can also install landscaping, prune trail-side vegetation, develop wildlife enhancement projects, and install site amenities. All improvements must be consistent with the Greenway Development Plan and must be approved by the local Greenway Coordinator. Adopt-a-Spot volunteers are allowed to display their names on a small sign along the adopted section of greenway.

# Appendix G — Glossary

**AASHTO** — American Association of State Highway and Transportation Officials.

**Access Point** — A specific site that connects to a trail or to destinations or points of interest.

**Access Node** — A site that connects to the trail, or to neighborhoods and open spaces. These sites have a low level of activity.

**ADA** — Americans with Disabilities Act.

**Active Zone** — A corridor segment in a developed area that serves high numbers of people. Ideally it has a split corridor with a hard surface primary trail in the major corridor, and a primary trail hard surface and secondary trail in the minor corridor. Equestrian pathways are in the floodplain where possible.

**ADOT** — Arizona Department of Transportation

**ARS** — Arizona Revised Statutes

**At-Grade Crossing** — A trail crossing a roadway on the same plane.

**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 neither 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 Lane** — A portion of roadway striped, with pavement markings and signed for exclusive use of bicycles. These must meet certain standards for width, striping, signing, and marking.

**Bicycle Path** — See “Shared-use Path or Trail”

**BOS**—Board of Supervisors

**Connector Trail** — A linkage or connecting trail that interconnects primary and secondary trails with one another.

**Conservation Zone** — A corridor segment in an undeveloped,

open area that protects the natural landscape character. Ideally the corridor is a separated primary trail, hard or soft surface, and secondary trail, with conservation / interpretation trails as appropriate. The floodplains should be left unused.

**Conservation / Interpretive Trail** — A “passive” activity trail located in an undeveloped area that meanders near and within landscapes set aside for habitat preservation, watershed protection, or within man-made landscapes such as parks or recreational areas.

**Cross Slope** — The angle of the trail tread measured from side-to-side as a percentage.

**Decomposed Granite** — A native, crushed granite rock known for its permeability and used as a concrete substitute for building natural trails, driveways, and walkways.

**Design Speed** — The speed used to calculate curves and other design components.

**Easement** — Grants a non-owner the right to use a specific portion of land for a specific purpose. Easements may be limited to a specific period of time or may be granted in perpetuity. An easement agreement survives transfer of land-ownership and is generally binding upon future owners until it expires on its own terms.

**Entryway** — Site that accesses the trail or other special point of interest.

**Equestrian** — One who rides on horseback; a horseman; a rider.

**Equestrian Passageway** — Generally an open sandy passageway in drainage bottoms, including floodways. It is intended for horses and other stock / pack animals, but other modes are not restricted.

**FCDMC** — Flood Control District of Maricopa County

**Floodplain** — The flat, occasionally flooded area bordering streams, rivers, or other bodies of water susceptible to changes in the surface level of the water.

**Gateway** — Access point to a trail or other special points of interest that often include large works of public art.

**Geographic Information System (GIS)** — A spatial database mapping system that can be used to contain location data for trails and other important features.

**Grade** — The slope to which a trail rises or falls over a linear distance, expressed as a percentage. A trail that rises five vertical feet in 100 horizontal feet has a five percent grade.

**Grade-separated Crossing** — Trail overcrossings or undercrossings that allow trail users to cross a street at a different level than motor vehicles.

**Hard Surface** — A paved asphalt / concrete mix or concrete tread.

**Horizontal Curvature** — The radius of a curve.

**Informal Trail** — A trail that has developed through informal use and is not designated or maintained by an agency.

**Intermodal** — A mode is a particular form of transportation, such as bicycle, walking, transit, or automobile. Intermodal refers to connections between modes.

**Levee** — A compacted embankment built alongside a river for the purpose of preventing highwater from flooding the adjoining land.

**MAG** — Maricopa Association of Governments

**MCDOT**— Maricopa County Department of Transportation

**Mountain Zone** — A corridor segment in steep or rugged terrain. A narrow corridor that can accommodate only a primary trail, with no other ADA corridors available, is one reason to have a mountain trail.

**Mountain Trail** — A trail segment usually in steep or rugged terrain intended to be used by hikers, equestrians, and mountain bikers. The trail is permitted an exception to the new ADA proposed regulations. Exceptions are based on; the combination of running slope and cross slope, height of obstacles, surface characteristics, or width.

# Appendix G — Glossary

**Multi-Use Path or Trail** — See “Shared-Use Path or Trail”

**MUTCD** — Manual on Uniform Traffic Control Devices

**Neighborhood / Transit Connector** — A tertiary trail that connects surrounding neighborhoods, schools, and adjacent transit stops and Park-N-Ride facilities to trails within the system.

**Open Space** — Areas of natural quality, either publicly or privately owned, designated for protection of natural resources, nature-oriented outdoor recreation, and trail-related activities.

**Passive Zone** — A corridor segment in a mixed development area that serves low to moderate numbers of people. Ideally the corridor is a separated or adjacent primary hard surface trail and secondary trail. Equestrian pathways are in the floodplain where possible.

**Paved Surface** — A hard surface of asphalt / concrete mix or concrete (may be colored).

**Pedestrian** — Any person afoot. A person who uses a manual or motorized wheelchair is considered a pedestrian unless the manual wheelchair qualifies as a bicycle (ARS 28-101.37).

**Primary Trail** — The main pathway that serves high numbers of people. It is typically hard surface (paved), but may be soft surface (unpaved) in undeveloped or non-developable areas.

**Right-of-Way** — A general term denoting land, property, or interest therein, usually in a strip, acquired for or devoted to some public purpose.

**Right of Way** — The right of one trail or roadway user to proceed in preference to another trail or roadway user.

**Riparian** — Along a watercourse, arroyo, seep, pond, or other location where the availability of water is increased, The community of the watercourse, its vegetation and its wildlife are collectively referred to as a riparian area.

**Roadway** — The portion of the highway, including shoulders, intended for vehicular use.

**Secondary Trail** — A pathway generally parallel to the primary trail. It is soft surface in each of the landscape management zones.

**Shared-use Path or Trail** — A path or trail that is used by more than one user group, including, but not limited to, equestrians, pedestrians, bicyclists, hiker, skaters, and joggers.

**Shy Distance** — The gap between a trail edge and any fixed object capable of injuring any trail user.

**Side Slope** — The angle of the terrain measured in percent.

**Sight Distance** — A measurement of visibility, unobstructed, along the normal path to the farthest point of the roadway or trail surface.

**Soft Surface** — A natural soil or decomposed granite tread. The decomposed granite may be stabilized.

**Trail** — A marked or established path or route.

**Trailhead** — The beginning or ending access point to a trail, often accompanied by various trail support facilities such as horse trailer and regular vehicle parking spaces, hitching rails, corrals, water troughs, bike racks, shade armadas, picnic tables, drinking fountains, restrooms, directional and informational signing, and entrance gates.

**Tread** — The surface portion of a trail upon which users travel.

**Unpaved Trail** — A soft surface of natural soil or decomposed granite. The decomposed granite may be stabilized.

**Watercourse** — Any natural or built channel through which water naturally flows or will collect and flow during spring runoff, rainstorms, etc.

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